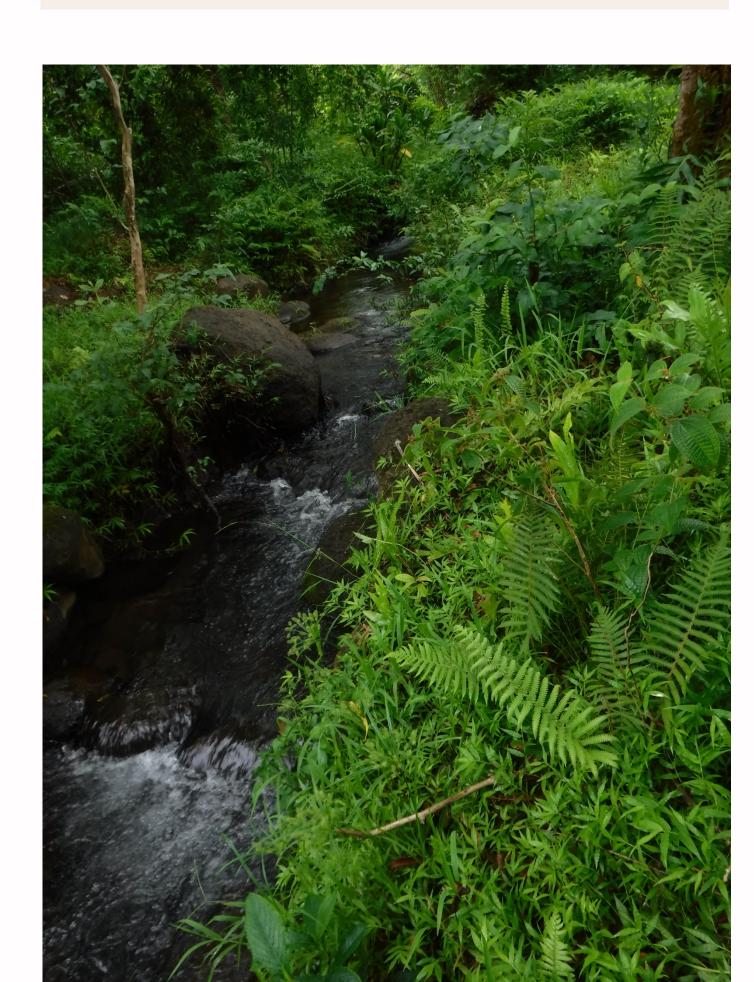
Assets Inventory A Cultural Water



waiWAI

In fulfillment of Priority Goal #3 of the 2014 Water Policy Plan



The name waiWAI acknowledges the value of water; that it is both wai and waiwai

a fundamental component of all life as water and

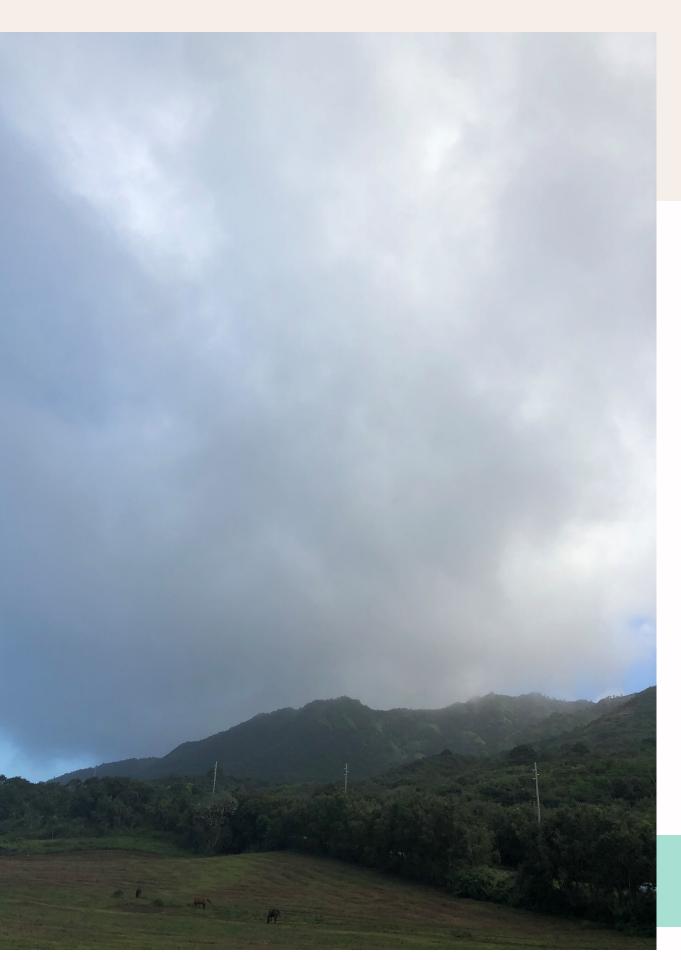
a manifestation and source of wealth

Cultural Water Assets

waiWAI

...mists, fog, rain, and other precipitation; water as it flows above or below ground, and into the ocean; water used for homesteading; alternative sources including waste, brackish, and salt water; water used in the exercise of traditional and customary practices; infrastructure used to produce, store and transmit water; and water we use as well as water to which we have rights.

* water, as defined by the 2014 HHC Water Policy Plan



Moloa'a Hawaiian Homelands

WHAT

What we Created	Wha
1.GIS Geodatabase 2.Companion Report	 Nūpepa Māhele 1 Surveye Histor
	 o Histor o Tax Ma o Land C o Planta



at we Researched

- a Research ('ōlelo Hawa'i' sources)
- land record research
- ed Historic Map Collections
- i'i State Register Maps
- ric Society Maps
- Map Plats
- Court Application Maps
- ation Maps
- 0 Copy Survey Furnished Maps
- 4. Public GIS layers
 - o Federal, State & County data

GIS Geographic Information System] GIS is a framework for gathering, managing,&

- analyzing data.
- GIS is rooted in the science of geography.



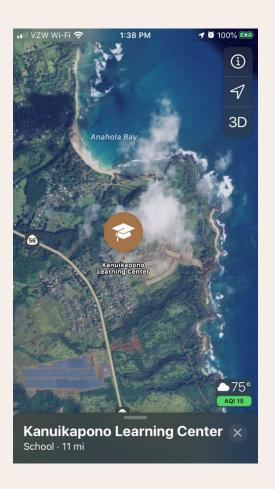
ArcGIS is a Software developed by ESRI The waiWAI was created using ESRI's ArcGIS software



Why GIS Software is an Important Tool for Land Management

It analyzes spatial location

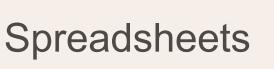
and organizeslayers of information



Coordinates

- GPS •
- Location Pin •

В	С	D	E	F	G
DHHL Name	Island	Moku ,7	Ahupuaa 🚽	lli	Wai_Name ▼
Anahola	Kauai	Koolau	Anahola	<null></null>	Kalelea
Anahola	Kauai	Koolau, Puna	Anahola, Kamalomaloo	<null></null>	plantation railroad
Anahola	Kauai	Koolau	Anahola, Kilauea	<null></null>	Namahana
Anahola	Kauai	Koolau	Anahola	<null></null>	cane fields
Anahola	Kauai	Koolau	Anahola	<null></null>	cane fields
Anahola	Kauai	Koolau	Anahola	<null></null>	Kolia pond
Anahola	Kauai	Koolau	Anahola	<null></null>	Kolia pond
Anahola	Kauai	Koolau	Anahola	<null></null>	loko
Anahola	Kauai	Koolau	Anahola	<null></null>	loko
Anahola	Kauai	Koolau	Anahola	<null></null>	Makee Sugar Co Pier
Anahola	Kauai	Koolau, Puna	Anahola, Kamalomaloo	<null></null>	Mamakaiole Waterhole
Anahola	Kauai	Koolau	Anahola	<null></null>	marsh
Anahola	Kauai	Koolau	Anahola	<null></null>	marsh
Anahola	Kauai	Koolau, Puna	Anahola, Kamalomaloo	<null></null>	pineapple field
Anahola	Kauai	Koolau, Puna	Anahola, Kamalomaloo	<null></null>	pineapple field
Anahola	Kauai	Koolau, Puna	Anahola, Kamalomaloo	<null></null>	pineapple field
Anahola	Kauai	Koolau	Anahola	<null></null>	pineapple field
Anahola	Kauai	Koolau	Anahola	<null></null>	pineapple field
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Anahola	Kauai	Koolau	Anahola	<null></null>	pineapple field
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aster all f	ields	(+)	hierarian de statik	A constraint	Manager and Annual States



- Excel
- Access ${\color{black}\bullet}$

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into visualizations using maps & 3D scenes



Maps & Figures Aerial Imagery Maps & Photos

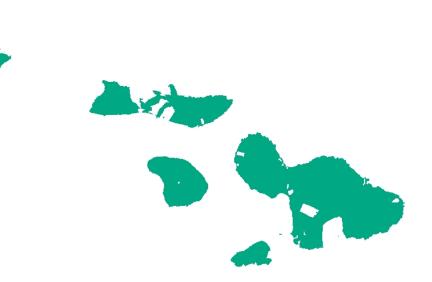


Island	GIS Acres	% Acreage	# Ahupua 'a
Hawaiʻi	117,261.15	59 %	38
Maui	31,337.44	16 %	18
Molokaʻi	25,119.52	13 %	12
Lanaʻi	28.44	13 %	1
Oʻahu	4,692.33	2 %	13
Kauaʻi	19,491.71	10 %	7
	197,930.59		89



Hawaiian Homelands stretch across at least 89



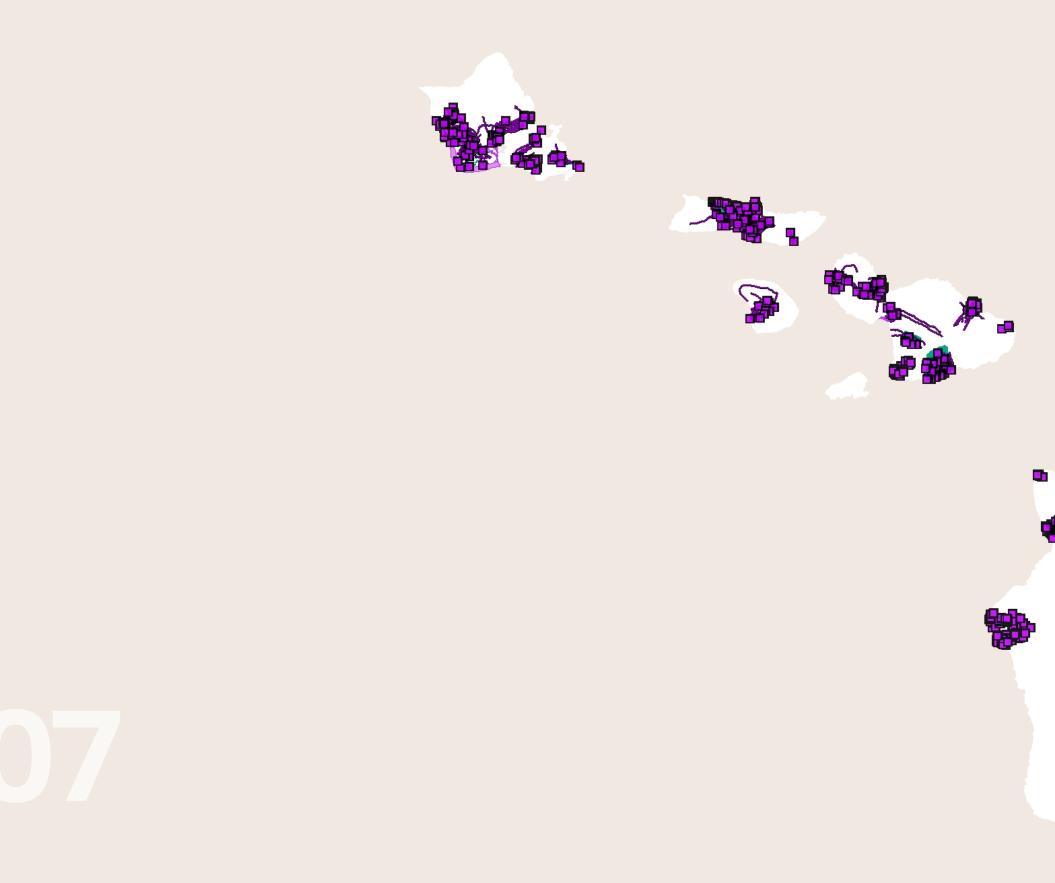




Ahupua'a







Hawaiian Homelands waiWAI



- ~4million acres of lands in Hawai 'i
- ~200,000 acres
 are Hawaiian
 Homelands
- 5% of land in
 Hawai 'i is
 managed by the
 HHC
- waiWAI footprint
 is > than twice as
 large as HHL
 footprint

1,377 - Points Pūnāwai (springs), heiau, kuono (bay), lae (point), pu'u or mauna, rain and stream guages, manowai and po'owai and wahi pana (storied places)

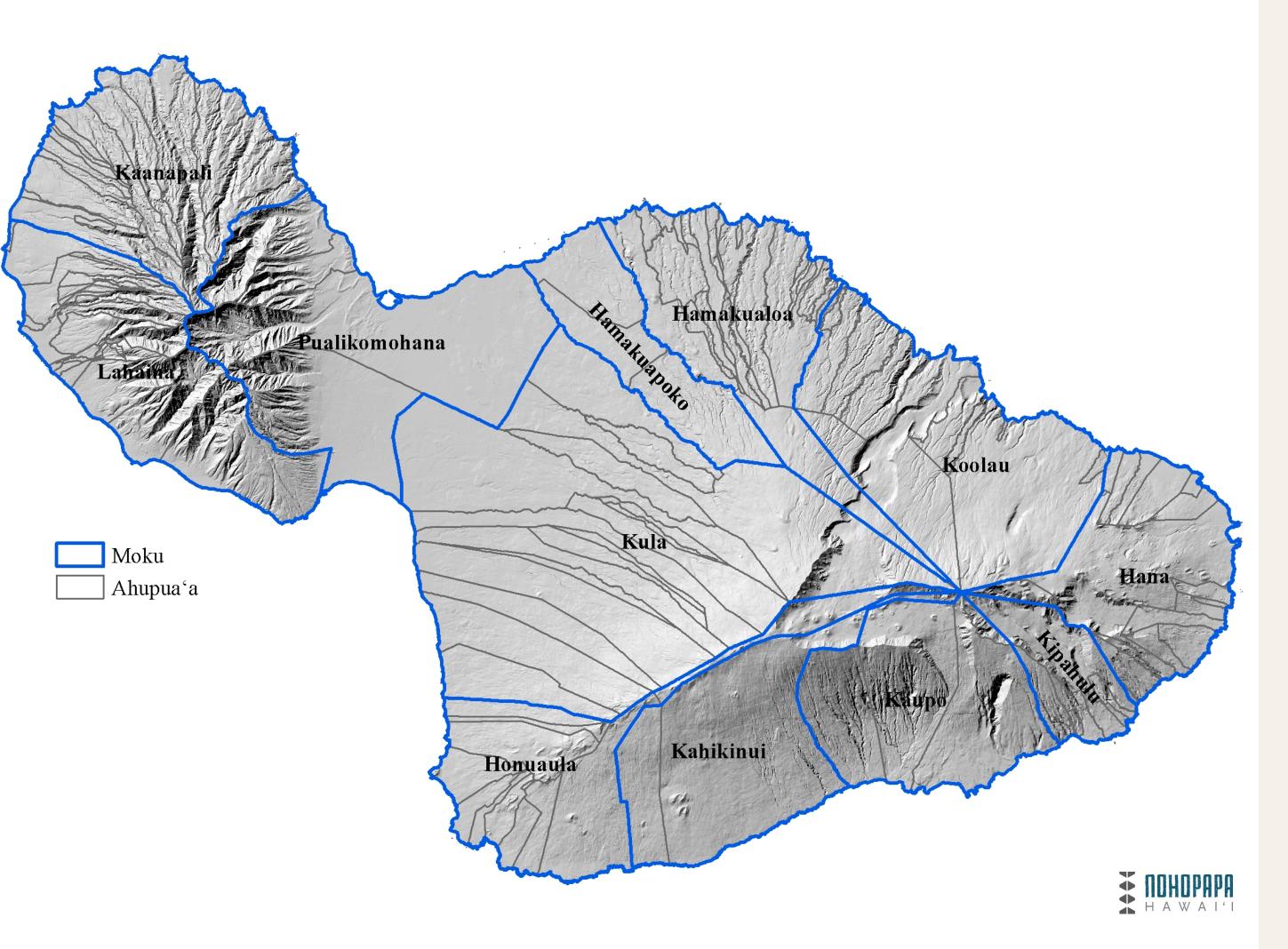
671 - Lines Kahawai (streams & rivers), 'auwai, ditches, trails, tunnels, hawai (flumes), gulches, reef channels

Loko (ponds), lo'i (wetland fields), loko pa'akai, mala, groves, reservoirs, kīpuka, olokele (swamps), fisheries.

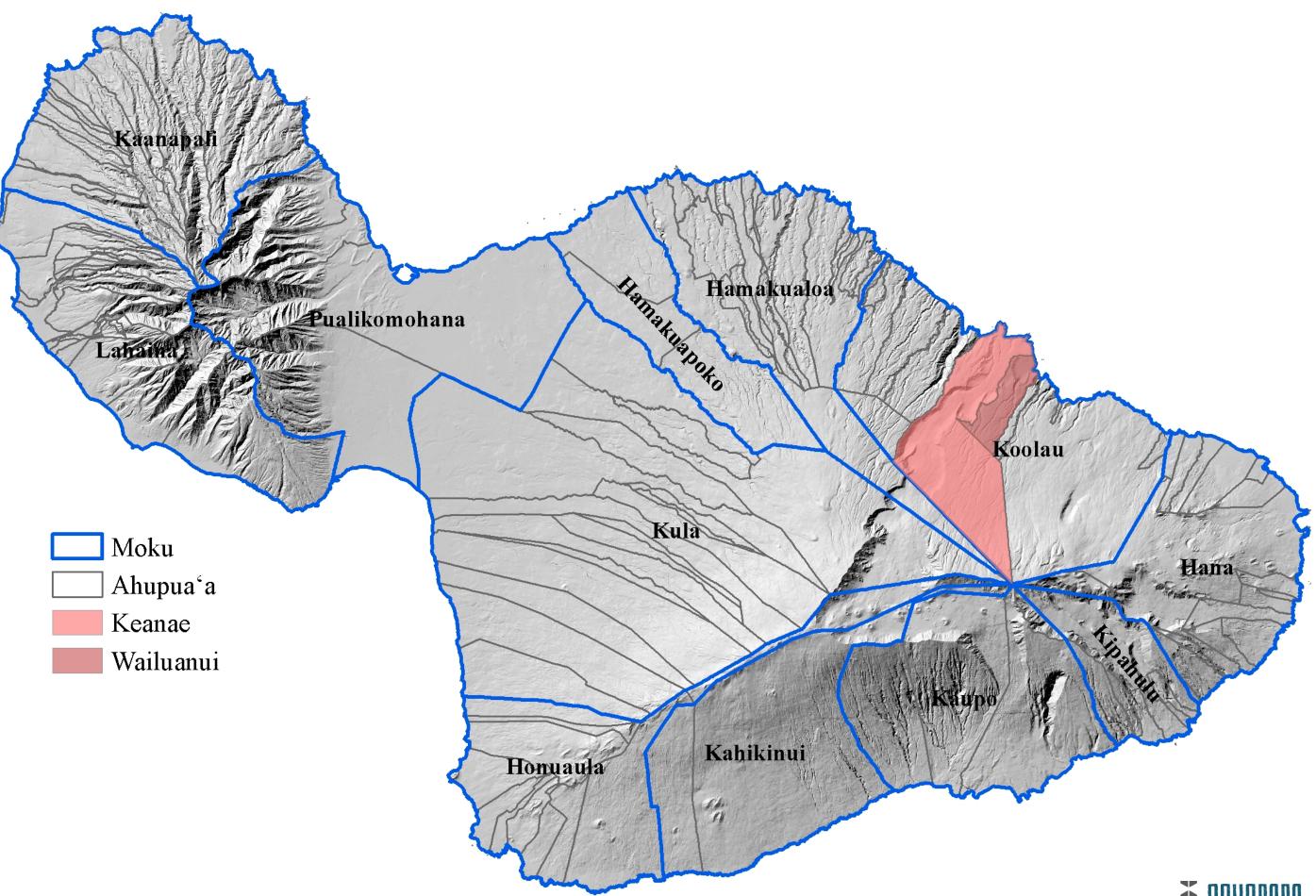
We mapped 2,605 features for the waiWAI



557 - Polygons

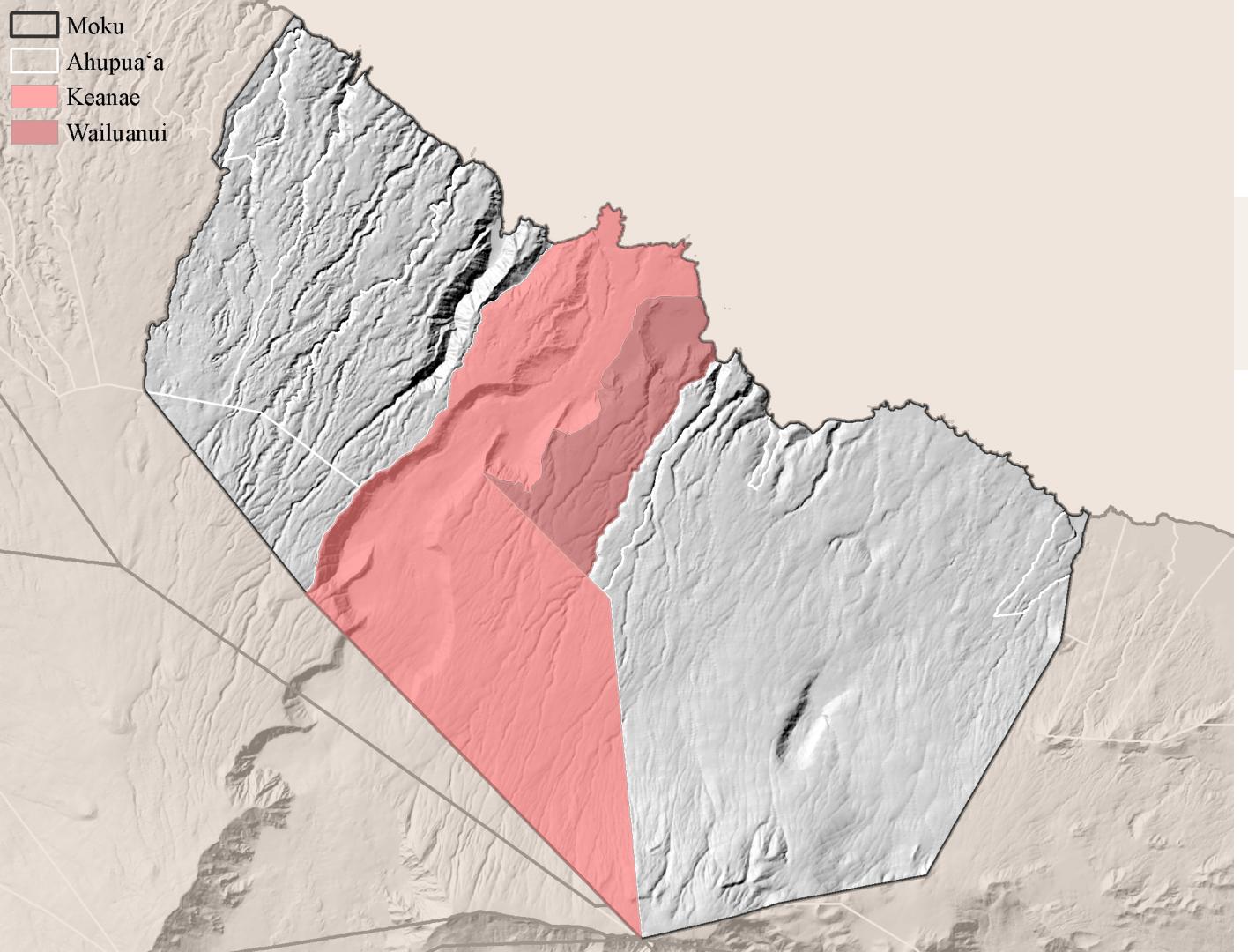


MauiIsland



MauiIsland

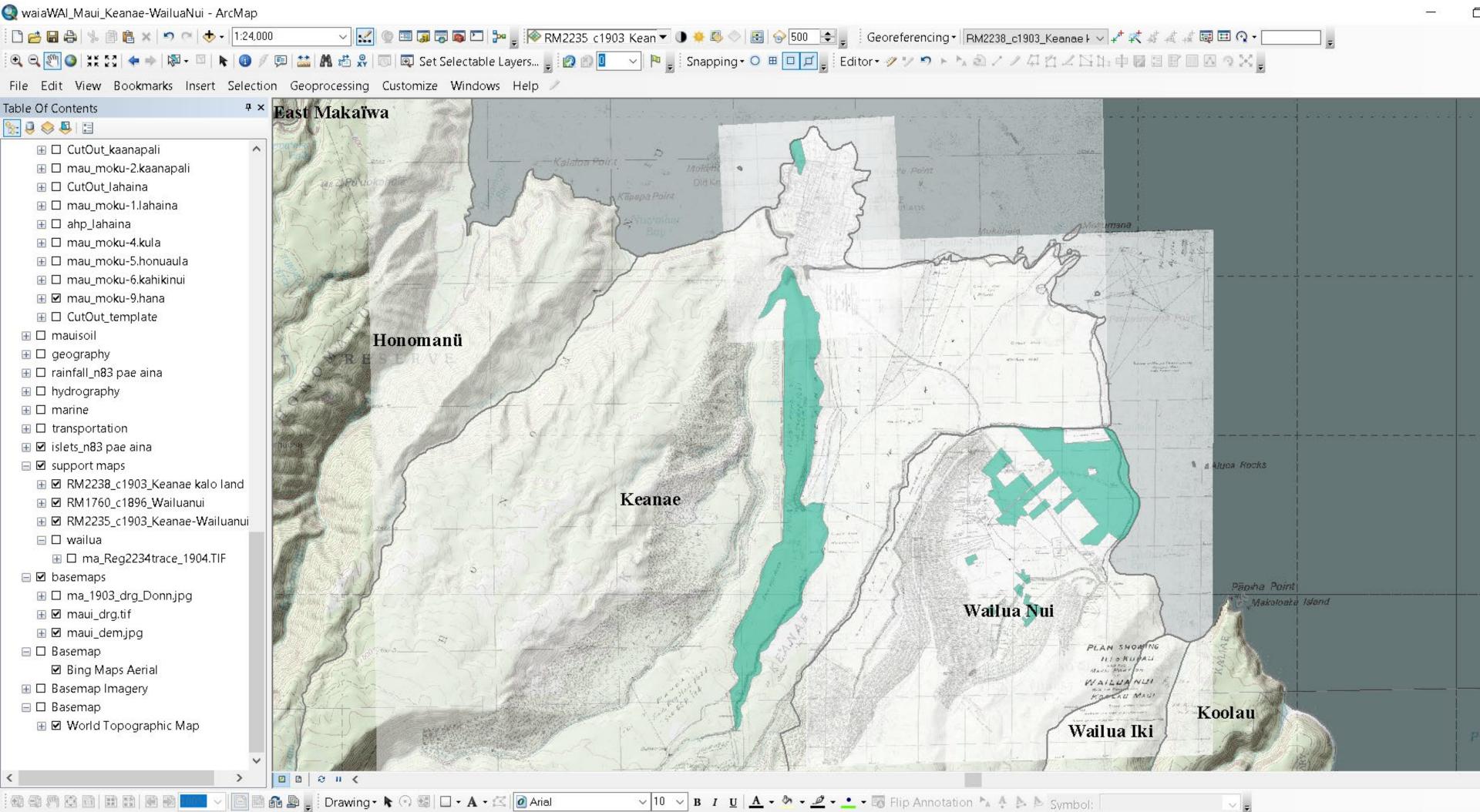


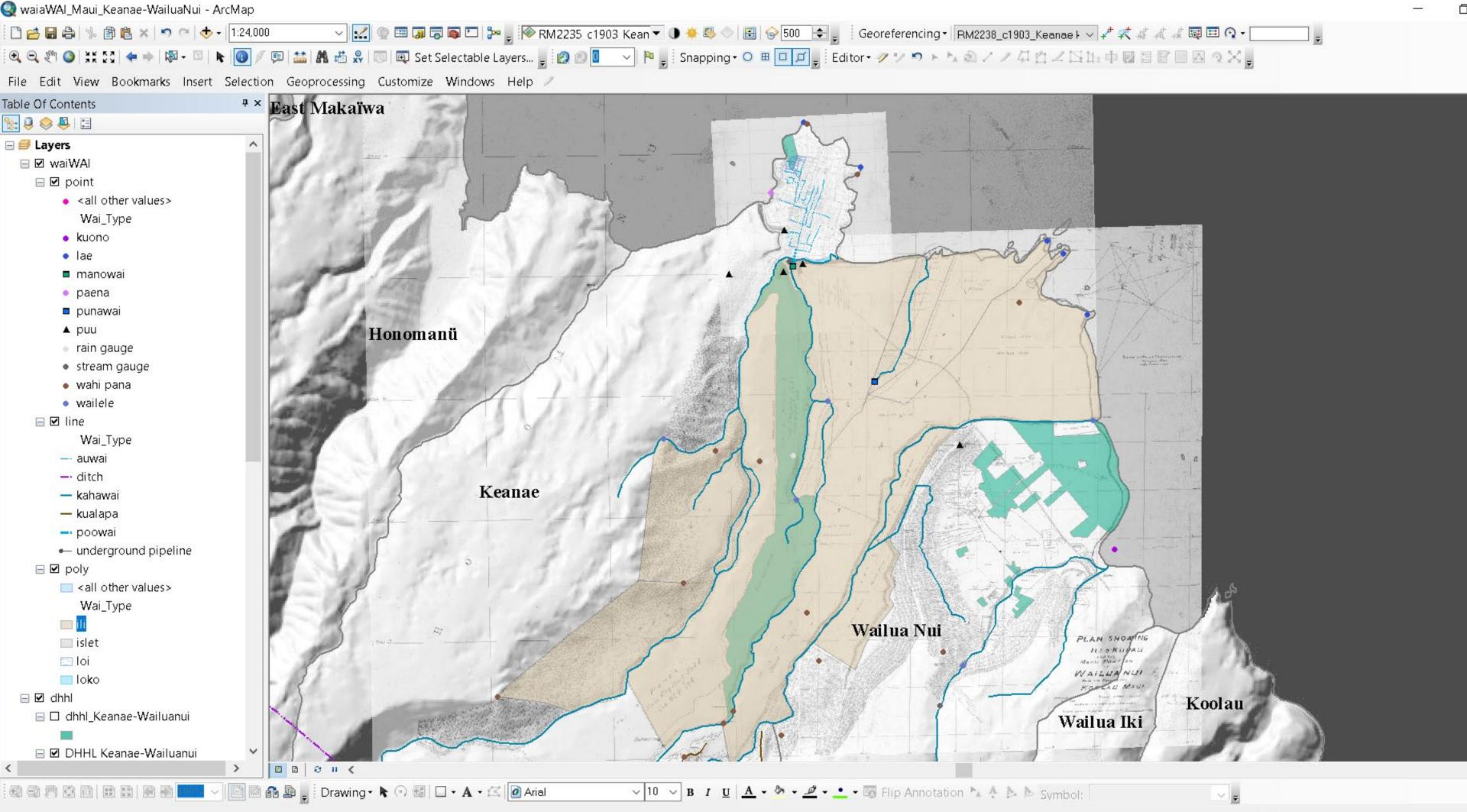


Koʻolau Moku

Ahupua'a of Keanae Wailuanui







🔍 waiaWAl_Maui_Keanae-WailuaNui - ArcMap 🗸 💿 📼 🗊 🗟 🖾 🎾 🖕 🖗 RM2235 c1903 Kean 🔻 🕕 🌞 🧔 🔷 🔠 🧇 500 🚖 🖕 🤅 Georeferencing 🛛 RM2238_c1903_Keanae k 🗸 📌 🦧 🦧 🐗 🖽 🖽 🖽 🖓 🕶 🗋 🚰 🔚 🕼 % 🇊 🛍 🗙 🥌 📿 🔶 🗸 1:6,000 File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help 🥒 Ψ× Table Of Contents Keanae Point Kukuiolono 😓 🏮 😞 📮 🗉 🖃 🗹 dhhl ~ 😑 🗆 dhhl_Keanae-Wailuanui 🖃 🗹 DHHL Keanae-Wailuanui 🗄 🗆 dhhl Land Use(maui) 🗄 🗖 ahp_dhhl ⊞ □ land oha2748 🗄 🗆 cadastre 🗄 🗹 boundary 🗄 🗆 mauisoil 🗄 🗆 geography 🖽 🗖 rainfall_n83 pae aina 🗄 🗆 marine Keanaelanding 🗄 🗆 transportation ⊞ 🗹 islets_n83 pae aina □ support maps ⊞ 🗹 RM2238_c1903_Keanae kalo land ⊞ □ RM1760_c1896_Wailuanui ⊞ □ RM2235_c1903_Keanae-Wailuanui 📃 🗆 wailua ma_Reg2234trace_1904.TIF Makaiwa 🖃 🗆 basemaps ⊞ □ ma_1903_drg_Donn.jpg 🖽 🗆 maui_drg.tif Keanae Taro PCH rain gauge 1173 🗄 🗹 maui_dem.jpg 🖃 🗹 Basemap Bing Maps Aerial 🗄 🗆 Basemap Imagery **Puu Kaunohua** 🖃 🗆 Basemap 🗄 🗹 World Topographic Map Kahuhu **Keanae**Uka > bing 0000 | 💼 🚂 🖕 Drawing • 💺 🗇 🚳 | 🗔 • A • 🖾 | 🙋 Arial

KaweePoint Kahukahu

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• paena	Island	Maui				
punawai	Land Type	Multiple land types present	1			
▲ puu	Moku	Koolau		A. 15-2		
 rain gauge 	NAMELSAD	Keanae-Wailuanui				
 stream gauge 	Notes	There are certainly more bra	and		UN111	
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Field	Alias	Туре	Characters	Notes				
Wai_Type	Type (Hwn)	Text	25	Hawaiian Typology. Nodiacriticals	W	waiWAI Attribute Fields		
SubType1	Subtype 1 (English)	Text	25	English Typology				
SubType2	Subtype 2	Text	25	Descriptive subtype, if applicable, can be either Hawaiian or English.		Domains (for attribu	ute table drop downs)	
SubType3	Subtype 3	Text	25	Descriptive subtype, if applicable, can be either Hawaiian or English.		ain Name wnLand	Description Land Type	
Wai_Name	Inoa Wai	Text	50	Name, if applicable, of Water Resource. Prioritize Traditional (older) name first.	Code	Description	Nohopapa determinates for HwnLand Domain Code	
				Notes describing waiWAI, mana'o behind inoa or	Crown	Crown land	Hawaiian Kingdom crown lands. This includes LCA 10806 to H.M. Kamehameha.	
Notes	Notes	Text	250	typology if available, any interesting conditions or fact surrounding resource. In the case	Government	Government land	Hawaiian Kingdom Government lands prior to Jan. 17, 1893.	
				HwnLand Field is "LCA" or "Grant" the helu will filled out here space allowing.	LCA	Land Commission Award	Land Commission Awards, including kuleana or konohiki award types	
Source	Source	Text	250	Source used to identify waiWAI, and georeferenced map source and/or public data	Grant	Government Grant	Government Grants sold by the Hawaiian Kingdom. Accession numbers 1 through 3629.	
Island	Island	Text	10	source used to derive point/polygon/line . No diacriticals			Deeds exchanged, mortgaged and sold from the Crown land body by Kamehameha III & IV from	
Moku	Moku	Text	25	No diacriticals	Deed	Kamehameha Deed	1848-165 prior to Jan. 3, 1865 when Lot Kapuaiwa passed an Act making Crown land	
Ahupuaa	Ahupuaa	Text	25	No diacriticals			inalienable.	
lli	lli	Text	25	No diacriticals	Multi	Multiple land types present	Will apply when a polygon or line spans multiple Hawaiian Land Types and it is not practical to pick one	
NAMELSAD	DHHL Name	Text	100	Based on shapefile received aug-2017 from DHHL staff "HHL_Census_Boundary_2017_rev"	Undetermined	Undetermined	Applicable when we are unsure what original land provenience was during Hawaiian Kingdom times.	
ТМК	ТМК	Text	9	Use 9-digit TMK number, just the number. No spaces, parenthesis, hyphens, colons etc. Based on 2017 HI State TMK GIS layer. If multiple then field is left blank.				
HwnLand	Land type	text	See Domains 'HwnLand'	Original land type as developed during the Māhele, 1848, Kingdom of Hawaii. See Domains for <u>drop down menu</u> .				



How can the waiWAI help DHHL Reach its Priority Goals?

1. Affirmatively communicate with beneficiaries regarding water decisions, performance, and water rights on a regional and annual basis.

- **3.** Develop and manage a Water Assets Inventory (WAI).
- entities.



2. Aggressively, proactively, consistently and comprehensively advocate for the kuleana of the beneficiaries, the DHHL, and the HHC to water before all relevant agencies and

4. Support watershed protection and restoration on DHHL lands and source areas for DHHL water.

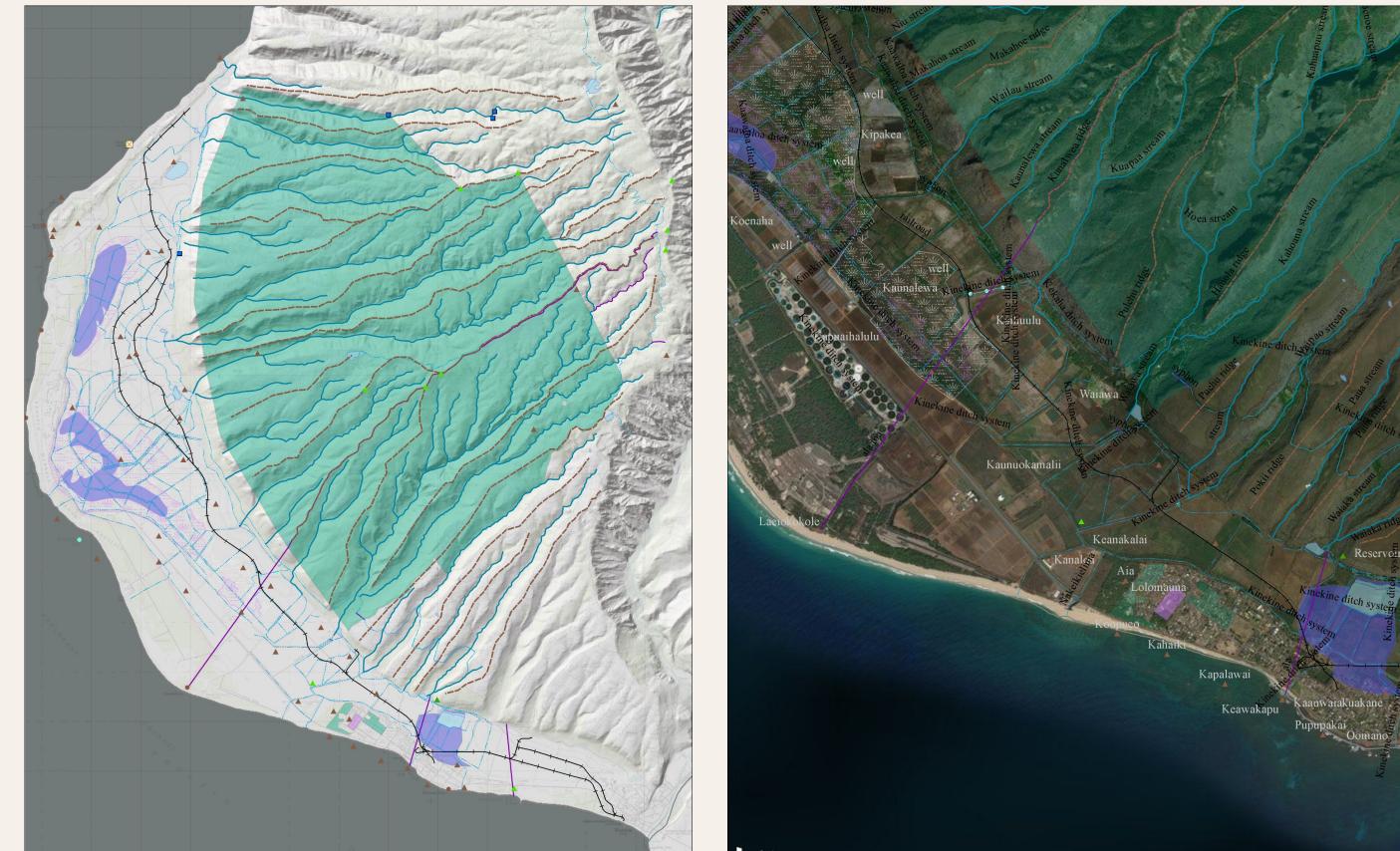
Water Policy Plan Priority Goals

Priority Goal 1



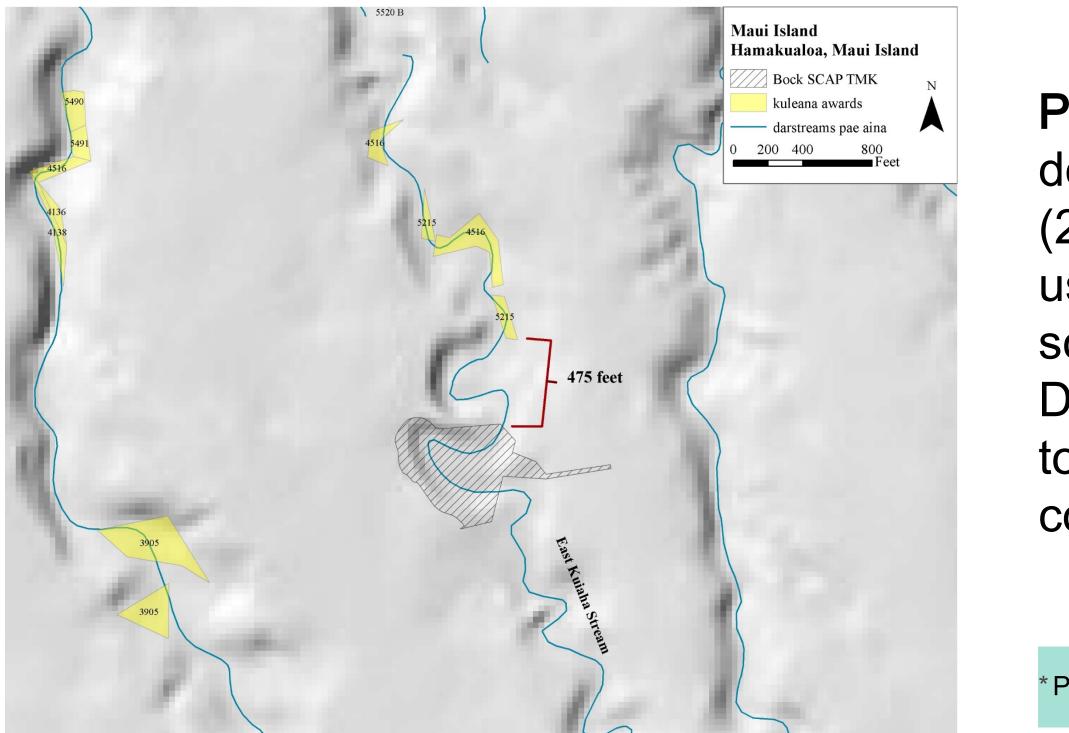
	DHHL parcels	line		point	
	ahupuaʻa		other values		cemetery
poly		• •	aqueduct		koʻa
	other values		ditch	•	kuono
	aina wai		flume	٠	lae
	cane fields		gulch	۰	leina
	cemetery		kahawai		lua pele
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5116	loi kalo		ра		pali
	loko		pa pohaku		punawai
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Affirmatively communicate with beneficiaries regarding water decisions, performance, and water rights on a regional and annual basis.



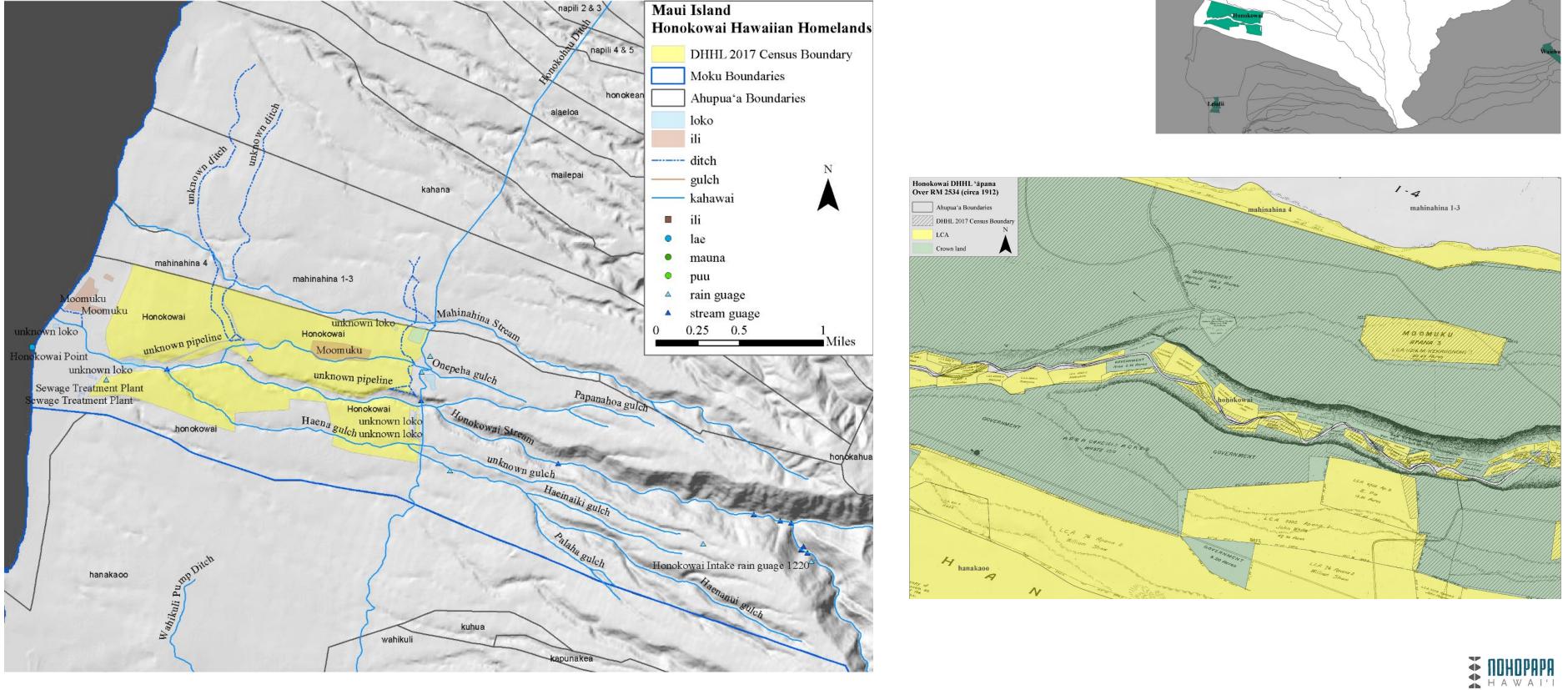
Priority Goal 2

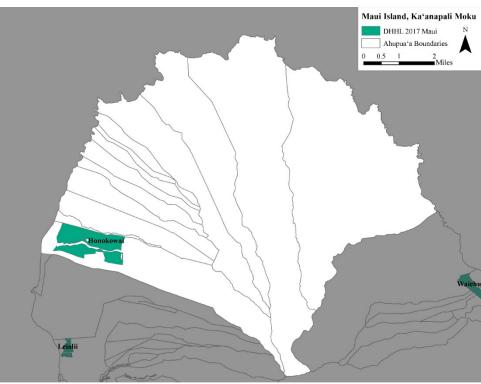
Aggressively, proactively, consistently and comprehensively advocate for the kuleana of the beneficiaries, the DHHL, and the HHC to **water** before all relevant agencies and entities.



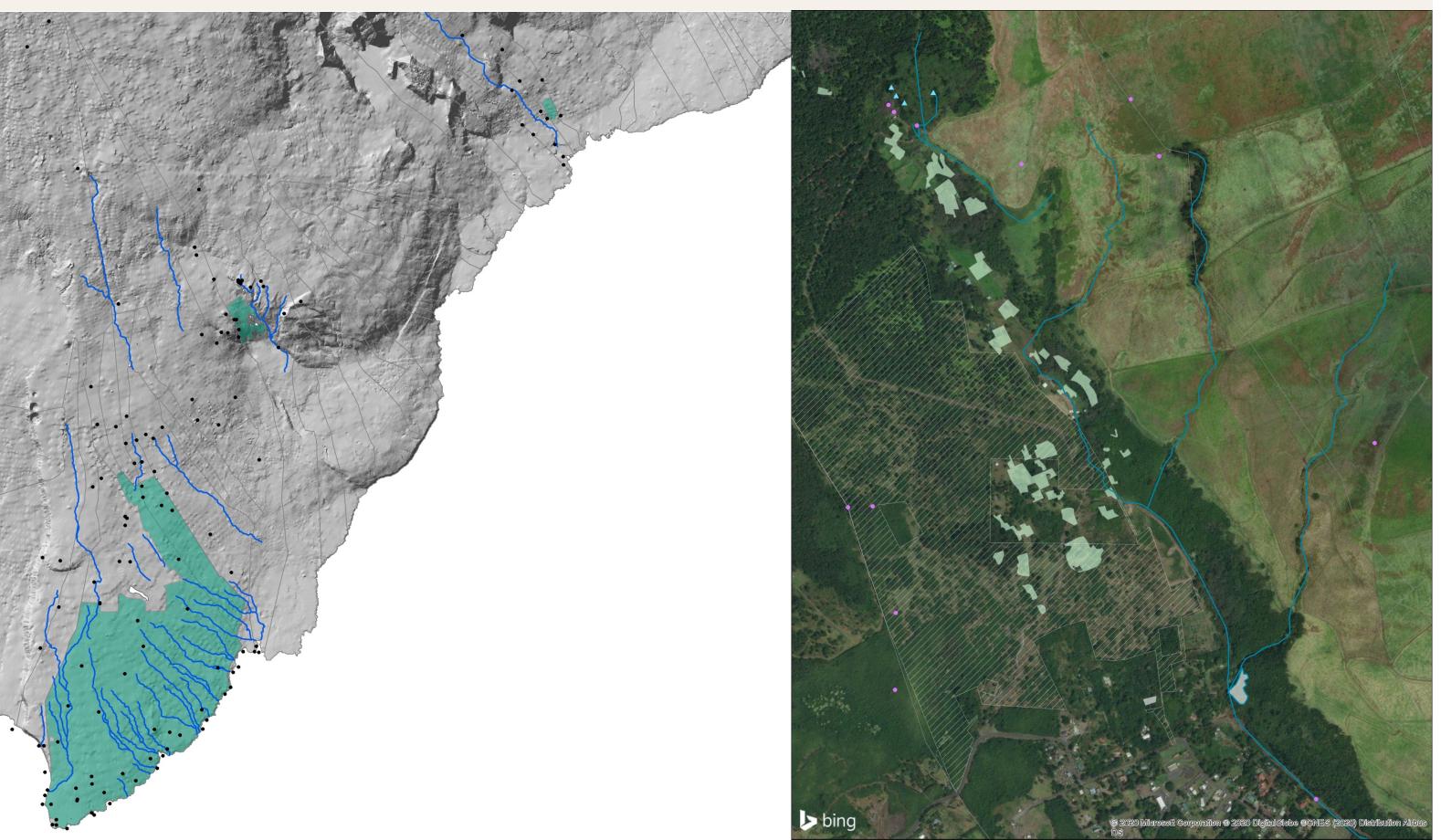
Public Trustuses of water include (1) domestic needs of the general public, (2) traditional and customary Hawaiian uses, (3) maintaining wildlife and scenic beauty, and (4) the rights of the DHHL. Public trust uses are supposed to have priority over other private commercial uses of water.

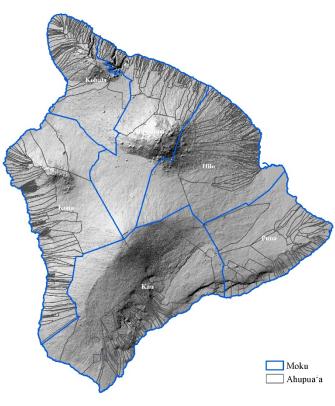
Priority Goal 3 Develop and manage a Water Assets Inventory (WAI).





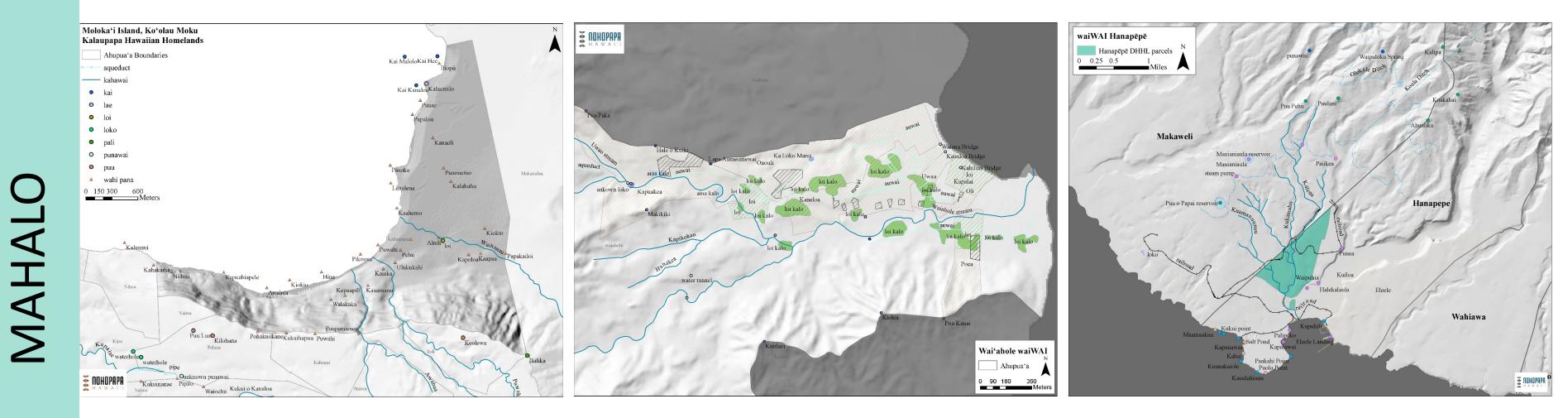
Priority Goal 4Support watershed protection and restoration on DHHLlands and source areas for DHHL water.





Management Decision Making Tool

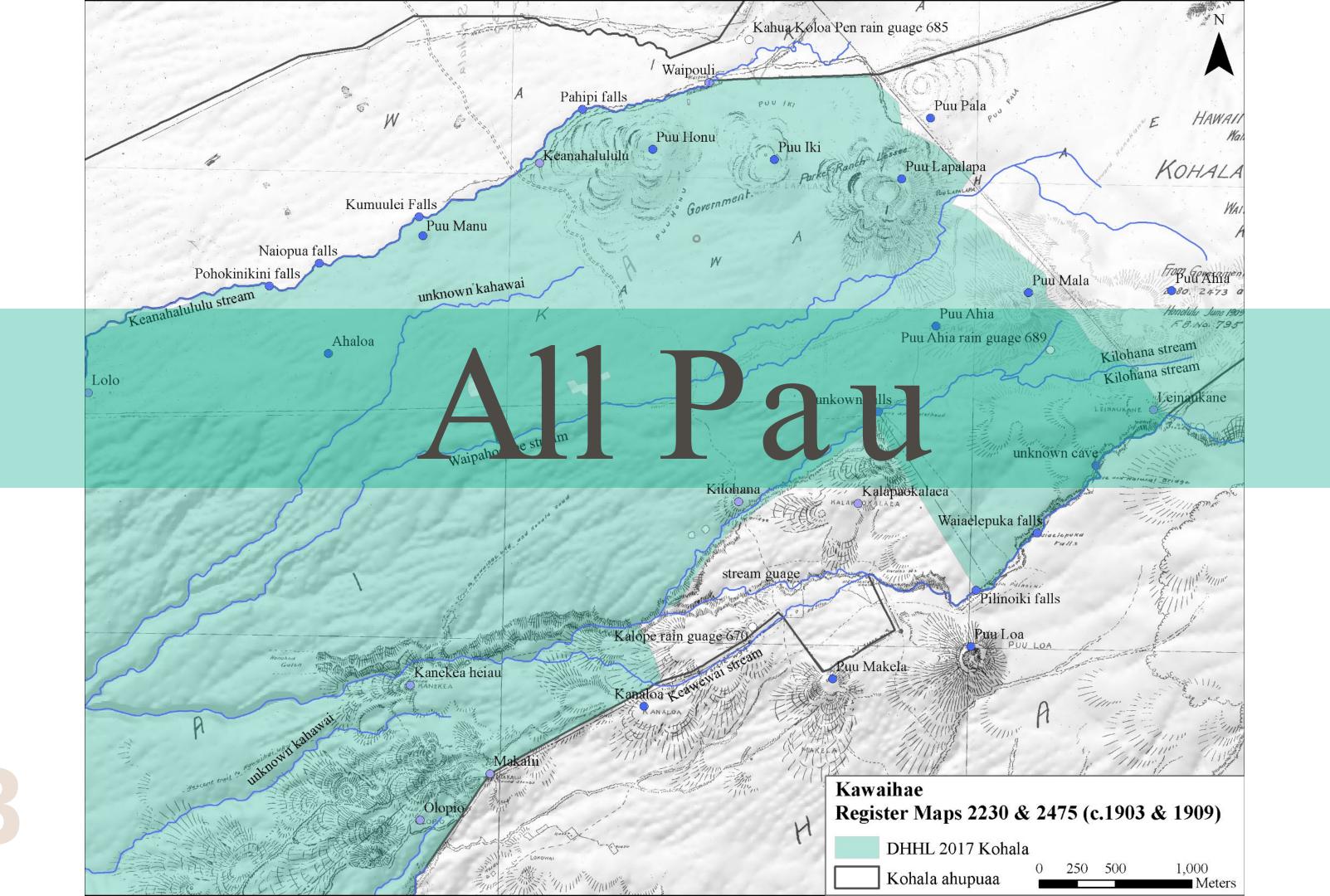
Compliance Review Aid



Understanding of and ability to locate existing and historic wai resources will lead to more informed decision making. waiWAI offers DHHL a more comprehensive tool kit when weighing in on compliance consultation requests.

Homesteader & Homestead Planning Resource

The waiWAI is an amazing resource for historic wahi inoa. It can be a tool for learning or a guide for restoration.

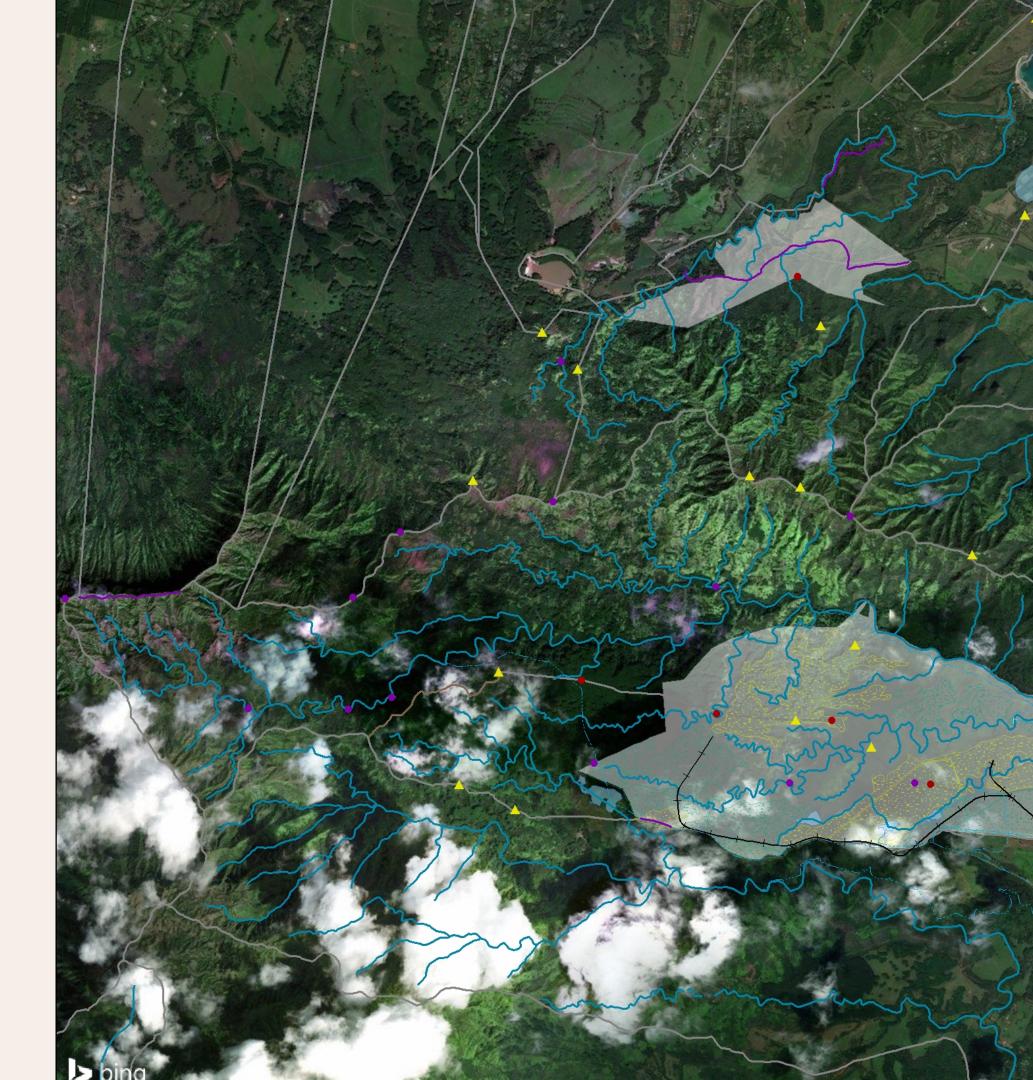






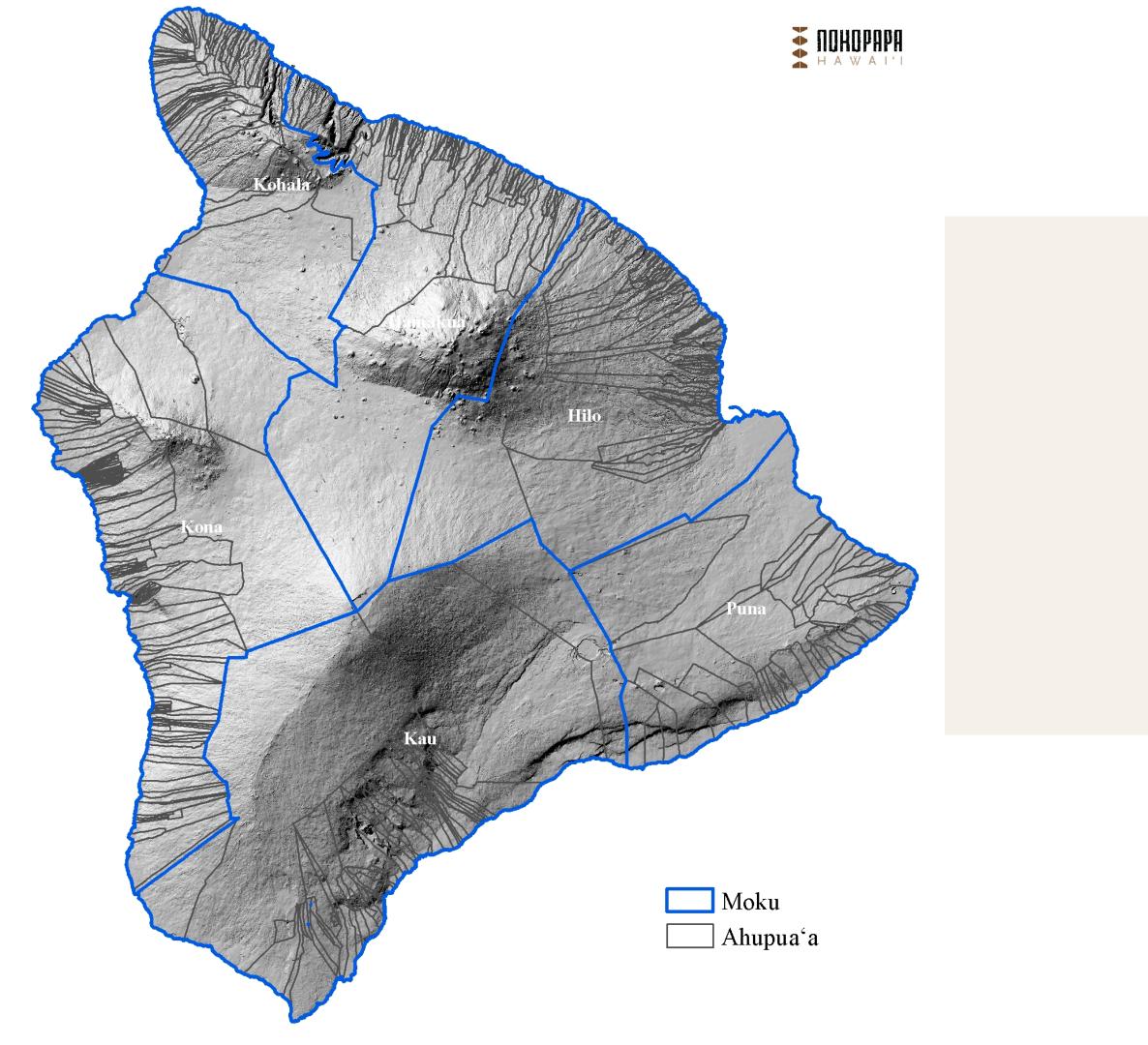




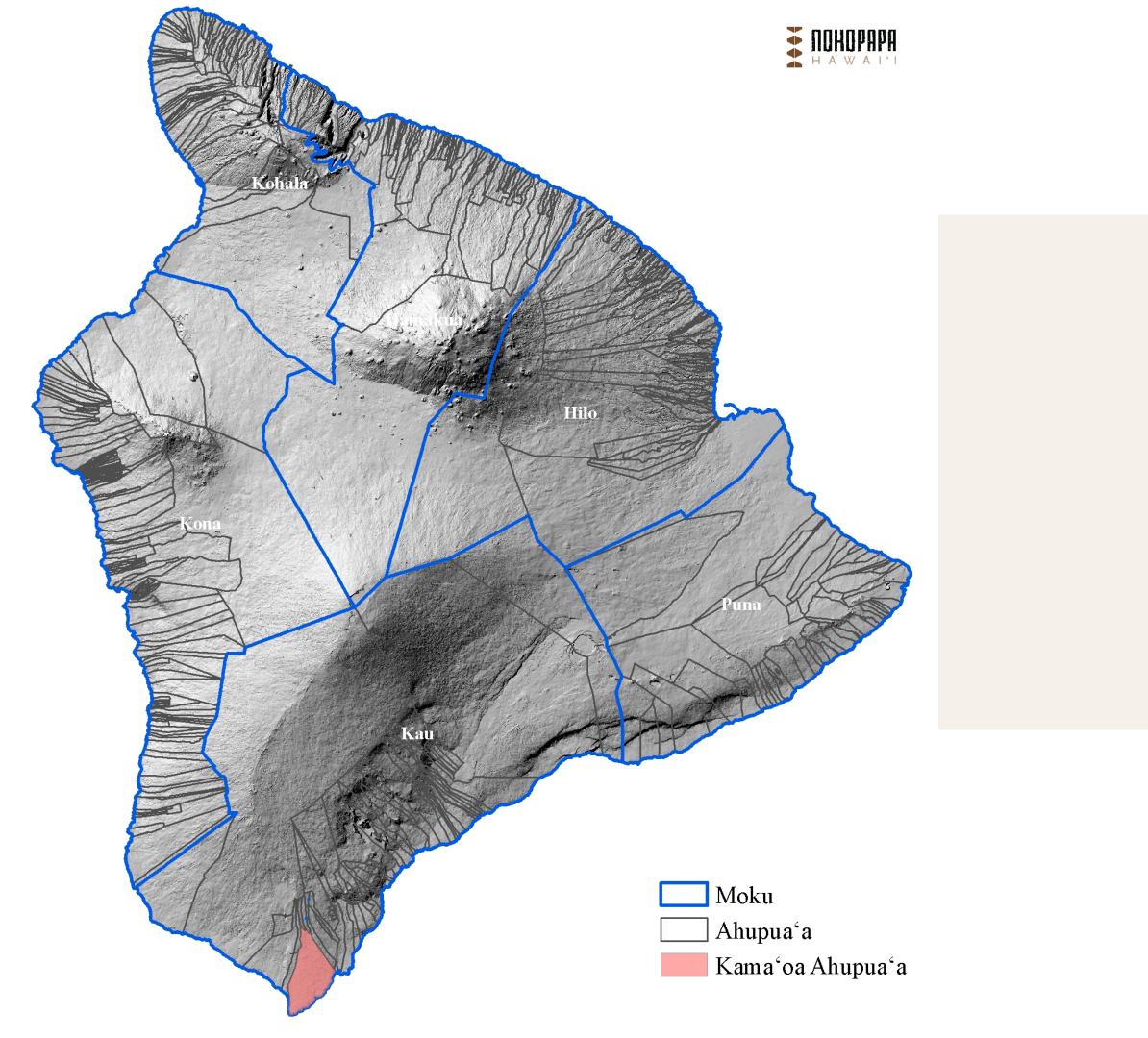




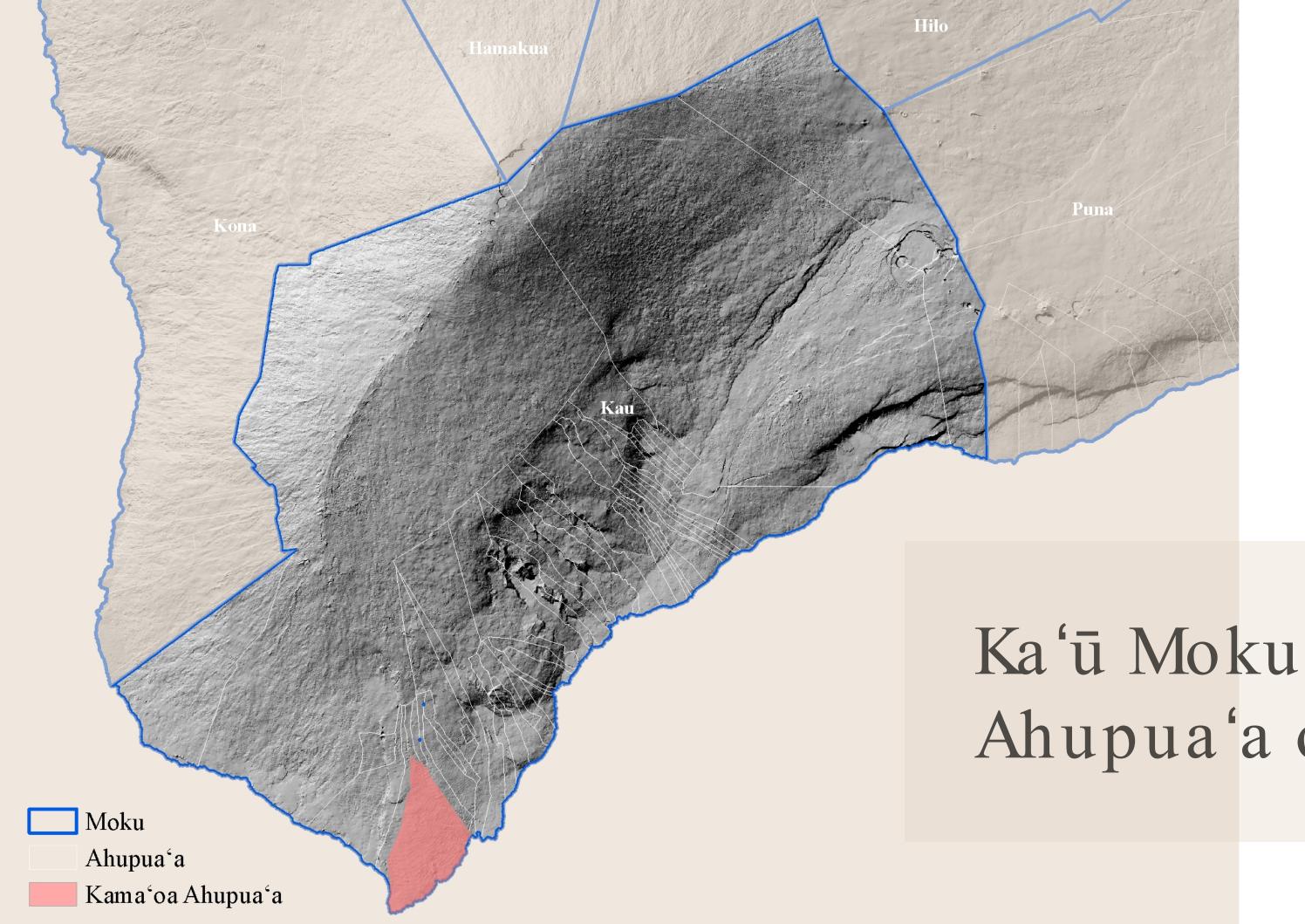
Anahola



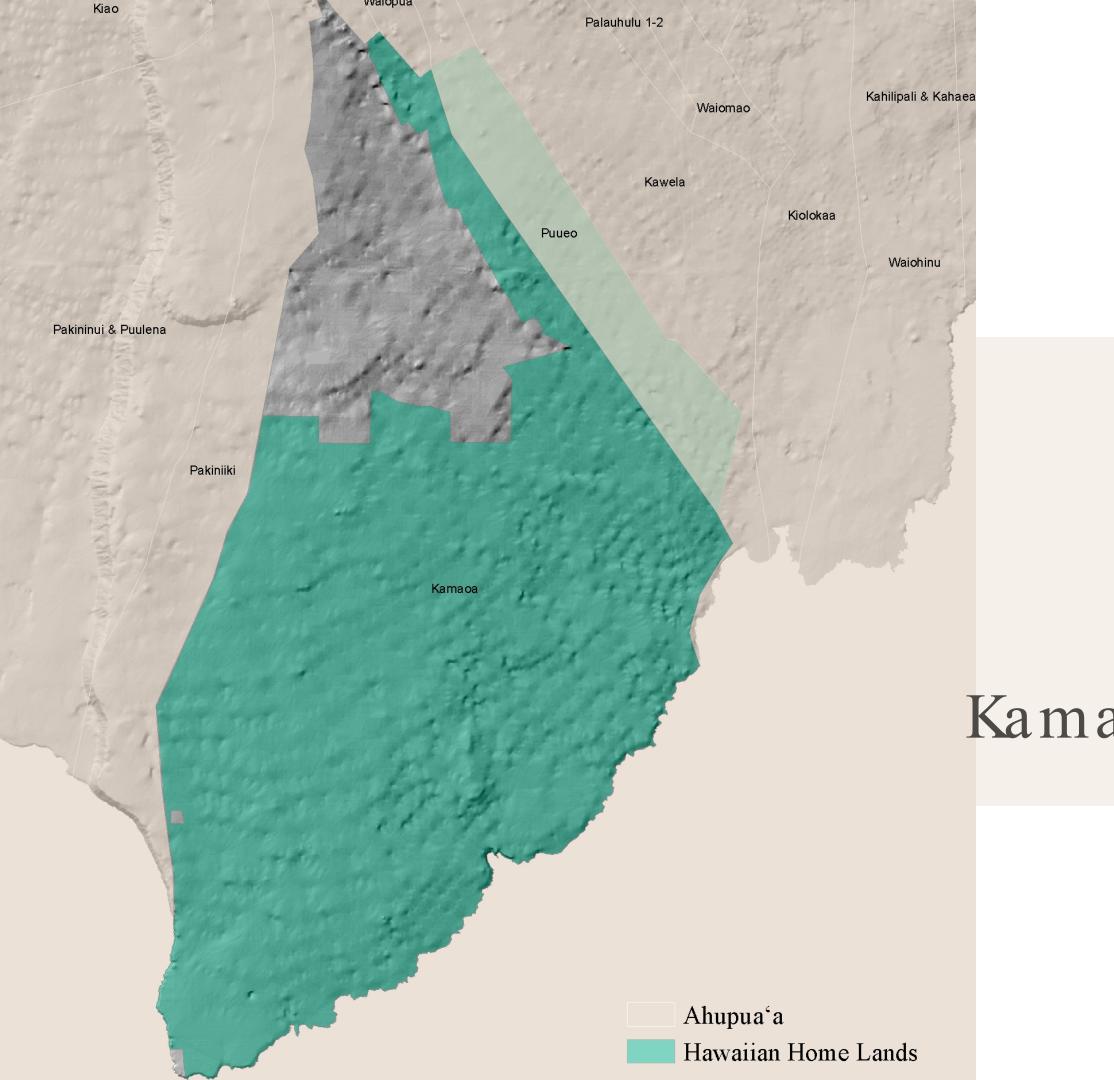
Hawai'i Island



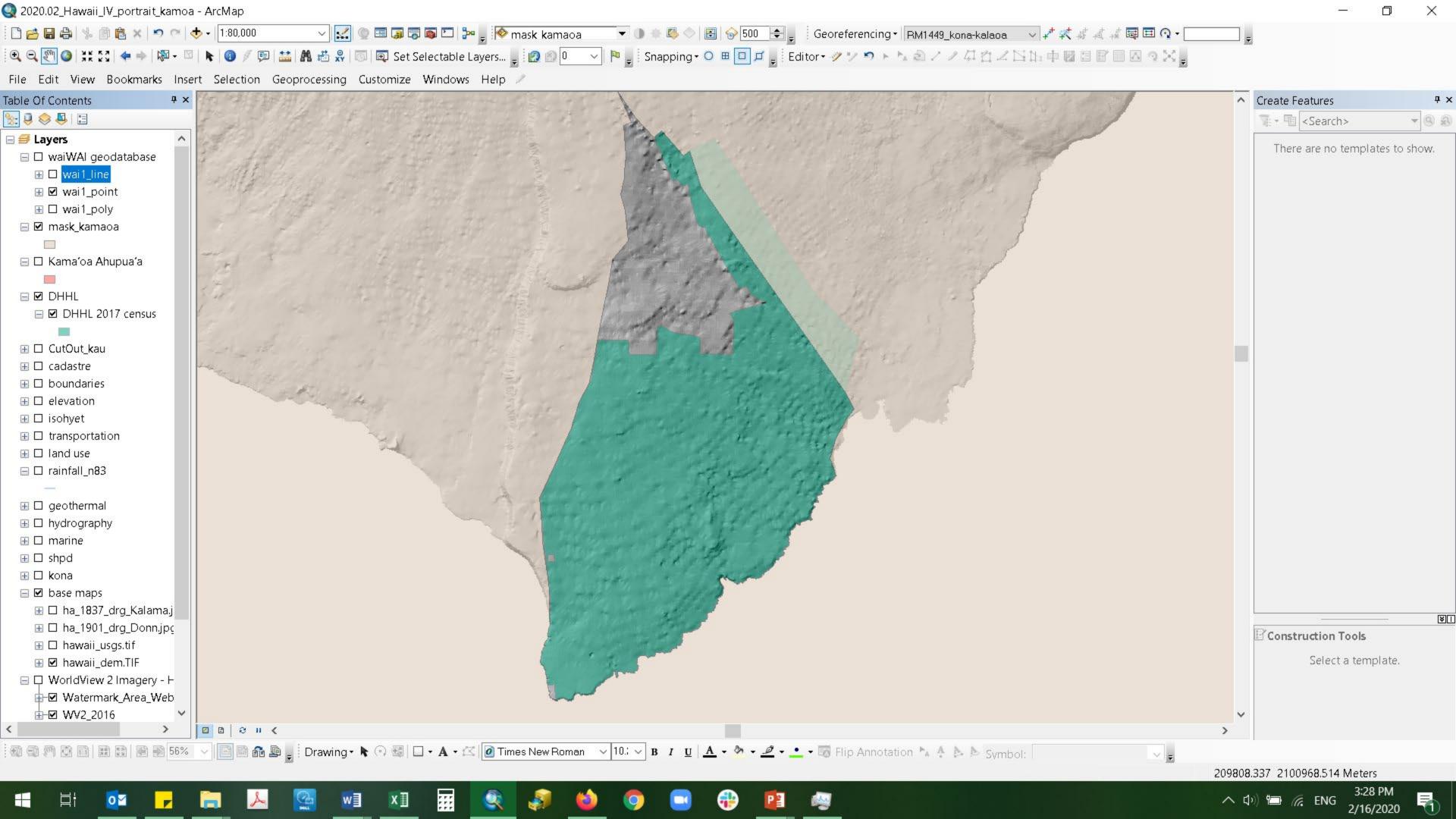
Hawai'i Island



Ka'ū Moku Ahupua'a of Kama'oa



Hawaiʻi Island Kāʻu Moku Kamaʻoa Ahupuaʻa Kamaʻoa Hawaiian Homelands



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