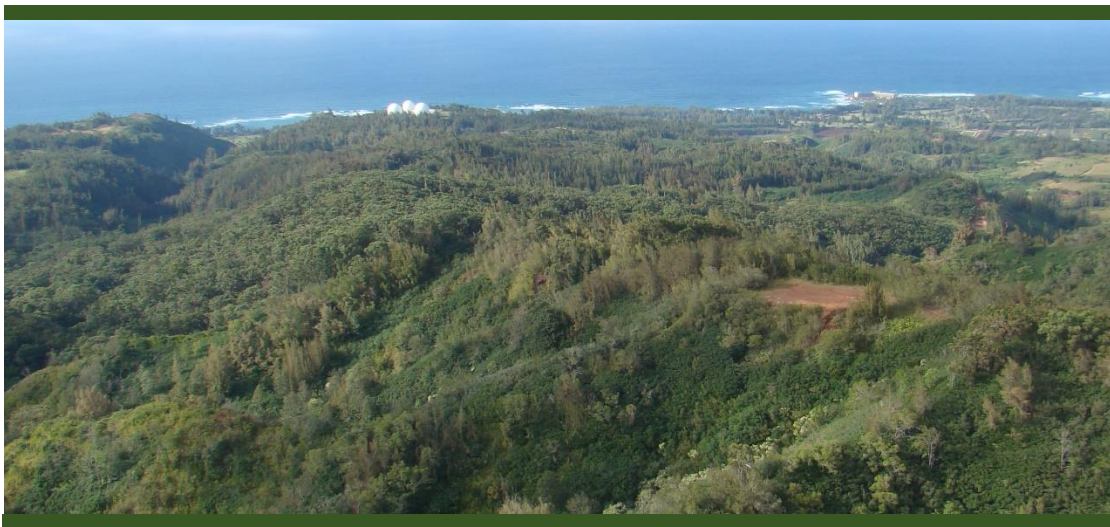


**ARMY TRAINING LAND RETENTION
OF STATE LANDS AT KAHUKU TRAINING AREA,
KAWAILOA-POAMOHO TRAINING AREA,
AND MAKUA MILITARY RESERVATION
ISLAND OF O'AHU
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

VOLUME II: APPENDICES A-D



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 W9128A-19-D-0008

APRIL 2024

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Cover photograph: Aerial view of Kahuku Training Area (KTA) facing northwest
toward the ocean. Upper left corner shows KTA Tract A-1 beyond Pahipahi 'Ālua Gulch.
Photograph source: U.S. Army.

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-HEPA Compliance Guide

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Appendix A

NEPA-HEPA COMPLIANCE GUIDE

Table A-1: NEPA-HEPA Compliance Guide			
NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
Recommended Format/Content Requirements			
1502.10(a); 1502.11		Cover Sheet	Cover Sheet
1502.10(b); 1502.12	HAR 11-200.1-24(d)	Summary	Executive Summary (ES)
1502.10(c)	HAR 11-200.1-24(e)	Table of contents	Table of Contents
	HAR 11-200.1-24(g)(1)	A detailed map (such as a USGS topographic map, Flood Insurance Rate Maps, Floodway Boundary Maps, or state sea level rise exposure area maps, as applicable) and a related regional map.	Figures: <ul style="list-style-type: none"> • Regional maps [Figures 1-1, 3-1, 3-3, 3-5]; • Topographic maps [Figures 3-14, 3-16, 3-18]; • SLR [Figure 3-20]
	HAR 11-200.1-24(g)(6)	Summary technical data, diagrams, and other information necessary to enable an evaluation of potential environmental impact by commenting agencies and the public.	<ul style="list-style-type: none"> • Section 2.2 • Chapter 3 – resource sections
	HAR 11-200.1-24(d)(7)	A list of relevant EAs or EISs	<ul style="list-style-type: none"> • Volume III – Appendix F
1502.25(b)		The Draft EIS shall list all Federal permits, licenses, and other entitlements which must be obtained in implementing the proposal.	<ul style="list-style-type: none"> • ES.3

Table A-1: NEPA-HEPA Compliance Guide			
NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
	HAR 11-200.1-24(k)	List of necessary approvals required for the action from governmental agencies, boards, or commissions or similar groups having jurisdiction.	<ul style="list-style-type: none"> Sections 1.4.3 and 1.4.4 Table 1-2: Potential Permits, Licenses, Authorizations, and Approvals
1502.10(h); 1502.17		List of Preparers	<ul style="list-style-type: none"> Sections 6.1 and 6.2
	HAR 11-200.1-24(r)	Disclosure of the identity of the persons, firms, or agency preparing the Draft EIS	
1502.24		Agencies shall insure the professional integrity, including the scientific integrity of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote. An agency may place discussion of methodology in an appendix.	<ul style="list-style-type: none"> Section 3.1.4 Analysis Methodology Chapter 3 Methodology and Significance Criteria resource subsections
1502.10(k); 1502.18		Appendices	<ul style="list-style-type: none"> Volume II and III–Appendices
Purpose and Need			
	HAR 11-200.1-24(d)(1)	Brief description of the action	<ul style="list-style-type: none"> ES.6 Section 1.3.1 Section 2.1
1502.10(d); 1503.14		Purpose and need for action	<ul style="list-style-type: none"> ES.5 Sections 1.3.2 and 1.3.3
	HAR 11-200.1-24(f)	Statement of purpose and need for the proposed action.	
	HAR 11-200.1-24(g)(2)	Objectives of the proposed action	<ul style="list-style-type: none"> Sections 1.3.2 and 1.3.3
	HAR 11-200.1-24(g)(5)	Phasing and timing of the action	<ul style="list-style-type: none"> Section 2.1
	HAR 11-200.1-24(l)	Consideration of all phases of the action	<ul style="list-style-type: none"> Sections 2.1 and 2.4 Sections 3.1.4 and 3.1.5

Table A-1: NEPA-HEPA Compliance Guide

NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
	HAR 11-200.1-24(g)(4)	Use of state or county funds or lands for the action	<ul style="list-style-type: none"> • ES.3 and ES.6 • Section 1.1 • Section 2.1
Alternatives			
1502.10(e)		Alternatives considered including the proposed action	<ul style="list-style-type: none"> • ES.8 • Section 2.3 • Chapter 3 – resource section analyses
	HAR 11-200.1-24(d)(4)	Alternatives considered	
1502.14		Environmental impacts of the proposal and the alternatives in comparison form	<ul style="list-style-type: none"> • ES.8 and ES.9 • Section 2.3 • Section 3.15
1502.14(a)		Explore and objectively evaluate all reasonable alternatives, and for all alternatives which were eliminated, briefly discuss the reasons for their having been eliminated	<ul style="list-style-type: none"> • ES.8 • Section 2.3
	HAR 11-200.1-24(h)	Discussion of the alternative of no action as well as reasonable alternatives that could attain the objectives of the action. The Section shall include a rigorous exploration and objective evaluation of the environmental impacts of all such alternative actions	
1502.14(b)		Devote substantial treatment to each alternative including the proposed action so viewers may evaluate their comparative merits	<ul style="list-style-type: none"> • ES.8 • Sections 2.1 and 2.3
1502.14(c)		Include reasonable alternatives not within the jurisdiction of the lead agency	<ul style="list-style-type: none"> • ES.8 • Section 2.3
	HAR 11-200.1-24(o)	Analyze reasonable alternatives to achieve countervailing benefits that would avoid environmental effects.	<ul style="list-style-type: none"> • Section 2.3

Table A-1: NEPA-HEPA Compliance Guide

NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
1502.14(d)		Include the alternative of no-action	<ul style="list-style-type: none"> • ES.8.4 • Section 2.3.3
1502.14(e)		Identify the agency’s preferred alternative	<ul style="list-style-type: none"> • Section 2.5
Affected Environment			
	HAR 11-200.1-24(g)(3)	General description of the action’s technical, economic, social, cultural, and environmental characteristics.	<ul style="list-style-type: none"> • Chapter 3 – resource sections
1502.10(f); 1502.15		Describe the environment of the area(s) to be affected or created by the alternatives under consideration	<ul style="list-style-type: none"> • Section 1.2 • Chapter 3 – resource sections
	HAR 11-200.1-24(i)	Description of the environmental setting including a description of the environment in the vicinity of the action, as it exists before commencement of the action, from both a local and regional perspective	<ul style="list-style-type: none"> • Chapter 3 – resource sections
	HAR 11-200.1-24(i)	Environmental resources that are rare or unique to the region and the action site (including natural or human-made resources of historic, cultural, archaeological, or aesthetic in significance).	<ul style="list-style-type: none"> • Section 3.2 • Section 3.3 • Section 3.4 • Section 3.5 • Section 3.9 • Section 3.10
1502.16(g)		Urban quality, historic, and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures.	
	HAR 11-200.1-24(g)(7)	Historic perspective.	<ul style="list-style-type: none"> • Sections 1.1 and 1.2 • Section 2.2.4.2 • Section 3.4
	HAR 11-200.1-24(l)	Direct or indirect source of pollution from the proposed project.	<ul style="list-style-type: none"> • Sections 3.6, 3.7, 3.8, 3.10, and 3.14

Table A-1: NEPA-HEPA Compliance Guide

NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
	HAR 11-200.1-24(i)	Population and growth characteristics of the area, population growth assumptions, and secondary population and growth impacts with the proposed action.	<ul style="list-style-type: none"> Section 3.11
	HAR 11-200.1-24(l)	Population and growth impacts of the proposed action.	
	HAR 11-200.1-24(m)	Poses long-term risks to health and safety	<ul style="list-style-type: none"> Section 3.6, 3.7, 3.13, and 3.14
Environmental Consequences & Potential Mitigation Measures			
1502.10(g); 1502.16		Environmental impacts of the alternatives including the proposed action.	<ul style="list-style-type: none"> ES.9 and ES.10 Chapter 3 – resource section analyses Section 3.15 Chapter 3 – Reasonably Foreseeable Action (RFA) and Cumulative Impact subsections
	HAR 11-200.1-24(l)	Analysis of the probable impact of the proposed action on the environment and impacts of the natural or human environment on the action.	
	HAR 11-200.1-24(d)(2)	Significant beneficial and adverse impacts.	
40 CFR Part 1502.16; 1502.16(d)	HAR 11-200.1-24(o)	Probable and unavoidable effects adverse to water or air pollution, urban congestion, threats to public health, or other consequences adverse to environmental goals and guidelines established by environmental response laws, coastal zone management laws, pollution control and abatement laws, and environmental policy including:	<ul style="list-style-type: none"> ES.11 Section 3.6 Section 3.7 Section 3.8 Section 3.9 Section 3.10 Section 3.13 Section 3.14 Section 3.15 Section 4.3.2
		HRS Chapter 128D (Environmental Law)	
		HRS Chapter 205A (Coastal Zone Management)	
		HRS Chapter 342B (Air Pollution Control)	
		HRS Chapter 342C (Ozone Layer Protection)	
		HRS Chapter 342D (Water Pollution)	

Table A-1: NEPA-HEPA Compliance Guide			
NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
		HRS Chapter 342E (Nonpoint Source Pollution Management and Control)	<ul style="list-style-type: none"> Sections 4.4 Volume III - Appendix J
		HRS Chapter 342F (Noise Pollution)	
		HRS Chapter 342G (Integrated Solid Waste Management)	
		HRS Chapter 342H (Solid Waste Recycling)	
		HRS Chapter 342I (Special Wastes Recycling)	
		HRS Chapter 342J (Hazardous Waste, including Used Oil)	
		HRS Chapter 342L (Underground Storage Tanks)	
		HRS Chapter 342P (Asbestos and Lead)	
		HRS Chapter 344 (State Environmental Policy)	
1502.14(d)		Include appropriate mitigation measures not already included in the proposed action or alternatives.	<ul style="list-style-type: none"> ES.11 Section 3.15
1205.17(H)		Means to mitigate adverse environmental impacts.	<ul style="list-style-type: none"> ES.11
	HAR 11-200.1-24(d)(3)	Proposed mitigation measures	<ul style="list-style-type: none"> Sections 3.2.5.1 and 3.2.5.3 Section 3.5.5.3 Section 3.12.5.3 Section 3.15
	HAR 11-200.1-24(p)	Mitigation measures to reduce significant, unavoidable, adverse impacts to insignificant levels, and the basis for considering these levels acceptable.	<ul style="list-style-type: none"> Section 3.1.4 ES.11 Chapter 3 – resource section analyses Section 3.15

Table A-1: NEPA-HEPA Compliance Guide

Table A-1: NEPA-HEPA Compliance Guide			
NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
	HAR 11-200.1-24(p)	Timing of mitigation through phases of development to assure proper mitigation.	<ul style="list-style-type: none">Section 3.1.4* (3.2.5., 3.4.5, 3.12.5)Timing and phasing of mitigation measures would be determined during consultation with the State as part of any future land retention negotiations
Cumulative Impacts			
	HAR 11-200.1-24(i)	Related actions, public and private, existing or planned in the region.	<ul style="list-style-type: none">ES.10Section 3.1.5.3Chapter 3 – RFA and Cumulative Impacts subsections
	HAR 11-200.1-24(l)	Interrelationships and cumulative environmental impacts of the proposed action and other related actions.	
Direct and Indirect Effects			
1502.16(a)		Direct effects and their significance	<ul style="list-style-type: none">ES.9Section 3.1.4Chapter 3 – resource section analyses
1502.16(b)		Indirect effects and their significance	
	HAR 11-200.1-24(l)	Consideration of all consequences including direct and indirect effects	
Short-term Uses of the Environment and Maintenance and Enhancement of Long-term Productivity			
1502.16		Relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity	<ul style="list-style-type: none">Section 4.6
	HAR 11-200.1-24(m)	Trade-offs among short-term and long-term gains and losses with the proposed action	

Table A-1: NEPA-HEPA Compliance Guide			
NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
Cost Benefit Analysis			
1502.23		If a cost-benefit analysis relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences.	N/A
Incomplete Information/Unresolved Issues			
1502.22		When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.	<ul style="list-style-type: none">• ES.12• Section 4.2
1502.22(a)		If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.	
	HAR 11-200.1-24(d)(5)	Unresolved issues.	<ul style="list-style-type: none">• ES.12• Section 4.2
	HAR 11-200.1-24(q)	Unresolved issues and how such issues will be resolved prior to the commencement of the proposed action.	
Other Required Considerations			
	HAR 11-200.1-24(d)(7)	A list of relevant EAs and EISs considered in the analysis of the preparation of the EIS.	<ul style="list-style-type: none">• ES.3• Chapter 1• Volume II – Appendix F
1502.16(e)		Energy requirements and conservation potential of various alternatives and mitigation measures.	<ul style="list-style-type: none">• Section 4.5
1502.16(f)		Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures	

Table A-1: NEPA-HEPA Compliance Guide

Table A-1: NEPA-HEPA Compliance Guide			
NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
	HAR 11-200.1-24(n)	Identification of non-renewable resources	
	HAR 11-200.1-24(n)	Irreversible curtailment of the range of potential uses of the environment.	
1502.16	HAR 11-200.1-24(n)	Irreversible or irretrievable commitments of resources	
	HAR 11-200.1-24(n)	Identification of unavoidable impacts	<ul style="list-style-type: none">• ES.9• Chapter 3 – resource section analyses• Section 3.15• Sections 4.4 and 4.5
	HAR 11-200.1-24(n)	Possibility for environmental accidents.	<ul style="list-style-type: none">• Section 3.6• Section 3.14
	HAR 11-200.1-24(l)	Secondary effects	<ul style="list-style-type: none">• Section 2.1• Section 3.11
	HAR 11-200.1-24(o)	The rationale for proceeding with a proposed action, notwithstanding unavoidable effects.	<ul style="list-style-type: none">• Sections 4.4 and 4.6
		Other interests and considerations of policies to offset adverse environmental effects of the proposed action.	<ul style="list-style-type: none">• ES.11• Chapter 3 – resource section analyses• Section 3.15
Consistency with Other Federal, State, and County Land Use Plans, Policies, and Controls			
	HAR 11-200.1-24(d)(6)	Compatibility with land use plans and policies and a list of permits or approvals.	<ul style="list-style-type: none">• ES.13• Chapters 1 and 4• Section 3.2

Table A-1: NEPA-HEPA Compliance Guide			
NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
40 CFR Part 1502.16(c)		Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local land use plans, policies and controls for the area concerned.	<ul style="list-style-type: none">Sections 3.2, 3.3, 3.4, and 3.5Section 4.3
	HAR 11-200.1-24(j)	Description of the relationship of the proposed action to land use and natural or cultural resources plans, policies, and controls for the affected area.	
Circulation of the Environmental Impact Statement			
40 CFR Part 1502.19		Agencies shall circulate the entire draft and final environmental impact statements.	<ul style="list-style-type: none">Section 1.5Section 7.2
	HAR 11-200.1-24(r)	The Draft EIS shall include a separate and distinct section that contains a list identifying all governmental agencies, other organizations and private individuals consulted in preparing the Draft EIS	
40 CFR Part 1502.19(a)		Agencies shall circulate the entire draft and final environmental impact state to any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact statement involved and any appropriate Federal, State or local agency authorized to develop and enforce environmental standards.	
40 CFR Part 1502.19(b)		Agencies shall circulate the entire draft and final environmental impact statement to the applicant.	N/A
40 CFR Part 1502.19(c)		Agencies shall circulate the entire draft and final environmental impact statement to any person, organization, or agency requesting the entire environmental impact statement.	<ul style="list-style-type: none">Section 7.2
Comments and Responses in a Draft EIS			
	HAR 11-200.1-24(s)(1)	The Draft EIS shall include a separate and distinct section that contains: Reproductions of all written comments submitted during the consultation period required in section 11-200.1-23	<ul style="list-style-type: none">Volume II – Appendix E

Table A-1: NEPA-HEPA Compliance Guide

NEPA Reference 40 CFR	HEPA Reference	Requirement	Location in DEIS & Notes
	HAR 11-200.1-24(s)(2); HAR 11-200.1-24(s)(2)(A)	Responses to all substantive written comments made during the consultation period required in section 11-200.1-23. Proposing agencies and applicants shall respond in the Draft EIS to all substantive written comments in one of two ways: By grouping comment response under topic headings and addressing each substantive comment raised by an individual commenter under that topic heading by issue.	<ul style="list-style-type: none"> Volume II – Appendix E
	HAR 11-200.1-24(s)(4)	A summary of any EIS public scoping meetings, including a written general summary of the oral comments made, and a representative sample of any handout provided by the proposing agency or applicant related to the action provided at any EIS public scoping meeting.	<ul style="list-style-type: none"> Section 1.5 Volume II – Appendices C, D, and E
	HAR 11-200.1-24(s)(5)	A list of those persons or agencies who were consulted and had no comment in a manner indicating that no comment was provided.	<ul style="list-style-type: none"> Chapter 7
40 CFR 1506.6		Public involvement	<ul style="list-style-type: none"> Section 1.5 Chapter 7 Volume II – Appendices C, D, and E
	HAR 11-200.1-24(s)(6)	A representative sample of the consultation request letter.	<ul style="list-style-type: none"> Volume II – Appendix D

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Cultural Impact Assessment

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**FINAL—Cultural Impact Assessment
for Army Training Land Retention of State Lands in Kahuku Training Area,
Kawailoa-Poamoho Training Area, and Makua Military Reservation,
Island of O‘ahu, Hawai‘i**

TMKS: (1) 5-8-002:002; (1) 5-9-006:026; (1) 6-9-003:001 (por.); (1) 7-2-001:006; (1) 8-1-001:007 (por.); (1) 8-1-001:008; (1) 8-1-001:012 (por.); (1) 8-2-001:002 (por.); and (1) 8-2-001:001, 022, 024, and 025

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May 12, 2023

MANAGEMENT SUMMARY

Kleinfelder, 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 6,322 acres of state of Hawai'i (State)-owned lands on O'ahu at the Kahuku Training Area (KTA), Kawaihoa-Poamoho Training Area (Poamoho), and Makua Military Reservation (MMR). These three project areas comprise the focus of this study.

The main objectives of this Cultural Impact Assessment are to analyze and assess the impact of the Proposed Action and its alternatives on cultural practices and features associated with the project areas 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 areas to make a good faith effort to identify cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups associated with the project areas.

The results of archival and ethnographic research yielded numerous cultural resources, practices, and beliefs associated with the project areas and the broad geographical areas. The most impacts to cultural resources from the Proposed Action and the continuation of ongoing military activity, as reflected in interviews, are for the MMR project area. Paramount among these is access to the MMR project area (excluding areas of the Makai Tract that have unlimited access to the public). Although current access policies exist for the areas with limited access, they are deemed inadequate by interviewees who desire safe, unlimited, and regular access to the entire MMR 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 MMR project area, this is due to public safety concerns. The continuation of current military activity within portions of the MMR 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 per current and existing access agreements, but current limitations on access are likely to continue into the foreseeable future.

Additionally, adverse impacts would continue within the MMR 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 Mākua Valley itself, including the project area, is a sacred setting, which is altered by the presence of military activity, and in particular, by debris (e.g.,

unexploded ordnance) left by prior military activity that continues to adversely impact the landscape despite the suspension of live-fire training.

Other impacts discussed by interviewees for all project areas, such as physical alteration on cultural resources, are associated with past actions within each project area and are currently mitigated by existing agreements, including the 2018 Programmatic Agreement (USAG-HI 2018a) for the KTA and Poamoho project areas and, for the MMR project area, the 2015 Memorandum of Agreement that addresses vegetation management and the potential impacts on historic properties (USAG-HI 2015), six separate Section 106 consultation documents regarding potential adverse effects on historic properties (USAG-HI 2014a, 2014b, 2014c, 2014d, 2014e, 2014f), the Ukanipō Heiau 2000 Programmatic Agreement (USAH 2000), and the 2009 Programmatic Agreement for routine military training (USAG-HI 2009).

Recommendations identified by interviewees to avoid, minimize, rectify, or reduce potential impacts from the Proposed Action include working with cultural practitioners to develop a mutually beneficial access plan that promotes engagement with cultural resources, practices, and beliefs within the project area, as well as promoting better long-term stewardship of the ‘āina with regard to military use of the land.

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SELECT ACRONYMS AND ABBREVIATIONS

A.B.C.F.M.	American Board of Commissioners of Foreign Missions
AR	Army Regulation
ATLR	Army Training Land Retention
ATV	all-terrain vehicle
CCC	Civilian Conservation Corps
CIA	Cultural Impact Assessment
CRM	Cultural Resources Manager
DLNR	Department of Land and Natural Resources
DOFAW	Division of Forestry and Wildlife
DPW	Directorate of Public Works
EIS	Environmental Impact Statement
GIS	geographic information system
HAR	Hawai'i Administrative Rules
HEPA	Hawaii Environmental Policy Act
HMA	Hawai'i Motorsports Association
HRS	Hawai'i Revised Statutes
Inc.	Incorporated
KLOA	Kawailoa Training Area
KTA	Kahuku Training Area
LCA	Land Commission Award
LLC	Limited Liability Company
MMR	Makua Military Reservation
NARA	National Archives and Records Administration
NAR	Natural Area Reserve
NEPA	National Environmental Policy Act of 1969

NHO	Native Hawaiian Organization
NPS	National Park Service
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
OR&L	Oahu Railway and Land Company
PA	Programmatic Agreement
Poamoho	Kawailoa-Poamoho Training Area
RDH	Range Division Hawaii
SLH	Session Laws of Hawai'i
TCP	Traditional Cultural Places
TMK	Tax Map Key
UAV	unmanned aerial vehicle
USACE	United States Army Corps of Engineers, Honolulu District
USAEC	United States Army Environmental Command
USAG-HI	United States Army Garrison-Hawaii
USAH	United States Army, Hawaii
USGS	United States Geological Survey
U.S.	United States
UXO	unexploded ordnance

1 INTRODUCTION

Kleinfelder, Inc. and Honua Consulting, LLC prepared this Cultural Impact Assessment (CIA) in support of an Environmental Impact Statement (EIS) being prepared by the United States (U.S.) Army Corps of Engineers, Honolulu District (USACE) for the U.S. Army Garrison-Hawaii (USAG-HI). The EIS analyzes the environmental and cultural impacts of the proposed retention of up to approximately 6,322 acres of state of Hawai'i (State)-owned lands on O'ahu at the Kahuku Training Area (KTA), Kailua-Poamoho Training Area (Poamoho), and Makua Military Reservation (MMR) (Figure 1). The CIA was prepared to comply with Hawaii Environmental Policy Act (HEPA) requirements (Hawai'i Revised Statutes [HRS] Chapter 343 and Hawai'i Administrative Rules [HAR] Chapter 11-200.1). The retention of State-owned lands, also referred to in the EIS and throughout the current document as the project areas, is a real estate/administrative action that would enable continued military use of the State-owned lands. The EIS to which this CIA is appended evaluates the potential impacts of a variety of alternatives that meet the Purpose and Need of the project. Alternatives analyzed in the EIS include 1) Full Retention of State-Owned Lands, 2) Modified Retention, 3) Minimum Retention, and 4) a No Action Alternative (no retention of State-owned lands after the terms of the current leases expire in 2029).

The main objectives of this CIA are to analyze and assess the impact of the Proposed Action, alternatives, and mitigating measures on cultural practices and features associated with the project areas to promote responsible decision making. These objectives are guided by the Hawaii State Office of Environmental Quality Control (OEQC)¹ "Guidelines for Assessing 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 areas to make a good faith effort to identify cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups associated with the project areas.

1.1 PROPOSED ACTION

The Army proposes to retain up to approximately 6,322 acres of State-owned lands prior to the expiration of the current leases in 2029 to ensure training is not interrupted. The purpose of the Proposed Action is to enable the Army to continue to conduct ongoing activities (training and other activities, such as public use programs) on the State-owned lands within KTA, Poamoho, and MMR, including those activities needed to meet its current and future training and combat readiness requirements. The Army would continue to permit and coordinate training and other activities on the retained State-owned lands by outside users of these installations.

¹ As of July 1, 2021, the OEQC is now part of the Environmental Review Program within the Hawaii State Office of Planning and Sustainable Development.

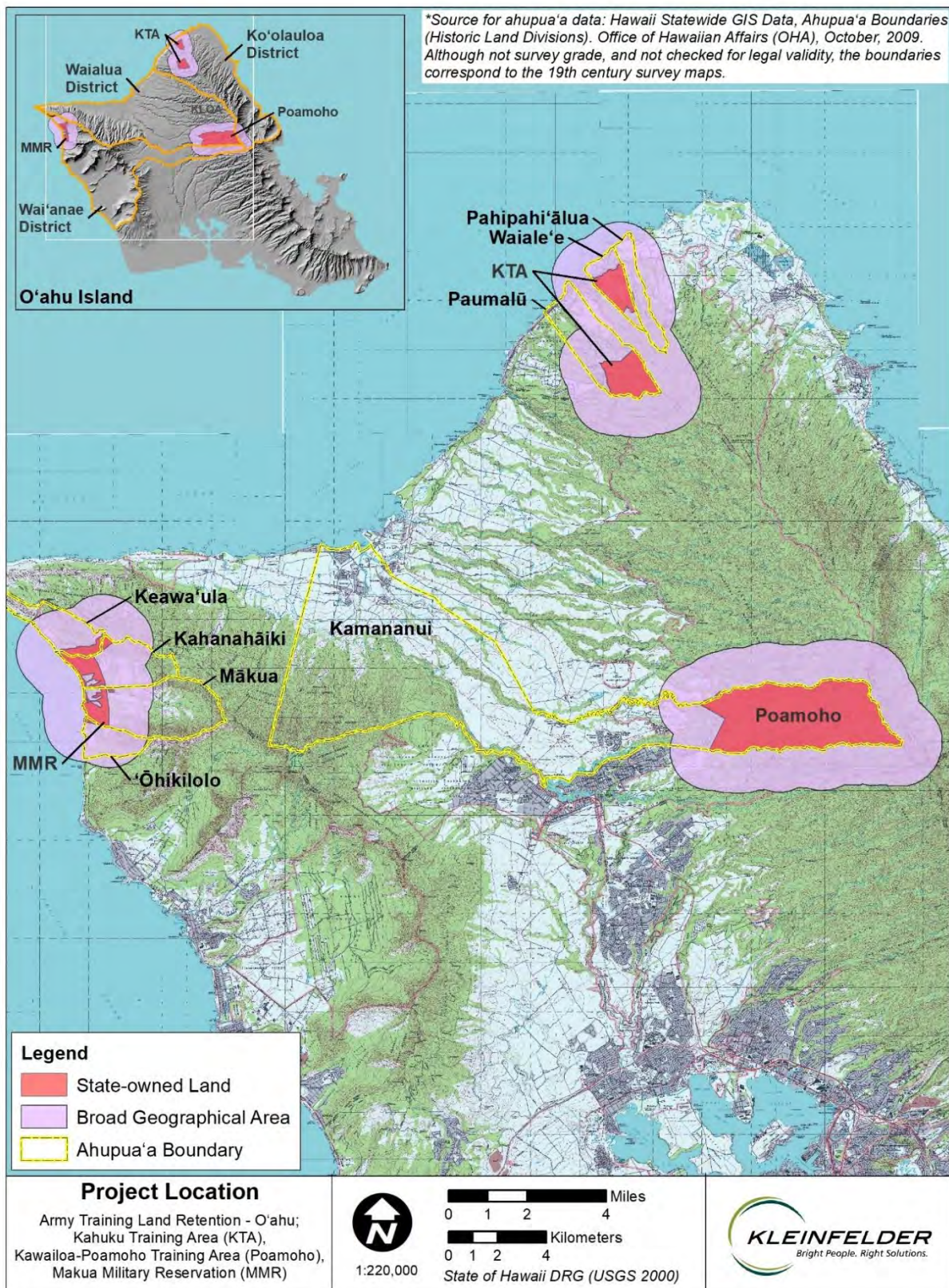


Figure 1. Overview of State-owned lands and broad geographical areas at KTA, MMR, and Poamoho.

The Proposed Action is a real estate action (i.e., an administrative action). It does not include construction or changes in military training activities or resource management actions. Additionally, the Proposed Action does not include changes to the use, size, or configuration of the special use airspace overlying the State-owned lands. The type, volume, and conduct of training, maintenance and repair activities, and resource management actions that occur on KTA and Poamoho were described in the 2018 *Programmatic Agreement among 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 United States Army Training Areas and Ranges on the Island of O‘ahu, Hawai‘i* and the 2008 *Oahu Implementation Plan*. Training activities on MMR were described in the U.S. Fish and Wildlife Service’s 2007 *Re-initiation of the 1999 Biological Opinion of the USFWS for U.S. Army Military Training at Makua Military Reservation*, the 2009 *Final Environmental Impact Statement Military Training Activities at Makua Military Reservation, Hawai‘i*, and the 2017 *MMR Integrated Wildland Fire Management Plan*.

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 (collectively referred to as HEPA) for the environmental impact assessment process 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 the existing definition of EIS in 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 areas, who do not necessarily share the same ethnic group) and State, particularly the Native Hawaiian community.

This document supports the NEPA and HEPA processes by compiling information on existing conditions of cultural resources, practices, and beliefs known to exist within the State-owned lands. This document will be appended to the EIS as a contributing technical study.

1.3 PROJECT AREA DESCRIPTIONS

The project areas for the Proposed Action consist of approximately 6,322 acres of State-owned lands within three Army installations on O‘ahu that are currently leased by the U.S. Government. The project areas encompass eight complete and three partial Tax Map Key (TMK) parcels, as detailed for each installation in the sections below.

An assessment of cultural impacts from a Proposed Action should, in most instances, not be limited to the leased parcel boundaries of the project area but should consider “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). Unlike other Proposed Actions in the State of Hawai‘i, however, the current project areas are not easily bounded by a single ahupua‘a. Rather, they are comprised of four discontinuous project footprints (two at KTA, one at Poamoho, and one at MMR), each of which span more than one ahupua‘a. The boundaries of each project area also often abut ahupua‘a boundaries, precluding an actual buffer around the leased parcel boundaries of the project area. Further, each of the project areas is not easily bounded by a distinct geographical feature or landmark. The MMR project area is an exception since it is encompassed by the larger valley surrounding the project area, but this is not easily transferred to the KTA and Poamoho project areas.

With the intent to maintain a consistently developed “broad geographical area” for each project area, this analysis thus considers a one-mile buffer around each project area. This affords an opportunity for the analysis to be consistently “greater than the area over which the proposed action will take place” (OEQC 2012:11). In other words, this creates a broad geographical area surrounding the leased parcel boundaries of the Proposed Action’s project area.

This analysis will then consider a broad geographical area; however, the level of inquiry and study will be most intensive within the project area of the Proposed Action.

1.3.1 Kahuku Training Area (KTA)

KTA is located on the northern end of the Ko‘olau Mountain Range in northeast O‘ahu. This training area consists of approximately 9,480 acres, with approximately 1,150 acres (12%) being State-owned land. The project area for KTA is located within the Ko‘olauloa District and encompasses two discontinuous TMK parcels (TMK [1] 5-8-002:002 and [1] 5-9-006:026). The northern parcel (Tract A-1) is situated within the northern portion of KTA and is comprised of an approximately 440-acre parcel located in Waiale‘e Ahupua‘a, with a small (approximately 10 acres) portion extending east into Pahipahi‘ālua Ahupua‘a. The southern parcel (Tract A-3) is situated along the western KTA boundary and is comprised of an approximately 700-acre parcel located in Paumalū Ahupua‘a.

1.3.2 Kawailoa-Poamoho Training Area (Poamoho)

The State-owned land at Poamoho comprises approximately 4,390 acres (19%) of the southern portion of the 23,455-acre Kawailoa Training Area (KLOA). The project area for Poamoho is situated within the interior portion of O‘ahu Island in the Waialua District and encompasses one TMK parcel (TMK [1] 7-2-001:006) within Kamananui Ahupua‘a. The project area extends west from the summit of the Ko‘olau Mountains to the eastern boundary of Wahiawā. The eastern portion of the project area for Poamoho is also referred to as the Proposed Natural Area Reserve (NAR) Tract (established by Hawaii Board of Land and Natural Resources in 2005), while the remaining western portion is referred to as the Poamoho Tract.

1.3.3 Makua Military Reservation (MMR)

MMR is located in west O‘ahu and is bordered by the Wai‘anae Mountains to the east and the Pacific Ocean to the west. This training area consists of approximately 4,190 acres, with approximately 782 acres (19%) being State-owned land. The project area for MMR is located in the western portion of training area and within the Wai‘anae District. This project area is situated within four ahupua‘a: Keawa‘ula, Kahanahāiki, Mākua, and ‘Ōhikilolo; it encompasses five TMK parcels (TMKs [1] 8-1-001:008 and [1] 8-2-001:001, 022, 024, and 025) and a portion of four parcels (TMKs [1] 6-9-003:001, [1] 8-1-001:007 and 012, and [1] 8-2-001:002). The MMR parcels are also referred to as the Makai, North Ridge, Center, and South Ridge Tracts.

1.4 LIMITATIONS OF THE STUDY

This study was initiated at the height of the COVID-19 pandemic when in-person contact was limited. Online surveys were thereby 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 extent.

The second phase of research, conducted in the summer of 2022, attempted to resolve this challenge by directly contacting knowledgeable individuals to request their participation in one-on-one interviews (Appendix A; see Section 2.2), which were subsequently compiled and utilized for the current study. The list of knowledgeable individuals was provided by USAG-HI, and the individuals contacted and interviewed were assumed to be familiar with the project area because of their previous 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 areas from the EIS Public Notice (see Section 2.2.1). While maps were not provided during the interviews, the interviewers have found that 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. For example, when discussing the KTA project area, informants often discuss the larger Kahuku area, which extended from Pūpūkea to Lāʻie depending on who is speaking. 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 moʻolelo, 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. Where interviewees share information that may confuse the reader, the authors have added footnotes to clarify information, at the request of the Army.

2 METHODOLOGY

The main objectives of this CIA, per the HEPA process, are to analyze and assess the impact of the Proposed Action and its alternatives on cultural practices and features associated with the project areas to promote responsible decision making. These objectives are guided by the Hawaii State Office of Environmental Quality Control (OEQC) “Guidelines for Assessing Cultural Impacts” adopted November 19, 1997 (OEQC 2012:11–13).

The OEQC guidelines specifically recommend that preparers of CIAs implement the following protocols (OEQC 2012:12):

1. 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 (see Section 2.2);
2. Identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action (see Section 2.2);
3. Receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area (see Section 2.2);
4. Conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research (see Chapters 3, 4, 5, and 6);
5. Identify and describe the cultural resources, practices, and beliefs located within the potentially affected area (see Sections 4.3, 5.3, and 6.3); and
6. 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).

Two main data sets were compiled to meet these objectives: 1) ethnographic archival documentation, and 2) data obtained from ethnographic interviews. 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 include, but are not limited to, the following elements (OEQC 2012:13):

1. A discussion of the methods applied (see Chapter 3) and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area (see Sections 4.3, 4.4, 5.3, 5.4, 6.3, and 6.4), including any constraints or limitations which might have affected the quality of the information obtained (see Section 1.4).

2. 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 (see Section 2.2).
3. 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 (see Sections 2.2.3 and 1.4).
4. 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 (see Section 2.2.2.1).
5. A discussion concerning historical and cultural source materials consulted (see Section 2.1), the institutions and repositories searched and the level of effort undertaken (see Section 2.1). This discussion should include, if appropriate, the particular perspective of the authors (see Section 2.1.1 and 2.1.2), any opposing views, and any other relevant constraints, limitations or biases (see Sections 1.4 and 1.6).
6. 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 (see each project area Chapter as well as Sections 2.3.1, 4.3, 5.3, and 6.3).
7. 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 (see each project area Chapter as well as Sections 4.4, 5.4, and 6.4).
8. An explanation of confidential information that has been withheld from public disclosure in the assessment (see Section 1.5).
9. A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs (see Section 1.6).
10. 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 (see Section 2.4 and Chapter 8).
11. A bibliography of references, and attached records of interviews which were allowed to be disclosed (see Chapter 11 and Appendix D).

The goal of this CIA is to provide a review of cultural resources, practices, and beliefs that are known to have occurred within the project areas or were likely to have occurred based on the resources present in the area and known practices associated with those resources. This 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 areas.

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

2.1 ARCHIVAL RESEARCH METHODS

Background research for development of 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 '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 W. Ellis (1963), J.P. ʻŪi (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 State-owned lands and broad geographical areas.

Historical and archival resources were located in the collections of the Hawai'i 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 Hawai'i-Hilo Mo'okini Library; USAG-HI; 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; private family collections; and in the collection of Kumu Pono Associates LLC.

In addition to the broad range of primary references listed above, other source documents were researched to broaden the cultural background of the project areas, 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 that have survived the passing of time. Some of the mo'olelo (traditions and historical accounts) were translated here from the original Hawaiian by Kepā Maly.

Among the most significant sources of Native Hawaiian historical accounts are Hawaiian language newspapers that were printed between 1838 and 1948, and the early writings of foreign visitors and residents. 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. Those accounts describe native practices, the nature of land use, and native lore, providing a means of understanding how people related to their environment and sustained themselves from the land (Maly and Maly 2005:18).

As M. Puakea Nogelmeier (2010) discusses, there are beneficial impacts to a methodology that properly researches and considers Hawaiian language resources. He 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 employs a polyrhetorical approach, whereby historical accounts, regardless of language, are researched and considered (Nogelmeier 2010).

Parts of the archival research used in this CIA were previously compiled and published by Kepā and Onaona Maly and others, who are cited in this document.

2.1.2 Historical Maps

Historical maps were used to locate potential places, names, features, and resources pertinent to the current study. Historical maps are useful for this type of study since surveyors of the eighteenth and nineteenth centuries documented features and resources on the landscape throughout Hawai'i in more detail than the prior centuries.

Historical maps were georeferenced, to the extent possible, using ESRI ArcMap 10.8.1 software and overlaid with a geographic information system (GIS) shapefile of the project areas; note, historical maps prepared using older cartographic methods do not always accurately depict the physical landscape, which

makes georeferencing difficult. Historical maps were then 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 areas.

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 areas.

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 areas.

Information regarding recorded archaeological sites helps inform the development of a CIA by indicating practices that may have occurred at tangible cultural resources. For example, the practice of uhau 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 fishing shrines within a project area.

Similarly, this CIA also uses information from biological studies to identify whether biological resources present within the project areas are associated with cultural resources, practices, and beliefs, such as the practice of lā'au lapa'au, which is the Traditional Hawaiian² 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 are also not 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 “Traditional Hawaiian” in this document refers to Hawaiian customs, practices, and beliefs that have been shared through multiple generations of Hawaiians.

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 areas 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 consultation for the CIA, Honua Consulting, LLC placed public notices in the Office of Hawaiian Affairs' (OHA) *Ka Wai Ola* for the month of October 2021. Figure 2 provides a copy of this notice. While no direct responses were received by phone or email concerning this notice, individuals did respond to the survey link provided in the notice. A description of the online survey is in Section 2.2.1.2, and summaries of the online responses for each project area are in Sections 4.2.1, 5.2.1, and 6.2.1.

Environmental and Cultural Impact Assessment Notices: Kahuku, Poamoho and Makua

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 6,300 acres of State-owned land on O'ahu at three separate locations: Kahuku Training Area (KTA) – TMKs (1) 5-8-002:002 and (1) 5-9-006:026; Kawaihoa-Poamoho Training Area (Poamoho) – TMK (1) 7-2-001:006; and Makua Military Reservation (MMR) – all or portions of TMKs (1) 8-1-001:007 and 008; (1) 8-2-001:001, 022, 024, and 025. The EIS is being prepared in accordance with Hawai'i Revised Statutes Chapter 343 and Hawai'i Administrative Rules Chapter 11-200.1. 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.

Due to the non-contiguous nature of the project area, the CIA will consist of three distinct parts, each part looking at a specific geographic area. Consultation is being conducted for each area to ensure a thorough investigation into the impacts in each geographic region. The CIA will also look at the cumulative and indirect impacts of the alternatives as a whole.

Online surveys have been created for each geographic area. Individuals or organizations may complete the CIA surveys online at www.surveymonkey.com/r/KahukuCIA (KTA), www.surveymonkey.com/r/PoamohoCIA (Poamoho), and/or www.surveymonkey.com/r/MakuaCIA (MMR). Or you may 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 2. Ho'olaha Lehulehu (Public Notice) that ran in the October 2021 OHA's Ka Wai Ola.

2.2.1.2 Social Media

In addition to *Ka Wai Ola*, Honua Consulting, LLC placed a notice on their Facebook and Instagram accounts, which announced the preparation of the CIA, sought knowledgeable individuals for consultation, and provided a link to an online survey (Figure 3). The notice targeted the general public to identify potential persons who may be interested in participating and sharing information relevant to the current study. By making participation available to any interested party, the current study sought to maximize opportunity for participation to a wide group of individuals.

The online survey contained twenty-one questions to solicit preliminary information on the respondent's biographical details; potential association with the project areas; knowledge of cultural resources, practices, and beliefs associated with the project areas; 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.

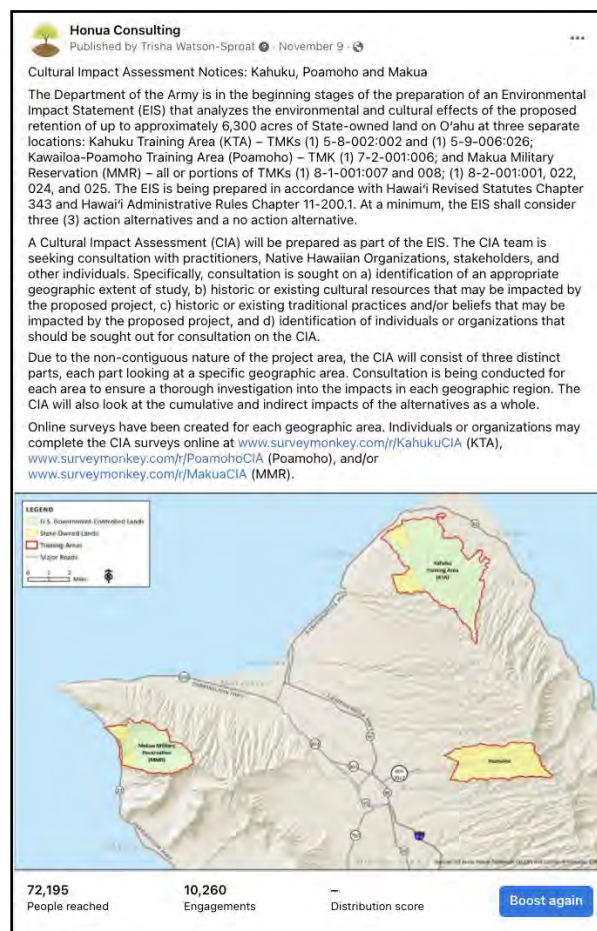


Figure 3. Social media notice that ran on Facebook and Instagram with a link to the online survey.

Seven individuals provided responses to the online survey for the KTA project area, four individuals responded for the Poamoho project area, and seven individuals responded for the MMR project area. The information given by these respondents provided preliminary information but was not used in the full analysis for the current study. Survey respondents were provided Honua Consulting, LLC's contact information but none of the respondents contacted Honua Consulting, LLC for a one-on-one interview. Summaries of the online responses for each project area are in Sections 4.2.1, 5.2.1, and 6.2.1.

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 areas. These organizations and individuals were assembled from the list of Native Hawaiian Organizations (NHOs) and other parties provided by USAG-HI, dated March 23, 2022, who identified their interest in being contacted about the project areas. 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.

In total, 44 individuals were contacted via emails. Of these, 10 were interviewed (23%),³ 28 did not respond to interview requests (64%), and six individuals declined to be interviewed (13%).

2.2.2 Interview Selection Criteria

The goal of the outreach process discussed above was to obtain at minimum six one-on-one interviews per project area, 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 criteria:

- Have expertise concerning the types of cultural resources, practices, and beliefs found within the project area and/or the broad geographical area [OEQC (2012:12)];
- Have knowledge of the area potentially affected by the Proposed Action [OEQC (2012:12)];
- Have a historical or genealogical relationship to the project area [OEQC (2012:12)];

³ Ten interviews is above average for CIAs conducted on the island of O'ahu, as seen in a review of EISs on the Hawaii State Office of Planning and Sustainable Development (2023) website.

- 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

Ten individuals provided one-on-one interviews for the current study. Eight of the ten individuals provided an interview for the KTA project area, seven of the ten individuals provided an interview for the Poamoho project area, and all ten individuals provided an interview for the MMR project area. Biographical information for each interviewee is provided below by alphabetical order.

Mr. William Ailā

Mr. Ailā provided an interview for the MMR project area. Mr. Ailā's historical and genealogical relationship to the project area is through his family and upbringing in that he was born and raised in Wai'anae (which encompasses the MMR project area) and has ties to an uncle (Ivanhoe) who was associated with Mākua. Mr. Ailā also shared that he has been fishing at Mākua Beach for over 50 years. Mr. Ailā is currently the chair and director of the Department of Hawaiian Homelands. In the capacity of the interview for the current study, Mr. Ailā expressed that he is representing Hui Mālama O Mākua.

Mr. Peter Apo

Mr. Apo provided an interview for the KTA and MMR project areas.

Regarding the KTA project area interview, Mr. Apo expressed that he is knowledgeable of Native Hawaiian cultural activities and the KTA project area. He also asserted that he chose not to represent any organization or 'ohana for the KTA project area interview, and that his comments and insight are personal in nature. He did not elaborate on the personal nature of his association with the KTA project area.

Mr. Apo's historical and genealogical relationship to the MMR project area results from his upbringing in the Mākaha/Mākua area, which encompasses the MMR project area. Mr. Apo also stated that he has been involved with Native Hawaiian concerns regarding the use of Mākua Valley, which includes the MMR project area, since the 1970s.

Mr. (Norman) Mana Kaleilani Cáceres

Mr. Cáceres provided an interview for the KTA, Poamoho, and MMR project areas.

Mr. Cáceres has knowledge and cultural expertise of all three project areas through his role as a Native Hawaiian cultural consultant on consultation efforts across the State of Hawai'i as well as on an international level. Mr. Cáceres stated that he represents 'Ohana Huihui for these interviews.

Mr. Cáceres' historical and genealogical relationship to the KTA project area stems from his mother who is from Kahuku, which encompasses the KTA project area. Mr. Cáceres' other genealogical connections to the area include his great grandparents who lived in Lā'ie as well as his grandmother and father who were raised in Lā'ie. One of Mr. Cáceres' grandmothers had knowledge of burial caves in the Kahuku area and was responsible for maintaining them. Mr. Cáceres stated that he has been invited to help care for burial caves in the area but did not specify if these were located within the KTA project area or its broad geographical area.

Mr. Cáceres expressed that his knowledge of the Poamoho project area stems from his work as a Native Hawaiian cultural consultant. He also shared that he has spent time in the area with individuals who are from the Poamoho/Wahiawā area and who are knowledgeable about cultural resources in the area as well as its cultural significance. Mr. Cáceres did not specify, however, whether he was referring to the Poamoho project area or its broad geographical area.

Mr. Cáceres' historical relationship with the MMR project area stems from living in the Wai'anae area, which encompasses the MMR project area, with his family. Mr. Cáceres' expertise as a Native Hawaiian cultural consultant also stems partly from his experience serving as a Cultural Monitor in Mākua Valley, which includes the MMR project area.

Mr. Eric Enos

Mr. Enos provided an interview for the MMR project area. Mr. Enos' historical and genealogical relationship to the project area is as a Native Hawaiian who was born and raised near the MMR project area. Mr. Enos also shared that Mākua Beach and the surrounding coastlines were his fishing grounds as he was growing up. Mr. Enos' cultural expertise also stems from his role as the Executive Director of the Ka'ala Learning Center and Ka'ala Farm, whose mission is to perpetuate the living culture of the Hawaiian people.

Mr. (Nathan) Keola Grace

Mr. Grace provided an interview for the KTA, Poamoho, and MMR project areas. Mr. Grace has broad knowledge and cultural expertise applicable to all three project areas as a member of the Royal Order of Kamehameha I, an organization whose goals include, in part, to perpetuate Native Hawaiian practices and beliefs. Mr. Grace also serves as a consulting party to USAG-HI.

Mr. Neil J. Kaho'okele Hannahs

Mr. Hannahs provided an interview for the KTA, Poamoho, and MMR project areas. Mr. Hannahs expressed that he is knowledgeable of the general area around the KTA and Poamoho project areas through his former role with Kamehameha Schools, where he managed lands at Kawailoa. Mr. Hannahs expressed that he has knowledge of and a historical relationship to the MMR project area through his upbringing on West O'ahu. He shared that he would often visit the makai portion of the MMR project area and the broad geographical area to surf and to visit the beach and Kāneana Cave.

Mr. Allen Hoe

Mr. Hoe provided an interview for the KTA, Poamoho, and MMR project areas.

Mr. Hoe expressed that his historical association and knowledge of the KTA project area is from his upbringing when he would often visit and hike in the general area.

Mr. Hoe expressed that he does not represent a specific Hawaiian cultural group and did not identify any historical or genealogical connection or cultural expertise associated with the Poamoho project area.

Mr. Hoe is personally associated with the MMR project area having spent time in the area as a child. He said his 'ohana used to camp at Mākua Beach in the late 1940s to the early 1950s. Given his military experience, Mr. Hoe noted that he is familiar with the military usage of the valley and its cultural relevance. He expressed, however, that he does not represent a specific Hawaiian cultural group.

Mr. Kyle Kajihiro

Mr. Kajihiro provided an interview for the KTA, Poamoho, and MMR project areas.

Mr. Kajihiro currently resides in Mō'ili'ili, Hawai'i. He was born in Honolulu and raised in various parts of Mō'ili'ili, Hawai'i. Mr. Kajihiro has a Ph.D. in Geography from the University of Hawai'i and is a lecturer at the University of Hawai'i at Mānoa. Mr. Kajihiro is not representing any organization or 'ohana for the interview. The opinions he shared during his interview are his personal comments drawn from personal experiences he has gained through his work with the American Friends Service Committee and his involvement with various groups that are involved with various land issues and the military. In addition to the interview, Mr. Kajihiro submitted a response via email attachment on behalf of Hawai'i Peace and Justice (of which he is a Board member) and Koa Futures, a group of Hawai'i residents concerned about the effects of military activities in Hawai'i and the Pacific Region.

He has an association with KTA through earlier opposition to the Stryker Brigade project. Mr. Kajihiro does not personally have direct knowledge of KTA; however, he has heard many testify about the cultural

resources and cultural practices that took place in the area and the impacts that the Army has had on the cultural resources which includes restricted access to sites.

Mr. Kajihiro commented that he does not have any association with Poamoho; however, he knows and has supported the efforts of groups who have kuleana to mālama Kūkaniloko.

Mr. Kajihiro has an association with MMR through his concern about the military's lease of Mākua Valley and the possibility of an extended lease of Mākua to the military.

Mr. Thomas Lenchanko

Mr. Lenchanko provided an interview for the KTA, Poamoho, and MMR project areas. He mentioned that he represents 'Ohana Whitmore and the pu'uhonua (place of refuge, sanctuary) of Kūkaniloko for these interviews.

Mr. Lenchanko identified that his relationship to the KTA, Poamoho, and MMR project areas is from his role as a caretaker of Kūkaniloko. Mr. Lenchanko asserts that all three project areas are connected to the pu'uhonua of Kūkaniloko, which extends over 36,000 acres and includes all three project areas. Mr. Lenchanko stated that the ka'ānani'au (land section) of 'Ō'io extends from Kahuku and the surrounding land parcels back up to the central plain of Kūkaniloko.

Mr. Christophor Edward Oliveira

Mr. Oliveira provided an interview for the KTA, Poamoho, and MMR project areas. Mr. Oliveira expressed that his historical and genealogical relationship with all three project areas stems from his genealogy which is of O'ahu lineage, particularly from O'ahu ali'i. Mr. Oliveira explained that his kūpuna were Kuihelani, a chief who ruled on O'ahu who he traces back to Mākua and other places, as well Kale'ula of Kūkaniloko and Ka'apuiki, a konohiki of Wai'anae and 'Ewa. Mr. Oliveira stated that he represents the Kua 'Ike Foundation and the Malae Ha'akoa for these interviews.

Mr. Oliveira stated that his specific historical relationship and cultural expertise associated with the KTA project area is from his role as a Native Hawaiian cultural consultant for the Army.

Mr. Oliveira expressed that he is associated with the Poamoho project area through his Wai'anae lineage. Mr. Oliveira explained that the Wahiawā area, including Poamoho, is connected to Wai'anae through the ali'i, Mā'ilikūkahi. Traditionally, Wahiawā and Poamoho were a part of the Wai'anae District. Mr. Oliveira expressed that he is knowledgeable of some traditions and resources within Poamoho and the surrounding area, including genealogies and place names.

Mr. Oliveira's specific historical relationship with the MMR project area results from his upbringing in Nānākuli and Wai'anae, which to many Native Hawaiians is closely associated with Mākua Valley, which includes the MMR project area. He also asserts that he is knowledgeable of the MMR project area through his role in a NHO, which he explains is comprised of signatories for burial sites at Mākua.⁴

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, nine of the ten interviews were conducted over the telephone and one interview was conducted in person. One of the ten interviewees provided supplemental information via email after his interview.

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

⁴ The Army provided clarification that the NHO mentioned here, Ko'a Mana, is a signatory to the Pililā'au Army Recreation Center (PARC) NAGPRA Comprehensive Agreement 2018 and the PARC Seawall Stockpile Plan of Action 2022 for the burial site at PARC in Wai'anae. The authors note that PARC is not within the MMR project area or broad geographical area.

- Producing a finalized summary, incorporating any interviewee edits, to be included in the CIA as an appendix (see Appendix D) and to be used for the impact analysis and mitigation recommendations.

All material, including tapes of interviews, remain the property of the interviewee, which is consistent with the treatment of indigenous informants globally. The consent forms of interviewees who participated in this project are 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 each 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 areas prior to the U.S. military leases of the State-owned lands. 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 areas. While the authors recognize the ethnic diversity of the state of Hawai'i, Native Hawaiians are the predominant ethnic group that has concerns about the project areas and 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 attempted to pinpoint the location where identified practices occur and where resources may be situated within the project areas. 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 resources and their associated practices and/or beliefs can often be directly tied to the project areas, 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.

Where clarifying information was not provided by informants regarding direct or indirect connections of practices and beliefs to the O‘ahu Army Training Land Retention (ATLR) project areas, the authors relied on access request data provided by USAG-HI Directorate of Public Works (DPW) staff to help determine resources most often visited within the project areas and/or practices most often cited as the reason for requesting access (see Section 7.4).

2.4 IMPACT ANALYSIS METHODS

Once cultural resources, practices, and beliefs within each project area and broad geographical area were identified, the potential impacts from the Proposed Action and its alternatives on those cultural resources were identified and analyzed. Survey data was not utilized in the analysis of impacts due to the limitations identified in Section 1.4.

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

- 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 (note, survey data was not analyzed):

- 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?), and
- 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, to propose to the Army.

3 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 areas and the broad geographical areas. 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, however, were not just entertainment or art. They became historical repositories of Hawai‘i’s traditional social and political history and contained explanations of native knowledge and management systems.

3.3 CEREMONIAL PRACTICES AND PERFORMANCES

Similar to its role in transmitting traditional knowledge as discussed above, cultural practices such as mele, oli, pule, and hula are also performed as a 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 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).

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 Hawaiian creation stories are important for understanding Hawaiian traditional beliefs, because they speak to the kinship that exists between Hawaiians and the land.

The Kumulipo, for example, is a 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 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, Moanalaha-i-ka-waokele (Vast expanse of wet forest), whose name occurs in romance as a chief dwelling in the heavens, and Ku-polo-lili-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 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 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 Hawaiians (Maly and Maly 2005:4–10).

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 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 “kahoa” 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:

Aloha na hale o maua i makamaka ole!

Ka alanui hele mauka o Huliwale.

E huli ae ana au i makana ia oe, a-a-a

Aloha wale, e-, kua, a-a-a!

Grief for our home without our friend!

The road that leads to the mountain Gainless-Search.

I am seeking a gift for you, alas!

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. Native 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 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 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 Hawaiian language experts. These mo'olelo date back to the first-hand accounts of those who traveled through and resided in the project areas. 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:

telling people about (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 lands and broad geographical areas.

3.6 KILO (ENVIRONMENTAL AND WEATHER-RELATED OBSERVATIONAL PRACTICES)

Understanding climate and weather were a necessity in Hawaiian culture since it impacted fishing practices, navigation, travel, and other activities. Kilo is the Traditional 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'ahale. Traveling by sea had distinct names as well, such as 'aumoana. Traveling through the mountains was sometimes referred to as hele mauna.

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 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 have and 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. 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 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 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 Hawaii 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 (DOFAW 2018:8). When asked how many game animals were harvested on public hunting areas, 577 hunters responded and reported harvesting 1,551 mammals on O'ahu for the year 2017 (DOFAW 2018:14, 16–18), and 227 hunters responded and reported harvesting 441 game birds on O'ahu 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. The traditional reliance on the natural environment for cures to various ailments, illnesses, and sicknesses is still actively taught and practiced today.

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 UHAU HUMU PŌHAKU (STONE CONSTRUCTION)

Pōhaku were of great importance to Hawaiians (Malo 1951:19). Uhaū 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 KAHUKU TRAINING AREA (KTA)

The project area for KTA is located near the northern tip of O‘ahu within the Ko‘olauloa District and encompasses two discontinuous TMK parcels (TMK [1] 5-8-002:002 and [1] 5-9-006:026) totaling approximately 1,150 acres (Figure 4–Figure 6). The northern parcel (Tract A-1) is situated within the northern portion of KTA and is comprised of an approximately 440-acre parcel located in Waiale‘e Ahupua‘a, with a small (approximately 10 acres) portion extending east into Pahipahi‘ālua Ahupua‘a. The southern parcel (Tract A-3) is situated along the western KTA boundary and is comprised of an approximately 700-acre parcel located in Paumalū Ahupua‘a.

This chapter provides a cultural contextual overview of archival and interview data obtained for the KTA project area. Section 4.1 presents aspects of KTA’s natural environment, cultural landscape, and archival history, as well as summarizes findings from ethnographic studies conducted in the project area. Section 4.2 summarizes the responses received from the online survey as well as one-on-one interviews. Section 4.3 presents an overview of identified cultural resources, practices, and beliefs obtained from this research, and Section 4.4 discusses potential impacts on these cultural resources, practices, and beliefs.

4.1 ARCHIVAL RESEARCH

Archival research was conducted for the natural environment, cultural landscape, archival history, and previous ethnographic interviews 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

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 of various aspects of the natural environment imbued cultural significance into the rains, the winds, and other natural features.

The project area for KTA is two discontinuous parcels in the moku (traditional district) of Ko‘olauloa, one located within Waiale‘e and Pahipahi‘ālua Ahupua‘a (Tract A-1) and the other located within Paumalū Ahupua‘a (Tract A-3) (see Figure 4). There are various environmental aspects within the KTA project area and the broad geographical area that have cultural significance. These are discussed below.

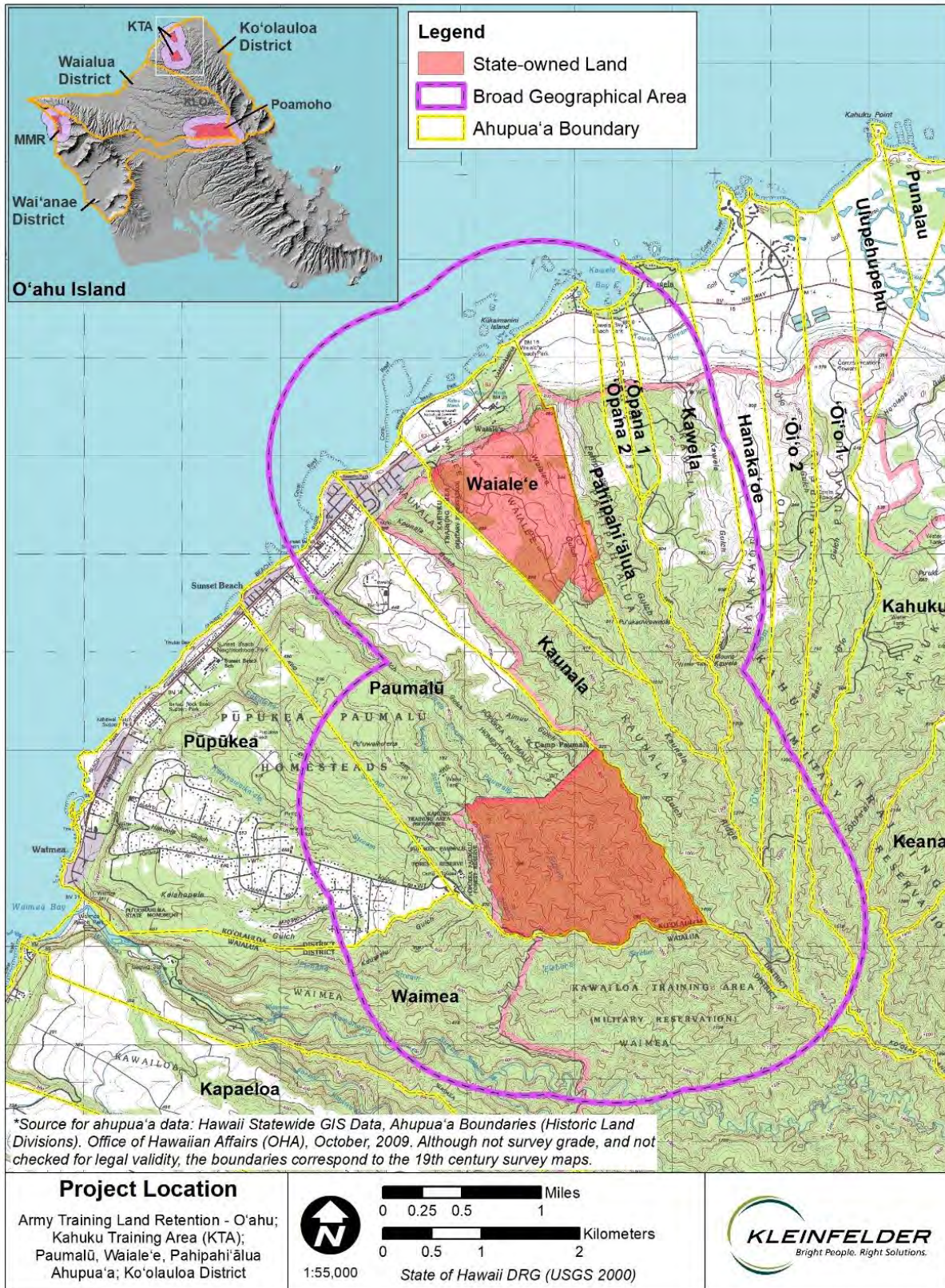


Figure 4. Overview of the State-owned land at KTA and the broad geographical area, shown on 2000 USGS DRG map.

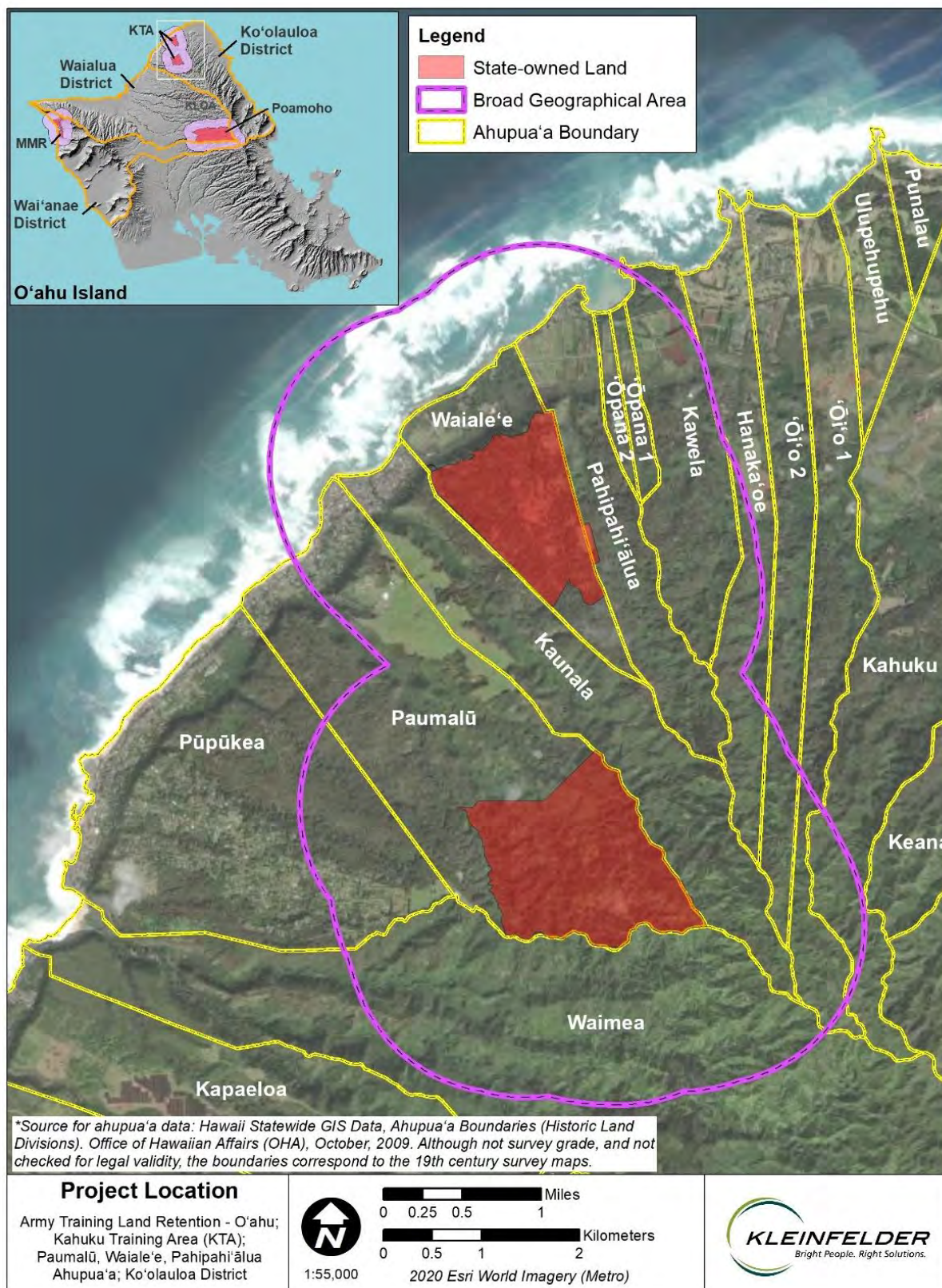


Figure 5. Overview of the State-owned land at KTA and the broad geographical area, shown on 2020 aerial imagery.

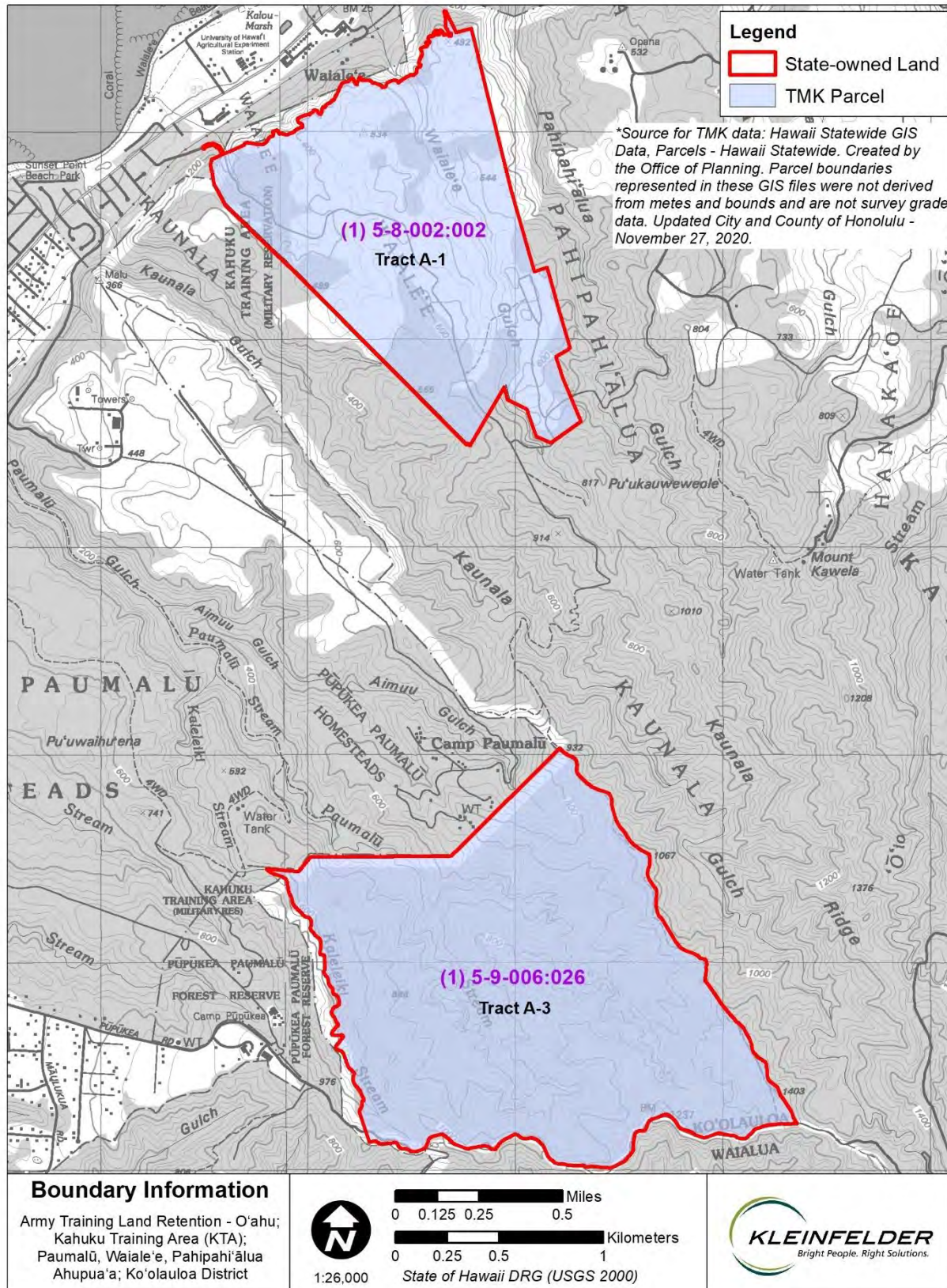


Figure 6. TMK and Tract information within the State-owned land at KTA.

4.1.1.1 Wai

Important elements of Hawaiian ethnoecology include 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. Six freshwater sources are located within the KTA project area: 'Aimu'u Gulch, Kaleleiki Stream, Kawaipi Stream, Pahipahi'ālua Gulch, Paumalū Gulch, and Waiale'e Gulch (Figure 7).

The Pahipahi'ālua and Waiale'e Gulches are associated with KTA Tract A-1, with Pahipahi'ālua Gulch sharing the eastern boundary of Tract A-1. Waiale'e Gulch cuts through the project area and joins Pahipahi'ālua Stream at the shoreline between Kaunala Beach and Kawela Bay. 'Aimu'u Gulch, Paumalū Gulch, Kaleleiki Stream and Kawaipi Stream are located within KTA Tract A-3. All of these freshwater sources start within the project area with 'Aimu'u Gulch, Kaleleiki Stream, and Kawaipi Stream combining into Paumalū Stream approximately 1.5 kilometers northeast of Tract A-3.

4.1.1.2 Rains

No specific rain names were identified for the KTA project area.

4.1.1.3 Winds

Ahamanu and Ihuanu are winds that may be associated with the KTA project area. Wind names are capitalized and considered proper names, and their literal definitions and mo'olelo are discussed below.

Ahamanu is a traditional wind name in Kahuku. According to Tēvita Ka'ili, a resident of Kahuku Ahupua'a, cultural anthropologist with a specialty in Pacific cultures, and Cultural Advisor for the Kahuku Community Association, Ahamanu, or 'Ahamanu, means "the gathering of the manu, birds" (DOFAW 2015:5):

Note that Ahamanu, the name of the wind of Kahuku, is probably a reference to the role of the makani/wind in gather ('aha) bird (manu) to Kahuku. . . These birds and bats are vital to our ecology and they are also highly significant to Polynesian cultures. Many of these beautiful winged creatures are acknowledged in the Hawaiian Creation Chant Kumulipo and other Polynesian creation stories as indigenous, as ancestors, as protectors, as creators, and as our elders. Some are 'aumākua (ancestral guardians), makua (parental birds), keiki (children of parent birds), kia'i (guardian/caretaker birds), and others are kinolau (body forms) of principal ancestors in Oceania. Tonight, we are discussing manu, winged creatures, which are all highly significant to Hawaiian and other Polynesian cultures . . .

According to Pukui and Elbert (1986:95), Ihuanu is the name given to the wind blowing upland from Kawela and means "cold nose."

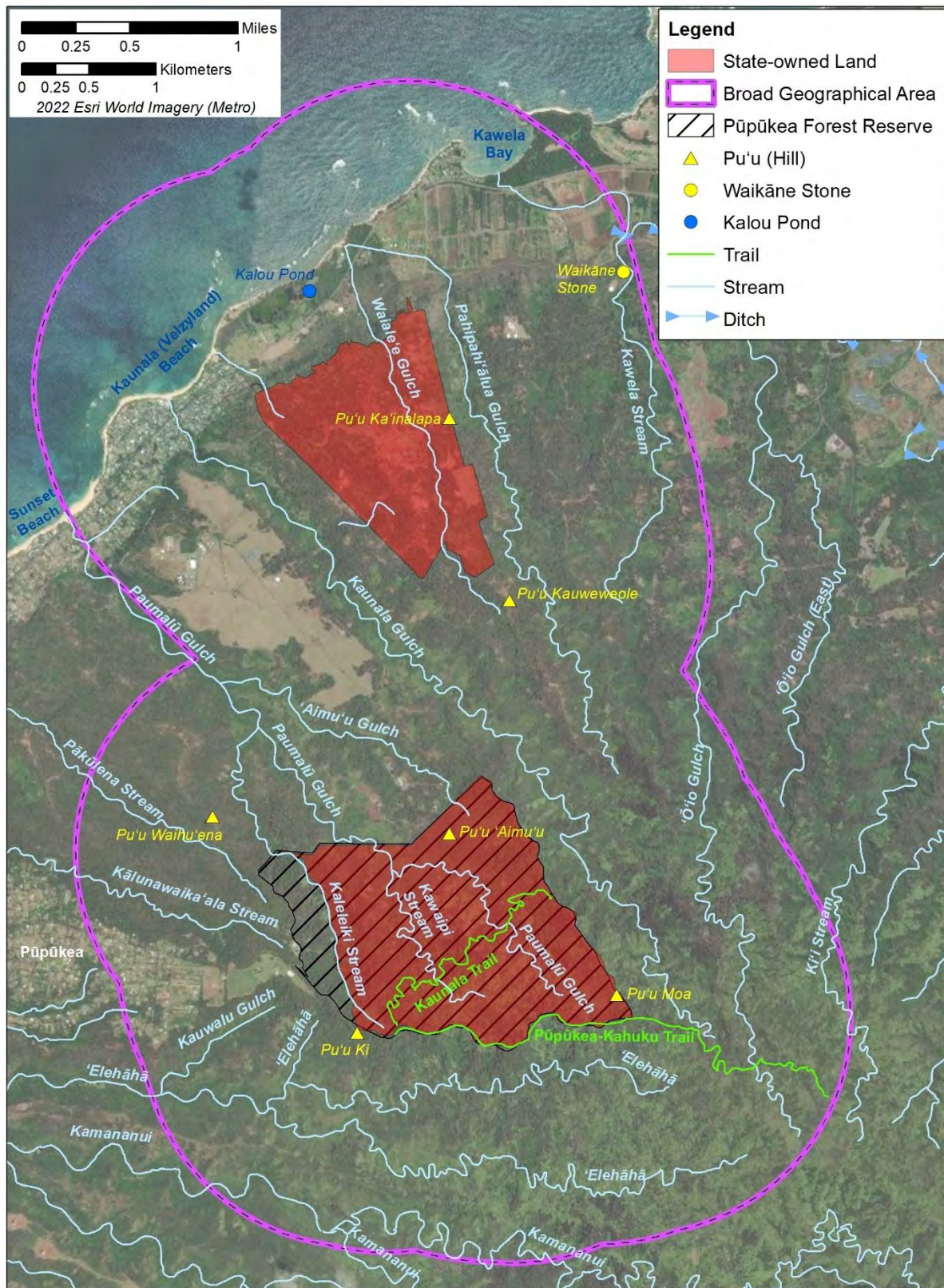


Figure 7. A sample of geological names and place names within the State-owned land at KTA and the broad geographical area.

4.1.1.4 Pu‘u

As defined by Pukui and Elbert (1986:358), 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. There are four pu‘u within the broad geographical area of KTA project area: ‘Aimu‘u, Ka‘inalapa, Kauweweole, Ki, and Moa (see Figure 7). Three of these pu‘u (‘Aimu‘u, Ka‘inalapa, and Moa) are located within the project area.

Pu‘u Ka‘inalapa and Pu‘u Kauweweole are associated with KTA Tract A-1. Pu‘u Ka‘inalapa is within Tract A-1, along the Waiale‘e/Pahipahi‘ālua Ahupua‘a boundary and approximately 840 meters southeast of the northeast corner of Tract A-1. Pu‘u Kauweweole is outside of the KTA project area, approximately 310 meters southeast of the southern border of Tract A-1. Pu‘u ‘Aimu‘u and Pu‘u Moa are within Tract A-3. Pu‘u ‘Aimu‘u is approximately 150 meters south of the northern boundary, and Pu‘u Moa sits approximately 200 meters northwest of Tract A-3 southeast corner, which is also the corner of the Pūpūkea Forest Reserve. Pu‘u Ki is located just outside the southwest corner of Tract A-3 and is visible on historical maps from the 1920s through the early 1950s. Archival research on the four pu‘u located within the KTA project area and the broad geographical area did not find any cultural resources, practices, or beliefs connected to these pu‘u.

4.1.1.5 Traditional Plants

Plant species with a connection to cultural practices and beliefs have been recorded within the KTA project area. Koa (*Acacia koa*), ‘ōhi‘a lehua (*Metrosideros polymorpha*), ‘ūlei (Hawaiian hawthorn, *Osteomeles anthyllidifolia*), and uluhe (false staghorn fern, *Dicranopteris linearis*) are present in KTA Tract A-3, while kiawe (algaroba tree, *Prosopis pallida*) forest and scrubland is present within KTA Tract A-1 (USGS 2016). Plant descriptions and cultural uses for these plants are described below.

Koa (*Acacia koa*) is an endemic Native Hawaiian plant with many traditional uses, most notably in ancient Hawai‘i for canoe making. Besides the hull, koa wood was also used to create canoe thwarts, seats, and paddles (Krauss 1993:50, 52; Abbott 2019:80, 83). When choosing a tree, builders would observe the behavior of the ‘elepaio (O‘ahu monarch flycatcher, *Chasiempis ibidis*), a native forest bird representing Lea, the female deity of canoe makers (Krauss 1993:48). If the ‘elepaio moved along a felled koa tree without stopping, the builders knew it was sound enough for canoe making; however, if the ‘elepaio stopped and pecked at the bark, the trunk was considered flawed as it was likely infested with insects and unusable (Krauss 1993:48). Additionally, koa wood was used to make spears, surfboards, ‘umeke lā‘au (containers made from wood), and other utensils; however, it was not used for poi containers as koa was

known to give poi a bitter taste (Handy and Handy 1991:8; Abbott 2019:88). Medicinally, koa bark, when mixed with ‘ōlena (turmeric, *Curcuma domestica*) and ‘ōhi‘a ‘ai (mountain apple, *Syzygium malaccense*) tree bark, was consumed to clean the blood (Krauss 1993:102).

‘Ōhi‘a lehua (*Metrosideros polymorpha*) is a Native Hawaiian plant whose wood was used for construction and canoe making, including canoe spreaders, gunwales, and decking (Krauss 1993:50; Abbott 2019:81). Its straight trunk made it ideal for the framing of homes, rafters, and roofing support posts and poles (Abbott 2019:68). When preparing tapa (kapa), ‘ōhi‘a lehua was used to create lā‘au kahi wauke (scrapping board); these boards separated the outer and inner bark of the wauke (paper mulberry, *Broussonetia papyrifera*) plant (Krauss 1993:61). In heiau, ‘ōhi‘a lehua was used to create images and lele (offering stands) (Krauss 1993:118–119), as its use in this ceremonial setting represented Kūka‘ōhi‘alaka, a legendary ‘ōhi‘a lehua tree with a red flower on its eastern branch and a white flower on its western branch (Abbott 2019:117). Musical instruments and lei were also constructed using ‘ōhi‘a lehua (Krauss 1993:77, 80; Abbott 2019:126–127).

‘Ūlei (Hawaiian hawthorn, *Osteomeles anthyllidifolia*), also known as eluehe, is a native shrub with edible berries that were eaten on journeys (Krauss 1993:16). The wood of the ‘ūlei was used to create various musical instruments and tools, including those used for farming and fishing, such as frames for small bag nets, scoop net handles, and light spears (Krauss 1993:37, 45, 80; Abbott 2019:84). Lei was made with the berries of this shrub mixed with other plants and leaves (Krauss 1993:77); its “tiny leaves, rose-like flowers, and pinkish fruit were prized for lei wili” (Abbott 2019:126). ‘Ūlei javelins and darts were used in throwing games, and spears made from the shrub’s wood were used for fencing (Krauss 1993:94–95).

Uluhe (false staghorn fern, *Dicranopteris linearis*) is a common fern in Hawai‘i’s forests and grows in dense mats (NPS 2022). A traditional use for the fern includes weaving it into lei (Bishop Museum 2022), and the fern was also made into a liquid that was used to cure constipation (NPS 2022).

Kiawe (algaroba tree, *Prosopis pallida*) is a non-native tree that has been used in agriculture and construction since the 1890s (Gallaher and Merlin 2010:496, 504). In 1828, the first kiawe tree was reportedly planted on O‘ahu by Father Alexis Bachelot, a French Catholic priest who was tasked with establishing the first Catholic mission in Hawai‘i. By the 1890s, kiawe was used for fuel wood, fence posts, and cattle feed (Gallaher and Merlin 2010:504).

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 man-made 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. The meaning of specific place names within the KTA project area and the broad geographical area are described below and their locations are shown on Figure 7.

- 'Aimu'u: Although not translated, taking the words "'ai" and "mu'u" separately could mean "to eat" "the second generation of taro" (Pukui and Elbert 1986:9, 256).
- 'Elehāhā: According to Pukui et al. (1974:27), 'Elehāhā, a tributary of Waimea Stream, means "black stalk (of a taro)."
- Kahuku: According to Pukui et al. (1974:67), Kahuku means "the projection," and according to Handy and Handy (1991:462) it means "the hillock."
- Ka'inalapa: No translation found.
- Kaleleiki: According to Pukui et al. (1974:76), Kaleleiki means "the short leap."
- Kalou: According to Pukui et al. (1974:78), Kalou means "the hook."
- Kālunawaika'ala: According to Pukui et al. (1974:79), the stream of "Kā-luna-wai-Ka'ala" means "water from the heights [of] Ka'ala."
- Kaunala: According to Pukui et al. (1974:95), Kaunala means "the plaiting."
- Kauwalu: No translation found.
- Kawela: According to Pukui et al. (1974:99–100), Kawela means "the heat."
- Kauweole: No translation found.
- Kawaiپی: No translation found.
- Ki: Possibly meaning the ti (*Cordyline terminalis*) plant (Pukui and Elbert 1986:145).
- Moa: According to Pukui and Elbert (1986:248), moa has numerous meanings, including "chicken", "native banana fruit with large and plump skin", and "tufted, green, leafless plants (*Psilotum nudum* and *P. complanatum*)."
- 'Ōpana: According to Pukui et al. (1974:171), 'Ōpana is "perhaps related to 'ōpā, squeeze."
- Pahipahi'ālua: According to Andrews (1922:664), "Pahipahialua" means "double edged cutting instrument."
- Paumalū: According to Pukui et al. (1974:179–180), Paumalū means "taken secretly (a shark bit off the legs of a woman who caught more squid than was permitted; Sterling and Summers [1978:145])." It could also be translated as "taken by surprise" (McAllister 1933:151). See Section 4.1.2.2 for discussion on Paumalū's associated mo'olelo.
- Pūpūkea: According to Pukui et al. (1974:195), Pūpūkea means "white shell."

- Waiale'e: According to Andrews (1922:672), "Waialea" means "bounding water."
- Waihu'ena: No translation found.
- Waimea: According to Pukui at al. (1974:225–226), Waimea means "reddish water (as from erosion of red soil)."

Traditional Hawaiians managed the landscape by dividing it into various moku, watershed or other geographically bounded areas (ahupua'a), and kin-based plots or subdivisions of an ahupua'a ('ili), among others. These land divisions (called "Mokuna" for the current study) help elucidate different ways of contextualizing cultural resources, practices, and beliefs within the cultural landscape.

The KTA project area is situated within the ahupua'a of Pahipahi'ālua, Paumalū, and Waiale'e in the moku of Ko'olauloa. Mapping of the area extends as far back at the late 1800s (Figure 8). KTA Tract A-1 is mostly located within Waiale'e Ahupua'a with a small sliver of land within Pahipahi'ālua Ahupua'a. Kaunala Ahupua'a lies to the west of Waiale'e, and 'Ōpana 2 and Kawela Ahupua'a lie to the east of Pahipahi'ālua (see Figure 4).

KTA Tract A-3 is located solely within Paumalū, an ahupua'a adjacent to Pūpūkea, Waimea, and Kaunala Ahupua'a. The Kaunala Gulch and Ridge run along the eastern border of the project area, and KTA Tract A-3 is located entirely within the Pūpūkea Forest Reserve.

4.1.2.2 Mo'olelo

The KTA project area and the broad geographical area have associated mo'olelo that explain the history and meaning behind their names. KTA shares its name with the nearby town of Kahuku. The mo'olelo associated with this place name include references to unstable land, hala (screw pine, *Pandanus tectorius*) trees, and an underground stream.

Kahuku 'āina lewa.

Kahuku, an unstable land.

O'ahu, according to legend, was once two islands that grew together. Kahuku is the part that bridges the gap. [Pukui 1983:144]

Nani i ka hala ka 'ōiwi o Kahuku.

The body of Kahuku is beautified by hala trees.

Refers to Kahuku, O'ahu. [Pukui 1983:248]

Pukana wai o Kahuku.

The water outlet of Kahuku.

Refers to the outlet of an underground stream that once flowed from Kahuku to Waipahu, O'ahu. [Pukui 1983:299]

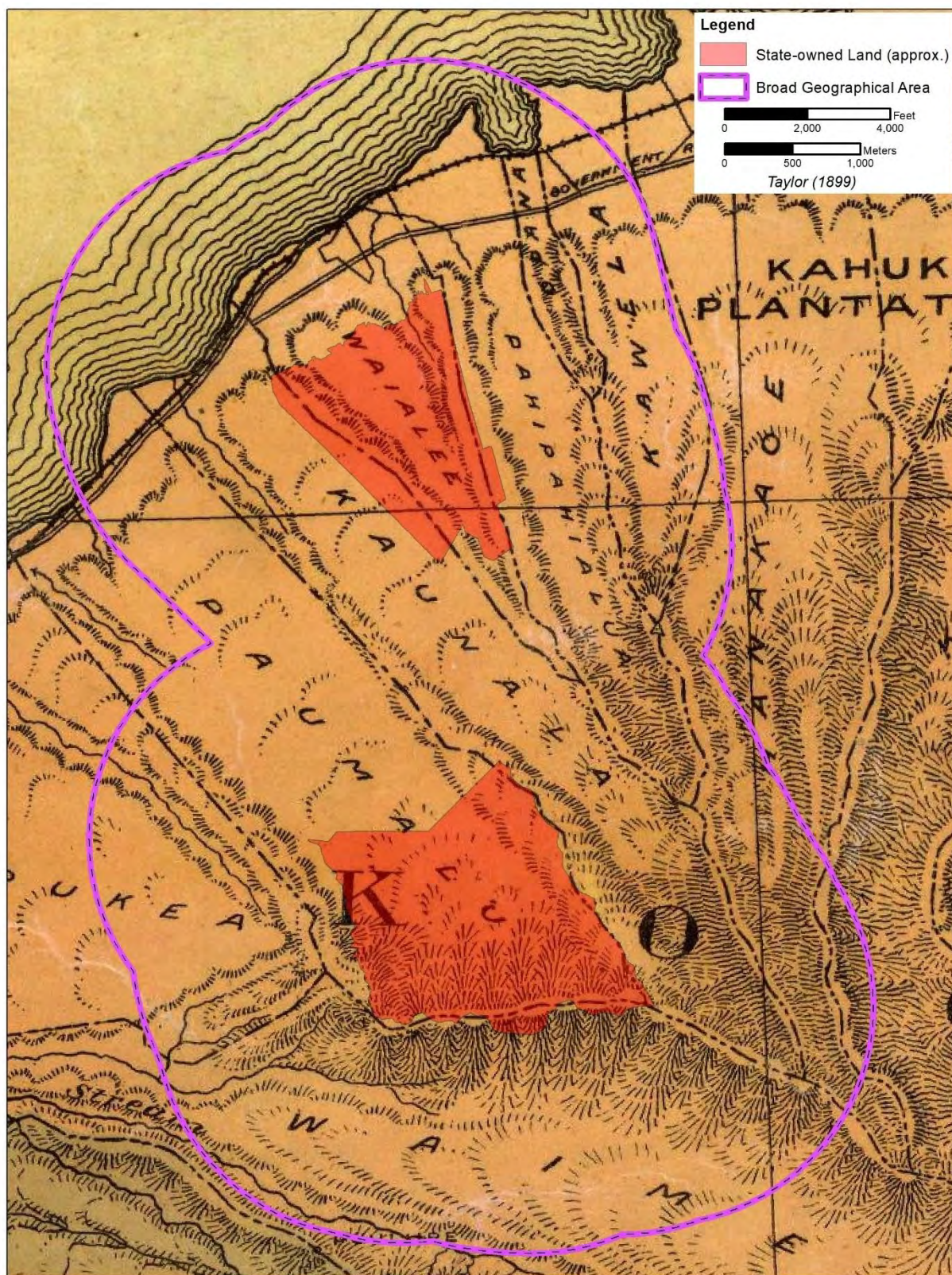


Figure 8. 1899 Taylor map showing the State-owned land at KTA and the broad geographical area.

A fishpond, called Kalou, was recorded approximately 425 meters (0.26 miles) north of the KTA project area (within the broad geographical area). According to McAllister (1933:152):

Said to have been in its best condition when Kaluhi was konohiki (a man in charge of a land division) of this district. There was formerly a “Kane stone” in the immediate vicinity. This is also the place where Kahuku is attached to Waialeale.

Another fishpond was located within Pahipahi’ālua Ahupua’a, on the Waimea side of Kawela Bay, approximately 1,200 meters (0.75 miles) northeast of the KTA project area (within the broad geographical area). It was a small loko wai (freshwater fishpond) known as Kāpi or Punaulua. McAllister (1933:152) related this story told him about the fishpond and the nearby fishing shrine called “Pahipahialua”:

There were once gathered on the beach near this site a great many people. This was long before Europeans had come and when there were not many Hawaiians, so that a gathering of this size was enough to occasion the comments of a stranger who approached. This was Kane, but the people did not recognize him. “Why are so many of you gathered here?” he inquired. “To catch the oio. A large school swims near in the water,” they replied. “Those are not oio,” said Kane, “they are eel.” But the people only laughed. Certainly they knew oio when they saw them. Who was this stranger to dispute the words of kamaainas? So Kane wagered that they were eel, and the people wagered against him. The canoes with the long, large nets were launched and the school surrounded. Great was their surprise when they found the fish to be eel. Who could this strange man be? That evening Kane accompanied them up to the mountains. It was a long trip up the valley to reach the springs of fresh water, and the people were tired. They stopped at the entrance of the valley for rest, and here in the presence of all the people, Kane struck the stone known as Waikane, from which water immediately poured forth and has been flowing almost to this day.

Apparently Kane, who was joined by Kanaloa, live at Opana for some time, for just outside of Kawela Bay there are rocks, horseshoe in shape and known as Papaamui, where these brothers were wont to scoop for fish. Near the beach and in line with Waikane was the fishing shrine (ko’a) called Pahipahialua.

Within the KTA project area, Paumalū Gulch is the only location with an associated mo’olelo. The name Paumalū comes from its mo’olelo that involves a woman known for her ability to catch squid and a shark (McAllister 1933:151):

. . .She went down to the beach at the place designated by the chief, but before she entered the water an old man met her. He told her the rules of the place: she was supposed to catch only a certain number and when she had caught them to go home, or something would be sure to happen to her. She called for her daughter who had followed and told her to come with her into the water. Another thing the old man had said was for her to go home when she said she would and not to stop for anything. The lady caught all she had been allowed by the old man, but she kept on fishing until she had more than she could handle. She sent her daughter to the shore with half of the load and told her she was going home, but instead she remained, for she saw a

huge squid she wanted to get. Just then a large shark came and bit off her legs. She yelled for help. Her daughter came to her rescue, but too late. She died from the loss of blood and the shock.

When the people examined her later they found one deep gash on her right arm made by one of the shark's teeth. They then knew that it was done by a shark who guarded that particular reef. After that incident they named the place Paumalu, which means, "taken by surprise."

4.1.2.3 Archaeological Sites

Two archaeological sites are documented within the KTA project area: Sites 50-80-02-4887 and 4888. Site 4887 is a Hawaiian habitation site located within KTA Tract A-1 between Kaunala and Waiale'e gulches. The site contains 11 surface features constructed of stacked basalt boulders that include "five terraces, one rock alignment, two circular alignment [sic], one depression, one enclosure, and one boxed C-shape structure" (Williams and Patolo 1998:64). One of the terraces was likely a house site with the remaining terraces related to agricultural or structural functions; the enclosure was likely an animal pen; and the earthen depression was likely a cooking area. This residential site most likely dates to the pre-Contact to early post-Contact period (Williams and Patolo 1998:72–73).

Site 4888 is a possible agricultural site located on a knoll within Paumalū Stream in the KTA Tract A-3. The site contains a short boulder alignment and a series of earthen depressions. The largest of these depressions contained charcoal and was a possible imu (earth oven), but the charcoal was not tested to confirm age. The site area was noted for extensive erosion and weathering (Williams and Patolo 1998:73–74).

In addition to the two archaeological sites, isolated pre-Contact Hawaiian artifacts have also been documented within the State-owned land, including a basalt adze fragment near Site 50-80-02-6972 and a basalt flake at Site 50-80-02-6981 (Patolo et al. 2010:138).

4.1.2.4 Trails

According to historical maps dating from 1929 and 1943, the Pūpūkea-Kahuku Trail, also known as the Pūpūkea Summit Trail, runs along the southern border of the Pūpūkea Forest Reserve, which is part of KTA Tract A-3 (Figure 9 and Figure 10). The Army built the initial section of this trail in the early 1920s, then between 1934 and 1936 the Civilian Conservation Corps rebuilt the Army section and extended it along the Ko'olau Range to its current 4.5-mile length (Ball 2000:259). Even though this is a historically built trail, it may have originated from traditional use; however, there is no recorded evidence of traditional use for the trail.

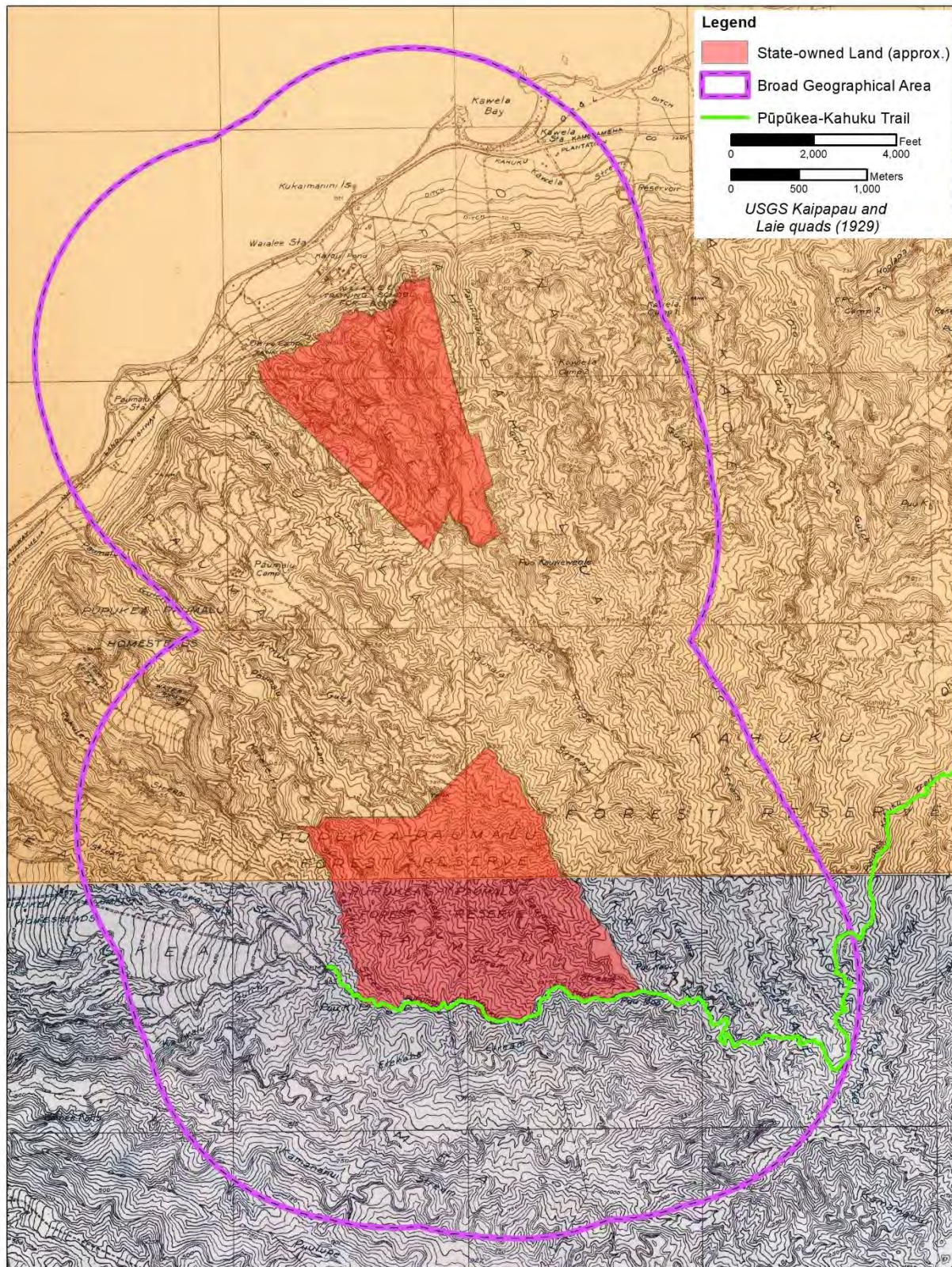


Figure 9. 1929 USGS Kaipapau and Laie quads showing Pūpūkea-Kahuku Trail along southern border of KTA Tract A-3 and numerous unimproved roads within KTA Tract A-1.

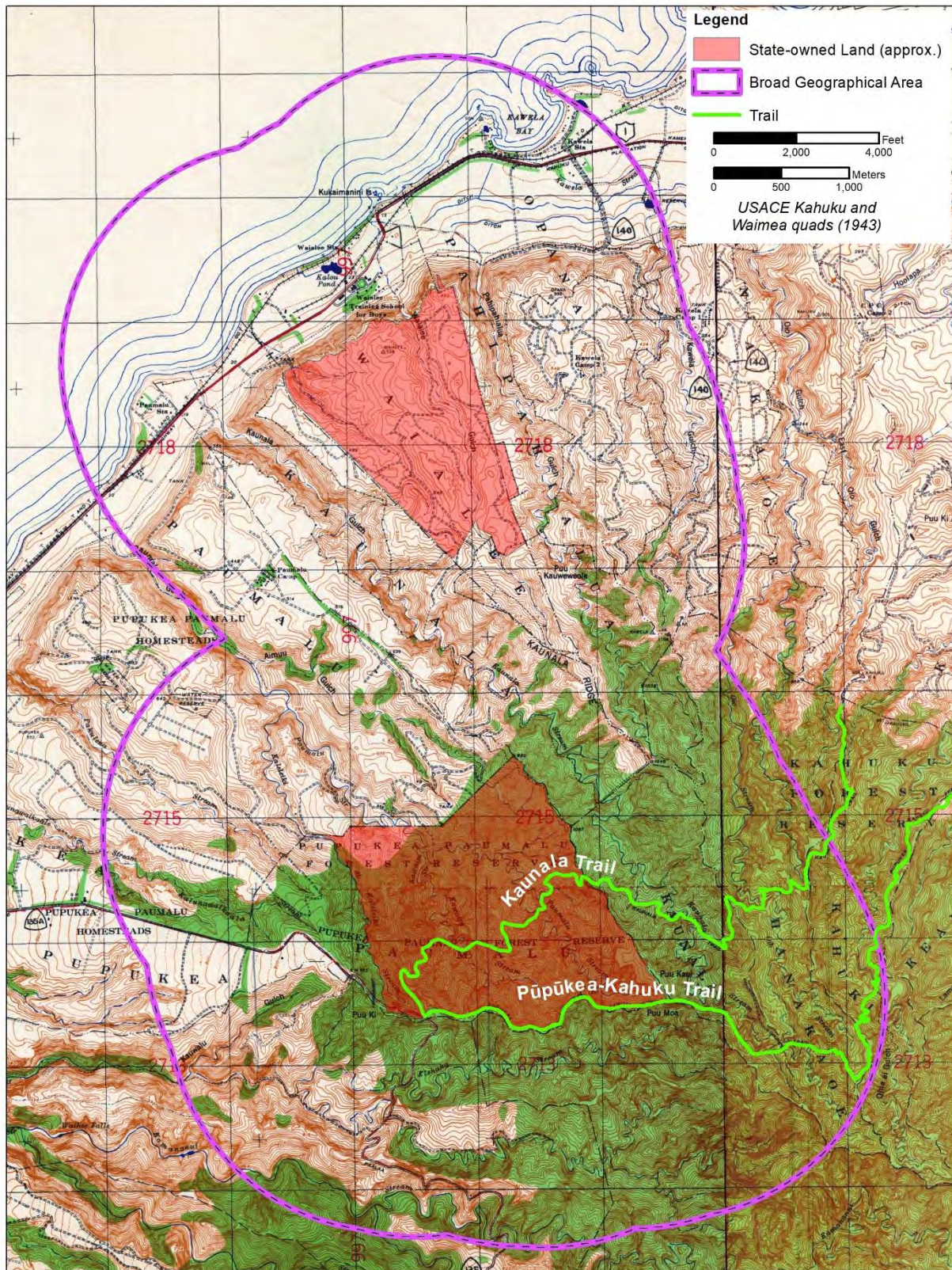


Figure 10. 1943 USACE Kahuku and Waimea quads showing Pūpūkea-Kahuku and Kaunala trails within and adjacent to KTA Tract A-3.

Kaunala Trail is shown going through KTA Tract A-3 starting with the 1943 USACE map (see Figure 10). This 2.5-mile trail begins in the southwest corner of the project area, traversing the ridgelines, crossing Kawaiipi and Paumalū Streams before exiting the eastern boundary of Tract A-3. The trail was built in 1933 by Territorial Forestry “to provide access to the Pupukea section of the Paumalu Forest Reserve for reforestation efforts” (DOFAW 2022a). This Pūpūkea Forest Reserve was “established by Governor’s Proclamation on May 10, 1910, to protect the forest and increase the flow from several small springs and waterholes” (DOFAW 2022b). This trail is still in use today for hiking, biking, and camping, and it traverses a public hunting area (Department of Land and Natural Resources [DLNR] 2022a). There is no recorded evidence of traditional use of this trail.

4.1.3 Archival History

The history of the KTA project area provides important detail 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.

4.1.3.1 Traditional Historical Context

Waiale‘e Ahupua‘a, which encompasses most of KTA Tract A-1, once had a small group of ancient terraces outside the project area known as Kāne-ali‘i (Handy and Handy 1991:462–463). These terraces were abandoned due to a lack of water (Handy 1940:88). A local informant named Judge Rathburn confirms this, as he recalled no terraces along Pahipahi‘ālua Stream but noted terraces outside but in the broad geographical area of the project area (Handy 1940:88):

. . . a small group of terraces formerly known as Kanealii, now abandoned for lack of water, around the house of Mrs. John Baker, just east of the Boys’ Industrial School and inland of Kamehameha Highway. The large terraces now cultivated seaward of the Industrial School are of recent construction.

There is an archaeological site (Site 4887) within KTA Tract A-1 between Kaunala and Waiale‘e gulches that contains features indicative of a Hawaiian habitation site with terraces related to agricultural or structural functions (see Section 4.1.2.3), indicating such activities took place within the project area.

Historically, Handy and Handy (1991:463) stated there were no terraces within the gulches or streams within the ahupua‘a of Paumalū, where KTA Tract A-3 is located, and Pupukea; however, there is an archaeological site (Site 4888) within KTA Tract A-3 that indicates there may have been agriculture in the gulches of Paumalū Ahupua‘a.

4.1.3.2 Post-Contact and Kingdom History

There are few Early European accounts of the northern coast of O‘ahu, including Kahuku and the shoreline within the broad geographical area of the KTA project area, and the accounts often pose conflicting

information about the socio-environmental conditions of these areas . The earliest European account of the northern coast of O‘ahu comes from Charles Clerke, who assumed command of the H.M.S. Resolution following Captain Cook’s death in 1779 (Beaglehole 1967:572, Part One, Vol. III):

Run round the Noern [northern] Extreme of the Isle [O‘ahu] which terminates in a low point rather projecting [Kahuku Point]; off it lay a ledge of rock extending a full Mile into the sea, many of them above the surface of the water; the country in this neighborhood is exceedingly fine and fertile; here a large Village, in the midst of it run up a large-Pyramid doubtlessly part of a Morai.

An observation by Captain George Vancouver fifteen years later conflicts with Clerke’s account. Vancouver describes a land that did not appear to be flourishing and lacked a sufficient population (Vancouver 1978, Vol 3:7). John Papa ‘Ī‘ī, similarly, conflicts with Vancouver’s account in describing the Waiale‘e area as, “a delightful land, well provisioned”, and noted, “[t]here was a pond there, surrounded by taro patches, and there were good fishing places inside the reef” (‘Ī‘ī 1983:24).

During the Māhele ‘Āina, the land at Waiale‘e and a portion of Paumalū was retained by the Crown; however, one LCA was awarded within the KTA project area. Approximately ten acres of KTA Tract A-1 falls within a portion of Pahipahi‘ālua Ahupua‘a; this entire 950-acre ahupua‘a was awarded to William C. Lunalilo under LCA 8559B:37, but the claim does not specify specific land use (Figure 11). In the broad geographical area, four LCAs (LCAs 2756:1, 2824:2, 2891:3, and 5235:1) were awarded within Waiale‘e and Kaunala Ahupua‘a. LCAs 2756:1, 2824:2, and 2891:3 were awarded north of the KTA Tract A-1. The closest of these to the KTA project area was awarded to Kuheleloa under LCA 2824:2 and is located less than 100 meters from the northern border of KTA Tract A-1 within Waiale‘e Ahupua‘a. LCA2756:1, located approximately 375 meters from the northern border of KTA Tract A-1 within Waiale‘e and Kaunala Ahupua‘a, was awarded to Nahuaka; and LCA2891:3, located approximately 400 meters from the northern border of KTA Tract A-1 within Waiale‘e Ahupua‘a, was awarded to Kaio. Lastly, there was one large 1,384-acre LCA (LCA 5235:1) awarded to S. Kaapuiki in Kaunala Ahupua‘a, located along the western border of KTA Tract A-1 and the eastern border of KTA Tract A-3. LCAs within the KTA project area and the broad geographical area are shown in Figure 12 and Table 1.

LCA records, accessed through the OHA’s Kipuka database, indicate that habitation was occurring primarily along the coastal flatlands and that residents engaged in both irrigated agriculture and dryland agriculture. Cultigens mentioned within the broad geographical area include kalo, ‘uala, mai‘a, wauke, and kō. One record also claimed an individual koa tree was used specifically for canoe building.

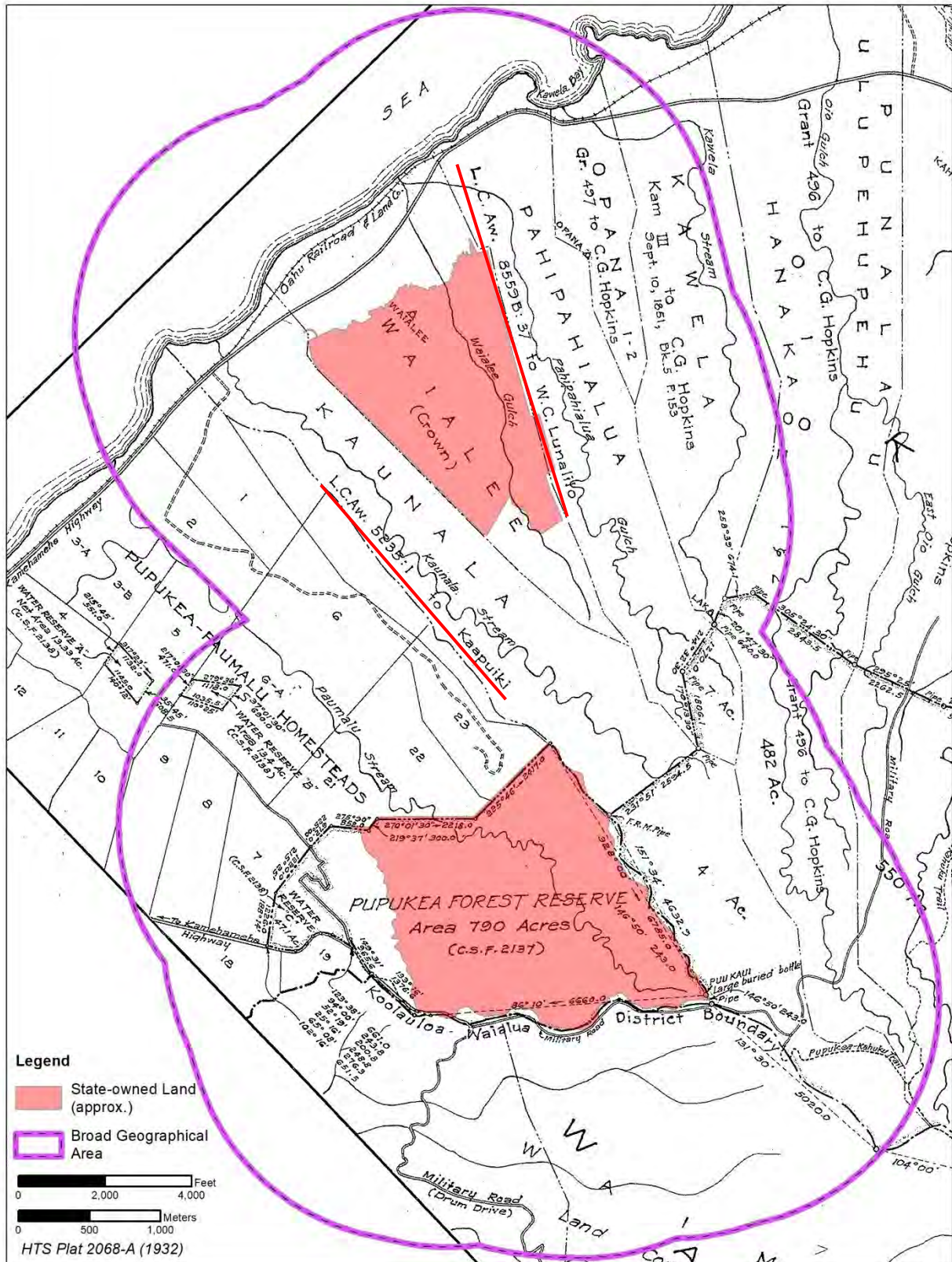


Figure 11. Portion of 1932 HTS Plat 2068-A showing LCA information within the State-owned land at KTA and the broad geographical area, including LCAs 5235:1 and 8559B:37 (underlined in red).

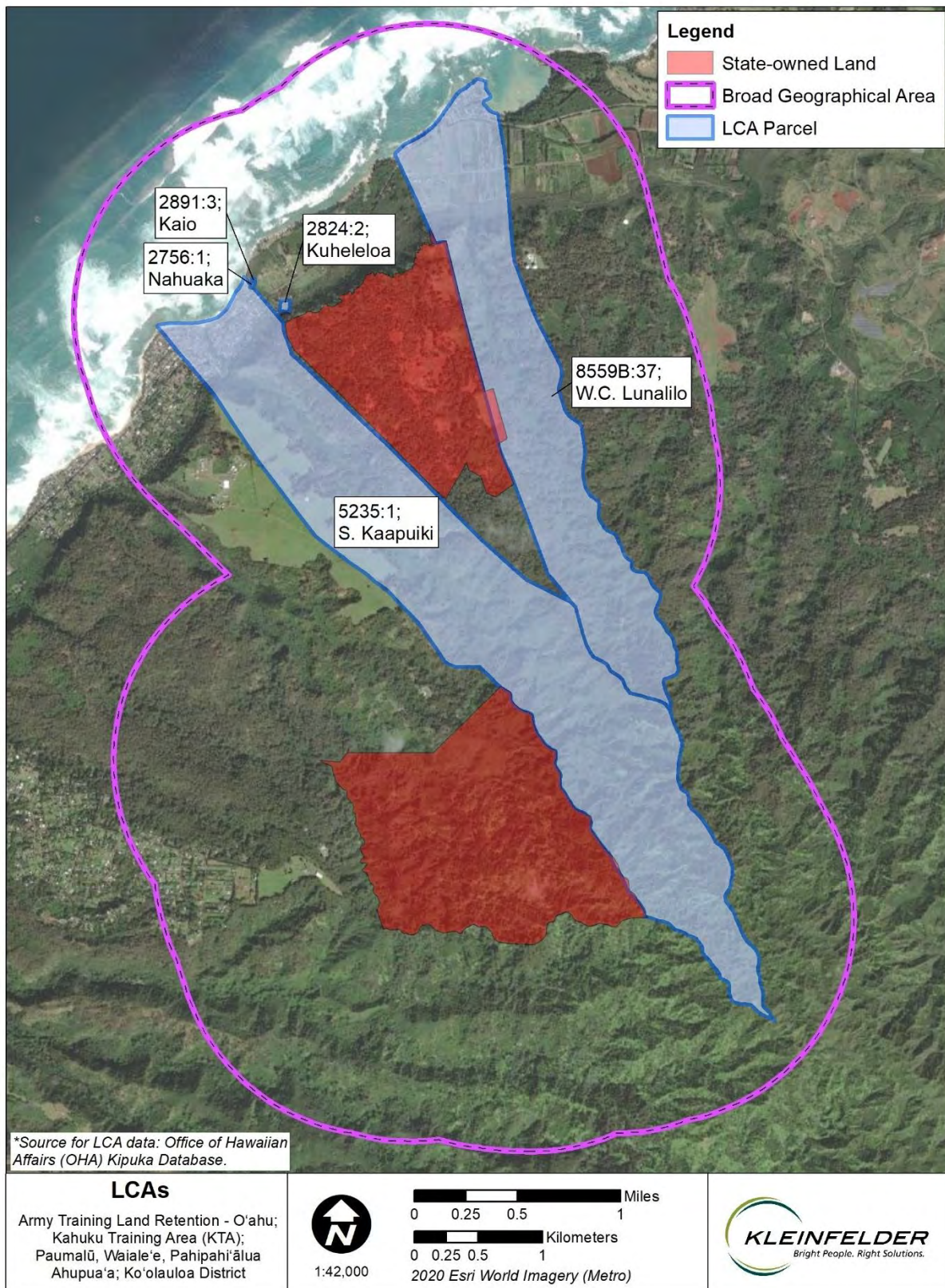


Figure 12. LCAs within the State-owned land at KTA and the broad geographical area, shown on 2020 aerial imagery.

Table 1. LCAs Within the State-owned Land at KTA and the Broad Geographical Area

LCA NO.	AWARDEE	LOCATION	ACRES	DESCRIPTION
2756:1	Nahuaka	Waiale'e, Kaunala	0.37	One house lot and a garden of wauke, bananas, and sugarcane.
2824:2	Kuheleloa	Waiale'e	2.04	Three 'āpana, including one house lot, five lo'i, a sweet potato garden, and a banana garden.
2891:3	Kaio	Waiale'e	0.18	Mentions bananas and one koa tree for canoe building.
5235:1	Kaapuiki, S.	Kaunala	1384.00	Part of a large, multi-parcel claim. No land use history described.
8559B:37*	Lunalilo, William C.	Pahipahi'ālua	950.00	Part of a large, multi-parcel claim. No land use history described.

* Approximately ten acres of KTA project area within LCA.

4.1.3.3 Agricultural and Subsistence History

The Māhele 'Āina spurred agricultural development in the broad geographical area of the KTA project area, including some of the earliest plantations on O'ahu (see Figure 8). These plantations would become an important source of income for the area from the mid-nineteenth century through the mid-twentieth century. An "area of sugar plantations" is shown on a 1906 Hawaii Territory Survey map east of the KTA project area and within the broad geographical area (Figure 13).

According to a 1906 Hawaii Territory Survey map, KTA Tract A-1 was in an area designated as "grazing lands," likely used by cattle and sheep farmers, and was almost entirely within public lands, except for approximately ten acres within Pahipahi'ālua Ahupua'a (Figure 13). The southern portion of KTA Tract A-3 was public lands/forest reserve and the northern portion of Tract A-3 was homestead settlement tracts (Figure 13). Additionally, a 1929 USGS survey map (see Figure 9) indicates unimproved roads within Tract A-1, which may have been used for agricultural or ranching purposes. By 1943, the USACE Waimea quad map shows much less of these unimproved roads (see Figure 10), which possibly indicates the agricultural aspects of this land were waning. However, the lack of unimproved roads on the 1943 map might indicate a change in mapping methods between the 1920s and 1940s and not necessarily a change in agricultural land use.

Subsistence hunting has also traditionally occurred within the project area and continues to some extent within KTA Tract A-3 in the present. According to the 2018 DOFAW hunting survey (see Section 3.8), of the 764 hunters who reported that they hunted in public hunting lands, eight percent reported that they hunted in the O'ahu "East," which includes Pūpūkea-Paumalū Forest Reserve (in which KTA Tract A-3 is located), Kaipapa'u Forest Reserve, Hau'ula Forest Reserve, 'Ewa Forest Reserve, and Kuli'ou'ou I and II (DOFAW 2018:10).

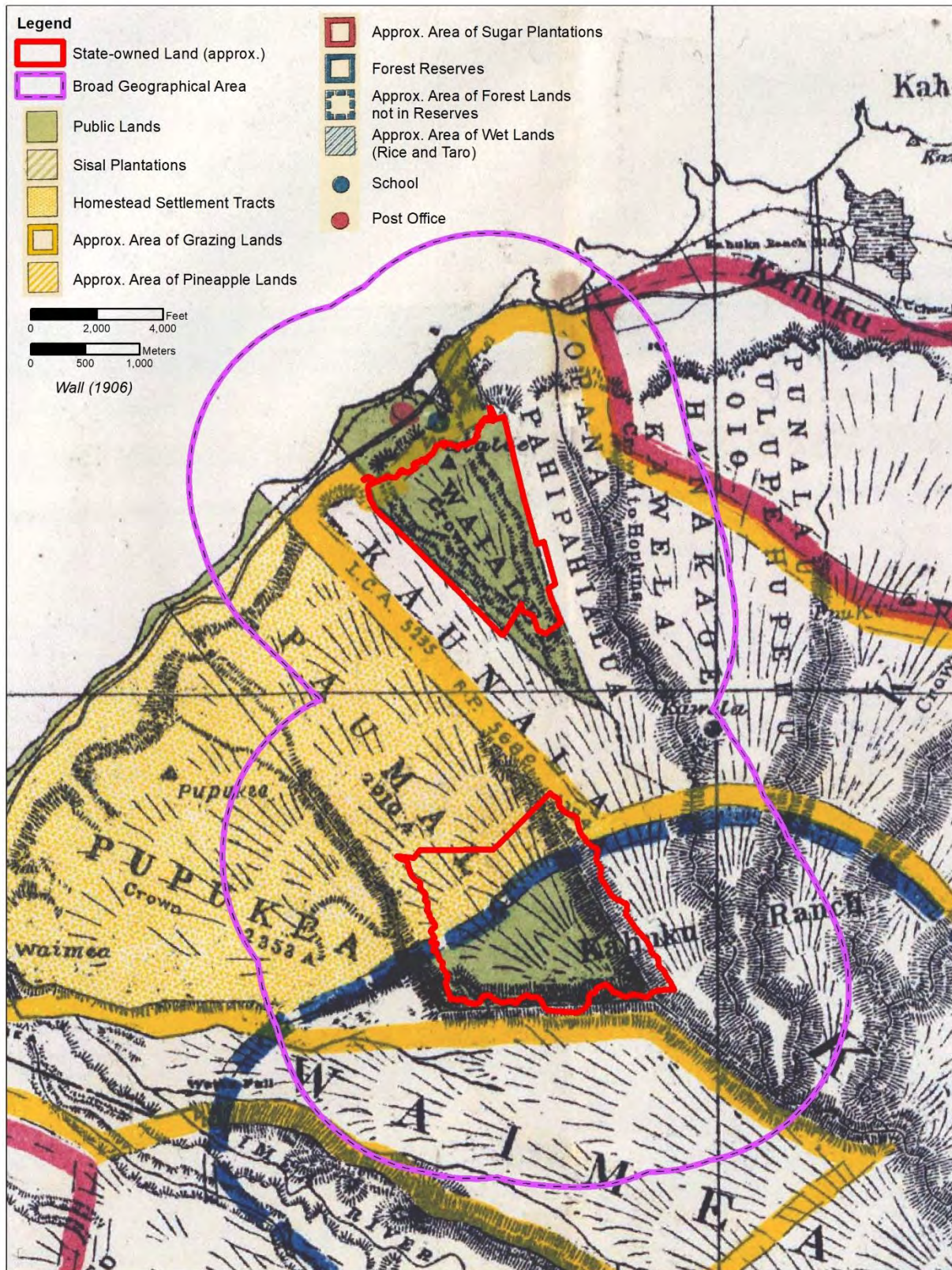


Figure 13. Portion of Wall's (1906) map of O'ahu depicting land use at the beginning of the twentieth century within the State-owned land at KTA and the broad geographical area.

4.1.3.4 Military History

Early military endeavors along the northern tip of O‘ahu began during the 1930s with the installation of coastal defenses by the U.S. Corps of Engineers to secure and fortify the coast around O‘ahu; however, none of these activities appear to have occurred within the State-owned land at KTA (Farrell and Cleghorn 1995:7; Bennett 2016:7). In 1956, a TMK parcel (TMK [1] 5-7-002:001) bordering the eastern edge of KTA Tract A-1 was included in an expansion of KTA, when an additional 3,700 acres was leased to the U.S. Government by the California Packing Company and the James Campbell Estate (Nakamura 1981:14). KTA Tracts A-1 and A-3 have been used for military training since the execution of the 65-year lease (State General Lease No. S-3850) on August 17, 1964 (DLNR 1964a).

4.1.4 Previous Ethnographic Interviews

There is one cultural study, Graves et al. (2016), located directly north of the northern border of KTA Tract A-3 and completely within the broad geographical area of the KTA project area. Graves et al. (2016) completed a CIA as part of the planning for improvements to the Paumalū Girl Scout Camp. Data from ethnographic interviews suggest Paumalū was a culturally significant area that “supported traditional subsistence activities such as fishing, agriculture, and the gathering of forest plants and ocean resources . . . the uplands of the Paumalū area were likely used for sheep and cattle ranching, while other parts of the ahupua‘a were cultivated in pineapple” (Graves et al. 2016:91). Several cultural resources located in Paumalū were identified during these interviews, including “trails, rock alignments, possible agricultural areas, possible human burials, pōhaku with special meaning, and petroglyphs at Sunset Beach (makai of the project area)” (Graves et al. 2016:91).

Informants in the Graves et al. (2016) study identified the following practices within the Paumalū Girl Scout Camp project area (Graves et al. 2016:87, 91), which are also within the broad geographical area of the KTA project area:

- Resource gathering: Native plants such as hala, loulu (native fan palm, *Pritchardia* spp.), maile (*Alyxia stellata*), ‘ohe (bamboo, *Schizostachyum glaucifolium*), mai‘a, ‘ulu (breadfruit tree, *Artocarpus altilis*), ‘iliahi (sandalwood, *Santalum* spp.), and lama trees (ebony, *Diospyros sandwicensis*).
- Possible agricultural activity (i.e., cattle ranching).

While two out of the three informants in the Graves et al. (2016) study were not aware of cultural practices/resource gathering occurring within the Graves et al. (2016) project area or surrounding areas, one informant stated in response to the question about traditional gathering practices that “there is a lot of maile, a lot of lama trees and so forth, and also, there are a lot of sandalwood trees” (Graves et al. 2016:87).

One informant mentioned the roads near the Paumalū Girl Scouts Camp seemed to have originally been used for agriculture and the land was ideal for cattle grazing; they also mentioned the military's involvement with preventing erosion due to overgrazing (Graves et al 2016:87):

. . . It seems like the original roads into that area were done for agriculture, and following, the next set of roads that went in was done both by the Army, coastal defense, and by the CCC [Civilian Conservation Corps]. There was a lot of, in the '30s, the CCC had a reforestation program to try and address some of the acute erosion problems that had been caused by overgrazing, which were actually noted in historical documents, going back as far as around 1850. So turning the cattle loose, and there's a lot of nice graze land up there, was great for beef, but not so good for the environment. So anyway, some of the earliest roads were probably ag, then CCC and military.

A mo'olelo associated with Paumalū was also shared during one interview (Graves et al. 2016:85):

There is a story of Kaiulani and Kahikilani. He cherished his lifestyle at Paumalu with its waves and surrounding area. Kaiulani won his heart by sending leis to him. One day he returned home wearing a different lei. So she broke off the relationship, and Kahikilani turned to stone.

4.2 ONLINE SURVEY AND INTERVIEWS

Individuals and organizations with potential expertise and knowledge of cultural resources, practices, and beliefs relevant to the KTA project area were given an opportunity to participate in an online survey as well as one-on-one interviews. The following sections summarize the responses received during this outreach process.

4.2.1 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. Appendix B presents full questions and responses to this survey. The survey for the KTA project area received a total of seven respondents (note, however, that some questions were skipped and did not receive responses from all seven respondents). These respondents expressed knowledge of cultural resources, practices, and beliefs within the area and noted the following as being pertinent to the project area: the practice of sharing mo'olelo, ceremonial practices, and mālama 'āina. These are summarized below.

Mo'olelo referenced by survey respondents for the project area include mo'olelo of Kaleohipa and Nāwaiuolawe (associated with Kahuku Point), Ka'alaehuapī (a magical Hawaiian moorhen), and Hī'iakaikapoliopole (the youngest sister of Pele).

Ceremonial practices mentioned by survey respondents include the practice of celebrating Makahiki; caring for burial sites of iwi kūpuna in the area; performing female and motherly-oriented ceremonies to the deity Lewa; and burying ‘iewe (placenta).

Mālama ‘āina is also apparent in respondents’ mentions of intangible cultural resources of importance in the project area and the broad geographical area, such as traditionally useful plants like koa and ‘iliahi; native animal species, such as the native bat population; and the land itself as a significant cultural resource that was managed and cared for.

It is unclear how many of these cultural practices and beliefs have occurred and/or are occurring within the State-owned land at KTA 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.

4.2.2 Interview Responses

One-on-one interviews were conducted with eight individuals associated with the KTA project area (Table 2). 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 D. The current section lists the cultural resources, practices, and beliefs each interviewee mentioned that pertained to the State-owned land at KTA and the broad geographical area. For a list of effects to cultural resources, practices, and beliefs from continued military activity in the KTA project area as identified by interviewees, see Section 4.4. For a list of the interviewees’ mitigation recommendations for the KTA project area, see Section 9.2.1. Biographical information for each interviewee is provided in Section 2.2.2.1.

Table 2. Individuals Interviewed for KTA Project Area

INTERVIEWEE	INTERVIEW TYPE
Mr. Peter Apo	Telephone
Mr. (Norman) Mana Kaleilani Cáceres	Telephone
Mr. (Nathan) Keola Grace	Telephone
Mr. Neil J.K. Hannahs	In person
Mr. Allen Hoe	Telephone
Mr. Kyle Kajihiro	Telephone
Mr. Thomas Lenchanko	Telephone
Mr. Christophor Edward Oliveira	Telephone

4.2.2.1 Mr. Peter Apo

The interview with Mr. Peter Apo was conducted by Mr. Matthew Sproat, Researcher and Interviewer from Honua Consulting, LLC, on June 15, 2022. Mr. Apo shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Apo was aware of cultural resources in KTA but did not know their specific locations.

Cultural Practices and Beliefs

- Mr. Apo has “no information or knowledge of cultural practices or beliefs associated with the KTA project area or the broad geographical area.”

4.2.2.2 Mr. (Norman) Mana Kaleilani Cáceres

The interview with Mr. (Norman) Mana Kaleilani Cáceres was conducted by Mr. Sproat from Honua Consulting, LLC on June 13, 2022. Mr. Cáceres shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Cáceres asserted it is “important to recognize that the entire landscape is a cultural resource” “rather than looking at specific cultural resources that can be found within the KTA project area.”
- Mr. Cáceres stated there are traditional burials and iwi within the KTA project area and the broad geographical area; however, he did not provide any specific locations for these resources (note, Army records do not include any known burial sites within the State-owned land at KTA but do include known burial sites in the broad geographical area [Gross et al. 2023:46; Historical and Cultural Resources Literature Review, Appendix I to the O’ahu ATLR EIS]).

Cultural Practices and Beliefs

- Mr. Cáceres mentioned that the “responsibility of caring for human remains (iwi kūpuna) is a cultural practice connected to the area” of the KTA project area; however, he did not provide a specific location where this practice was taking place.

4.2.2.3 Mr. (Nathan) Keola Grace

The interview with Mr. (Nathan) Keola Grace was conducted by Mr. Sproat from Honua Consulting, LLC on May 11, 2022. Mr. Grace shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Grace stated kalo is “a valuable cultural resource” that is grown by the Ka’io family “in the area” of the State-owned land at KTA; however, he did not provide a specific location for this kalo farming.

Cultural Practices and Beliefs

- Aside from the cultural practice of kalo farming that was previously mentioned as a cultural resource, Mr. Grace was “not aware of any specific cultural practices and beliefs associated with the KTA project area.”

4.2.2.4 Mr. Neil J.K. Hannahs

The interview with Mr. Neil J.K. Hannahs was conducted by Mr. Sproat from Honua Consulting, LLC on June 20, 2022. Mr. Hannahs shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Hannahs stated “there are valuable water resources in the general area” of the KTA project area, “including streams and a bog”; however, he did not provide a specific location for these resources.

Cultural Practices and Beliefs

- Mr. Hannahs mentioned “there is active watershed protection going on in the general area” of the KTA project area, which extends to the “ridge level of the Ko’olau Range”; however, he did not indicate whether these protections were occurring within the State-owned land at KTA.

4.2.2.5 Mr. Allen Hoe

The interview with Mr. Allen Hoe was conducted by Mr. Sproat from Honua Consulting, LLC on June 14, 2022. Mr. Hoe shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Hoe mentioned a “heiau on a bluff overlooking Waimea,” but this heiau is not within the KTA project area or the broad geographical area. He did not provide any further knowledge of cultural resources pertaining to this study.

Cultural Practices and Beliefs

- Mr. Hoe was “not personally aware of any specific cultural practices and beliefs associated with the KTA project area.”

4.2.2.6 Mr. Kyle Kajihiro

The interview with Mr. Kyle Kajihiro was conducted by Mr. Sproat from Honua Consulting, LLC on June 15, 2022. Mr. Kyle Kajihiro also submitted a response via email attachment on behalf of Hawai’i Peace and Justice (of which he is a Board member) and Koa Futures, a group of Hawai’i residents concerned about

the effects of military activities in Hawai‘i and the Pacific Region. In his email response, Mr. Kajihiro provided a letter he prepared in response to the Preparation Notice for the O‘ahu ATLR EIS to which this CIA is appended and asked that it be referenced as part of his interview comments for the CIA. Mr. Kajihiro’s remaining comments will be summarized here only as they pertain to the CIA. For full comments on the O‘ahu ATLR EIS Preparation Notice, please see the scoping comments in Appendix E of the O‘ahu ATLR EIS. Mr. Kajihiro shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Kajihiro mentioned “a fishpond in Waiale‘e,” which is likely a reference to Kalou Pond within the broad geographical area of the KTA project area. He “does not have much personal knowledge of cultural resources in the KTA project area.”
- Mr. Kajihiro was aware of individuals who “testified” in cultural monitoring and archaeological projects that iwi kūpuna were found in the area of the KTA project area, but he did not provide a location for these resources.
- Mr. Kajihiro claimed that “archaeological and cultural monitoring reports conducted for KTA throughout the years have been inadequate.”
- With regard to an assessment of cultural resources, Mr. Kajihiro issues the reminder that “a cultural resource may also be natural features of the landscape, such as a mountain, hill, rock, tree, stream, or animal which has cultural significance to Kānaka ‘Ōiwi” as well as part of a larger connected cultural landscape or ka‘ānani‘au (Kajihiro 2021:10–11). Mr. Kajihiro further recommends that the Papakū Makawalu methodology, developed by the Edith Kanaka‘ole Foundation, be utilized in addition to a separate, in-depth cultural landscape study and ethnographic survey (Kajihiro 2021:11).

Cultural Practices and Beliefs

- Mr. Kajihiro “does not have any specific knowledge of cultural practices or beliefs associated with the KTA project area.”
- Within the broad geographical area of the project area, Mr. Kajihiro related this mo‘olelo about Kahuku being “a floating area of land” at one time; the “demi-god Maui used his fishhook to connect Kahuku back to the island” and “this fishhook is said to be buried somewhere in Waiale‘e.”
- Mr. Kajihiro’s paramount concern was ensuring understanding of the integral connection between Kānaka ‘Ōiwi (Native Hawaiians) and the ‘āina. He shared, “In order to properly assess the impacts of the proposed action, the O‘ahu EIS must first situate Kānaka ‘Ōiwi (Native Hawaiians) as genealogically, culturally, and spiritually related to the ‘āina (land) itself. This means that any activities which affect the environment necessarily affect Kānaka ‘Ōiwi, especially those with closer genealogical ties to the particular lands in question. Such an orientation will also affect how the significance of impacts are evaluated.” (Kajihiro 2021:1)

- Mr. Kajihiro reinforced this by referencing several legal standards, which recognize the intrinsic connection of the ‘āina with Native Hawaiian cultural practice.
- Mālama ‘āina or caring for the land is an essential element of Kānaka ‘Ōiwi cultural practice (Kajihiro 2021: 13).

4.2.2.7 Mr. Thomas Lenchanko

The interview with Mr. Thomas Lenchanko was conducted by Mr. Sproat and Dr. Trisha Kehaulani Watson-Sproat from Honua Consulting, LLC on May 10, 2022. Mr. Lenchanko shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Lenchanko stated that native hardwood trees, such as sandalwood and alahe‘e, are found in the mountainous regions of Kahuku and “‘ohana from Kahuku shared with him that they sighted over 100 different native plants within the KTA area”; however, he did not provide a specific location for these resources.
- Mr. Lenchanko discussed how pueo, “a vulnerable cultural resource,” “frequent the Kahuku area,” but the last time he visited Kahuku he did not see any pueo.

Cultural Practices and Beliefs

- Mr. Lenchanko referred to the “larger Kahuku area,” which includes the KTA project area, “and its connection to the central plain as the ka‘ānani‘au [land division before the ahupua‘a system] of ‘Ō‘io.” There are old trail systems that connect this area to Pūpūkea, Kūkaniloko, and other significant areas.
- Mr. Lenchanko mentioned that “an ali‘i born in Kahuku could be taken to Kūkaniloko for protection, because it is a pu‘uhonua (place of refuge).”
- Mr. Lenchanko shared that Kahuku is connected with the “traditions of nightmarchers and burial sites.”

4.2.2.8 Mr. Christophor Edward Oliveira

The interview with Mr. Christophor Edward Oliveira was conducted by Mr. Sproat from Honua Consulting, LLC on June 5, 2022. Mr. Oliveira shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Oliveira stated there are “large burial sites with iwi kūpuna” within the KTA and two recently discovered burial caves; however, he did not provide any specific locations for these resources (note, Army records do not include any known burial sites within the State-owned land at KTA but do include known

burial sites in the broad geographical area [Gross et al. 2023:46; Historical and Cultural Resources Literature Review, Appendix I to the O‘ahu ATLR EIS]).

- Mr. Oliveira also shared that “Kahuku contains many heiau, including Keana Heiau”; however, he did not provide any specific locations for these resources.

Cultural Practices and Beliefs

- Mr. Oliveira shared how lā‘au lapa‘au was a cultural practice associated with Kahuku and surrounding areas, but he did not state whether this practice occurred within the State-owned land at KTA.
- Mr. Oliveira expressed that “in places like Kahuku” “all traditions and cultural practices were once maintained from canoe carving to medicinal practices.”
- Mr. Oliveira stated “Kahuku and the surrounding area was home to many kāhuna” and “kāhuna lineages are significant in terms of religious worship and guidance to the people.”
- Mr. Oliveira explained that the investigation of variations in and evolutions of place names “reveal the significance of a specific ‘āina.”

4.3 IDENTIFIED CULTURAL RESOURCES, PRACTICES, AND BELIEFS

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

4.3.1 Summary of Data Obtained from Archival Research

Archival research revealed numerous cultural resources, practices, and beliefs associated with the State-owned land at KTA and the broad geographical area. There is one mo‘olelo associated with Paumalū Gulch (within the project area) as well as place-based knowledge in several inoa ‘āina associated with landscape features within the KTA project area as well as the broad geographical area. Traditional agricultural practices (kalo farming) are mentioned within the broad geographical area of the KTA project area. Traditional gathering practices of native plants, trees, and flowers, as well as hunting practices, are also recorded for the broad geographical area of the project area; it is unknown from archival research if these practices occurred within the State-owned land at KTA. One recorded archaeological site and several isolated artifacts with Traditional Hawaiian context occur within the project area, including Site 4887, a habitation site in Tract A-1. These indicate traditional uhau humu pōhaku and noho (habitation) may have occurred within the project area. Lastly, spiritual beliefs associated with ancestral guardians, caretakers, and protectors are known for the broad geographical area.

4.3.2 Summary of Data Obtained from Survey and Interviews

The data obtained from this project’s initial community outreach and online survey yielded information about the sharing of mo‘olelo, ceremonial practices, and the cultural practices and beliefs centered

around mālama ‘āina that are associated with the broad geographical area. It is unclear from the survey results if any of these practices occur directly within the State-owned land at KTA. Ceremonial practices associated with caring for iwi kūpuna and Hawaiian burials, for example, were mentioned by several survey respondents. According to archaeological data obtained from the Army, there are no recorded burials located on State-owned land within the KTA; however, due to the secrecy and care imparted on iwi kūpuna, it is possible that not all burial site locations are known by the Army.

Eight individuals were interviewed for information on cultural resources, practices, and beliefs occurring within or associated with the KTA project area and the broad geographical area. Three of the eight interviewees noted the presence of burial sites in the broad geographical area of KTA project area and the need for Hawaiians to care for these burial sites and associated iwi kūpuna (Mr. Oliveira, Mr. Cáceres, and Mr. Lenchanko).

Traditional resource gathering was also mentioned by two interviewees, including the practice of gathering native plants for lā‘au lapa‘au (traditional medicine) as well as native wood (sandalwood and alahe‘e) for canoe carving and wood working (Mr. Oliveira and Mr. Lenchanko). The interviewees did not, however, identify whether these activities are associated with the KTA project area or with the broad geographical area surrounding the project area.

The belief in and need to practice mālama ‘āina was noted by Mr. Cáceres and Mr. Lenchanko, as was the belief that the land itself is a significant cultural resource. Mr. Oliveira emphasized this belief by stating that the land is an important resource to Hawaiians and that it is not always used for worship or specific practices, but simply to exist and be with the land of their ancestors.

Overall, while survey respondents and interviewees identified resources, practices, and beliefs, informants did not directly connect these resources to the specific geographical boundaries of the State-owned land at KTA (the project area).

4.4 EFFECTS TO CULTURAL RESOURCES, PRACTICES, AND BELIEFS

This section summarizes effects to cultural resources, practices, and beliefs from continued military activity in the KTA project 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 Section 8.1.

Mr. Apo

- Provided no knowledge of any impacts from the Proposed Action.

Mr. Cáceres

- Impacts from military training, lack of access, impacts to burial sites from people avoiding closed land and encroaching on burial sites, and the inability to practice burial maintenance.

Mr. Grace

- Impacts from military munitions.

Mr. Hannahs

- Impacts to the environment and natural habitats.

Mr. Hoe

- Impacts from erosion.

Mr. Kajihira

- “Adverse impacts on cultural practices include, but are not limited to restrictions on access due to security or safety restrictions, the destruction of cultural or religious sites, the destruction of environmental resources needed for conducting cultural practices, and the disruptions of the view plane and serenity of the area caused by military activities” (Kajihira 2021:12).

Mr. Lenchanko

- Impacts from military training, lack of access, and inability to engage in cultural practices.

Mr. Oliveira

- Impacts from military training, lack of access, and inability to engage in cultural practices.

Repeated impact concerns, as shared by the interviewees for the KTA project area, include three general categories: 1) impacts from continued military training/activity (stated by five of eight interviewees), 2) impacts from lack of access (stated by four of eight interviewees), and 3) general environmental impacts that were not always expanded upon (stated by three of eight interviewees). Although one interviewee discussed impacts to burial sites from continued military activity within the KTA, including the project area, according to the Army, there are no known burial sites within the State-owned land (project area) at KTA. Lastly, only one interviewee had no impact concerns to share for the KTA project area.

See Section 8.1 for an analysis of these potential impacts.

5 KAWAILOA-POAMOHU TRAINING AREA (POAMOHU)

The project area for Poamoho, located within the southern portion of the larger KLOA, comprises approximately 4,390 acres and is situated within the interior portion of O‘ahu Island in the Waialua District; it encompasses one TMK parcel (TMK [1] 7-2-001:006) within Kamananui Ahupua‘a (Figure 14–Figure 16). The eastern portion of the project area for Poamoho is also referred to as the Proposed NAR Tract (established by Hawaii Board of Land and Natural Resources in 2005), while the remaining western portion is referred to as the Poamoho Tract.

This chapter provides a cultural contextual overview of archival and interview data obtained for the Poamoho project area. Section 5.1 presents aspects of Poamoho’s natural environment, cultural landscape, and archival history, as well as summarizes findings from ethnographic studies conducted in the project area. Section 5.2 summarizes the responses received from the online survey as well as one-on-one interviews. Section 5.3 presents an overview of identified cultural resources, practices, and beliefs obtained from this research, and Section 5.4 discusses any adverse effects on these cultural resources, practices, and beliefs.

5.1 ARCHIVAL RESEARCH

Archival research was conducted for the natural environment, cultural landscape, archival history, and previous ethnographic interviews to search for historical recordation of cultural resource, practices, and beliefs that may have occurred in the project area. The results of that research are contained in the following sections.

5.1.1 Natural Environment

The project area for Poamoho is situated east of Wahiawā in the easternmost portion of Kamananui Ahupua‘a within the moku of Waialua and along the western slopes of the Ko‘olau Mountains. The eastern boundary of the project area follows the top of the Ko‘olau Mountain range (see Figure 14). There are various environmental aspects within the Poamoho project area and the broad geographical area that have cultural significance. These are discussed below.

5.1.1.1 Wai

There are two freshwater sources in Poamoho: North Kaukonahua and Poamoho Streams (Figure 17). North Kaukonahua Stream is within the southern half of the project area running in an east-west orientation. The stream flows 33 miles to the North Shore, making it the longest waterway in the islands (Pukui et al. 1974:92). Poamoho Stream runs through the northern portion of the project area, also in an east-west orientation. Both streams start within the Ko‘olau Mountains and flow toward Wahiawā.

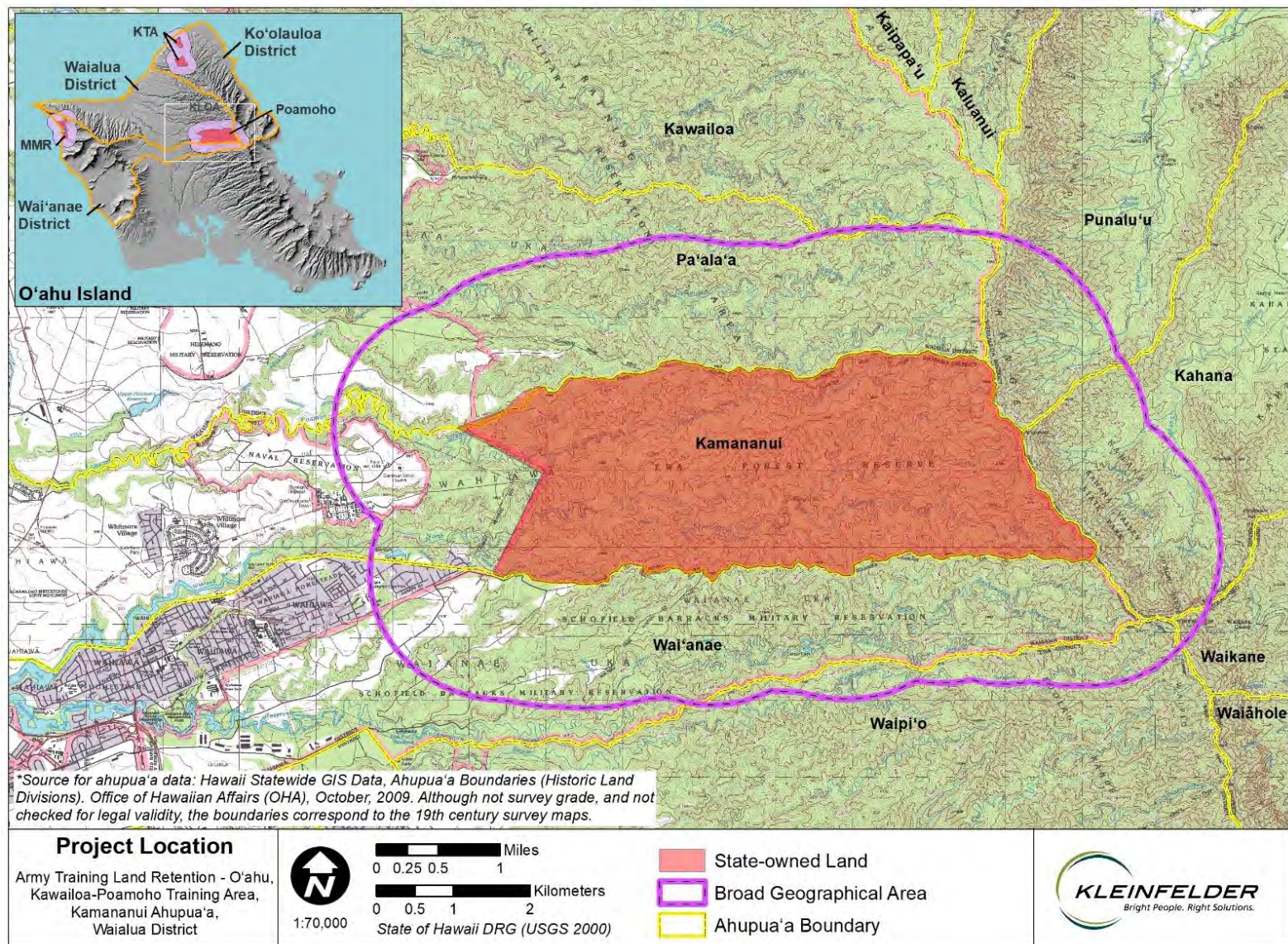


Figure 14. Overview of the State-owned land at Poamoho and the broad geographical area, shown on 2000 USGS DRG map.

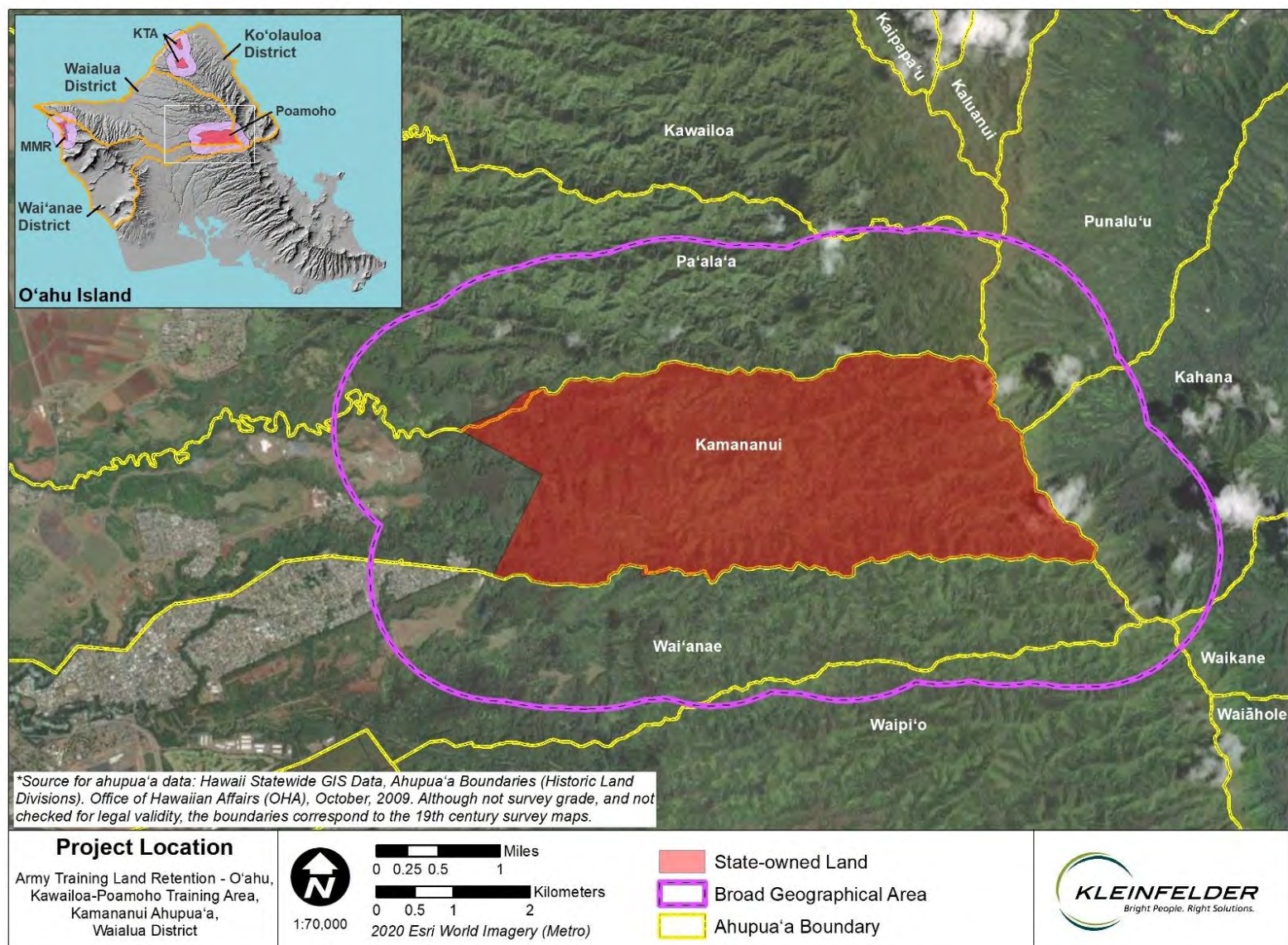


Figure 15. Overview of the State-owned land at Poamoho and the broad geographical area, shown on 2020 aerial imagery.

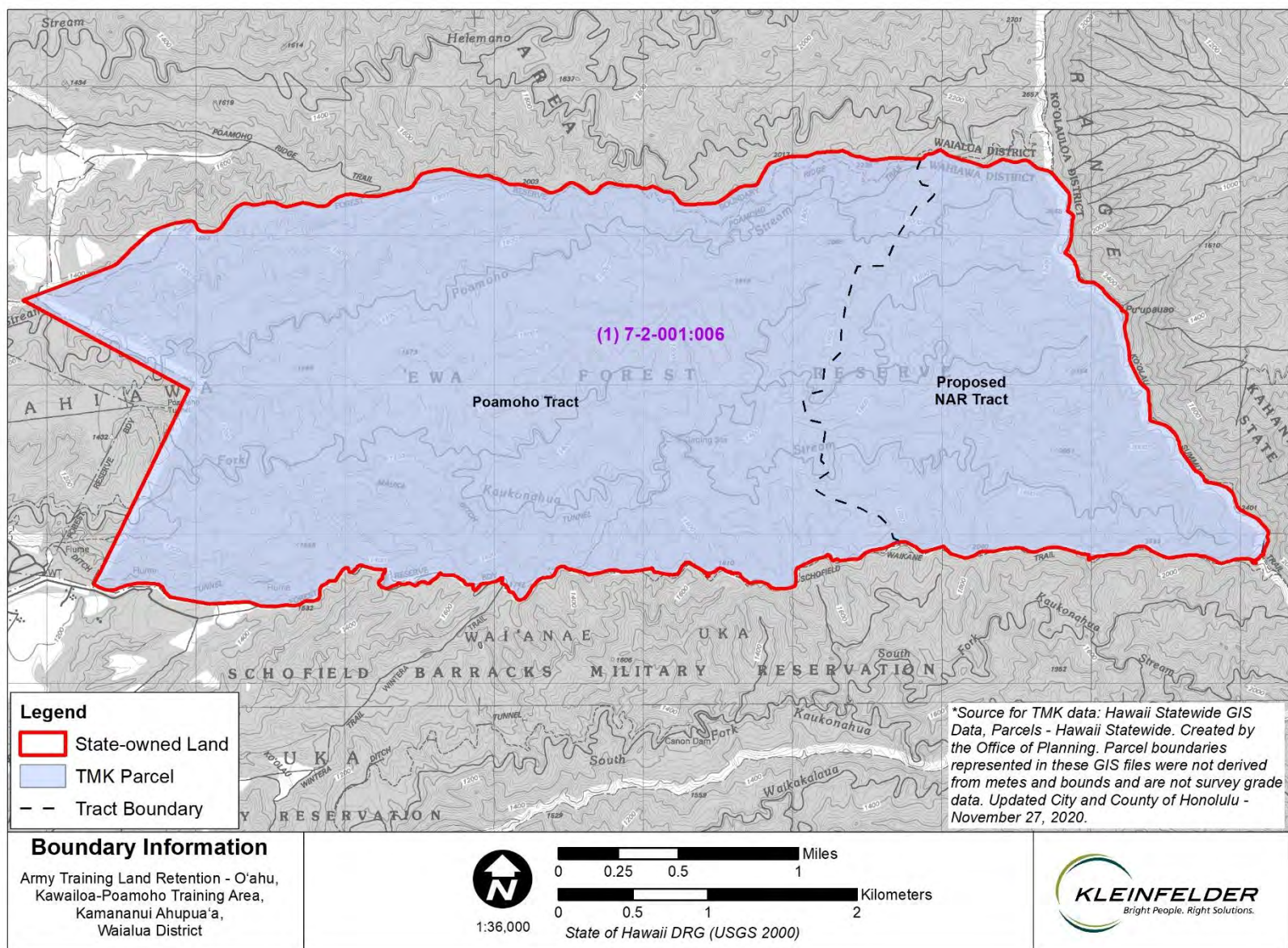


Figure 16. TMK and Tract information within the State-owned land at Poamoho.

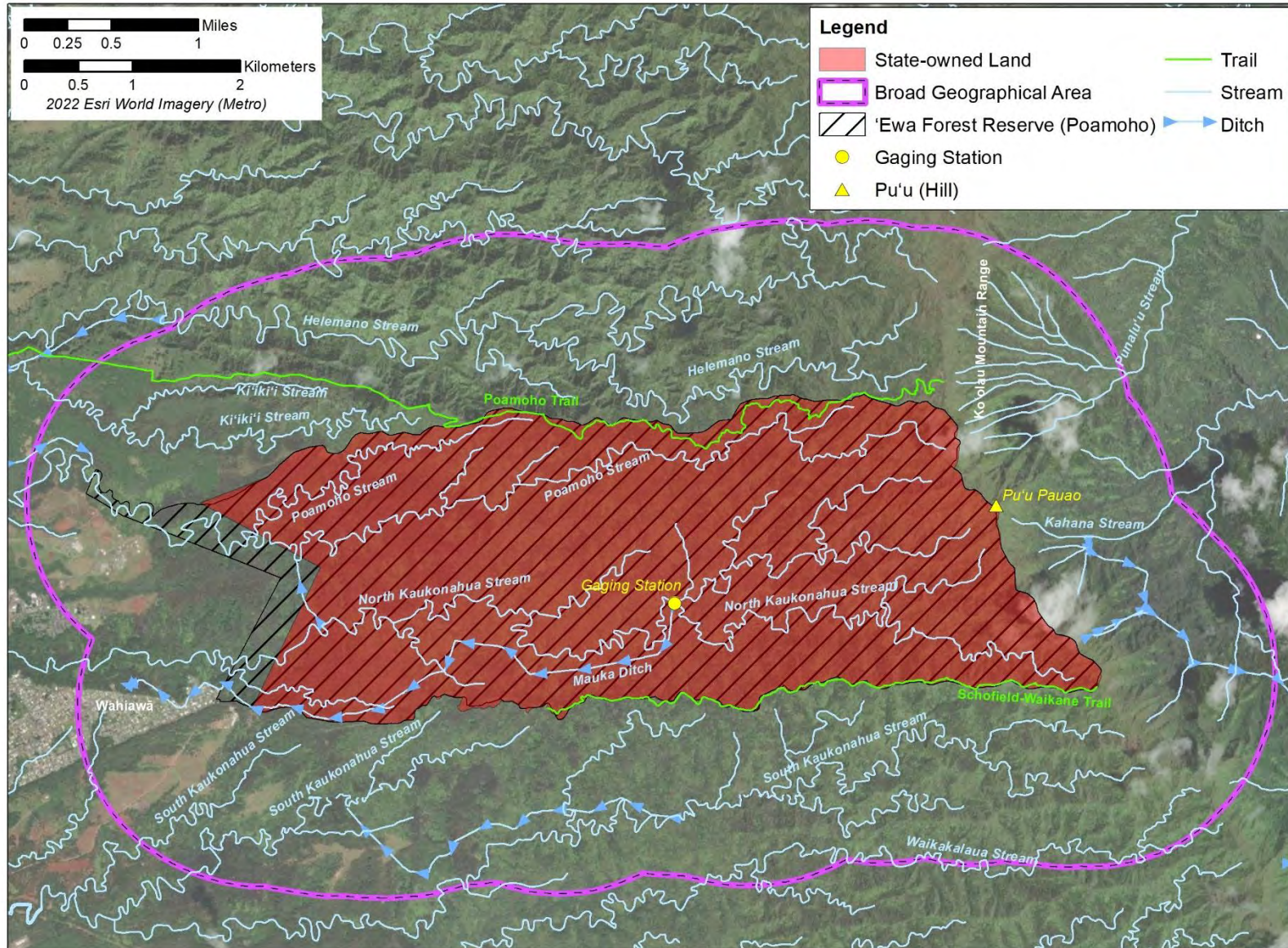


Figure 17. A sample of geological names and place names within the State-owned land at Poamoho and the broad geographical area.

5.1.1.2 Rains

Although there are no known names for rains that occur within the State-owned land at Poamoho itself, there are at least two rain names associated with Wahiawā, located to the west and within the broad geographical area of the project area. The first is Kuahine, which literally means “sister of a male” (Pukui et al. 1974:118). This rain is mentioned in a mele, along with Wahiawā, within a mo’olelo of Hi’iakaikapoliopole (Ho’oulumāhiehie [in *Ka Na’i Aupuni*, January 18, 1905], as quoted in Akana and Gonzalez 2015:119):

He nui nā ‘oihana a ka Wai’ōpua	The Wai’ōpua wind has many tasks
He ‘oihana nō ia na ke Kuahine	An undertaking by the Kuahine rain
Ho’omaika’i pa’a pono i hola i ke kula	Bringing long-lasting pleasure to the plains
None, pa’ani i ka Waikōloa	Teasing, playing on the Waikōloa wind
Pa’ani le’ale’a i Wahiawā	Pleasurable fun at Wahiawā

The second rain name is ‘Ula, meaning “red, scarlet” (Pukui and Elbert 1986:367). It is recorded in a mele “composed for Liholiho and inherited by Kalākaua” (Buke Mele Aimoku, 146, as quoted in Akana and Gonzalez 2015:262):

‘O māua kai ka ua ‘Ula o Wahiawā	We two in the ‘Ula rain of Wahiawā
He ho’olu’u moelua ne ke Ki’oao	Striped dye of the Ki’oao rain
Ke ho’olu’u maila i uka o Kahui	Immersing the uplands of Kahui
I ‘ale’ale a pihi a hanini	Which is filled and full and overflowing

5.1.1.3 Winds

No names for winds were identified for the Poamoho project area or the broad geographical area.

5.1.1.4 Pu’u

One pu’u, Pu’u Pauao, is located on the eastern boundary of the State-owned land at Poamoho, along the Ko’olau Mountains. Archival research did not find any cultural resources, practices, or beliefs connected to this pu’u (see Figure 17).

5.1.1.5 Traditional Plants

Plant species with a connection to cultural practices and beliefs have been recorded within the Poamoho project area; these include koa, ‘ōhi’a lehua, and uluhe (USGS 2016). Koa, ‘ōhi’a lehua, and uluhe have many uses including, but not limited to, canoe making, construction, and lei making. These three plants were previously discussed in Section 4.1.1.5, and more details on the history and uses of these plants are located there.

5.1.2 Cultural Landscape

Like Section 4.1.2, the following sections discuss the tangible and intangible expressions of cultural beliefs and practices on the physical landscape of the project area and the broad geographical area.

5.1.2.1 Inoa 'Āina (Place Names)

Poamoho is not widely used as a place name for the project area. "Poamoho" is described in *Place Names of Hawai'i* as a "stream, trail, and camp" located in Wahiawā, O'ahu (Pukui et al. 1974:185). The name Poamoho primarily refers to the common name for the watershed as opposed to the traditional place name, which would be Kamananui, Wahiawā, or Kūkaniloko. Therefore, while the project area is described by the State and Army as Poamoho, it largely overlaps with the kalana (land division) of Wahiawā. The term "kalana" is not frequently used today, and it is not as commonly used as the land term "ahupua'a." However, the leadership of the Hawaiian Civic Club of Wahiawā, use the term "kalana" when referring to their 'āina of Wahiawā. A kalana is defined as: "1. County. 2. Land division smaller than a moku. 3. Section smaller in size than a moku. This term, like 'okana, appears to have been used only on certain islands. 4. Large subsections of an 'okana. 5. The name of a division of an island next less than moku, and synonymous with 'okana in some places. 6. Division of land smaller than a moku or district; county" (Lucas 1995:47).

Andrews (1922:666) says the "derivation [of Poamoho is] unknown". They do, however, identify it as a stream located in Waialua (Andrews 1922:666). Juvik and Juvik's *Atlas of Hawai'i* (1998:8) locate Poamoho (and Poamoho Stream) directly west of where Whitmore Village is today. In 1935, J.W. Coulter locates Poamoho in the Wahiawā quadrant at 21.3n, 157.02w. He further identifies several "sections" and sequential coordinates as Central Poamoho, Main Poamoho, and West Poamoho; additional geographic and related names include Poamoho Stream, Poamoho Ditch, Poamoho Gulch, and Poamoho Tunnel (Coulter 1935:187). Coulter's map of O'ahu uses quadrangles as outlined by USGS to "be published by the War Department" (Coulter 1935:162). In *Sites of Oahu*, E.P. Sterling and C.C. Summers (1978:103, 105, 106; map inserts 128/129 and 136/137) also identify Poamoho Stream and Poamoho Gulch as geological features of the area. R.K. Alameida (1994:27–28) says that Poamoho Stream is one of two rivers "that flow into Kaiaka Bay" and contributes to the name of the moku of Waialua, which is translated as two waters.

Other sources identify the area by alternative names or spellings, including "Po'oamoho". In a letter to the editors of the Hawaiian language newspaper *Ke Au Okoa* in 1866, Hawaiian historian Samuel Kamakau, who was from Waialua, describes Po'oamoho as one of several specific locations in the area where his family is from (Kamakau 1866:3):

O ka aina o Manuaula i Kamananui kewe, mai na pali Lihue a Kukaniloko, a Wahiawa i Pooamoho ka honua, o ko'u poe kupuna no ko'u makuakane.

(The land of Manu'a'ula at the curve of Kamananui, from the Līhu'e cliffs at Kūkaniloko, and Wahiawā at Po'oamoho is the land of my ancestors of my father).

Po'oamoho is also translated as "head of the moho" which was a bird associated with the State-owned land and the broad geographical area. Moho is a now extinct flightless native rail (*Pennula sandwichensis*); however, "moho" could mean a "candidate, as in politics" or a "representative selected to participate in a race, wrestling, or betting contest, champion"; it also means "to unfold, of leaves, especially [the] upper leaf of a plant, as sugar cane, taro" (Pukui and Elbert 1986:251). According to Pukui and Elbert (1986:333), po'a refers to one "castrated, emasculated" but also to "a sudden sound, as of flapping wings of a rooster, or of the thumping sound of the palms of the hands pressed together with fingers locked, or of hands striking the surface of the water; to make such sounds," as well as "to dig under, undermine." Andrews (1865:469) writes that po'a also refers to "throw[ing] water over one's self; to dive, paddle or play in the water"; "to cast up or spatter water"; and "to wallow and roll in the water like a hog." Thus, Po'amoho possibly references the moho bird playing in the stream water, or perhaps a chosen candidate or representative of the ali'i or akua for sport, religious activity, or a skilled profession.

The meaning of other specific place names within the Poamoho project area and the broad geographical area are described below and their locations are shown on Figure 17.

- Helemano (also called Helemanu, Halemāno, and Halemānu): According to Andrews (1922:632), Helemano means "traveling with a large retinue," and according to Pukui et al. (1974:44) it means "many snared or many going."
- Kahana: According to Andrews (1922:637), Kahana means "the work," and according to Pukui et al. (1974:63), it means "cutting."
- Kamananui: According to Andrews (1922:642), Kamananui means "the wide path," and according to Pukui et al. (1974:80), it means "the large branch."
- Kaukonahua: According to Andrews (1922:646), Kaukonahua means "upland place for fruits." However, Pukui et al. (1974:92–93) writes "According to one explanation the name means "place his testicles" (a man's testicles were cut off here so that he could leap). A more likely explanation is Kau-kōnāhua (place fatness)."
- Ki'iki'i: According to Pukui and Elbert (1986:148), "ki'iki'i" is a reduplication of ki'i, which means "to fetch, get, procure, send for, go after, summon, attack."
- Pa'ala'a: According to Andrews (1922:663), Pa'ala'a means "sacred confirmation," and according to Pukui et al. (1974:173), it means "sacred firmness."
- Pauao: No translation found.
- Wahiawā: According to Andrews (1922:672), the Wahiawā that is located within Waialua, O'ahu, means "landing place." However, according to Pukui et al. (1974:218), Wahiawā literally means "place of noise (rough seas are said to be heard here)."

- Waikakalaua: According to Andrews (1922:672), Waikakalaua means “water of the rain crags,” and according to Pukui et al. (1974:222), it means “water rough [in] rain.”

Consistent with individuals who have knowledge of the project area and the broad geographical area, this CIA will refer to Poamoho as a wahi (place) within the kalana of Wahiawā. Wahiawā will be treated as its own land division as it is by the cultural practices of that kalana; Wahiawā stretches into the upland areas of the ahupuaʻa of Kamananui (north), Waiʻanae (Uka), and Waikele and Waipiʻo (south). According to individuals with knowledge of the project area and the broad geographical area, the kalana of Wahiawā is surrounded by Helemano to the north and Līhuʻe to the south. Even though the Hawaii Statewide GIS Program does not indicate Wahiawā as its own moku today (Hawaii State Office of Planning and Sustainable Development 2022), in 1913 the moku of Wahiawā was separated from the moku of Waialua and Waiʻanae with the passage of the Territory of Hawaii’s Act 112 (Coulter 1935:221; Cachola et al. 1987:2). Note that the ahupuaʻa map shows the Poamoho project area’s location within the ahupuaʻa of Kamananui in the moku of Waialua (see Figure 14).

5.1.2.2 Moʻolelo

Poamoho is said to have been the location of a battle by the aliʻi ʻAikanaka, who searched for Halemano, the hero of the story (*Ke Alakai o Hawaii* 1928:4). “He Moolelo Kaa Hawaii no Halemano” tells the story of the hero, Halemano, who understands the danger of the impending battle and tells his wife they will all die if they stay (*Ke Alakai o Hawaii* 1928:4). They wake up early the next morning and depart Poʻoamoho for Halemano’s grandmother’s home in Moelana, located in the ahupuaʻa of Kahaluʻu in the moku of Koʻolaupoko, where they hid from ʻAikanaka in the foliage of the lush ʻawa groves. ʻAikanaka’s army arrived at Poʻoamoho and found Halemano gone, so ʻAikanaka commanded the entire island of Oʻahu be searched to find Halemano (*Ke Alakai o Hawaii* 1928:4). After the searchers had gone, Halemano and his wife went to “Kukui, on this side of Makapuu” and stayed with Halemano’s relatives until midnight, at which time they left by canoe to Kaunakakai, Molokaʻi (Fornander 1918–1919:238). Halemano lived on the islands of Molokaʻi, Maui, and Hawaiʻi for a time before returning to Oʻahu and staying at Kaʻena Point (Fornander 1918–1919:240, 260).

Only one place name within the State-owned land at Poamoho, Kamananui, has an entry in the *ʻŌlelo Noʻeau* by Pukui (1983:291):

Pili pono ka lā i Kamananui.

The sun is very close to Kamananui.

A play on Ka-mana-nui (The-great-power). When the person in power becomes angry, everyone around him feels uncomfortable, as in the scorching, blistering sun.

5.1.2.3 Archaeological Sites

No cultural resources investigations or surveys have been conducted within the State-owned land at Poamoho because there have been no proposed undertakings that would trigger a survey. To date, no archaeological sites or features have been identified.

5.1.2.4 Trails

There are two trails within or adjacent to the Poamoho project area, Poamoho and Schofield-Waikane trails; both are historical trails but do not have any archival data related to traditional uses. Poamoho Trail runs through the northern forests of the State-owned land at Poamoho and is shown on historical maps starting in 1943, while Schofield-Waikane Trail follows along the southern border of the project area and is shown on historical maps starting in 1929 (Figure 18 and Figure 19). The 3.5-mile Poamoho Trail begins at Pa'ala'a Uka Pūpūkea Road off Kamehameha Highway, winds through abandoned agricultural fields, along mountain ridges through the northern part of the project area, and ends at the Ko'olau Summit. According to the Nā Ala Hele Trail and Access Program website, this trail began as an old marsh trail in the early 1930s that was improved in 1934 by the Wahiawa Camp of the Civilian Conservation Corps and renamed as Poamoho Trail. The trail is still in use by the public today for hiking and camping (DOFAW 2022c).

The 4-mile Schofield-Waikane Trail begins at the end of California Avenue in Wahiawā, then climbs through native forests, along the southern border of the project area, and up a ridge to the Ko'olau Summit. This pedestrian hiking trail is open to the public today but requires written permission from the Army Department of Public Works since access is through Schofield East Range. The Nā Ala Hele Trail and Access Program website provides this history of the trail (DOFAW 2022d):

The Schofield-Waikane Trail started out as a plantation ditch trail and then became an Army route connecting Schofield Barracks with the windward side. In 1900, Waialua Agricultural Company built the initial section along the ridge to gain access to the intake of the Mauka Ditch along Kaukonahua Stream. The Army extended the trail to the Ko'olau Summit in 1912 and built the windward Waikane section in 1923. The wide, graded path was suitable for horses and mules. In the mid 1930s, the Civilian Conservation Corps reconstructed deteriorated sections of the Army route.

5.1.3 Archival History

An overview of three main historical eras as they relate to the Poamoho project area is presented in the following three sections.

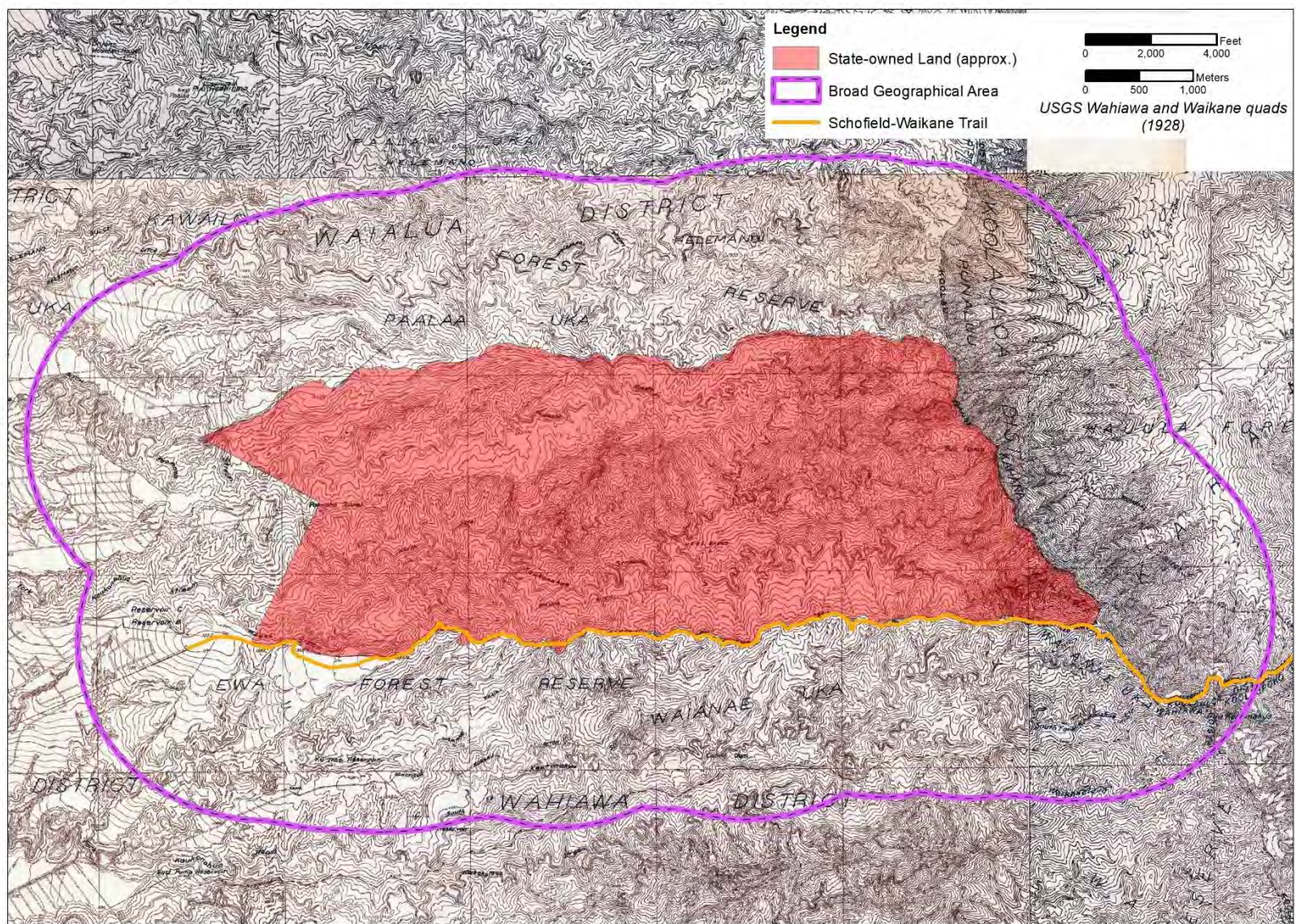


Figure 18. 1928 USGS Wahiawa and Waikane quads showing Schofield-Waikane Trail along the southern border of the State-owned land at Poamoho.

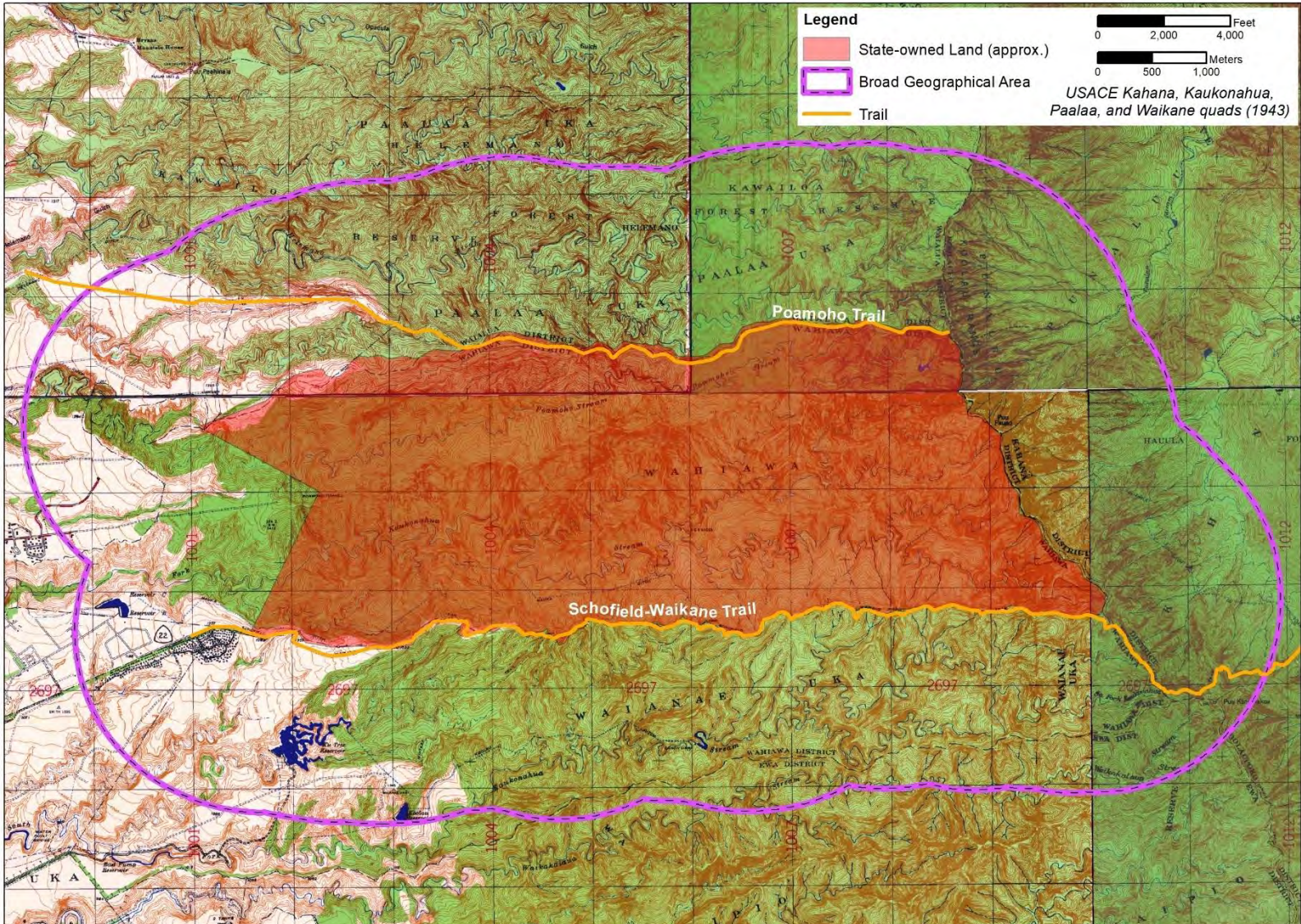


Figure 19. 1943 USACE Kahana, Kaukonahua, Paalaa, and Waikane quads showing Poamoho Trail within the northern border and Schofield-Waikane Trail along the southern border of the State-owned land at Poamoho.

5.1.3.1 Traditional Historical Context

The State-owned land at Poamoho is comprised of rugged, steep topography in the remote interior of O‘ahu and is heavily vegetated, receiving some of the highest levels of rainfall on the island. Intensive Traditional Hawaiian activity in the Poamoho project area and the broad geographical area was likely low compared to coastal regions and flatter inland areas for these reasons; however, no cultural resources surveys have been conducted within the project area for Poamoho to verify this statement.

In the broad geographical area, Wahiawā held great importance to the Hawaiian people in the traditional era. Wahiawā on the western slopes of the Ko‘olau Range was an area known as the home of chiefs. One of the most notable figures to be raised in Wahiawā was Mā‘ilikūkahī, one of the great ali‘i of O‘ahu who reigned well before the time of Kamehameha. When he was 29 years old, Mā‘ilikūkahī was chosen by the chiefs, priests, and the working class (commoners) to be high chief of the island and was consecrated in a ritual that “pertained to high chiefs from remote times . . . It was not performed for rebellious chiefs, however, nor for warrior chiefs who took the kingdom by force, but for ‘chiefs of Pōkano’ [chiefs of unblemished bloodlines from remote times.]” (Kamakau 1992:54).

Handy and Handy (1991:464) also note that Wahiawā was a large pre-Contact settlement centered around extensive lo‘i, or wetland agricultural terraces, northwest of Wahiawā town. They also claim that sweet potato was cultivated in Wahiawā in irrigated plots, a rare practice in Traditional Hawai‘i.

5.1.3.2 Post-Contact and Kingdom History

There are no known early Historic Period accounts that refer specifically to the project area for Poamoho; most historical mentions of the central plain focus on Wahiawā, southwest of Poamoho.

The sandalwood trade boomed in the 1820s when ali‘i were encouraged by foreign traders to participate in the market. The fragrant Hawaiian sandalwood (‘iliahi or ‘aoa), a major export to the Chinese market between the 1790s and 1830s, was a common forest tree in the central plateau of Wahiawā. Kamakau wrote that “at the completion of the fort [at Honolulu in 1816] the chief Kalanimoku [sic] and all the ali‘i went to work cutting sandalwood at Wahiawā, Halemano, Pu‘ukapu, Kānewai, and the two Ko‘olau [Loa and Poko]. The largest trees were at Wahiawā, and it was hard work dragging them to the beach” (Kamakau 1992:207).

In the 1848 Māhele ‘Āina, Kamananui, which includes the Wahiawā area, was designated Government Land. In 1853, 2,128 acres of land in upland Kamananui was awarded to Robinson and Company as Grant 973 (Landrum et al. 1997:29) (Figure 20). Grant 973, which abuts the western boundary of the project area for Poamoho, was situated between the gulches of Poamoho and North Kaukonahua, encompassing

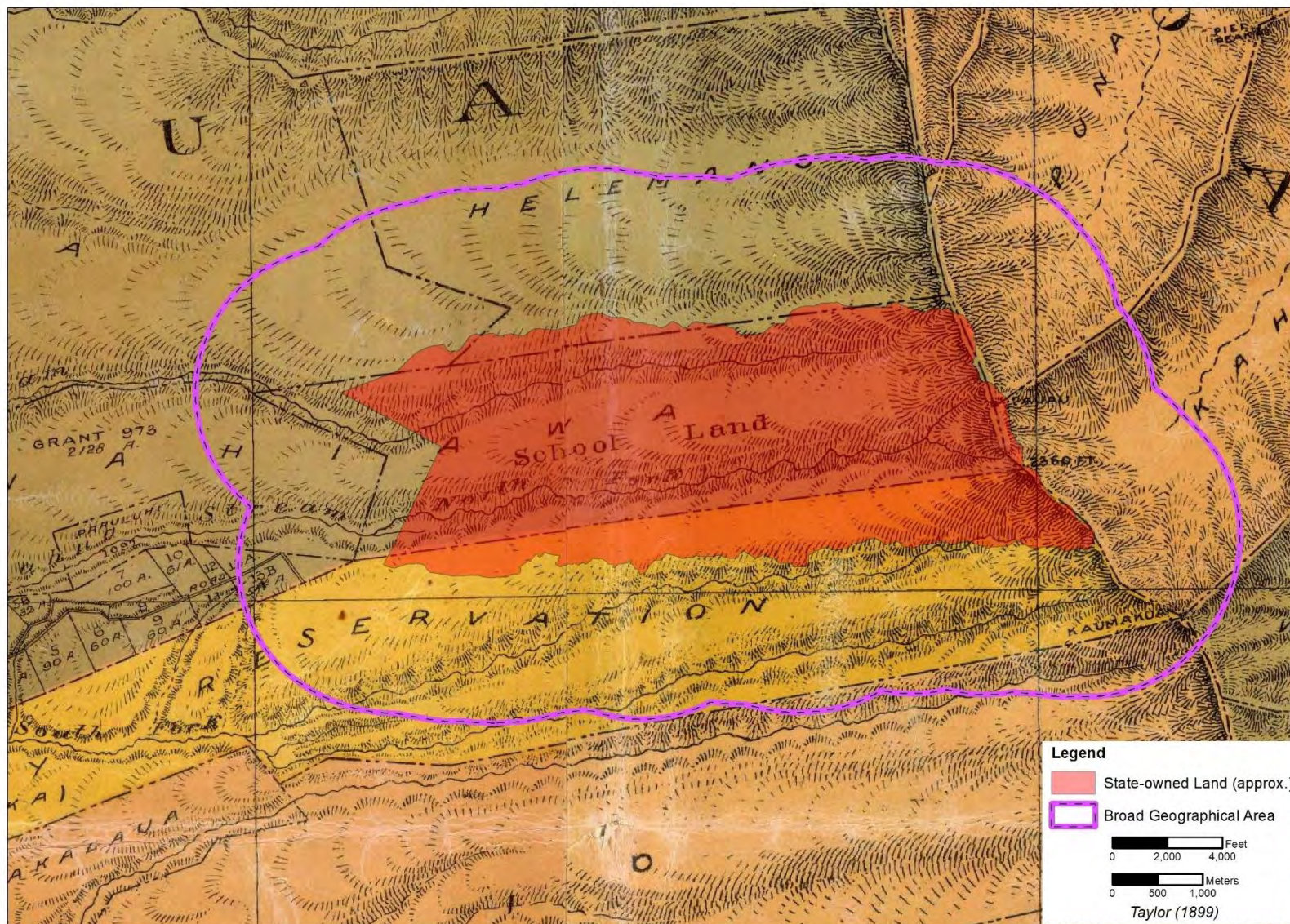


Figure 20. Portion of Taylor (1899) map of O’ahu showing the State-owned land at Poamoho as “School Land” within Wahiawā and Grant 973 west of the State-owned land.

today's Whitmore Village and the Naval Computer and Telecommunications Area Master Station Pacific (NCTAMS PAC) facilities north of Wahiawā. There are no LCA claims located within the project area for Poamoho. An 1899 map of O'ahu depicts the State-owned land at Poamoho as "School Land" (see Figure 20).

5.1.3.3 Agricultural and Subsistence History

Peter Young (2017) describes the "dramatically altered . . . landscape of Kamananui Ahupua'a during the last two decades of the nineteenth century" due to the growth of agriculture in the ahupua'a. Dole Foods Hawai'i grew pineapple on a plantation to the west of the Poamoho project area, and a 1952 USGS aerial shows some pineapple cultivation encroaching on the northwest corner of the State-owned land (Figure 21). Also shown on historical maps starting in 1929 is a Mauka Ditch beginning within the south-central portion of the project area at a USGS gauge in the North Kaukonahua Stream (see Figure 18 and Figure 19). This ditch meanders west within the project area and exits the southwestern corner toward Wahiawā. This ditch may have served agricultural purposes, as well as supplying water to the growing residential area of Wahiawā.

In the early twentieth century, reforestation agriculture was conducted by a partnership between the Hawaiian Sugar Planters' Association and Territorial Forestry as part of the establishment of forest reserves throughout Hawai'i; these reforestation efforts included the western end of the Poamoho project area (Woodcock 2003:629–630). Otherwise, no agricultural or ranching activities occurred within the project area.

Pig hunting occurs within the project area, and a public hunting area is passed through when hiking Poamoho Trail (DOFAW 2022c). With the introduction of modern weaponry and foreign game, hunting in Hawai'i today is much different than in the traditional context. Nonetheless, modern hunting is an important cultural practice for many Native Hawaiians and other ethnic groups who rely on hunting for subsistence. According to the 2018 DOFAW hunting survey (see Section 3.8), of the 764 hunters who reported that they hunted in public hunting lands, eight percent reported that they hunted in the O'ahu "East," which includes Pūpūkea-Paumalū Forest Reserve, Kaipapa'u Forest Reserve, Hau'ula Forest Reserve, 'Ewa Forest Reserve (in which Poamoho project area is located), and Kuli'ou'ou I and II (DOFAW 2018:10).



Figure 21. Western portion of the State-owned land at Poamoho (outlined in red), depicted on 1952 USGS aerial showing pineapple fields to the west with historical agricultural land alteration extending into the northwest corner of the State-owned land.

5.1.3.4 Military History

The Poamoho project area is part of the larger KLOA that was established as a troop maneuver and training area in 1955 (USAG-HI 2018b:54). Under the current 65-year lease (State General Lease No. S-3846), which was executed on August 17, 1964 (DLNR 1964b), only aerial training is permitted within the Poamoho project area, including low-altitude helicopter aviation training at several helicopter landing zones in the northwest corner of the parcel (USAG-HI 2018a:54).

5.1.4 Previous Ethnographic Interviews

No previously compiled ethnographic interviews are known for the project area. A prior ethnographic study by Desilets et al. (2011) entitled *Traditional Hawaiian Occupation and Lō Ali'i Social Organization on O'ahu's Central Plateau: An Ethno-Historic Study* provides a thorough ethno-historical investigation into the nature of Traditional Hawaiian occupation and land use in the Central Plateau of O'ahu Island. The study provides a comprehensive background context to the Wahiawā Plain but does not include interviews or archival information specific to the State-owned land at Poamoho and so is not discussed here.

5.2 ONLINE SURVEY AND INTERVIEWS

Individuals and organizations with expertise and knowledge of cultural resources, practices, and beliefs relevant to the project area were given an opportunity to participate in an online survey as well as one-on-one interviews. The following sections summarize the responses received during this outreach process.

5.2.1 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. Appendix B presents full questions and responses to this survey. The survey for the Poamoho project area received a total of four respondents (note, however, that some questions were skipped and did not receive responses from all four respondents). These respondents expressed knowledge of cultural resources, practices, and beliefs within the area and noted the following as being pertinent to the project area: the practice of sharing mo'olelo; mālama 'āina; traditional resource gathering, including for lā'au lapa'au; travel; and hunting. These are summarized below.

Mo'olelo referenced by survey respondents for the project area include stories of Pele traveling through the area as well as stories of Lā'ieikawai, the Maile sisters, Hi'iakaikapoliopole, and Kamapua'a's pursuit of Pele.

Mālama 'āina and *traditional resource gathering* were mentioned by survey respondents for the project area. Survey respondents particularly highlighted the importance of the natural resources in Poamoho which are used in cultural practice and for traditional beliefs. The native animals in the area are considered 'aumākua, and native plants are used for lā'au lapa'au (medicinal purposes). The mountains and forests as well as the land itself is also considered sacred.

Travel through this area was also mentioned as a past and ongoing practice with the expressed desire to continue this practice into the future.

Hunting for pua'a (pig) was also mentioned as an ongoing subsistence practice in the area.

It is unclear how many of these cultural practices and beliefs are occurring within State-owned land versus the broad geographical area around the project area.

All survey respondents who provided answers shared some aspect of cultural significance to the Poamoho project area and the broad geographical area; all respondents reported they were aware of cultural resources, practices, and/or beliefs associated with the project area.

5.2.2 Interview Responses

One-on-one interviews were conducted with seven individuals associated with the Poamoho project area (Table 3). 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 D. The current section lists the cultural resources, practices, and beliefs each interviewee mentioned that pertained to the State-owned land at Poamoho and the broad geographical area. For a list of effects to cultural resources, practices, and beliefs from continued military activity in the Poamoho project area as identified by interviewees, see Section 5.4. For a list of the interviewees' mitigation recommendations for the Poamoho project area, see Section 9.2.2. Biographical information for each interviewee is provided in Section 2.2.2.1.

Table 3. Individuals Interviewed for Poamoho Project Area

INTERVIEWEE	INTERVIEW TYPE
Mr. (Norman) Mana Kaleilani Cáceres	Telephone
Mr. (Nathan) Keola Grace	Telephone
Mr. Neil J.K. Hannahs	In person
Mr. Allen Hoe	Telephone
Mr. Kyle Kajihiro	Telephone
Mr. Thomas Lenchanko	Telephone
Mr. Christophor Edward Oliveira	Telephone

5.2.2.1 Mr. (Norman) Mana Kaleilani Cáceres

The interview with Mr. Cáceres was conducted by Mr. Sproat from Honua Consulting, LLC on June 13, 2022. Mr. Cáceres shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Cáceres shared that he was “not personally familiar with the cultural resources in the Poamoho project area.”

Cultural Practices and Beliefs

- Mr. Cáceres shared that he was “not familiar with any specific cultural practices and beliefs associated with the Poamoho project area.”

5.2.2.2 Mr. (Nathan) Keola Grace

The interview with Mr. Grace was conducted by Mr. Sproat from Honua Consulting, LLC on May 11, 2022. Mr. Grace shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Grace shared that Kūkaniloko birthstones are “a significant cultural resource near the Poamoho project area”; however, the authors remind the reader that Kūkaniloko is located outside of the current study’s broad geographical area for the Poamoho project area.

Cultural Practices and Beliefs

- Mr. Grace was “not aware of any specific cultural practices and beliefs associated with the Poamoho project area.”

5.2.2.3 Mr. Neil J.K. Hannahs

The interview with Mr. Hannahs was conducted by Mr. Sproat from Honua Consulting, LLC on June 20, 2022. Mr. Hannahs shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Hannahs shared that Kūkaniloko birthstones are a cultural resource “associated with the general area of the Poamoho project area”; however, the authors remind the reader that Kūkaniloko is located outside of the current study’s broad geographical area for the Poamoho project area.
- Mr. Hannahs stated the “waters of the Ko’olau Range that flow down to this high plateau create the headwaters for streams, provide opportunities for agriculture and rationalize investment in storage for flood control, irrigation, and recreation”; however, he did not provide specific locations for these resources.

Cultural Practices and Beliefs

- Mr. Hannahs shared no knowledge of cultural practices or beliefs associated with the Poamoho project area or the broad geographical area.

5.2.2.4 Mr. Allen Hoe

The interview with Mr. Hoe was conducted by Mr. Sproat from Honua Consulting, LLC on June 14, 2022. Mr. Hoe shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Hoe was “not personally aware of any specific cultural resources associated with the Poamoho project area.”

Cultural Practices and Beliefs

- Mr. Hoe was “not aware of any cultural practices and beliefs associated with the Poamoho project area.”

5.2.2.5 Mr. Kyle Kajihiro

The interview with Mr. Kajihiro was conducted by Mr. Sproat from Honua Consulting, LLC on June 15, 2022. Mr. Kajihiro also submitted a response via email attachment on behalf of Hawai‘i Peace and Justice (of which he is a Board member) and Koa Futures. A summary of the cultural resources, practices, and beliefs within this letter is provided in Section 4.2.2.6 and the full letter is provided in the scoping comments in Appendix E of the O‘ahu ATR EIS. Mr. Kajihiro shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Kajihiro was “not aware or familiar with any cultural resources in the Poamoho area.”

Cultural Practices and Beliefs

- Mr. Kajihiro stated the landscape of Kūkaniloko, “the ancient piko of O‘ahu chiefs” and “most sacred place on the island,” “radiates lines of connection outward to many points on the island, including Poamoho.” The authors remind the reader that Kūkaniloko is located outside of the current study’s broad geographical area for the Poamoho project area.
- Mr. Kajihiro was informed by “Mr. Raymond Kamaka of Waikāne that the trail from Waikāne connects to Poamoho”; however, he did not provide a specific location for the trail.
- Mr. Kajihiro was informed by “Mr. Emil Wolfgramm, a renowned Tongan storyteller from Waiāhole, that the legendary hero Maui also has a connection to the trail that connects Waikāne to Poamoho”; however, he did not provide a specific location for the trail.

5.2.2.6 Mr. Thomas Lenchanko

The interview with Mr. Lenchanko was conducted by Mr. Sproat and Dr. Watson-Sproat from Honua Consulting, LLC on May 10, 2022. Mr. Lenchanko shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Lenchanko made it very clear that the State-owned land at Poamoho is “part of the traditional pu‘uhonua of Kūkaniloko.” Kūkaniloko was “once the social and economic center of the island for ancestral Hawaiians.”
- Mr. Lenchanko stated that “the forested Poamoho area currently leased by the Army is a significant part of the natural watershed” and “the area should

be protected.” He added that “the forest itself is a cultural resource” and that “the plants, trees, birds were given to Hawaiians for them to make use of and implement in their daily lives.”

- Mr. Lenchanko believes there are cultural resources in the Poamoho project area, but he and other practitioners have not confirmed their presence.
- Mr. Lenchanko mentioned the “Poamoho area was known to have resources for lā’au lapa’au” (medicine) prior to the Army’s lease. However, he did not provide specific locations for these resources within the Poamoho project area.

Cultural Practices and Beliefs

- Mr. Lenchanko shared that “the place name ‘Poamoho’ is a variation of ‘Po’o a mo’o’ which alludes to the relationship the people of that place had with mo’o akua,” who were “caretakers and guardians of water resources.” He stated that the “Poamoho area had three caretakers of water sources” and went through a progression of management: the menehune, the mo’o, and then humans.
- Mr. Lenchanko mentioned that areas like Poamoho relied on the land division system called ka’ānani’au, where families of O’ahu have the “shared responsibility of maintaining the land and resources and supporting genealogical descendants of Kūkaniloko and ali’i.”
- Mr. Lenchanko stated that “[t]raditional medicinal plants were gathered also in the uplands” of the Poamoho area. He added that other cultural practices tied to the land include hunting and resource gathering. He did not provide specific locations where these practices were taking place within the Poamoho project area or broad geographical area.
- Mr. Lenchanko discussed “how traditionally the people lived off the land and accessed parcels like Poamoho that were not generally easy to access or maintain” and “[t]his challenge was a part of learning to live off the land.” He continued that “[k]upuna would take younger generations to areas like Poamoho to teach them about the resources and pass on knowledge to the next generation.” He stated that “[i]n order to gather materials for lā’au lapa’au or procure water sources, Hawaiians had to access these difficult areas” and often pray “to ask for what was needed and the strength to get there.” Mr. Lenchanko explained that “he understands this as going into these places with nothing but coming out with spiritual knowledge about what it means to be a practitioner.”
- Mr. Lenchanko discussed the significance of “Halemano”, which is also called Helemano within the broad geographical area of the Poamoho project area. Mr. Lenchanko related that “Halemano makes up one-third of the Lihū’e/Wahiawā land section and is part of the 36,000 acres that makes up the pu’uhonua of Kūkaniloko. Halemano is a kalana significant to Kūkaniloko.” He explained that “these land sections and their boundaries reflect a traditional understanding of land use and management.”

5.2.2.7 Mr. Christophor Edward Oliveira

The interview with Mr. Oliveira was conducted by Mr. Sproat from Honua Consulting, LLC on June 5, 2022. Mr. Oliveira shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Oliveira explained that “Poamoho is where many water resources originate”, “[w]ater is a significant cultural resource”, and “the two main water sources of Waialua come from the Poamoho area.” However, he did not provide specific locations for these water resources within the Poamoho project area or broad geographical area.
- Mr. Oliveira mentioned that “the Poamoho area is very sacred given that it was home to the Lo Ali’i” and “the places in this area are connected to Mā’ilikūkahi and also to Kūkaniloko.” However, he did not provide specific locations within the Poamoho project area or broad geographical area that are connected to Mā’ilikūkahi and Kūkaniloko.

Cultural Practices and Beliefs

- Mr. Oliveira named “kilo, or kilokilo, as a tradition connected to the Poamoho area.” He continues that “[k]ilo is practiced in the area to learn about the seasons and changing of times based on keen environmental observations.” He did not provide a specific location where this tradition was taking place within the Poamoho project area or broad geographical area.
- Mr. Oliveira explained that “the place name ‘Poamoho’ to be ‘Pō a Moho’ or the ‘night of Kāmohoali’i.” He further stated that “[t]his connects Poamoho to ‘Helemanō’” as “[m]anō is shark and Kāmohoali’i is a shark god.”
- Mr. Oliveira shared some significant place names in the broad geographical area of the Poamoho project area, including Pa’ala’a and Helemanō.
- Mr. Oliveira discussed Līhu’e as “a traditional land section that included Poamoho and Wahiawā,” and “[a]ll of these places are connected to each other through traditions and land sections” (note, the authors remind the reader that Līhu’e is not within the State-owned land at Poamoho or the current study’s broad geographical area). He explained that “these place names have various interpretations that allude to the significance of the place.”
- Mr. Oliveira shared the following traditions related to Kūkaniloko as being “connected to the Poamoho area”; however, the authors remind the reader that Kūkaniloko is located outside of the current study’s broad geographical area for the Poamoho project area. Mr. Oliveira explained that “many genealogies, including those of Kamehameha’s lineage, go back to Kila, the ancestor of many great rulers, including O’ahu’s Kākuhihewa. Kila was chosen by Moikeha to get La’amaikahiki, who brought the Hāwea drums to Kūkaniloko. These drums were pounded during the birth of Mā’ilikūkahi at Kūkaniloko.” He further explained that “Mā’ilikūkahi was of high rank, the ‘aiwohi kūkahi rank.”

5.3 IDENTIFIED CULTURAL RESOURCES, PRACTICES, AND BELIEFS

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

5.3.1 Summary of Data Obtained from Archival Research

There is limited archival data for cultural resources, practices, and beliefs associated with the State-owned land at Poamoho and the broad geographical area. Archival research produced one mo'olelo associated with Halemano who travelled through the area while fleeing from the ali'i 'Aikanaka. In the broad geographical area of the project area, Wahiawā was an area known as the home of chiefs, one of the most notable being Mā'ilikūkahi.

5.3.2 Summary of Data Obtained from Survey and Interviews

Data obtained from this project's initial community outreach and online survey produced information about the sharing of mo'olelo; mālama 'āina; traditional resource gathering, including for lā'au lapa'au; travel; and hunting. It is unclear from the survey results if these practices occur directly within the State-owned land at Poamoho or within the broad geographical area of the project area.

Seven individuals were interviewed for information on cultural practices and beliefs occurring within or associated with the Poamoho project area and the broad geographical area. Two of the seven interviewees (Mr. Oliveira and Mr. Lenchanko) discussed the practice and beliefs associated with mālama 'āina and traditional watershed management. Interviewees again commented on the forest and water resources as significant cultural resources (Mr. Oliveira and Mr. Lenchanko).

Other cultural practices identified by interviewees included the practice of kilo to observe environmental conditions (Mr. Oliveira), passing on of knowledge from kūpuna to the younger generation about living off the land (Mr. Lenchanko), gaining "spiritual knowledge about what it means to be a practitioner" by surviving in these remote landscapes (Mr. Lenchanko), and the sharing of mo'olelo associated with Kāmohoali'i, Mā'ilikūkahi, and mo'o akua (Mr. Oliveira and Mr. Lenchanko).

Mr. Lenchanko shared that traditional gathering practices for lā'au lapa'au as well as cultural practices associated with modern pig hunting would likely be practiced in the project area if unlimited access were allowed (see Section 7.4 for access discussion).

Lastly, three interviewees noted the cultural belief that the Poamoho project area is part of the traditional pu'uhonua of Kūkaniloko within the Traditional Hawaiian framework regarding the connection of wahi

(place) (Mr. Oliveira, Mr. Grace, and Mr. Lenchanko). The Poamoho area itself is also sacred and home to the Lo Ali'i, according to Mr. Oliveira.

While survey respondents and interviewees identified resources, practices, and beliefs, informants did not directly connect these resources to the specific geographical boundaries of the State-owned land at Poamoho (the project area). However, one interviewee asserted that cultural practices, such as traditional gathering practices for lā'au lapa'au and pig hunting, would occur within the project area if access were granted (see Chapter 7 for a discussion of current access policies).

5.4 EFFECTS TO CULTURAL RESOURCES, PRACTICES, AND BELIEFS

This section summarizes effects to cultural resources, practices, and beliefs from continued military activity in the Poamoho 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 Section 8.2.

Mr. Cáceres

- Impacts from lack of access.

Mr. Grace

- Not aware of any impacts to cultural resources, practices, or beliefs.

Mr. Hannahs

- Impacts to the environment and natural habitats.

Mr. Hoe

- Not personally aware of potential impacts from the Proposed Action.

Mr. Kajihira

- "Adverse impacts on cultural practices include, but are not limited to restrictions on access due to security or safety restrictions, the destruction of cultural or religious sites, the destruction of environmental resources needed for conducting cultural practices, and the disruptions of the view plane and serenity of the area caused by military activities" (Kajihira 2021:12).

Mr. Lenchanko

- Impacts from lack of access.

Mr. Oliveira

- Impacts from lack of access.

Impact concerns, as shared by the interviewees for the Poamoho project area, include three general categories: 1) impacts from lack of access (stated by four of seven interviewees), 2) general environmental impacts that were not always expanded upon (stated by two of seven interviewees), and 3) impacts from continued military training/activity (stated by one of seven interviewees). Two interviewees had no impact concerns to share for the Poamoho project area.

See Section 8.2 for an analysis of these potential impacts.

6 MAKUA MILITARY RESERVATION (MMR)

The project area for MMR comprises approximately 782 acres situated along the Waiʻanae Coast of Oʻahu in the western portion of MMR and within the Waiʻanae District. This project area is situated within four ahupuaʻa: Keawaʻula, Kahanahāiki, Mākua, and ʻŌhikilolo; it encompasses five TMK parcels (TMKs [1] 8-1-001:008 and [1] 8-2-001:001, 022, 024, and 025) and a portion of four parcels (TMKs [1] 6-9-003:001, [1] 8-1-001:007 and 012, and [1] 8-2-001:002) (Figure 22–Figure 24). The MMR parcels are also referred to as the Makai, North Ridge, Center, and South Ridge Tracts.

This chapter provides a cultural contextual overview of archival and interview data obtained for the MMR project area. Section 6.1 presents aspects of MMR’s natural environment, cultural landscape, and archival history, as well as summarizes findings from ethnographic studies conducted in the project area. Section 6.2 summarizes the responses received from the online survey as well as one-on-one interviews. Section 6.3 presents an overview of identified cultural resources, practices, and beliefs obtained from this research, and Section 6.4 discusses any adverse effects on these cultural resources, practices, and beliefs.

6.1 ARCHIVAL RESEARCH

Archival research was conducted for the natural environment, cultural landscape, archival history, and previous ethnographic interviews 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.

6.1.1 Natural Environment

The project area for MMR is situated in Keawaʻula, Kahanahāiki, Mākua, and ʻŌhikilolo Ahupuaʻa within the moku of Waiʻanae (see Figure 22). There are various environmental aspects within the MMR project area and the broad geographical area that have cultural significance. These are discussed below.

6.1.1.1 Wai

There are four freshwater sources within the MMR project area and the broad geographical area: Kaluakauila Stream, Koʻiahi (shown as Kaiahi on current USGS maps) Gulch, Mākua Stream, and Punapōhaku Stream (Figure 25). Kaluakauila Stream runs along and within portions of MMR’s northern boundary. Punapōhaku Stream is within the project area and flows through Kahanahāiki Ahupuaʻa, which is adjacent to MMR. Mākua Stream runs into the Mākua Ahupuaʻa and is partially within the project area. Koʻiahi Gulch is partially within the southeastern portion of the MMR project area.



Figure 22. Overview of the State-owned land at MMR and the broad geographical area, shown on 2000 USGS DRG map.

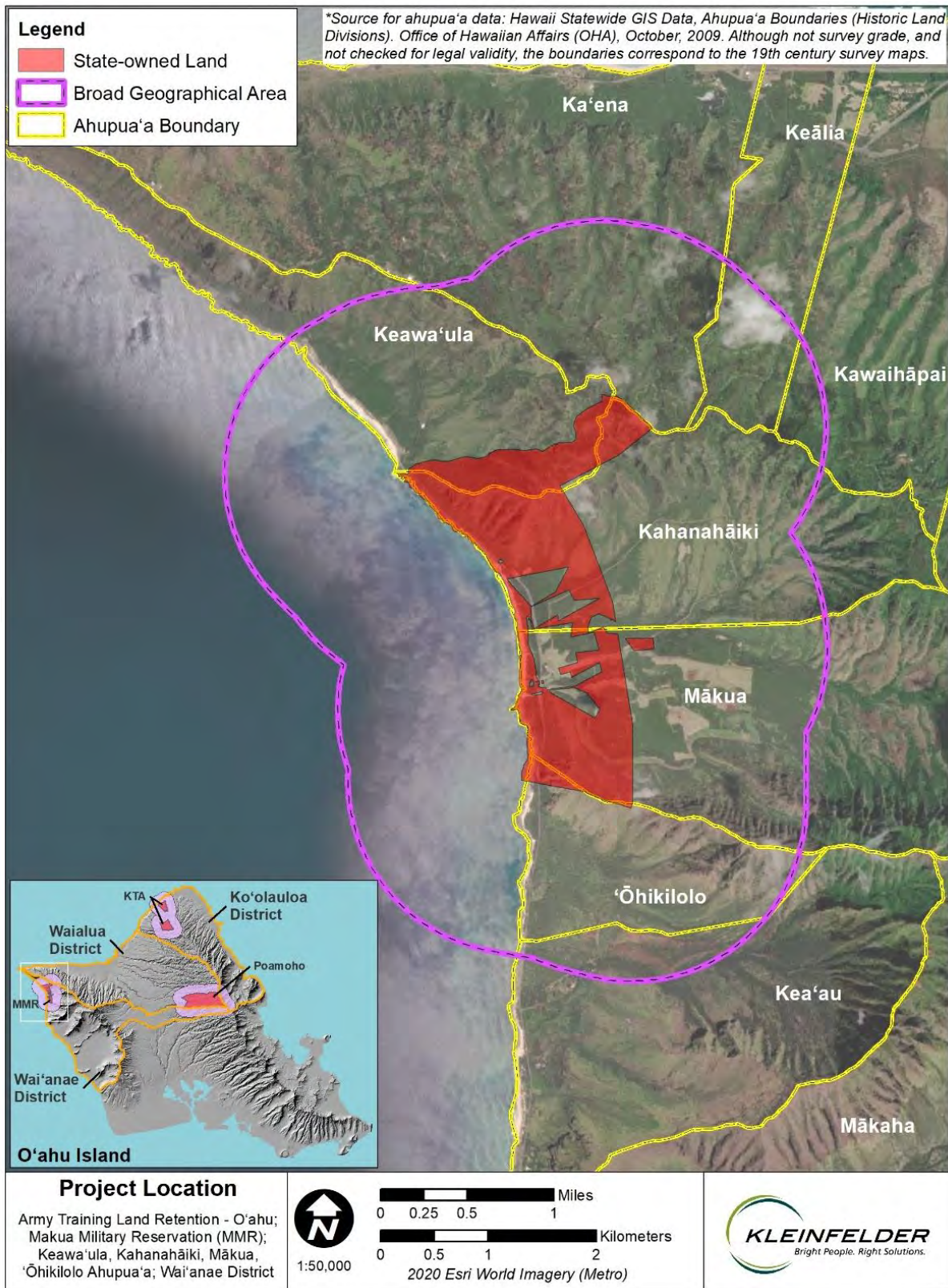


Figure 23. Overview of the State-owned land at MMR and the broad geographical area, shown on 2020 aerial imagery.

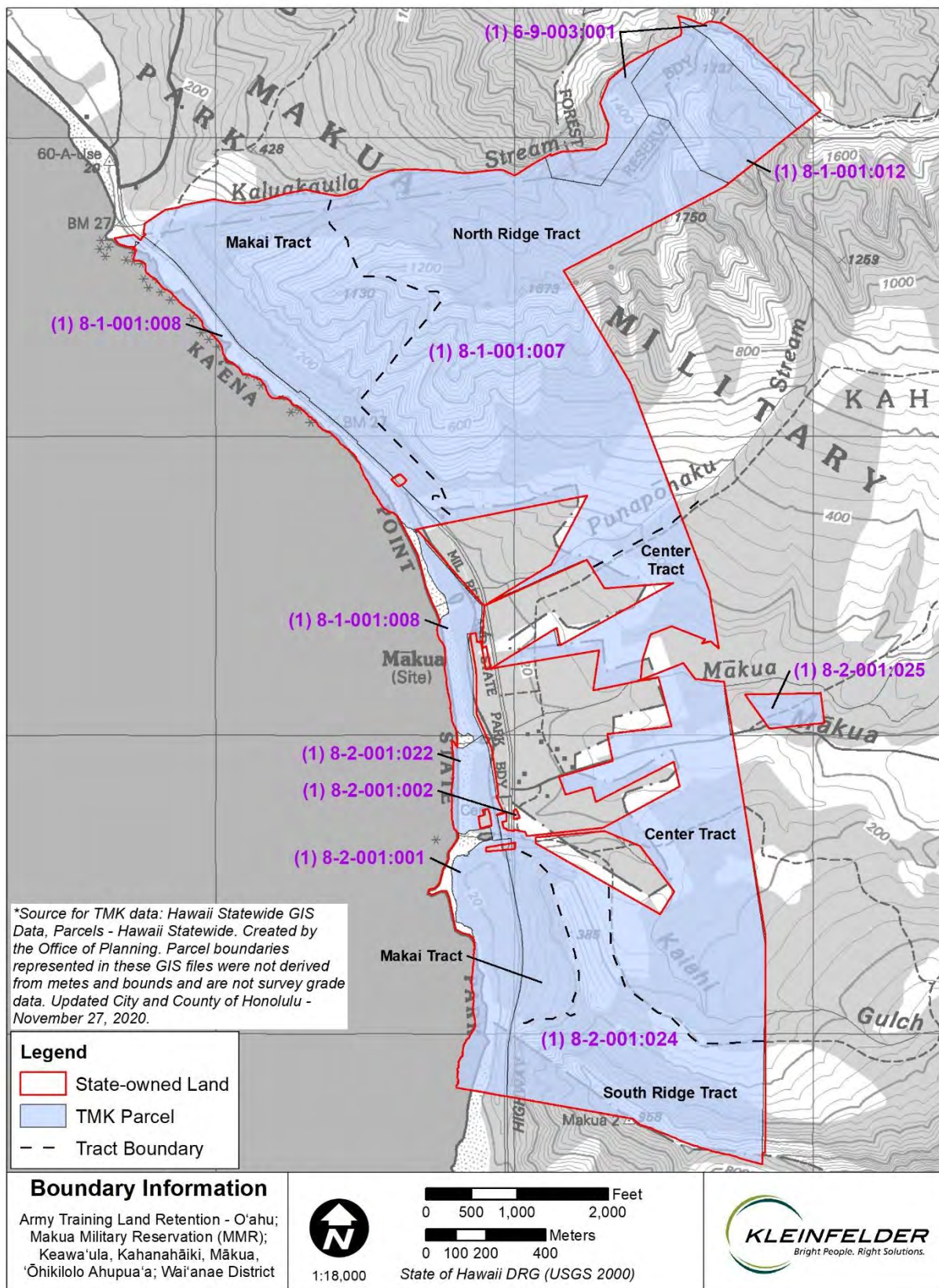


Figure 24. TMK and Tract information within the State-owned land at MMR.

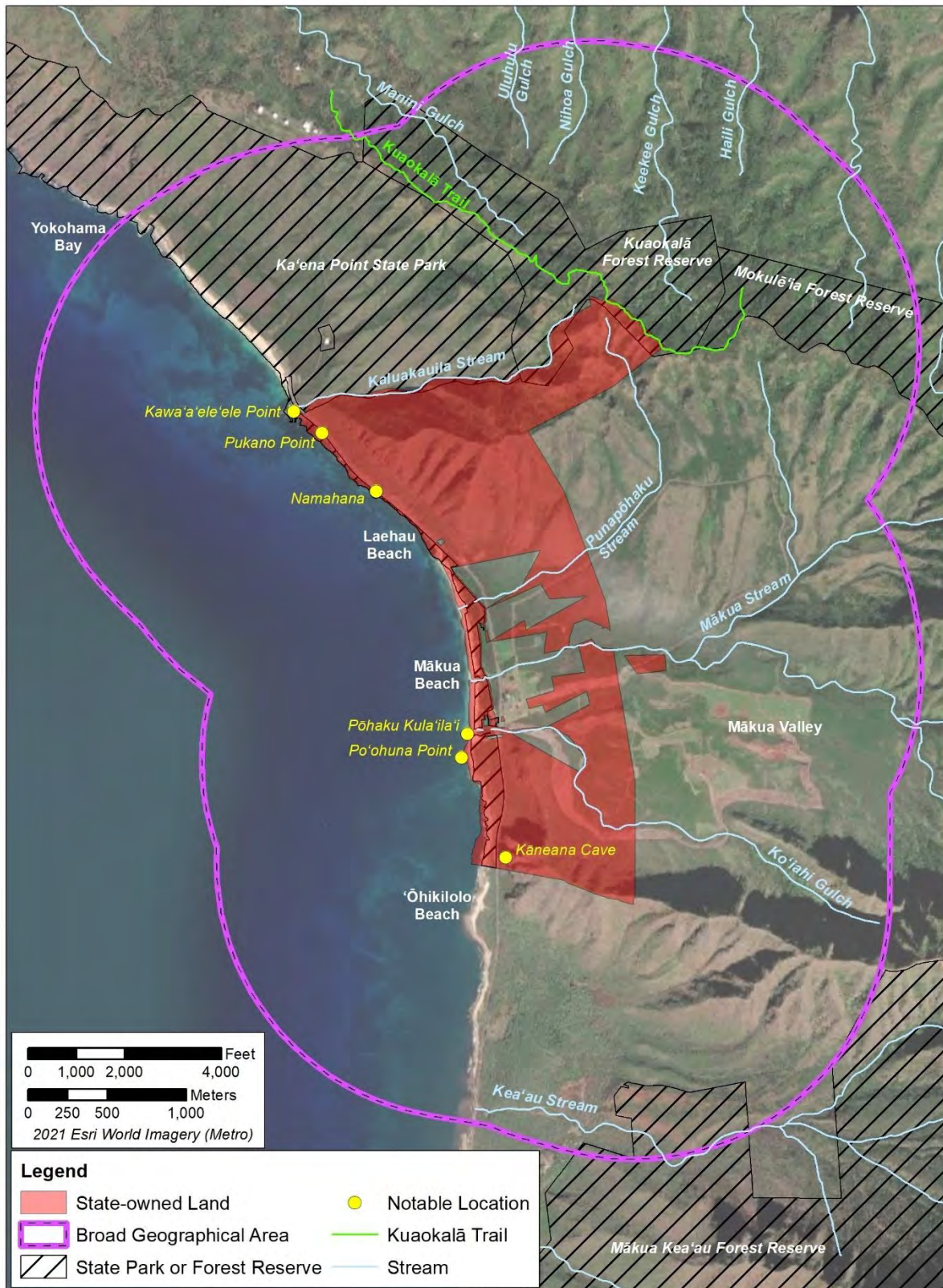


Figure 25. A sample of geological names and place names within the State-owned land at MMR and the broad geographical area.

Tetsuro Ushijima (1996:69–70), a resident of Mākua during the 1920s and 1930s, wrote about three of these streams, which he called “rivers” as a child:

. . . first stream on the northside coming down the Kahanakaiki Valley was called “Punapohaku” stream. This stream was always dry, with hardly had any water coming down even after very heavy rains. . .

The second stream ran down the middle of the Valley . . . It was called “Makua Valley Stream” or “Lamaloa Kahawai” in Hawaiian. Lots of water flowed down this stream during heavy rains and no one could cross it in severe storms. . . There was also a brackish water pond at the end of the stream with mullets, aholeholes [Hawaiian flagtail, *Kuhlia sandvicensis*], ‘o‘opu [freshwater goby, Gobiidae], opai [sic], and black alanihi crabs [*Metopograpsus thukuhar*]. In the winter, small papio or manini would also be tossed into the ponds by rough seas.

The third stream was located on the . . . south end, of the Valley. It flowed down from the Koiahi Gulch, one of the wettest parts of the Valley. . . At the end of the stream was a brackish water pond, called “Loko Puuone” by the Hawaiians, with lots of small fishes and black crabs like the Makua Valley pond. . .

6.1.1.2 Rains

No specific rain names were identified for the MMR project area.

6.1.1.3 Winds

There are no winds associated with the MMR project area; however, there is a wind called Kaiāulu and a wind deity named Kaiona that are associated with the greater Wai‘anae area. Kaiāulu is said to be the “[n]ame of a pleasant, gentle trade-wind, famous in song, at Wai-‘anae, O‘ahu. ‘*Olu‘olu i ka pā a ke Kaiāulu*’ (song), cool with the touch of the Kaiāulu” (Pukui and Elbert 1986:115). Kaiona is a wind goddess of Pu‘u Ka‘ala and a plain at Wai‘anae and believed “to help those lost in the forest by sending a bird to guide them to a trail leading to the lowlands” (Mitchell 2001:76).

6.1.1.4 Pu‘u

There are no pu‘u within the MMR project area. The closest is Pu‘u Ōhikilolo, located approximately 425 meters southeast of the State-owned land at MMR. Archival research did not find any cultural resources, practices, or beliefs connected to this pu‘u.

6.1.1.5 Traditional Plants

Kiawe and koa haole (false koa, *Leucaena glauca*) are plant species currently found within the MMR project area with a connection to cultural practices and beliefs (USGS 2016). Although not native to Hawai‘i, kiawe has been used in agriculture and construction since the 1890s (Gallaher and Merlin 2010:504). More details on the history and uses of kiawe are located in Section 4.1.1.5 of this report.

Ushijima (1996:69–70) wrote of kiawe and maile vine within the broad geographical area of the MMR project area when he was living in Mākua during the 1920s and 1930s:

There were mostly kiawe trees and vine vegetation along the beach. Mauka of that, however, where most of the homes were located, were mostly patches of grass, weeds, and more kiawe trees. . . The kiawe tree (*Algaroba*) was very useful: the dry branches were used for firewood; the green branches were used to make charcoal; the larger branches were used for fence posts, and its beans were used for cattle, horse, or pig feed. . . Koiahi Gulch was also known for its “maile laulii,” a small variety of the maile vine, which was prized for its strong fragrance.

Koa haole (false koa, *Leucaena leucocephala*) is a non-native tree that was introduced in Hawai‘i around 1860 and has been used in agriculture and lei making (Brewbaker et al. 1972:3). The seed pods, stems, leaves, and tops, which are high in protein, have been used as cattle fodder in Hawai‘i since approximately 1915 (Neal 1948:360; Takahashi and Ripperton 1949:5). The seeds were used historically to make leis, purses, and mats (Neal 1948:360), and the seed pods were woven into baskets and hats (Kaihumua 1881:1).

6.1.2 Cultural Landscape

Like Sections 4.1.2 and 5.1.2, the following sections discuss the tangible and intangible expressions of cultural beliefs and practices on the physical landscape of the project area and the broad geographical area.

6.1.2.1 Inoa ‘Āina (Place Names)

The meaning of specific place names within and adjacent to the project area are described below and are shown on Figure 25:

- Kahanahāiki: According to Andrews (1922:637), “Kahanahaiki” means “narrow Kahana.” It is also listed as “Kahaiki” in Figure 26.
- Kaluakauila: The name of this stream means “the kauila tree pit” (Pukui et al. 1974:78).
- Kāneana: The name of this large cave means “Kāne’s cave” (Pukui et al. 1974:84).
- Kawa‘a‘ele‘ele: No translation found.
- Kuaokalā: According to Pukui et al. (1974:119), “Kuaokalā” is a “land section, forest reserve, and ancient heiau site overlooking Ka‘ena Point” and means “back of the sun.”
- Keawa‘ula: This name applies to a land division, cave, and beach park, and it means “the red harbor (said to be named for numerous cuttlefish [mūhe‘e] that color the water)” (Pukui et al. 1974:105).

- Ko’iahi: The name of this gulch/land section means “fire adze” and is where the “finest maile-lau-li’i formerly grew” (Pukui et al. 1974:115). Ko’iahi is also referred to as “Kaiahi” on USGS maps starting from 1954.
- Kula’ila’i: According to Pukui and Elbert (1986:179), “kula’ila’i” is a reduplication of kula’i, which means “to push over, knock down, overthrow, shove, push to one side.” This place name is associated with a small island north of Po’ohuna Point.
- Laehau: No translation found.
- Mākua: This name applies to the land section, village, cave, stream, valley, and beach. The name literally translates to “parents” (Pukui et al. 1974:143).
- Namahana: According to Andrews (1922:661), “Namahana” means “pair of things.”
- Ōhikilolo: The name applies to a pu’u, land section, and beach, and it means “prying out brains” (Pukui et al. 1974:168). However, according to Andrews (1922:662), “Ohikilolo” is a “species of sand crab.” It is also referred to as Nahikilolo on Figure 26.
- Po’ohuna: According to Pukui and Elbert (1986:341), “po’o huna” means “hidden, mysterious, invisible, as the gods.”
- Pukano: No translation found.
- Punapōhaku: This stream name means “rocky spring” (Pukui et al. 1974:194).

The MMR project area is located primarily within the ahupua’a of Kahanahāiki and Mākua in the moku of Wai’anae on the Island of O’ahu. Kahanahāiki Ahupua’a abuts Mākua Ahupua’a to the north. Additionally, a portion of the State-owned land crosses into Ōhikilolo Ahupua’a to the south of Mākua Ahupua’a and also into Keawa’ula Ahupua’a to the north of Kahanahāiki Ahupua’a (see Figure 22).

6.1.2.2 Mo’olelo

Mo’olelo relating to Mākua is extensive and includes numerous accounts of akua and ali’i. Presented here is an overview of mo’olelo that relate to the MMR project area. For a more in-depth review of Mākua’s mo’olelo, see Kelly and Quintal (1977) and Gollin et al. (2013).

Mākua Valley, which encompasses the ahupua’a of Mākua and Kahanahāiki, is said to be the meeting place of Papahānaumoku (Earth Mother, who gave birth to the islands) and Wākea (Sky Father) (Gollin et al. 2013:34). Mākua is also said to be the traditional home of ‘ōlohe (professional robbers) who could break bones (Fornander 1918–1919:490).

Ka Mo’olelo O Hi’iakaikapoliopole mentions the Mākua area. The mo’olelo focuses on Hi’iakaikapoliopole (Hi’iaka), Pele’s youngest and favorite sister, and her journey to retrieve Pele’s lover, Lohi’au from Kaua’i. Hi’iaka and her traveling party landed on Mākua Beach via canoe and the residents of Mākua held a welcoming feast, which included “the poi ‘uwala [sic] (sweet potato poi), the pieces of pig, the wana

(urchins), the 'ina (small urchins) in their gravy, poke uhu momona (raw fish made of the rich parrot fish) . . ." (Nogelmeier and Ho'oulumāhiehie 2006; Maly and Maly 2003:211). Hi'iaika chanted this prayer over the food, which mentions places within the MMR project area (Maly and Maly 2003:211–212):

O Mākua, land of Maile-lauli'i,
Land loved by Ko'iahi in the uplands,
My journey takes me over land,
In the dazzling heat of the sun,
Sun which descends below Wai'anae,
The fragrant sprouts of the kupukupu, fern are loved by me
The thought of them two is to eat,
Partake in the food made with love,
I have eaten my companions,
Of the food without a voice, there is, only one voice
Come, come partake,
That the journey of the companions may be continued
Ua 'ike iho la nō ho'i i ke one 'ōiopio. (So seen are the fine clean sand of Mākua)!

Kāneana (Mākua) Cave, located within the State-owned land at MMR, is associated with sharks, according to mo'olelo. The cave is said to have been the "dwelling place of a shark goddess who held sway from Keana Point to Kepuhi Point" and took the form of a woman when entering the cave via a sea entrance (McAllister 1933:123). Another story mentions a shark man named Nanaue who lived near Kāneana Cave; he was the son of Kāmohoali'i, the king of all sharks living in Hawaiian waters, and Kalei, a beautiful maiden (Kelly and Quintal 1977:21). In an interview conducted by Kelly and Quintal (1977:22), the informant mentioned a mo'o (lizard) of Mākua Valley that was the girlfriend of this shark man:

The stream comes down to the shore from Koiahi. It is that stream where the mo'o comes down when the heavy rains fall and the stream is full of water. She came down to meet her boy friend, the shark from Kaneana Cave. When the stream flows strong it breaks through the sand on the beach. That is when the mo'o goes into the sea and goes on that big rock [Pōhaku Kula'ila'i] next to the blowhole at the Waianae end of the beach. . . The shark would come from Kaneana Cave through the undersea entrance and swim to the reef just outside of the blowhole. . . When the mo'o goes into the stream all the greenery covers the water and that is when we know she is there. When she is there, we are not supposed to go swimming in the stream and disturb her. When she goes out, the water is clear. . .

Mo'olelo describe a traditional line of chiefs with ties to the project area. One such chief was Pau, the son of Hua; Pau was born in 'Ōhikilolo, which belonged to his mother Hikimolulolea, and ruled from 'Ōhikilolo Ahupua'a to Keawa'ula Ahupua'a, including the State-owned land at MMR (Sterling and Summers 1978:83). Pau's son, Hua-nui-i-ka-lāla'ila'i, was also born in 'Ōhikilolo (Malo 1951:247). Using varying generation-count theories, Hua-nui-i-ka-lāla'ila'i ruled somewhere between the early eighth and the mid-eleventh centuries (Kelly and Quintal 1977:21).

Two place names within the State-owned land at MMR, Mākua and Koʻiahi are associated with ʻōlelo noʻeau:

Mākole iho hewa i Mākua.

Red-eyed one goes to Mākua by mistake.

Applied to one who has gone off his course. Once, a red-eyed person left Mokulēʻia, Oʻahu, intending to go to Mākaha, but went by way of Kawaihāpai and arrived at Mākua instead. [Pukui 1983:230]

Maile lau liʻi o Koʻiahi.

Fine-leaved maile of Koʻiahi.

Often used in chants. The fine-leaved maile of Koʻiahi, in Waiʻanae, was considered the best on Oʻahu for beauty and fragrance. After the introduction of goats this beautiful and much-liked vine vanished. [Pukui 1983:225]

6.1.2.3 Archaeological Sites

Twenty archaeological sites are recorded at least partially within the MMR project area: Sites 50-80-03-0177, 0181, 4541, 4543 to 4546, 5734, 5735, 5775 to 5777, 5925 to 5927, 5930 to 5932, 9525, and 9533. These archaeological sites are comprised of dry-stone stacked walls, mounds, terraces, a lithic scatter, petroglyph, and other constructed features. Their presence is indicative of associated cultural practices and beliefs, such as spiritual ceremonies; uhaū humu pōhaku; traditional agricultural and subsistence practices; and kaʻapuni. Four of these sites are Traditional Hawaiian (Sites 0177, 0181, 4546, and 5735), six sites contain a combination of Traditional Hawaiian components and Historic Period re-use (Sites 4543 to 4545 and 5775 to 5777), and four sites are Historic Period (Sites 4541, 5927, 9525, and 9533). Six additional resources (Sites 5734, 5925, 5926, and 5930 to 5932) have been recorded in the project area and have yet to be determined if there is any cultural and temporal association.

Kāneana (Mākua) Cave (Site 0177) is a natural sea cave associated with cultural practices and beliefs. As stated in the previous section, the cave is associated with moʻolelo about various shark gods (Kelly and Quintal 1977:21–22). The site is also associated with ceremonial practices, such as visiting the cave to leave offerings for one's ʻaumākua (family or personal deity or deified ancestor) who resided there (Gollin et al. 2013:78, 85). There is also a traditional belief that the cave is the location of the birth of the first human (Gollin et al. 2013:95). According to one informant from the Gollin et al. (2013:115) study, iwi kūpuna were also once interred and cared for in the cave.

The Ukanipō Heiau Complex (Site 0181) is also situated partially within the MMR project area. It is a terraced structure of dry-stone construction and is the paramount Traditional Hawaiian-constructed site in the MMR project area. According to moʻolelo, “Ukanipō was dedicated to the sounds of birthing,

announcing the passage into life” (Gollin et al. 2013:36). The site was traditionally accessed for prayer before the area was closed to public access (Gollin et al. 2013:92).

Four sites are located within the Ko’iahi Gulch Complex (Sites 4543 to 4546) and at least partially within the MMR project area. The Traditional Hawaiian components of these sites include habitation and agricultural complexes with walls, alignments, enclosures, mounds, terraces, C-shaped structures, a fire pit, a petroglyph, and artifacts (such as a complete adze and an ‘ulu maika) (Eblé et al 1995:7-39–7-56; Williams et al. 2001:22–31). Radiocarbon dating at Site 4546, a Traditional Hawaiian irregularly shaped enclosure, indicates calendric dates ranging from the fifteenth to the mid-seventeenth centuries (Williams et al. 2001:31). Sites 4543 to 4545 show signs of use within the Historic Period as well. Approximately 375 meters west the Ko’iahi Gulch Complex is a small lithic scatter (Site 5735) located within the MMR project area, which included “edge-altered” basalt flakes and a core that were likely sourced from a nearby fractured rock (Williams et al. 2001:33).

Several large habitation complexes with Historic Period re-use (Sites 5775 to 5777) are located along the lower segments of Punapōhaku Stream in the vicinity of Ukanipō Heiau and partially within the MMR project area. These sites are comprised of more than 190 features within a 35-acre plus area (Cleghorn et al. 2002:33–61). Many of these surface features are constructed of stacked basalt boulders which form walls, enclosures, terraces, mounds, and platforms that would have functioned as permanent and temporary dwellings and activity areas, agricultural plots, and ceremonial and possible burial areas. Agricultural features, including earthen terraces, mounds, and retaining walls, were likely used to cultivate dryland, non-irrigated crops such as ‘uala, kō, and ipu (bottle gourd, *Lagenaria siceraria*).

Historic Period sites (Sites 4541, 5927, 9525, and 9533) both fully and partially within the MMR project area are associated with nineteenth and early-twentieth centuries ranching and agricultural activities and the delineation of property boundaries (e.g., LCA boundary walls). Some historic features (i.e., long wall segments) were likely constructed from basalt boulders that were quarried from abandoned Traditional Hawaiian structures (Cleghorn et al. 2002:127).

6.1.2.4 Trails

According to ʻĪʻĪ (1983:97), there was a beach trail along the shore at Mākua that went around all of O’ahu. To the south, this trail passed Mākaha and Pu’uokapolei, and to the north it continued around Ka’ena Point to Waialua and beyond. There was also a known mountain trail that began at Kahanahāiki, passed over the mountain to Kawaihāpai, then joined the previously mentioned shoreline trail from Ka’ena (ʻĪʻĪ 1983:98) (Figure 26).



Figure 26. Portion of trails of leeward O’ahu map from ʻŪ (1883:98) showing Mākua coastal and mountain trails.

Kuaokalā Trail is a 2.5-mile-long trail that runs along the northeast border of the North Ridge Tract (see Figure 25). The trail requires a DLNR day use permit for access, which is obtained via an online permit system or by mail, and the trail is accessed via the Ka’ena Point Satellite Tracking Station Road or the Kealia Access Road and Trail (DOFAW 2022e, 2023). The Nā Ala Hele Trail and Access Program website provides this history of the trail (DOFAW 2022e):

In June 1913 the Territorial Governor established Kuaokala Forest Reserve to protect a spring near the head of Manini Gulch below the parking lot. Over the years, cattle ranchers, forestry workers, and hikers developed various trails in the Kuaokala area, one of which was this ridge route.

6.1.3 Archival History

An overview of three main historical eras as they relate to the MMR project area is presented in the following three sections. For a more in-depth review of Mākua’s archival history, see Kelly and Quintal (1977) and Gollin et al. (2013).

6.1.3.1 Traditional Historical Context

Mākua’s history prior to foreign contact is not well-known; however, the most likely land uses were fishing along the beach and agriculture in the lower valley and adjacent plateau (Kelly and Quintal 1977:25).

Traditional Hawaiian populations in Mākua and Kahanahāiki Ahupua‘a at the time of contact are estimated to have been around 300 to 400 (Kelly and Quintal 1977:33) or 420 individuals (Cordy 2002). Therefore, traditional communities along the Mākua Coast may have been sparse and likely engaged in dryland cultivation of ‘uala, which is supported by early ethnographic accounts (Handy and Handy 1991:275). ‘Uala, kalo, and pili grass (*Heteropogon contortus*) have all been documented as important resources in Mākua Valley (Kelly and Quintal 1977:16, 18); although it is unknown from archival research how much they were cultivated in the State-owned land at MMR.

According to ʻŪi (1983:98), traditional fishing grounds for aku and ‘ahi (Hawaiian yellow-fin tuna, *Thunnus albacares*) were located at Kahanahāiki (called Kahaiki) and Keawa‘ula. In the early 1800s, there was a fishing village on the Mākua-Kahanahāiki seashore reported by Levi Chamberlain, a missionary who inspected schools on O‘ahu. This was likely a traditional fishing village; however, the lack of archaeological investigations in the area has made determining the age of this now-destroyed village difficult (Kelly and Quintal 1977:33). The Mākua area was also renowned for ‘ōpelu (mackerel scad, *Decapterus macarellus*) and akule (big-eye scad, *Selar crumenophthalmus*) fishing using canoes and nets (Cordy 2002:120).

Canoe and other small seacrafts offered an important mode of transportation for Mākua residents (Kelly and Quintal 1977:4). The fine sand beach at Mākua was used for fishing canoe landings; travelers would sleep at Mākua before heading toward Ka‘ena Point in the morning (ʻŪi 1983:98). Leaving for Ka‘ena Point from Mākua allowed travelers to avoid “the rough, hot, overland trail around land’s end” (Kelly and Quintal 1977:4).

A heiau called Kumuakuopio (Site 50-80-03-0178) existed mauka of the now-destroyed Mākua Protestant Church (McAllister 1933:123). At the time of McAllister’s 1930 survey, there was nothing left of this heiau “except a sand platform 120 by 100 feet that is about 20 feet higher than any of the surrounding land.” In the center of this sand platform, McAllister observed two piles of one-foot stones, but all the rest of the stones were likely used to build rock walls in the area (McAllister 1933:123). The location of the Kumuakuopio “sand platform,” a naturally uplifted area of old reef and beach rock sandstone, was confirmed to exist within Site 50-80-03-5926 (within the broad geographical area of the MMR project area) by Mālama Mākua founder Leandra Wai and other consulting parties to former USAG-HI Cultural Resources Manager (CRM) Laurie Lucking (D. Crowley, USAG-HI, personal communication, September 2022).

Kahanahāiki Ahupua‘a was known for two heiau: Kaahihi (Site 50-80-03-0180) and the previously discussed, still present Ukanipō (Site 0181) (McAllister 1933:123–125). As with Kumuakuopio, the stones at Kaahihi had been removed by the time of McAllister’s survey, with only scattered stones and some lower wall remnants present; however, the presence of the heiau was still evident in the 100-foot square, 25-foot-high earthen mound (McAllister 1933:123). It was said that drums could still be heard from this heiau (McAllister 1933:123). The exact location of Kaahihi is not known today.

According to McAllister (1933:123), there was one ko'a (Site 50-80-03-0179) that was the only thing not covered during high tide at the center of Mākua Beach and within the MMR project area (see Figure 33). It was rectangular, measuring approximately 55 by 35 feet, and in 1930 it had "fairly well-preserved north and east walls" (McAllister 1933:123). McAllister (1933:123) further describes the different aspects of the fishing shrine, which, according to an informant's interview by Kelly and Quintal (1977:31), was later destroyed by the military:

In the northeast corner, a platform 20 by 4 feet projects some 2 feet out and above the other walls. The north wall is built of waterworn stones from 2 to 3 feet high, and inside, the sand is flush with the wall and slopes up to a central portion that is 3 feet higher. The south wall, parallel to the sea, and the west wall have been obliterated. Coral lies about the site.

6.1.3.2 Post-Contact and Kingdom History

An early historical account of Mākua by Chamberlain in the 1820s describes it as a small treeless coastal settlement planted with 'uala and kō:

Makua is situated on a sand beach and opens to the sea between two bold head lands S.E. and N.W. The mountains rise in a circular manner and on the North have a slope to the valley, on the east of the mountains are more precipitous, the summits of all the ridges which overlook this valley are very steep and broken. There are no trees in this place, a few clusters of sugar cane are seen here and there, potatoes are cultivated but not taro. [Chamberlain, in Sterling and Summers 1978:84]

Communities along the Wai'anae Coast during the decades following foreign contact continued to be small. An 1826 sketch of Mākua by Hiram Bingham depicts a small coastal community near the shore and a few scattered structures mauka or inland and upland from the shore (Figure 27). On an 1851 Hawai'i Registered Map, fisheries are shown extending one mile out to sea from the coastline at Mākua and Kahanahāiki (Kelly and Quintal 1977:33) (Figure 28).

According to OHA's Kipuka database, a total of 23 land claims were awarded as a result of the 1848 Māhele 'Āina in two of the four ahupua'a that comprise the State-owned land at MMR: 11 in Mākua, nine in Kahanahāiki, and three located within both Mākua and Kahanahāiki (Figure 29; Table 4). Only one LCA (LCA 9052:1) is situated within the MMR project area, which was awarded to Kahueai in 1851 as Grant 461 (see Figure 29). LCA 9052:1 mentions the word "kula," likely a reference to cultivated land, while LCA 9052:2, located within the broad geographical area, is described as a "house lot." Several other land claims awarded within the broad geographical area also contained multiple, discontinuous 'āpana (land parcels). Many of the smaller 'āpana near the shoreline are described in LCA documents as house lots, while the larger upland 'āpana are "kula" lands likely used for farming or ranching (see Table 4). This is evident in

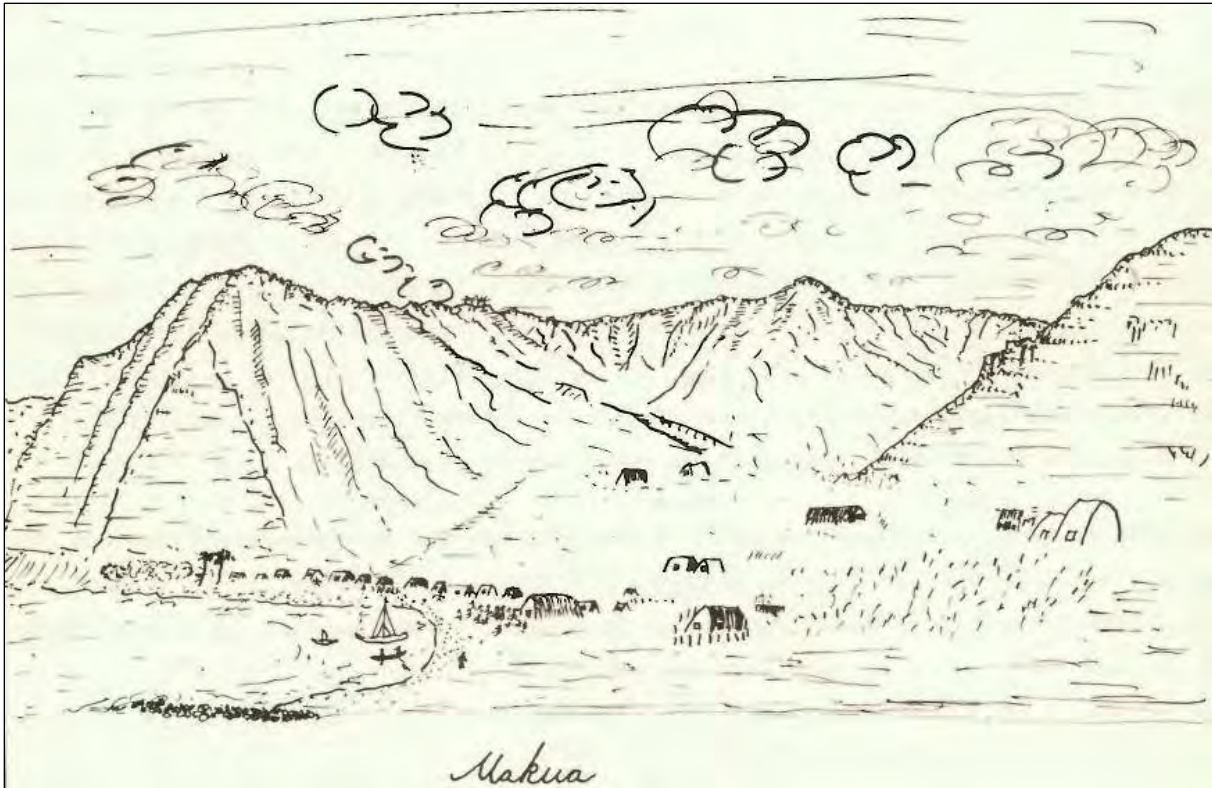


Figure 27. Bingham's 1826 sketch of Mākua Valley, from Green (1980:9).

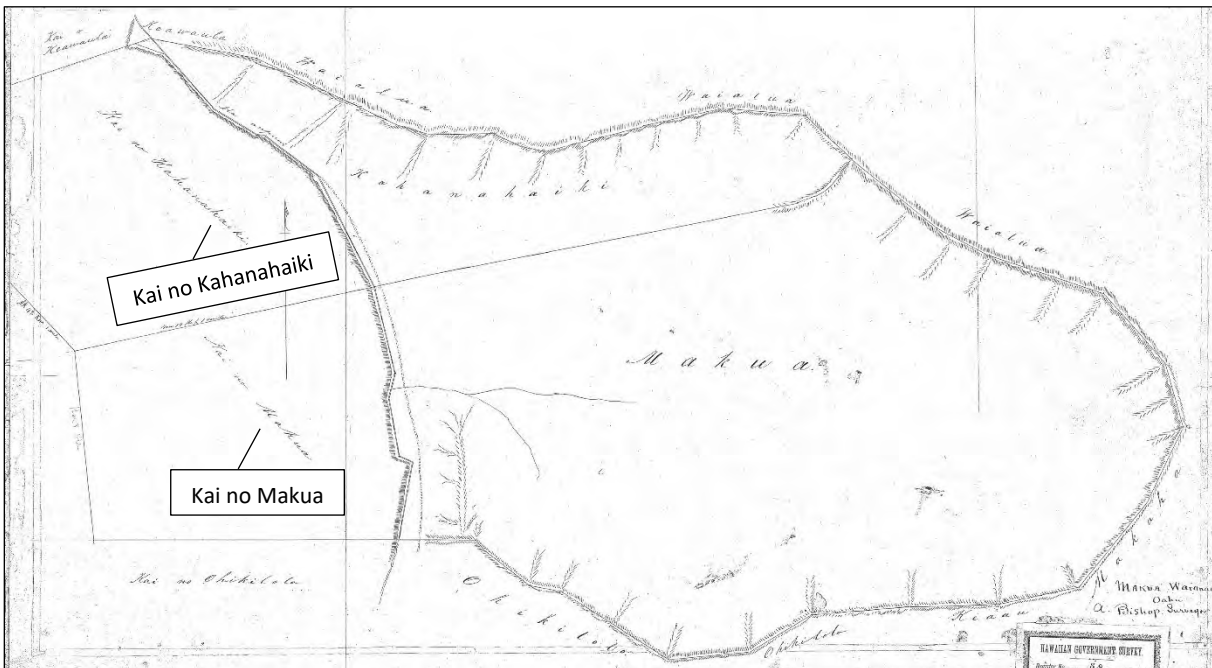


Figure 28. 1851 Registered Map 89 showing fisheries at Mākua and Kahanahāiki.

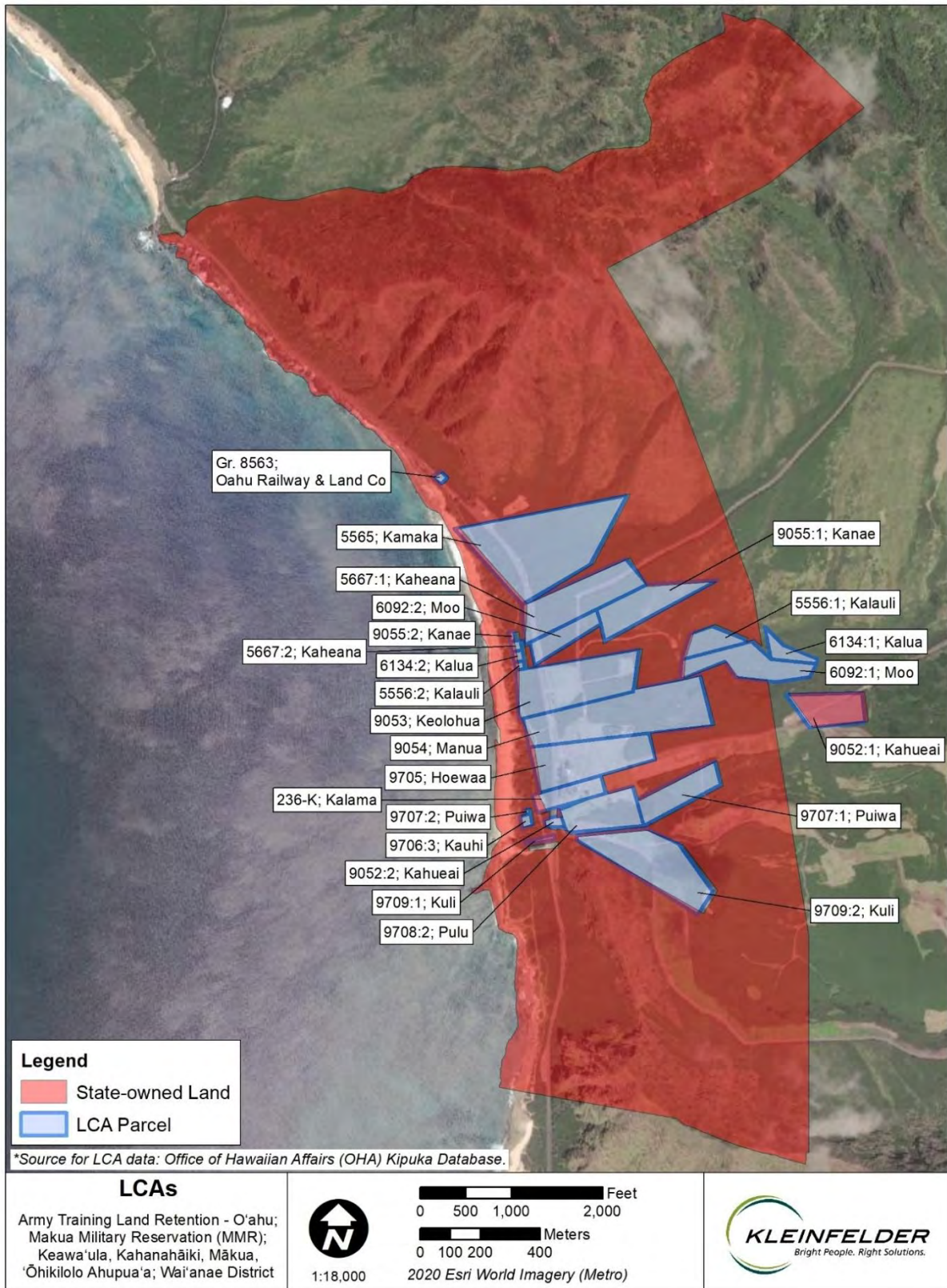


Figure 29. LCAs within the State-owned land at MMR and the adjacent land parcels, shown on 2020 aerial imagery.

Table 4. LCAs Within the State-owned Land at MMR and the Adjacent Land Parcels

LCA NO.	AWARDEE	TOTAL ACRES*	AHUPUA'A	PLACE; DESCRIPTION**
236-K	Kalama	3.136	Mākua	Haunouli; Kula mahi'ai and house lot.
5556:1, 2	Kalauli	3.63	Kahanahāiki	'Āpana 1: Kapalai; Ili 'āina called Kapalai. 'Āpana 2: No information available.
5565	Kamaka	23.94	Kahanahāiki	Kahanaiki; Kula mahi'ai.
5667:1, 2	Kaheana	12.53	Kahanahāiki	'Āpana 1: Kahanaiki; Kula 'āina in Kahanaiki. 'Āpana 2: Kawaioe; House lot in Kawaioe.
6092:1, 2	Moo	10.732	Mākua, Kahanahāiki	'Āpana 1: Pohaku o Kamaile; Kula 'āina. 'Āpana 2: No information available.
6134:1, 2	Kalua	2.169	Kahanahāiki	'Āpana 1: Kaoawa; Kula mahi'ai in Kaoawa. 'Āpana 2: Kaaueka; House lot in Kaaueka.
9052:1 ⁺ , 2	Kahueai	7.680	Mākua	'Āpana 1: Kaohai; Kula mahi'ai in Kaohai. 'Āpana 2: Pakalaua/Pakalana; House lot in Pakalaua/ Pakalana.
9053	Keolohua	12.922	Mākua, Kahanahāiki	Kulaelawa; Kula mahi'ai in Kulaelawa.
9054	Manua	18.100	Mākua	Kalena; Kula mahi'ai in Kalena. Kahanahāiki Stream flows east to west through parcel.
9055:1, 2	Kanae	9.64	Kahanahāiki	'Āpana 1: Punapohaku; Kula mahi'ai in Punapohaku. 'Āpana 2: Keawaioe; House lot in Keawaioe.
9705	Hoewaa	14.931	Mākua	Haunouli; Kula mahi'ai in Haunouli.
9706:3	Kauhi	0.380	Mākua	Kihanau; House lot in Kihanau.
9707:1, 2	Puiwa	6.336	Mākua	Kihanau; No information available.
9708:2	Pulu	7.100	Mākua	Koiahi; Kula 'āina in Koiahi.
9709:1, 2	Kuli	14.967	Mākua	'Āpana 1: Kaawa; House lot in Kaawa. OR&L bisected this parcel; there's a spring that runs the length of the parcel to the east. 'Āpana 2: Loilima; Kula 'āina in Loilima. A stream flows through the northeast portion of the parcel.

* Acreages from Kelly and Quintal (1977:Tables 3 and 4, pp35–36).

** Descriptions adapted from Gollin et al. (2013:Table 1, pp18–21).

⁺ Within MMR project area.

the description of LCA 9055, associated with two ‘āpana bounded by the project area, which mentions a house within the smaller coastal parcel (9055:2) and “mahi‘ai” (farm) on the upland ‘āpana (9055:1) (see Table 4).

6.1.3.3 Agricultural and Subsistence History

An early historical account by Chamberlain from the 1820s describes Mākua as a small treeless coastal settlement planted with ‘uala and kō (Chamberlain, in Sterling and Summers 1978:84), and LCA documents from the 1840s and 1850s mention “kula” lands within the MMR project area and the broad geographical area (see Section 6.1.3.2). Fishing was also a form of subsistence for the coastal community as fisheries are shown extending one mile out to sea from the coastline in the ahupua‘a of Mākua and Kahanahāiki on an 1851 Hawai‘i Registered Map (see Figure 28).

The first recorded lease of Mākua Valley, General Lease No. 113, which included the MMR project area, was issued to Joseph and John Booth in 1864 (Kelly and Quintal 1977:39). The lease was transferred to Samuel Andrews after the deaths of the Booth father and son, and by 1873, Andrews was “ranching the entire area of approximately 4,200 acres of land,” including the ahupua‘a of Mākua, and raising pigs, cattle, and horses (Kelly and Quintal 1977:39, 45). Andrews built his family house at Kahanahāiki on the land parcel originally awarded as LCA 9053 to Keolohua (Zulick and Cox 2001:15). Andrews’ claim is illustrated on an 1876 map of O‘ahu (Figure 30). Andrews’ Mākua Ranch was described in Bowser’s 1880–1881 directory and tourists’ guide: “Here the hills recede again from the shore line, and the scenery is once more delightful. The soil is good; close to the homestead I saw growing as fine a patch of Indian corn as I could wish to see. . . In this vicinity I found an abundance of cacti, and on the mountains a grass called by the natives pili, celebrated for its durability when used for thatching purposes” (Bowser 1880:491). In addition to Mākua Ranch, Andrews built the first church in Mākua Valley, the Mākua Protestant Church, near the ocean in Mākua (Figure 31). According to an informant from the Kelly and Quintal (1977:70, 72) study, the original church was moved out of Mākua Valley and another wooden church was built in its place.

A portion of an 1899 map of O‘ahu provides a glimpse of the land use within the State-owned land at MMR and the broad geographical area: the Makua Sugar Company is illustrated in Mākua Ahupua‘a, along with a railroad, church, and school (Figure 32). Research to obtain further information about Makua Sugar Company or any sugar plantations within the State-owned land at MMR and the broad geographical area was unsuccessful; there are no records of commercial sugar production in Mākua Ahupua‘a. According to local informants, the lower portions of Mākua Valley were favorable for growing cucumbers, watermelons, pumpkins, sweet potatoes, cotton, tobacco, and corn (Kelly and Quintal 1977:55).

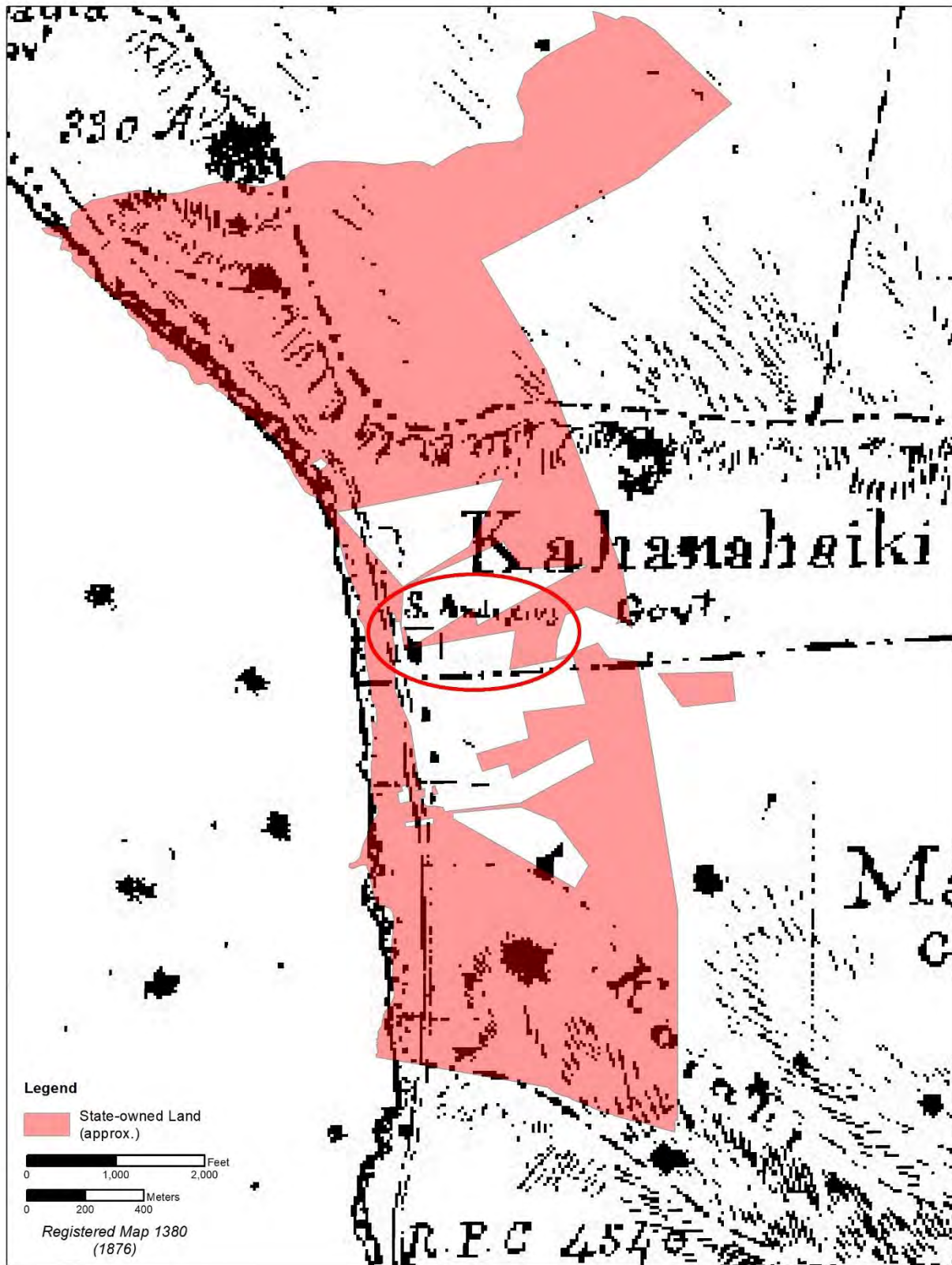


Figure 30. Portion of Hawai'i Registered Map 1380 (Lyons 1876) showing Samuel Andrews' homestead (circled in red) in 1876.

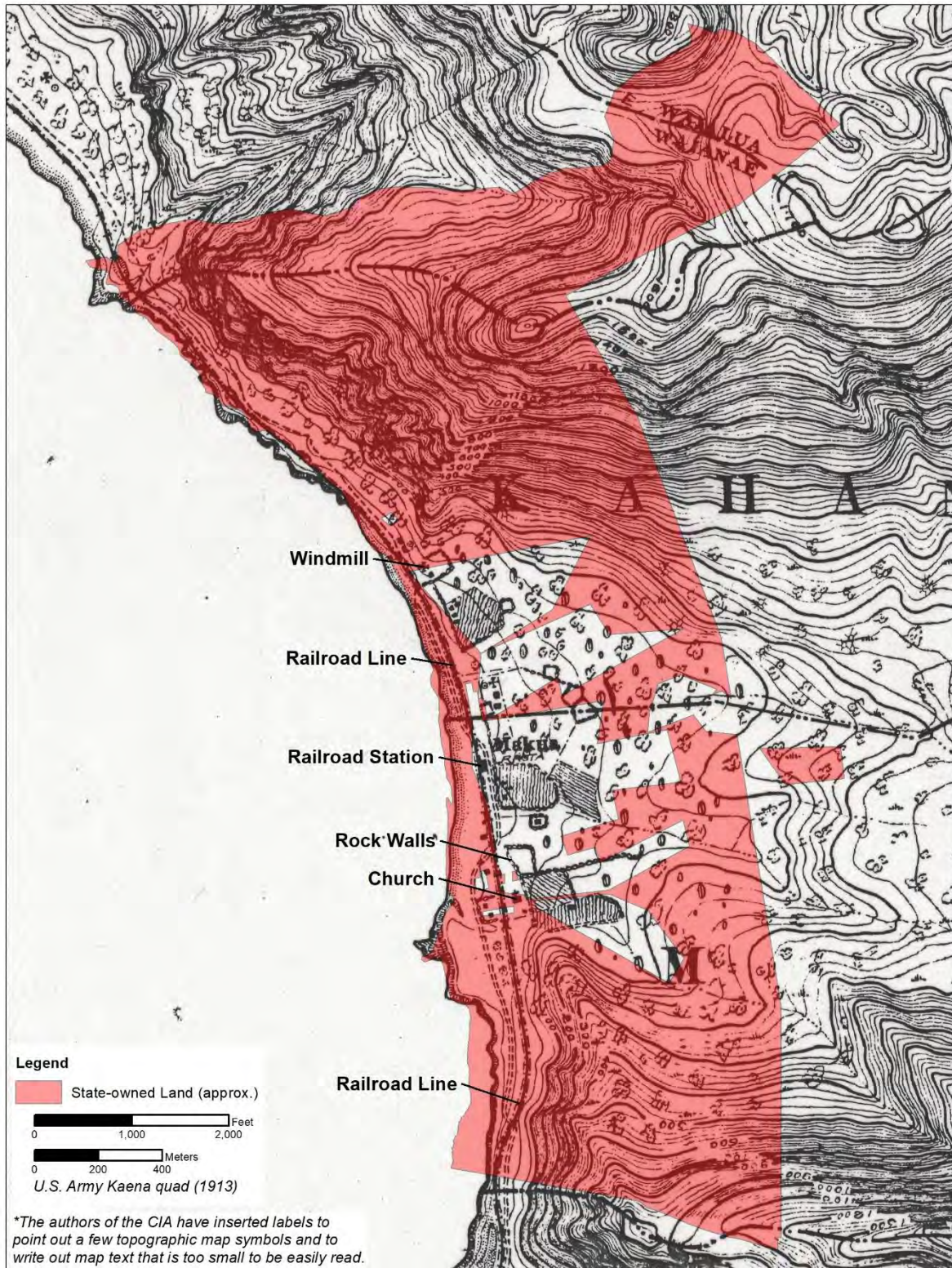


Figure 31. Portion of 1913 Army map showing agricultural fields, a church, windmills, rock walls, railroad line, and a railroad station (“RRSTA”) within and adjacent to the State-owned land at MMR.

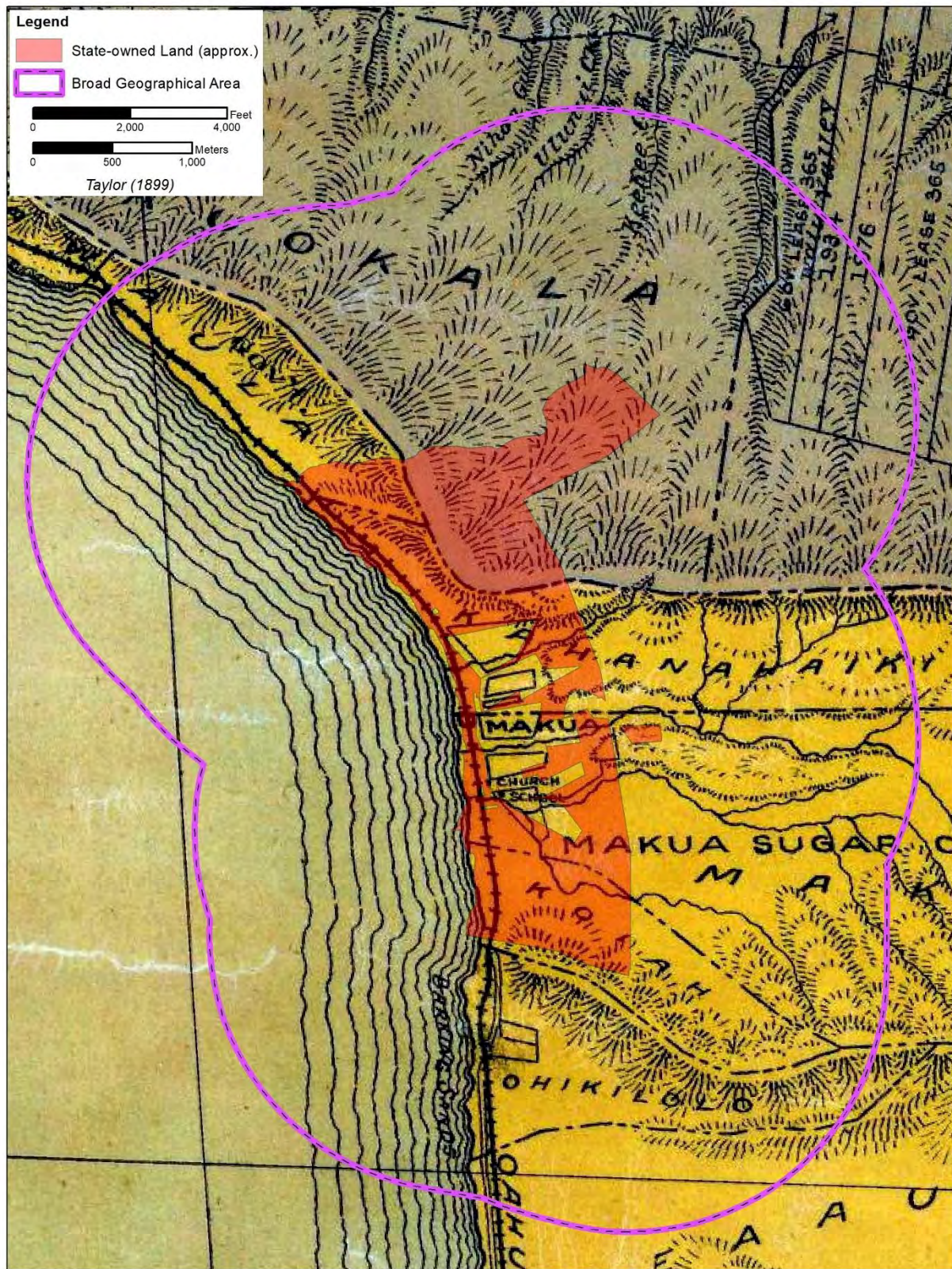


Figure 32. Portion of Taylor's (1899) map of O'ahu showing the State-owned land at MMR and the broad geographical area.

Lincoln L. McCandless took over the Mākua Valley lease on February 21, 1910 (Kelly and Quintal 1977:40). Except for a few years when it was leased to Frank Woods, the ahupuaʻa of Mākua and Kahanahāiki, including the MMR project area, remained under control of McCandless Ranch. During Woods' brief ownership of the lease, McCandless "obtained deeds to or interest in several kuleana lands" located in the ahupuaʻa of Keawaʻula, Kahanahāiki, and Mākua; McCandless owning land on Woods' ranch made Woods' operations difficult and led to McCandless retaking the Mākua Valley lease (Kelly and Quintal 1977:41). During the tenure of Mākua Ranch, cowboys were hired to rope wild cattle and exterminate wild pigs, which were both widespread in the hills and forests of Mākua Valley (Kelly and Quintal 1977:53).

During the Kelly and Quintal (1977:9, 10) study, a 1926 Hawaiʻi Registered Map showing LCA data for Mākua and Kahanahāiki was annotated by Adrian Silva, a foreman of Mākua Ranch (Figure 33). Silva indicated the locations of wells, windmills, shrines, buildings, and other notable features of the landscape during his time in the valley prior to the ranch's closure in the early 1940s. Agricultural fields were also noted which were based on information provided during interviews conducted by Kelly and Quintal (1977:19) (see Figure 33).

Railroad Construction in Mākua Valley

In 1888, Ben Dillingham began building a railroad along the coast in Waiʻanae, which was taken over by the Oahu Railway and Land Company (OR&L) in 1900 (Kelly and Quintal 1977:61). By 1903, the railroad right-of-way was surveyed through Mākua Valley, but it was a few more years before the railroad extended around Kaʻena Point and on to Kahuku (Kelly and Quintal 1977:61). The train station was located near the Mākua Ranch (see Figure 33).

The Japanese who lived in Mākua Valley in the 1900s were often railroad workers who built and maintained the tracks and cleared the large rocks that had fallen from Keawaʻula cliffs onto the tracks (Kelly and Quintal 1977:66); they lived in Railroad Section Camp No. 6, worked six days a week, and earned \$26 a month in the 1930s (Ushijima 1996:20). Many of the railroad workers grew vegetables or raised pigs and chickens to feed their families or to sell for extra money (Kelly and Quintal 1977:68–69). The railroad that ran through Mākua and the project area brought surplus vegetables, fish, and livestock from Mākua Ranch to markets in ʻEwa, Honolulu, and Waiʻanae, and slaughterhouses in urban centers (Kelly and Quintal 1977:59). The railroad and a railroad station are visible on a 1913 Army Kaena quadrangle map, along with agricultural fields, windmills, rock walls, and an unimproved road along the coast (see Figure 31).

Prior to 1936, there was a dirt road between Mākua and Waiʻanae. In 1936, the road was realigned and paved by the Territory of Hawaiʻi, and bridges were installed over the streams. According to Ushijima (1996:99), the hill in front of Kāneana Cave was cut by over 30 feet to level the road, and these cut marks were still visible in 1996 at the entrance to the cave.

6.1.3.4 Military History

The Army took over Mākua Valley, including the MMR project area, in 1942 and Mākua Ranch ceased operations. McCandless' leases on the land were suspended and cancelled, and the people living on McCandless' leased land were relocated. Ushijima (1996:100) describes what happened to the once thriving community:

. . . the railroad workers were relocated to the Waianae Section Camp at Pokai Bay in "kamaboko houses" (10' x 30' Quonset huts made of steel ribs and metal partitions); the Naiwis, Sam Puluole and Kala, and Agatha Naiwi Solomon were relocated into Quonset huts on the beach at Ohikilolo; and the Maeda family to a hastily built cottage in the kiawe bushes right below the Kaneana Cave in Ohikilolo. Thereafter, thousands of troops made amphibious landings along the beaches and assaulted the "enemies" inland . . . The only thing remaining is the Cemetery in the Makua Protestant Church property . . .

Land-use changes from the transition to a military presence in the MMR project area are illustrated by a comparison of the 1936 USACE and 1954 USGS Kaena quadrangle maps (Figure 34 and Figure 35). In 1936, the OR&L railroad, rock walls, fencelines, buildings, water tanks, a windmill, and other landscape features, within the MMR project area and the broad geographical area, are indicative of an agricultural and traditional subsistence community (see Figure 34). In contrast, by 1954, military reservations have taken the place of the residential and agricultural features, except for the cemetery (see Figure 35). The railroad is also no longer illustrated, as the tracks were damaged during the tsunami of April 1, 1946, and never rebuilt (Kelly and Quintal 1977:96). An improved "medium-duty" road running along the coast halfway through the Mākua Ahupua'a is now present on the 1954 USGS map along with new unimproved roads into Mākua Valley. The State-owned land at MMR is currently used by the military under a 65-year lease (State General Lease No. S-3848), which was executed on August 17, 1964 (DLNR 1964c).

6.1.4 Previous Ethnographic Interviews

Four previous ethnographic studies have been completed that provide contextual information for the MMR project area: Kelly and Quintal (1977), Ushijima (1996), Maly and Wilcox (1998), and Gollin et al. (2013).

In 1977, the Anthropology Department at Bishop Museum prepared a comprehensive study on the cultural history of Mākua Valley at the request of the USACE (Kelly and Quintal 1977). The study conducted archival research for an extensive historical background and collected oral histories from twenty-two people through fifteen interviews.

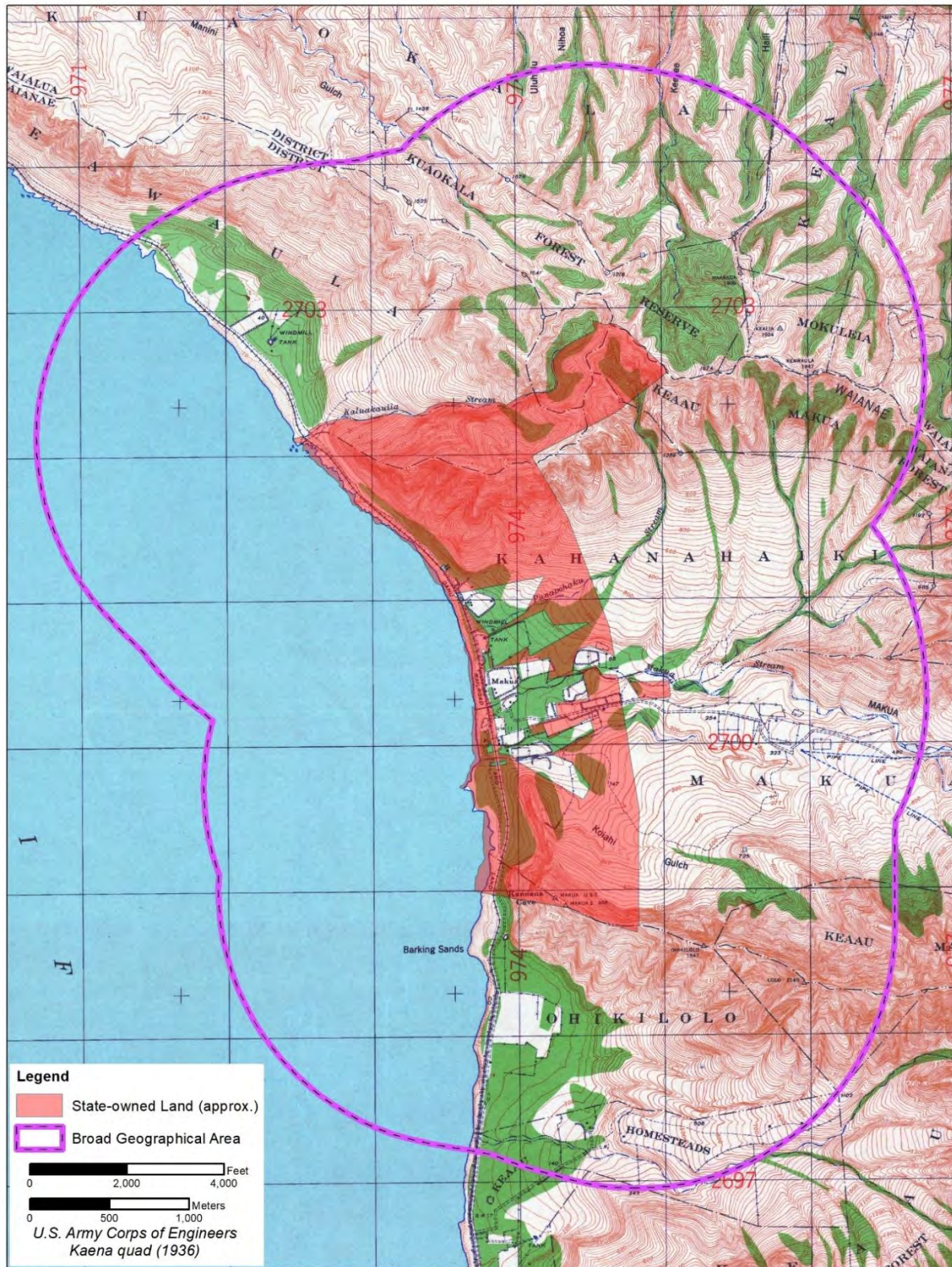


Figure 34. 1936 USACE Kaena quad showing OR&L railroad, rock walls, fencelines, a windmill, water tanks, and other landscape features within the State-owned land at MMR and the broad geographical area.

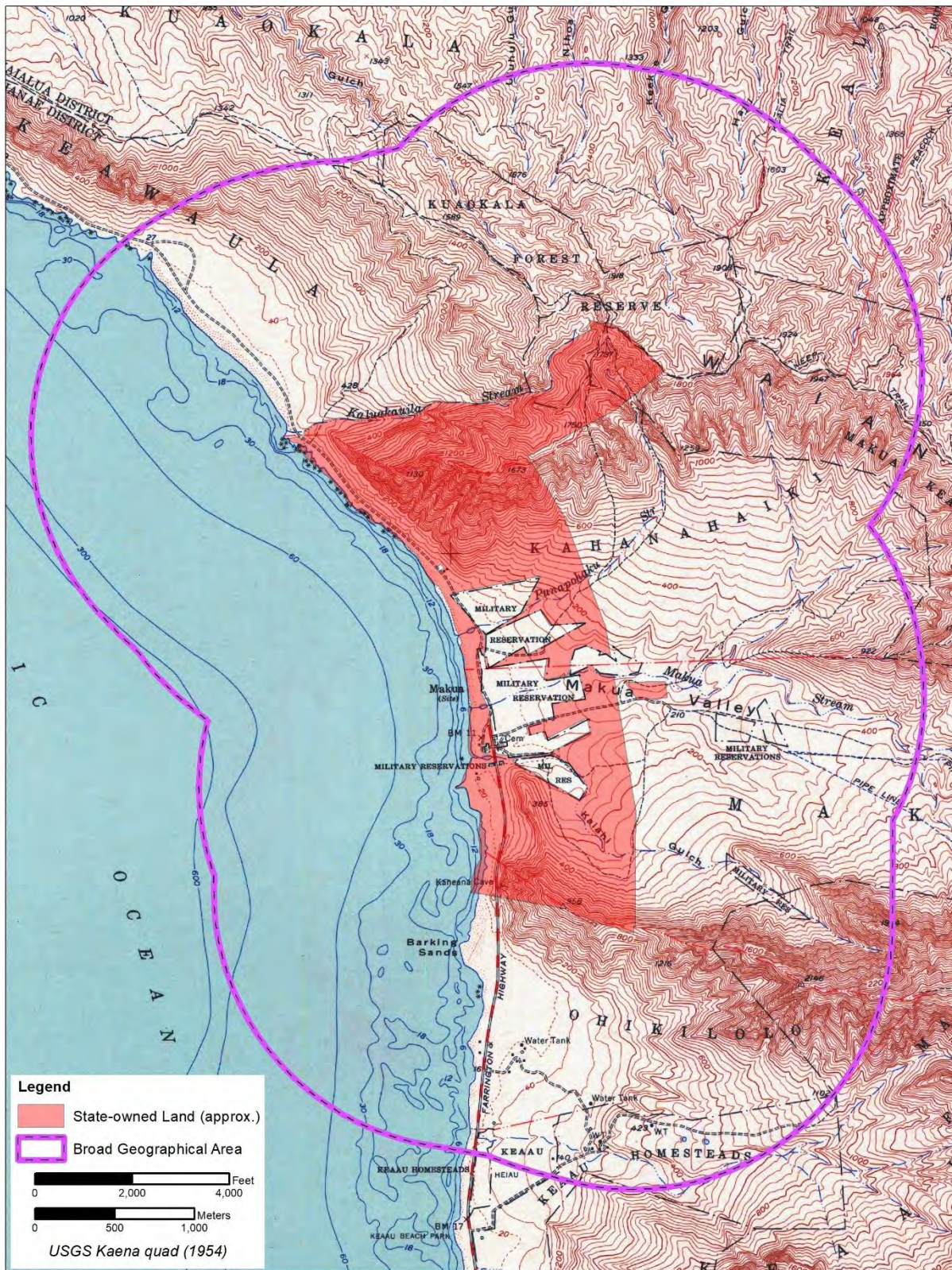


Figure 35. 1954 USGS Kaena quad showing new military reservations where residential and agricultural features were once present on 1936 USACE map.

Informants in the Kelly and Quintal (1977) study identified the following practices within the Mākua area:

- Agriculture: ‘Uala, cucumber, watermelon, cotton, corn, pumpkins, and tobacco.
- Ranching: Roping wild cattle, raising cattle and chickens, riding horses, and pumping water for cattle.
- Fishing: ‘Opelu (mackerel scad, *Decapterus macarellus*), moi (Pacific threadfin, *Polydactylus sexfilis*), āholehole, manini (convict tang, *Acanthurus triostegus*), rock cod (*Sebastes alutus*), ‘ōpae (red shrimp, *Halocaridina rubra*), mullet (*Mugil cephalus*), ‘alamihi, ‘o‘opu, ‘ō‘io (Hawaiian bonefish, *Albula virgata*), goldfish (*Carassius auratus*), .akule, uhu (parrotfish, *Scarus perspicillatus*), kūmū (goatfish, *Parupeneus porphyreus*) and ‘oama (goatfish, Mullidae), nenu (Hawaiian chub, *Kyphosus hawaiiensis*), ‘aweoweo (Hawaiian bigeye, *Priacanthus meeki*), pipipi (bivalve mollusc, Bivalvia), kūpe‘e (edible marine shell, *Nerita polita*).
- Pa‘akai (Hawaiian sea salt) gathering.

An informant mentioned the presence of pheasants, peacocks, Hawaiian doves, wild dogs, and mongoose in the area (Kelly and Quintal 1977:Appendix A, Interview No. 1, p8). A former cowboy recalled the presence of lantana (Verbenaceae), “clew,” panini (peony), and cactus; according to the informant, clew is “that sticky stuff you put under your feet. . . The kind they used to bite, you rub on your tongue. . . For eat or something. Good medicine” (Kelly and Quintal 1977:Appendix A, Interview No. 1, p6). Additionally, another informant’s grandfather had an encounter with the fish goddess Hina near Mākua Cave, who told him the land will never be without fish (Kelly and Quintal 1977:Appendix A, Interview No. 4 [Part 1], p3).

The study also recorded additional information about Ko‘iahi (Kaiahi). Ko‘iahi, where kukui nut trees (candlenut tree, *Aleurites moluccana*) and the maile lau li‘i grow, is said to have had a cave that connected with Kāneana Cave; it has since been closed (Kelly and Quintal 1977:Appendix A, Interview No. 2, pp4–5). A Japanese farmer grew papayas and pumpkins in Ko‘iahi; coffee, kō, kalo, oranges, and lemons were also grown there (Kelly and Quintal 1977:Appendix A, Interview No. 14, pp4,14). An informant shared they did not see sandalwood in Ko‘iahi but believed they may have been grown a long time ago; after heavy rainstorms, the informant could sometimes see pieces of sandalwood on the beach (Kelly and Quintal 1977:Appendix A, Interview No. 14, p14). One informant shared the following mo‘olelo legend associated with Ko‘iahi, “In that stream [Ko‘iahi] is the lizard, the one that meets the shark god. She flies down when it rains, “Mo‘o Ko‘iahi.”” (Kelly and Quintal 1977: Appendix A, Interview No. 4 [Part 2], p1).

The study also noted the practice of gathering pa‘akai at Kalaepa‘akai in ‘Ōhikilolo, south of the project area (Kelly and Quintal 1977: Appendix A, Interview No. 2, p2). Another informant told of gathering pa‘akai on the reef which was accessed via a small entrance “just before” Kāneana Cave, possibly within the

project area (Kelly and Quintal 1977: Appendix A, Interview No. 4 [Part 1], p3). The salt was gathered in many ways, including in salt pans or by gathering it from the shoreline.

At the time of Kelly and Quintal's study, the gathering of pa'akai had ceased (Kelly and Quintal 1977:4):

Sea salt, once an important coastal resource, is neither made nor gathered from the coral-shelf areas any longer, mainly, informants say, because of pollution from soil erosion, and garbage and trash left by careless shoreline-users who no longer respect the area as a source of that important food.

Tetsuro Ushijima grew up in Mākua Valley during the late 1920s and 1930s and wrote a booklet about his time there, which includes interviews with residents of the valley and hand-drawn maps showing the locations of important houses, fields, and other landmarks, some of which are located within the MMR project area (Figure 36). During Ushijima's time in Mākua, Japanese, Hawaiian, and Filipino families were living in Mākua and nearby areas, many within the Section Camp No. 6 and La'ihau, a group of homes located about a half mile south of the railroad camp and likely just outside the State-owned land at MMR (see Figure 36). In the 1930s, there was still no electricity and only one phone in the valley; water was drawn from a 20-foot deep well and most of the food consumed by the residents was grown on the land, including "mangoes, guava, berries, figs, or local oranges" (Ushijima 1996:81). Salt was collected from the rocks in front of Kāneana Cave, which was "famous for its salt from ancient Hawaiian times" (Ushijima 1996:82). On New Year's Eve, the Japanese in Mākua would get together and pound mochi for the New Year's celebration the next day (Ushijima 1996:84). Ushijima (1996:70) also describes the marine resources near Mākua Beach:

. . . at one time had lots of fish, lobster, crab and limu along the rocks at both ends of the beach and in between. During the seasons, there were thousands of moilii [moi], papio [white ulua, *Caranx ignobilis*] and akule. There used to be several moi holes at both ends of the beach, but my favorite was the one about 500 yards Kaena of the Kaneana Cave. There were three holes along the rocky ledge that opened to a cave below. . .

Maly and Wilcox (1998) prepared an ethnographic study as part of a larger Environmental Assessment (EA) to assess the cultural significance of Mākua Beach and potential impacts of Marine Corps amphibious training on cultural resources and the affected community. Their project area is situated at the makai end of the current MMR project area. The authors conducted archival research and seven oral history interviews with individuals with genealogical ties to the project area or firsthand knowledge or experience with the community and cultural significance of the area. The following specific cultural practices were noted by interviewees as occurring within the project area:

- Past and present gathering and subsistence practices, such as fishing that occurred not only at the beach but along streams.

- Ceremonial practices associated with the god, Kanaloa, and with Hawaiian ancestral burials and mortuary rituals, such as scattering ashes of notable Native Hawaiians.

Cultural resources located in the project area include the community's church, canoe house, ko'a, kuahu (altar), and the beach and nearby coastal waters (Maly and Wilcox 1998:R-18,R-20).

Informants also shared the profound connection between the Mākua community and the natural resources of the land and waters of Mākua, but that this was "largely broken with the advent of the WWII, the removal of the people, the destruction of physical structures such as homes and the church, and the denial of access" (Maly and Wilcox 1998:R-18).

Gollin et al. (2013) prepared a Traditional Cultural Places (TCP)/Ethnographic Report for the MMR. The authors conducted a review of existing background literature, interviews with knowledgeable cultural informants, identification and interpretation of cultural resources and associated boundaries, and recommendations for TCP determinations within the MMR. The authors targeted three informant categories: lineal and cultural descendants from Mākua, cultural descendants from the broader Wai'ānae Coast with a family history of seasonal/occasional use of Mākua, and the broader community of Hawai'i who use resources in Mākua or who have developed a personal connection with the land.

The authors interviewed over twenty individual informants and community groups, which yielded myriad cultural resources, practices, and beliefs associated with the project area (see Gollin et al. 2013:53–78 for in-depth results of the interviews). The results of the study yielded four major themes from archival and informant data, including the community's genealogical connections to Mākua, sacred and ritual connections with Mākua Valley, place-based connections, and the interconnectedness of natural and cultural resources (Gollin et al. 2013:78–117). A response from one of the study's informants evidences the deep genealogical and place-based connections that characterize Native Hawaiian associations with the land:

Makua being the land of creation of our kupuka'āina people. Kupu means the fern. We are called "fern people" because we came before the taro people. The kalo [taro]—Haloanaka [the stillborn child of Wākea (the sky father) and his daughter Ho'ohokukalani (daughter of Pāpā, the earth mother), buried near the house and grew into a taro plant, considered the elder sibling of the Hawaiian people] . . . We're the kupu. Because if you go to the volcanoes . . . it's the kupu that sprouts from the land. You don't have to bring the taro from Tahiti or anywhere else. Uncle Jay Landis, Uncle Albert Silva's cousin, hanai brother, he was the one who taught us about the term and corrected us not to change the name because we tried to use a more modern term, which is "kupaka'āina" which means, "keeper of the land." He corrected us and said, "No, we're not kupa, which means the caretakers of the land. We're kupuka'āina." He said, "We're the lineal descendants." [Gollin et al. 2013:79]

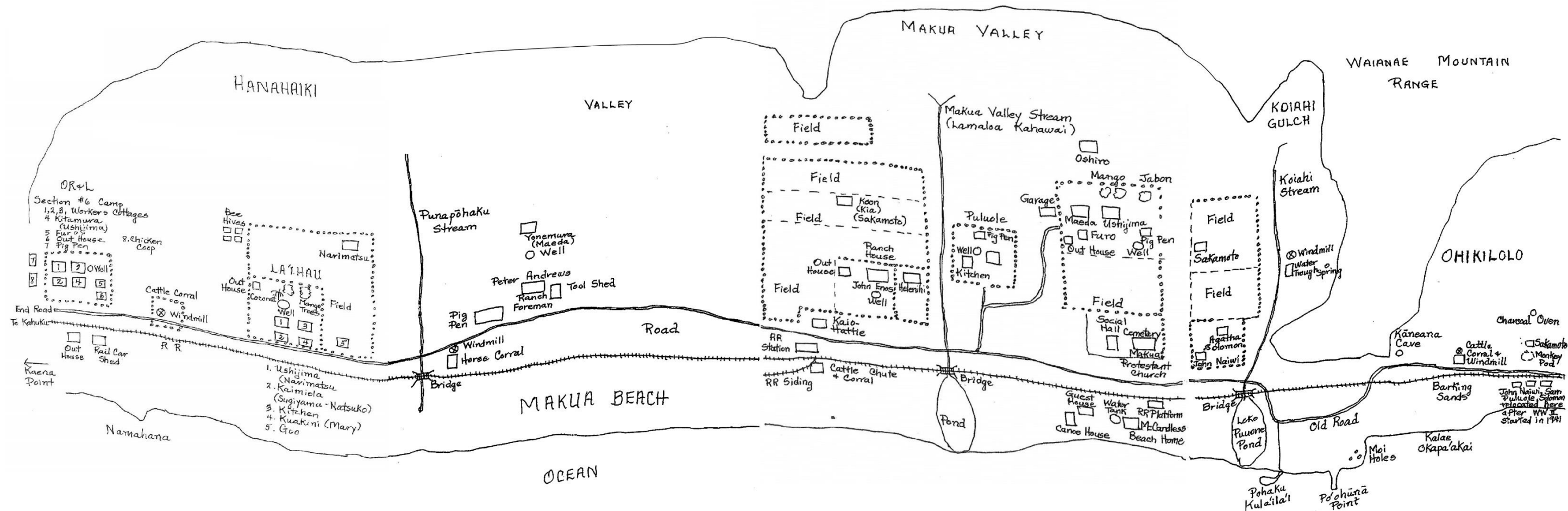


Figure 36. Hand-drawn maps (not to scale) by Tetsuro Ushijima showing homes, fields, and other landmarks within Mākua and Kahanahāiki, including the MMR project area, during the early twentieth century up to 1941 (adapted from Ushijima 1996:64–67). Note, north is toward the left.

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This statement conveys the deep cultural and ancestral affiliation with the land and resources in Mākua. The oral history of “fern people before taro people” is not only enriched with lineal ties to ancestors of Mākua but is also epistemologically indicative of Native Hawaiians’ scientific based principles to horticulture and the environment.

6.2 ONLINE SURVEY AND INTERVIEWS

Individuals and organizations with potential expertise and knowledge of cultural resources, practices, and beliefs relevant to the project area were given an opportunity to participate in an online survey as well as one-on-one interviews. The following sections summarize the responses received during this outreach process.

6.2.1 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. Appendix B presents full questions and responses to this survey. The survey for the MMR project area received a total of seven respondents (note, however, that some questions were skipped and did not receive responses from all seven respondents). These respondents expressed knowledge of cultural resources, practices, and beliefs within the area and noted the following as being pertinent to the project area: the practice of sharing mo’olelo, inoa ‘āina, traditional agriculture, traditional gathering, and ceremonial practices. Survey respondents also shared several Native Hawaiian beliefs associated with the project area. These are summarized below.

Mo’olelo associated with the MMR project area and mentioned by survey respondents include the mo’olelo of Papa and Wākea. One respondent related the story that Kamehameha called Mākua “barking sands” because of the sound the waves make upon hitting the beach.⁵ There were also numerous inoa ‘āina mentioned by survey respondents for the MMR project area and the broad geographical area.

Traditional agricultural practices were mentioned by survey respondents as practices that used to occur in Mākua Valley. One survey respondent wished such activities could continue within the valley.

Traditional gathering for native plants for lā‘au lapa‘au was mentioned by survey respondents. Another respondent commented on the nearby beach being used for subsistence fishing, and that the fish, octopus, and crustaceans are hunted to make Traditional Hawaiian dishes.

Ceremonial practices were also alluded to through the mention of heiau and burials located within the MMR project area.

⁵ Other Native Hawaiians have asserted different mo’olelo for this place.

Lastly, one informant shared the Native Hawaiian belief that Mākua is the birthplace of man as well as the place where souls depart for the afterlife. Another survey respondent shared the belief that Mākua is a healing place.

6.2.2 Interview Responses

One-on-one interviews were conducted with ten individuals associated with the MMR project area (Table 5). 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 D. The current section lists the cultural resources, practices, and beliefs each interviewee mentioned that pertained to the State-owned land at MMR and the broad geographical area. For a list of effects to cultural resources, practices, and beliefs from continued military activity in the MMR project area as identified by interviewees, see Section 6.4. For a list of the interviewees' mitigation recommendations for the MMR project area, see Section 9.2.3. Biographical information for each interviewee is provided in Section 2.2.2.1.

Table 5. Individuals Interviewed for MMR Project Area

INTERVIEWEE	INTERVIEW TYPE
Mr. William J. Ailā	Telephone
Mr. Peter Apo	Telephone
Mr. (Norman) Mana Kaleilani Cáceres	Telephone
Mr. Eric Enos	Telephone
Mr. (Nathan) Keola Grace	Telephone
Mr. Neil J.K. Hannahs	In person
Mr. Allen Hoe	Telephone
Mr. Kyle Kajihira	Telephone
Mr. Thomas Lenchanko	Telephone
Mr. Christophor Edward Oliveira	Telephone

6.2.2.1 Mr. William J. Ailā

The interview with Mr. William J. Ailā was conducted by Mr. Sproat from Honua Consulting, LLC on July 6, 2022. Mr. Ailā shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Ailā said “one important resource is a spring, which has been covered up by military infrastructure but then found again after a fire”; however, he did not provide a specific location for this spring.
- Mr. Ailā noted Mākua Stream as a perennial water resource. Mr. Ailā recounted a story of “catching ‘o‘opu in the stream” in the 1970s, but “he hasn’t seen any since.”
- Mr. Ailā noted the rich ocean waters of Mākua contain “many schools of fish and even pelagic fish that helped feed the inhabitants of Mākua.” He mentioned “there is also limu along certain parts of the shoreline.”
- Mr. Ailā mentioned the presence of native plants in the back of Mākua Valley, including maile, ‘ōhi‘a ‘ai, kauila, and native ferns; however, the authors remind the reader that the back of Mākua Valley is outside of the current study’s broad geographical area for the MMR project area. He also “mentioned there are orange trees from the original kuleana lands and many more critically endangered native plants in the area, as well as a snail enclosure.” However, he did not provide specific locations for these resources.
- Mr. Ailā explained “that there are pueo in the area,” but he did not indicate whether the pueo were within the State-owned land at MMR.
- Mr. Ailā noted that “there are at least three heiau in the lower portion of the valley” and “this area is associated with the mo‘o, La‘ila‘i.”

Cultural Practices and Beliefs

- Mr. Ailā noted that “they have been doing Makahiki ceremonies since 2001 in each ahupua‘a in the area.” He further stated, “the purpose of these ceremonies is to restore positive mana and energy across the ahupua‘a.”
- Mr. Ailā stated there are “stories of family ‘aumakua in the form of a shark along the shoreline.”
- Mr. Ailā mentioned the “gathering maile and other plants also occurs in the valley today.” and “that pig hunting remains a very common cultural practice in the area.”
- In the mauka areas, “people buried their babies’ placentas”; however, the authors remind the reader that the mauka areas are outside of the current study’s broad geographical area for the MMR project area.
- Mr. Ailā noted that “his uncle’s father was the pastor, and he went inland to collect thatching material and wood to construct the church.” However, he did not provide a specific location for this collection area.

6.2.2.2 Mr. Peter Apo

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

Cultural Resources

- Mr. Apo did not recall specific resources in Mākua Valley, but he “acknowledged that there were multiple sites that have to do with ‘wahi pana’ (‘sacred lands’), customs and traditions that had to do with how the land was treated, and in the ahupua‘a system how the land was assigned.”

Cultural Practices and Beliefs

- Mr. Apo shared “no knowledge of any cultural practices and beliefs associated with the State-owned land at MMR or the broad geographical area.”

6.2.2.3 Mr. (Norman) Mana Kaleilani Cáceres

The interview with Mr. Cáceres was conducted by Mr. Sproat from Honua Consulting, LLC on June 13, 2022. Mr. Cáceres shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Cáceres discussed how Mākua Valley “as a whole is a unique and significant cultural resource.”
- Mr. Cáceres shared that “during his time in the valley as a cultural monitor, he learned that Mākua Valley contains many cultural resources including natural springs, ki‘i (petroglyphs), ahu (shrines), native plants including maile, as well as significant cultural sites.” However, he did not provide specific locations for these resources.
- Mr. Cáceres listed freshwater sources, ki‘i, and other cultural structures like ahu as “resources connected to cultural practices.”
- Mr. Cáceres named “maile as a significant resource” in Mākua Valley.

Cultural Practices and Beliefs

- Mr. Cáceres mentioned lei making with maile collected in Mākua Valley.
- Mr. Cáceres “knows of hunters who access the lands around Mākua to hunt.”
- Mr. Cáceres stated “one tradition connected to the area is gathering medicinal plants.”

6.2.2.4 Mr. Eric Enos

The interview with Mr. Eric Enos was conducted by Mr. Sproat from Honua Consulting, LLC on June 12, 2022. Mr. Enos shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Enos shared “there are many cultural sites as well as native species” within Mākua Valley; however, he did not provide specific locations for these resources.
- Mr. Enos stated Mākua Valley “is part of this valuable watershed” and water is a “significant cultural resource in Mākua” that needs protecting “in addition to

the actual valley.” Mr. Enos further stated, “Mākua Valley houses different springs and water sources.”

- Mr. Enos mentioned “ocean resources, including limu and fish, are culturally significant in this area.”

Cultural Practices and Beliefs

- Mr. Enos said that Makahiki ceremonies have been held “in Mākua Valley for the past 18 or so years.”
- Mr. Enos mentioned how “Ka’ala Farm works to uphold cultural practices in the area including kalo farming.” Kalo farming and other cultural practices rely on “the watersheds that start in the mountains in the back of the valley and feed into the larger system.” However, Mr. Enos did not provide specific locations for these practices.
- Mr. Enos shared significant place names in the MMR project area and the broad geographical area, including Ko’iahi, Kahanahāiki, and Kuaokalā. “Ko’iahi and Kahanahāiki are the different parts of the valley, and Kuaokalā is the ridgeline of Ka’ala.”
- Mr. Enos discussed “how fishing in the waters outside of Mākua Valley” is a cultural practice with “families using this area for fishing for generations.” He described “these coastlines as an active recreation area where people practice fishing and other ocean resource practices.” He further stated that “the coast outside of Mākua is one of the best fishing sites in the moku (district),” and “Mākua Beach has a long coastline making it an ideal fishing site.”
- Mr. Enos explained that “Mākua was once a fishing village, and it is connected to the deep-sea fishery outside of Ka’ena.”
- Mr. Enos stated that at one time the coastlines in the area, including Mākua, were “known for being productive with ahi, opelu, akule, and larger migratory species.”
- Mr. Enos shared that “Mākua is connected to certain creation stories, like Kūla’ila’i,” and “some of the springs and water sources within Mākua are connected to Kūla’ila’i and these traditions.”

6.2.2.5 Mr. (Nathan) Keola Grace

The interview with Mr. Grace was conducted by Mr. Sproat from Honua Consulting, LLC on May 11, 2022. Mr. Grace shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Grace mentioned “Mākua Cave as a significant cultural resource in Mākua.”

Cultural Practices and Beliefs

- Mr. Grace discussed how surfing, farming, and ranching are cultural practices connected to Mākua. However, he did not provide specific locations for these practices.

6.2.2.6 Mr. Neil J.K. Hannahs

The interview with Mr. Hannahs was conducted by Mr. Sproat from Honua Consulting, LLC on June 20, 2022. Mr. Hannahs shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Hannahs stated that fish and limu were important cultural resources.
- Mr. Hannahs shared that he considers “rain and wind as cultural resources and that you are shaped by your environment.”

Cultural Practices and Beliefs

- Mr. Hannahs expressed that “it is limiting to think of the MMR project area in terms of a single valley.” He further stated that “there are many valleys, and as a result you must view it in its entire context.”
- Mr. Hannahs talked about “a Native Hawaiian viewpoint which does not view the land as merely terrestrial, but also includes the ocean and the heavens.” He noted, “the symbiotic relationship between these realms.”

6.2.2.7 Mr. Allen Hoe

The interview with Mr. Hoe was conducted by Mr. Sproat from Honua Consulting, LLC on June 14, 2022. Mr. Hoe shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Hoe mentioned Mākua Cave is “considered an important cultural resource.”

Cultural Practices and Beliefs

- Mr. Hoe shared that he “does not have any familial or personal knowledge regarding the cultural practices and beliefs associated with Mākua Valley.”

6.2.2.8 Mr. Kyle Kajihiro

The interview with Mr. Kajihiro was conducted by Mr. Sproat from Honua Consulting, LLC on June 15, 2022. Mr. Kajihiro also submitted a response via email attachment on behalf of Hawai‘i Peace and Justice (of which he is a Board member) and Koa Futures. A summary of the cultural resources, practices, and beliefs within this letter is provided in Section 4.2.2.6 and the full letter is provided in the scoping comments in Appendix E of the O‘ahu ATLR EIS. Mr. Kajihiro shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Kajihiro listed these cultural resources: “Ukanipō Heiau, which is on the Ka’ena side of Mākua; Kumuakuopio Heiau on the eastern side of the valley; a site that may have been heavily disturbed near the center part of Mākua that Mr. Kajihiro could not recall the name of; Kāneana Cave, which went all the way down to the sea prior to the road cut along with many stories relating to Maui Hina and a shark deity that are associated with that sea cave; Mailelauli’i, which was very well known and documented in stories from Ko’iahi Gulch; and a punawai (natural fresh water spring) documented by Marion Kelly in her 1977 report [Kelly and Quintal 1977] and rediscovered by kupuna Walter Kamana on a cultural access tour.”
- Mr. Kajihiro stated that “there are also ko’a along the shoreline but is unaware of their exact location.”
- Mr. Kajihiro mentioned three modern ahu inside the MMR boundary and within the broad geographical area of the State-owned land at MMR; however, due to their contemporary age, these ahu are not included in the discussion of cultural resources for the current study.

Cultural Practices and Beliefs

- Mr. Kajihiro recalled that “Mākua Valley was known historically as an important fishing site” with “a very robust fishing area.”
- Mr. Kajihiro stated that he spoke “to kūpuna who have lineal ties to Mākua Valley and who speak of family burials within the valley.” However, he did not provide specific locations for these burials.
- Mr. Kajihiro shared mo’olelo of the shark god [Nanaue] who resided in Kāneana Cave, within the MMR project area. Mr. Kajihiro recounted that “when there were rains and the sea was rough, the shark god would come down from the cave into the ocean and rendezvous with a mo’owahine from Ko’iahi. When the heavy rains filled the muliwai, it would turn the river water green and enter the ocean near a stone called Kūla’ila’i. The entrance of the river water into the ocean would cause rough, turbulent seas that were believed to be the result of their romantic rendezvous and lovemaking.”
- Another mo’olelo shared by Mr. Kajihiro was from a collection of mo’olelo collected by Kepā Maly of Hi’iaka and Lohi’au traveling from Kaua’i and landing at Mākua. “Hi’iaka would chant a greeting to many of the landscape features in the area including pōhaku features. These features were personified by Hi’iaka as akua or family members as she chanted to these features. At a swimming area known as Kilauea located between Keawa’ula and Mākua, a young woman from Mākua dove into the ocean and struck the rock that mysteriously appeared and killed her. When Hi’iaka saw this woman, she resuscitated this woman on the shores of Mākua Beach with a chant to Kanaloa and Kāne to bring life back to the woman. Hi’iaka told the parents of this woman that the plants or lā’au lapa’au in Mākua Valley could be used medicinally to heal the woman. The stone which initially killed the woman was a kupua [demigod] that had become evil; its name was Pōhakuloa. Pōhakuloa

was jealous of the girl because she had rejected his romantic affections. Knowing that Pōhakuloa could continue to harm the people and area of Mākua, Hiʻiaka entered the ocean to battle this kupua. Pōhakuloa turned himself into the form of a shark. During the battle, a waterspout shot out of the water over Kuaokalā, indicating that Hiʻiaka successfully defeated Pōhakuloa. The grateful community of Mākua celebrated Hiʻiaka’s success with a huge feast.” Mr. Kajihiro asserted that this story “suggests the abundance of resources in Mākua at that time with ample food and labor.”

- Mr. Kajihiro noted that “Mākua was known as a place of healing with the abundance of lāʻau lapaʻau in the valley.”

6.2.2.9 Mr. Thomas Lenchanko

The interview with Mr. Lenchanko was conducted by Mr. Sproat and Dr. Watson-Sproat from Honua Consulting, LLC on May 10, 2022. Mr. Lenchanko shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Lenchanko stated Mākua Valley is “a significant cultural property and part of the kaʻānaniʻau system.”
- Mr. Lenchanko discussed how “there are several heiau in Mākua Valley and that the valley carries significant places like Koʻiahi where the famous maile lau liʻi once grew.” However, he stated that he “is unsure of what cultural resources remain in Mākua.”

Cultural Practices and Beliefs

- Mr. Lenchanko shared that he was taught Mākua is the “vein of creation.” He discussed how “it is a place that connects us back to our origins” and how this “connection to invisible land” is “in reference to Hawaiians maintaining a connection to their ancestral lands.”

6.2.2.10 Mr. Christophor Edward Oliveira

The interview with Mr. Oliveira was conducted by Mr. Sproat from Honua Consulting, LLC on June 5, 2022. Mr. Oliveira shared the following information on cultural resources, practices, and beliefs:

Cultural Resources

- Mr. Oliveira shared that “the entire valley is a cultural resource including intangible resources like sunrise and sunset times, observation of seasonal changes, and the entire cultural landscape.”
- Mr. Oliveira mentioned that there are burials “near the graveyard and the church.” He also named “Kuihelani, Kalaeopaʻakai, and Poʻohuna as burial grounds and sites connected to iwi kūpuna.” These locations are within the broad geographical area of the MMR project area.

- Mr. Oliveira stated that “maile lau li’i and loulu (fan palm, *Pritchardia* spp.) are significant plants connected to Mākua Valley,” and “these resources are famed in chants and traditions connected to Mākua.”

Cultural Practices and Beliefs

- Mr. Oliveira shared that the three valleys, Kahanahāiki, Ko’iahi, and Mākua, were called “Nā Mākua” collectively. Mr. Oliveira further stated that “the area from Mākaha to Ka’ena was known as Kānehunamoku.”
- Mr. Oliveira mentioned that “La’ihau, Kanipō, Kumuakuopio are all names of temples in the area.”
- Mr. Oliveira explained that “his kūpuna emphasized the importance of place names and going to those places to learn about them and their traditions.”
- Mr. Oliveira referenced “Mākua Valley’s cultural significance in chants like Kūnihi Ka’ena and Kahuli Ka’ena, uttered by Wahine’ōma’oma’o. Three valleys are named in these chants: Nā ‘Ōhikilolo, Nā Mākua, and Nā Kea’au.” Mr. Oliveira further stated that “in a tradition of Hi’iakaikapoliopole, these three valleys were princesses who slept with Lohi’au and became known for their fragrant flowers.”
- Mr. Oliveira mentioned that “Ko’iahi is known for its maile lau li’i and Kea’au for its hala.”
- Mr. Oliveira named some mo’olelo connected to Mākua, including “the stories of Hi’iaka and Lohi’au, Ko’iahi, and Nanaue.” He explained, “how Mākua embodies these mo’olelo and chants, revealing them in its mountains and landscapes.”
- Mr. Oliveira shared that “Mākua was a place of origin for ali’i,” and the “ali’i were sent from Mākua to rule different places throughout the islands.” He stated that “these traditions come from the Nāmū genealogy.”
- Mr. Oliveira mentioned “how place names throughout the islands are inspired by place names from Wai’anae and Mākua.”

6.3 IDENTIFIED CULTURAL RESOURCES, PRACTICES, AND BELIEFS

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

6.3.1 Summary of Data Obtained from Archival Research

The State-owned land at MMR and the broad geographical area have a rich archival history of cultural resources, practices, and beliefs. A few of the mo’olelo that exist are for Mākua Valley as the meeting place of Papa and Wākea, Mākua Beach as a place where Hi’iaka landed a canoe and partook of a welcoming feast, and Kāneana Cave, located within the MMR project area, as the dwelling place of shark

deities and a place of offering for ‘aumākua. Inoa ‘āina are also known for the broad geographical area, including for streams and unique landforms.

Archaeological sites within the MMR project area speak to the range and extent of traditional practices that occurred within the State-owned land at MMR, such as noho, uhau humu pōhaku, traditional agriculture (‘uala farming), and ceremonial practices, including those associated with the Ukanipō Heiau (Site 0181).

Other traditional practices recorded within the broad geographical area include travel via overland trails as well as canoe; fishing within the ocean and the valley streams for aku, ‘ahi, āholehole, ‘o‘opu, ‘ōpae, and black ‘alamihi crabs; and traditional resource gathering, including for lā‘au lapa‘au and collection of pa‘akai. Many of these were also practiced into the Historic Period.

Subsistence farming and gathering continued in the MMR project area into the twentieth century, along with the addition of ranching. Japanese railroad workers entered Mākua Valley in the early twentieth century and engaged in subsistence farming and traditional gathering practices, such as for salt. Hawaiian families continued to practice traditional customs and traditions in the MMR project area and the broad geographical area, including leaving offerings for their ‘aumākua at Kāneana Cave, praying at heiau and other spiritual sites, constructing fishing shrines, and caring for iwi kūpuna. Many of these practices were halted when the Army took over and closed the Mākua Valley in the mid-twentieth century and relocated the traditional community.

6.3.2 Summary of Data Obtained from Survey and Interviews

Data obtained from this project’s initial community outreach and online survey yielded information about the sharing of mo‘olelo, inoa ‘āina, traditional agriculture, traditional gathering, and ceremonial practices as being significant to the project area. Survey respondents also shared several Native Hawaiian beliefs associated with the project area, such as Mākua Valley itself (including the project area) being a sacred space, a place of healing, the place where souls are believed to depart for the afterlife, and the place where man was first created.

Ten individuals were interviewed for information on cultural resources, practices, and beliefs occurring within or associated with the MMR project area and the broad geographical area. Interviewees corroborate and reinforce results obtained from archival research and survey responses that cultural practices and beliefs are known for the broad geographical area encompassing the MMR project area; however, it is unclear what of these cultural practices and beliefs are specific to the project area itself. Cultural practices mentioned by interviewees include mo‘olelo; traditional agriculture; traditional resource gathering of native plants (e.g., loulu, maile lau li‘i) for lā‘au lapa‘au and lei making, as well as

freshwater and ocean resources (fishing) for subsistence; ranching; hunting; and ceremonial practices associated with Makahiki, caring for iwi kūpuna and burial sites, and ceremonies associated with heiau. Interviewees also commented on the sacredness of Mākua Valley, including the project area, and the cultural significance of the ‘āina itself. Interviewees shared that many traditional practices were not intentionally discontinued after the closure of the valley for military activity and are hoped to continue in the future.

6.4 EFFECTS TO CULTURAL RESOURCES, PRACTICES, AND BELIEFS

This section summarizes effects to cultural resources, practices, and beliefs from continued military activity in the MMR 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 Section 8.3.

Mr. Ailā

- Impacts from lack of access, environmental contamination from munitions.

Mr. Apo

- Wide range of impacts, but did not elaborate further on the range of impacts.

Mr. Cáceres

- Impacts from lack of access and the inability to care for the land.

Mr. Enos

- Impacts from fires and burning, impacts to cultural resources and traditional practices (further detail not provided).

Mr. Grace

- Not aware of any impacts to cultural resources, practices, or beliefs.

Mr. Hannahs

- Impacts from lack of access, live-fire military training.

Mr. Hoe

- Not personally aware of potential impacts from the Proposed Action.

Mr. Kajihira

- Impacts from lack of access, fires, erosion, and UXO.

Mr. Lenchanko

- Impacts from lack of access and physical impacts from military activities.

Mr. Oliveira

- Impacts from lack of access, inability to care for the land and iwi kūpuna.

Repeated impact concerns, as shared by the interviewees for the MMR project area, include five general categories: 1) impacts from lack of access (stated by seven of ten interviewees),⁶ 2) impacts from continued military training/activity (stated by four of ten interviewees), 3) impacts from fires (stated by two of ten interviewees), 4) general environmental impacts that were not always expanded upon (stated by two of ten interviewees), and 5) impacts to cultural resources and practices that were not defined (two of ten interviewees). Two interviewees had no impact concerns to share for the MMR project area

See Section 8.3 for an analysis of these potential impacts.

⁶ One additional interviewee mentioned access (for a total of eight interviewees mentioning access) but did not mention a lack of access or indicate there were any issues with access.

7 ACCESS POLICIES

The next chapter (8) analyzes the potential impact of the Proposed Action and its alternatives on cultural resources, practices, and beliefs relevant to each project area. Before the analysis commences in that chapter, however, a recurring theme mentioned by interviewees must first be explored: access.

Access and the concern with access to and within each project area were mentioned during four of eight interviews for KTA, four of seven interviews for Poamoho, and eight of ten interviews for MMR. The following sections provide a review of current Army and State access policies for each project area: KTA, Poamoho, and MMR. These access policies were researched by accessing publicly accessible websites and documents and consulting with USAG-HI and DOFAW staff.

7.1 KTA ACCESS

This section describes the Army and State policies for access to the KTA project area.

7.1.1 Army Policies

The Army manages an access policy for NHOs and consulting parties for KTA per the 2018 *Programmatic Agreement Among 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 United States Army Training Areas and Ranges on the Island of O'ahu, Hawai'i* (PA). The 2018 PA considers access within the discussion of the resolution of adverse effects (USAG-HI 2018a:17), which states, "USAG-HI will consider requests from Consulting Parties and other NHOs to conduct visits or stewardship activities at historic properties and cultural sites outside of duded impact areas according to the following stipulations:

1. Entry into U.S. Army lands may be granted in accordance with AR [Army Regulation] 350-19 [The Army Sustainable Range Program] and contingent on safety concerns, military training requirements, and available Army support staff.
2. Entry into areas known, or suspected, to contain unexploded ordnance is prohibited.
3. Entry into non-duded or subsurface cleared impact areas will be coordinated with, and approved by, the RDH [Range Division Hawaii] Range Management Authority. Entry into other range and training lands not used as impact areas will be approved by the USAG-HI Garrison Commander in coordination with the RDH Range Management Authority. Entry into areas under USAG-HI control, but not designated as range and training land, will be approved by the USAG-HI Garrison Commander.

4. Requests from Consulting Parties and other NHOs⁷ must be submitted by email or in writing to the CRM, who will coordinate with the RDH Range Management Authority and the USAG-HI Garrison Commander as appropriate. Requests must include contact information, the specific site or location proposed, the purpose of the request or a description of proposed activities, names of all attendees, and proposed date and time frame.
5. Requests must be submitted at least 14 calendar days in advance of the proposed date. Requests to conduct site visits or stewardship activities during normal business hours are more easily accommodated and more likely to be approved.
6. USAG-HI shall respond to the requestor in writing or by email with a decision on the request within seven (7) calendar days of receipt.”

In lieu of physical access to current impact areas and other inaccessible areas, USAG-HI, with assistance from U.S. Army Training Support Systems and RDH, is working to “develop and provide virtual visits of historic properties, potential historic properties, and other site or areas of cultural importance or concern within the duded impact area and other inaccessible areas utilizing photographs, videos, and virtual reality displays created through unmanned aerial vehicle (UAV) applications” (USAG-HI 2018a:18). For non-impact areas, entry is coordinated and approved by the USAG-HI Garrison Commander.

7.1.2 State Policies

KTA Tract A-1 contains the Kahuku Motocross Park, also known as Waiale’e Motorcycle Riding Area, which has been operated by Hawai’i Motorsports Association (HMA) under a revocable permit with the Hawai’i DLNR since 1972 (USACE 2017:8). According to the HMA website, Kahuku Motocross Park is open on Saturdays and Sundays from 0800 to 1800 and some federal holidays from 0800 to 1500 (HMA 2022). According to the DOFAW Kahuku Motocross Park trails description, activities within the park require an entry fee and include all-terrain vehicles (ATVs)/motorized vehicles, bicycles, and motorcycles (DOFAW 2022f). However, according to the HMA rules and regulations, “[f]our-wheeling, golf carts, go carts, pocket bikes, bicycles, pedal assist e-bikes (or vehicles of such nature) are prohibited in the park” (HMA 2022). There are no other formally established trails in KTA Tract A-1 outside of the motocross park.

KTA Tract A-3 is part of the Pūpūkea Forest Reserve and, unless the Army requests an exemption, it is “open to the public and under the control of the State of Hawai’i from dusk on Friday to midnight on Sunday, and from dawn to midnight on national holidays” (DLNR 2017:11). Even though access is limited under the terms of the lease to the weekends and holidays, the Pūpūkea Forest Reserve Management Plan indicates that the public accesses the forest reserve for recreation seven days a week and “a conflict

⁷ These procedures were developed in consultation with NHOs and consulting parties who chose to participate in consultation.

between training and public recreation has not surfaced” (DLNR 2017:24). This public access does not include vehicle access except for management or military purposes (DLNR 2017:23). As with other forest reserves in Hawai‘i, permits are required to conduct research within a forest reserve; for actions affecting any Endangered, Threatened, candidate or proposed species; for native invertebrate research and collection; to survey, monitor, research, collect, propagate, or outplant threatened and endangered plants; for camping; and for activities such as meetings, weddings, and community events or activities (DOFAW 2022g). In reference to cultural practices, “all persons wishing to collect forest items, such as ti leaves or bamboo, for personal or cultural use are required to obtain a collecting permit authorizing the collection in a specific area” (DOFAW 2022g).

Public access to KTA Tract A-3 is through a locked gate at the end of Pupukea Road and onto Kaunala Trail. Public vehicular traffic is not permitted beyond the locked gate; however, the public can walk around the gate to access Kaunala Trail and the Pūpūkea Forest Reserve (DLNR 2017:23). This trail provides public access to the interior of the Pūpūkea Forest Reserve for hiking, bicycling, and hunting, and like the rest of the forest reserve, the trail is only open on weekends and holidays (DOFAW 2022a). No approval is required from the Army to use Kaunala Trail (USAG-HI 2022). When the trail is open to the public, the State allows for overnight camping with a permit anywhere along the trail corridor (10 feet from centerline) (DLNR 2022a). In addition, Drum Road follows the southern border of the forest reserve and is used by hikers.

Pūpūkea Forest Reserve is designated by DLNR as Hunting Unit D. Game mammals, but not birds, may be hunted from one-half hour before sunrise until one-half hour after sunset on Saturday, Sunday, and State holidays. A hunting license with a current year Hawai‘i Wildlife Conservation stamp is required to hunt (DLNR 2022b). Hunters must check in and out at check-in stations or through a phone application but otherwise proceed without an escort (N. Vargas, DOFAW O‘ahu Branch, personal communication, July 2022).

7.2 POAMOHO ACCESS

This section describes the Army and State policies for access to the Poamoho project area.

7.2.1 Army Policies

The Army manages an access policy for NHOs and consulting parties for Poamoho per the 2018 PA, the same PA that applies to KTA. See Section 7.1.1 for full details of the 2018 PA.

7.2.2 State Policies

All of the Poamoho project area is part of the ‘Ewa Forest Reserve (Poamoho), which does not, as yet, have a management plan. The public is generally free to enter during daylight hours, except during periods

of military use. As stated in the discussion about the Pūpūkea Forest Reserve in Section 7.1.2, permits are required under certain circumstances within forest reserves, including to collect forest items for personal or cultural use (DOFAW 2022g). Two hiking trails are used as the main access points to Poamoho, including the 3.5-mile Poamoho Ridge Trail and 6-mile Poamoho Hele Loa Access Road located along the northern border of Poamoho, and the 4-mile Schofield-Waikāne Trail located along the southern border. Approximately 5 miles of these trails are within the northern and southern boundaries of Poamoho. Most of Poamoho has steep terrain and topography that makes it difficult to access.

Access to Poamoho Trail for hiking and biking requires no permit and is open seven days a week during daylight hours; however, a permit is required for vehicle access, with permits only being issued for Fridays, Saturdays, Sundays, Mondays, and State/federal holidays (DOFAW 2022c). After receiving the vehicle permit, an access permit and a code to an unguarded access gate will be provided to the vehicle permit holder and they proceed without an escort (Nicholas Vargas, DOFAW, O‘ahu Branch, personal communication July 2022). No camping is allowed along Poamoho Trail (DOFAW 2022c). Access to the Schofield-Waikane Trail requires a letter of permission from the DPW’s Real Property Office (USAG-HI 2022; DOFAW 2022d). The trail begins on part of Schofield East Range, at the end of California Avenue, and is accessible on weekends from sunrise to sunset. The request for access letter must be signed and forwarded to the Real Property Office a minimum of 10 business days prior to the date of the requested hike (USAG-HI 2022). The Kaukonahua Ditch Trail is accessed from the Schofield-Waikāne Trail and is used by the USGS to reach a stream gaging station.

‘Ewa Forest Reserve (Poamoho) is designated by DLNR as Hunting Unit G and only game mammals may be hunted (DLNR 2022b). Hunting is allowed on Fridays, Saturdays, Sundays, Mondays, and state/federal holidays with an annual access permit obtained from the DOFAW O‘ahu Branch office (DOFAW 2022c). This permit is in addition to the hunting license with a current year Hawai‘i Wildlife Conservation stamp that is required to hunt within the State (DLNR 2022b). As stated above, a vehicle permit is required if driving into Poamoho.

7.3 MMR ACCESS

This section describes the Army and State policies for access to the MMR project area.

7.3.1 Army Policies

The access policy provided by the 2018 PA (discussed in Section 7.1.1) does not apply to MMR. There are two separate access policies in place for MMR: 1) the 2000 *Programmatic Agreement Among the 25th Infantry Division (Light) and the United States Army Hawaii, the Ukanipo Heiau Advisory Council O Wahipana O Makua, and the Hawaii State Historic Preservation Officer, for Section 106 Responsibilities for the Aboriginal Hawaiian Use of Ukanipo Heiau Complex at Makua Military Reservation* (PA), and 2) the

2001 Settlement Agreement and Stipulated Order, including 2001 Appendix A (Access by Members of Mālama Mākua and/or Members of the Waiʻanae Coast to Observe Training at Makua Military Reservation), 2002 Appendix B (Notice Regarding Cultural Access Agreement), 2008 Modification 1 (First Modification to Appendix B, Daytime and Overnight Access to Makua Military Reservation (“MMR”) for Cultural Access), and 2018 Modification 2 (Joint Notice Regarding Second Modification of Cultural Access Agreement). The procedures in these PAs, including appendices and modifications, were developed in consultation with NHOs and consulting parties who chose to participate in consultation. In addition to the access policy documents, the Army published a list of sites deemed “high priority” for UXO clearance to facilitate “safe and controlled” cultural access to select MMR resources.

The 2000 PA recognizes Ukanipo Heiau Advisory Council O Wahipana O Makua (Council) as stewards of the site and provides “the Council reasonable access to the Ukanipo Heiau Complex through the gate along Farrington Highway and the MMR Range Operations Office. Reasonable access will be based on military activities, site safety and timely notification of the request to enter to DPW, Environmental Conservation/Cultural Resources Office” (U.S. Army, Hawaii [USAH] 2000:2). The PA also establishes the following responsibilities for the Council as stewards of the site: “maintain the landscaping, maintain the erosion control features, monitor effects of use of the site, develop interpretative and educational programs, and implement access and cultural protocols” (USAH 2000:4). In addition, it is the Council’s responsibility to ensure individuals, who are given permission by the Council to access the site, check in at the MMR Range Control before entering the site (USAH 2000:4).

The 2001 Settlement Agreement and Stipulated Order is a settlement agreement between Mālama Mākua and the Department of Defense that requires, in part, the Army to prepare an EIS to address potential impacts in resuming military training at MMR⁸ and to identify, in consultation with residents of the Waiʻanae Coast, “high priority areas at MMR for UXO clearance, with a focus on increasing access to cultural sites” (Mālama Mākua v. Rumsfeld 2001a:2, 7–8). A stipulation regarding cultural access to MMR is included in the court order (Mālama Mākua v. Rumsfeld 2001a:11):

Members of the Waiʻanae Coast community, including Mālama Mākua, will be allowed daytime access (sunrise to sunset) to MMR to conduct cultural activities at least twice a month. Additionally, members of the Waiʻanae Coast community, including Mālama Mākua, will be allowed overnight access (from two hours before sunset on the first day until two hours after sunset on the second day) to MMR to conduct cultural activities on at least two additional occasions per year. During the first year following the Court’s approval of this Agreement, Mālama Mākua will be allowed overnight access on at least one additional occasion – from December 14 through December 15, 2001 -- for observance of the Makahiki. . . The cultural access provided for in this

⁸ The Final EIS for MMR was completed in 2009 with required supplemental reports completed in 2015.

paragraph will be subject to limitations determined by defendants in consultation with native Hawaiian cultural practitioners, including those from Mālama Mākua, based on requirements for training, safety, national security, and compliance with applicable laws and regulations. . .

In December 2001, Appendix A (Access by Members of Mālama Mākua and/or Members of the Wai‘anae Coast to Observe Training at Makua Military Reservation) was appended to the 2001 Settlement Agreement and Stipulated Order to provide guidance on access to MMR for live-fire training observations by Mālama Mākua and members of the Wai‘anae Coast prior to 2004. After 2004, live-fire training was suspended within MMR. This document states the Army will provide an escort to members of the public accessing MMR and visitors will follow certain protocols prior to entering MMR, including providing a picture identification to verify identity, agreeing to a possible bag search, signing a log in at the MMR Range Control, signing a waiver of liability, and listening to a safety briefing (Mālama Mākua v. Rumsfeld 2001b).

In 2002, Appendix B (Notice Regarding Cultural Access Agreement) was appended to the 2001 Settlement Agreement and Stipulated Order and “establishes the guidance for daytime and overnight access into the Makua Military Reservation (“MMR”) for cultural activities” (Mālama Mākua v. Rumsfeld 2002:1). The appendix restates the access stipulation laid out in the 2001 Settlement Agreement and Stipulated Order, which is quoted above, and establishes the protocols for cultural access, which were agreed to through consultation. Per the 2002 guidance, parties to the settlement agreement confer three times a year to set cultural access dates that are mutually agreeable (Mālama Mākua v. Rumsfeld 2002:1). Access times are defined as sunrise to sunset for daytime access and “no earlier than two (2) hours before sunset on Day One and concludes no later than two (2) hours after sunset on Day Two” for overnight access (Mālama Mākua v. Rumsfeld 2002:2). Access groups are not to exceed 50 people⁹, while observances for the opening and closing of Makahiki are allowed no more than 100 people (Mālama Mākua v. Rumsfeld 2002:2–3). Cultural access is open to the Wai‘anae Coast community, including Mālama Mākua, and their guests; if the Army receives an access request from Mālama Mākua and another applicant for the same date, the Army will consult with both parties to determine if concurrent access is agreeable. If concurrent access is determined incompatible, “Mālama Mākua will be afforded exclusive access on the date in question, and the Army may consider to accommodate the proposed concurrent access on another date” (Mālama Mākua v. Rumsfeld 2002:3). Requests for daytime or overnight access to MMR must include proposed access dates, description of proposed activities, anticipated number of participants, locations the group is seeking access, and point of contact for the group (Mālama Mākua v. Rumsfeld 2002:4). Once

⁹ The Army provided clarification that a 2016 modification to the MMR cultural access policy lowered this number to 40 people based on the results of a safety analysis (D. Crowley, USAG-HI, personal communication, September 2022).

access has been approved, the names of participants are provided to the Army at least two days prior to the access date (Mālama Mākua v. Rumsfeld 2002:5). Appendix B also states the Army “shall not deny or otherwise restrict any access pursuant to the Settlement on the ground that, in the Army’s view, it is not a traditional cultural practice or is otherwise culturally inappropriate” (Mālama Mākua v. Rumsfeld 2002:4).

After arrival and prior to entering the MMR, participants follow the same protocols established in Appendix A to the 2001 Settlement Agreement and Stipulated Order, including providing a picture identification to verify identity, agreeing to a possible bag search, signing a log in at the MMR Range Control, signing a waiver of liability, and listening to a safety briefing (Mālama Mākua v. Rumsfeld 2002:6). An Army escort is provided to each cultural access group (Mālama Mākua v. Rumsfeld 2002:6). The Army reserves the right to remove any participant from MMR who is exhibiting disruptive behavior, which “includes, but is not limited to, acts that endanger themselves or others, failure to abide by guidance from escorts, or attempting to enter unauthorized areas of MMR” (Mālama Mākua v. Rumsfeld 2002:6).

Due to safety concerns, participants are not “allowed to roam freely” and will only be allowed “in specific areas using specific routes” that have been subsurface cleared of UXO while remaining with “escorts at all times and will be allowed access to specific sites¹⁰ using specific routes outlined by Range Control personnel, the Army’s DPW Cultural Resources Office, and their escorts” (Mālama Mākua v. Rumsfeld 2002:7). Also due to safety concerns, participants must wear covered shoes while on MMR, except around MMR Range Control¹¹ (Mālama Mākua v. Rumsfeld 2002:8). Unless given written authorization by the Army, participants are not allowed to modify existing cultural sites by adding or removing stones. Participants cannot erect new permanent structures; however, with permission from the Army, temporary structures may be erected, which are to be removed after a pre-approved time (Mālama Mākua v. Rumsfeld 2002:7).

In 2008, the first modification to the 2001 Settlement Agreement and Stipulated Order changes the limitation requirement for covered shoes while on MMR to include more areas that do not require covered shoes to be worn. Originally stated in Section 8, Subsection C, Item 8 of Appendix B of the settlement agreement, shoes were required everywhere on MMR, except around Range Control (Mālama Mākua v. Rumsfeld 2002:8). Modification One lists additional specific areas exempt from the covered shoe rule, including cut grass areas around certain ahu and petroglyphs (Mālama Mākua v. Gates 2008:1).

¹⁰ See later in the section for list of “specific sites.”

¹¹ This stipulation was later modified. See first and second modifications to the 2001 Settlement Agreement and Stipulated Order described later in the section for further information.

In 2009, the Army published a list of sites deemed “high priority” for UXO clearance¹² (Margotta 2009). The Army provided opportunities for the Wai‘anae Coast community to participate in identifying and prioritizing sites for cultural access, and the Army used this community input and considerations for safety to human health and environmental concerns when compiling the final list (Margotta 2009:1). The sites on the list were prioritized for UXO clearance, but the clearance was “subject to the availability of funds, safety concerns, environmental law requirements and available and appropriate technologies and methods” (Margotta 2009:1–2). The Army recognized the cultural importance of these sites and agreed to perform “good faith efforts to provide safe and controlled access to these areas as envisioned by the 2001 Settlement” (Margotta 2009:2). The 22 sites on the list included Sites 4536, 4540, 4542, 4627 to 4630, 5587 to 5590, 5920, 6505, 6506, 6508, 6593, 6596, 6597, 6603, 6613, 6621, and 9523 (Margotta 2009:3). It should be noted that Sites 4540 and 5587 to 5590 are within the Improved Conventional Munitions (ICM) area and were “deemed too dangerous to clear” unless future UXO technology improved to allow for safe clearance (Margotta 2009:2). The Army provided clarification that the ICM sites were exchanged through community consultation for UXO clearance of Sites 4537, 4546, 5456, and 5926 (D. Crowley, USAG-HI, personal communication, September 2022).

In 2018, the second modification to the 2001 Settlement Agreement and Stipulated Order further changes the limitation requirement for covered shoes while on MMR. An additional area mauka of Range Control was added to the areas that do not require covered shoes to be worn (Mālama Mākua v. Mattis 2018:1).

7.3.2 State Policies

According to the 65-year lease (State General Lease No. S-3848) for the State-owned land at MMR, the land between the ocean and the beach road makai of Farrington Highway, including Mākua Beach, is “fully available” to the public, except during periods of military use (DLNR 1964c:5). Mākua Beach is open to the public for recreation, but the State does not allow camping at the beach (DLNR 2022c). The lease also gives the State “the right to develop and use for public purposes Kaneana Cave . . . together with an access foot trail thereto and a parking area adjacent to Farrington Highway” (DLNR 1964c:6), and the public regularly accesses Kaneana Cave today.

The Kuaokalā Trail runs along the northeast border of the North Ridge Tract and requires a DLNR day use permit for access; the trail is accessed via the Ka‘ena Point Satellite Tracking Station Road or the Kealia Access Road and Trail (DOFAW 2022e, 2023). State hunting areas are located to the north, east, and south

¹² The Army provided clarification that UXO clearance includes a UXO technician removing ordnance from up to one foot below the surface in access paths and around sites, as well as double-checking for UXO within these areas prior to cultural access visits. (D. Crowley, USAG-HI, personal communication, November 2022).

along the MMR borders, but hunting is not permitted within MMR (U.S. Army Environmental Command [USAEC] and USACE 2009:3-21).

7.4 ACCESS DISCUSSION

Although the Army and the State maintain access agreements, access and/or the perceived lack of access, whether experienced directly or indirectly, were routinely reiterated during interviews for each project area: access was mentioned in four of eight (50%) interviews for KTA, four of seven (57%) interviews for Poamoho, and eight of ten (80%) interviews for MMR. One of the ten interviewees (Mr. Oliveira at MMR) shared a personal experience with impacts to access (see interview excerpt below). According to Mr. Kajihiro, for example, “Kānaka ‘Ōiwi and the general public currently only have limited access to the three parcels, and therefore, are denied the right to fully enjoy and conduct cultural, religious, or subsistence practices until the lands are cleaned up and restored” (Kajihiro 2021:10). He further emphasized the need for “safe, meaningful, and regular cultural access” to the State-owned lands (Kajihiro 2021:13).

Four of the eight interviews (Mr. Cáceres, Mr. Kajihiro, Mr. Lenchanko, and Mr. Oliveira) for the KTA project area and its broad geographical area mentioned access, and the access excerpts below are from the summary interviews in Appendix D:

- Mr. Cáceres: “[T]he land the Army leases is inaccessible to the public.” “[P]eople go around the Army lands and disrupt burial sites” and “people would not be going in these areas if they had access through the land the Army leases.” “[A]ccess is impacted by the Army’s retention of the land in Kahuku.”
- Mr. Kajihiro: “[N]ot having access to KTA limits our knowledge base for the area.” “[R]estriction of access causes cultural harm by impeding cultural practices and resulting in the erosion of historical knowledge over time.” “[T]he community who are affected and most connected to these places should be the ones who determine access and proper use and should be involved in shaping a cultural use plan that incorporates revitalizing cultural practices and re-connecting people to the land.”
- Mr. Lenchanko: “[A]ccess to land retained by the military makes it impossible for Hawaiians and practitioners to assess what cultural resources are still there. Lack of access prevents practitioners from doing any traditional practices and connecting to ancestral lands.” “TCPs have so much potential for cultural use, but the people are not able to access them.” “[D]evelopment often impacts cultural resources like native plants and animals, but they have little way of knowing what remains when they do not have access to these lands.” “Should the military retain their lease, . . . the people should be granted a perpetual easement that grants them access to the property to perform traditional practices and access cultural resources.” “Because the people do not have access to these lands, they have the right to know what is still there and how it is being impacted.”

- Mr. Oliveira: “[T]he military retaining the land prevents people from accessing the land and denies them the ability to practice any traditions they might want to restore and practice.” “As best practice, . . . the Army find a way to accommodate the people’s needs to access these lands beyond means of worship and cultural practices.”

Four of the seven interviews (Mr. Cáceres, Mr. Kajihiro, Mr. Lenchanko, and Mr. Oliveira) for the Poamoho project area and its broad geographical area mentioned access, and the access excerpts below are from the summary interviews in Appendix D:

- Mr. Cáceres: “[T]he Army holding lease over the lands in Poamoho prevents cultural practitioners and Kānaka Maoli from accessing the land for whatever traditional customs they practice, including gathering.” “[T]he Army lease currently prevents cultural practitioners and Native Hawaiians from accessing the land to use it for cultural and traditional practices and that the renewal of their lease would continue to impact access.” “[I]t would be better if there was some kind of Native Hawaiian Organization that had jurisdiction over the stewardship of the land, and it was not just the Army managing the parcels and limiting access. This organization could ensure that the land was being cared for properly and practitioners and Hawaiians had access to these lands.”
- Mr. Kajihiro: “[O]ne of the biggest impacts the military has on Poamoho is its restricted access to cultural sites and landscapes” and “this restriction and control of the access to these areas limits the cultural knowledge and familiarity for the native peoples who have lineal and cultural ties to this particular area.” “[B]y restricting access, the Army prevents those with cultural and genealogical ties to this land from exercising their responsibilities to those lands” and “it prevents those who have knowledge of these lands and associated cultural sites and practices from teaching and transferring that knowledge to future generations.” “[W]ith limited or no access, the knowledge and practices associated with these areas can be lost or degraded and Native Hawaiians who may have ancestral ties to those lands become alienated from those lands and histories.” “[S]hould the Army retain the leased lands of Poamoho, . . . the Army not control the access completely and there should be a Hawaiian community group in charge of planning activities for environmental and cultural restoration and revitalizing cultural practices to Poamoho.”
- Mr. Lenchanko: “If Hawaiians and community members were given access to this land parcel, they would be able to begin restoration efforts including invasive species removal and planting native plants right away.” “Without access to this land, it is difficult for practitioners . . . to understand the needs of the land which has been mismanaged for years.” “[T]hey know there are cultural resources in that area, but it is impossible for them to know what they are and what is still there without access. There is no way for practitioners to know if there are native plants and resources still in the area because they do not have access.” “[H]unters do not currently have access to the land in Poamoho and would have to trespass in order to practice hunting, lā’au lapa’au, and other traditional activities in the mauka Poamoho area.” “[A]ccess

is a major issue that impedes cultural resources and traditional practices in Poamoho. Practitioners do not currently have any customary rights to access that resource. Without access to that land, practitioners have no way of knowing what is there, what the land needs, and how it can benefit the people. They are unable to know exactly what native plants, species, and resources are still there. They cannot access the land for hunting or water resource management. The forest, [considered] to be a cultural resource, has become unknown to them.” “[K]ūpuna fought for access to places like Poamoho in order to preserve and adapt cultural traditions and practices. Denied access means the people are unable to foster a traditional comprehension of place.” “Hawaiian kūpuna intended for lands like Poamoho to be passed down and maintained by Hawaiians in continuity. The Army retaining the land prevents the ability to carry on this responsibility and access traditional and cultural resources.” “[T]he land currently leased by the military in Poamoho will be overseen by DOFAW [Hawai’i Division of Forestry and Wildlife] and that the community will be given access to this area to practice forest and land restoration and rebuild their traditional and cultural practices.” “If in 2029 the Army continues to retain their lease of Poamoho, . . . perpetual access be granted to the people so they can utilize whatever part of the property they need. Part of that need for access is so practitioners can do a cultural analysis of how to use the land and its cultural resources.” “[T]he Army to do an assessment of the land they use for training that includes and recognizes a Hawaiian perspective on the cultural resources and traditions in the area and grants access to the people.” “Because the people do not have access to these lands, they have the right to know what is still there and how it is being impacted.”

- Mr. Oliveira: “Being withheld from accessing sacred lands impacts the people and cultural practitioners. It prevents them from accessing sacred and significant sites to carry out various traditions including worship.” “As a best practice, . . . the Army find a way to accommodate the people’s needs to access these lands beyond means of worship and cultural practices.”

Eight of the ten interviews (Mr. Ailā, Mr. Apo, Mr. Cáceres, Mr. Enos, Mr. Hannahs, Mr. Kajihiro, Mr. Lenchanko, and Mr. Oliveira) for the MMR project area and its broad geographical area mentioned access, and the access excerpts below are from the summary interviews in Appendix D:

- Mr. Ailā: “[F]or Makahiki, they are restricted to the front part of the valleys.” “[I]f there is a good commander, the valley may be a little more open; if it is a bad commander, . . . it’s much harder to get access to the valley.” “[T]he military also prevents access to heiau (such as Site -4546) in the area and prevent the presentation of certain types of ho’okupu on the heiau.”
- Mr. Apo: “[C]ultural access to the valley is important.”
- Mr. Cáceres: “[T]he group, Mālama Mākua, tries to use their community days to take people to significant sites in Mākua since access to these cultural resources has been impeded for years.” “One tradition connected to the area is gathering medicinal plants, which is currently impossible to do given the lack

of access to the valley.” “[I]f the military’s lease is renewed in 2029, . . . one of the conditions should be that no training occurs in the valley and the military’s efforts are strictly geared towards clean up and providing access for the community.”

- Mr. Enos: “Within the valley there are many cultural sites as well as native species” and “accessing these sites and resources is difficult given the military’s occupation of the land.” “[T]he Army should work to clean up the land and restore it to its original state so that it is safe to access again.”
- Mr. Hannahs: “If practitioners don’t have unfettered access, how do they cultivate pilina [connection] to the place?”
- Mr. Kajihiro: “[T]here are petroglyphs in the backside of the valley; however, restricted access to these areas have made it challenging to know exactly where these sites are.” He has “spoken to kūpuna who have lineal ties to Mākua Valley and who speak of family burials within the valley” and “they believe they do not have access to these burials due to the military’s occupation of the valley.” “Mālama o Mākua has monthly access to only certain sites in the valley and that cultural practices are constrained.” “Mālama o Mākua have not been allowed to repair sites, give certain types of ho’okupu, remove invasive plants, or plant native species, Hawaiian crops, and medicinal plants.” “[T]he negative impacts that the military has had over the cultural resources, landscape, and access to ancient cultural sites due to their occupation of Mākua . . . include devastation of native plants and natural resources, restricted and unobtainable access to iwi kūpuna and wahi kapu, unexploded ordnance, fires, and erosion of the valley.”
- Mr. Lenchanko: “Due to lack of access, . . . unsure of what cultural resources remain in Mākua.” “[A]ccess to land impacts cultural resources and traditional practices. Military reservations prevent people from accessing resources regularly. In Mākua, it is dangerous because there are explosives still on the property, making it much more difficult for people to access this place as a traditional cultural property. Practitioners and descendants are unable to access this land to carry out their traditions and make connections to the land and their ancestors.” “The military attempts to grant supervised access, but this process is complicated and still prevents the people from fulfilling their responsibility to this land.” “[C]ultural practitioners and Mākua families should be given back perpetual access to their land.” “Since the people do not have access to these lands, they have the right to know what is still there and how it is being impacted.”
- Mr. Oliveira: “[L]ack of access to Mākua due to the military’s presence and the threat of remaining ordnances makes it impossible for the people and practitioners to utilize this culturally significant site. The valley cannot be accessed, and there is no way for people to know what resources remain there and prevents them from going there to worship and practice their culture.” He “has been denied access in the past to honor iwi kūpuna.” “As a best practice, . . . the Army find a way to accommodate the people’s needs to access these lands beyond means of worship and cultural practices.”

As can be seen in these interview excerpts and the previous sections describing access to each project area, there is a misunderstanding between what the Army provides for access, what the State allows for access, and what informants desire to be sufficient access. There may be several reasons for this misunderstanding, including 1) lack of awareness and/or understanding of the Army's access policies, 2) lack of awareness and/or understanding of the State's access policies, and 3) the perceived inability of the Army's access programs to provide unlimited access to engage in cultural practices and beliefs. This misunderstanding is also carefully considered in Chapters 8 and 9, but it will not be resolved in this document since future and ongoing community engagement would be needed.

While there may be gaps in awareness and/or understanding of the Army's cultural access policy, the policy for the MMR project area is publicized on the Mālama Mākua website. Community members typically need to go through Mālama Mākua for site access; although request for access by Wai'anae Coast community groups/individuals outside of Mālama Mākua is included in the 2001 Settlement Agreement and Stipulated Order for MMR (Mālama Mākua v. Rumsfeld 2002:3). For the KTA and Poamoho project areas, access via trails into the project areas' forest reserves is also published on DOFAW's Nā Ala Hele Trail & Access Program website. The access program provided by the 2018 PA for the KTA and Poamoho project areas seems less well known. Informants consulted for the current study seemed generally unaware of access being granted by the Army or the State within these two project areas.

Formal access requests are low for the KTA and Poamoho project areas. According to USAG-HI, no access requests were received for Poamoho within the last year (2022), while two access requests were received and granted for KTA. These two access requests for KTA were for areas outside of the KTA project area (D. Crowley, USAG-HI, personal communication, November 2022). Approximately 30 access requests were received and accommodated by USAG-HI for MMR within the last year (2022). According to USAG-HI, all requests are accommodated provided the requesting individual and/or group follows safety procedures (D. Crowley, USAG-HI, personal communication, November 2022).

7.4.1 Significance Criteria for Access

Per the OEQC guidelines, even if a Proposed Action may not physically alter cultural practices, its potential to affect access into areas that are important for cultural practices should still be assessed (OEQC 2012:11). The ability of Native Hawaiians to access cultural resources, practices, and beliefs within the project areas is one of the critical means by which the Proposed Action and its alternatives were assessed.

This access, however, is not to be understood in the same way as public access (i.e., open access for the general public). The type of access this analysis considers is—for the purposes of the current study—termed “cultural access.” The current study defines cultural access in the following way:

Cultural access: the ability of Native Hawaiians and other ethnic groups to enter an area for the purposes of connecting with cultural beliefs, participating in cultural practices (including, but not limited to, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites), and/or engaging with culturally significant resources (such as visiting culturally significant archaeological sites, accessing manmade and natural cultural features, collecting medicinal plants, etc.) that are directly associated with the area.

It should be noted that in no portion of the project areas is cultural access wholly prohibited and/or restricted. The potential then for the Proposed Action to impact cultural access is defined in terms of its limiting potential:

Limited cultural access: the ability of Native Hawaiians and cultural practitioners to access cultural resources and practices is limited in that it must meet certain requirements for it to be granted. Such requirements may include having an escort, timing of access, or that certain locations are off limits due to security or safety concerns.

The form of access valued by interviewees for the current study seems to be the following:

Unlimited cultural access: the ability of Native Hawaiians and cultural practitioners to access cultural resources and practices is unhindered by requirements for permit, prior approval (e.g., by letter, official approval list, etc.), escort provision, and/or limitations due to allowable hours for access (e.g., only accessible on weekends, weekdays, etc.), and/or other legal concerns (e.g., trespassing).

The significance criteria under which these parameters are assessed in the current study is the extent or degree to which:

- Cultural access (see definition of cultural access above) within the State-owned land is limited.
- Cultural access is limited for the foreseeable future.

Military activities, for example, with designated access requirements that limit the ability of Native Hawaiians and other ethnic groups to enter an area for the purposes of connecting with cultural beliefs, participating in cultural practices, and/or engaging with culturally significant resources for the foreseeable future would have a significant impact on cultural resources.

8 ANALYSIS OF EFFECTS FROM THE PROPOSED ACTION AND ITS ALTERNATIVES

This chapter analyzes the effects presented in Sections 4.4, 5.4, and 6.4 to assess the potential impact of the Proposed Action and its alternatives on cultural resources, practices, and beliefs relevant to each project area. The analysis also considers impacts from a renewed lease versus a fee simple title ownership for land retention.

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 lands. It does not include construction or proposed changes to the current levels or types of activities conducted within the State-owned lands (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 in Section 3.4 within the O'ahu ATLR EIS and the accompanying Historical and Cultural Resources Literature Review (Gross et al. 2023; Appendix I to the O'ahu 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 KAHUKU TRAINING AREA

This section assesses the effects of the Proposed Action on cultural resources, practices, and beliefs associated with the KTA project area. The assessment of effects considers each of the three alternatives for the KTA project area, as presented in the sections below.

8.1.1 Alternative 1: Full Retention

Under Alternative 1, the Army would retain all State-owned land (approximately 1,150 acres) at KTA and would continue to conduct ongoing activities (see O'ahu ATLR EIS, Chapter 2 for a detailed discussion of ongoing activities). Alternative 1 does not include construction or changes in military activities or cultural resources management actions.

Section 4.4 lists potential impacts to cultural resources, practices, and beliefs associated with the KTA 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), an impact noted by interviewees for the KTA project area includes physical alteration on cultural resources from continued ongoing military activity. Three interviewees noted physical impacts from general military training (Mr. Hannahs, Mr. Oliveira, and Mr. Cáceres), while one interviewee commented specifically on impacts from the use of munitions (Mr. Grace). These impacts, as stated by interviewees, were not directly associated with State-owned land at KTA (the KTA project area), but rather the broader Kahuku Training Area. Further, physical effects from munitions are not likely to occur from military retention of the State-owned land at KTA due to the lack of current live-fire training at KTA. The EIS associated with the current study further found that physical impacts on tangible cultural resources (i.e., archaeological sites) were more likely to occur from ongoing public (off-roading) activity than from military training at KTA (see O'ahu ATLR EIS, Chapter 3). Physical impacts on cultural resources are also managed and mitigated by existing agreements (see Section 9.1).

A second impact noted by interviewees 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. Four of the eight interviewees noted several practices that are dependent on the setting of the project area (the 'āina), to which cultural access is limited, according to the interviewees. These include the ability to mālama 'āina (Mr. Lenchanko), practice burial maintenance (Mr. Cáceres), as well as general practices not disclosed (Mr. Oliveira).

Section 7.1 discusses the access policies of the State and the Army for the KTA project area (Tracts A-1 and A-3). Cultural access is currently limited within Tract A-1 and unlimited in Tract A-3. Limitations within Tract A-1 include restricted hours to weekends and federal/State holidays due to military training. Cultural resources, practices, and beliefs are, therefore, periodically isolated from their setting due to limitations on cultural access within Tract A-1, but not within Tract A-3. According to USAG-HI, no requests to enter either Tract A-1 or Tract A-3 for cultural access have been received within the last calendar year (2022); only two cultural access requests were received by USAG-HI during that time, and these were for areas outside of the State-owned lands at KTA. Impacts to cultural access, therefore, appear to be minimal.

Other general environmental impacts identified by interviewees (e.g., watershed impacts, erosion) were not directly associated with State-owned land (Tracts A-1 and A-3) at KTA.

Interviewees disclosed no other effects from continued military activity that specifically impacted cultural resources, practices, and/or beliefs within the direct project area.

Lease Impacts – Since there is currently limited cultural access within a portion of the KTA project area (Tract A-1), Native Hawaiians and cultural practitioners face minimal limitations on their ability to access cultural resources and practices within the project area; however, no access requests have been received for the State-owned land at KTA. This results in continued, long-term, negligible, adverse impacts on cultural access. Conversely, continued, long-term, minor, beneficial impacts would result from current cultural resources stewardship activities that serve to preserve and protect cultural resources. Once a new lease was to end, however, potential restoration actions could potentially result in short-term limitations on cultural access due to public safety concerns from potential forest enhancement and other possible restoration activities. Lease compliance parameters would be defined and determined after completion of this EIS, but they would comply with Section 106 and its implementing regulations. Impacts on cultural resources during restoration would continue to be mitigated by the Army in compliance with these existing regulatory requirements.

To continue to avoid and minimize potential adverse impacts on cultural resources, and to protect and preserve extant cultural resources and practices, the Army would continue to fund its cultural resources commitments on the State-owned land, in accordance with the 2018 PA, which include a cultural access program. No additional NHPA mitigation measures are required beyond those prescribed in the PA.

Any change in land use by the Army that presents potential impacts on cultural resources, practices, and beliefs not resolved previously through the PA and/or current access policies would require separate NEPA (and possibly HEPA) analysis and NHPA compliance.

Fee Simple Title Impacts – Similar to a lease retention, there would be continued long-term, negligible, adverse impacts to cultural resources, practice, and beliefs within Tract A-1 from ongoing cultural access limitations, which would continue to be limited to weekends and federal/State holidays. For Tract A-3, there would be continued long-term, negligible, beneficial impacts since cultural access is permitted within the Pūpūkea Forest Reserve. This analysis assumes the Army would continue to adhere to the same federal laws and regulations for managing cultural resources, including maintaining current access policies that permit spatial and temporal cultural access within the project area, with few limitations. Impacts from lease compliance actions would not occur under fee simple title ownership.

8.1.2 Alternative 2: Modified Retention

Under Alternative 2, 450 acres of State-owned land at KTA would be retained while the remaining State-owned land would not be retained, as described below.

8.1.2.1 Land Retained

Under Alternative 2, the Army would retain Tract A-1 at KTA, which includes approximately 450 acres, and all U.S. Government-controlled facilities and range roads throughout Tract A-1.

Lease Impacts – The retention of Tract A-1 would result in continued long-term, negligible, adverse impacts on cultural resources, practices, and beliefs from the continuation of ongoing activities, which include minimal limitations on cultural access within Tract A-1. Continued long-term, minor, beneficial impacts would result from current cultural resources stewardship activities that serve to preserve and protect cultural resources. Lease compliance activities at the end of a new lease would introduce new short-term, moderate, adverse impacts.

The Army would continue to adhere to cultural resources programs and agreements, as discussed under Alternative 1.

Fee Simple Title Impacts – A fee simple title method of land retention would result in the same parameters (e.g., acreage, minimal ongoing activities) and similar impacts as a lease retention method for Alternative 1 provided the Army continue to adhere to the same federal laws and regulations for managing cultural resources, including maintaining current access policies that permit spatial and temporal cultural access within the State-owned Land, with few limitations.

8.1.2.2 Land Not Retained

Under Alternative 2, the Army would not retain Tract A-3 at KTA, which comprises approximately 700 acres of State-owned land in the foothills of KTA and supports only occasional training. The Army would no longer be responsible for management of 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 not retained, and, for the purposes of this study, it is assumed the State would adopt the Army's resource management commitments.

The non-retention by the Army of Tract A-3 would result in no significant long-term impacts for cultural resources, practices, and beliefs. The current study assumes the State would adopt the Army's resource management commitments and that current access policies would not change, resulting in continued cultural access.

Potential restoration actions, however, could potentially result in short-term limitations on cultural access due to public safety concerns from potential forest enhancement and other possible restoration activities. Lease compliance activities at the end of a new lease would introduce new short-term, negligible, adverse impacts. These impacts are assumed to be negligible due to the low occurrence of military activity during

the course of the lease within Tract A-3. 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 during restoration would continue to be mitigated by the Army in compliance with these existing regulatory requirements.

8.1.3 No Action Alternative

Under the No Action Alternative, no State-owned land would be retained at KTA after expiration of the lease, and the current limited level of military training would cease. Non-retention of Tract A-1 would remove the minimal limitations on cultural access, while unlimited cultural access would continue in Tract A-3. At the end of the current lease, however, lease compliance actions may introduce new short-term limitations on cultural access.

8.2 KAWAILOA-POAMOHU TRAINING AREA (POAMOHU)

This section assesses the effects of the Proposed Action on cultural resources, practices, and beliefs. The assessment of effects considers each of the three alternatives for the Poamoho project area, as presented in the sections below.

8.2.1 Alternative 1: Full Retention

Under Alternative 1, the Army would retain all State-owned land (approximately 4,390 acres) at Poamoho. This would include the continuation of limited reconnaissance and restricted maneuver training. There are no facilities or ranges at Poamoho. Alternative 1 does not include construction or changes in military training activities or cultural resources management actions.

Four of the seven interviewees for the Poamoho project area expressed cultural access concerns and the inability to engage in cultural practices within the setting of the project area (Mr. Cáceres, Mr. Kajihira, Mr. Lenchanko, and Mr. Oliveira). Mr. Lenchanko elaborated by saying that without access to this land, it is difficult for practitioners like himself to understand the needs of the land. The perceived lack of access also prevents practitioners like himself from restoring cultural sites, or even finding them to maintain them. He believes there are cultural resources in the area, but that it is impossible for them to know what they are and what is still there without access.

Section 7.2 discusses the access policies of the State and the Army for the Poamoho project area. The Army manages an access policy for NHOs and consulting parties for Poamoho per the 2018 PA, the same PA that applies to KTA. According to the USAG-HI, no cultural access requests were received within the last calendar year (2022). All of the Poamoho project area is part of the 'Ewa Forest Reserve (Poamoho), and the public (e.g., including Native Hawaiians and cultural practitioners) is generally free to enter during

daylight hours, except during periods of military use. Permits are required under certain circumstances within the forest reserve, including to collect forest items for cultural use. Native Hawaiians and cultural practitioners can freely access Poamoho Trail, which is open to the public for hiking and biking and requires no permit; the trail is open seven days a week during daylight hours.

Other general environmental impacts identified by interviewees (e.g., watershed impacts, erosion) were not specifically tied to ongoing military activity or with the direct Poamoho project area (State-owned land). Other physical impacts noted by interviewees were on resources located outside of the Poamoho project area and were not directly impacted by the Proposed Action.

Interviewees disclosed no other effects from continued military activity that specifically impacted cultural resources, practices, and/or beliefs within the direct project area.

Lease Impacts – Continued long-term, negligible, adverse impacts would continue from minimal limitations on cultural access that limit Native Hawaiians and cultural practitioners from freely accessing cultural resources and practices with no permit, prior approval (e.g., by letter, official approval list, etc.), escort provision, and/or limitations due to allowable hours for access (e.g., only accessible on weekends, weekdays, etc.), and/or other legal concerns (e.g., trespassing). No foreseeable, additional limitations and/or restrictions would be implemented that are above current access policies or that would further limit spatial and temporal cultural access within the project area. Continued long-term, negligible, beneficial impacts would also result from current cultural resources management programs that serve to preserve and protect cultural resources; these impacts are negligible due to the low occurrence of ongoing activity within the Poamoho project area. New short-term, negligible, adverse impacts may result from lease compliance actions at the end of a new lease, which could implement short-term limitations on cultural access due to public safety concerns from potential forest enhancement and other possible restoration activities. These impacts are assumed to be negligible due to the low occurrence of military activity during the course of the lease within the Poamoho project area.

The Army would continue to adhere to cultural resources programs and agreements, as discussed under Alternative 1 for KTA.

Fee Simple Title Impacts – Impacts on cultural resources under a fee simple title method of land retention would result in similar ongoing impacts as a lease retention method for Alternative 1. Under fee simple, the Army would continue to adhere to the same federal laws and regulations for the management of cultural resources. This includes current cultural access commitments as well as mitigations measures if cultural resources were newly identified. Impacts from lease compliance actions would not occur under fee simple title ownership.

8.2.2 Alternative 2: Modified Retention

8.2.2.1 Land Retained

Under Alternative 2, the Army would retain the Poamoho Tract (approximately 3,170 acres).

Lease Impacts – Lease impacts under Alternative 2 would include continued long-term, negligible, adverse impacts from minimal limitations on cultural access; continued long-term, negligible, beneficial impacts from current Army cultural stewardship activities; and new short-term, negligible, adverse impacts from lease compliance actions at the end of a new lease, which could implement short-term limitations on cultural access.

Fee Simple Title Impacts – With the exception of associated impacts from lease compliance actions at the end of a new lease (as discussed for KTA in Section 8.1), fee simple title ownership would be similar to impacts from lease retention.

8.2.2.2 Land Not Retained

Under Alternative 2, the Army would not retain the Proposed NAR Tract (approximately 1,220 acres), which is not currently used for ground training. It is assumed the State would adopt the Army's cultural resources management commitments to ensure cultural access continues within the State-owned Land. This would result in continued long-term, negligible, adverse impacts on cultural access since limitations exist under current State policies. New short-term, negligible, adverse impacts could occur from lease compliance actions, which are assumed to be negligible due to the low occurrence of military activity during the course of the current lease within the Proposed NAR Tract.

8.2.3 No Action Alternative

Under the No Action Alternative, no State-owned land would be retained at Poamoho after expiration of the lease, and the current limited level of military training would cease. It is assumed the State would adopt the Army's cultural resources management commitments to ensure cultural access continues within the State-owned Land. This would result in continued long-term, negligible, adverse impacts on cultural access since minimal limitations would still exist under ongoing State policies. New short-term, negligible, adverse impacts could occur from lease compliance actions, which are assumed to be negligible due to the low occurrence of military activity within Poamoho during the course of the current lease.

8.3 MAKUA MILITARY RESERVATION

This section assesses the effects of the Proposed Action on cultural resources, practices, and beliefs. The assessment of effects considers each of the four alternatives for the MMR project area, as presented in the sections below.

8.3.1 Alternative 1: Full Retention

Under Alternative 1, the Army would retain all State-owned land at MMR (approximately 782 acres) and would continue to conduct ongoing activities (military training limited to the Center Tract; facility, utility, and infrastructure maintenance and repair activities; associated activities such as emergency services; and cultural resources management actions, including ongoing cultural access programs). Alternative 1 does not include construction or changes in military activities or cultural resources management actions. The MMR project area would continue to see a decreased level of military activity in the State-owned land at MMR since the last occurrence of live-fire training in 2003 (followed by total suspension in 2004).

The primary concern expressed by interviewees regarding effects from continued military activity centers around the isolation of cultural practices and beliefs from their setting due to limited cultural access within the MMR project area. Seven of the ten individuals interviewed for the MMR project area expressed concerns with cultural access limitations.¹³ Mr. Oliveira mentioned the inability to engage in the cultural practices of caring for iwi kūpuna and mālama ‘āina within the project area. Mr. Oliveira also specifically mentioned how retention of the land (the MMR project area) impacts the ability to engage in the system of ka‘ānani‘au, a system connected to temples and land divisions. Mr. Oliveira further discussed how lack of cultural access to the MMR project area, and Mākua Valley, due to the military’s presence and the threat of remaining UXO make it impossible for Native Hawaiians and cultural practitioners to utilize this culturally significant resource (the ‘āina itself). Mr. Oliveira asserted that the valley cannot be accessed and there is no way for people to know what cultural resources remain there, which prevents them from going there to worship and practice their culture.

Mr. Cáceres reiterated the inability to access the MMR project area to mālama ‘āina and care for the significant cultural resource, the land itself. Mr. Lenchanko also commented on limitations for cultural access for Native Hawaiians and cultural practitioners to make connections to the land and their ancestors. Mr. Lenchanko also mentioned that the land is dangerous with explosives from military activities, which make it impossible for people to reclaim and steward (mālama ‘āina) the land. Mr. Ailā also raised access concerns by stating that cultural access limitations prevent the presentation of certain types of ho‘okupu and that cultural practices along the shoreline and beaches are sometimes limited by unmanned aerial trainings.

¹³ One additional interviewee mentioned access (for a total of eight interviewees mentioning access) but did not mention a lack of access or indicate there were any issues with access.

Unlike the KTA and Poamoho project areas, cultural access in parts¹⁴ of the State-owned land at MMR is, in fact, limited in that cultural access requests must meet certain requirements for it to be granted, such as community group coordination, escort availability, limited access times, and limitations on certain locations that are off limits due to security or safety concerns.

Although there are clear limitations within large portions of the State-owned land, these limits stem from health and safety concerns related to UXO and other hazards for which the Army must comply with the DoD Explosives Safety Board and US Army Technical Center for Explosives Safety policies and regulations. The 2001 Settlement Agreement attempted to balance public safety with the protection of Native Hawaiian beliefs and practices by developing cultural access protocols in consultation with NHOs.

The continuation of current military activity within portions of the MMR 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 per current and existing access agreements, but access would still be limited. The limited ability of Native Hawaiians and other cultural practitioners to access sacred āina within large portions of the State-owned land at MMR is a significant concern of the community.

The second general category of effect noted by informants included physical alteration on cultural resources from military training and munitions use. Mr. Cáceres mentioned physical impacts to the land and Mākua Valley (a significant cultural resource) from military training, including impacts from military ammunition. Mr. Cáceres further commented that ammunition and weaponry used in military training impacts the environment, including the land, water sources, and the ocean, all of which are significant cultural resources to Native Hawaiians. Mr. Lenchanko also discussed witnessing physical impacts from military live-fire training, including from munitions that landed close to cultural resource sites; although, the impacts mentioned by Mr. Lenchanko appear to have occurred outside of the project area for the current Proposed Action. Mr. Ailā, however, noted that munitions from outside the MMR project area have the potential to move downstream during heavy rains and contaminate groundwater and soil within the project area and the broad geographical area.

The continuation of military activity within the MMR project area does not include live-fire training, which was suspended in 2004; therefore, physical alteration on cultural resources from military munitions is not likely to reoccur. Additionally, the decreased level of military activity in the MMR project area since the suspension of live-fire training has resulted in no newly recorded impacts on cultural resources from

¹⁴ There is unlimited access on portions of the Makai Tract of the MMR project area, including Kāneana Cave, Mākua Beach, and the land between the ocean and the beach road makai of Farrington Highway.

current and ongoing activities. The Army would also continue to adhere to cultural resources programs and agreements, as discussed in Section 9.1.

Lastly, physical elements have been introduced that have altered the setting in which cultural practices take place within the MMR project area. This is a general concept repeated throughout informants' comments that Mākua Valley itself, including the project area, is a sacred setting, which is altered by the presence of military activity, and in particular, by debris (e.g., UXO) left by prior military activity that continues to adversely impact the landscape despite the suspension of live-fire training.

Other general impacts identified by interviewees (e.g., environmental impacts from large scale military land ownership, impacts from increased noise levels) involve other resource areas and/or were not directly associated with the MMR project area.

Lease Impacts – Alternative 1, lease retention, would result in continued long-term, significant, adverse impacts on cultural resources, practices, and beliefs from limited cultural access to State-owned land east of Farrington Highway as well as the introduction of physical elements that have significantly altered the setting in which cultural practices take place. The Army would continue to provide limited cultural access per current and existing access agreements, resulting in continued, long-term, moderate, beneficial impacts on cultural resources. Further, additional limitations, such as a reduction in the number of days when cultural areas can be accessed, would not occur. These are still, however, limitations that preclude Native Hawaiians and other cultural practitioners from freely engaging with cultural practices and beliefs within the State-owned land for the foreseeable future.

Additionally, new short- to long-term, significant, adverse impacts would be introduced at the end of a renewed lease due to the implementation of lease compliance actions (e.g., removal of military munitions), which could lead to significant ground disturbance and associated impacts on cultural resources, including additional limitations on cultural access.

Fee Simple Title Impacts – Similar to a lease retention, there would be continued long-term, significant, adverse impacts to cultural resources, practice, and beliefs from ongoing cultural access limitations, which would continue to be limited by spatial and temporal constraints into the foreseeable future. This analysis assumes the Army would continue to adhere to the 2001 settlement agreement and its subsequent amendments as well as other federal laws and regulations for managing cultural resources and providing cultural access. Impacts from lease compliance actions, however, would not occur under fee simple title ownership.

8.3.2 Alternative 2: Modified Retention

8.3.2.1 Land Retained

Under Alternative 2, the Army would retain the North Ridge, Center, and South Ridge Tracts, approximately 572 acres of the State-owned land at MMR. Currently, training is conducted only within the Center Tract (and in areas where no tangible cultural resources are recorded within the tract). No training is currently conducted within the North Ridge or South Ridge Tracts.

Lease Impacts – There would be continued long-term, significant, adverse impacts on cultural resources from limited cultural access into the foreseeable future. Long-term, moderate, beneficial impacts would continue from ongoing actions associated with cultural resources stewardship programs since no military training occurs near known cultural resources. New, short- to long-term, significant, adverse impacts could, however, result from lease compliance actions at the end of a renewed lease.

Fee Simple Title Impacts – Impacts under a fee simple title method of land retention would result in similar impacts as a lease retention method for Alternative 2. The Army would continue to adhere to cultural resources programs and agreements that mitigate physical impacts on cultural resources. This would also include continuing to maintain current cultural access policies per the 2001 settlement agreement and its subsequent amendments. However, significant, adverse impacts associated with lease compliance actions would not result under fee simple title ownership.

8.3.2.2 Land Not Retained

Under Alternative 2, the Army would not retain the Makai Tract (approximately 210 acres), which includes land west of the ridges in the northern and southern portions of MMR and a portion of the area west of Farrington Highway that is not owned by the Army. Military training does not currently occur in the Makai Tract. The Army would no longer be responsible for management of 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.

The non-retention by the Army of the Makai Tract would, in theory, lift current limitations on cultural access to the northern portion of the Makai Tract that extends mauka of Farrington Highway¹⁵. This would result in new long-term, minor, beneficial impacts on cultural resources from the removal of limitations

¹⁵ There is already unlimited access on portions of the Makai Tract of the MMR project area, including Kāneana Cave, Mākua Beach, and the land between the ocean and the beach road makai of Farrington Highway.

on cultural access in these areas; impacts would be minor since there is already unlimited access in portions of the Makai Tract.

Potential restoration actions at the end of the current lease, however, would likely result in additional limitations on access due to public safety concerns from potential removal and/or detonation of UXO and other possible restoration activities. Restoration actions, particularly in association with the removal and/or detonation of UXO, may be particularly damaging to the landscape and result in long term limitations on cultural access and/or physical alteration on cultural resources. Since the Makai Tract is outside the main area of impact for former live-fire training at MMR, land restoration would be less intensive than in other portions of MMR. Additionally, restoration actions would determine how lands can be safely used (e.g., for cultural access).

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 non-retention by the Army of the Makai Tract and the lifting of current limitations on cultural access to the northern portion of the Makai Tract that extends mauka of Farrington Highway would also 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, as seen with impacts to cultural resources sites from public off-roading at KTA (see Section 8.1.1).

8.3.3 Alternative 3: Minimum Retention

8.3.3.1 Land Retained

Under Alternative 3, the Army would retain only the Center Tract, approximately 162 acres of State-owned land.

Lease Impacts – Minimum retention under a new lease would result in continued long-term, moderate, adverse impacts on cultural resources from limited cultural access into the foreseeable future. Long-term, moderate, beneficial impacts would continue from ongoing actions associated with cultural resources stewardship programs since no military training occurs near known cultural resources. New, short- to long-term, moderate, adverse impacts would, however, result from lease compliance actions at the end of a renewed lease.

Fee Simple Title Impacts – Impacts under a fee simple title method of land retention would result in similar impacts as a lease retention method for Alternative 3. The Army would continue to adhere to cultural resources programs and agreements that mitigate physical impacts on cultural resources. This

would also include continuing to maintain current cultural access policies per the 2001 settlement agreement and its subsequent amendments. However, short- to long-term, moderate, adverse impacts associated with lease compliance actions would not result under fee simple title ownership.

8.3.3.2 Land Not Retained

Under Alternative 3, the Army would not retain the Makai, North Ridge, and South Ridge Tracts (approximately 620 acres of State-owned land).

Impacts under this alternative would result in new long-term, significant, beneficial impacts on cultural resources from the removal of limitations on cultural access in the land not retained—if restoration actions, such as the removal of UXO, were successfully achieved with minimal impact on cultural resources. Potential restoration actions, however, would introduce new short- to long-term, significant, adverse impacts from additional limitations on access due to public safety concerns from potential removal and/or detonation of UXO and other possible restoration activities. Continued long-term, moderate, beneficial impacts would result from continued cultural stewardship activities, provided the State adopts the Army’s cultural resources management commitments. 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.

8.3.4 No Action Alternative

Under the No Action Alternative, no State-owned land would be retained at MMR after expiration of the lease, and there would be no training on State-owned land. The No Action Alternative would result in similar impacts as Alternatives 2 and 3, Land Not Retained, with the highest level of short-term to long-term significant, adverse impacts from restoration activities; the complete removal of all UXO within the State-owned land, while not as extensive as the entire training area within Mākua Valley, may still involve extensive ground disturbance. As discussed with Alternatives 2 and 3, if restoration actions, such as the removal of UXO, were successfully achieved with minimal impact to cultural resources, long-term, significant, beneficial impacts would result with the removal of limitations on cultural access for Native Hawaiians and cultural practitioners into the foreseeable future. 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. Lastly, long-term, moderate, beneficial impacts would continue from cultural stewardship activities under the State.

9 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 areas.

9.1 EXISTING MITIGATION

The USAG-HI Cultural Resources program oversees cultural resources management at Army installations on O‘ahu, including KTA, Poamoho, and MMR. 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 and the Army requirements and procedures to protect cultural resources within the training areas.

Potential physical alteration on cultural resources from ongoing activities on State-owned lands have been considered through various Section 106 consultation processes. For example, ongoing activities within the KTA and Poamoho project areas are subject to provisions within the existing 2018 PA among USAG-HI, the Hawai‘i State Historic Preservation Office, and the Advisory Council on Historic Preservation (USAG-HI 2018a). 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 2018 PA also stipulates protocols for avoiding and minimizing physical impacts, such as the following (USAG-HI 2018a:9, 12):

- Marking boundaries of known historic properties with Seibert Stakes, which serve as physical markers of off-limit areas. Soldiers are provided with a Cultural Resources awareness brief, which educates soldiers on the use and meaning of Seibert Stakes.
- Installing signs to identify specific allowable or prohibited activities or to identify designated travel routes near historic properties.
- Erecting temporary or permanent high-visibility fencing around historic properties to prevent encroachment.
- Placing sandbags or other protective material around historic properties to prevent damage from UXO disposal activities.

Physical alteration on cultural resources from ongoing military activity on State-owned land at MMR has also been considered through the Section 106 process and is implemented through nine documents. These include (1) a Memorandum of Agreement (USAG-HI 2015) currently in place and expiring in

September 2025 that addresses vegetation management and the potential impacts on historic properties, specifically petroglyphs, at MMR; (2) six separate Section 106 consultation documents regarding potential adverse effects on historic properties from intelligence training (USAG-HI 2014a), blank-fire maneuver training (USAG-HI 2014b), bivouac training (USAG-HI 2014c), non-live-fire aviation training (USAG-HI 2014d), facility management (USAG-HI 2014e), road maintenance (USAG-HI 2014f), and the associated measures to avoid effects on historic properties, thus resulting in a finding of no adverse effects; (3) a PA (USAH 2000) for Traditional Hawaiian use of Ukanipō Heiau; and (4) a PA (USAG-HI 2009) for routine military training at MMR that was executed in 2009 and expired in 2014. Although formally expired, the 2009 PA (USAG-HI 2009) also implemented site protection measures that are still maintained at MMR.

Section 106 consultation documents for MMR implement additional avoidance and minimization efforts, such as limiting herbicide use and restricting vegetation management activities to the use of hand tools (e.g., sickles, grass hooks) in designated zones around sensitive historic properties (USAG-HI 2015:2–3).

The Army also provides access for NHOs and consulting parties for the KTA and Poamoho project areas via the 2018 PA (USAG-HI 2018a) and for the MMR project area via the 2000 Ukanipō Heiau PA (USAH 2000) and the 2001 Settlement Agreement and Stipulated Order, including appendices and modifications (Mālama Mākua v. Rumsfeld 2001a, 2001b, 2002; Mālama Mākua v. Gates 2008; Mālama Mākua v. Mattis 2018) (see Sections 7.1.1, 7.2.1, and 7.3.1).

The Army's Integrated Cultural Resources Management Plan for O'ahu also describes guidelines pertaining to the management of cultural resources under the Army's stewardship at KTA, Poamoho, and MMR, and lists their application to each of nine Standard Operating Procedures for managing cultural resources (USAG-HI 2018b).

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 D for a full summary of interviewee's comments related to mitigation.

9.2.1 KTA Project Area

The following mitigation recommendations were provided by interviewees for the KTA project area:

- Mr. Apo: "[T]here needs to be interaction and dialogue between the State and the Army."
- Mr. Cáceres: "[A]reas that contain burial grounds should not be in the jurisdiction of the Army." "Should the lease be renewed in 2029, sites with burials should be removed from their [Army] jurisdiction and Native Hawaiian Organizations should become the stewards of these resources." "[A]

comprehensive inventory of cultural sites within the KTA project area should be undertaken.”

- Mr. Grace: “[M]inimizing the use of munitions and limiting the Army’s land use so that cultural resources are not impacted.” “[T]he Army work closely with kūpuna and cultural practitioners in the area on how best to use the land in the Kahuku area.”
- Mr. Hannahs: “[T]here needs to be a holistic framework that seeks to address how impacts in one area can impact other areas.” “[T]he Army also needs to know all the waterways, streams, and watersheds in order to mitigate impacts.”
- Mr. Hoe: “[M]itigate erosion.” “[T]here should be consultation with experts on environment, flora, and fauna.”
- Mr. Kajihiro: “[T]he community who are affected and most connected to these places should be the ones who determine access and proper use and should be involved in shaping a cultural use plan that incorporates revitalizing cultural practices and re-connecting people to the land.” “[N]o heavy equipment and training be allowed in the area.” “[A]ctions should be taken to restore the native forest, remove invasive plants, and allow Hawaiian community groups who have kuleana to this area to develop a cultural use plan that revitalizes their connection to the place.” “[T]he Army leverage youth and kūpuna in helping to transmit the thriving of knowledge so these ancient practices can continue.” Allow “community observers to observe military training activities and report irregularities or violations of existing agreements . . . commit to the removal of unexploded ordnance . . . [and] provide regular, safe, and meaningful cultural access to each of the sites” (Kajihiro 2021:22).
- Mr. Lenchanko: “[T]he military should give back the land” and “[a]ll of the leased properties should be returned to the State.” “Should the military retain their lease, . . . the people should be granted a perpetual easement that grants them access to the property to perform traditional practices and access cultural resources. This includes maintaining the land as a ka’ānani’au.” “[T]he military draft an inventory of all native species, plants, and cultural resources on their properties.”
- Mr. Oliveira: “[T]he Army should immediately stop the training in Kahuku” and “clean up the land and restore it.” “[T]he land should be returned to the people, not the State” and “put in trust for the Hawaiian people, through OHA or some other way.” “[T]he Army find a way to accommodate the people’s needs to access these lands beyond means of worship and cultural practices.”

9.2.2 Poamoho Project Area

The following mitigation recommendations were provided by interviewees for the Poamoho project area:

- Mr. Cáceres: “[I]t would be better if there was some kind of Native Hawaiian Organization that had jurisdiction over the stewardship of the land, and it was not just the Army managing the parcels and limiting access. This organization could ensure that the land was being cared for properly and practitioners and Hawaiians had access to these lands.”

- Mr. Grace: “[T]he project should not move forward without the guidance and direction of cultural practitioners in the area.”
- Mr. Hannahs: “[T]here needs to be a holistic framework that seeks to address how impacts in one area can impact other areas.” “[T]he Army also needs to know all the waterways, streams, and watersheds in order to mitigate impacts.”
- Mr. Hoe: No recommended mitigation and believes “the military has expended resources to protect the flora and fauna in the area.”
- Mr. Kajihiro: “[P]otential mitigation measures include restoring native forests and removing invasive species; opening the area for regular access; returning the land to the Hawaiians who have ancestral responsibilities to this land; and allowing those groups to begin the cultural revitalization of Poamoho.” “[T]he Army begin planning to restore and return the lands and allow the revival of cultural practices there.” “Should the Army retain the leased lands of Poamoho, . . . that the Army not control the access completely and there should be a Hawaiian community group in charge of planning activities for environmental and cultural restoration and revitalizing cultural practices to Poamoho.” “[T]he State has a specific kuleana under its trust obligations to the ‘āina, and that those specific obligations should drive the consideration process.”
- Mr. Lenchanko: “[T]he land retained by the Army be returned to the rightful claimants” and “the best option is for the military to return the land.” “[T]he land should be considered conservation land and would ideally go back into one of the Hawaiian trusts so that Native Hawaiians are able to protect and conserve it.” “If in 2029 the Army continues to retain their lease of Poamoho, . . . that perpetual access be granted to the people so they can utilize whatever part of the property they need.” “[T]he Army to do an assessment of the land they use for training that includes and recognizes a Hawaiian perspective on the cultural resources and traditions in the area and grants access to the people. This traditional cultural property analysis (TCP analysis) should be done in the Hawaiian cultural perspective.” “[T]he military draft an inventory of all native species, plants, and cultural resources on their properties.”
- Mr. Oliveira: “[T]he Army should immediately stop the training” and “clean up the land and restore it.” “[T]he land should be returned to the people, not the State” and “put in trust for the Hawaiian people, through OHA or some other way.” “[T]he Army find a way to accommodate the people’s needs to access these lands beyond means of worship and cultural practices.”

9.2.3 MMR Project Area

The following mitigation recommendations were provided by interviewees for the MMR project area:

- Mr. Ailā: “[T]he military should not continue to possess Mākua Valley and that it should be returned.” “[T]he money to remediate the valley should be put into an endowment for local non-profit organizations.” “[T]hat \$10 million per year (up to \$100 million) would be needed to remediate and restore Mākua Valley within 50 years” and “the recovery plan includes hiring and training

local people to manage the restoration, and also includes an education component.” “[D]oes not agree with allowing the Army to remediate the land.”

- Mr. Apo: “[R]eview compensation associated with Mākua, including 1. Negotiating a realistic lease; 2. Maintaining a high level of stewardship; and 3. Supporting the Army in retaining the land for the training site.” “[H]igh-level dialogue must commence regarding the land retention by the Army.” “[G]ood idea if the new lease included a provision to bring back native plants that used to be there.” “[C]ultural access to the valley is important.” “Mākua should not be returned to the State.” “[T]hese lands should not/cannot be returned due to the potential dangers posed by possible explosives materials.” “[T]he military continue its priority to care for and maintain the “wahi pana.””
- Mr. Cáceres: “[T]he military needs to do a better job at cleaning up the remaining munitions in the area.” “[T]he only way to mitigate the impacts is to not renew the military’s lease and for the military to give more attention to their efforts to clean up and restore the valley.” “[I]f the military’s lease is renewed in 2029, . . . one of the conditions should be that no training occurs in the valley and the military’s efforts are strictly geared towards clean up and providing access for the community.”
- Mr. Enos: “[T]he community should be made aware of any new plans the military has for Mākua, including what kind of new training they might be using the valley for, should they retain the land.” “[D]oes not feel that the military should retain the land at Mākua.” “[T]he military has the responsibility to clean up the valley and fully restore it.” “[T]he military should have a part in the conservation and protection of Mākua once their lease ends” and “that the environmental and conservation arm of the military could continue to play a role in the conservation and restoration of Mākua.” “Certain things which already exist in Mākua from the military, like fencing, can be utilized by the community once they leave.”
- Mr. Grace: “[T]he Army work closely with kūpuna and cultural practitioners in the area on how best to use the land in Mākua and how to mālama ‘āina.”
- Mr. Hannahs: “[M]itigating negative impacts is important” and “negative impacts could include noise, chemical residue, bombing, live-fire training, etc.” “[S]hould the military retain the land, the military should view the relationship to the land and community holistically.” “Mākua is managed to optimize its role in support of vital ecosystem services.”
- Mr. Hoe: “[T]he military clean up the land from previous live-fire trainings.”
- Mr. Kajihiro: “[I]n preparation for the expiration of the lease in 2029, the land should be cleaned up to the condition prior to the military occupation of the valley and then returned to the people of Mākua.” “[C]lean up should be financed by the military but led by the community.” “[D]oes not recommend the Army retain the land past 2029; instead, . . . Mākua should be used as a center for cultural practice and learning and as a living laboratory for environmental restoration.”

- Mr. Lenchanko: “[T]he military has no place in Mākua and that the land should be returned.” “[C]ultural practitioners and Mākua families should be given back perpetual access to their land.” “[T]he military draft an inventory of all native species, plants, and cultural resources on their properties.”
- Mr. Oliveira: “[T]he military needs to clean up the valley to mitigate the risk of remaining explosives.” “[T]he valley should be returned to the people to care for and protect.” “[R]estore it as best as they [Army] can and return it back to the people.” “[T]he military should start to clean up the land now so that in 2029 they can return it to the Hawaiian people.” “[T]he land should be returned to the people, not the State” and “put in trust for the Hawaiian people, through OHA or some other way.” “[T]he Army find a way to accommodate the people’s needs to access these lands beyond means of worship and cultural practices.”

9.2.4 Discussion

Overarching mitigation themes expressed by interviewees’ recommendations center around cultural access; caring for, restoring, and promoting better stewardship of the land; consulting with cultural practitioners; and conducting culturally sensitive inventory surveys to thoroughly record cultural resources within each project area.

The Army currently engages in many of these mitigation strategies such as providing cultural access (which is also included in the State’s public access policies, see Chapter 7), maintaining cultural resource sites (see Section 9.1), consulting with NHOs and other parties (see Section 9.1), and conducting cultural resources inventory surveys. The focus that interviewees placed on these issues may stem from several factors, including their perception over the nature and extent to which these mitigation strategies are implemented by the Army as well as the need for a more effective outreach campaign to ensure NHOs and other cultural practitioners are aware of access opportunities.

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 include, 1) working with cultural practitioners to update and/or develop a mutually beneficial cultural access plan that facilitates safe engagement with cultural resources, practices, and beliefs within each project area, 2) promoting better long-term stewardship of the ‘āina with regard to military use of the land, and 3) reviewing and updating the Army’s public education campaign to ensure the various access programs are known and understood by the community.

10 CONCLUSION

This CIA has presented ethnographic research from archival and contemporary resources relevant to the KTA, Poamoho, and MMR project areas to make a good faith effort to identify cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups associated with the project areas 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 areas and the broad geographical areas. The most impacts to cultural resources from the Proposed Action and the continuation of ongoing military activity, as reflected in interviews, are for the MMR project area. Paramount among these is access to the MMR project area (excluding portions of the Makai Tract that already have unlimited public access). Although current access policies exist for the areas with limited access, they are deemed inadequate by interviewees who desire safe, unlimited, and regular access to the entire MMR 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 large parts of the MMR project area, this is due to public safety concerns. The continuation of current military activity within portions of the MMR 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 per current and existing access agreements, but current limitations on access are likely to continue into the foreseeable future.

Additionally, adverse impacts would continue within the MMR 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 Mākua Valley itself, including the project area, is a sacred setting, which is altered by the presence of military activity, and in particular, by debris (e.g., UXO) left by prior military activity that continues to adversely impact the landscape despite the suspension of live-fire training.

Other impacts discussed by interviewees for all project areas, such as physical alteration on cultural resources, are associated with past actions within each project area and are currently mitigated by existing agreements, including the 2018 PA (USAG-HI 2018a) for the KTA and Poamoho project areas and, for the MMR project area, the 2015 Memorandum of Agreement that addresses vegetation management and the potential impacts on historic properties (USAG-HI 2015), six separate Section 106 consultation

documents regarding potential adverse effects on historic properties (USAG-HI 2014a, 2014b, 2014c, 2014d, 2014e, 2014f), the Ukanipō Heiau 2000 PA (USAH 2000), and the 2009 PA for routine military training (USAG-HI 2009) (see Section 9.1).

Recommendations identified by interviewees to avoid, minimize, rectify, or reduce potential impacts from the Proposed Action include working with cultural practitioners to develop a mutually beneficial access plan that promotes engagement with cultural resources, practices, and beliefs within the project area, as well as promoting better long-term stewardship of the ‘āina with regard to military use of the land.

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2014a Richard A. Fromm, Office of the Garrison Commander, to William Aila, Jr., Hawai'i State Historic Preservation Division. "The purpose of this letter is to consult with you pursuant to 36 Code of Federal Regulations (CFR) Part 800.5(b) under Section 106 of the National Historic Preservation Act of 1966, as amended, regarding an Undertaking to conduct intelligence scenario training in Makua Military Reservation (MMR), Wai'anae District, O'ahu, Tax Map Key: 08-02-001 and 08-01-001." June 12, 2014.

2014b Richard A. Fromm, Office of the Garrison Commander, to William Aila, Jr., Hawai'i State Historic Preservation Division. "The purpose of this letter is to consult with you pursuant to 36 Code of Federal Regulations (CFR) Part 800.5(b) under Section 106 of the National Historic Preservation Act of 1966, as amended, regarding an undertaking to conduct blank-fire maneuver training in Makua Military Reservation (MMR), Wai'anae District, O'ahu, Tax Map Key: 08-02-001 and 08-01-001." June 27, 2014.

2014c Richard A. Fromm, Office of the Garrison Commander, to William Aila, Jr., Hawai'i State Historic Preservation Division. "The purpose of this letter is to consult with you pursuant to 36

Code of Federal Regulations (CFR) Part 800.5(b) under Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), regarding an undertaking to conduct bivouac training in specific areas at Makua Military Reservation (MMR), Waiʻanae District, Oʻahu, Tax Map Key: 08-02-001 and 08-01-001.” June 12, 2014.

2014d Richard A. Fromm, Office of the Garrison Commander, to William Aila, Jr., Hawaiʻi State Historic Preservation Division. “The purpose of this letter is to consult with you pursuant to 36 Code of Federal Regulations (CFR) Part 800.5(b) under Section 106 of the National Historic Preservation Act of 1966, as amended, regarding an undertaking to conduct non live-fire training in Makua Military Reservation (MMR), Waiʻanae District, Oʻahu, Tax Map Key: 08-02-001 and 08-01-001.” June 12, 2014.

2014e Richard A. Fromm, Office of the Garrison Commander, to William Aila, Jr., Hawaiʻi State Historic Preservation Division. “The purpose of this letter is to provide you documentation pursuant to 36 Code of Federal Regulations (CFR) Part 800.4(d)(1) under Section 106 of the National Historic Preservation Act of 1966, as amended, regarding an undertaking to maintain and repair existing military facilities at Makua Military Reservation (MMR), Waiʻanae District, Oʻahu, Tax Map Key: 08-02-001 and 08-01-001.” July 14, 2014.

2014f Richard A. Fromm, Office of the Garrison Commander, to William Aila, Jr., Hawaiʻi State Historic Preservation Division. “The purpose of this letter is to consult with you pursuant to 36 Code of Federal Regulations (CFR) Part 800.5(b) under Section 106 of the National Historic Preservation Act of 1966, as amended, regarding an undertaking to maintain and repair range roads in Makua Military Reservation (MMR), Waiʻanae District, Oʻahu, Tax Map Key: 08-02-001 and 08-01-001.” July 14, 2014.

2015 *Memorandum of Agreement Between the US Army Garrison, Hawaii, the Hawaiʻi State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Vegetation Management in Various Archaeological Sites in Makua Military Reservation, Oʻahu, Hawaiʻi.*

2018a *Programmatic Agreement Among U.S. Army Garrison, Hawaii, the Hawaiʻi State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Routine Military Training Actions and Related Activities at United States Army Training Areas and Ranges on the Island of Oʻahu, Hawaiʻi.*

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GLOSSARY

Definitions from the *Hawaiian Dictionary* (Pukui and Elbert 1986).

‘ahi	<i>Thunnus albacares</i> , Hawaiian yellow-fin tuna. An important fish in the Honolulu market.
āhole	<i>Kuhlia sandivicensis</i> , Hawaiian flagtail. An endemic fish found in both fresh and salt water. The mature stage is āhole, the young stage āholehole.
āholehole	Young stage of the āhole, Hawaiian flagtail.
ahupua‘a	Land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (ahu) of stones surmounted by an image of a pig (pua‘a), or because a pig or other tribute was laid on the altar as a tax to the chief.
‘āina	Land, earth.
akua	God, goddess, spirit, ghost, devil, image, idol, corpse; divine, supernatural, godly.
akule	<i>Selar crumenophthalmus</i> , big-eye scad. Also called goggle-eyed scad fish. Stages of growth are pā‘ā‘ā, halalū or hahalalū, and akule.
ala; ala hele	Path, road, trail.
‘alamihi	<i>Metopograpsus thukuhar</i> , a common black crab.
ali‘i	Chief, chiefess, officer, ruler, monarch, peer, headman, noble, aristocrat, king, queen, commander; royal, regal, aristocratic, kingly.
ao	World, earth, realm.
‘aoa	Same as ‘iliahi, sandalwood [<i>Santalum</i> spp.].
‘āpana	Piece, slice, portion, fragment, section, segment, installment, part, land parcel, lot, district, sector, ward, precinct.
‘aumakua	Family or personal deity, deified ancestors who might assume the shape of sharks (all islands except Kaua‘i), owls (as at Mānoa, O‘ahu and Ka‘ū and Puna, Hawai‘i), hawks (Hawai‘i), ‘elepaio, ‘iwi, mudhens, octopuses, eels, mice, rats, dogs, caterpillars, rocks, cowries, clouds or plants. ‘Aumākua, plural of ‘aumakua.
‘aumoana	To travel to the open sea; sailor.
‘aweoweo	<i>Priacanthus meeki</i> , Hawaiian bigeye. Also called red fishes. Young are called ‘alalauā and ‘alauwā.
‘elepaio	<i>Chasiempis ibidis</i> , O‘ahu monarch flycatcher. A species of flycatcher with subspecies on Hawai‘i (<i>Chasiempis sandwichensis</i>), Kaua‘i (<i>C. sclateri</i>), and O‘ahu (<i>C. ibidis</i>).
eluehe	<i>Osteomeles anthyllidifolia</i> , Hawaiian hawthorn. A Moloka‘i name for ‘ūlei, a shrub.

hala	<i>Pandanus tectorius</i> , screw pine. The pandanus or screw pine, native from southern Asia east to Hawai‘i, growing at low altitudes, both cultivated and wild. It is a tree with many branches, which are tipped with spiral tufts of long narrow, spine-edged leaves; its base is supported by a clump of slanting aerial roots. The pineapple-shaped fruits are borne on female trees whereas the spikes of fragrant, pollen-bearing flowers are borne separately on male trees.
heiau	Pre-Christian place of worship; shrine; some heiau were elaborately constructed stone platforms, others simple earth terraces
hele mauna	To travel in the mountains; mountain climber.
huaka‘i	Trip, voyage, journey, mission, processions, parade.
hula	The hula, a hula dancer; to dance the hula.
‘iewe	Afterbirth, placenta. Also ēwe.
‘ike ku‘una	Traditional knowledge.
‘ili	Land section, next in importance to ahupua‘a and usually a subdivision of an ahupua‘a.
‘iliahi	<i>Santalum</i> spp., sandalwood. All Hawaiian kinds of sandalwood, shrubs and trees, with fragrant heart wood, small pale-green or gray-green leaves, small, dull-red or greenish flowers, and small purple fruits. Also ‘aoa.
imu	Underground oven; food cooked in an imu. Also umu.
‘ina	<i>Echinometra</i> spp., small sea urchin (wana).
inoa ‘āina	Place names.
ipu	<i>Lagenaria siceraria</i> , bottle gourd. Also <i>L. vulgaris</i> , a wide-spreading vine, with a large-angled or lobed leaves, white, night-blooming flowers, and smooth green and mottled or white fruits varying widely in shape and size. The plant is native of tropical Asia or Africa.
iwi kūpuna	The bones of the ancestors.
ka‘ahele	To make a tour, travel about; a tour; in turns.
ka‘ānani‘au	Same as ahupua‘a, the altar marking the land division.
ka‘apuni	To make a turn, go around, surround, encircle, rotate, revolve, travel; circuit.
kāhuna	(plural of kahuna) Priest, sorcerer, magician, wizard, minister, expert in any profession (whether male or female); in the 1845 laws doctors, surgeons, and dentists were called kahuna.
kalana	Division of land smaller than a moku or district; county.

kalo	<i>Colocasia esculenta</i> , taro. A kind of aroid cultivated since ancient times for food, spreading widely from the tropics of the Old World. In Hawai'i, taro has been the staple from earliest times to the present, and here its culture developed greatly, including more than 300 forms. All parts of the plant are eaten, its starchy root principally as poi, and its leaves as lū'au. It is a perennial herb consisting of a cluster of long-stemmed, heart-shaped leaves rising 30 cm. or more from underground tubers or corms.
kama'āina	Native-born, one born in a place, host; native plant; acquainted, familiar. <i>Lit.</i> , land child.
Kānaka 'Ōiwi	Native Hawaiians.
kapa	Tapa, as made from wauke or māmaki bark; formerly clothes of any kind or bedclothes.
kauila; kauwila	<i>Alphitonia ponderosa</i> , dark spear wood. A native tree in the buckthorn family (<i>Alphitonia ponderosa</i>), found on the six main Hawaiian islands, with alternating leaves, oblong to narrow and woolly below, its hard wood was used for spears and mallets.
keiki	Child, offspring, descendant, progeny, boy, youngster, son, lad, nephew, son of a dear friend.
kī	<i>Cordyline terminalis</i> , ti. A woody plant in the lily family, native to tropical Asia and Australia. It consists of a branched or unbranched, slender, ringed stem, ending in a cluster of narrow-oblong leaves 30 to 60 cm long, from among which at times rises a large panicle of small, light-colored flowers.
kia'i	Guard, watchman, caretaker.
kiawe	<i>Prosopis pallida</i> , algaroba tree. A legume from Peru, first planted in 1828 in Hawai'i, where, in dry areas, it has become one of the commonest and most useful trees.
kilo	Stargazer, reader of omens, seer, astrologer, necromancer; kind of looking glass (rare); to watch closely, spy, examine, look around, observe, forecast.
kinolau	Many forms taken by a supernatural body, as Pele, who could at will become a flame of fire, a young girl, or an old hag.
kō	<i>Saccharum officinarum</i> , sugarcane. A large unbranched grass brought to Hawai'i by early Polynesians as a source of sugar and fiber. The thick stems are full of sweet juicy pulp. In time, many different kinds of cane were produced, with many different attributes and names.
koa	<i>Acacia koa</i> ; the largest of native forest trees, with light-gray bark, crescent-shaped leaves, and white flowers in small, round heads. A legume with fine, red wood, a valuable lumber tree, formerly used for canoes, surfboards, calabashes, now for furniture and ukuleles.
ko'a	Shrine, often consisting of circular piles of coral or stone, built along the shore or by ponds or streams, used in ceremonies as to make fish multiply; also built on bird islands, and used in ceremonies to make birds multiply.

konohiki	Headman of an ahupuaʻa land division under the chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.
kuahine	Term of address for a male's sister or female cousin, sometimes replacing the more common kaikuahine.
kuahu	Altar.
kukui	<i>Aleurites moluccana</i> , candlenut tree. A large tree in the spurge family bearing nuts containing white, oily kernels which were formally used for lights; hence, the tree is a symbol of enlightenment. The nuts are still cooked for relish (ʻinamona). The soft wood was used for canoes, and gum from the bark for painting tapa; black dye was obtained from nut coats and from roots.
kula	Plain, field, open country, pasture. An act of 1884 distinguished dry or kula land from wet or taro land.
kuleana	Right, privilege, concern, responsibility, title, business, property, estate, portion, jurisdiction, authority, liability, interest, claim, ownership, tenure, affair, province; reason, cause, function, justification; small piece of property, as within an ahupuaʻa.
kūmū	<i>Parupeneus porphyreus</i> , goatfish. The stages of growth are kolokolopā, ʻāhuluhulu, kūmū aʻe, and the adult kūmū.
kumulipo	Origin, genesis, source of life, mystery; name of the Hawaiian creation chant.
kūpeʻe	<i>Nerita polita</i> , an edible marine shell. The shells were used for ornaments, the rare ones by chiefs.
kūpuna	Grandparent, ancestor, relative or close friend of the grandparent's generation, grandaunt, granduncle. Plural of kupuna.
lāʻau kahi wauke	Wooden scraping board.
lāʻau lapaʻau	Medicine. <i>Lit.</i> , curing medicine.
lama	<i>Diospyros sandwicensis</i> , ebony. All endemic kinds of ebony (<i>Diospyros</i> , synonym <i>Maba</i>), hardwood trees with small flowers and fruits. Also ēlama.
lei wili	A lei that is not strung (kui): the leaves or flowers are entwined about each other, as maile leis.
lele	Sacrificial altar or stand.
limu	Seaweed; a general name for all kinds of plants living under water, both fresh and salt, also algae growing in any damp place in the air, as on the ground, on rocks, and on other plants; also mosses, liverworts, lichens.
loʻi	Irrigated terrace, especially for taro, but also for rice; paddy.

loko wai	Fresh-water pond or lake; fountain.
lole	Cloth, clothes, costume, dress, gown; to wear clothes.
loulou	<i>Pritchardia</i> spp., native fan palm. Hats are plaited of its leaves bleached white. Also noulou.
Māhele 'Āina	Land Division of 1848.
mahi'ai	Farmer, planter; to farm, cultivate; agricultural.
mai'a	<i>Musa x paradisiacal</i> , banana. All kinds of bananas and plantains. Originally, the banana was introduced by the Hawaiians, and native varieties were developed, some of which are still used.
maile	<i>Alyxia stellata</i> ; a native twining shrub, also known as <i>Alyxia olivaeformis</i> .
maile lau li'i	A variety of maile, with narrow pointed leaves. <i>Lit.</i> , small-leaved maile.
makahiki	Ancient festival beginning about the middle of October and lasting about four months, with sports and religious festivities and taboo on war.
makai	On the seaside, toward the sea, in the direction of the sea.
makua	Parent, any relative of the parents' generation, as uncle, aunt, cousin; progenitor.
mālama 'āina	Caring for the land.
mana'o	Thought, idea, belief, opinion, theory, thesis, intention, meaning, suggestion, mind, desire, want; to think, estimate, anticipate, expect (see ex., lele'oi), suppose, mediate, deem, consider (not the intellectual process of no'ono'o).
manini	<i>Acanthurus triostegus</i> , very common reed surgeonfish. Also called convict tang, in the adult stage. In legends manini 'ele kuhō. For younger stages see 'ōhualiko, ōkua kāni'o, palapōhaku, kākala manini, maninini.
manu	Bird, any winged creature; wing of a kite. <i>Fig.</i> , person.
mauka	Inland, upland, towards the mountain, shoreward (if at sea).
mele	Song, anthem, or chant of any kind; poem, poetry; to sing, chant (preceded both ke and ka).
mele ko'ihonua	genealogical chants describing the formation of the earth.
moa	<i>Gallus gallus</i> , chicken. Red jungle chicken, fowl, as brought to Hawai'i by Polynesians; for some people, an 'aumakua.
moho	<i>Pennula sandwichensis</i> , Hawaiian rail. An extinct flightless bird.

moi	<i>Polydactylus sexfilis</i> , Pacific threadfish. Stages of growth: moi li'i, little moi, 5 to 8 cm long; pālāmoi (Kaua'i) or manamoi (Hawai'i), about 13 cm; moi, adult, 45 to about 97 cm. On Hawai'i, the pālāmoi was about 30 cm. This fish was much esteemed for food. A large school was an omen of disaster for chiefs.
moku	District, island, islet, section.
mokuna	Division, boundary, border, as of land.
mo'o	Lizard, reptile of any kind, dragon, serpent; water spirit.
mo'o akua	Legend or tale concerning the gods; god-like lizard.
mo'olelo	Story, tale, myth, history, tradition, literature, legend, journal, log, yarn, fable, essay, chronicle, record, article.
mūhe'e	<i>Sepioteuthus arctipinnis</i> , cuttlefish.
nenue, nenuwe	<i>Kyphosus hawaiiensis</i> , Hawaiian chub fish. Also known as rudder or pilot fish. Also nanue, enenue, manaloa.
niu	<i>Cocos nucifera</i> , coconut. A common palm in tropical islands of the Pacific and warm parts of eastern Asia; coconut meat or oil. Hawaiians used all parts of the tree.
noho	To live, reside, inhabit, occupy (as land), dwell, stay, tarry, marry, sit, be in session.
'oama, 'owama	Young of the weke (Mullidae), goatfish.
'ohe	<i>Schizostachyum glaucifolium</i> , native bamboo, Polynesian bamboo.
'ōhi'a 'ai	<i>Syzygium malaccense</i> , mountain apple. A forest tree to 15 m high, found on many islands of the Pacific. It belongs to the myrtle family, has large oval leaves, tufted flowers growing from trunk and branches, and cerise, apple-like fruits. Formerly Hawaiians prepared the fruit, splitting and drying it in the sun.
'ōhi'a lehua	<i>Metrosideros polymorpha</i> . The flower of the 'ōhi'a tree; also the tree itself. . . The plant has many forms, from tall trees to low shrubs, leaves round to narrow and blunt or pointed and smooth or woolly. The flowers are red, rarely salmon, pink, yellow, or white. The wood is hard, good for flooring and furniture, formerly used for images, spears, mallets.
'ō'io	<i>Albula virgata</i> , Hawaiian bonefish. Stages of growth are: pua 'ō'io, finger length; 'āmo'omo'o, forearm length; 'ō'io, adult, 60 to 90 cm long. See ex., halalē.
o'io'ina	Resting place for travelers, such as a shady tree, rock; to rest.
'ōlena	<i>Curcuma domestica</i> , turmeric. A kind of ginger distributed from India into Polynesia, widely used as a spice and dye in foods, to color cloth and tapa, and medicinally for

	earache and lung trouble. A cluster of large leaves rises from thick, yellow underground stems, which are the useful part of the plant, either raw or cooked.
oli	Chant that was not danced to, especially with prolonged phrases chanted in one breath, often with a trill (‘i‘i) at the end of each phrase; to chant thus.
‘ōlohe	Skilled, especially in lua fighting, so called perhaps because the beards of lua fighters were plucked and their bodies greased.
‘o‘opu	Gobiidae, freshwater goby. Some are in salt water near the shore, others in fresh water, and some said to be in either fresh or salt water.
‘ōpae	<i>Halocaridina rubra</i> , red shrimp. For some persons, ‘ōpae were ‘aumakua.
‘ōpelu	<i>Decapterus macarellus</i> , mackerel scad. Also <i>D. maruadsi</i> ; an ‘aumakua for some people.
pia	<i>Tacca leontopetaloides</i> , Polynesian arrowroot. An herb known in the eastern tropics, formerly cultivated in Hawai‘i for the starchy tubers, which were used for medicine and food. In spring or summer, a few leaves rise on long stems from a tuber and die back in the winter. The blades are much divided, about 30 cm wide, somewhat like papaya leaves in shape.
pili	<i>Heteropogon contortus</i> , tanglehead, twisted beardgrass, pili grass. A grass known in many warm regions, formerly used for thatching houses in Hawai‘i; sometimes added to the hula altar to Laka, for knowledge to pili or cling; thatch (preceded by ke).
pō	Night, darkness, obscurity; the realm of the gods; pertaining to or of the gods, chaos, or hell.
pōhaku	Rock, stone, mineral, tablet.
poi	Hawaiian staff of life, made from cooked taro corms, or rarely breadfruit, pounded and thinned with water.
pono	Goodness, uprightness, morality, moral qualities, correct or proper procedure, excellence, well-being, prosperity, welfare, benefit, behalf, equity, sake, true condition or nature, duty; moral, fitting, proper, righteous, right, upright, just, virtuous, fair, beneficial, successful, in perfect order, accurate, correct, eased, relieved; should, ought, must, necessary.
pua‘a	Pig, hog, swine, pork.
pule	Prayer, magic spell, incantation, blessing, grace, church service, church; to pray, worship, say grace, ask a blessing, cast a spell.
pu‘u	Hill, peak, cone, hump, mound, bulge, heap, pile.
pu‘uhonua	Place of refuge, sanctuary, asylum, place of peace and safety.

‘uala, ‘uwala	<i>Ipomoea batatas</i> , sweet potato. A perennial, wide-spreading vine, with heart-shaped, angled, or lobed leaves and pinkish-lavender flowers. The tuberous roots are a valuable food, and they vary greatly in many ways, as in color and shape. Though of South American origin, the plant has been a staple food since ancient times in many parts of Polynesia, as well as in some other regions.
uhau humu pōhaku	(the practice of) dry-stone stacking.
uhu	<i>Scarus perspicillatus</i> , parrotfish. Uhu are plant eaters, the teeth are strong and beaklike, well fitted for clipping off food from coral. Names of growth stages are ‘ōhua (very young), pānuhu or pōnuhunuhu (medium), and uhu (mature). Variant names are male and ‘ōmale for a young stage.
‘ūlei	<i>Osteomeles anthyllidifolia</i> , Hawaiian hawthorn. A native spreading shrub, closely allied to other species found on some other islands of the Pacific. It has compound leaves, small white roselike flowers, small round white fruits. The wood is tough and formerly was used for digging sticks, fish spears, and the ‘ūkēkē (musical bow).
‘ulu	<i>Artocarpus altilis</i> , breadfruit. A tree perhaps originating in Malaysia and distributed through tropical Asia and Polynesia. It belongs to the fig family, and is grown for its edible fruits, sometimes for ornament. The leaves are large, oblong, more or less lobed; fruits are round or oblong, weighing up to 4.5 kilos, when cooked tasting something like sweet potatoes.
uluhe	<i>Dicranopteris linearis</i> , false staghorn fern. Weedy, creeping, branching ferns, forming dense thickets. Also unuhe.
‘ulu maika	Stone used in maika game; to play the ‘ulu maika game; bowling, bowling ball.
‘umeke lā’au	Wooden bowl.
wahi	Place, location, position, site, setting.
wai	water, liquid, or liquor of any kind other than sea water (see ex., koni), juice, sap, honey.
wana	A sea urchin, as <i>Diadema paucispinum</i> and <i>Echinothrix diadema</i> , considered by some an ‘aumakua.
wauke	<i>Broussonetia papyrifera</i> , paper mulberry. A small tree or shrub, from eastern Asia, known throughout the Pacific for its usefulness. It belongs to the fig or mulberry family. The bark was made into tough tapa used for clothing, bed clothes; it lasted longer than māmaki tapa.
weke	Certain species of the Mullidae, surmullets or goatfish. All weke have large scales and are usually found in reefs, sometimes in deep water. Both red and light-colored weke were popular as offerings to the gods to turn away curses.

APPENDIX A: INDIVIDUALS AND ORGANIZATIONS CONTACTED

Table A-1. List of Individuals Contacted (Names Provided by USAG-HI, dated March 23, 2022)

FIRST NAME	LAST NAME	PROJECT AREA ASSOCIATION	COMMENTS
William J.	Ailā	MMR	Interviewed July 6, 2022.
Peter	Apo	KTA, MMR	Interviewed June 15, 2022.
(Norman) Mana Kaleilani	Cáceres	KTA, Poamoho, MMR	Interviewed June 13, 2022.
Lynette	Cruz	MMR	Emailed June 6, 2022. Agreed to interview and referred others but did not respond to further scheduling request on June 13, 2022.
Chris	Dawson	KTA, Poamoho, MMR	Emailed June 8, 2022. No response.
Clarence Ha’o	DeLude	KTA, Poamoho, MMR	Emailed June 8, 2022. No response.
Noelani	DeVincent	KTA, Poamoho	Emailed. Initially agreed to interview then decided not to participate.
Vince Kana’i	Dodge	MMR	Emailed June 9, 2022. No response.
Eric	Enos	MMR	Interviewed June 12, 2022.
Hailama	Farden	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
(Nathan) Keola	Grace	KTA, Poamoho, MMR	Interviewed May 11, 2022.
Ha’aheo	Guanson	KTA, Poamoho, MMR	Emailed June 8, 2022. No response.
Neil J.K.	Hannahs	KTA, Poamoho, MMR	Interviewed June 20, 2022.
Justin	Hill	MMR	Emailed June 8, 2022. No response.
Allen	Hoe	KTA, Poamoho, MMR	Interviewed June 14, 2022.
William Aweau	Ho’ohuli	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
Sylvia	Hussey	KTA, Poamoho, MMR	Declined interview.
Ronald	Jarrett	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
Jason	Jeremiah	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
William	Kaina	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
Kyle	Kajihiro	KTA, Poamoho, MMR	Interviewed June 15, 2022. Submitted letter August 31, 2021 (O’ahu ATLR EIS scoping comments).
Shad	Kane	KTA, Poamoho, MMR	Emailed June 5, 2022. No response.
Charles William Kahana	Kapua	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.

FIRST NAME	LAST NAME	PROJECT AREA ASSOCIATION	COMMENTS
Kimball	Kaopio	MMR	Email returned as undeliverable.
Kepo'o	Keli'ipa'akaua	KTA, Poamoho, MMR	Emailed June 8, 2022. No response.
Emalia	Keohokalole	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
Glen Makakauli'i	Kila	KTA, Poamoho, MMR	Emailed June 5, 2022. No response.
Lani Ma'a	Lapilio	KTA, Poamoho, MMR	Emailed June 8, 2022. Declined interview
Antoinette	Lee	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
Thomas	Lenchanko	KTA, Poamoho, MMR	Interviewed May 10, 2022.
Keona	Mark	KTA, Poamoho, MMR	Emailed June 8, 2022. No response.
Rocky	Naeole	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
Carolyn Keala	Norman	Poamoho	Emailed June 8, 2022. Declined interview, referred Tommy Shirai.
Christophor Edward	Oliveira	KTA, Poamoho, MMR	Interviewed June 5, 2022.
Maria	Orr	KTA, Poamoho, MMR	Emailed June 8, 2022. Declined interview.
Kaleo	Paik	KTA, Poamoho, MMR	Emailed June 8, 2022. No response.
Benton Kealii	Pang	KTA, Poamoho, MMR	Emailed June 8, 2022. No response.
Kahu Kaleo	Patterson	KTA, Poamoho, MMR	Emailed June 5, 2022. No response.
Leimaile	Quitevis	KTA, Poamoho, MMR	Emailed June 5, 2022. No response.
William	Richards	KTA, Poamoho, MMR	Emailed June 9, 2022. No response.
Sparky	Rodrigues	MMR	Emailed June 9, 2022. No response.
Kēhaulani	Souza	KTA, Poamoho, MMR	Emailed June 8, 2022. No response.
Mililani B.	Trask	KTA, Poamoho, MMR	Emailed June 12, 2022. Declined interview, recommended others to be interviewed.
Harry	Wasson	KTA, Poamoho, MMR	Emailed June 5, 2022. No response.
JR Keonekapu	Williams	MMR	Emailed June 5, 2022. No response.

APPENDIX B: ONLINE SURVEY QUESTIONS AND RESPONSES

Honua Consulting, LLC (Honua) conducted an online survey to ensure as many individuals as possible were given the opportunity to participate in the ethnographic scoping process for the Cultural Impact Assessment (CIA) for Army Training Land Retention of State Lands in Kahuku Training Area, Kawaihoa-Poamoho Training Area, and Makua Military Reservation, Island of O‘ahu, Hawai‘i. The survey proved valuable when the COVID-19 pandemic resulted in emergency orders limiting travel and person-to-person contact.

To avoid the inadvertent exclusion of individuals wishing to participate in the CIA, Honua employed two methods to inform the public about the online survey. First, a public notice was placed in *Ka Wai Ola*, a newspaper published by the Office of Hawaiian Affairs, along with a link to the survey. Second, Honua posted a notice and a link to the survey on their Facebook and Instagram accounts to attempt to reach an even broader segment of the population. Honua created the survey in September 2021 and made it publicly available starting November 1, 2021. At the time of this writing, the survey remains open and available to any member of the public.

Responses, excluding personal identifiable information, to all survey questions for each project area are provided in this appendix. Percentages are based on the combined total number of responses and skipped responses for each question.

KAHUKU TRAINING AREA (KTA)

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 6,300 acres of State-owned land on O‘ahu. 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.*
 - “Yes” responses (n=25, 93%)
- 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.*
 - Skipped responses (n=2, 7%)

The responses from those who marked that they did not want to be a participant were excluded from the report.

Question 2: *Please provide your name.*

- Responses (n=7, 26%)
- Skipped responses (n=20, 74%)

Question 3: *What is your current profession?*

- Responses (n=6, 22%)
- Skipped responses (n=21, 78%)

Question 4: *Where do you live now?*

- Responses (n=7, 26%)
- Skipped responses (n=20, 74%)

Question 5: *Where were you born and raised?*

- Responses (n=7, 26%)
- Skipped responses (n=20, 74%)

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.*

- Responses (n=6, 22%)
- Skipped responses (n=21, 78%)

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

- Responses (n=7, 26%):
 - Resident nearby
 - I work in Kahuku.
 - None
 - Historical Traditional Protocols
 - None
 - None
 - It is Native Hawaiian Lands
- Skipped responses (n=20, 74%)

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?*

- Responses (n=7, 26%):
 - Yes

- *If we had the opportunity to celebrate Makahiki in the Project area we could, other traditions is the burying of ewe and according to a kūpuna that secretly shared this with me, the area was known for women to gather to pray to Lewa for female and motherly issues.*
- No
- *Yes... When it comes to Genealogy, and Burial Iwi NA KUPUNA KAHIKO*
- No
- No
- *Of course! All mountain/forest areas in Hawaii, therefore the aforementioned project areas are sacred! Not to mention the endemic/native plants/birds/insects etc that will be irreparably harmed/destroyed*
- Skipped responses (n=20, 74%)

Question 9: *What place names do you know for the Project Area or areas near or adjacent to the Project Area?*

- Responses (n=6, 22%):
 - *Kahuku Moto Cross track*
 - *Names near the area is Keana where the high school and police station sites towards the mauka area. Kahuku point is where Kaleohipa & Nāwaiulawe. And there is a secret where a magical Hawaiian moorhen lives.*
 - *Koolau*
 - *In KAHUKU... PUPUKEA AND PAUMALU HEIAU in MAKUA...MAKUA CAVE AND MAKAHA HEIAU (HALE MANA)*
 - *Kahuku*
 - *None*
- Skipped responses (n=21, 78%)

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

- Responses (n=6, 22%):
 - *Depends on what you mean by cultural resources. There many stories and right now on a clear night you can see Makali'i Pleiades in alignment with the area signifying the many Māui stories, Hi'iaka stories and connects with navigation. If we were to revitalize an ahu or altar in the area, it could signify and recognize the coming back of native birds and resurrect Native plants.*
 - No
 - *WAIMEA VALLEY.... KUKANILOKO MAKUA VALLEY... OPENING UP OUR VALLEY STREAMS AS WAS FLOWING FREELY*
 - No
 - No

- *Native Hawaiian gathering rights*
- Skipped responses (n=21, 78%)

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.*

- Responses (n=4, 15%):
 - *The North Shore of Oahu is treasured by all Hawaiians. It was one of the first settlements in Hawaii and today is the second largest tourist attraction on Oahu, second to Pearl Harbor.*
 - *The project area needs Koa trees, iliahi, or plants that once thrived there. If we bring back the Native bat population that could help control the insects.*
 - *No*
 - *ALL IWI BURIALS and HISTORICAL HEIUA*
- Skipped responses (n=23, 85%)

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

- Responses (n=6, 22%):
 - *There are a number of Hi'iaka stories passed down, Kaalaehuapi the sacred mud hen lives in one of those caves, there may be iwi in the area according to McAllister "Archaeology of Hawaii."*
 - *No*
 - *In these Sacred Island Caves and VALLEYS AHUPUAA IS NIGHT MARCHERS TO PROTECT OUR LANDS FROM ILLEGAL DISRESPECTFUL INVADERS... INTRUDERS.... And MILITARY TRESPASSERS.... Without Proper PERMITS IS A CONCERN*
 - *No*
 - *No*
 - *Of course! All areas are associated with stories/mele*
- Skipped responses (n=21, 78%)

Question 13: *The Department of the Army is proposing retention of up to approximately 1,170 acres of State-owned land at the Kahuku Training Area. TMKs (1) 5-8-002:002 and (1) 5-9-006:026 in the ahupua'a of Paumalū, Waiale'e, and Pahipahiālua in the moku of Ko'olaupua on the Island of O'ahu. Are you aware of any resources that may be impacted by such a project? What might those impacts be?*

- Responses (n=7, 26%):
 - *Surfing and the pristine ocean that supports it.*
 - *The sacred wahi pana may be impacted, Makahiki games and traditions would be impacted.*

- No
- *OUR BURAIL GROUNDS OF OUR ANCESTORS.... FEDERAL STATE AND COUNTY OF OAHU HAS NOT RESPECTED AND OR RECOGNIZED OUR IWI NA KUPUNA KAHIKO*
- No
- No
- *Numerous endemic/native plants/birds/insects.*
- Skipped responses (n=20, 74%)

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

- Responses (n=7, 26%):
 - *Pick another location.*
 - *By using less fire arms and grenades. The Army should do more hand to hand combat and use safe technology for firearms.*
 - No
 - *Please involve all PRACTITIONORS AS MYSELF TO NOW HAVE SAY, CONCERNING MILITARY LAND USE AT THESE PROJECTS*
 - No
 - No
 - *Yes, DO NOT renew the army's lease!!! They will damage & kill the natural habitat of these areas.*
- Skipped responses (n=20, 74%)

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

- Responses (n=6, 22%):
 - *The practices of the Makahiki games and traditions could be impacted, native plants and birds too. The James Campbell Wildlife Refuge would be impacted.*
 - No
 - *Yes.... PUPUKEA AND PAUMALU.... Our ANCESTORS IWI BONES HAS BEEN PLACED IN BOXES AND ON SHELVES FOR YEARS AND NOW AFTER 12 years of being in the Faces of OAHU KAPOLEI DLNR ALAN DOWNER.... There is NO FUNDING AND OR ASSISTANCE TO FINISHING THE HEIAU FROM BEING COMPLETED... now in Pupukea Paumalu Ahupuaa.... WE HAVE A UNFINISHED NAMELESS GRAVE....PLEASE HELP ASSIST ME LAY MY PUPUKEA PAUMALU ANCESTORS IN PEACE*
 - None
 - No
 - *Gathering rights, native flora & fauna, underground water sheds*

- No responses (n=21, 78%)

Question 16: *Can you think of ways in which any potential impacts can be minimized, mitigated, or avoided?*

- Responses (n=6, 22%):
 - *If the Army did more running, training exercises and could participate in Makahiki games, explosives can be avoided.*
 - *No*
 - *Getting those as myself involved with your IMPACTS OF IMPROVEMENTS... thank you*
 - *None*
 - *No*
 - *Yes, Do Not allow the military to damage this island any more than they already have! They have developed & ruined sooo much of Hawaii Nei-just look around*
- No responses (n=21, 78%)

Question 17: *Do you have any recommendations for conditions or best management practices for the project, should it proceed?*

- Responses (n=6, 22%):
 - *Best Management practices would be to set traps for the mongoose and cats, support the Hawaiian moor hen population to control the slug problem or place Epsom salt and plant more Koa and Iliahi trees.*
 - *Let the Army manage the land*
 - *Please get more CULTURAL PRACTITIONERS INVOLVED TO HAVE A SAY... MOST OF OUR VOICES IS NOT APPRECIATED BY MADEUP GROUPS THAT ALREADY HAVE THEIR OWN AGENDAS*
 - *None*
 - *No*
 - *Do not proceed with the project!! Return the land back*
- No responses (n=21, 78%)

Question 18: *Is there anything else you would like to share?*

- Responses (n=6, 22%):
 - *Lewa is a highly respected diety in the Kahuku area which associates with nurturing, and the feminine aspect.*
 - *The Army has rules that protect the Aina.*
 - *Yes.... more foreign developments needs to take our KU KANAKA MAOLI ANCESTORS TRADITIONAL PROTOCOLS SERIOUSLY AND GET OUR ISLAND HAWAIIANS A CHANCE TO SPEAK AND BE HEARD*

- No
- I fully support the retention of training lands.
- The military should leave Hawaii, they are an unwelcome Occupier
- No responses (n=21, 78%)

Question 19: *If there are any documents you would like to share, feel free to upload them here.*

- Responses (n=1, 4%)
 - One respondent provided a screenshot as a response:



- Skipped responses (n=26, 96%)

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 6,300 acres of State-owned land on O'ahu.*

- "Yes" responses (n=7, 26%)
- Skipped responses (n=20, 74%)

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.*

- Responses (n=2, 7%)
- Skipped responses (n=25, 93%)

KAWAILOA-POAMOHO TRAINING AREA (POAMOHO)

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 6,300 acres of State-owned land on O’ahu. 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.*
 - “Yes” responses (n=10, 100%)
- 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.*
 - Skipped responses (n=0, 0%)

Question 2: *Please provide your name.*

- Responses (n=4, 40%)
- Skipped responses (n=6, 60%)

Question 3: *What is your current profession?*

- Responses (n=3, 30%)
- Skipped responses (n=7, 70%)

Question 4: *Where do you live now?*

- Responses (n=4, 40%)
- Skipped responses (n=6, 60%)

Question 5: *Where were you born and raised?*

- Responses (n=4, 40%)
- Skipped responses (n=6, 60%)

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.*

- Responses (n=3, 30%)
- Skipped responses (n=7, 70%)

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

- Responses (n=4, 40%):
 - *Resident of Wahiawa*
 - *I'm a resident of Wahiawa and have hiked Koolau and walked historic sites on Kauai, Maui, Oahu, Hawaii, and Molokai.*
 - *Home*
 - *Keep Hawaiian Land in Hawaiian Hands*
- Skipped responses (n=6, 60%)

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?*

- Responses (n=3, 30%):
 - *We use these forests to restore our sanity from overthrow. Our aina is our mana, our soul. What do we have left? We are surrounded by military containment! Resources of our habitat are in our natural environment for medicine, for native animals that are aumakua. Military action sets our forest on fire and destroyed habitat for owls, bats and land snails. Our aina is sacred to us. These kuahiwi are all that remains to sustain our native entitlements. Stop the Steal!*
 - *Yes*
 - *All mountainous/forest regions in Hawaii are sacred! This is also part of Oahu's Watershed area, not a playground for the military*
- Skipped responses (n=7, 70%)

Question 9: *What place names do you know for the Project Area or areas near or adjacent to the Project Area?*

- Responses (n=3, 30%):
 - *Helemano*
 - *I've been over Poamoho trail at least 5 times taking Hawaiians to be enveloped in the kilihune mist of the Kolau ridge. We have bathed in the crater bog. We have slept in the ridge cabin. Area also known for Helemano and the ancient river rocks Kukaniloko, regarded as birth stones for its mana. I live at the edge of East range and their desecration of our environment with equipment, trappings and violent ammunition echoes morning and night. There is no reasonable purpose to practice for ground war in our ahupuaa. We live from the mountain to the sea. My neighbors still hunt puaa to feed their ohana. We are natives living on the fringes of military Communications at Helemano and Wahiawa. Respect our native legacy for this aina and Stop the Steal. Enough. Our Hawaiian Constitution was supposed to protect us but Military Action continues from 1893!*
 - *Anahulu valley, kawailoa ahupuaa*

- Skipped responses (n=7, 70%)

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

- Responses (n=3, 30%):
 - *You fools. Our cultural resources are our eyes looking to the Ridge the Koolau and drinking in the wild refuge we can rest there. To walk the serpentine trail the ridge is a freedom to an ancient paradigm without English conventions. We take joy in the fragrance of ohia, palaa, guawa, rose apples, every leaf surrounds us with freedom of the kuahiwi. We are Hawaiians practicing our generations paths across land that was ours. To journey in Poamoho is an empowerment only koko Hawaii can know. As we chant "mahalo e na akua," we know we once had it all. This aina is our "all"!*
 - *Anahulu [University of Hawaii] UH excavated historical sites*
 - *This entire area is a cultural resource, full of endemic plants/insects & birds*
- Skipped responses (n=7, 70%)

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.*

- Responses (n=4, 40%):
 - *It belongs to the people and should be returned to the people.*
 - *I have such aloha for this aina one hanau, Poamoho, I wanted my ashes placed there. It is comparable to the paradigm of Brigadoon. There are no haole concepts for the eternal spirit of Hawaii that lives in a Hawaiian who protects the land. It is the source that feeds our soul. We are born from it. Stop the Steal.*
 - *Most population of Hawaiians of all oahu at one time. Productive food valley*
 - *It's part of Oahu's watershed, need I say more? Plus one of the last areas on Oahu that still contain endemic species*
- Skipped responses (n=6, 60%)

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

- Responses (n=4, 40%):
 - *It's land the State had no authority to lease under the Hawaiian Kingdom. It belongs to the people of Hawaii. Land that also used to be hunted and farmed.*
 - *There are many moolelo for this aina. Pele and her travels would have created the remnant crater. Laieikawai reflects the breath of history of this area ascending from Laie side. Poamoho trail descends to Laie. The presence of native puua make this the home to Kamapuaa and his pursuit of Pele. All of the Maile sister stories would relate to this aina. Ohia growths tell of*

Hiiakaikapoliopole. You cannot separate our oral record from this range. It lives in all the vegetation and geology around.

- *Chinook and Osprey blade percussion rattle the stone structures in this sacred valley used for helicopter navigation*
- *Of course! Too bad most are lost due to Genocide of the Kanaka Maoli!*
- Skipped responses (n=6, 60%)

Question 13: *The Department of the Army is proposing retention of up to approximately 4,370 acres of State-owned land at the Kawaiiloa-Poamoho Training Area. Tax Map Key (TMK) (1) 7-2-001:006 in the ahupua'a of Wahiawā and Wai'anae Uka on the Island of O'ahu. Are you aware of any resources that may be impacted by such a project? What might those impacts be?*

- Responses (n=4, 40%):
 - *The military is the largest producer of waste in the State of Hawaii. That waste leaks into our water resources. They already occupy lots of Hawaii's prime land. The people NEED the land back as the military occupants take up too much of our housing resources, don't pay taxes for our roads, restricts the people from land they no longer have access to, and more.*
 - *They set the forest ablaze. It destroyed all native vegetation. Any native specie, rare manu, land snails depending on the elevation and denuded the ground. The neighborhood was evacuated. We are afraid of all out fire in our forest. Secondly the sounds of war, helicopters and AW50, AK15 and other munitions destroy our serenity. Ka lai. How much more must be stolen? Isn't it enough we are so reduced in quantum to barely register as Native People? We are! Our blood runs from Mauka to Makai. Stop. Just Stop.*
 - *Noise, WWII noise, last century war machines useless in next conflict Burnt oil fuel pollution.*
 - *Endemic plants/insects/birds/water shed related areas-its all related*
- Skipped responses (n=6, 60%)

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

- Responses (n=4, 40%):
 - *If the land is returned to the people and the military removes themselves from it. Cleans up any waste from the land as well.*
 - *Stop. I have walked the land you are stealing. It is my kuleana. Not yours. I am descended from this ahuapuaa. My name Kalaukieleula is "Fragrance of gardenia in the Forest." It is recorded in Laieikawai. I am a reflection of generations. Stop the steal. Put land back to its original life without you.*
 - *Train over less populated areas. Use 1T\$ DOD funds for the future good.*
 - *Yes, DO NOT ALLOW the military to renew their lease!! They shouldn't be "bombing/shooting/stomping around" in a native Watershed forest!!*

- Skipped responses (n=6, 60%)

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

- Responses (n=3, 30%):
 - *Restrictions to my accessibility. My generations to come will be deprived of the freedom to walk through their history and unable to harvest resources for food or religion of the hula or medicinal practices.*
 - *Peace and serenity in our homes, valleys, mountains, shore and seas.*
 - *Endemic Species!!! Look it up*
- No responses (n=7, 70%)

Question 16: *Can you think of ways in which any potential impacts can be minimized, mitigated, or avoided?*

- Responses (n=4, 40%):
 - *No renewal of the lease and cleaning of the land.*
 - *Stop the steal.*
 - *Use less populated location*
 - *Yes, kick the Military out! They have destroyed enough of Hawaii's ecosystems irreparably!*
- No responses (n=6, 60%)

Question 17: *Do you have any recommendations for conditions or best management practices for the project, should it proceed?*

- Responses (n=4, 40%):
 - *Allow full access for the people for housing, hunting and agriculture on the land.*
 - *No. I am 78. I am fully aware of how much has been taken through the colonization of Hawaii. We as Hawaiians have the worst of academic resources, relegated to poverty as our land is an international market we can't afford. We are enslaved to a visitor industry and military sacrifices. We have been marginalized by conscious immigration to diffuse blood quantum. The Overthrow and haole infusion of WWII have destroyed, actualized genocide. This expansion and continuation furthers our degradation.*
 - *Protests outside gates.*
 - *It SHOULD NOT proceed!! The Military has continuously damaged native ecosystems! It's not a matter of IF, but when & how much will be damaged. The military's continuous damage/destruction is well documented*
- No responses (n=6, 60%)

Question 18: *Is there anything else you would like to share?*

- Responses (n=4, 40%):
 - *I oppose any renewal of the land lease.*
 - *Stop the Steal. Restore our mauka retreats. Let us live. Let our Hawaii live.*
 - *We have endured increase military helicopters and convoys, 50 caliber and rifle fire day and night that echo down thru our walls and bones. Endless rimpac. The army used to stop when complaints got this severe. We get no reprove, sunday for a few hours maybe. Stop please.*
 - *Return all Native Hawaiian Lands! The military is illegally occupying Hawaii & their desecration should not be condoned any longer!*
- No responses (n=6, 60%)

Question 19: *If there are any documents you would like to share, feel free to upload them here.*

- Responses (n=0, 0%)
- Skipped responses (n=10, 100%)

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 6,300 acres of State-owned land on O'ahu.*

- "Yes" responses (n=4, 40%)
- Skipped responses (n=6, 60%)

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.*

- Responses (n=2, 20%)
- Skipped responses (n=8, 80%)

MAKUA MILITARY RESERVATION (MMR)

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 6,300 acres of State-owned land on O’ahu. 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.*
 - “Yes” responses (n=31, 100%)
- 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.*
 - Skipped responses (n=0, 0%)

Question 2: *Please provide your name.*

- Responses (n=7, 23%)
- Skipped responses (n=24, 77%)

Question 3: *What is your current profession?*

- Responses (n=7, 23%)
- Skipped responses (n=24, 77%)

Question 4: *Where do you live now?*

- Responses (n=7, 23%)
- Skipped responses (n=24, 77%)

Question 5: *Where were you born and raised?*

- Responses (n=7, 23%)
- Skipped responses (n=24, 77%)

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.*

- Responses (n=6, 19%)
- Skipped responses (n=25, 81%)

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

- Responses (n=7, 23%):
 - *I am a resident who does native plant restoration in the area with state parks and I find military remnants constantly while trying to restore the land*
 - *I've been visiting and swimming at Makua Beach for 33 years.*
 - *Reside in the Moku*
 - *None*
 - *N/A*
 - *Traveler*
 - *Resident of O'ahu*
- Skipped responses (n=24, 77%)

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?*

- Responses (n=7, 23%):
 - *I am aware that Mākua is land that was taken from the people and used for target practice during the war... The land was to be given back but has not been done.*
 - *Yes, there are remnants of a heiau in Makua Valley*
 - *True*
 - *None*
 - *Yes, some. This is a sacred place for Native Hawaiian people.*
 - *Yes*
 - *Makua valley has many cultural artifacts, cultural sites, and endanger native plants and animals. Cultural sites include burials sites. The current lack of oversight has made access to these sacred sites dangerous and difficult.*
- Skipped responses (n=24, 77%)

Question 9: *What place names do you know for the Project Area or areas near or adjacent to the Project Area?*

- Responses (n=6, 19%):
 - *Mākaha, Kea'au, Ohikilolo, Mākua, Kahanahāiki, Keawa'ula, Ka'ena*
 - *Kaneana cave*
 - *Lele*
 - *Ohikilolo, Keawaula, Keaau*
 - *Makua cave, makia beach, keawaula beach, kuaokala forest reserve*
 - *Keavaula, Makua, Leaping place of Souls*
- Skipped responses (n=25, 81%)

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

- Responses (n=6, 19%):
 - *There are multiple cultural gardens and sites on the Makai side a Farrington, starting at the cave all the way down to the point*
 - *The beach is used for hunting for fish, octopus, and crustaceans for traditional Hawaiian dishes*
 - *Iwi*
 - *No*
 - *Cultural Access*
 - *It is the place where souls departs for the afterlife, and is believed to b the place where man was created. There are ruins of villages and heist.*
- Skipped responses (n=25, 81%)

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.*

- Responses (n=6, 19%):
 - *Makua was once a thriving Hawaiian ahupua'a prior to the arrival of western settlers. There may be important cultural artifacts throughout the valley that have been damaged by military occupation.*
 - *Traditional or Customary Practice access.*
 - *This area was once a place were ohana lived and farmed the land. A place of mythical stories about Papa and Wakea.*
 - *Please return this land to the rightful owners- the Hawaiian people. Thank you.*
 - *None*
 - *The original residents of Makua Valley were forced off of their land. It should be restored to native Hawaiians.*
- Skipped responses (n=25, 81%)

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

- Responses (n=5, 16%):
 - *There is a legend that Kamehameha called Makua barking sands because of the sound the waves makes on the beach.*
 - *Observed and counted 12 Albatross birds at Kaena Point for a Botany class assignment.*
 - *Many, do the research*
 - *Countless Hawaiian stories*

- *The army has plastered the landscape with unexploded ordinance which still has not been clean up.*
- Skipped responses (n=26, 84%)

Question 13: *The Department of the Army is proposing retention of up to approximately 760 acres of State-owned land at the Makua Military Reservation. Tax Map Key (TMK) (1) 8-1-001:007 and 008; (1) 8-2-001:001, 022, 024, and 025 in the ahupua'a of Mākua, Kahanahāiki and Ko'iahi in the moku of Wai'anae on the Island of O'ahu. Are you aware of any resources that may be impacted by such a project? What might those impacts be?*

- Responses (n=6, 19%):
 - *The impact is directly affecting native people engaging in native practices on land that has been destroyed by invasive species both people and plants and needs to be restored*
 - *Native Hawaiians access to 'aina is restricted when that could be used for traditional food cultivation, religious practices, educational services, and even housing*
 - *The entire Moku of Waianae will be directly impacted with Industrial Multi Complexes.*
 - *All of nature, including fragile native plants, potential sacred burial sites and potential water impacts*
 - *Remove all hazards, take down fences, restore community*
 - *Farmland, cultural sites, water rights and water resources.*
- Skipped responses (n=25, 81%)

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

- Responses (n=7, 23%):
 - *The military needs to handover the land, mitigate damages and exit peacefully*
 - *The 'aina should be restored to Native Hawaiians to decide on our own usage*
 - *Aside from Humpback Whales, all living fauna are unavoidable therefore it's a direct impact.*
 - *Stop using for military purposes, allow the Aina to rest and replenish*
 - *It is preferred to avoid this part of the island. There is a s a perception that Waianae is "at the bottom of the list" with regards to cultural recognition- I.e landfills get proposed here as opposed to other more affluent parts of the island. Waianae is not a dumping ground and should be respected for the cultural history that exists here.*
 - *Don't lease to military. Duh.*

- *Army should clean up and let go of the lease. We are not at war-it should be returned to the people of Hawai'i as promised. There is nothing they can do except clean up before they move out.*
- Skipped responses (n=24, 77%)

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

- Responses (n=4, 13%):
 - *The visiting of sacred heiau is severely impacted*
 - *Diluting the existing ancient Koa's minimizes our ancient lele's.*
 - *Lack of access not allowing cultural access without restriction*
 - *Makua Valley is considered a place of healing and many herbal medicines grow wild in the area.*
- No responses (n=27, 87%)

Question 16: *Can you think of ways in which any potential impacts can be minimized, mitigated, or avoided?*

- Responses (n=4, 13%):
 - *Demilitarize Hawai'i*
 - *The potential of such industrious plan will completely destroy it's existing resources. The future climate changes will enhance sea level rises which this 760 acre project will add to it's potential problems within a few years.*
 - *Stop lease to U.S. government*
 - *Stop leasing land to the military and make them clean up.*
- No responses (n=27, 87%)

Question 17: *Do you have any recommendations for conditions or best management practices for the project, should it proceed?*

- Responses (n=5, 16%):
 - *Work with the community first and then get the government involved as opposed to having the government tell the community what will happen*
 - *The land of this particular project area should be cared for using sustainable practices, such as planting native Hawaiian plants to minimize erosion and run off of hazardous materials into the ocean.*
 - *This project has deep potential to destroy this islands natural setting. Hawaii is in the middle of the Pacific Ocean above the equator. It's isolation from continents can easily wreak havoc on it's 763 acres easily. A U.S. Federal Military has a history that lacks the concerns for Pacific Islanders, therefore it should be dismissed.*
 - *See above*

- *Land should be given to the department of Hawaiian Homelands.*
- No responses (n=26, 84%)

Question 18: *Is there anything else you would like to share?*

- Responses (n=5, 16%):
 - *Have concern for the numerous lives that have been lost due to the militaries impact on native lands, in Keawa'ula alone there are numerous unexploded ordinances, And that is a public hazard and needs to be remediated*
 - *I would love to see Makua Valley returned to Native Hawaiian stewardship.*
 - *The United States Army should take their 'Bunker Fantasy' elsewhere!*
 - *Please consider another part of this island for this project. Thank you.*
 - *Thank you for allowing our voice*
- No responses (n=26, 84%)

Question 19: *If there are any documents you would like to share, feel free to upload them here.*

- Responses (n=1, 3%)
 - One respondent provided a photo as a response:



- Skipped responses (n=30, 97%)

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 6,300 acres of State-owned land on O'ahu.*

- "Yes" responses (n=6, 19%)

- Skipped responses (n=25, 81%)

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.*

- Responses (n=2, 6%)
- Skipped responses (n=29, 94%)

APPENDIX C: INTERVIEW QUESTIONS

Honua Consulting, LLC (Honua) conducted one-on-one interviews for the Cultural Impact Assessment (CIA) for Army Training Land Retention of State Lands in Kahuku Training Area (KTA), Kawaihoa-Poamoho Training Area (Poamoho), and Makua Military Reservation (MMR), Island of O‘ahu, Hawai‘i. During the interview, twenty-one questions were asked 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. These twenty-one questions are transcribed below.

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 6,300 acres of State-owned land on O‘ahu. 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.

Question 2: Please provide your name.

Question 3: What is your current profession?

Question 4: Where do you live now?

Question 5: Where were you born and raised?

Question 6: Are you associated or representing a specific Native Hawaiian Organization (NHO), ‘ohana, or organization in the completion of this survey?

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

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?

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

Question 10: Are you aware of any cultural resources in the Project Area or near the Project Area?

Question 11: Is there anything about the Project Area that's particularly significant you would like to share?

Question 12: Are there any stories associated with the Project Area we should be aware of?

Question 13 (KTA): The Department of the Army is proposing retention of up to approximately 1,170 acres of State-owned land at the Kahuku Training Area. TMKs (1) 5-8-002:002 and (1) 5-9-006:026 in the ahupua'a of Paumalū, Waiale'e, and Pahipahiālua in the moku of Ko'olauloa on the Island of O'ahu. Are you aware of any resources that may be impacted by such a project? What might those impacts be?

Question 13 (Poamoho): The Department of the Army is proposing retention of up to approximately 4,370 acres of State-owned land at the Kawaihoa-Poamoho Training Area. Tax Map Key (TMK) (1) 7-2-001:006 in the ahupua'a of Wahiawā and Wai'anae Uka on the Island of O'ahu. Are you aware of any resources that may be impacted by such a project? What might those impacts be?

Question 13 (MMR): The Department of the Army is proposing retention of up to approximately 760 acres of State-owned land at the Makua Military Reservation. Tax Map Key (TMK) (1) 8-1-001:007 and 008; (1) 8-2-001:001, 022, 024, and 025 in the ahupua'a of Mākua, Kahanahāiki and Ko'iahi in the moku of Wai'anae on the Island of O'ahu. Are you aware of any resources that may be impacted by such a project? What might those impacts be?

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

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

Question 16: Can you think of ways in which any potential impacts can be minimized, mitigated, or avoided?

Question 17: Do you have any recommendations for conditions or best management practices for the project, should it proceed?

Question 18: Is there anything else you would like to share?

Question 19: If there are any documents you would like to share, please feel free to share them now or email them later.

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 6,300 acres of State-owned land on O’ahu.

Question 21 (OPTIONAL): If you would like to update your contact information, feel free to do so now. This information will be redacted from your response in the CIA to protect your privacy.

APPENDIX D: INTERVIEW SUMMARIES (AS APPROVED BY INTERVIEWEES)

D-1 KAHUKU TRAINING AREA (KTA)

Specific individuals with known cultural or historical expertise of the KTA project area were contacted by phone to request an interview. One-on-one interviews were conducted with eight individuals associated with the KTA project area (Table D-1). Summaries of each interview are provided in the sections below. All summaries are interviewee statements and opinions and do not reflect the statements or opinions of the authors of the report. Biographical information for each interviewee is provided in Section 2.2.2.1 in the main CIA document. At the request of the Army, footnotes were added to some interviews to provide geographic notations and, in some cases, the Army's perspective on the topic discussed. Some of the cultural resources, practices, and beliefs mentioned by interviewees are located outside of the project area or the broad geographical area and are not discussed in the main body of the CIA.

Table D-1. Individuals Interviewed for KTA Project Area

INTERVIEWEE	INTERVIEW TYPE
Mr. Peter Apo	Telephone
Mr. (Norman) Mana Kaleilani Cáceres	Telephone
Mr. (Nathan) Keola Grace	Telephone
Mr. Neil J.K. Hannahs	In person
Mr. Allen Hoe	Telephone
Mr. Kyle Kajihira	Telephone
Mr. Thomas Lenchanko	Telephone
Mr. Christophor Edward Oliveira	Telephone

D-1.1 MR. PETER APO

The interview with Mr. Peter Apo was conducted by Mr. Matthew Sproat from Honua Consulting, LLC on June 15, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at KTA and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Apo is aware of cultural resources; however, he stated that he does not know where they are specifically located.

Cultural Practices and Beliefs

Mr. Apo has no information or knowledge of cultural practices or beliefs associated with the KTA project area or the broad geographical area.

Impacts

Mr. Apo provided no knowledge of any impacts associated with the KTA project area or the broad geographical area.

Mitigation Measures and Recommendations

Mr. Apo reiterated some of the same mitigation recommendations for the KTA project area as he does for the MMR project area (see Section D-3.2 later in this appendix).

Mr. Apo further stated that he believes we're in a period where there is no government process that provides a method or process in which cultural or injury can be validated.

Mr. Apo believes that cultural assessments are important. He believes that what we are doing now in hitting the reset button and the timing is good. He supports the process and acknowledges that even though he does not know specifically the challenges for the KTA project area ("... there are challenges, no question about it..."), there needs to be interaction and dialogue between the State and the Army.

Mr. Apo supports the Army's lease being renewed, provided that the public interests will be served and protected.

D-1.2 MR. (NORMAN) MANA KALEILANI CÁCERES

The interview with Mr. (Norman) Mana Kaleilani Cáceres was conducted by Mr. Sproat from Honua Consulting, LLC on June 13, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at KTA and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Cáceres shared how he understands the Kahuku area and surrounding areas to be a cultural resource in and of itself. Rather than looking at specific cultural resources that can be found within the KTA project area, he asserted that it is important to recognize that the entire landscape is a cultural resource. He

discussed traditional burials and iwi as being present within and around the KTA project area.¹ Mr. Cáceres mentioned pueo breeding areas and shared that he recalls his grandmother teaching him that pueo often nest near places where kūpuna were laid to rest.

Cultural Practices and Beliefs

Mr. Cáceres mentioned the responsibility of caring for human remains (iwi kūpuna) as a customary practice connected to the area. He shared how his grandmother passed down stories from her mother about how burials and burial caves were cared for. These burials exist within and around the KTA project area² throughout Kahuku. Mr. Cáceres shared that the Kahuku area³ is the final resting place for many people's ancestors.

Mr. Cáceres shared that his family passed down stories to him about how back in the day teenagers would go and take things from different caves. His grandmother was known as the caretaker of these burial caves, so they often brought the items to her, and she would be able to tell which cave they came from just by looking at them. She would give Mr. Cáceres' dad and uncle instructions on how to return the items.

Impacts

Mr. Cáceres discussed how Kahuku and the surrounding area as a whole is a cultural resource, specifically for its connection to ancient burial sites. This resource is negatively impacted by the Army's retention and use of the land. He explained how because the land the Army leases is inaccessible to the public,⁴ he has noticed that people go around the Army lands and disrupt burial sites. They have had their dry-stone stacked walls undone by people wanting to see what is inside the caves. Mr. Cáceres believes people would not be going in these areas if they had access through the land the Army leases.

Mr. Cáceres also discussed how access is impacted by the Army's retention of the land in Kahuku. He shared how his family deals with iwi that have been removed and taken elsewhere. When these iwi are returned they would ideally work with the community to decide where the iwi should be reburied. Right now with the Army occupying so much land in Kahuku, they would not be able to consider those areas for

¹ Army records do not include any known burial sites within the State-owned land at KTA but do include known burial sites in the broad geographical area (Gross et al. 2023:46; Historical and Cultural Resources Literature Review, Appendix I to the O'ahu ATLR EIS).

² Army records do not include any known burial sites within the State-owned land at KTA but do include known burial sites in the broad geographical area (Gross et al. 2023:46; Historical and Cultural Resources Literature Review, Appendix I to the O'ahu ATLR EIS).

³ Interviewee did not specify exact location.

⁴ See Section 7.1 in main CIA document for a description of access in KTA.

reburial. According to Mr. Cáceres, burial maintenance is a traditional practice currently impacted by the Army's use of the land in Kahuku.⁵

Mitigation Measures and Recommendations

Mr. Cáceres discussed how the areas that contain burial grounds should not be in the jurisdiction of the Army. Should the lease be renewed in 2029, sites with burials should be removed from their jurisdiction⁶ and Native Hawaiian Organizations should become the stewards of these resources. He listed CNHA [Council for Native Hawaiian Advancement] or OHA [Office of Hawaiian Affairs] as potential entities that could take over stewardship of these areas. He also mentioned that a comprehensive inventory of cultural sites within the KTA project area should be undertaken.

D-1.3 MR. (NATHAN) KEOLA GRACE

The interview with Mr. (Nathan) Keola Grace was conducted by Mr. Sproat from Honua Consulting, LLC on May 11, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at KTA and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Grace mentioned that the Ka'io family has a kalo patch in the area.⁷ Kalo grown in the area is a valuable cultural resource.

Cultural Practices and Beliefs

Mr. Grace was not aware of any specific cultural practices and beliefs associated with the KTA project area, aside from kalo farming.

Impacts

Mr. Grace discussed how the presence of munitions and other explosive materials⁸ can impact the land and practices like kalo production. These materials can also impact water resources and even the ocean.

⁵ Requests for access to conduct burial maintenance and other cultural activities at KTA are considered and honored in accordance with the 2018 Programmatic Agreement (USAG-HI 2018a).

⁶ Army records do not include any known burial sites within the State-owned land at KTA but do include known burial sites in the broad geographical area (Gross et al. 2023:46; Historical and Cultural Resources Literature Review, Appendix I to the O'ahu ATLR EIS).

⁷ Interviewee did not specify exact location.

⁸ There are no recorded munitions within the KTA project area.

Mitigation Measures and Recommendations

Mr. Grace shared that minimizing the use of munitions and limiting the Army's land use so that cultural resources are not impacted would be ideal. He recommends that the Army work closely with kūpuna and cultural practitioners in the area on how best to use the land in the Kahuku area.

D-1.4 MR. NEIL J.K. HANNAHS

The interview with Mr. Neil J.K. Hannahs was conducted by Mr. Sproat from Honua Consulting, LLC on June 20, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at KTA and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Hannahs said there are valuable water resources in the general area, including streams and a bog.

Cultural Practices and Beliefs

According to Mr. Hannahs, there is active watershed protection going on in the general area⁹ and at the ridge level of the Ko'olau Range, as well as Uko'a wetlands and Loko Ea fishpond.¹⁰

Impacts

Mr. Hannahs noted that because all environments are connected, upstream effects will impact the downstream environment. He also said there are important habitats in the area.

Mitigation Measures and Recommendations

Mr. Hannahs said that in order to mitigate impacts, there needs to be a holistic framework that seeks to address how impacts in one area can impact other areas. He stated that individuals need to know about the place and what responsibilities are tied to the place. Mr. Hannahs also said the Army also needs to know all the waterways, streams, and watersheds in order to mitigate impacts.

D-1.5 MR. ALLEN HOE

The interview with Mr. Allen Hoe was conducted by Mr. Sproat from Honua Consulting, LLC on June 14, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at KTA and the broad

⁹ Interviewee did not specify exact location.

¹⁰ Uko'a wetlands and Loko Ea fishpond are not within the State-owned land at KTA or the broad geographical area.

geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Hoe shared that there is a very sacred heiau on a bluff overlooking Waimea.¹¹ He believes this heiau is the most important cultural resource in the area.

Cultural Practices and Beliefs

Mr. Hoe was not personally aware of any specific cultural practices and beliefs associated with the KTA project area.

Impacts

Mr. Hoe explained that there may be a number of activities that will result in erosion but did not expand on this notion.

Mitigation Measures and Recommendations

Mr. Hoe said that there are probably methods to mitigate erosion. He said that there should be consultation with experts on environment, flora, and fauna.

D-1.6 MR. KYLE KAJIHIRO

The interview with Mr. Kyle Kajihiro was conducted by Mr. Sproat from Honua Consulting, LLC on June 15, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at KTA and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Kajihiro mentions a fishpond in Waiale'e but does not have much personal knowledge of cultural resources in the KTA project area. He also mentions that others have testified in cultural monitoring and archaeological projects of the area that iwi kūpuna were found, along with many historic sites being ignored by the Army while engaging in ground disturbing activities. Mr. Kajihiro claims that the archaeological and cultural monitoring reports conducted for KTA throughout the years have been inadequate.

¹¹ This heiau is not within the State-owned land at KTA or the broad geographical area.

Cultural Practices and Beliefs

Mr. Kajihiro does not have any specific knowledge of cultural practices or beliefs associated with the KTA project area; however, he is aware of the loko i'a (fishpond) in the area of Waiale'e.¹²

Mr. Kajihiro mentioned there is a leina a ka 'uhane (soul's leap) in Kahuku.¹³ He was also told at one time that Kahuku was a floating area of land, and the great demi-god Maui, used his fishhook to connect Kahuku back to the island. This fishhook is said to be buried somewhere in Waiale'e.

Impacts

Mr. Kajihiro believes not having access to KTA limits our knowledge base for the area.¹⁴ He also said that restriction of access causes cultural harm by impeding cultural practices and resulting in the erosion of historical knowledge over time. Mr. Kajihiro stated there will be generations who will over time have no sense of connection to the place. He mentions that the intensity of training conducted in KTA has major negative effects on the resources.

Mitigation Measures and Recommendations

Mr. Kajihiro suggests that the community who are affected and most connected to these places should be the ones who determine access and proper use and should be involved in shaping a cultural use plan that incorporates revitalizing cultural practices and re-connecting people to the land. He believes the 'āina lives through the ability of people to care for it, which mitigates the harm. Mr. Kajihiro recommends that no heavy equipment and training be allowed in the area. He also recommends actions should be taken to restore the native forest, remove invasive plants, and allow Hawaiian community groups who have kuleana to this area to develop a cultural use plan that revitalizes their connection to the place. He also suggests that the Army leverage youth and kūpuna in helping to transmit the thriving of knowledge so these ancient practices can continue.

D-1.7 MR. THOMAS LENCHANKO

The interview with Mr. Thomas Lenchanko was conducted by Mr. Sproat and Dr. Trisha Kehaulani Watson-Sproat from Honua Consulting, LLC on May 10, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed

¹² A fishpond, called Kalou, is approximately 425 meters north of the KTA project area (within the broad geographical area).

¹³ During research, the authors did not find a leina a ka 'uhane within the State-owned land at KTA or the broad geographical area, and the interviewee did not provide a specific location for this resource.

¹⁴ See Section 7.1 in main CIA document for a description of access in KTA.

retention of the State-owned land at KTA and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Lenchanko shared that the Kahuku area has many native hardwood trees including sandalwood and alahe'e that are used for traditional carving and wood working practices. Many of these cultural resources, some of them very rare, were cut down during development but he and others pointed out their significance in hopes of preserving the trees in the area. The mountainous region in Kahuku was home to many native hardwood trees that are unique to the area. Mr. Lenchanko shared that the 'ohana from Kahuku shared with him that they sighted over 100 different native plants found within the KTA area.¹⁵ Mr. Lenchanko considers areas like Kahuku to be traditional cultural properties (TCPs) that have cultural significance.

Mr. Lenchanko discussed burials, and how they are found throughout TCPs. He mentioned that the military often skirts around this issue, claiming that they are not training where there are burials or remains.

Mr. Lenchanko discussed how pueo frequent the Kahuku area and travel up to the central plain and on towards the Wai'anae Range. Pueo rest during the day and nest on the ground, making them a vulnerable cultural resource. He shared that the last time he was in Kahuku he did not see any pueo, but pueo are often only seen in certain places and times of day.

Cultural Practices and Beliefs

Mr. Lenchanko refers to the larger Kahuku area and its connection to the central plain as the ka'ānani'au of 'Ō'io. This is a traditional name for this particular land section that was later broken into ahupua'a. Mr. Lenchanko explained that before the ahupua'a system was implemented on O'ahu, the land was divided into ka'ānani'au. This land management system was more focused on family and the shared, generational responsibility to steward land and resources. The ka'ānani'au system had retainers for the land. This system allowed for sharing of resources, mauka to makai, and included several land sections. Mr. Lenchanko says that he and other practitioners continue this practice today. He shared that an ali'i born in Kahuku could be taken to Kūkaniloko for protection, because it is a pu'uhonua (place of refuge). That is what makes these access points and land divisions so critical, according to Mr. Lenchanko.

Mr. Lenchanko described how Kahuku and the ka'ānani'au of 'Ō'io include the old trail systems that lead to Pūpūkea, Kūkaniloko, and other significant areas. These trails were used by ali'i and people to access

¹⁵ Interviewee did not specify exact location.

different areas throughout the kaʻānaniʻau. No matter who ruled, these trails were maintained and utilized.

Mr. Lenchanko shared how Kahuku is connected to traditions of nightmarchers and is also connected to burial sites.

Impacts

Mr. Lenchanko discussed how access to land retained by the military makes it impossible for Hawaiians and practitioners to assess what cultural resources are still there. Lack of access prevents practitioners from doing any traditional practices and connecting to ancestral lands.¹⁶ Mr. Lenchanko asserted that TCPs have so much potential for cultural use, but the people are not able to access them. Mr. Lenchanko believes that Hawaiians have the right and responsibility to be retainers of the land and the military lease prevents this practice.

Mr. Lenchanko believes that development often impacts cultural resources like native plants and animals, but they have little way of knowing what remains when they do not have access to these lands. From Schofield all the way to Kahuku the development and use of military lands, including the development of roads, have impacted cultural resources and traditional practices in those areas.

Mitigation Measures and Recommendations

Mr. Lenchanko stated that the military should give back the land. All of the leased properties should be returned to the State. He stated that the parcel is small and cannot be of much use to the military to begin with. Their occupation of these lands is unnecessary.

Should the military retain their lease, Mr. Lenchanko feels the people should be granted a perpetual easement that grants them access to the property to perform traditional practices and access cultural resources. This includes maintaining the land as a kaʻānaniʻau. He is requesting that the military draft an inventory of all native species, plants, and cultural resources on their properties. Because the people do not have access to these lands, they have the right to know what is still there and how it is being impacted. This will allow the people to respond to the impacts on these resources.

D-1.8 MR. CHRISTOPHOR EDWARD OLIVEIRA

The interview with Mr. Christophor Edward Oliveira was conducted by Mr. Sproat from Honua Consulting, LLC on June 5, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at KTA and

¹⁶ See Section 7.1 in main CIA document for a description of access in KTA.

the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Oliveira explained that the lands within KTA contain “super burials”¹⁷ or large burial sites with iwi kūpuna. He shared that they just recently discovered two new burial sites in caves. The iwi will be relocated.¹⁸ The Kahuku area is home to many burial sites and burial caves, according to Mr. Oliveira.

Mr. Oliveira also shared that Kahuku¹⁹ contains many heiau, including Keana Heiau. Some of these heiau extend up onto the ridgeline, extending as far as Waimea. These heiau are associated with burials and were often where the highest ranking aliʻi and kahuna had their bones laid to rest and hidden.

Cultural Practices and Beliefs

Mr. Oliveira shared how lāʻau lapaʻau was a traditional practice associated with the Kahuku and surrounding areas.²⁰ He explained how Oʻahu’s traditional form of governance was a system called Kaʻānaniʻau which left the governing of the people more open and collective. Instead of having specific lāʻau lapaʻau practitioners with regulations, the people learned and practiced this skill and tradition as needed. Mr. Oliveira expressed that in places like Kahuku, you can confidently say that all traditions and cultural practices were once maintained from canoe carving to medicinal practices. However, being that the land is now occupied by the military and closed off, the people are unable to restore and maintain those practices.

Mr. Oliveira discussed the significance of Kāne worship on Oʻahu, including sun worship. The sun and water are forms of Kāne. Kahuku and the surrounding area was home to many kāhuna. Kāhuna lineages are significant in terms of religious worship and guidance to the people. He mentioned the history of the famous kahuna, Kaʻōpūlupulu, who came from Waimea, Oʻahu. These traditions date back to the 1700s. Mr. Oliveira also explained how investigating the variation and evolution of place names reveals the significance of specific ʻāina.

¹⁷ Army records do not include any known burial sites within the State-owned land at KTA but do include known burial sites in the broad geographical area (Gross et al. 2023:46; Historical and Cultural Resources Literature Review, Appendix I to the Oʻahu ATLR EIS).

¹⁸ According to the Army, two burial sites were discovered outside of the State-owned land at KTA. The Native American Graves Protection and Repatriation Act (NAGPRA) process is nearing completion and the current plan of action is to leave the iwi in-place at the burial sites (D. Crowley, USAG-HI, personal communication, April 2023).

¹⁹ Interviewee did not specify exact location.

²⁰ Interviewee did not specify exact location.

Impacts

Mr. Oliveira discussed how the land is impacted by military training. The Army does not clean up after themselves and has a huge impact on the land and other cultural resources. He feels it shows a lack of awareness of the significance of the place.

Mr. Oliveira expressed how the military retaining the land prevents people from accessing the land and denies them the ability to practice any traditions they might want to restore and practice.²¹ These practices can include anything connected to traditional ways of living and utilizing the land.

Mitigation Measures and Recommendations

Mr. Oliveira stated that to mitigate impacts to cultural resources and traditions the Army should immediately stop the training in Kahuku. The Army should clean up the land and restore it. He feels that the land should be returned to the people, not the State. The land should be put in trust for the Hawaiian people, through OHA or some other way.

As best practice, Mr. Oliveira recommends that the Army find a way to accommodate the people's needs to access these lands beyond means of worship and cultural practices. The land is an important resource to the people, and it is not always for worship or specific practices, but to exist and be with the land of their ancestors.

²¹ See Section 7.1 in main CIA document for a description of access in KTA.

D-2 KAWAIILOA-POAMOHO TRAINING AREA (POAMOHO)

Specific individuals with known cultural or historical expertise of the Poamoho project area were contacted by phone to request an interview. One-on-one interviews were conducted with seven individuals associated with the Poamoho project area (Table D-2). Summaries of each interview are provided in the sections below. All summaries are interviewee statements and opinions and do not reflect the statements or opinions of the authors of the report. Biographical information for each interviewee is provided in Section 2.2.2.1 in the main CIA document. At the request of the Army, footnotes were added to some interviews to provide geographic notations and, in some cases, the Army's perspective on the topic discussed. Some of the cultural resources, practices, and beliefs mentioned by interviewees are located outside of the project area or the broad geographical area and are not discussed in the main body of the CIA.

Table D-2. Individuals Interviewed for Poamoho Project Area

INTERVIEWEE	INTERVIEW TYPE
Mr. (Norman) Mana Kaleilani Cáceres	Telephone
Mr. (Nathan) Keola Grace	Telephone
Mr. Neil J.K. Hannahs	In person
Mr. Allen Hoe	Telephone
Mr. Kyle Kajihiro	Telephone
Mr. Thomas Lenchanko	Telephone
Mr. Christophor Edward Oliveira	Telephone

D-2.1 MR. (NORMAN) MANA KALEILANI CÁ CERES

The interview with Mr. Cáceres was conducted by Mr. Sproat from Honua Consulting, LLC on June 13, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at Poamoho and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Cáceres shared that he is not personally familiar with the cultural resources in the Poamoho project area.

Cultural Practices and Beliefs

Mr. Cáceres shared that he was not familiar with any specific cultural practices and beliefs associated with the Poamoho project area. He mentioned that the Army holding lease over the lands in Poamoho prevents cultural practitioners and Kānaka Maoli from accessing the land for whatever traditional customs they practice, including gathering.²²

Impacts

Mr. Cáceres discussed how the Army does not have the best record for responsible stewardship of the lands they occupy in Hawai'i. He shared that he would be hesitant to support the Army's retention of land in Poamoho for this reason. He mentioned that the Army lease currently prevents cultural practitioners and Native Hawaiians from accessing the land to use it for cultural and traditional practices and that the renewal of their lease would continue to impact access.

Mitigation Measures and Recommendations

Mr. Cáceres shared that it would be better if there was some kind of Native Hawaiian Organization that had jurisdiction over the stewardship of the land, and it was not just the Army managing the parcels and limiting access. This organization could ensure that the land was being cared for properly and practitioners and Hawaiians had access to these lands.

D-2.2 MR. (NATHAN) KEOLA GRACE

The interview with Mr. Grace was conducted by Mr. Sproat from Honua Consulting, LLC on May 11, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at Poamoho and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Grace shared that the birth stones at Kūkaniloko are a significant cultural site near the Poamoho project area.²³

Cultural Practices and Beliefs

Mr. Grace was not aware of any specific cultural practices and beliefs associated with the Poamoho project area, aside from Kūkaniloko.

²² See Section 7.2 in main CIA document for a description of access in Poamoho.

²³ Kūkaniloko Birthstones are 5.5 kilometers west of the State-owned land at Poamoho.

Impacts

Mr. Grace was not aware of any specific impacts to cultural resources or traditions and customs in the area.

Mitigation Measures and Recommendations

Mr. Grace shared that in his opinion any project that is culturally sound and includes and considers all parties is doable. He recommended that the project should not move forward without the guidance and direction of cultural practitioners in the area. Those who maintain that area will ensure that the project is done correctly.

D-2.3 MR. NEIL J.K. HANNAHS

The interview with Mr. Hannahs was conducted by Mr. Sproat from Honua Consulting, LLC on June 20, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at Poamoho and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Hannahs noted that the Wai'anae Ahupua'a goes far inland to meet the Ko'olau mountains. He believes that researching the basis for this unusual configuration might shed light on how to best manage lands and resources here and elsewhere.

Mr. Hannahs noted that the Kūkaniloko Stones are cultural resources associated with the general area of the Poamoho project area. Another resource that he is familiar with is wai (water). Mr. Hannahs said the waters of the Ko'olau Range that flow down to this high plateau create the headwaters for streams, provide opportunities for agriculture and rationalize investment in storage for flood control, irrigation, and recreation.

Cultural Practices and Beliefs

Mr. Hannahs noted that there are cultural practices and beliefs associated with Kūkaniloko but did not elaborate on these practices and beliefs.

Impacts

Mr. Hannahs noted that because all environments are connected, upstream effects will impact the downstream environment.

Mitigation Measures and Recommendations

Mr. Hannahs said that in order to mitigate impacts, there needs to be a holistic framework that seeks to address how impacts in one area can impact other areas. He asserted that individuals need to know about the place and what responsibilities are tied to the place. Mr. Hannahs also mentioned the Army also needs to know all the waterways, streams, and watersheds in order to mitigate impacts.

D-2.4 MR. ALLEN HOE

The interview with Mr. Hoe was conducted by Mr. Sproat from Honua Consulting, LLC on June 14, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at Poamoho and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Hoe is not personally aware of any specific cultural resources associated with the Poamoho project area. He noted that Poahomo is fairly isolated unless you are training there as a soldier.

Cultural Practices and Beliefs

Mr. Hoe is not aware of any cultural practices and beliefs associated with the Poamoho project area.

Impacts

Mr. Hoe is not personally aware of any specific cultural resources, traditions, or customs that may be impacted by this project.

Mitigation Measures and Recommendations

Mr. Hoe does not have any recommendations for mitigation measures. He believes that the military has expended resources to protect the flora and fauna in the area.

D-2.5 MR. KYLE KAJIHIRO

The interview with Mr. Kajihiro was conducted by Mr. Sproat from Honua Consulting, LLC on June 15, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at Poamoho and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Kajihiro is not aware or familiar with any cultural resources in the Poamoho area.

Cultural Practices and Beliefs

During the interview, Mr. Kajihiro mentioned that the area of Kūkaniloko is the ancient piko of O‘ahu chiefs and notes that Kūkaniloko is considered to be the most sacred place on the island because it was the birthing place of the highest ranking ali‘i. He knows Mr. Thomas Lenchanko, the main kahu of Kūkaniloko, who has shared knowledge about the significance of this site with Mr. Kajihiro. Mr. Kajihiro said the landscape of Kūkaniloko radiates lines of connection outward to many points on the island, including Poamoho as well as Kapūkaki, known today as Red Hill. Mr. Kajihiro was informed by Mr. Raymond Kamaka of Waikāne that the trail from Waikāne connects to Poamoho. Mr. Emil Wolfgramm, a renowned Tongan storyteller from Waiāhole, told Mr. Kajihiro that the legendary hero Maui also has a connection to the trail that connects Waikāne to Poamoho.

Impacts

Mr. Kajihiro shared that one of the biggest impacts the military has on Poamoho is its restricted access to cultural sites and landscapes.²⁴ He believes this restriction and control of the access to these areas limits the cultural knowledge and familiarity for the native peoples who have lineal and cultural ties to this particular area. Mr. Kajihiro asserted that by restricting access, the Army prevents those with cultural and genealogical ties to this land from exercising their responsibilities to those lands. He also stated that it prevents those who have knowledge of these lands and associated cultural sites and practices from teaching and transferring that knowledge to future generations. Mr. Kajihiro said with limited or no access, the knowledge and practices associated with these areas can be lost or degraded and Native Hawaiians who may have ancestral ties to those lands become alienated from those lands and histories.

Mitigation Measures and Recommendations

Mr. Kajihiro recommended that potential mitigation measures include restoring native forests and removing invasive species; opening the area for regular access; returning the land to the Hawaiians who have ancestral responsibilities to this land; and allowing those groups to begin the cultural revitalization of Poamoho. Mr. Kajihiro states that he went on a site visit to Poamoho and was informed that the area was not utilized anymore for training; therefore, he requests that the Army begin planning to restore and return the lands and allow the revival of cultural practices there. He does not recommend that the Army retain the Poamoho lands. Mr. Kajihiro said, should the Army retain the leased lands of Poamoho, his suggestion is that the Army not control the access completely and there should be a Hawaiian community group in charge of planning activities for environmental and cultural restoration and revitalizing cultural practices to Poamoho.

²⁴ See Section 7.2 in main CIA document for a description of access in Poamoho.

His final comments for Poamoho are the same as Mākua (see Section D-3.8 later in this appendix): the question driving the HEPA requirements of the EIS, including the cultural impact assessment process, is different than the federal process. He asserted that the State has a specific kuleana under its trust obligations to the ‘āina, and that those specific obligations should drive the consideration process.

D-2.6 MR. THOMAS LENCHANKO

The interview with Mr. Lenchanko was conducted by Mr. Sproat and Dr. Watson-Sproat from Honua Consulting, LLC on May 10, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at Poamoho and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Lenchanko made it very clear that the land that the Army occupies in Poamoho is part of the traditional pu‘uhonua of Kūkaniloko. As a caretaker of Kūkaniloko, he shared the significance of the pu‘uhonua. Kūkaniloko was once the social and economic center of the island for ancestral Hawaiians. It was also an educational center for those who would become land managers of land sections and resources. Kūkaniloko was where ali‘i were selected and consecrated to rule. It was the center of politics, economics, education, and genealogy.

Mr. Lenchanko discussed the significance of Hale‘au‘au,²⁵ a site with remains of heiau and other cultural resources near Poamoho and included within Schofield Barracks. Hale‘au‘au is a significant part of the pu‘uhonua of Kūkaniloko, according to Mr. Lenchanko. He shared that he and other practitioners have gone on to the military lands and seen the damage done to Hale‘au‘au. Mr. Lenchanko shared that while they were on the property, they had to point out cultural sites, including heiau, to military officials who were not aware of these resources. He shared how one heiau site had military ordnance around it. Mr. Lenchanko has witnessed the military doing target practice near cultural sites on the leased property but says they always claim they are shooting above or around these resources. He explained that Hale‘au‘au is not just a “bath house” as it is commonly translated but represents “au,” a period of time. It is a very significant place and the military using it for target practice is unjust, according to Mr. Lenchanko.

Mr. Lenchanko discussed the importance of water sources in the area. The forested Poamoho area currently leased by the Army is a significant part of the natural watershed. He stated that the area should be protected and restoration efforts should occur so that the water cycle can be restored. The traditional understanding of the water cycle is that if you grow and protect the forests, the rain will come and fill the

²⁵ Hale‘au‘au is not within the State-owned land at Poamoho or the broad geographical area.

streams to give life to the land and people. This is not just traditional and cultural, but part of our survival, according to Mr. Lenchanko. If Hawaiians and community members were given access to this land parcel, they would be able to begin restoration efforts including invasive species removal and planting native plants right away. Mr. Lenchanko believes they would also be able to restore cultural resources and practices like lā'au lapa'au and medicinal plants.

Mr. Lenchanko explained how the forest itself is a cultural resource. The plants, trees, birds were given to Hawaiians for them to make use of and implement in their daily lives. He shared that part of the traditional land management for forest reserves like Poamoho would be any activity that sustains the land and the people. Without access to this land, it is difficult for practitioners like himself to understand the needs of the land which has been mismanaged for years. Mr. Lenchanko stated that they know there are cultural resources in that area, but it is impossible for them to know what they are and what is still there without access. There is no way for practitioners to know if there are native plants and resources still in the area because they do not have access.²⁶ Before the military occupied the land, the Poamoho area was known to have resources for lā'au lapa'au. Traditional medicinal plants were gathered also in the uplands.

Cultural Practices and Beliefs

Mr. Lenchanko shared that the place name “Poamoho” is a variation of “Po’o a mo’o” which alludes to the relationship the people of that place had with mo’o akua. Mo’o were caretakers and guardians of water resources. The Poamoho area had three different caretakers of water sources. The first was menehune, then mo’o, and the third was human beings. This was a progression of management. When the menehune left, the responsibility was passed to the mo’o. When the mo’o left, they gave the responsibility of stewardship to the people. This is how the name “Po’o a mo’o” or “Poamoho” was given to the land as well as the main stream in the area which extends all the way to Kaiaka Bay.

Mr. Lenchanko discussed the shift from ka’ānani’au to the ahupua’a system. After Kamehameha I conquered the islands, the ahupua’a system was solidified for tax purposes. Previously, areas like Poamoho relied on a similar land division system called ka’ānani’au. Mr. Lenchanko said that in his community they still recognize ka’ānani’au and how it gives the families of O’ahu the shared responsibility of maintaining land and resources and supporting genealogical descendants of Kūkaniloko and ali’i. With the ahupua’a system came land division and privatization. But with ka’ānani’au, there is a sense of shared resources and shared responsibility to the land and especially the pu’uhonua.

Mr. Lenchanko mentioned that hunters do not currently have access to the land in Poamoho and would have to trespass in order to practice hunting, lā'au lapa'au, and other traditional activities in the mauka

²⁶ See Section 7.2 in main CIA document for a description of access in Poamoho.

Poamoho area.²⁷ He discussed how traditionally the people lived off the land and accessed parcels like Poamoho that were not generally easy to access or maintain. This challenge was a part of learning to live off the land. Kūpuna would take younger generations to areas like Poamoho to teach them about the resources and pass on the knowledge to the next generation. This requires going into areas that can be more difficult to access and survive in. In order to gather materials for lā'au lapa'au or procure water sources, Hawaiians had to access these difficult areas. It often involved prayer to ask for what was needed and the strength to get there. Mr. Lenchanko explained that he understands this as going into these places with nothing but coming out with spiritual knowledge about what it means to be a practitioner.

Mr. Lenchanko discussed the significance of the surrounding area, Halemano. Halemano makes up one-third of the Līhu'e/Wahiawā land section and is part of the 36,000 acres that makes up the pu'uhonua of Kūkaniloko. Halemano is a kalana significant to Kūkaniloko. His explanation of these land sections and their boundaries reflect a traditional understanding of land use and management that is currently ignored by the State and private landowners. Mr. Lenchanko refers to the significance of the pu'uhonua of Kūkaniloko as evidence of who we are as Hawaiians.

Impacts

Mr. Lenchanko shared that the Army leases around 4,000 acres of land in Poamoho that for the past 25 years has not been used. It is his understanding that the land parcel is difficult for the Army to access and is not suitable for helicopters to fly and land on. He raised the point that if the land, which is part of a traditional and culturally significant pu'uhonua and connected to the watershed, has not been used for 25 years, why should the Army retain the lease? The land could go back to the State and become protected under the Department of Forestry and Wildlife, which would protect the forest and maintain it.

Mr. Lenchanko shared about the issue of watershed management. If the Poamoho lease was returned to the State and became protected, that could focus on watershed restoration and management for the area. The forests need to flourish so the rain can return and streams can flow. Mr. Lenchanko considers this part of his and his community's responsibility. Drinking water is precious and should be protected at all costs. Poamoho is a forested area that is inextricably connected to the watershed of the area.

Mr. Lenchanko discussed access as a major issue that impedes cultural resources and traditional practices in Poamoho. Practitioners do not currently have any customary rights to access that resource. Without access to that land, practitioners have no way of knowing what is there, what the land needs, and how it can benefit the people. They are unable to know exactly what native plants, species, and resources are still there. They cannot access the land for hunting or water resource management. The forest, which he

²⁷ See Section 7.2 in main CIA document for a description of access in Poamoho.

considers to be a cultural resource, has become unknown to them. Mr. Lenchanko discussed how kūpuna fought for access to places like Poamoho in order to preserve and adapt cultural traditions and practices. Denied access means the people are unable to foster a traditional comprehension of place. It impacts the people directly in that it impacts their inheritance of cultural knowledge and continuity. Mr. Lenchanko discussed how Hawaiian kūpuna intended for lands like Poamoho to be passed down and maintained by Hawaiians in continuity. The Army retaining the land prevents the ability to carry on this responsibility and access traditional and cultural resources.

Mitigation Measures and Recommendations

Mr. Lenchanko highly recommends that the land retained by the Army be returned to the rightful claimants. He feels that the best option is for the military to return the land, and he discussed the challenge of getting the State to recognize its responsibility in holding trust lands like this and how to manage them properly. Mr. Lenchanko does not think the Army should be able to retain their lease in Poamoho. He is hopeful that the land currently leased by the military in Poamoho will be overseen by DOFAW [Hawai'i Division of Forestry and Wildlife] and that the community will be given access to this area to practice forest and land restoration and rebuild their traditional and cultural practices. Mr. Lenchanko does not feel that DLNR [Hawai'i Department of Land and Natural Resources] has the capacity to oversee this kind of project but hopes that protecting the forest region will help with water resource management. He feels that the land should be considered conservation land and would ideally go back into one of the Hawaiian trusts so that Native Hawaiians are able to protect and conserve it.

If in 2029 the Army continues to retain their lease of Poamoho, Mr. Lenchanko recommends that perpetual access be granted to the people so they can utilize whatever part of the property they need. Part of that need for access is so practitioners can do a cultural analysis of how to use the land and its cultural resources. He would want the Army to do an assessment of the land they use for training that includes and recognizes a Hawaiian perspective on the cultural resources and traditions in the area and grants access to the people. This traditional cultural property analysis (TCP analysis) should be done in the Hawaiian cultural perspective.

Mr. Lenchanko is requesting that the military draft an inventory of all native species, plants, and cultural resources on their properties. Because the people do not have access to these lands,²⁸ they have the right to know what is still there and how it is being impacted. This will allow the people to respond to the impacts on these resources.

²⁸ See Section 7.2 in main CIA document for a description of access in Poamoho.

D-2.7 MR. CHRISTOPHOR EDWARD OLIVEIRA

The interview with Mr. Oliveira was conducted by Mr. Sproat from Honua Consulting, LLC on June 5, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at Poamoho and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Oliveira explained that Poamoho is where many water resources originate. Water is a significant cultural resource. He explained that the two main water sources of Waialua come from the Poamoho area.

Mr. Oliveira expressed that the Poamoho area is very sacred given that it was home to the Lo Ali'i. He said that the places in this area are connected to Mā'ilikūkahi and also to Kūkaniloko. The lineages and genealogies that come from Kūkaniloko are sacred and Kūkaniloko itself as well as the surrounding areas are significant for this reason.

Cultural Practices and Beliefs

Mr. Oliveira discussed the ridge in Poamoho named Pu'u Maili, often called Pu'u Mā'ili today.²⁹ He explained that "maili" is "mai ili" which means to hug or embrace someone. Mr. Oliveira also named the gulch Mohiākea which is now called Moikeha.³⁰ Mohi was the patriarch of the Mahi clan of O'ahu. He explained that many genealogies, including those of Kamehameha's lineage, go back to Kila, the ancestor of many great rulers, including O'ahu's Kākuhihewa. Kila was chosen by Moikeha to get La'amaikahiki, who brought the Hāwea drums to Kūkaniloko. These drums were pounded during the birth of Mā'ilikūkahi at Kūkaniloko. Mr. Oliveira explained that Mā'ilikūkahi was of high rank, the 'aiwohi kūkahi rank.

He shared about how Mā'ilikūkahi's army was surrounded at Pu'u Kaua by Waikakalaua Gulch.³¹ These traditions are connected to the Poamoho area.

Mr. Oliveira shared about how Kamehameha Nui tried to get his son, Kauikeaouli, to be born at Kūkaniloko in order to establish a right to rule and due to the sacredness of Kūkaniloko.

²⁹ Pu'u Maili is not within the State-owned land at Poamoho or the broad geographical area.

³⁰ Mohiākea is not within the State-owned land at Poamoho or the broad geographical area.

³¹ Waikakalaua Gulch is not within the State-owned land at Poamoho or the broad geographical area.

He named kilo, or kilokilo, as a tradition connected to the Poamoho area. Kilo is practiced in the area to learn about the seasons and changing of times based on keen environmental observations.

Mr. Oliveira explained the place name “Poamoho” to be “Pō a Moho” or the “night of Kāmohoali’i.” This connects Poamoho to “Helemanō.” Manō is shark and Kāmohoali’i is a shark god. This area has connections to sharks and Kāmohoali’i.

He explained that Poamoho and the surrounding area was the land of the Lo Ali’i. These were the “bloodline ali’i” that had high rank on O’ahu and throughout Hawai’i. They did not have to prostrate themselves to other ali’i.

Mr. Oliveira shared some significant place names in the broad geographical area of the Poamoho project area, including Hale’au’au, Mauna Ka’ala, Pu’u Maili, Poamoho, Pa’ala’a, Helemanō, Kolekole.³² He named a temple Kalāhiki located further down in Waialua. He also discussed Līhu’e, a traditional land section that included Poamoho and Wahiawā.³³ All of these places are connected to each other through traditions and land sections. These place names have various interpretations that allude to the significance of the place. Mr. Oliveira explained that Hale’au’au refers to “house of the sound.” When people would go there to chant, it would resound like an amphitheater. Hale’au’au is home to heiau and other significant sites.

Impacts

Mr. Oliveira named Hale’au’au as a specific place and cultural resources impacted by the Army’s retention of the lands in this area.³⁴ Mr. Oliveira asserts that Hale’au’au is bombed and filled with uranium and other dangerous materials, but it is culturally significant and that this place is home to heiau and other significant sites.

Mr. Oliveria expressed that he feels the most important resource that would be impacted by the Army’s retention of these lands is the people. Being withheld from accessing sacred lands impacts the people and cultural practitioners. It prevents them from accessing sacred and significant sites to carry out various traditions including worship. He feels these lands belong to the people. Mr. Oliveira explained that these lands are dedicated to the god Kāne. When the Army uses these lands to train people to kill, they are further desecrating the land, its people, and the ancestral Hawaiian religion. Mr. Oliveira stated, “ua kapu

³² Hale’au’au, Mauna Ka’ala, Pu’u Maili, and Kolekole are not within the State-owned land at Poamoho or the broad geographical area.

³³ Līhu’e is not within the State-owned land at Poamoho or the broad geographical area.

³⁴ Hale’au’au is not within the State-owned land at Poamoho and so is not part of the potential lease retention addressed by this CIA.

ke ola na Kāne” explaining that all life is sacred to Kāne. He also explained how Mā’ilikūkahi had a decree of not killing in the area.

Mitigation Measures and Recommendations

Mr. Oliveira stated that to mitigate impacts to cultural resources and traditions the Army should immediately stop the training and bombing. The Army should clean up the land and restore it. He feels that the land should be returned to the people, not the State. The land should be put in trust for the Hawaiian people, through OHA or some other way.

As a best practice, Mr. Oliveira recommends that the Army find a way to accommodate the people’s needs to access these lands beyond means of worship and cultural practices. The land is an important resource to the people, and it is not always for worship or specific practices, but to exist and be with the land of their ancestors.

D-3 MAKUA MILITARY RESERVATION (MMR)

Specific individuals with known cultural or historical expertise of the MMR project area were contacted by phone to request an interview. One-on-one interviews were conducted with ten individuals associated with the MMR project area (Table D-3). Summaries of each interview are provided in the sections below. All summaries are interviewee statements and opinions and do not reflect the statements or opinions of the authors of the report. Biographical information for each interviewee is provided in Section 2.2.2.1 in the main CIA document. At the request of the Army, footnotes were added to some interviews to provide geographic notations and, in some cases, the Army's perspective on the topic discussed. Some of the cultural resources, practices, and beliefs mentioned by interviewees are located outside of the project area or the broad geographical area and are not discussed in the main body of the CIA.

Table D-3. Individuals Interviewed for MMR Project Area

INTERVIEWEE	INTERVIEW TYPE
Mr. William J. Ailā	Telephone
Mr. Peter Apo	Telephone
Mr. (Norman) Mana Kaleilani Cáceres	Telephone
Mr. Eric Enos	Telephone
Mr. (Nathan) Keola Grace	Telephone
Mr. Neil J.K. Hannahs	In person
Mr. Allen Hoe	Telephone
Mr. Kyle Kajihira	Telephone
Mr. Thomas Lenchanko	Telephone
Mr. Christophor Edward Oliveira	Telephone

D-3.1 MR. WILLIAM J. AILĀ

The interview with Mr. William J. Ailā was conducted by Mr. Sproat from Honua Consulting, LLC on July 6, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Ailā said one important resource is a spring, which has been covered up by military infrastructure but then found again after a fire.³⁵ He added that the spring exists today and has water in it. Additionally, in regard to water resources, Mr. Ailā noted that Mākua Stream used to be perennial. In the 1970s, Mr. Ailā recounted a story of catching ‘o‘opu in the stream – which even at the time was unbelievable to many. He hasn’t seen any since.

Mr. Ailā said there are an assortment of native plants, including maile, ‘ōhi‘a ‘ai, and native ferns in the back of the valley; he also mentioned there are orange trees from the original kuleana lands and many more critically endangered native plants in the area, as well as a snail enclosure.³⁶ According to Mr. Ailā, hunters also report kauila further back in the valley. He also explained that there are pueo in the area.

Regarding ancient sites, Mr. Ailā noted that there are at least three heiau in the lower portion of the valley. He said one of the heiau is where the Army stores the equipment to cut the grass. Mr. Ailā also said this area is associated with the mo‘o, La‘ila‘i.

Mr. Ailā noted how rich the ocean waters of Mākua were, with many schools of fish and even pelagic fish that helped feed the inhabitants of Mākua. He mentioned there is also limu along certain parts of the shoreline.

When asked about anything else significant about the area to share, Mr. Ailā shared the story of Samuel Andrews, who ran away from Honolulu. He was a friend of Kamehameha III and fell in love with a Hawaiian woman. He received the original lease for Mākua Valley and was credited with establishing the first ranch in the area. Samuel Andrews ascribed his success to finding a doll in Kāneana Cave, which Mr. Ailā says told him, “If you take care of me, I’ll take care of you.” At some point, the doll was taken from him.

Cultural Practices and Beliefs

Mr. Ailā noted that they have been doing Makahiki ceremonies since 2001 in each ahupua‘a in the area. He said the purpose of these ceremonies is to restore positive mana and energy across the ahupua‘a. Mr. Ailā said for Makahiki, they are restricted to the front part of the valleys. He mentioned that when Mālama Mākua entered into a settlement agreement around 2001, they were allowed in the back of the valley.

Regarding practices that occurred before the Army leased Mākua, Mr. Ailā noted that his uncle’s father was the pastor, and he went inland to collect thatching material and wood to construct the church. He

³⁵ Interviewee did not specify exact location of spring.

³⁶ Interviewee did not specify exact location, and the Army does not have records of these resources within the State-owned land at MMR.

said people also buried their babies' placentas in the mauka areas. Mr. Ailā noted there are also stories of family 'aumakua in the form of a shark along the shoreline. According to Mr. Ailā, gathering maile and other plants also occurs in the valley today. He added that pig hunting remains a very common traditional practice in the area.

Mr. Ailā noted that things are getting harder due to military objections in recent years. He said if there is a good commander, the valley may be a little more open; if it is a bad commander, Mr. Ailā said it's much harder to get access to the valley.

Impacts

Mr. Ailā asked that this statement be placed in all caps:

THE QUESTION THAT THE ARMY IS ASKING IS INCORRECT. THE QUESTION SHOULD NOT BE, "WHAT IS THE IMPACT OF THE RETENTION OF THESE LANDS?". THE QUESTION IN THE EIS SHOULD BE, "WHAT IS THE IMPACT OF THE CONTINUED OCCUPATION AND USE OF MĀKUA FOR NEARLY 90 YEARS? WHAT IS THE IMPACT ON PAST, PRESENT, AND FUTURE PEOPLE, AND THE 'ĀINA AND THE KAI?"

Mr. Ailā wanted to make it clear that the question being asked in the EIS is the wrong question. The question should not be, what is the impact of retaining Mākua Valley? The question instead should be "What is the impact of continuing to occupy Mākua Valley for nearly 90 years, on the people, the animals, the plants, the soil, and the groundwater?" Mr. Ailā explained that it has been proven that the Army does not need Mākua Valley. He also noted that there are proven negative impacts outside the boundary ("magical fence") of the training lands. These impacts will continue should the Army retain the land.

Mr. Ailā said not asking this question properly should be a violation of NEPA and HEPA. He added that you cannot so narrowly tailor the question to ensure a desired outcome.

Mr. Ailā noted that the retention of Mākua is a slap in the face to the families of Mākua, such as his uncle, who was directed at gunpoint to move all of his things out of Mākua in an hour. According to Mr. Ailā, originally, the families living in Mākua Valley were told they could return to the valley after the war ended. He said the families were never allowed to come back, and the land was condemned. Mr. Ailā thinks there is no justification for the military to keep Mākua Valley. He also asserted that they have had limited trainings and have not conducted live-fire training for more than 15 years.

One current impact Mr. Ailā noted is the use of the area for unmanned arial trainings. He said the Federal Aviation Administration (FAA) will tell fishermen who are engaged in cultural practices along the shoreline and beaches that they have to leave. Mr. Ailā mentioned the military also prevents access to heiau (such as Site -4546) in the area and prevent the presentation of certain types of ho'okupu on the heiau.

Further, Mr. Ailā noted that the boundary for the training area doesn't denote a lack of impact. He cited the unmanned arial trainings (noted previously), but also that munitions are found outside the boundary as well (on the State Park side). He said these munitions will also move downstream during heavy rains and pose contamination risks to groundwater and soil.

Mr. Ailā also explained that there used to be a landfill in Mākua Valley. They discovered this by going through the bibliography of the first Environmental Assessment conducted in the valley and found a reference to this. At first, the military denied the existence of the landfill, but later released information that the landfill had been cleaned up.

Mitigation Measures and Recommendations

Mr. Ailā said that the military should not continue to possess Mākua Valley and that it should be returned. Further, Mr. Ailā said the money to remediate the valley should be put into an endowment for local non-profit organizations. He described an estimate he was familiar with that \$10 million per year (up to \$100 million) would be needed to remediate and restore Mākua Valley within 50 years. Mr. Ailā said the recovery plan includes hiring and training local people to manage the restoration, and also includes an education component. Mr. Ailā does not agree with allowing the Army to remediate the land. He said this has been tried in other places, and it never works.

Overall, Mr. Ailā says he does not have any recommendations should the Army retain Mākua Valley.

D-3.2 MR. PETER APO

The interview with Mr. Apo was conducted by Mr. Sproat from Honua Consulting, LLC on June 15, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Apo used to have a list of sites located in Mākua Valley; however, it has been a long time and he no longer has the list. Mr. Apo could not recall specific sites in the valley during the time of this interview; but he acknowledged that there were multiple sites that have to do with “wahi pana” (“sacred lands”), customs and traditions that had to do with how the land was treated, and in the ahupua’a system how the land was assigned. He also noted that the Army was good in responding to any issues and in how they managed the valley.

Cultural Practices and Beliefs

Mr. Apo provided no knowledge of any cultural practices and beliefs associated with the State-owned land at MMR or the broad geographical area.

Impacts

Mr. Apo believes that the valley impacts the entire coast, and efforts need to be done to identify appropriate activities for the entire coast, not only Mākua. He provided an example of inappropriate activities regarding a proposed water invasion training by a new Army commander that would have occurred a couple weeks after “Brother Iz” ashes were scattered in the same area. Mr. Apo said that fortunately the training exercise was not permitted by the Governor. This is an example in which Mr. Apo mentioned that the State needs to review how Mākua affects the entire coastline.

Mr. Apo noted that there is an interesting aspect regarding the training ground at the end of the road, since for states to qualify for financial assistance in highways it is required that highways lead some place. He said one of the reasons the State receives a lot of federal money in Wai‘anae is because of Mākua, since it is a military facility.

Mr. Apo pointed out that Mākua has a wide range of impacts. He added there needs to be a higher level of reviewing impacts beyond Mākua.

Mitigation Measures and Recommendations

Mr. Apo’s recommendation is to review compensation associated with Mākua, including 1. Negotiating a realistic lease; 2. Maintaining a high level of stewardship; and 3. Supporting the Army in retaining the land for the training site.

Mr. Apo believes that high-level dialogue must commence regarding the land retention by the Army. He said the entire valley has moved into 100 percent vegetation conversion since the 1970s. Mr. Apo mentioned that it would be a good idea if the new lease included a provision to bring back native plants that used to be there.

Mr. Apo added that cultural access to the valley is important.

Through his Mākua experiences, Mr. Apo came away after several years of working on the issue that brought him to the perspective he expressed during the interview, that he believes Mākua should not be returned to the State. Mr. Apo mentioned that if anyone would review the records on what it would take (cost) to make the place safe for public use, it would be astronomical. He added that in addition to the cost, the area is dangerous. Mr. Apo believes there needs to be some other solutions or compensation for the degradation of Mākua.

Mr. Apo noted through his experience in Mākua, that the Army has done a pretty good job maintaining the cultural sites in the valley. He asserted that if anyone paid attention to the Army's maintenance of those sites, they would note that the Army has done a better job maintaining sites than the State would have done. The Army has been very attentive to the needs of the community, and in his view, the Army is doing a good job in protecting cultural sites and conducting research.

Mr. Apo believes that these lands should not/cannot be returned due to the potential dangers posed by possible explosives materials. However, Mr. Apo supports any initiative for compensation (all options) for the use of the land, and that the military continue its priority to care for and maintain the "wahi pana."

D-3.3 MR. (NORMAN) MANA KALEILANI CÁCERES

The interview with Mr. Cáceres was conducted by Mr. Sproat from Honua Consulting, LLC on June 13, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Cáceres discussed how the valley as a whole is a unique and significant cultural resource. He shared that during his time in the valley as a cultural monitor, he learned that Mākua Valley contains many cultural resources including natural springs, ki'i (petroglyphs), ahu (shrines), native plants including maile, as well as significant cultural sites. He mentioned how the group, Mālama Mākua, tries to use their community days to take people to significant sites in Mākua since access to these cultural resources has been impeded for years.

Cultural Practices and Beliefs

Mr. Cáceres named a few resources connected to traditional practices including freshwater sources, ki'i, and other cultural structures like ahu. He named maile as a significant resource in the valley connected to lei making and also shared that he knows of hunters who access the lands around Mākua to hunt. One tradition connected to the area is gathering medicinal plants, which is currently impossible to do given the lack of access to the valley.³⁷

Impacts

Mr. Cáceres expressed that the entire valley is a cultural resource, as well as the specific resources within the valley, and these will continue to be impacted should the military retain their lease of the land. He

³⁷ See Section 7.3 in main CIA document for a description of access in MMR.

discussed how the nature of the military training that has happened in Mākua has had adverse impacts on the valley as a whole and continues to impact the valley. He mentioned how the ammunition and weaponry used in training impacts the environment, including the land, water sources, and the ocean.

Mitigation Measures and Recommendations

Mr. Cáceres shared that he does not see any way that the impacts to the valley could be avoided should the military retain their lease, being that they intend to use Mākua Valley for training. Live-fire training has a huge impact to the valley³⁸ and continuing to use the valley for training will impact this significant resource. He expressed how the military needs to do a better job at cleaning up the remaining munitions in the area. Mr. Cáceres suggested that the only way to mitigate the impacts is to not renew the military's lease and for the military to give more attention to their efforts to clean up and restore the valley.

Mr. Cáceres shared that if the military's lease is renewed in 2029, he thinks that one of the conditions should be that no training occurs in the valley and the military's efforts are strictly geared towards clean up and providing access for the community.

D-3.4 MR. ERIC ENOS

The interview with Mr. Eric Enos was conducted by Mr. Sproat from Honua Consulting, LLC on June 12, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Enos discussed water and the watersheds in the mountains as a significant cultural resource in Mākua. The valley is part of this valuable watershed and water is a resource they work to protect in addition to the actual valley. Mākua Valley houses different springs and water sources that have been impacted by the Army's occupation of the valley. These impacts have an effect on the near shore cultural resources, extending out to sea. When the inland water sources are altered or impacted, it has an effect on the native species and their habitat near shore. Ocean resources, including limu and fish, are culturally significant in this area.

Within the valley there are many cultural sites as well as native species. Eric shared that accessing these sites and resources is difficult given the military's occupation of the land.

³⁸ Authors note that the last occurrence of live-fire training within MMR was in 2003 (followed by total suspension in 2004).

Cultural Practices and Beliefs

Mr. Enos discussed how their organization has been able to hold Makahiki ceremonies in Mākua Valley for the past 18 or so years with the consent decree of the military. They hold Makahiki opening and closing ceremonies in Mākua annually.

Ka'ala Farm works to uphold traditional practices in the area including kalo farming. They also work with Mālama Mākua to protect the valley and the surrounding areas, including the mountains and watersheds. The watersheds start in the mountains in the back of the valley and feed into the larger system that they rely on for kalo farming and other traditional practices. Mr. Enos discussed how native plant species are important for water retention and prevent erosion and runoff that impact ocean resources.

Mr. Enos shared significant place names in the Mākua area including Ko'iahi, Kahanahāiki, Kuaokalā, and Pāhole. Ko'iahi and Kahanahāiki are the different parts of the valley, Kuaokalā is the ridgeline of Ka'ala, and Pāhole is the name of the watershed on top of Ka'ala.³⁹

Mr. Enos discussed how fishing in the waters outside of Mākua Valley is part of their traditional and customary practices. He described these coastlines as an active recreation area where people practice fishing and other ocean resource practices. Mr. Enos said that the coast outside of Mākua is one of the best fishing sites in the moku (district). Mākua Beach has a long coastline making it an ideal fishing site. Families have been using this area for fishing for generations. He explained that Mākua was once a fishing village, and it is connected to the deep-sea fishery outside of Ka'ena. Mr. Enos said that Mākua is the most active deep-sea fishery on the island of O'ahu. He explained that one of the reasons Wai'anae boat harbor is so productive is due to its close proximity to this deep-sea fishery. One of the reasons that Ka'ena has such a rich deep-sea fishery is the upwelling of fresh water that creates ideal conditions for larger fish. At one time the coastlines in the area were known for being productive with ahi, opelu, akule, and larger migratory species.

Mr. Enos shared that Mākua is connected to certain creation stories, like Kūla'ila'i. Some of the springs and water sources within Mākua are connected to Kūla'ila'i and these traditions. There are several sites within the valley and along the coast connected to these traditions as well.⁴⁰

Impacts

Mr. Enos shared that the active firing and burning that occurs in Mākua gives off waste that goes into the air and soil and eventually the ocean, impacting significant ocean resources. They have wanted to get

³⁹ Pāhole is not within the State-owned land at MMR or the broad geographical area.

⁴⁰ Interviewee did not specify exact location of the sites.

water quality testing done in the waters outside of Mākua to determine if cultural and subsistence resources, like fish and limu, are being impacted by the active firing and burning that occurs. Mr. Enos shared that what happens on the land happens to the ocean. He also discussed how water resources in the valley have been impacted by the military's use of the land. Mr. Enos has seen the water coming out of Mākua flow right into the ocean.

He shared that he is not sure what the Army would retain the lands in Mākua for or what plans they have to justify continued retention. There is currently no active live-fire training happening in Mākua, and he questions what other kind of training the military needs Mākua for. Further retention of the land would undoubtedly impact cultural resources and traditional practices in Mākua, but the community needs to be made aware of what the military intends to use Mākua for in order to fully understand these impacts.

Mr. Enos feels that the Army should work to clean up the land and restore it to its original state so that it is safe to access again. He mentioned that the community will need to plan how they can best perpetuate and continue cultural practices in Mākua once the military leaves and restores the land.

Mitigation Measures and Recommendations

Mr. Enos expressed that the community should be made aware of any new plans the military has for Mākua, including what kind of new training they might be using the valley for, should they retain the land. He does not feel that the military should retain the land at Mākua. He also discussed how the military has the responsibility to clean up the valley and fully restore it. They cannot just walk away in 2029 and throw money at the situation. It is going to take a lot of technology and work to restore and rehabilitate the land. Mr. Enos said that the Army needs to be held accountable for polluting this land and should take the lead on restoring the land they have been occupying. He also shared that the military should have a part in the conservation and protection of Mākua once their lease ends. The military has more resources than the State does to ensure that Mākua is restored and protected. He mentioned that the environmental and conservation arm of the military could continue to play a role in the conservation and restoration of Mākua.

Mr. Enos expressed that certain things which already exist in Mākua from the military, like fencing, can be utilized by the community once they leave. Fencing is important for practices like farming and ranching and these structures already exist on site. The existing infrastructure on site can be utilized for education, science, technology, and community centers. This infrastructure can be used for cultural activities, like storing canoes as well as educational activities.

D-3.5 MR. (NATHAN) KEOLA GRACE

The interview with Mr. Grace was conducted by Mr. Sproat from Honua Consulting, LLC on May 11, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Grace mentioned Mākua Cave as a significant cultural resource in Mākua.

Cultural Practices and Beliefs

Mr. Grace discussed how surfing was a tradition connected to Mākua, as well as farming and even ranching.

Impacts

Mr. Grace was not aware of any specific impacts to cultural resources or traditions and beliefs in the area.

Mitigation Measures and Recommendations

Mr. Grace recommends that the Army work closely with kūpuna and cultural practitioners in the area on how best to use the land in Mākua and how to mālama ‘āina.

D-3.6 MR. NEIL J.K. HANNAHS

The interview with Mr. Hannahs was conducted by Mr. Sproat from Honua Consulting, LLC on June 20, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Hannahs noted that when growing up, he did not have many experiences inland (within the MMR project area). He stated that in the ocean, fish and limu were important cultural resources. Mr. Hannahs considers rain and wind as cultural resources and says that “you are shaped by your environment.”

Cultural Practices and Beliefs

During the interview, Mr. Hannahs expressed that it is limiting to think of the MMR project area in terms of a single valley. He said there are many valleys, and as a result you must view it in its entire context. Mr. Hannahs talked about a Native Hawaiian viewpoint which does not view the land as merely terrestrial,

but also includes the ocean and the heavens. He noted the symbiotic relationship between these realms. Mr. Hannahs added that the presence of trees in the uplands stimulate clouds in the atmosphere to deposit rain on the land which then recharges the aquifer and creates streams that carry nutrient rich water to the nearshore where it catalyzes life in the ocean. He also said these aquatic resources may be birthed and nursed in one area and migrate to other areas as they mature where they are gathered.

Impacts

Mr. Hannahs noted that because all environments are connected, upstream effects will impact the downstream environment. He expressed the belief that land ownership and zoning in and of themselves are not as important as how lands are used and stewarded. Mr. Hannahs asked: “How will the land be impacted by training activities and what is the Army’s sense of duty to reciprocate for that privilege?” He asserted that if the use is destructive (bombing, live-fire training, etc.), the price to pay will be higher. Mr. Hannahs also added that noise is an impact, as well.

Mitigation Measures and Recommendations

Mr. Hannahs believes mitigating negative impacts is important. He believes negative impacts could include noise, chemical residue, bombing, live-fire training, etc. Regarding impacts to traditions and customs, Mr. Hannahs believes permitting the Army to retain the lands requires another generation or more to wait through the lease cycle. He asked: “If practitioners don’t have unfettered access, how do they cultivate pilina [connection] to the place? Does the military know how to relate to the land and people here?” Mr. Hannahs said that should the military retain the land, the military should view the relationship to the land and community holistically.

Mr. Hannahs said that he hopes Mākua is managed to optimize its role in support of vital ecosystem services. He believes there needs to be native forest trees and understory in the mauka areas to recharge aquifers. He also said we should constantly ask ourselves: are our actions helping the environment and fostering the health of the land and helping it to perform in a way that fulfills its kuleana?

D-3.7 MR. ALLEN HOE

The interview with Mr. Hoe was conducted by Mr. Sproat from Honua Consulting, LLC on June 14, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Hoe noted the cave associated with Mākua is considered an important cultural resource. He also knows about the families that had lived in Mākua for numerous generations before the lands were taken by the military.

Cultural Practices and Beliefs

Mr. Hoe explained that he does not have any familial or personal knowledge regarding the cultural practices and beliefs associated with Mākua Valley.

Impacts

Mr. Hoe is not personally aware of any cultural resources, traditions, or customs that might be impacted from the project; however, he noted that many individuals more familiar with the area have raised issues of impact to resources, traditions, and customs.

Mitigation Measures and Recommendations

Mr. Hoe explained that he understands the land is still usable for the military. He does not believe there is a critical or military need for continued live-fire training.⁴¹ Mr. Hoe also explained that he believes the terrain could be better used for physical training for the military and athletes. Mr. Hoe recommended that the military clean up the land from previous live-fire trainings.

D-3.8 MR. KYLE KAJIHIRO

The interview with Mr. Kajihiro was conducted by Mr. Sproat from Honua Consulting, LLC on June 15, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Some of the cultural resources that Mr. Kajihiro identified in his interview include the following: Ukanipō Heiau, which is on the Ka'ena side of Mākua; Kumuakuopio Heiau on the eastern side of the valley; a site that may have been heavily disturbed near the center part of Mākua that Mr. Kajihiro could not recall the name of; Kāneana Cave, which went all the way down to the sea prior to the road cut along with many stories relating to Maui Hina and a shark deity that are associated with that sea cave; Mailelauli'i, which was very well known and documented in stories from Ko'iahi Gulch; and a punawai (natural fresh water

⁴¹ Authors note that the last occurrence of live-fire training within MMR was in 2003 (followed by total suspension in 2004).

spring) documented by Marion Kelly in her 1977 report and rediscovered by kupuna Walter Kamana on a cultural access tour. Mr. Kajihiro mentioned there are petroglyphs in the backside of the valley; however, restricted access to these areas have made it challenging to know exactly where these sites are. He said there are also noted ko'a along the shoreline, but he is unaware of their exact location.

According to Mr. Kajihiro, contemporary cultural sites include three ahu inside the military installation constructed by Hui Mālama o Mākua for Makahiki ceremonies. He mentioned these are located in Kahanahāiki, Mākua, and Ko'iahi. Mr. Kajihiro also said a paepae [stone platform] called "Papahonua" was built under the direction of Mr. Glen Kila and Mr. Koa Mana in the gulch near the Mākua Cemetery. He mentioned another ahu named "Kanaloa" was built on the beach side near the center of the valley by Mr. William Ailā, Mr. Eric Enos, Mr. Atwood Makanani, and other community members at the suggestion of Auntie Frenchy DeSoto. Mr. Kajihiro said there is another structure/cultural landscape built by Ms. Leandra Wai on the western end, ocean side of Mākua, which has been named "Papa Waiola".

Cultural Practices and Beliefs

During the interview, Mr. Kajihiro recalled that the Mākua Valley was known historically as an important fishing site, with the area offshore being close to the deep drop off of Ka'ena, which is a very robust fishing area. He spoke to kūpuna from the area who were evicted from Mākua and recalled the richness of the place. Mr. Kajihiro said he has also spoken to kūpuna who have lineal ties to Mākua Valley and who speak of family burials within the valley. During the interview, Mr. Kajihiro recounted that they believe they do not have access to these burials due to the military's occupation of the valley. According to Mr. Kajihiro, Mālama o Mākua has monthly access to only certain sites in the valley and that cultural practices are constrained. Mr. Kajihiro said Mālama o Mākua have not been allowed to repair sites, give certain types of ho'okupu, remove invasive plants, or plant native species, Hawaiian crops, and medicinal plants.

Mr. Kajihiro also shared mo'olelo associated with the MMR project area, specifically of the shark god who resided in Kāneana Cave, within the MMR project area. Mr. Kajihiro recounted that when there were rains and the sea was rough, the shark god would come down from the cave into the ocean and rendezvous with a mo'owahine from Ko'iahi. When the heavy rains filled the muliwai, it would turn the river water green and enter the ocean near a stone called Kūla'ila'i. The entrance of the river water into the ocean would cause rough, turbulent seas that were believed to be the result of their romantic rendezvous and lovemaking.

Another mo'olelo shared by Mr. Kajihiro was from a collection of mo'olelo collected by Kepā Maly of Hi'iaka and Lohi'au traveling from Kaua'i and landing at Mākua. Hi'iaka would chant a greeting to many of the landscape features in the area including pōhaku features. These features were personified by Hi'iaka as akua or family members as she chanted to these features. At a swimming area known as Kilauea located

between Keawa'ula and Mākua, a young woman from Mākua dove into the ocean and struck the rock that mysteriously appeared and killed her. When Hi'iaika saw this woman, she resuscitated this woman on the shores of Mākua Beach with a chant to Kanaloa and Kāne to bring life back to the woman. Hi'iaika told the parents of this woman that the plants or lā'au lapa'au in Mākua Valley could be used medicinally to heal the woman. Mr. Kajihiro continued the mo'olelo but sharing that this stone which initially killed the woman was a kupua [demigod] that had become evil; its name was Pōhakuloa. Pōhakuloa was jealous of the girl because she had rejected his romantic affections. Knowing that Pōhakuloa could continue to harm the people and area of Mākua, Hi'iaika entered the ocean to battle this kupua. Pōhakuloa turned himself into the form of a shark. During the battle, a waterspout shot out of the water over Kuaokalā, indicating that Hi'iaika successfully defeated Pōhakuloa. The grateful community of Mākua celebrated Hi'iaika's success with a huge feast. Mr. Kajihiro asserted that this story suggests the abundance of resources in Mākua at that time with ample food and labor. He also noted that Mākua was known as a place of healing with the abundance of lā'au lapa'au in the valley.

Impacts

When asked about potential impacts from the Proposed Action, Mr. Kajihiro spoke of the negative impacts that the military has had over the cultural resources, landscape, and access to ancient cultural sites due to their occupation of Mākua. He said the negative impacts include devastation of native plants and natural resources, restricted and unobtainable access to iwi kūpuna and wahi kapu, unexploded ordnance, fires, and erosion of the valley.

Mitigation Measures and Recommendations

Mr. Kajihiro recommends that in preparation for the expiration of the lease in 2029, the land should be cleaned up to the condition prior to the military occupation of the valley and then returned to the people of Mākua. He said clean up should be financed by the military but led by the community. Mr. Kajihiro does not recommend the Army retain the land past 2029; instead, he asserted that Mākua should be used as a center for cultural practice and learning and as a living laboratory for environmental restoration. He believes the concerns for Mākua should not be "What can the military do better to retain this land?"; the question should be, "What does Mākua need?" and "What is the pono thing to do consistent with kuleana to mālama 'āina?" Mr. Kajihiro asserted that the EIS is guided by the wrong question, especially given that the lands in question are Hawaiian trust lands zoned for conservation. Mr. Kajihiro believes the EIS should study what actions are needed to restore the ecology and cultural resources of Mākua consistent with the State's trust obligation to mālama 'āina.

D-3.9 MR. THOMAS LENCHANKO

The interview with Mr. Lenchanko was conducted by Mr. Sproat and Dr. Watson-Sproat from Honua Consulting, LLC on May 10, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Due to lack of access,⁴² Mr. Lenchanko is unsure of what cultural resources remain in Mākua. He recognizes Mākua Valley as a significant cultural property and part of the kaʻānaniʻau system. Mr. Lenchanko discussed how there are several heiau in Mākua Valley and that the valley carries significant places like Koʻiahi where the famous maile lau liʻi once grew. He also discussed how there used to be rich animal life in the valley as well.

Cultural Practices and Beliefs

Mr. Lenchanko shared that he was taught that Mākua is the “vein of creation.” It is a place that connects us back to our origins. He discussed a “connection to invisible land” in reference to Hawaiians maintaining a connection to their ancestral lands. This makes land a way to connect to ancestors long passed.

Impacts

Mr. Lenchanko discussed how access to land impacts cultural resources and traditional practices. Military reservations prevent people from accessing resources regularly. In Mākua, it is dangerous because there are explosives still on the property, making it much more difficult for people to access this place as a traditional cultural property. Practitioners and descendants are unable to access this land to carry out their traditions and make connections to the land and their ancestors. The military has greatly impacted this significant land and retention of their lease makes it impossible for the people to reclaim and steward it. He referred to this as a war crime committed by the military. To this day the people are unable to determine how much of the land has been harmed and impacted and how they can restore it. This interferes with their inheritance to the shared responsibility of land stewardship. The military attempts to grant supervised access, but this process is complicated and still prevents the people from fulfilling their responsibility to this land.

Mr. Lenchanko expressed how the military has caused great harm to Mākua. He shared how he has witnessed military target and live-fire practices that have gone over the mountain range right up to cultural sites. According to Mr. Lenchanko, one munitions round that struck a heiau looked like it came

⁴² See Section 7.3 in main CIA document for a description of access in MMR.

from over the mountain from MMR. He says the bombing and targeting of the land have undoubtedly impacted cultural resources and prevents any traditional cultural practices from occurring in the valley. The continued military retention of this land will further impact the cultural resources and traditional practices.

Mitigation Measures and Recommendations

Mr. Lenchanko feels that the military has no place in Mākua and that the land should be returned. He stated that if they need land for national security, there is plenty of land elsewhere in America. Mr. Lenchanko expressed that cultural practitioners and Mākua families should be given back perpetual access to their land.

He is requesting that the military draft an inventory of all native species, plants, and cultural resources on their properties. Since the people do not have access to these lands, they have the right to know what is still there and how it is being impacted. This will allow the people to respond to the impacts on these resources.

D-3.10 MR. CHRISTOPHOR EDWARD OLIVEIRA

The interview with Mr. Oliveira was conducted by Mr. Sproat from Honua Consulting, LLC on June 5, 2022. The objective of the interview was to gather information about cultural resources, practices, and beliefs that may be affected by the proposed retention of the State-owned land at MMR and the broad geographical area. The interviewee also had the opportunity to share potential impacts and mitigation recommendations for the project area.

Cultural Resources

Mr. Oliveira shared that the entire valley is a cultural resource including intangible resources like sunrise and sunset times, observation of seasonal changes, and the entire cultural landscape.

Mr. Oliveira shared that when iwi kūpuna were found near shore, the lineal descendants wanted to have the sand that contained the iwi moved to Mākua Valley. They are still working to see this effort through. Working with the Army on this effort has been difficult, according to Mr. Oliveira. Given its cultural significance, Mākua has become home to burials.⁴³ Mr. Oliveira shared that his kūpuna fought the Army in the 1980s over disturbing iwi kūpuna in Mākua. These burials are near the graveyard and the church. Mr. Oliveira also named Kuihelani, Kalaeopaʻakai, and Poʻohuna as burial grounds and sites connected to iwi kūpuna.

⁴³ The interviewee did not provide additional information about what he meant by “Mākua has become home to burials.”

Maile lau li'i and loulou (fan palm, *Pritchardia* spp.) are significant plants connected to Mākua Valley. These resources are famed in chants and traditions connected to Mākua.

Mr. Oliveira shared that because of the state of the land in Mākua, there is no way for them to know of other cultural resources in the valley that still exist today. Until the valley is cleaned up, they have no way of truly knowing what resources continue to exist there.

Cultural Practices and Beliefs

Mr. Oliveira shared that the three valleys, Kahanahāiki, Ko'iahi, and Mākua, were called "Nā Mākua" collectively. He was taught this by his kūpuna. The area from Mākaha to Ka'ena was known as Kānehunamoku. La'ihau, Kanipō, Kumuakuopio are all names of temples in the area. Mr. Oliveira shared that his 'ohana has been working to restore traditional place names in this area that have been passed down from his past 'ohana. Once homesteads were created, the place names and their stories changed as people brought their own traditions and interpretations. For example, many people say that "Nānākuli" means "to look at your knees."⁴⁴ He explains that "Nānākuli" actually references to giving birth. The valley before Nānākuli is known as "kahe" meaning "to break your water." Other place names surrounding the Nānākuli area allude to female reproductive parts and pregnancy. Mr. Oliveira explained that his kūpuna emphasized the importance of place names and going to those places to learn about them and their traditions.

He briefly discussed how O'ahu chiefs were decimated by Kahekili of Maui and then Kamehameha during his conquest. This was prophesized by the kahuna, Ka'ōpulupulu, who met his death in Nānākuli.

Mr. Oliveira referenced Mākua Valley's cultural significance in chants like Kūnihi Ka'ena and Kahuli Ka'ena, uttered by Wahine'ōma'oma'o. Three valleys are named in these chants: Nā 'Ōhikilolo, Nā Mākua, and Nā Kea'au. They are connected to Mākaha. In a tradition of Hi'iakaikapoliopole, these three valleys were princesses who slept with Lohi'au and became known for their fragrant flowers. Ko'iahi is known for its maile lau li'i and Kea'au for its hala.

Mr. Oliveira named some mo'olelo connected to Mākua including the stories of Hi'iaka and Lohi'au, Ko'iahi, and Nanaue. He explained how Mākua embodies these mo'olelo and chants, revealing them in its mountains and landscapes.

⁴⁴ Other Native Hawaiians have asserted other, different meanings for this place name.

Mr. Oliveira shared that Mākua was a place of origin for ali'i. Ali'i were sent from Mākua to rule different places throughout the islands. These traditions come from the Nāmū genealogy. Mr. Oliveira mentioned how place names throughout the islands are inspired by place names from Wai'anae and Mākua.

Impacts

Mr. Oliveira expressed that he feels the most important resource that would be impacted by the Army's retention of these lands is the people. The continued desecration of iwi kūpuna and the place connected to the origins of our kūpuna and ali'i will impact the people.

He specifically mentioned how retention of the land impacts the system of ka'ānani'au, which is a system connected to temples and land divisions.

Mr. Oliveira also discussed how lack of access to Mākua due to the military's presence and the threat of remaining ordnances makes it impossible for the people and practitioners to utilize this culturally significant site. The valley cannot be accessed, and there is no way for people to know what resources remain there and prevents them from going there to worship and practice their culture. Mr. Oliveira has been denied access in the past to honor iwi kūpuna.

Mitigation Measures and Recommendations

Mr. Oliveira stated that the military needs to clean up the valley to mitigate the risk of remaining explosives. He also said that the valley should be returned to the people to care for and protect. The military does not currently use Mākua; they are just holding on to it and not cleaning it up. Mr. Oliveira stated the valley should come back to the lāhui [the people]. The only true way to mitigate the damage is to restore it as best as they can and return it back to the people. He said the military should start to clean up the land now so that in 2029 they can return it to the Hawaiian people. Mr. Oliveira expressed that given its significance, Mākua and the surrounding Kānehunamoku area should become a World Heritage Site. He feels that the land should be returned to the people, not the State. The land should be put in trust for the Hawaiian people, through OHA or some other way.

As a best practice, Mr. Oliveira recommends that the Army find a way to accommodate the people's needs to access these lands beyond means of worship and cultural practices. The land is an important resource to the people, and it is not always for worship or specific practices, but to exist and be with the land of their ancestors.

Appendix C

EIS Notices

Notice of Intent

Amended Notice of Intent

Environmental Impact Statement Preparation Notice

Affidavit of Publication for Scoping Public Notices

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Notice of Intent

(Office of the Federal Register, *Federal Register*, July 23, 2021)

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functionality of smoke and CO alarms in households, as well as assess user hazard perceptions regarding such alarms. The purpose of the SCOA survey is to collect data that will assist CPSC with better estimation of the number and types of smoke and CO alarms installed in U.S. households, the proportion of working smoke and CO alarms, the characteristics of residences and residents where the smoke and CO alarms are not operational, perceptions of residents related to the causes of “false” alarms or causes of faulty alarms, consumer hazard awareness, and consumer behavior related to alarm use and smoke and CO hazards.

The information collected from the SCOA survey would provide CPSC updated national estimates regarding the use of smoke alarms and CO alarms in households, based on direct observation of alarm installations. The survey also would help CPSC identify the groups that do not have operable smoke alarms and/or CO alarms and understand the reasons why they do not have such alarms. With this information, CPSC would be able to target better its messaging to improve consumer use and awareness regarding the operability of these alarms. In addition, the survey results would help to inform CPSC’s recommendations to voluntary standards groups and state/local jurisdictions regarding their codes, standards, and/or regulations on smoke and CO alarms.

B. Burden Hours

We estimate the number of respondents to be 1,185. We estimate the total annual burden hours for respondents to be 1,552 hours, based on the total time required to respond to the invitation, screener, and the actual survey. According to the U.S. Bureau of Labor Statistics, the total compensation for civilian workers in March 2021 was \$39.01 per hour (Employer Cost for Employee Compensation, Table 2, <https://www.bls.gov/news.release/ecec.t02.htm>). Therefore, CPSC estimates the cost burden for respondents to be \$60,544 (\$39.01 per hour × 1,552 hours = \$60,543.52). The total cost to the federal government for the contract to design and conduct the revised survey is \$562,725.

C. Request for Comments

The CPSC invites comments on these topics:

- Whether the proposed collection of information is necessary for the proper performance of CPSC’s functions, including whether the information will have practical utility;

- The accuracy of CPSC’s estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;

- Ways to enhance the quality, utility, and clarity of the information to be collected; and

- Ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques, when appropriate, and other forms of information technology.

Alberta E. Mills,

Secretary, Consumer Product Safety Commission.

[FR Doc. 2021–15735 Filed 7–22–21; 8:45 am]

BILLING CODE 6355–01–P

DEPARTMENT OF DEFENSE

Department of the Army

Environmental Impact Statement for Army Training Land Retention of State Lands at Kahuku Training Area, Poamoho Training Area, and Makua Military Reservation, Island of O’ahu, Hawai’i

AGENCY: Department of the Army; DoD.

ACTION: Notice of intent.

SUMMARY: In accordance with the National Environmental Policy Act (NEPA) 1969 and the Hawai’i Environmental Policy Act (HEPA), the Department of the Army (Army) is issuing this Notice of Intent to prepare an Environmental Impact Statement (EIS) to address the Army’s proposed retention of up to approximately 6,300 acres of land currently leased to the Army by the State of Hawai’i (“State-owned lands”) on the island of O’ahu. Lease agreements between the State of Hawai’i and the Army at each of these three training areas were initiated in 1964 and expire in 2029. State-owned lands includes approximately 1,170 acres at Kahuku Training Area (KTA), approximately 4,370 acres at Poamoho Training Area (Poamoho), and approximately 760 acres at Makua Military Reservation (MMR). Training areas are utilized by Army units and other users such as the Marine Corps and Hawaii Army National Guard. Because the Proposed Action involves State-owned lands, the EIS will be a joint NEPA–HEPA document; therefore, the public scoping processes will run concurrently and will jointly meet NEPA and HEPA requirements. The EIS will evaluate the environmental impacts from implementing the proposed land retention.

DATES: The Army invites public comments on the scope of the EIS during a 40-day public scoping period. Comments must be received by September 1, 2021.

ADDRESSES: Please send written comments to the EIS website at: <https://home.army.mil/hawaii/index.php/OAHUEIS>. Alternatively, comments can be emailed to usarmy.hawaii.nepa@mail.mil, or mailed to: O’ahu ATLR EIS Comments, P.O. Box 3444, Honolulu, HI 96801–3444.

FOR FURTHER INFORMATION CONTACT: Please contact Amy Bugala, U.S. Army Garrison-Hawai’i (USAG–HI) Public Affairs Officer, at: (808) 656–3160 or by email to: usarmy.hawaii.comrel@mail.mil.

SUPPLEMENTARY INFORMATION: USAG–HI is home to the 25th Infantry Division (ID), and other commands, whose mission is to deploy to conduct decisive actions in support of unified land operations; the Division conducts continuous persistent engagement with regional partners to shape the environment and prevent conflict across the Pacific operational environment. On orders, these units may conduct theater-wide deployment to perform combat operations in support of U.S. Indo-Pacific Command (USINDOPACOM). The 25th ID is based out of Schofield Barracks on the island of O’ahu and trains on a rotational basis at various training areas, including KTA, Poamoho, and MMR.

Located in northeast O’ahu, KTA has been the site of military training since the mid-1950s. Current training activities on State-owned lands at KTA include high-density company-level helicopter training in a tactical environment, large-scale ground maneuver training, and air support training.

Located in the Ko’olau Mountains in north-central O’ahu, the Poamoho Training Area has been the site of military training since 1964 and provides ideal airspace with ravines and deep vegetation vital to realistic helicopter training.

Located in northwest O’ahu, MMR has been a site for military training for nearly 100 years. Tactical training at MMR began in 1941 after the surprise attack on Pearl Harbor and military exercises continue to this day. Current training activities on State-owned lands at MMR include maneuver training, the establishment and use of restricted airspace for unmanned aerial vehicle training, as well as wildfire suppression and security activities.

The purpose of land retention is to secure the long-term military use of

State-owned parcels, for which current leases expire in 2029. The need to retain use of these training lands is to allow the military to continue to meet current and future training and combat readiness requirements on Army-managed lands in Hawai'i.

To understand the environmental consequences of the decisions to be made, the EIS will evaluate the reasonably foreseeable impacts of a range of potential alternatives that meet the purpose of and need for the Proposed Action. Alternatives to be considered include the No Action Alternative, (1) Full Retention, (2) Modified Retention, and (3) Minimum Retention and Access. The Proposed Action does not involve new training, construction, or resource management activities. Under Full Retention, the Army would retain all State-owned lands within each training area. Under Modified Retention, the Army would retain all State-owned lands within each training area except lands on which limited training occurs. Under Limited Retention and Access, the Army would retain the minimum amount of State-owned lands within each training area that is required for USARHAW to continue to meet its current ongoing training requirements. This includes the State-owned lands with the most vital training/support facilities, infrastructure, maneuver land, all U.S. Government-owned utilities, and access to these features. Other reasonable alternatives raised during the scoping process that meet the Army mission, project purpose, and need will also be considered for evaluation in the EIS.

An EIS-level analysis is being undertaken because the land retention action could have potentially significant impacts on environmental and social resource areas including biological resources, cultural resources, hazardous and toxic materials and wastes, socioeconomic, utilities, and human health and safety. The analysis in the EIS will determine the projected level of impact on each resource area.

The Army anticipates permits and authorizations may be required for the Proposed Action, including a lease from the State of Hawai'i Department of Land and Natural Resources (DLNR), National Historic Preservation Act and Hawai'i Historic Preservation Review consultation with the State Historic Preservation Officer, Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife Service, a Coastal Zone Management consistency determination from the Hawai'i State Office of Planning, and a Conservation District Use Permit applicability

determination from the DLNR Office of Conservation and Coastal Lands.

The Draft EIS will be available in the summer of 2022. The Final EIS 2023, ROD spring 2024. The Final EIS and Record of Decision are estimated to be available within three years of this notice.

Native Hawaiian organizations; Federal, State, and local agencies; and the public are invited to be involved in the scoping process for the preparation of this EIS by participating in a scoping meeting and/or submitting written comments. The Army requests assistance with identifying potential alternatives to the Proposed Action to be considered and identification of information and analyses relevant to the Proposed Action. Written comments must be sent within 40 days of publication of the Notice of Intent in the **Federal Register**. In response to the coronavirus (COVID-19) pandemic in the United States and the Center for Disease Control's current recommendations for social distancing and avoiding large public gatherings, the Army may not hold in-person public scoping meetings for this action. In lieu of in-person public scoping meetings, the Army may provide virtual scoping opportunities that will include an online presentation and collaboration tools, as appropriate, and reasonable accommodations for the public to view information and provide oral or written comments subject to COVID-19 limitations. An EIS Scoping Virtual Open House will be held at Leilehua Golf Course (199 Leilehua Golf Course Rd., Wahiawa, HI 96786) on August 9 and 10, 2021 from 6 to 9 p.m. During the EIS Scoping Virtual Open House, video presentations describing the Proposed Action can be viewed online at: <https://home.army.mil/hawaii/index.php/OAHUEIS> and oral comments will be taken via an accompanying call-in option. Written comments will be accepted during the EIS Scoping Virtual Open House and throughout the duration of the 40-day scoping process through an online comment platform or by mail or email. Additional in-person public comment stations may be made available, subject to procedural compliance with governmental guidance and restrictions related to COVID-19. Notification of the EIS Scoping Virtual Open House and in-person public comment stations will also be published and announced in local news media outlets and on the EIS website: <https://home.army.mil/hawaii/index.php/OAHUEIS>. Hard copy scoping materials are available by making a request to Amy Bugala, USAG-HI Public Affairs Officer at (808)

656-3160 or by email to: usarmy.hawaii.comrel@mail.mil.

James W. Satterwhite Jr.,
Army Federal Register Liaison Officer.
[FR Doc. 2021-15666 Filed 7-22-21; 8:45 am]
BILLING CODE 5061-AP-P

DEPARTMENT OF DEFENSE

Office of the Secretary

[Docket ID: DoD-2021-HA-0067]

Proposed Collection; Comment Request

AGENCY: The Office of the Assistant Secretary of Defense for Health Affairs, Department of Defense (DoD).

ACTION: Information collection notice.

SUMMARY: In compliance with the *Paperwork Reduction Act of 1995*, the Defense Health Agency announces a proposed public information collection and seeks public comment on the provisions thereof. Comments are invited on: Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; the accuracy of the agency's estimate of the burden of the proposed information collection; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology.

DATES: Consideration will be given to all comments received by September 21, 2021.

ADDRESSES: You may submit comments, identified by docket number and title, by any of the following methods:

Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

Mail: DoD cannot receive written comments at this time due to the COVID-19 pandemic. Comments should be sent electronically to the docket listed above.

Instructions: All submissions received must include the agency name, docket number and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

Amended Notice of Intent

(Office of the Federal Register, *Federal Register*, August 6, 2021)

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DEPARTMENT OF DEFENSE**Department of the Army****Environmental Impact Statement for Army Training Land Retention of State Lands at Kahuku Training Area, Poamoho Training Area, and Makua Military Reservation, Island of O'ahu, Hawai'i**

AGENCY: Department of the Army, Defense (DoD).

ACTION: Amended notice of intent.

SUMMARY: The Department of the Army (Army) is issuing this Amended Notice of Intent, updating the original notice published on July 23, 2021 of its continuing intent to prepare an Environmental Impact Statement (EIS) to address the Army's proposed retention of up to approximately 6,300 acres of land currently leased to the Army by the State of Hawai'i ("State-owned lands") on the island of O'ahu. Since coronavirus (COVID-19) restrictions have eased in the City and County of Honolulu in the State of Hawai'i (Mayor of the City and County of Honolulu's Fourteenth Proclamation issued July 2, 2021), in addition to virtual scoping opportunities, EIS scoping sessions are scheduled to be held at Leilehua Golf Course (199 Leilehua Golf Course Rd., Wahiawa, HI 96786) on August 10 and 11, 2021 from 6 to 9 p.m.

DATES: The Army invites public comments on the scope of the EIS during a 40-day public scoping period. Comments must be received by September 1, 2021.

ADDRESSES: Please send written comments to the EIS website at: <https://home.army.mil/hawaii/index.php/OAHUEIS>. Alternatively, comments can be emailed to usarmy.hawaii.nepa@mail.mil, or mailed to: O'ahu ATLR EIS Comments, P.O. Box 3444, Honolulu, HI 96801-3444. EIS scoping sessions will be held at Leilehua Golf Course (199 Leilehua Golf Course Rd., Wahiawa, HI 96786) on August 10 and 11, 2021 from 6 to 9 p.m., during which video presentations will also be viewable at <https://home.army.mil/hawaii/index.php/OahuEIS>, and oral comments will be taken via an accompanying call-in option at 808-556-8277.

FOR FURTHER INFORMATION CONTACT: Please contact Amy Bugala, U.S. Army Garrison-Hawai'i (USAG-HI) Public Affairs Officer, at: (808) 656-3158 or by email to: usarmy.hawaii.comrel@mail.mil.

SUPPLEMENTARY INFORMATION: The Army is updating **Federal Register**, Vol. 86,

No. 139, 39007 with this notice. USAG-HI is home to the 25th Infantry Division (ID), and other commands, whose mission is to deploy to conduct decisive actions in support of unified land operations; the Division conducts continuous persistent engagement with regional partners to shape the environment and prevent conflict across the Pacific operational environment. On orders, these units may conduct theater-wide deployment to perform combat operations in support of U.S. Indo-Pacific Command (USINDOPACOM). The 25th ID is based out of Schofield Barracks on the island of O'ahu and trains on a rotational basis at various training areas, including KTA, Poamoho, and MMR.

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Located in the Ko'olau Mountains in north-central O'ahu, the Poamoho Training Area has been the site of military training since 1964 and provides ideal airspace with ravines and deep vegetation vital to realistic helicopter training.

Located in northwest O'ahu, MMR has been a site for military training for nearly 100 years. Tactical training at MMR began in 1941 after the surprise attack on Pearl Harbor and military exercises continue to this day. Current training activities on State-owned lands at MMR include maneuver training, the establishment and use of restricted airspace for unmanned aerial vehicle training, as well as wildfire suppression and security activities.

State-owned lands include approximately 1,170 acres at Kahuku Training Area (KTA), approximately 4,370 acres at Poamoho Training Area (Poamoho), and approximately 760 acres at Makua Military Reservation (MMR). Training areas are utilized by Army units and other users such as the Marine Corps and Hawaii Army National Guard. Because the Proposed Action involves State-owned lands, the EIS will be a joint NEPA-HEPA document; therefore, the public scoping processes will run concurrently and will jointly meet NEPA and HEPA requirements. The EIS will evaluate the environmental impacts from implementing the proposed land retention.

The purpose of land retention is to secure the long-term military use of State-owned parcels, for which current

leases expire in 2029. The need to retain use of these training lands is to allow the military to continue to meet current and future training and combat readiness requirements on Army-managed lands in Hawai'i.

To understand the environmental consequences of the decisions to be made, the EIS will evaluate the reasonably foreseeable impacts of a range of potential alternatives that meet the purpose of and need for the Proposed Action. Alternatives to be considered include the No Action Alternative, (1) Full Retention, (2) Modified Retention, and (3) Minimum Retention and Access. The Proposed Action does not involve new training, construction, or resource management activities. Under Full Retention, the Army would retain all State-owned lands within each training area. Under Modified Retention, the Army would retain all State-owned lands within each training area except lands on which limited training occurs. Under Limited Retention and Access, the Army would retain the minimum amount of State-owned lands within each training area that is required for USARHAW to continue to meet its current ongoing training requirements. This includes the State-owned lands with the most vital training/support facilities, infrastructure, maneuver land, all U.S. Government-owned utilities, and access to these features. Other reasonable alternatives raised during the scoping process that meet the Army mission, project purpose, and need will also be considered for evaluation in the EIS.

An EIS-level analysis is being undertaken because the land retention action could have potentially significant impacts on environmental and social resource areas including biological resources, cultural resources, hazardous and toxic materials and wastes, socioeconomic, utilities, and human health and safety. The analysis in the EIS will determine the projected level of impact on each resource area.

The Army anticipates permits and authorizations may be required for the Proposed Action, including a lease from the State of Hawai'i Department of Land and Natural Resources (DLNR), National Historic Preservation Act and Hawai'i Historic Preservation Review consultation with the State Historic Preservation Officer, Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife Service, a Coastal Zone Management consistency determination from the Hawai'i State Office of Planning, and a Conservation District Use Permit applicability determination from the DLNR Office of Conservation and Coastal Lands.

The Draft EIS will be available at the end of 2022. The Final EIS will be published in 2023, and the ROD will be available by fall 2024. The Final EIS and Record of Decision are estimated to be available within three years of this notice.

Native Hawaiian organizations; Federal, State, and local agencies; and the public are invited to be involved in the scoping process for the preparation of this EIS by participating in a scoping meeting and/or submitting written comments. The Army requests assistance with identifying potential alternatives to the Proposed Action to be considered and identification of information and analyses relevant to the Proposed Action. Written comments must be sent within 40 days of publication of the Notice of Intent in the **Federal Register**. Written comments will be accepted during the EIS Scoping Open House and throughout the duration of the 40-day scoping process through an online comment platform or by mail or email. Notification of the EIS Scoping Open House will also be published and announced in local news media outlets and on the EIS website: <https://home.army.mil/hawaii/index.php/OAHUEIS>. Hard copy scoping materials are available by making a request to Amy Bugala, USAG-HI Public Affairs Officer at (808) 656-3158 or by email to: usarmy.hawaii.comrel@mail.mil.

James W. Satterwhite, Jr.,

Army Federal Register Liaison Officer.

[FR Doc. 2021-16807 Filed 8-5-21; 8:45 am]

BILLING CODE 5061-AP-P

DEPARTMENT OF DEFENSE

Department of Army

Final Environmental Impact Statement and Finding of no Practicable Alternative for Implementation of Area Development Plan at Davison Army Airfield, Fort Belvoir, Virginia

AGENCY: Department of Army, DoD.

ACTION: Notice of availability.

SUMMARY: The Department of Army (Army) announces the availability of the Final Environmental Impact Statement (EIS) for the proposed implementation of an Area Development Plan (ADP) for Davison Army Airfield (DAAF) at Fort Belvoir, Virginia. In accordance with the National Environmental Policy Act (NEPA), the Final EIS analyzes the potential environmental impacts associated with implementing the construction, modernization, and demolition projects at DAAF

recommended in the ADP (Proposed Action). A Finding of No Practicable Alternative (FONPA) addressing potential impacts on floodplains and wetlands was prepared in parallel with and is included as an appendix to the Final EIS. The Proposed Action would be implemented over an approximately 30-year time period to provide facilities and infrastructure necessary to support the ongoing and future missions of DAAF's tenants. The Proposed Action would improve the airfield's functional layout, demolish and replace aging facilities and infrastructure, and address multiple operational safety concerns along the runway. The ADP is specific to DAAF and all projects would occur entirely within its boundaries. No substantial changes in missions, air operations, or the number of aircraft and personnel at DAAF would occur under the Proposed Action.

FOR FURTHER INFORMATION CONTACT:

Please contact: Ms. Wilamena G. Harback, Fort Belvoir Directorate of Public Works-Environmental Division (DPW-ED) via phone at (703) 806-3193 or (703) 806-0020, during normal working business hours, Monday through Friday, 8:00 a.m. to 4:00 p.m. Further information may also be requested via email to: FortBelvoirNOI@usace.army.mil. Electronic copies of the Final EIS and FONPA are available on Fort Belvoir's website at: <https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division>.

SUPPLEMENTARY INFORMATION: The Final EIS analyzes the potential environmental impacts of the Army's Proposed Action to implement the construction, modernization, and demolition projects recommended in the ADP. The Proposed Action would occur entirely within the 673-acre DAAF property on Fort Belvoir. Up to 24 ADP projects would be implemented in three sequential phases over the course of an approximately 30-year time period, as follows: Short-range (next 10 years), mid-range (11 to 20 years from now), and long-range (21 to 30 years from now). No substantial changes in missions, air operations, or the number of aircraft and personnel at DAAF would occur under the Proposed Action. Operational noise levels following implementation of the Proposed Action would remain similar to current conditions.

The Proposed Action includes the construction of new hangars, administrative and operational facilities; the modernization of existing facilities; the demolition of up to 37 existing buildings and structures; and related

infrastructure improvements. Demolition activities would remove a number of facilities that partially obstruct the airfield's Primary and Transitional Surfaces, which are required to be free of obstructions in accordance with Department of Defense (DoD) operational safety criteria. These facilities require temporary safety waivers to operate.

The Final EIS assesses the direct, indirect, and cumulative potential environmental impacts associated with the Proposed Action. In support of the Final EIS, the Army conducted consultation to obtain regulatory concurrence in accordance with Section 7 of the Endangered Species Act, Section 106 of the National Historic Preservation Act, and Section 307 of the Coastal Zone Management Act.

The Army evaluated several alternatives for the Proposed Action before selecting two action alternatives for detailed analysis in the Final EIS: The Full Implementation Alternative and the Partial Implementation Alternative. A No Action Alternative was also carried forward for analysis.

1. *Full Implementation Alternative (Preferred Alternative):* This alternative would implement the complete suite of 24 projects recommended in the DAAF ADP. The Full Implementation Alternative would accommodate the space and functional needs of all DAAF tenants consistent with applicable DoD requirements. It would also fulfill DAAF's vision to create a safe, secure, sustainable, and consolidated aviation complex.

2. *Partial Implementation Alternative:* This alternative would implement a modified, reduced program of 15 ADP projects at DAAF. The Partial Implementation Alternative would not address DAAF's tenants' requirements in full, but would substantially improve conditions.

Under the No Action Alternative, the Army would not implement the DAAF ADP; existing conditions at the airfield would continue for the foreseeable future. The No Action Alternative does not meet the Proposed Action's purpose and need, but was analyzed in the Final EIS to provide a baseline for the comparison of impacts from the Full and Partial Implementation Alternatives.

The Final EIS analyzed the Proposed Action's potential impacts on land use, aesthetics, and coastal zone management; historic and cultural resources; air quality; noise; geology, topography, and soils; water resources; biological resources; health and safety; and hazardous materials and waste.

Environmental Impact Statement Preparation Notice


(State of Hawai'i Office of Planning and
Sustainable Development Environmental Review Program
The Environmental Notice, July 23, 2021)

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O'AHU (CONTINUED)

Army Training Land Retention on State Lands on O'ahu (EIS Preparation Notice)

HRS §343-5(a) Trigger	(1) Propose the use of state or county lands or the use of state or county funds (2) Propose any use within any land classified as a conservation district
Districts/TMKs	O'ahu-Numerous (see document)
Permit(s)	Numerous (see document)
Approving Agency	State of Hawai'i, Department of Land and Natural Resources Russell Tsuji, (808) 587-0419, dlmr.land@hawaii.gov 1151 Punchbowl St., Room 220, Honolulu, HI 96813
Applicant	U.S. Army Garrison-Hawai'i & U.S. Army Installation Management Command Daisy Pate, (808) 222-3227, daisy.b.pate@usace.army.mil U.S. Army Garrison Hawai'i, Directorate of Public Works - Environmental Building 105, 3rd Floor, Wheeler Army Airfield 948 Santos Dumont Ave., Schofield Barracks, HI 96857-5013
Consultant	G70; 111 S King St., Suite 170, Honolulu, HI 96813 Jeff Merz, (808) 523-5866, ATLR-OAHU-EIS@g70.design
Status	Administrative public review and comment period starts. Comments are due by September 1, 2021. Please send comments to usarmy.hawaii.nepa@mail.mil and copy the consultant. Hybrid in-person/online EIS Public Scoping meetings will be held August 10 & 11, 2021, 6 - 9 p.m. at Leilehua Golf Course (199 Leilehua Golf Course Rd, Wahiawā, HI); attend one of the meetings or Live stream available through website: https://home.army.mil/hawaii/index.php/OahuEIS




The Army training lands on the island of O'ahu at Kahuku Training Area (KTA), Kawaioloa-Poamoho (Poamoho), and Makua Military Reservation (MMR) include approximately 18,060 acres of State-owned and federally-owned properties. The U.S. Government leases up to approximately 6,300 acres of State lands and these leases expire on August 16, 2029.

The Army proposes to retain these lands in support of continued military training. Retaining use of these training areas will allow the military to continue to meet current and future training requirements on Army-managed lands to meet its mission of readiness. The Proposed Action does not involve new training, construction, or resource management activities at the subject areas. Instead, it is a real estate action that would enable the continuation of existing military use and/or management of the land. A Notice of Intent for this action will be published in the Federal Register.

KAUA'I

Kaua'i Police Department Kapa'a Substation--Draft EA (AFNSI)

HRS §343-5(a) Trigger	(1) Propose the use of state or county lands or the use of state or county funds	
District(s)	Kawaihau	
TMK(s)	(4) 4-6-014: 013	
Permit(s)	Use Permit, Building Permits	
Proposing/ Determining Agency	County of Kauaʻi, Department of Public Works Doug Haigh, Building Division Chief, (808) 241-4854, dhaigh@kauai.gov 4444 Rice Street, Suite 175, Līhuʻe, HI 96766-1340	
Consultant	Environmental Communications, Inc.; P.O. Box 236097 Honolulu, HI 96823 Taeyong Kim, 808-528-4661, tkim@environcom.com	
Status	Statutory 30-day public review and comment period starts. Comments are due by August 23, 2021. Please send comments to the proposing/determining agency and copy the consultant.	

The project site consists of vacant land and a single story single-family dwelling that is used for overflow parking from the adjacent Samuel Mahelona Memorial Hospital. The site is open and grassed along its Kawaihau Road frontage and slopes towards a natural ravine. The proposed action consists of the construction of a 7,020 square foot police substation. The building will include standard police functions such as administrative offices, locker rooms, training areas, holding cell and interview rooms, and a multipurpose room. Appurtenant to the main building are 45 parking stalls including ADA accessible stalls and two spaces reserved for large police vehicles. The subject facility is required to properly maintain police services within the growing Kapa'a and North Shore population centers. Presently, the only structure where police officers can perform paperwork is a temporary location at the Armory building. Intake, briefings and other typical functions must presently occur at the Līhu'e Station.

The estimated construction cost for the project is \$8,000,000.00.

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**Affidavit of Publication
for Scoping Public Notices**

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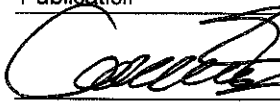
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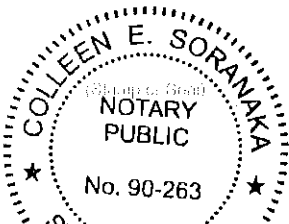
IN THE MATTER OF
PUBLIC NOTICE

STATE OF HAWAII

SS.

City and County of Honolulu

AUG 06 2021	
Doc. Date: _____	# Pages: <u>1</u>
Notary Name: <u>COLLEEN E. SORANAKA</u> First Judicial Circuit	
Doc. Description: <u>Affidavit of Publication</u>	
	AUG 06 2021
Notary Signature	Date



Lisa Sakakida being duly sworn, deposes and says that she is a clerk, duly employed by to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the

Honolulu Star-Advertiser 3 times on:

07/23, 07/30, 08/06/2021

MidWeek 0 times on:

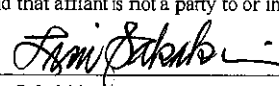
The Garden Island 0 times on:

Hawaii Tribune-Herald 0 times on:

West Hawaii Today 0 times on:

Other Publications: 0 times on:

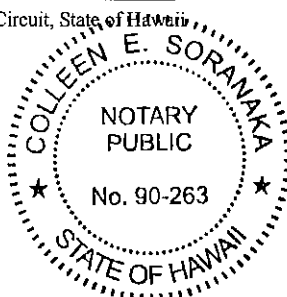
And that affiant is not a party to or in any way interested in the above entitled matter.


Lisa Sakakida

Subscribed to and sworn before me this 6th day of August A.D. 2021

Colleen E. Soranaka, Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires: Jan 06 2024

Ad # 0001335266



U.S. Army to Prepare Environmental Impact Statement for Army Training Land Retention at Oahu Training Areas

In accordance with the National Environmental Policy Act (NEPA) and the Hawaii Environmental Policy Act (HEPA), the Department of the Army (Army) announces its intent to prepare an Environmental Impact Statement (EIS) to address the Army's proposed retention of up to approximately 6,300 acres of lands currently leased to the Army by the State of Hawaii at Kahuku Training Area, Kailua-Poamoho Training Area, and Makua Military Reservation on the island of Oahu. The 65-year leases expire on August 16, 2029. The EIS will be a joint NEPA-HEPA document and the public scoping processes will run concurrently.

The public is invited to participate in the scoping process for the EIS by submitting written comments on the scope of the EIS during the scoping period, July 23-Sept. 1, 2021, online at <https://home.army.mil/hawaii/index.php/OahuEIS>, by email to usarmy.hawaii.nepa@mail.mil, or by mail to: ATLR Oahu EIS Comments, P.O. Box 3444, Honolulu, HI 96801-3444. Comments must be postmarked or submitted online by Sept. 1, 2021 to be considered in the preparation of the EIS.

The public is also invited to participate in one of the two scoping sessions being held on Tuesday, Aug. 10 and Wednesday, Aug. 11, 2021, from 6-9 p.m. at Leilehua Golf Course (199 Leilehua Golf Course Rd, Wahiawa, HI 96786). The presentations will be identical on both days and will also be live-streamed (details on website; see link below). During the scoping sessions, participants can:

- 1) Attend in-person or virtually to view presentation and listen: <https://home.army.mil/hawaii/index.php/OahuEIS>
- 2) Provide comments in person at a meeting orally and/or submit written comments in a drop box on site.
- 3) Submit comments online through the website (<https://home.army.mil/hawaii/index.php/OahuEIS>).
- 4) Call (808) 556-8277 to submit oral comments from 4-9 p.m. (only on Tuesday, Aug. 10, and Wednesday, Aug. 11).

For more information or accessibility requests, please contact the U.S. Army Garrison Hawaii Public Affairs Office at usarmy.hawaii.comrel@mail.mil or (808) 656-3158.
(SA1335266 7/23, 7/30, 8/6/21)

ICSP NO.: _____

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Appendix D

Public Scoping Open House Meeting Materials

Summary of EIS Public Scoping Sessions

Posters

Fact Sheet

Flyer

Direct Mail Postcard

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Summary of EIS Public Scoping Sessions

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**ARMY TRAINING LAND RETENTION AT KAHUKU TRAINING AREA, KAWAIILOA-POAMOHU
TRAINING AREA, AND MAKUA MILITARY RESERVATION, ISLAND OF O'AHU**

AUGUST 10 AND 11, 2021 WEBINAR SCOPING SESSIONS

**ORAL SCOPING COMMENTS
AND
AUGUST 10 THROUGH 12, 2021 PHONE RECORDINGS
OTHER SCOPING COMMENTS**

- General Summary -

Due to public health restrictions on public gatherings pursuant to the Governor's announcement [Executive Order No. 21-05] on August 10, 2021, planned in-person scoping sessions were shifted to all virtual/online events. During the virtual/online events, the public was provided with opportunities to view presentations via website, webinar, and live stream. Hard copies of the presentations were made available by request. Oral comments were received, and audio recorded through the Zoom webinar platform (classified as "Oral") and phone line (classified as "Other"). Additional written comments were received via website, email, P.O. box mail (classified as "Letters") during the scoping comment period of July 23, 2021 through September 1, 2021.

In keeping with federal, state and county guidance to minimize risk of transmission of the corona-virus, the meetings were held on a web-based (webinar) platform. Webinar scoping sessions were held on August 10 and 11, 2021 from 6:00 to 9:00 p.m. and an online Open House was live on the O'ahu EIS website (<https://home.army.mil/hawaii/index.php/OahuEIS>) from August 10, 2021, 4:00 PM through September 1, 2021, 11:59 PM. The webinar was live-streamed, for which the recording may be accessed on the U.S. Army Garrison YouTube channel (<https://www.youtube.com/c/usaghawaii/videos>). The webinar meeting apportioned time for oral public comments which were audio recorded per HEPA requirements [HAR §11-200.1-23(d)]. The posters, fact sheet, and flyer included here in Appendix D were presented during webinar scoping sessions and were further made available on the USAG-HI website (<https://home.army.mil/hawaii/index.php/OahuEIS/documents>).

An additional call-in phone number was set up to provide comments via telephone. The telephone line was open from August 10, 2021, 1:00 PM and remained available through August 12, 2021, 11:59 PM to accommodate greater public participation due to the uncertainty of fluctuating gathering limits/restrictions due to the corona-virus and in response to concerns on accessibility for digitally disadvantaged members of the public. Audio recordings for both webinar ("Oral") and phone line ("Other") comment submission methods are included in Appendix E, Scoping Comments and Responses. The following is a written general summary of the oral comments received during the public meetings, including phone recordings.

Eighty-five comments were provided from 76 unique commenters via the webinar scoping sessions over the course of two evenings—August 10 and 11. Both public scoping meetings were about three-hour long between 6:00 PM and 9:00 PM with additional time at either end to receive public comments. Approximately 107¹ comments were provided via phone message over the course of 2.5 days—August 10, 1:00 PM through August 12, 11:59 PM. In total, there were 192 comments that constitute the Oral and Other comments received during the public meetings.²

Roughly one-third of the 192 comments received were classified as “Support No Action,” which correlates with the No Action Alternative where the Army would not retain any of the State-owned lands at Kahuku Training Area, Kailua-Poamoho Training Area, and Mākuā Military Reservation. With the exception of 10 neutral comments, the remainder of comments were opposed to the Proposed Action.

Many of the phone calls were similar in content which seemed to be variations of a standardized script³:

“My name is _____ and I am a resident of _____ and I strongly oppose the extension of the military leases on the lands of Mākuā, Kahuku, and Wahiawā.

Extension of these leases will allow the military to further damage the natural resources of these areas, destroy the natural habitats of native Hawaiian plants, animals and continually disrupt the lives of the local communities.

The Army has wrongfully leased these lands from the state for \$1 since 1964. When the leases expire in 2029, this land should be immediately restored to the public.”

Common themes were shared amongst the public commenters, including 46 commenters who were concerned about damage to the natural habitat impacting native Hawaiian plants and animals, and 34 commenters who stated that military activities disrupt the lives of the local community. Approximately 30 commenters expressed that the land was unfairly or wrongfully leased for \$1 since the 1960s. The same commenters stated specifically that the land should be returned to the public or specifically “native Hawaiians”—a couple commenters elaborated that the families with direct lineage to original residents in Makua who were displaced should be the appropriate party to engage (i.e. rather than State agencies). Many commenters expressed support for Hawaiian sovereignty land rights (i.e. illegal occupation by the U.S.), a belief that military land use was not productive and antagonistic towards the land itself. There were additional concerns for environmental justice infringements on native Hawaiians who may bear a disproportionate burden of impacts.

¹ 108 messages were received, but one was a blank/empty recording.

² Period for receiving oral comments by phone was extended by approximately 30 hours beyond the public meetings.

³ These comments did mention resource area topics that will be covered in the Draft EIS (e.g., biological resources) however they lacked the specificity needed to be tied directly to those resource areas and were thus classified as general opposition to the action alternatives.

Approximately 20 commenters raised concerns about biological resources; in particular, four commenters requested information on the status of endangered plants and animals (Native Hawaiian birds, mammals, insects and gastropods affected—i.e. rare Mākua Valley tree snail).

Fifteen commenters were concerned that the Army’s use of heavy equipment and munitions may generate chemicals that have contaminated soils, groundwater, ocean, and marine resources.

At least ten commenters mentioned cultural resource and/or public access issues, particularly to ancestral/cultural sites and “inefficient” access trails. Four commenters mentioned the sacredness and cultural significance of the lands at Makua and at least one mentioned the Army’s mismanagement of cultural sites.

Approximately seven commenters directly mentioned the need for cleanup, restoration and conservation of these lands. Three commenters specifically mentioned the dangers of unexploded ordnance.

At least seven commenters discussed the military’s impacts to global climate change.

Three commenters requested specific alternative land uses in order to reduce global warming impacts and/or provide opportunities for education for on farming, fishing, and gathering.

Two commenters mentioned military servicemen’s acts of violence against women and children, and that military training sites create a demand hub for sex trafficking. Two other commenters opposed military training use on the basis that it would further war crimes.

One commenter conveyed concern about invasive species (i.e. devil weed) having been introduced and overtaking the landscape; and another commenter specifically addressed soil erosion and the lack of vegetation causing unfavorable dust-wind conditions and invasive species being more prone to wildfires. One commenter requested that ownership of mineral rights—land, air and sea mineral rights—be investigated to create a treaty with the U.S. government.

A few webinar commenters conveyed an expectation that the chat function should be enabled and that video should be available so that the faces of those providing public comments would be visible to others to better emulate an in-person meeting. A few also expressed disappointment that public meetings were not held in the neighborhoods closest to the training areas.

Specific resources identified for analysis in the EIS included:

- Air quality. Evaluate contribution of air pollutants and greenhouse gas emissions.
- Air space. Examine flight paths over residences creating disturbances, rather than passing over agricultural lands (differentiated from other service groups).
- Biological Resources. Assess long-term effects on native plant and animal populations; status of the rare tree snail in Makua Valley, endangered species, and invasive species.
- Hazardous Materials and Waste. Discuss munitions, unexploded ordnance left from military live-fire training and/or testing, and open burning/detonation treatment and cleanup.
- Noise. Analyze noise pollution from helicopters and gunfire as sources of stress.

- Water. Identify military activity impacts on surface and groundwater in and around the three training areas.

Per HAR §11-200.1-23(c) and (d) and HAR §11-200.1-24(s), this summary of the oral scoping comments and the audio files of the original recordings will be submitted with the Draft EIS submittal to the State’s Office of Planning and Sustainable Development Environmental Review Program (formerly the State Department of Health Office of Environmental Quality Control).

Posters

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Welcome to the Environmental Impact Statement (EIS) Public Scoping Process

Agenda

- Welcome/Logistics
- Opening Remarks
- Overview of Public Scoping
- How Do I Submit Comments?
- National Environmental Policy Act (NEPA) and Hawai'i Environmental Policy Act (HEPA)
- Environmental Impact Statement (EIS) Process
- Project Background
- Overview of Training Lands
- Proposed Action: Purpose and Need
- Description of Alternatives
- Environmental Topics



Overview of Public Scoping

Your input is valuable and your time is appreciated

What is Public Scoping?

Public scoping is an early and open process, conducted in compliance with NEPA and HEPA to identify issues and alternatives to be addressed in the EIS.

Public scoping allows the public to:

- Learn about the proposed action
- Identify concerns
- Provide new information or suggestions
- Provide comments

What to Expect after Scoping?

After the public scoping period has ended, the Army will incorporate public input into the development of the Draft EIS. The Draft EIS will be made available for public review for 45 days at the end of 2022/early 2023. The Army will then incorporate public input into development of the Final EIS. A Record of Decision will be issued no sooner than 30 days after the Final EIS is released.

Public Scoping Open House

Due to COVID-19 restrictions, this is not a traditional Open House event, but instead consists of two hybrid in-person/online public scoping sessions to allow the most public input by the safest means during the allotted time.

- View online presentations and project documents at:
<https://home.army.mil/hawaii/index.php/OahuEIS>
- Attend one of the public scoping sessions on August 10 and 11, 2021, 6 - 9 p.m.
 - In person:
Leilehua Golf Course
199 Leilehua Golf Course Rd., Wahiawa, HI 96786
 - Online: View and/or listen via live stream at:
<https://home.army.mil/hawaii/index.php/OahuEIS>



How Do I Submit Comments?

Your input is valuable and your time is appreciated

Options To Submit Written Comments

Comment period is July 23 - September 1, 2021.

- In person: Attend a public scoping session. Detailed information available at: <https://home.army.mil/hawaii/index.php/OahuEIS>
- Online at <https://home.army.mil/hawaii/index.php/OahuEIS>
- Via email: usarmy.hawaii.nepa@mail.mil
- Via mail: O'ahu ATLR EIS Comments
P.O. Box 3444
Honolulu, HI 96801-3444



Scan with smartphone to be directed to
the O'ahu EIS website.

Options To Submit Oral Comments

- In person: Attend a public scoping session
- Via phone: Call (808) 556-8277 to provide oral comments from 4 - 9 p.m.
(only available on August 10 and 11)

Note: Comment submittal through the online form is preferred. However, all comments will be valued equally, regardless of how they are submitted. Please do not submit duplicate comments. Comments should be written clearly, as commenters will not be contacted to provide clarification. Personal contact information will be maintained for the record and will not be released unless required by law.



National Environmental Policy Act (NEPA) and Hawai'i Environmental Policy Act (HEPA)

What is NEPA?

- NEPA is a federal law that requires preparation of an EIS for major federal actions.
- NEPA procedures ensure environmental information is available to public officials and citizens before decisions are made, and before actions are taken.



This EIS will be a joint NEPA-HEPA document and public involvement processes for both will run concurrently.

What is HEPA?

- HEPA is a state law that requires Hawai'i state agencies to consider impacts from state actions on the environment in an EIS.
- The proposed action includes State-owned land and will comply with HEPA provisions.



Natural resource management on O'ahu
Photo Credit: U.S. Army

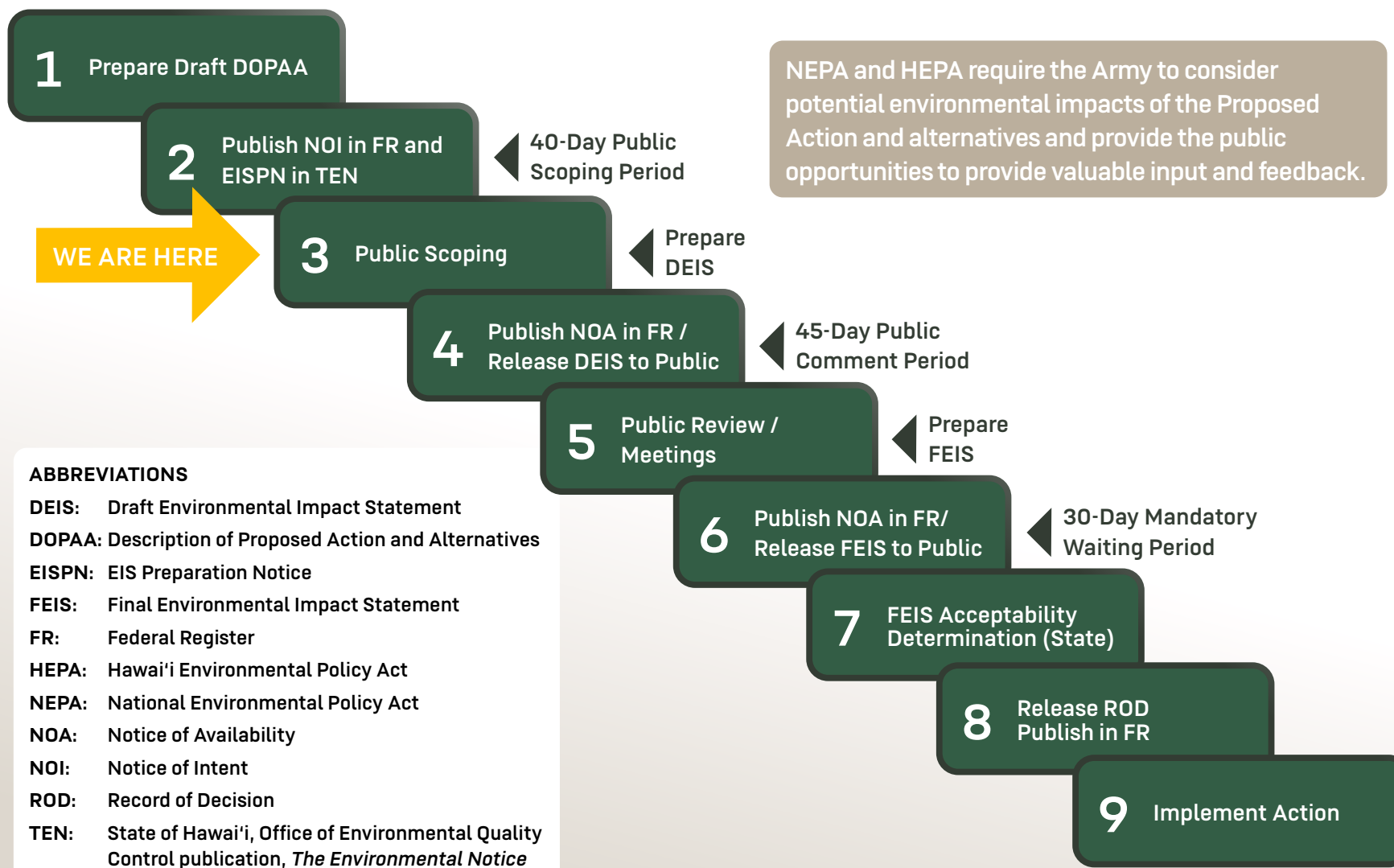
NEPA/HEPA Public Involvement

Public involvement is a key component of the NEPA and HEPA public processes. The EIS process includes several opportunities for public involvement:

- A 40-day public scoping period for NEPA NOI and HEPA EIS Preparation Notice.
- EIS Scoping Open House with in-person scoping sessions and oral comment phone line.
- HEPA Cultural Impact Assessment
- Draft EIS notice with a 45-day comment period and public meetings.



Environmental Impact Statement (EIS) Process





Project Background: Why Retain State Lands on O'ahu?

ARMY LEASES EXPIRING

The U.S. Government uses approximately 18,060 acres for military training purposes at Kahuku Training Area, Kawaihoa-Poamoho Training Area (Poamoho), and Makua Military Reservation where the Army has been for the past six decades. Of these lands, approximately 6,300 acres are leased from the State through 65-year leases which expire on August 16, 2029. The Proposed Action is to retain these State-owned lands for continued use as Army training lands.

STATE-OWNED LANDS ESSENTIAL TO TRAINING

The State-owned lands have been the keystone of training on O'ahu, supporting numerous training activities, maneuver areas, and capabilities that are essential to the Army, other military services, and local agencies.

IMPACTS TO MISSION

Loss of these lands would reduce the ability of the Army, other military services, and local agencies to meet their training requirements and mission readiness.



Photo Credit: U.S. Army



Overview: Kahuku Training Area

State-Owned Land at Kahuku Training Area (KTA)

- Located in the northern end of the Ko'olau Mountains in northeast O'ahu.
- Consists of approximately 9,480 acres, with 1,170 acres leased from the State.
- Includes Tract A-1 (450 acres) and Tract A-3 (720 acres).
- Used for ground maneuver and helicopter flight training.
- Contains training areas as well as landing zones, access gates, and range roads.
- Portions are used by the public on weekends for recreation such as motocross, hunting, and hiking.

Note: Approximate acreages were calculated using geographical information systems (GIS).



Photo Credit: U.S. Army



Overview: Kawaihoa-Poamoho Training Area

State-Owned Land at Kawaihoa-Poamoho Training Area (Poamoho):

- Located in central O'ahu on the western slope of the Ko'olau Mountains.
- Comprises approximately 4,370 acres and is entirely owned by the State.
- Includes the Poamoho Tract (3,150 acres) and the Proposed State Natural Area Reserve (NAR) Tract (1,220 acres).
- Used for low-altitude helicopter flight training.
- Public hiking and hunting are allowed on weekends and holidays.

Note: Approximate acreages were calculated using GIS.



Photo Credit: U.S. Army



Overview: Makua Military Reservation

State-Owned Land at Makua Military Reservation (MMR):

- Located in northwest O'ahu, overlapping Makua Valley and Kahanahaiki Valley on the western flank of the Wai'anae Mountain Range.
- Comprises approximately 4,190 acres with approximately 760 acres leased from the State.
- Includes areas designated in the EIS as Makai, North Ridge, Center and South Ridge Tracts.
- Used for maneuver, aviation, and assembly area operations training.
- The U.S. Government maintains infrastructure such as training ranges and objectives, and range roads/ firebreaks.

Note: Approximate acreages were calculated using GIS.



Photo Credit: U.S. Army



Proposed Action: Purpose and Need

Proposed Action

- The Army would retain up to approximately 6,300 acres of State-owned lands on O'ahu in support of continued military training. Multiple land retention methods could be used and will be determined after ROD.
- The Army would retain the State-owned lands prior to the end of the current lease to limit disruption to training.
- After retention of the State-owned lands, Army would continue to conduct the current levels and types of military training; facility, utility and infrastructure maintenance and repair activities; natural and cultural resources stewardship and mitigation; and conduct the management of land for other users.
- The Proposed Action does not involve new training, construction, or resource management activities. The EIS will analyze live fire training at MMR at a programmatic level. If the Army proposes a resumption of live fire at MMR, it would also be subject to further separate and more detailed NEPA analysis.

Purpose of the Proposed Action

To secure long-term military use of the State-owned lands, for which current leases expire in 2029.

Need for the Proposed Action

To allow the military to continue to meet current and future training and combat readiness requirements on Army-managed lands in Hawai'i.



Description of Alternatives

Alternative 1: Full Retention

Under Alternative 1, all State-owned lands would be retained. This alternative allows the Army to retain the significant investment in facilities and infrastructure, continue military training without downtime, and allow for future modernization.

Alternative 2: Modified Retention

Under Alternative 2, the Army would retain State-owned lands within each training area except for land on which limited training occurs.

Alternative 3: Minimum Retention and Access

Under Alternative 3, the Army would retain the minimum amount of State-owned land that is required to continue to meet its training requirements. This includes retaining appropriate training/support facilities, infrastructure, maneuver training land, and access to these features. This alternative does not apply to all the training areas.



Map Credit: G70

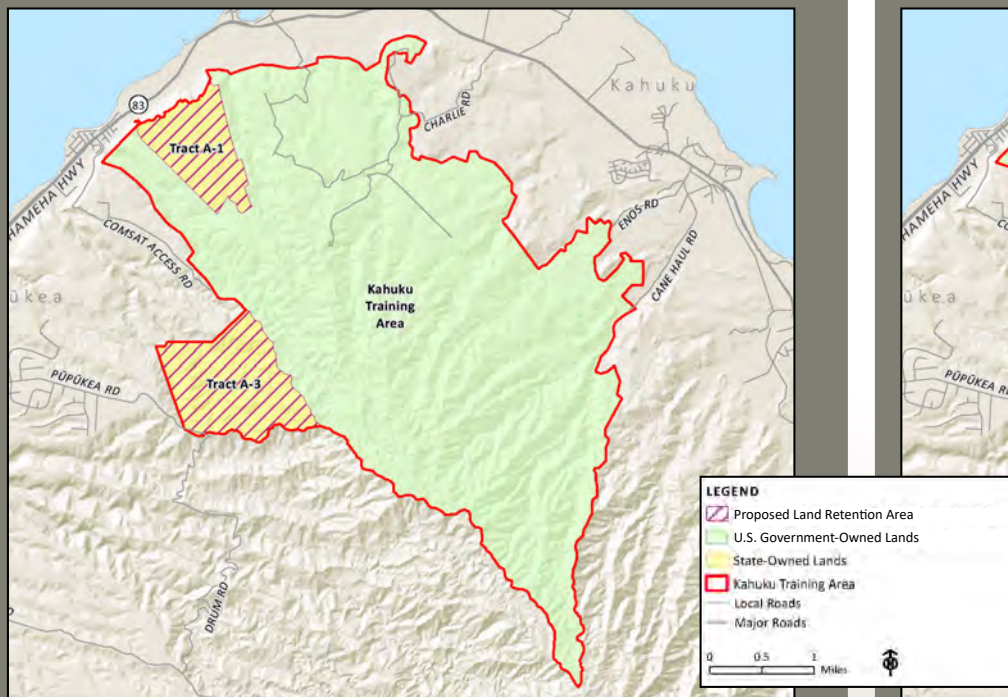
No Action Alternative

Under the No Action Alternative, the Army would not retain any of these State-owned lands.



Kahuku Training Area (KTA) Alternatives 1 and 2

KTA Alternative 1: Full Retention



Map Credit: G70

Under Alternative 1, the Army would retain all State-owned land including both Tract A-1 and Tract A-3.

KTA Alternative 2: Modified Retention



Map Credit: G70

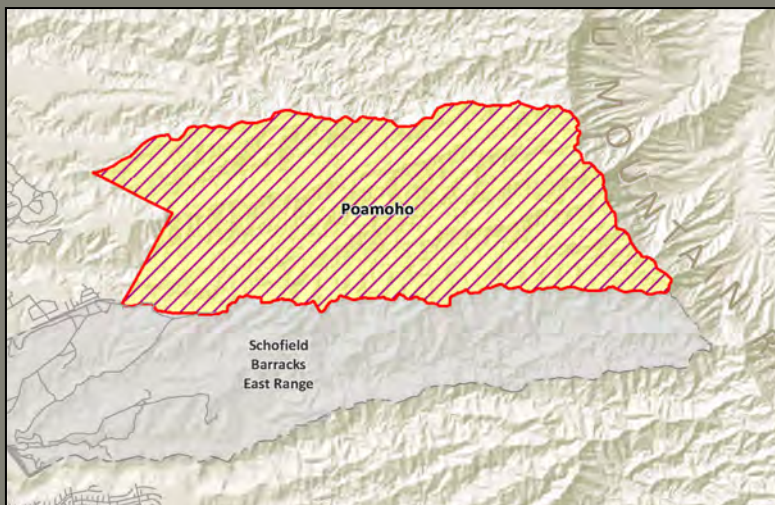
Under Alternative 2, the Army would retain Tract A-1 but would not retain Tract A-3.



Kawailoa-Poamoho Training Area (Poamoho)

Alternatives 1 and 2

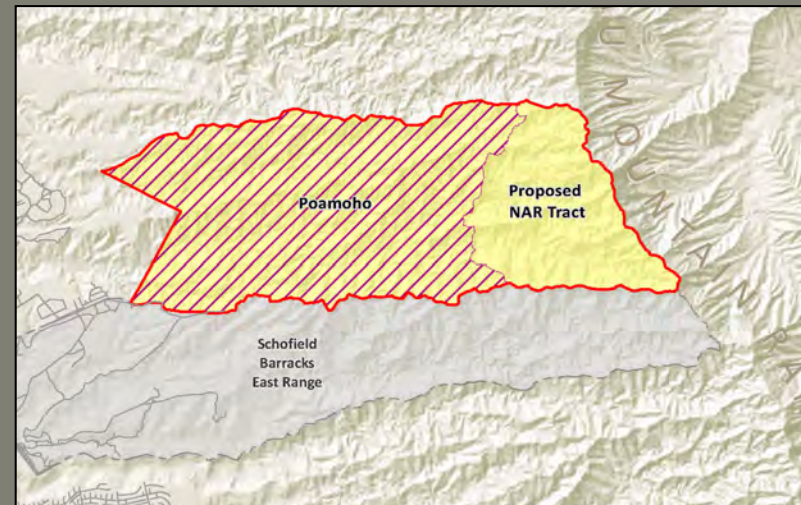
Poamoho Alternative 1 Full Retention



Map Credit: G70

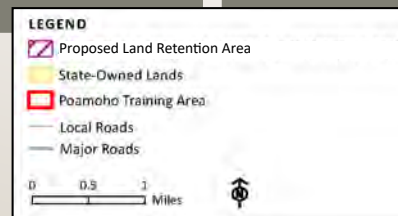
Under Alternative 1, the Army would retain all State-owned land including the Poamoho Tract and the Proposed NAR Tract.

Poamoho Alternative 2 Modified Retention



Map Credit: G70

Under Alternative 2, the Army would retain the Poamoho Tract but would not retain the Proposed NAR Tract.





Makua Military Reservation (MMR) Alternatives 1, 2, and 3

MMR Alternative 1 Full Retention



Map Credit: G70

Under Alternative 1, the Army would retain all State-owned land at MMR.

MMR Alternative 2 Modified Retention



Map Credit: G70

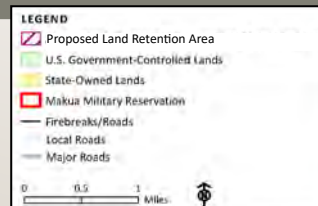
Under Alternative 2, the Army would retain the North Ridge Tract, Center Tract, and South Ridge Tract.

MMR Alternative 3 Minimum Retention



Map Credit: G70

Under Alternative 3, the Army would retain only the Center Tract.





Environmental Topics to be Analyzed

Land Use



Land use compatibility, easements, and real property management

Geological & Soil Resources



Bedrock, seismology, volcanology, soil properties and erosion

Biological Resources



Vegetation and wildlife, threatened and endangered species, invasive species, wetlands, and wildland fires

Cultural Resources



Archaeological resources, traditional religious and cultural properties, and other valued resources, traditional and customary cultural practices, historic buildings and structures

Airspace



Controlled airspace, Special Use Airspace, and Military Operations Areas

Air Quality & Greenhouse Gas



Ambient Air Quality Standards, Prevention of Significant Deterioration, and dust

Water Resources



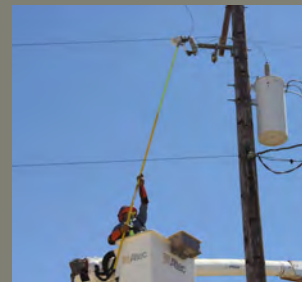
Surface water, groundwater, floodplains, marine resources, and Clean Water Act

Noise



Noise zones, community and wildlife impacts

Utilities



Potable water, wastewater, stormwater, solid waste, electricity, and communications

Health & Safety



Human health and safety, and safety danger zones

Hazardous Materials



Hazardous materials and wastes, petroleum products, storage tanks, and unexploded ordnance

Socioeconomics



Demographics, housing, economic development, recreation, environmental justice and protection of children

Transportation & Traffic



Traffic, roadways, and air transportation, traffic volume and level of congestion

Electromagnetic Spectrum



Radio waves to gamma waves, radio frequency, spectrum use, radar and satellite

Photo Credit: U.S. Army

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Fact Sheet

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Army Training Land Retention at Kahuku Training Area, Kawaihoa-Poamoho Training Area, and Makua Military Reservation, Island of O'ahu

FACT SHEET

ENVIRONMENTAL IMPACT STATEMENT

The Army is preparing an Environmental Impact Statement (EIS) for Army Training Land Retention of State Lands at Kahuku Training Area (KTA), Kawaihoa-Poamoho Training Area (Poamoho), and Makua Military Reservation (MMR) on the island of O'ahu. The Army proposes to retain up to approximately 6,300 acres of State-owned lands at KTA, Poamoho, and MMR to support continued military training.

The Council on Environmental Quality provides guidance for the EIS process under the implementing regulations of the National Environmental Policy Act (NEPA) in Title 40 Code of Federal Regulations (CFR) Parts 1500–1508 and the Army NEPA Regulations in Title 32 CFR Part 651. This EIS will also comply with Hawai'i Revised Statutes Chapter 343 and Hawai'i Administrative Rules Chapter 11-200.1 - collectively, referred to as the Hawai'i Environmental Policy Act (HEPA). Like NEPA, HEPA ensures environmental concerns are given appropriate consideration in decision making, along with economic and technical considerations.

One of the first steps in the NEPA and HEPA processes is to notify the public of the intention to prepare an EIS. This occurs through a Notice of Intent (NOI) in the Federal Register, and publication of an EIS Preparation Notice (EISPN) in the State of Hawai'i's Office of Environmental Quality Control's (OEQC) semi-monthly publication, The Environmental Notice.

BACKGROUND

KTA, Poamoho, and MMR are comprised of approximately 18,060 acres of U.S. Government and State-owned lands on the island of O'ahu. The Army's authority to use the State-owned lands is through leases which were initiated in 1964 to support mission-critical training capabilities, training facilities, operations, access, and other essential military training and logistics services. Much of the leased lands supplement U.S. Government-owned training land by providing maneuver area and key training features that complement larger activities that take place on U.S. Government-owned lands. The leased lands provide unique military training environments not available elsewhere on military installations in Hawai'i. Other portions of the leased lands allow for access within and between U.S. Government-owned training lands, access to public rights-of-way, or buffer zones between Army and non-Army land uses.

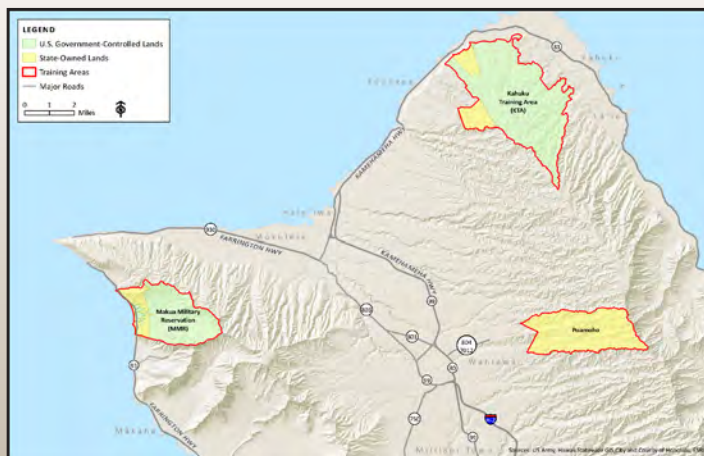
The U.S. Government leases approximately 6,300 acres of these lands from the State consisting of portions of KTA and MMR, and all of Poamoho. The 65-year leases of the State-owned lands expire in 2029. Loss of these lands would greatly impact the Army's and other military services' ability to train in Hawai'i and prepare for mission readiness, because these areas include important facilities and infrastructure for ground maneuver and aviation training.

PROPOSED ACTION AND ALTERNATIVES

The EIS will evaluate the reasonably foreseeable impacts of a range of alternatives that meet the purpose and need of the Proposed Action. The Proposed Action is the retention of State-owned lands to allow the military to continue to meet current and future training and combat readiness requirements. Alternatives considered in the EIS include Full Retention, Modified Retention, Minimum Retention and Access, and No Action. The Proposed Action does not involve new training, construction, or resource management activities.

- Under Full Retention the Army would retain all State-owned lands within each training area.
- Under Modified Retention the Army would retain all State-owned land within each training area except lands on which limited training occurs.
- Under Minimum Retention and Access, the Army would retain the minimum amount of State-lands within each training area that is required for the Army in Hawai'i to continue to meet its current ongoing training requirements. This includes State-owned lands with the most vital training/support facilities, infrastructure, maneuver land, U.S. Government-owned utilities, and access to these features. Other reasonable alternatives meeting the Army's mission raised during the scoping process and capable of meeting the Army mission, project purpose, and need will also be considered for evaluation in the EIS.
- Under No Action, the leases would expire in 2029 and leased lands would not be retained.

The EIS will analyze live-fire training at MMR at a programmatic level. If the Army proposes a resumption of live-fire at MMR, it would also be subject to further separate and more detailed NEPA analysis.



Location Map



Army Training Land Retention at Kahuku Training Area, Kailua-Poamoho Training Area, and Makua Military Reservation, Island of O'ahu

FACT SHEET

NEPA/HEPA PUBLIC PARTICIPATION PROCESS

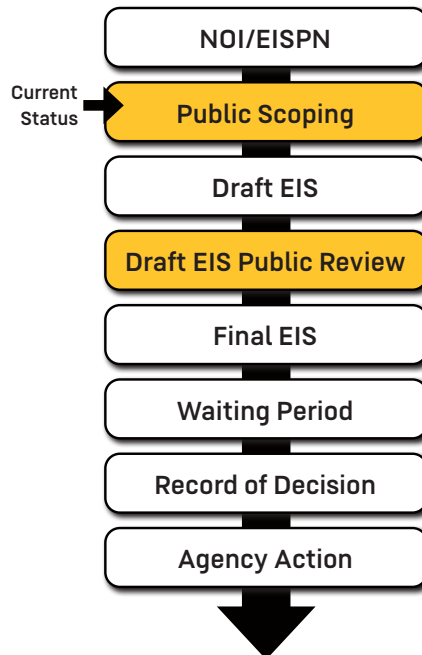
The NEPA/HEPA timeline (to the right) shows opportunities for public input in gold. The EIS is currently in the Public Scoping period—during which the public provides comments on key issues of concern and potential impacts to be considered in the development of the Draft EIS.

PUBLIC SCOPING PROCESS

The intent of the scoping process is to reach out early and engage a broad range of stakeholders with the purpose of informing and eliciting input. The public scoping process will help to identify reasonable alternatives, potential impacts, and key issues of concern to be evaluated in the EIS, as well as determine which stakeholders (e.g., individuals, organizations, and government agencies) are interested in commenting on the Draft EIS. Scoping serves as an opportunity to obtain input from the community regarding issues and resources to be addressed or analyzed through the EIS process. In this regard, it helps to define the scope of issues and analyses that should be addressed in the EIS.

The public scoping process began with the publication of the NOI in the Federal Register and publication of the EISPN in State of Hawaii's The Environmental Notice. Federal, State, and local agencies; Native Hawaiian organizations; and the public are invited to participate in the scoping process. The 40-day public scoping period ends on September 1, 2021.

NEPA/HEPA STEPS



PUBLIC SCOPING OPEN HOUSE

Due to COVID-19 restrictions, this will not be a traditional Open House event, but instead will consist of two hybrid in-person/online public scoping sessions to allow the most public input by the safest means during the allotted time.

- View online presentations and project documents at:
<https://home.army.mil/hawaii/index.php/OahuEIS>

Attend one of the public scoping sessions on
August 10 and 11, 2021, 6 - 9 p.m.

- In person:
Leilehua Golf Course
199 Leilehua Golf Course Rd.,
Wahiawa, HI 96786
- Online: View and/or listen
via live stream, at:
<https://home.army.mil/hawaii/index.php/OahuEIS>



Scan with smartphone to be
directed to the O'ahu EIS website.

HOW TO SUBMIT WRITTEN COMMENTS

Comment Period is
July 23 - September 1, 2021

- In person: Attend a public scoping session. Detailed information available at: <https://home.army.mil/hawaii/index.php/OahuEIS>
- Online: through website (above) or QR code (to the left)
- Via email: usarmy.hawaii.nepa@mail.mil
- Via U.S. mail: O'ahu ATLR EIS Comments
P.O. Box 3444
Honolulu, HI
96801-3444

FOR MORE INFORMATION OR ACCESSIBILITY REQUESTS

U.S. Army Garrison Hawaii Public Affairs Office
Email: usarmy.hawaii.comrel@mail.mil Phone: (808) 656-3158

Note: Comment submittal through the online form is preferred. However, all comments will be valued equally, regardless of how they are submitted. Please do not submit duplicate comments. Comments should be written clearly, as commenters will not be contacted to provide clarification. Personal contact information will be maintained for the record and will not be released unless required by law.

HOW TO SUBMIT ORAL COMMENTS

(only available on August 10 and 11)

- In person: Attend a public scoping session
- Via phone: Call (808) 556-8277 to provide oral comments from 4 - 9 p.m.

Flyer

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Army Training Land Retention at Kahuku Training Area, Kawaihoa-Poamoho Training Area, and Makua Military Reservation, Island of O'ahu

ARMY SEEKS PUBLIC COMMENTS ON SCOPE OF ENVIRONMENTAL IMPACT STATEMENT

The Army is preparing an Environmental Impact Statement (EIS) for Army Training Land Retention at Kahuku Training Area (KTA), Kawaihoa-Poamoho Training Area (Poamoho), and Makua Military Reservation (MMR) on the island of O'ahu. The Army proposes to retain up to approximately 6,300 acres of State-owned lands at these locations, for which current leases expire in 2029.

The Army is initiating an EIS process under the National Environmental Policy Act (NEPA), guided by Title 40 Code of Federal Regulations (CFR) Parts 1500-1508, and Army NEPA Regulations in Title 32 CFR Part 651. The EIS will also comply with Hawai'i Revised Statutes Chapter 343 and Hawai'i Administrative Rules Chapter 11-200.1, collectively referred to as the Hawai'i Environmental Policy Act (HEPA). Like NEPA, HEPA ensures environmental, economic, and technical areas of concern are given appropriate consideration in decision making.

PUBLIC SCOPING PROCESS

The public scoping process will help to identify reasonable alternatives, potential impacts, and key issues of concern to be evaluated in the EIS. In this regard, it helps to define the scope of issues and analyses to be addressed in the EIS. Federal, State, and local agencies, Native Hawaiian organizations, and the public are invited to participate in the scoping process. The Army is providing opportunities for public input during the scoping process by facilitating a hybrid in-person/online EIS Scoping Open House consisting of public scoping sessions, subject to COVID-19 limitations.

REVIEW PROJECT INFORMATION

Information provided at the public scoping sessions will be available online at:

- ▶ <https://home.army.mil/hawaii/index.php/OahuEIS>.

Hard copies will be available at the public scoping sessions or may be requested from the U.S. Army Garrison Hawaii Public Affairs Office at usarmy.hawaii.comrel@mail.mil.

EIS PUBLIC SCOPING OPEN HOUSE

Due to COVID-19 restrictions, this will not be a traditional Open House event, but instead will consist of two hybrid in-person/online public scoping sessions to allow the most public input by the safest means during the allotted time.

- ▶ Attend a public scoping session or view online presentations and project documents at:
<https://home.army.mil/hawaii/index.php/OahuEIS>

August 10 and 11, 2021
6-9 p.m.

Leilehua Golf Course
199 Leilehua Golf Course Rd.,
Wahiawa, HI 96786

Live stream available
(See website for details)



Scan with smartphone to be
directed to the O'ahu EIS website

OPTIONS TO SUBMIT COMMENTS

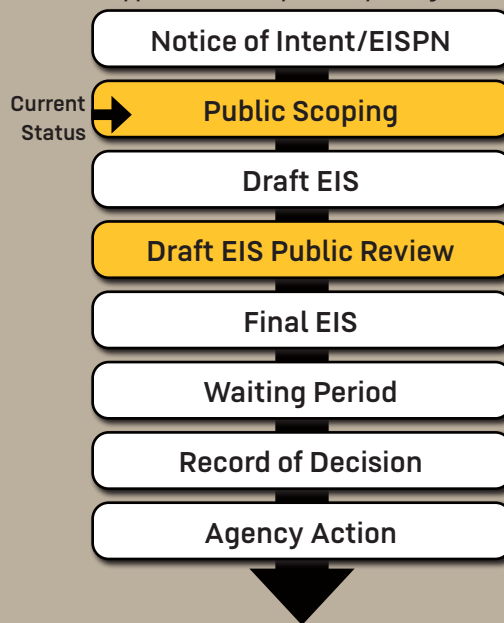
Comment period is July 23 - September 1, 2021.

- ▶ Via public scoping session (written or oral)
- ▶ Online at: <https://home.army.mil/hawaii/index.php/OahuEIS>
- ▶ Via email: usarmy.hawaii.nepa@mail.mil
- ▶ Via mail: O'ahu ATLR EIS Comments
P.O. Box 3444
Honolulu, HI 96801-3444
- ▶ Via phone: August 10 and 11,
4 - 9 p.m. at (808) 556-8277.

Note: Comment submittal through the online form is preferred. However, all comments will be valued equally, regardless of how they are submitted. Please do not submit duplicate comments. Comments should be written clearly, as commenters will not be contacted to provide clarification. Personal contact information will be maintained for the record and will not be released unless required by law.

NEPA/HEPA STEPS

The timeline below shows
opportunities for public input in gold.



FOR MORE INFORMATION OR ACCESSIBILITY REQUESTS

U.S. Army Garrison Hawaii Public Affairs Office
Email: usarmy.hawaii.comrel@mail.mil
Phone: (808) 656-3158

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Direct Mail Postcard

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**Army Training Land Retention at Kahuku Training Area,
Kawailoa-Poamoho Training Area, and Makua Military Reservation, Island of O'ahu**

Army seeks public comments on scope of Environmental Impact Statement (EIS)

The Army proposes to retain up to approximately 6,300 acres of State-owned land at Kahuku Training Area (KTA), Kawailoa-Poamoho Training Area (Poamoho), and Makua Military Reservation (MMR) on the island of O'ahu in support of continued military training.

The Army is initiating the EIS process under the National Environmental Policy Act (NEPA) and the Hawai'i Environmental Policy Act (HEPA). The NEPA and HEPA processes ensure environmental and socioeconomic issues are given appropriate consideration in decision making. The Army is seeking public comments during the EIS scoping period from July 23 - September 1, 2021, to identify reasonable alternatives, potential impacts, and key issues of concern to be evaluated in the EIS. Scoping materials and other information about the Proposed Action are available on the project website at: <https://home.army.mil/hawaii/index.php/OahuEIS>.

PUBLIC SCOPING OPEN HOUSE

Due to COVID-19 restrictions, this will not be a traditional Open House event, but instead will consist of two hybrid in-person/online public scoping sessions to allow the most public input by the safest means during the allotted time.

Attend one of the public scoping sessions on August 10 and 11, 2021, 6 - 9 p.m.

• **In person:**

Leilehua Golf Course
199 Leilehua Golf Course Rd., Wahiawa, HI 96786

• **Online:** View and/or listen via live stream, or review presentations and project documents at:

<https://home.army.mil/hawaii/index.php/OahuEIS>

For further information, or for accessibility requests, contact:

U.S. Army Garrison Public Affairs Office
Email: usarmy.hawaii.comrel@mail.mil
Phone: (808) 656-3158

OPTIONS TO SUBMIT COMMENTS

Comment period is July 23 - September 1, 2021.

- Public scoping session (in person)
- Online at:
<https://home.army.mil/hawaii/index.php/OahuEIS>
- Via email: usarmy.hawaii.nepa@mail.mil
- Via mail: O'ahu ATLR EIS Comments
P.O. Box 3444
Honolulu, HI 96801-3444
- Via phone: August 10 and 11,
4 - 9 p.m. at (808) 556-8277



NEPA Program Manager,
U.S. Army Garrison Hawaii
Directorate of Public Works - Environmental
947 Wright Avenue, BLDG 105, 3rd Floor (WAAF)
Schofield Barracks, HI 96857-5013