

OF COUNSEL:  
MATSUBARA – KOTAKE  
A Law Corporation

LAND USE COMMISSION  
STATE OF HAWAII

2016 AUG -1 A 10: 58

BENJAMIN M. MATSUBARA, #993-0  
CURTIS T. TABATA, #5607-0  
888 Mililani Street, Eighth Floor  
Honolulu, Hawai'i 96813  
Telephone: 526-9566

Attorneys for Petitioner  
ROBINSON FAMILY PARTNERS

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Petition of	)	DOCKET NO. DR16-56
	)	
ROBINSON FAMILY PARTNERS,	)	SECOND ERRATA TO PETITION
	)	FOR DECLARATORY ORDER TO
For Declaratory Order to Designate	)	DESIGNATE IMPORTANT
Important Agricultural Lands for	)	AGRICULTURAL LANDS FILED
approximately 20,888 acres at	)	JUNE 27, 2016; EXHIBIT "A"
Makaweli, Kaua'i, Hawai'i.	)	
_____	)	

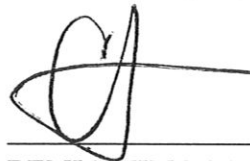
**SECOND ERRATA TO PETITION FOR DECLARATORY ORDER TO  
DESIGNATE IMPORTANT AGRICULTURAL LANDS FILED JUNE 27, 2016**

Comes now, Petitioner ROBINSON FAMILY PARTNERS, by and through its attorneys, MATSUBARA – KOTAKE, hereby submits its Second Errata to Petition for Declaratory Order to Designate Important Agricultural Lands filed herein on June 27, 2016.

The Agricultural Land Assessment for Robinson Family Partners Proposed Important Agricultural Land, Exhibit "A" to the Petition for Declaratory Order to Designate Important Agricultural Lands, filed herein June 27, 2016 in the above-entitled docket, has been revised to correct the total State Agricultural and Urban lands owned by Petitioner and to show the location of pasture fence in Makaweli Ranch. The revised Exhibit "A" is attached hereto and incorporated by reference into the Petition filed on June 27, 2016.

DATED: Honolulu, Hawai'i, August 1, 2016.

Of Counsel:  
MATSUBARA – KOTAKE  
A Law Corporation



---

BENJAMIN M. MATSUBARA  
CURTIS T. TABATA  
Attorneys for Petitioner  
ROBINSON FAMILY PARTNERS

## **EXHIBIT A**

# **Agricultural Land Assessment For Robinson Family Partners Proposed Important Agricultural Land**



## **Makaweli, Island of Kaua'i**

**Amended:  
7/27/2016**

June 2016

Prepared for:  
Robinson Family Partners  
P.O. Box 690088  
Makaweli, Hawai'i 96769

Prepared by:  
PBR HAWAII & Associates, Inc.  
1001 Bishop Street, Suite 650  
Honolulu, Hawai'i 96813

**EXHIBIT "A"**

## Table of Contents

---

Introduction/Purpose .....	1
Agricultural Use History .....	1
Current and Future Agricultural Operation.....	3
Agricultural Land Productivity Ratings .....	7
Solar Radiation.....	7
Agricultural Infrastructure and Water Resources .....	8
Agricultural Lands of Importance to the State of Hawai‘i (ALISH) .....	9
Kaua‘i General Plan .....	10
State Land Use District .....	10
Kaua‘i County Important Agricultural Land Study .....	10
References .....	12

## Figures

---

<u>Figures</u>	<u>Follows Page</u>
1 Location Map .....	1
2a Current Agricultural Use .....	3
2b Makaweli Ranch Operation.....	4
2c Site Photographs.....	4
3 Land Study Bureau (LSB) Agricultural Land Productivity Ratings .....	7
4 Solar Radiation .....	7
5 Agricultural Infrastructure and Water Resources .....	8
6 Agricultural Lands of Importance to the State of Hawai‘i (ALISH) .....	9
7a Kaua‘i General Plan: West Side Planning District Land Use Map .....	10
7b Kaua‘i General Plan: Kōloa-Po‘ipū-Kalāheo Planning District Land Use Map .....	10
8 State Land Use District .....	10
9 County of Kaua‘i IAL Assessment Agricultural Land Threshold Map .....	11

## Introduction/Purpose

To support a Petition for Declaratory Order to Designate ‘Important Agricultural Lands’ (‘IAL’), an Agricultural Land Assessment was prepared for lands owned by Robinson Family Partners on Kaua‘i. Located in Makaweli on the southwestern side of Kaua‘i, Robinson Family Partners owns approximately 50,296 acres which includes approximately 22,630 acres of conservation land and 27,666 acres of agricultural and urban lands.

HRS § 205-44(c) provides the standards and criteria to identify IAL. HRS § 205-44(a) provides that lands identified as IAL need not meet every standard and criteria listed in HRS § 205-44(c); rather, lands meeting any of the criteria in HRS § 205-44(c) shall be given initial consideration, provided that the designation of IAL shall be made by weighing the standards and criteria with each other to meet the constitutionally mandated purposes in article XI, section 3, of the Hawai‘i Constitution and the objectives and policies for IAL in section 205-42 and 205-43. The standards and criteria of section 205-44(c) are as follows:

- 1) *Land currently used for agricultural production;*
- 2) *Land with soil qualities and growing conditions that support agricultural production of food, fiber, or fuel-and energy-producing crops;*
- 3) *Land identified under agricultural productivity rating systems, such as the agricultural lands of importance to the State of Hawai‘i (ALISH) system adopted by the board of agriculture on January 28, 1977;*
- 4) *Land types associated with traditional native Hawaiian agricultural uses, such as taro cultivation, or unique agricultural crops and uses, such as coffee, vineyards, aquaculture, and energy production;*
- 5) *Land with sufficient quantities of water to support viable agricultural production;*
- 6) *Land whose designation as important agricultural lands is consistent with general, development and community plans of the county;*
- 7) *Land that contributes to maintaining a critical land mass important to agricultural operation productivity;*
- 8) *Land with or near support infrastructure conducive to agricultural productivity, such as transportation to markets, water or power.*

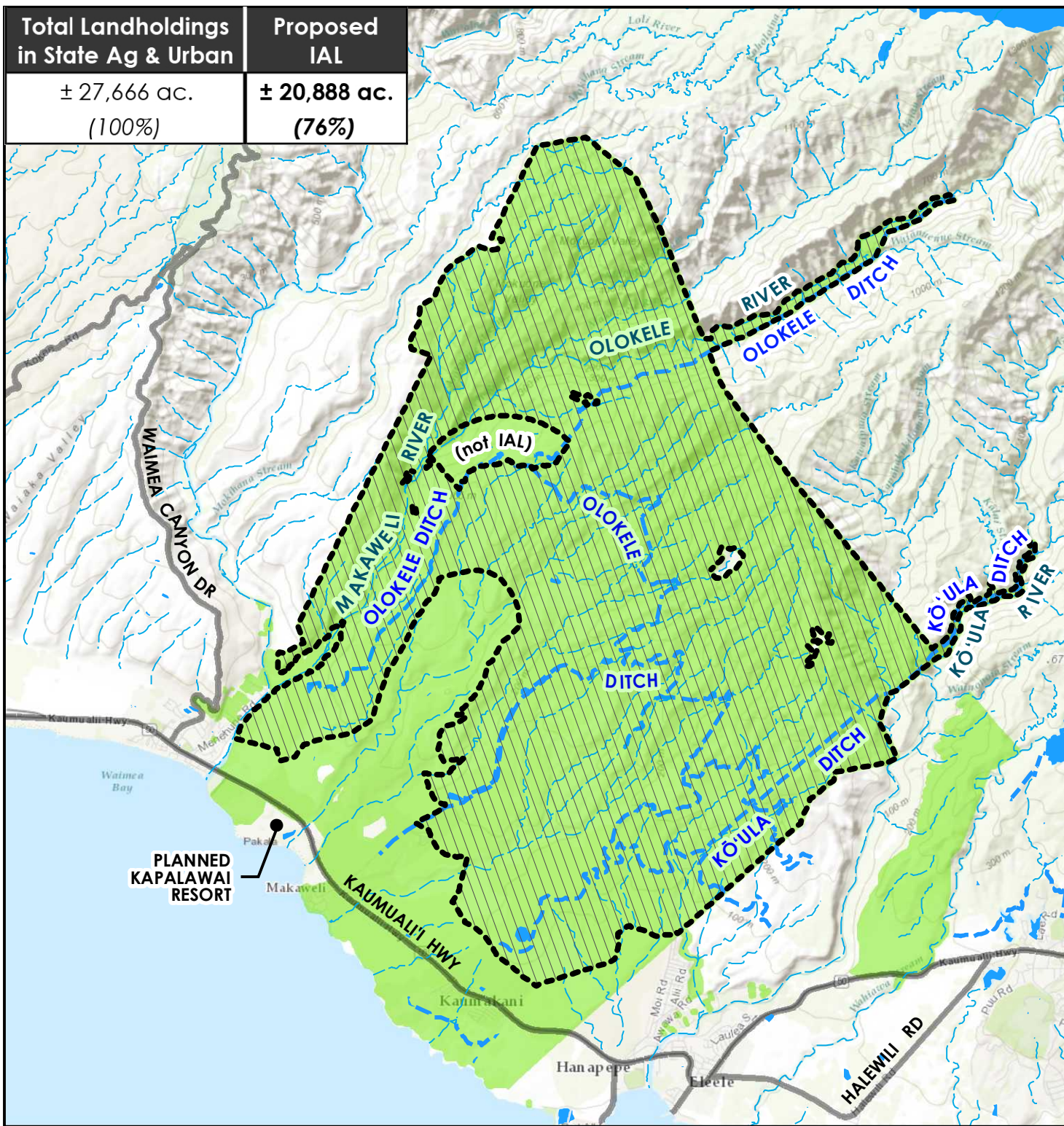
In consultation with the County of Kaua‘i Planning Department and generally consistent with the County of Kaua‘i Important Agricultural Lands Study, approximately 20,888 acres of land owned by Robinson Family Partners are proposed to be voluntarily designated IAL (Figure 1). The following Assessment provides an overview of the various characteristics of the proposed Robinson Family Partners IAL. The attached exhibits (Figure 1 through Figure 9) illustrate and quantify the land characteristics of the proposed IAL lands.

## Agricultural Use History

The Robinson Family Partners’ lands comprise the majority of what is commonly referred to as the Gay & Robinson, Inc. lands in West Kaua‘i. Lands were held by Robinson Family members from 1865 until 1991 when Robinson Family Partners was formed and almost all of the Family’s landholdings were transferred from Robinson Family members to Robinson Family Partners.

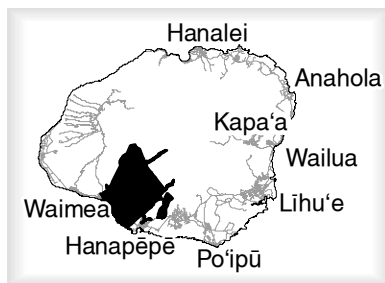


File: Q:\Kauai\Robinson Family IAL\GIS\Projects\Figures\FIG Location Map.mxd



## LEGEND

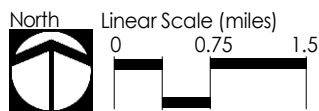
- Total Landholdings in State Ag. and Urban Districts
- Proposed IAL Boundary
- Canals/Ditches
- Lakes/ Reservoirs



## Figure 1

### Location Map

# Robinson Family IAL



Amended:  
7/27/2016

Island of Kauai



Source: County of Kauai, Robinson Family Partners, ESRI Online Basemap.  
Disclaimer: This graphic has been prepared for general planning purposes only.

Robinson Family Partners then leased almost all of its landholdings to Gay & Robinson for use and management. In June 28, 1865, approximately 21,488 acres of the entire ahupua'a (land section) of Makaweli were purchased by Elizabeth McHutcheson Sinclair, the Family matriarch, from her Royal Highness Victoria Kamāmalu Ka'ahumanu IV, the sister of King Kamehameha IV and King Kamehameha V. With additional lands purchased in subsequent years, the Robinson Family's landholdings increased to over 50,000 acres in Makaweli. Elizabeth Sinclair, her daughters and grandsons Francis Gay and Aubrey Robinson, formed a partnership to raise cattle and grow sugar on the Family owned land. The land has been used for ranching, crop cultivation, and conservation for over 150 years.

Cattle ranching was undertaken shortly after the lands were purchased and sugar cultivation followed on Gay & Robinson's land. The first sugar was harvested in 1884 and cultivation later expanded to Hanapēpē Valley. In 1889, approximately 7,000 acres of land in Makaweli were leased to Sir William Renny and he started Hawaiian Sugar Company (HSCo). Gay & Robinson retained 4,000 acres of land to grow sugar cane that was processed at HSCo's mill.

In order to expand the sugar cultivation on the lands between Makaweli River and Hanapēpē River, extensive irrigation systems were built. From east to west, Hanapēpē Ditch System, later known as Kō'ula Ditch System, was first completed in 1892 and Olokele Ditch System was completed in 1904. Subsequently, a 500 kilowatt (KW) hydroelectric plant was constructed (later upgraded to 1.25 MW) which was utilized to supplement the electricity generated by the sugar factory using cane fiber. These infrastructure improvements contributed significantly to the success in sugar production.

In 1941, C. Brewer Company negotiated a lease with Gay & Robinson and bought the HSCo's assets in the same year. The Hawaiian Sugar Company was renamed to Olokele Sugar Company (Olokele Sugar Co.) and many improvements to the facilities and the workers' living conditions were made, including installation of a new drip irrigation system to replace the existing furrow irrigation system. Olokele Sugar Co grew quickly into one of the highest yield-per-acre producers in Hawai'i. With the help of the U.S. government's subsidy, Hawai'i's sugar workers were at the highest standard of living for agricultural workers in the world in 1955.

In 1974, the U.S. government made a policy change that eliminated the subsidy to the domestic sugar industry. As a result, the cost of sugar production in Hawai'i was on the rise and competing against the lower price of imported sugar became increasingly difficult. Olokele Sugar Co. stayed in operation for another twenty years, but was no longer able to maintain the sugar business in good condition. In 1994, less than 8 years before the lease term of Olokele Sugar Co. was to an end, Gay & Robinson purchased the assets of Olokele Sugar Co. from C. Brewer Company. It was the first time that the entire land in Makaweli was under Robinson management.

After Gay & Robinson's purchase, improvements were made to the sugar facilities. Production efficiency allowed Gay & Robinson to continue producing sugar for another 15 years. However, the cost of sugar production in Hawai'i continued to escalate, while the price of domestic sugar was not increasing. Sugar production remained as a very tough business to run profitably. In 2008, Gay & Robinson made the decision to end the sugar production, with the last crop being harvested in October 2009.

When sugar production was flourishing with infrastructure improvements of two ditch systems, the cattle ranch operation remained active on the *mauka* lands above the ditch system and in the uncultivated valleys between sugar cane fields that extended makai. Historically, Gay & Robinson owned slaughter facilities to process meat until Gay & Robinson changed the direction of their cattle operation more toward a cow/ calf operation and began shipping calves to the U.S. mainland for finishing and processing. The profits from the cow/ calf operation, however, were not great. The cost of shipping cattle to the U.S. mainland continued to increase and Gay & Robinson had no control over where the cattle were pastured, the pasture's condition and the timing of processing the cattle on the mainland ranches.

Gay & Robinson made the decision to build a new slaughter/ processing facility within an existing 4,800 sq. ft. warehouse of the old Sugar Mill to process its own cattle. The new facility was completed in 2013 with over \$1 million invested. The facility includes the kill floor, mobile slaughter unit, hot box, chill room, processing room, freezer, locker room, shower, toilet, supply storage room and offices for the manager, supervisor, and USDA inspector. The chilling equipment and hot water heater are attached to the exterior of the warehouse. Located outside the warehouse are the cattle/ sheep holding pens and the wastewater treatment facility. The wastewater treatment system converts the liquid by-product into fertilizer for use on the pastures. The facility is owned and operated by Gay & Robinson's wholly owned subsidiary, Makaweli Meat Company LLC (MMC). Beef is sold by MMC under the Makaweli Beef label. Backed by the rich Kaua'i history, land stewardship and sustainable ranching practices, Makaweli Ranch is dedicated to providing premium, all natural, 100% grass fed beef with no hormones or steroids. The closed herd of Devon-Shorthorn crossbred cattle freely roam and graze on the more than 25,000 acres of rich grasslands of Makaweli Ranch. Located in one of the world's cleanest and most isolated environments, the primary mission of Makaweli Ranch and MMC is to supply all natural, consistently tasting and homegrown beef to the residents, businesses and visitors of Kaua'i.

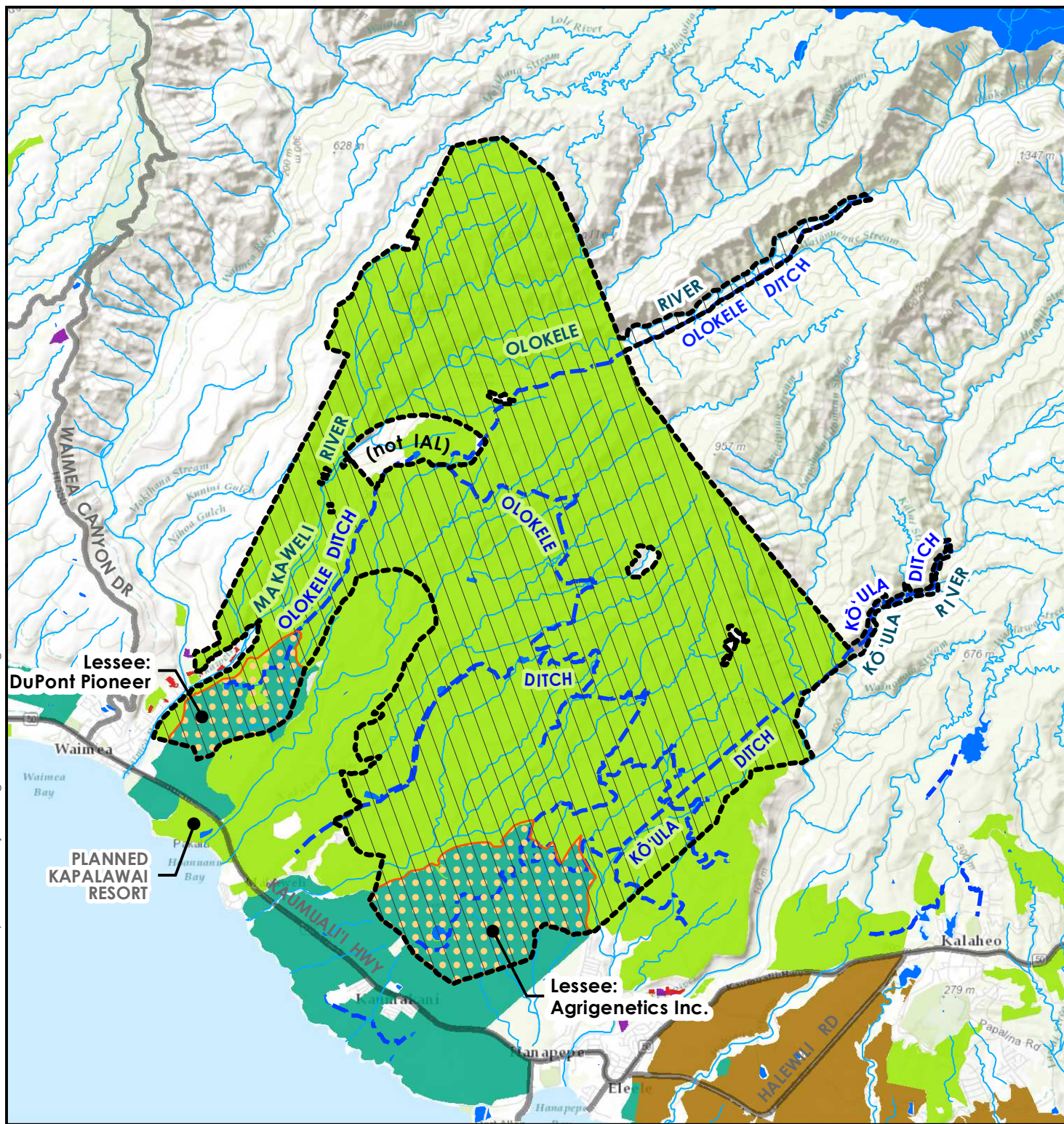
Makaweli Ranch cattle spend their entire life, grazing on Guinea, California and Green Panic grass that are suitable to this climate. There are also thousands of kiawe trees that produce a bean that is high in protein that drops to the ground that the cows love. With this supplemental natural feed source at Makaweli, the MMC beef have been noted for a unique mesquite molasses flavor. Some of the top Hawai'i chefs seek out this all natural beef to serve in their restaurants. Makaweli Ranch is in the process of growing its feeder herd so that more Makaweli Beef brand meat can be provided to an expanding local market.

### **Current and Future Agricultural Operation**

Figure 2a illustrates current agricultural use of the region. The figure was compiled from information provided by Robinson Family Partners and the data collected in the 2015 Hawai'i Statewide Agricultural Land Use Baseline study by Spatial Data Analysis and Visualization Laboratory, University of Hawai'i at Hilo. The proposed IAL is shown.

Of the 20,888 acres proposed for IAL, approximately 18,700 acres (90%) of the proposed IAL land has been utilized for cattle ranching by Gay & Robinson's Makaweli Ranch and approximately 2,188 acres (10%) of the *makai* land are a part of leased land for seed production.





DATE: 6/11/2016

## LEGEND

### Current Ag Use

- Seed Production
- Pasture
- Coffee
- Diversified Crop
- Taro

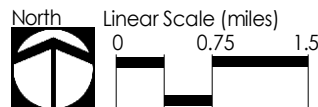
- Proposed IAL Boundary
- Leased Land
- Streams
- Canals/Ditches
- Lakes/ Reservoirs

## Figure 2a

### Current Agricultural Use

## Robinson Family IAL

Island of Kauai



Source: State Department of Agriculture and University of Hawai'i at Hilo Spatial Data Analyst and Visualization Laboratory (2015). Robinson Family Partners, Inc. (2016). County of Kauai.

Disclaimer: This graphic has been prepared for general planning purposes only.

Current Lessees include Agrigenetics Inc. (subsidiary of Dow Chemical Co.) and DuPont Pioneer.

### Ranch Operation

Figures 2b and 2c illustrate the Makaweli Ranch operation within the approximately 18,700 acres proposed for IAL. Of these lands, approximately 11,940 acres of Upper Pasture are located above the ditch system. These lands are managed to control invasive species and improve the grasses that are sustained by rainfall. Depending on the rainfall, the carrying capacity of these mauka pastures will vary. Below the ditch system, the approximately 6,760 acres of pasture are typically more intensely utilized by the cattle herd. These Lower Pasture lands include improved pasture and irrigated pasture. Within the Lower Pastures, the approximately 400 acres of irrigated pasture are noted with the potential of an additional 1,105 acres that could be converted to irrigated pasture to support an increased herd. There are additional 5,255 acres of Lower Pastures that account for the balance of the ranching operation. On average, the carrying capacity of the ranch lands is 1 animal per 5 acres.

### The Cattle

The Ranch herd is Devon-Shorthorn crossbreed and managed as a closed herd to prevent disease. The herd is currently comprised of 3,500 to 4,000 head of cattle; approximately 1,100 cows, 850 calves, 1,200 feeders, and 100 to 200 replacement bulls and breeding bulls. Approximately 50% of the herd are located on the proposed IAL at any given time.

The cattle operation includes year around breeding with calves born all year around to provide a consistent supply of calves. Breeding is in the open and bulls typically never leave the cows. The calving rate is 85%, meaning that 85% of all cows give birth to typically one calf per pregnancy. Cows are fertile immediately after birth and are able to produce on average 4 calves every 3 years.

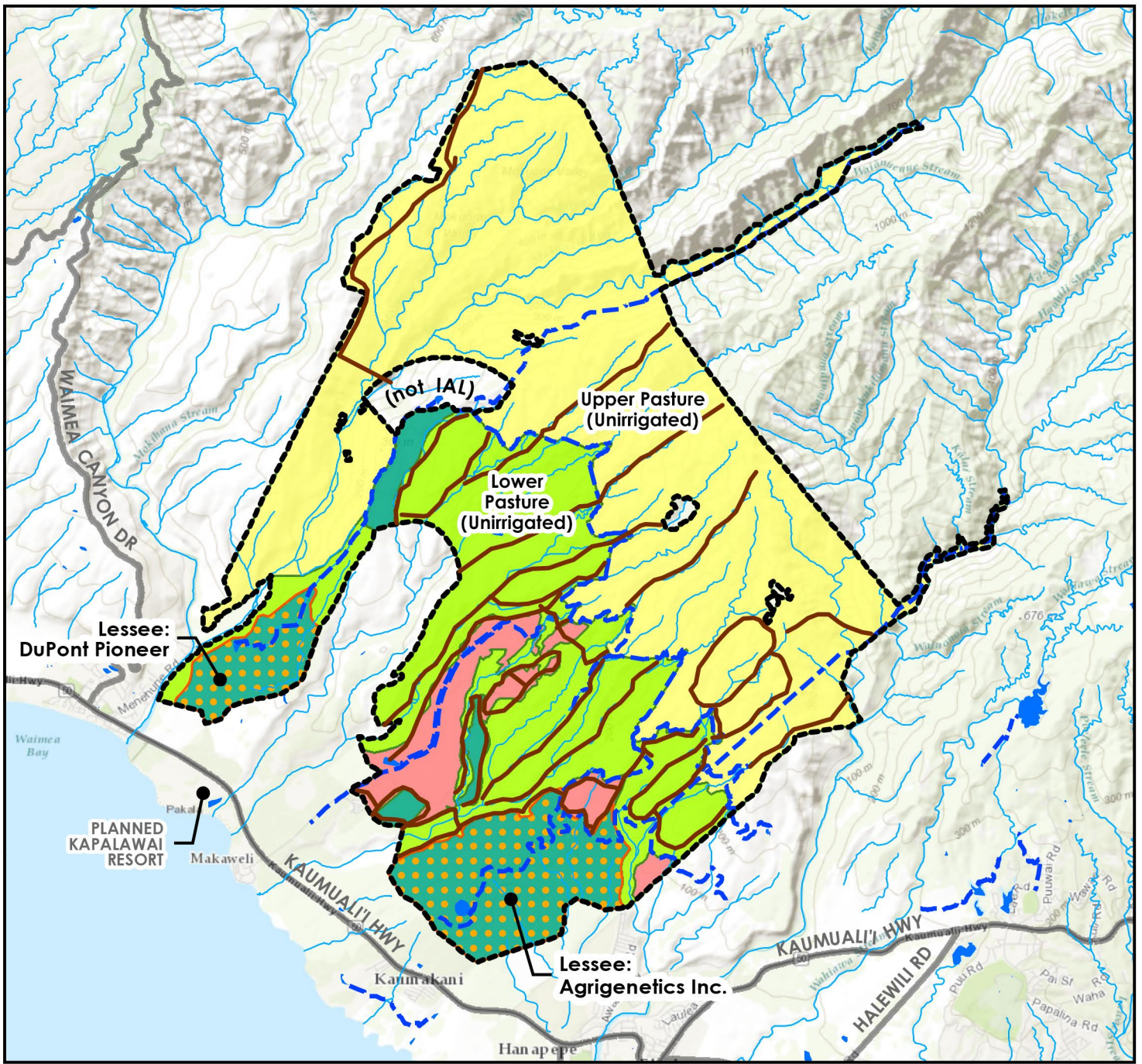
To manage the herd, the Ranch tries to maintain approximately a 10% breeding cow turnover per year. Heifers go into the herd at approximately 2 years of age and are left in the herd for approximately 10 years then replaced by young heifers. Cows will be removed from the herd earlier if they are not producing calves due to infertility. These cows, along with culled older bulls, are processed at the slaughter facility for hamburger.

### Land Management

Land management activities to improve pasture areas include (1) additional irrigated pastures, (2) grass seed production and planting programs, (3) fencing and paddocks repairs, (4) maintaining and upgrading roads, and (5) invasive species eradication to improve pastures.

The majority of the Ranch pastures (Upper and Lower) relies on rainfall to support a stocking rate of approximately 1 head per 5 acres. Cattle are rotated to pastures where there is sufficient rainfall to support grazing. Currently, the ranch has approximately 400 acres of irrigated pastures on proposed IAL. The total potential future acreage of irrigated pasture is 1,105 acres, which is comprised of former sugar cane fields below the ditch system. Refer to Figure 2b.





Amended:  
7/27/2016

## LEGEND

- Proposed IAL Boundary
- Leased Land
- Pasture Fence
- Streams
- Canals/Ditches
- Lakes/Reservoirs

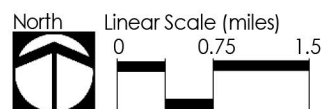
Ranch Operation	Approximate Area (in acres)
Upper Pasture (year round breeding)	11,940
Lower Pasture (unirrigated)	5,255
Lower Pasture (irrigated)	400
Lower Pasture (potential irrigated)	1,105
<b>Total:</b>	<b>18,700</b>

Figure 2b

Makaweli Ranch Operation

## Robinson Family IAL

Island of Kauai







Lower and Upper Pastures



Lower Pasture - Unirrigated (Potential Irrigation)



Lower Fields - Irrigated



Lower Pasture - Irrigated



Devon-Shorthorn Crossbred Cattle and Ranch Access Roads



Lower Pasture (Irrigated - Leased)

Figure 2c  
Site Photographs  
**Robinson Family IAL**

Island of Kaua'i

Photos Taken:  
April, 2016





The 5 year goal is to install approximately 1,000 additional acres of irrigated pasture within the proposed IAL.

The Ranch is also continuing its seed propagation and grass planting program to improve the carrying capacity of the Lower Pastures. The planting program removes invasive species and plants preferred species of pasture grass. Green Panic Grass has proven to be an excellent feed for cattle along with its favorable characteristics; chokes out invasive species, is draught resistant, and is a high protein grass. Green Panic seeds need to be ingested and released through manure in order to germinate. The Ranch is working on producing its own seeds for planting to improve existing pastures.

Other pasture grasses include Guinea, Pangola, California, and Kikuya grass. Grasses with high protein quantity are coveted as cattle feed. Other incidental yet delicious food for cattle include Kiawe beans, mangos, guava, and lilikoi.

The land management and pasture improvement program can be applied to approximately 8,000 to 9,000 acres of current pasture lands within the proposed IAL. The 5 year goal for the planting program is to install an additional 500 acres of improved and managed pasture. These 500 additional acres would be in addition to the 1,000 additional irrigated acres of pasture. This combined additional 1,500 acres of land management improvement is expected to increase the herd capacity by at least one additional head per additional acre of land management improved pasture, or an additional 1,500 head of cattle.

Approximately 15,000 acres of proposed IAL is fenced with a combination of cattle and/or pig fencing. The pig fencing is used to keep out wild pigs and the fenced paddocks are used to corral the cattle, separate sexes, manage bulls, and effectively manage grass growth and maintenance. The fenced paddocks are used to house the cattle. Permanent corrals are built in many locations to provide infrastructure to complete the above activities listed such as separating, branding, and doctoring.

There are also a total of 50 horses that are pastured/ maintained on the Ranch. The Ranch owns 21 horses and the cowboys are allowed to keep their 29 personally owned horses on the Ranch. These horses are working horses and are essential for Ranch operations. Approximately 70% of the horses are female, along with one stallion.

#### Slaughter Facility Production

Makaweli Ranch sends cattle to the MMC slaughter/ processing facility one day per week and the 100% grass fed Makaweli Beef is distributed to stores and restaurants primarily on Kaua'i but also throughout the State. The facility is allowed to process up to five days per week. Makaweli Ranch is currently in the process of growing its feeder herd in order to produce and distribute more of its branded beef to the local market and throughout the State. This will be accomplished by installing more irrigated pastures on former sugar cane fields in order to produce consistent quality and maintain consistent supply to the marketplace.



Makaweli Ranch production rate through the slaughter facility is currently 9 head per week. At an average carcass weight of 650 pounds with a resulting meat weight of 65%, Makaweli Beef is producing approximately 3,800 pounds of beef per week to the marketplace. Within the next year, the Ranch will increase production to 12 head per week to result in the increase to approximately 5,070 pounds per week or approximately 263,000 pounds annually.

Based on the Kaua'i County IAL study, this level of beef production would meet the dietary needs of a population of 4,100 on Kaua'i; approximately 6% of island's projected needs for beef to sustain a population of a population of 70,000.

Relative to Kaua'i's islandwide beef production, according to statistics provided by the State Department of Agriculture, Makaweli Ranch represents approximately 9% of the island's beef production (2012). With the planned increase in production, Makaweli Ranch will represent approximately 12% of the island's beef production. Makaweli Beef shall be a very important component of the island's future food sustainability plans.

With an increasing demand for local grass fed beef in Hawai'i, maximizing available grassland on Makaweli Ranch has become important in order to successfully run the entire cattle operation locally from raising calves to processing cattle at MMC. Makaweli Ranch and MMC will continue to expand the marketing and distribution of its branded beef locally and contribute significantly towards providing food security and enhancing self-sufficiency for Kaua'i and the State.

## Agricultural Land Productivity Ratings

The Detailed Agricultural Land Productivity Ratings by the Land Study Bureau (LSB), University of Hawai‘i are based on a five-class productivity rating system using the letters A, B, C, D, and E, with A representing the class of highest productivity and E the lowest. The LSB’s study for Kaua‘i was done in 1967 under the assumption that rain is the basic source of irrigation.

As illustrated in Figure 3: Land Study Bureau – Agricultural Land Productivity Ratings, about 7% of the proposed IAL lands are rated A, 7% are rated B, 3% are rated C, 6% are rated D, and 77% are rated E.

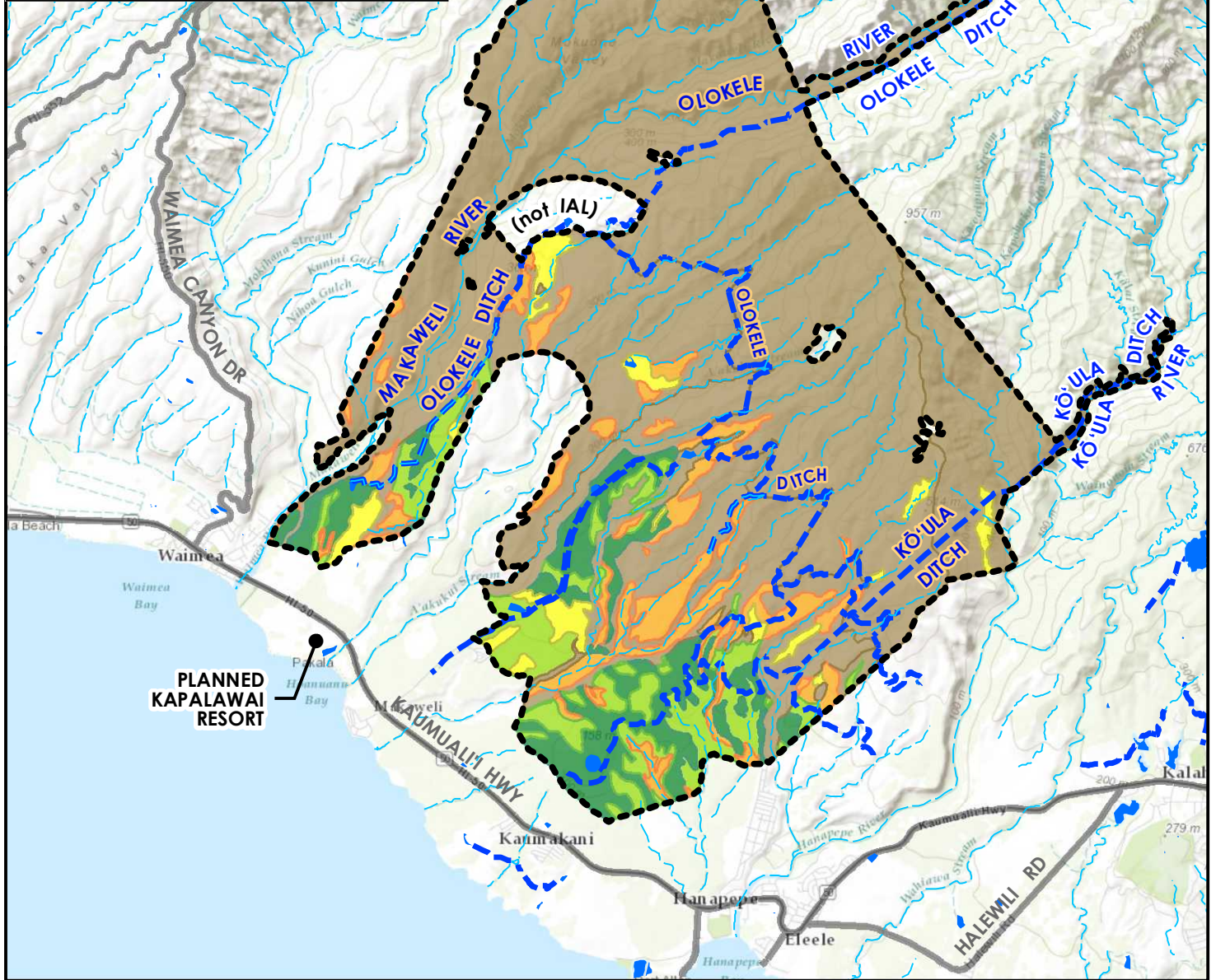
The following table summarizes the productivity rating of the proposed IAL lands as illustrated in Figure 2:

<b><i>Productivity Rating</i></b>	<b><i>Total IAL</i></b>	
	<b><i>Acres</i></b>	<b><i>% of IAL</i></b>
A	± 1,540	7%
B	± 1,371	7%
C	± 536	3%
D	± 1,330	6%
E	± 16,110	77%
Not LSB	± 1	0%
<b>Totals:</b>	20,888	100%

## Solar Radiation

Figure 4: Solar Radiation is based on the data from Evapotranspiration of Hawai‘i Final Report prepared in February 2014 by Department of Geography, University of Hawai‘i at Mānoa for U.S. Army Corps of Engineers Honolulu District and State of Hawai‘i Commission on Water Resource Management. Approximately one third of the proposed IAL land in south receives an annual average of 220 to 235 watts of solar energy per square meter per hour. The remaining two thirds of the land in north received an annual average of 205 to 220 watts per square meter per hour, except for the river banks on the steep slopes receiving a little less solar radiation. These levels of solar radiation, when combined with adequate rainfall and suitable soil types, support vigorous forage growth for cattle within the proposed IAL.

LSB Ratings	TOTAL	
	IAL (ac.)	%
A (Very Good)	± 1,540	7%
B (Good)	± 1,371	7%
C (Fair)	± 536	3%
D (Poor)	± 1,330	6%
E (Very Poor)	± 16,110	77%
Not LSB	± 1	0%
<b>Total</b>	<b>20,888</b>	<b>100%</b>



DATE: 6/11/2016

## LEGEND

### LSB Land Classification

- A: Excellent
- B: Good
- C: Fair
- D: Poor
- E: Very Poor
- Not Rated

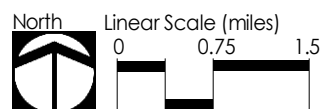
- Proposed IAL Boundary
- Streams
- Canals/Ditches
- Lakes/ Reservoirs

## Figure 3

Land Study Bureau (LSB)  
Agricultural Land Productivity Ratings

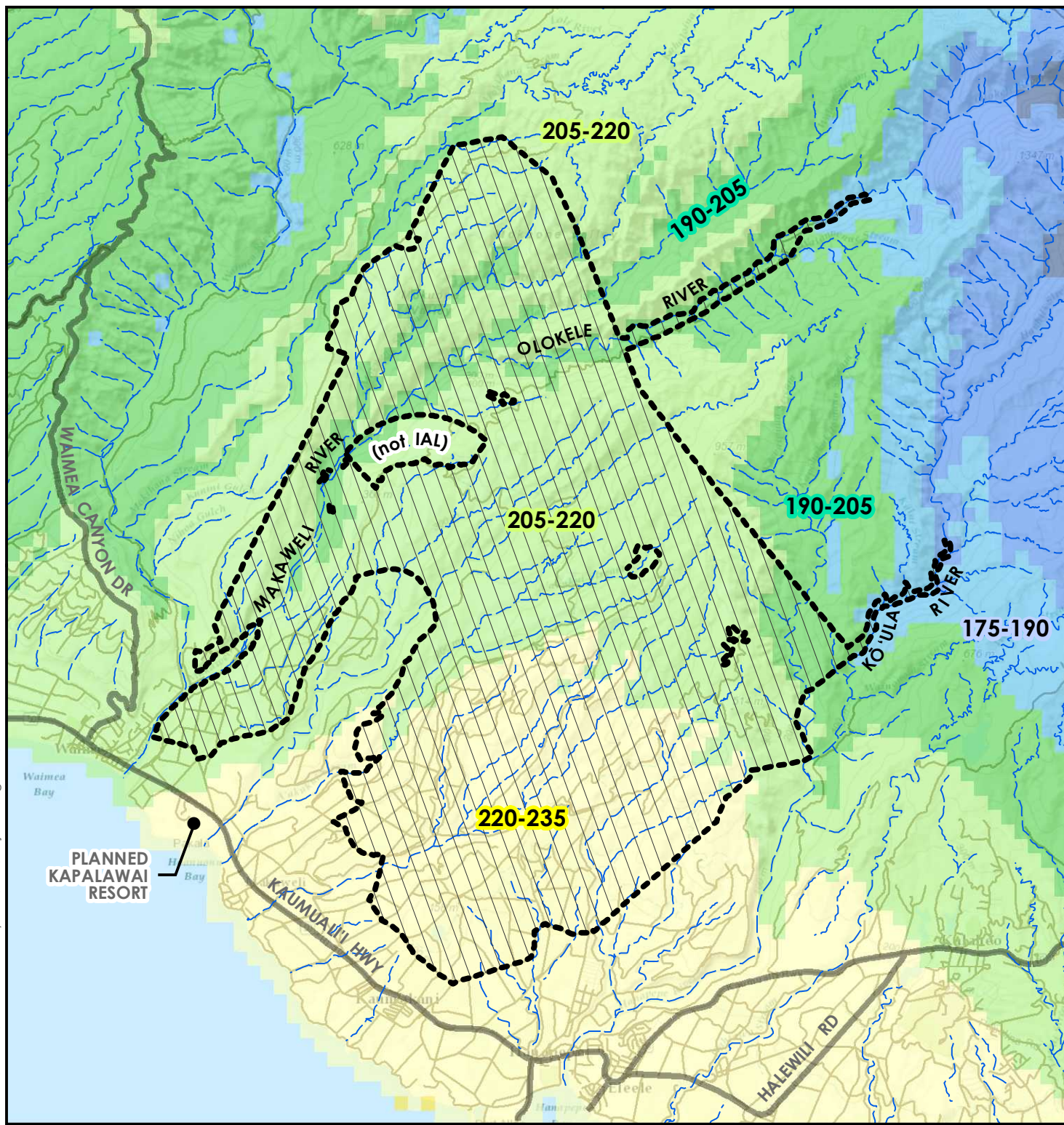
## Robinson Family IAL

Island of Kauai



Source: University of Hawaii Land Study Bureau (1967). County of Kauai  
Disclaimer: This graphic has been prepared for general planning purposes only.





DATE: 6/11/2016

## LEGEND



Proposed IAL Boundary



Streams



Canals/Ditches

Mean Annual Solar Radiation  
(Watts/sq.meter/hour)



280 - 300



265 - 280



250 - 265



235 - 250



220 - 235



205 - 220



190 - 205



175 - 190



160 - 175



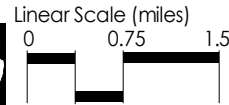
130 - 160

## Figure 4

### Solar Radiation

## Robinson Family IAL

Island of Kauai



## Agricultural Infrastructure and Water Resources

As shown in Figure 5: Agricultural Infrastructure and Water Resources, the proposed IAL land can be accessed by cane haul roads off of Kaumuali‘i Highway. The land is primarily irrigated by two ditch systems to support the cattle ranch and seed production. Kō‘ula Ditch System is approximately 13.5 miles long and the ditch line starts at the base of Manawaiopuna Falls and ends at Field 32 Reservoir. The water capacity of Kō‘ula Ditch System is approximately 55 millions of gallons per day (MGD).

Olokele Ditch System is approximately 20 miles long. Water from Olokele River is diverted at 1,477 feet in elevation and delivered to a 1.25 megawatt (MW) hydroelectric plant. At the hydroelectric plant, the water splits into two directions. One flow goes southwestward to Kepani Reservoir all the way down to Waikaia Reservoir. The other flow goes eastward across the Robinson lands and ends at Kuhumu Reservoir. The water capacity of Olokele Ditch System is approximately 70 MGD.

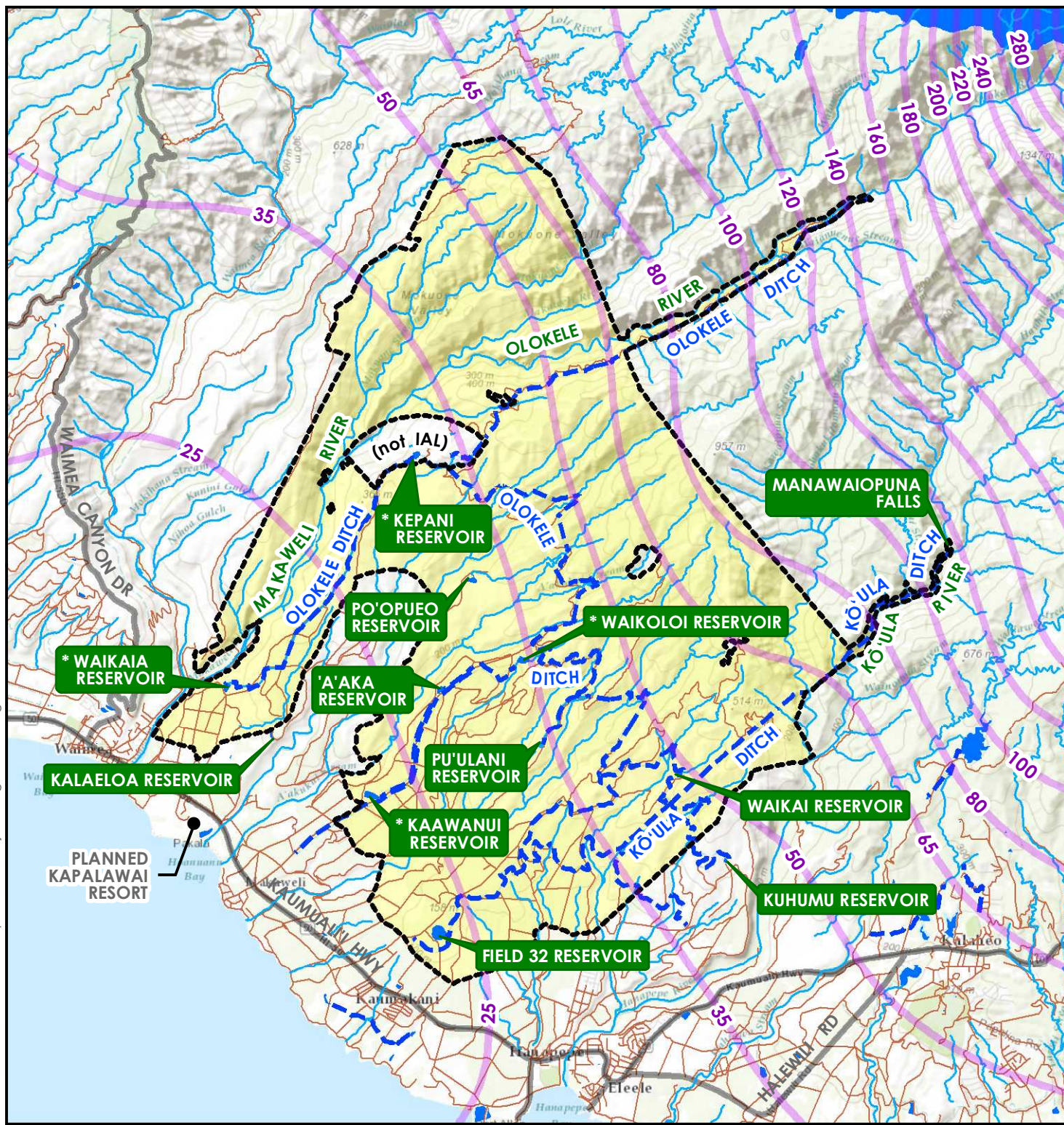
The proposed IAL land also includes ten reservoirs with the total capacity of 275 million gallons. The following table shows the approximate water capacity for each reservoir.

<b>RESERVOIR NAME</b>	<b>APPROXIMATE CAPACITY (MG)</b>
1. Kepani	28
2. Waikaia	19
3. Kalaeloa	12
4. Po‘opueo	12
5. Waikoloa	48
6. ‘A‘aka	25
7. Kaawanui	36
8. Waikai	10
9. Pu‘ulani	5
10. Field 32	80
<b>TOTAL:</b>	<b>275</b>

In addition to the above water resources, according to the 2011 Rainfall Atlas of Hawai‘i data collected by Department of Geography at University of Hawai‘i at Mānoa, the proposed IAL land receives an average of 25 to 30 inches of rain annually on the irrigated land below the east-west Olokele Ditch line and 50 to 80 inches of rain annually on the unirrigated *mauka* land above the same Olokele Ditch line. Two northern agricultural land areas, that include the Olokele Ditch and Kō‘ula Ditch above the unirrigated *mauka* land receive more rain – an average of 80 to 140 inches annually.

Therefore, the proposed IAL has adequate quantities of water and infrastructure to support active cattle ranch operation and seed production.





DATE: 6/11/2016

## LEGEND

- Proposed IAL Boundary
- Streams
- Canals/Ditches
- Lakes/ Reservoirs ( \* Regulated Reservoirs )
- Cane Haul Roads
- Mean Annual Rainfall (inch)

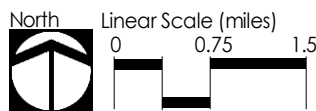
Source: National Hydrography Dataset (2012). University of Hawai'i  
Rainfall Atlas of Hawai'i (2011). County of Kauai.  
Disclaimer: This graphic has been prepared for general planning purposes only.

Figure 5

Agricultural Infrastructure and  
Water Resources

## Robinson Family IAL

Island of Kauai



## **Agricultural Lands of Importance to the State of Hawai‘i (ALISH)**

The Agricultural Lands of Importance to the State of Hawai‘i (ALISH) classification system were developed in 1977 by the State Department of Agriculture. The system was primarily, but not exclusively, based on the soil characteristics of lands and existing cultivation. There are three classes of ALISH lands – Prime (prime farmland), Unique (unique farmland), and Other (additional farmland of statewide and local importance).

Prime ALISH is land best suited for the production of food, feed, forage and fiber crops. The land has the soil quality, growing season, and moisture supply that are needed to produce high yields of crops economically when the land, including water resources, is treated and managed according to modern farming methods.

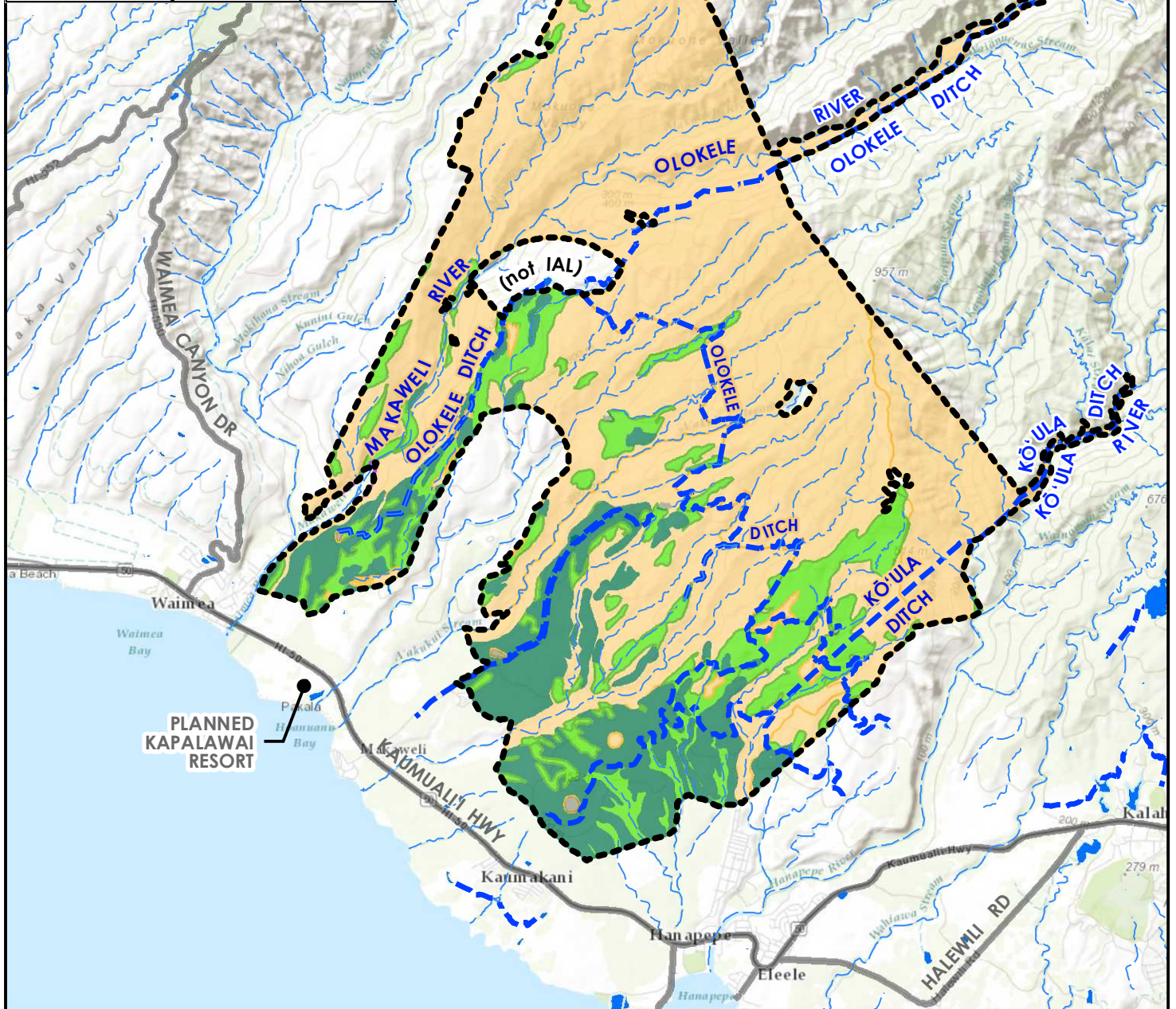
Unique ALISH is land other than Prime ALISH that is used for the production of specific high-value food crops. The land has the special combination of soil quality, growing season, temperature, humidity, sunlight, air drainage, elevation, aspect, moisture supply, or other conditions, such as nearness to market, that favor the production of a specific crop of high quality and/or high yield when the land is treated and managed according to modern farming methods. In Hawai‘i, some examples of such crops are coffee, taro, rice, watercress, and non-irrigated pineapple.

Other ALISH is land other than Prime or Unique that is of state-wide or local importance for the production of food, feed, fiber, and forage crops. The land is important to agriculture in Hawai‘i and yet it exhibits properties, such as seasonal wetness, erodibility, limited rooting zone, slope, flooding, or drought, that exclude the land from Prime or Unique agricultural land use classifications. Two examples are (1) lands which do not have an adequate moisture supply to be qualified as Prime and (2) lands which have similar characteristics and properties as Unique, except that the land is not currently in use for the production of a “unique” crop. These Other lands can be farmed sufficiently by applying greater amounts of fertilizer and other soil amendments, drainage improvement, erosion control practices, and flood protection. Other ALISH land can produce fair to good crop yields when managed properly.

Figure 6 illustrates approximately 27% of the proposed IAL are classified in ALISH: 13% in Prime ALISH, less than 0.1% in Unique ALISH, and 14% in Other ALISH. The balance of the proposed lands is not classified under ALISH classification but the land has been historically used for ranching and the cattle ranch operation is active to date. The unclassified land includes essential elements of the active cattle ranch operation, such as grasslands, ditches, and streams.



ALISH Types	TOTAL	
	IAL (ac.)	%
Prime	± 2,685	13%
Unique	± 4	0%
Other	± 2,833	14%
Not ALISH	± 15,366	73%
<b>Total</b>	<b>20,888</b>	<b>100%</b>



DATE: 6/11/2016

## LEGEND

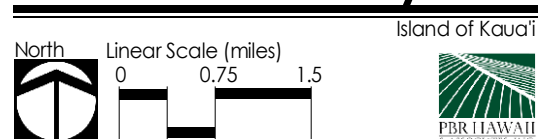
### ALISH

- Prime ALISH
- Unique ALISH
- Other ALISH
- Unclassified
- Proposed IAL Boundary
- Streams
- Canals/Ditches
- Lakes/Reservoirs

Figure 6

Agricultural Lands of Importance to the State of Hawaii (ALISH)

## Robinson Family IAL



Source: State Department of Agriculture (1977). County of Kauai.  
Disclaimer: This graphic has been prepared for general planning purposes only.

The following table summarizes the ALISH classifications for the proposed IAL lands:

<b>ALISH Classifications</b>	<b>Total IAL</b>	
	<b>Acres</b>	<b>% of IAL</b>
Prime	± 2,685	13%
Unique	± 4	0%
Other	± 2,833	14%
Not ALISH	± 15,366	73%
<b>Totals:</b>	20,888	100%

## **Kaua‘i General Plan**

The General Plan of the County of Kaua‘i is a policy document that is intended to help guide development for the enhancement and improvement of life on Kaua‘i. It was last updated in 2000 and provides the County’s vision for Kaua‘i and establishes the strategies to help achieve that vision.

Figure 7a: The West Side Planning District Land Use Map and Figure 7b: The Kōloa-Po‘ipū-Kalāheo Planning District Land Use Map published in the 2000 General Plan Update show portions of the proposed IAL land. The proposed IAL lands covered in both Figure 7a and Figure 7b are designated as Agriculture in south and Open in north.

## **State Land Use District**

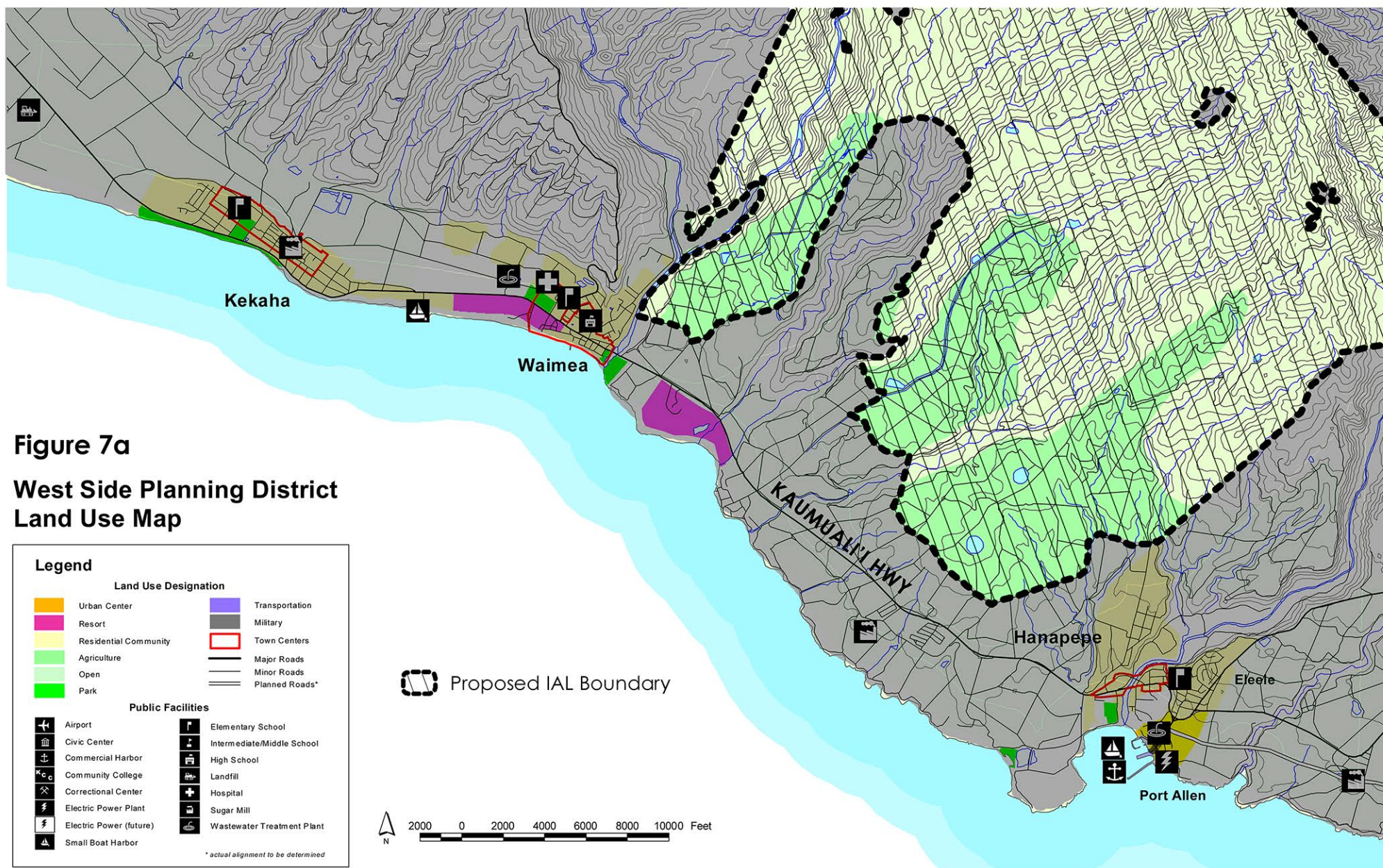
Referencing the 2014 State Land Use District Boundary prepared by State of Hawai‘i Land Use Commission, the proposed IAL land in Figure 8 is illustrated to confirm that all the proposed IAL land is within the Agricultural District. Where the proposed IAL land is contiguous to the Conservation District boundary, the proposed IAL boundary follows the Conservation District boundary.

## **Kaua‘i County Important Agricultural Land Study**

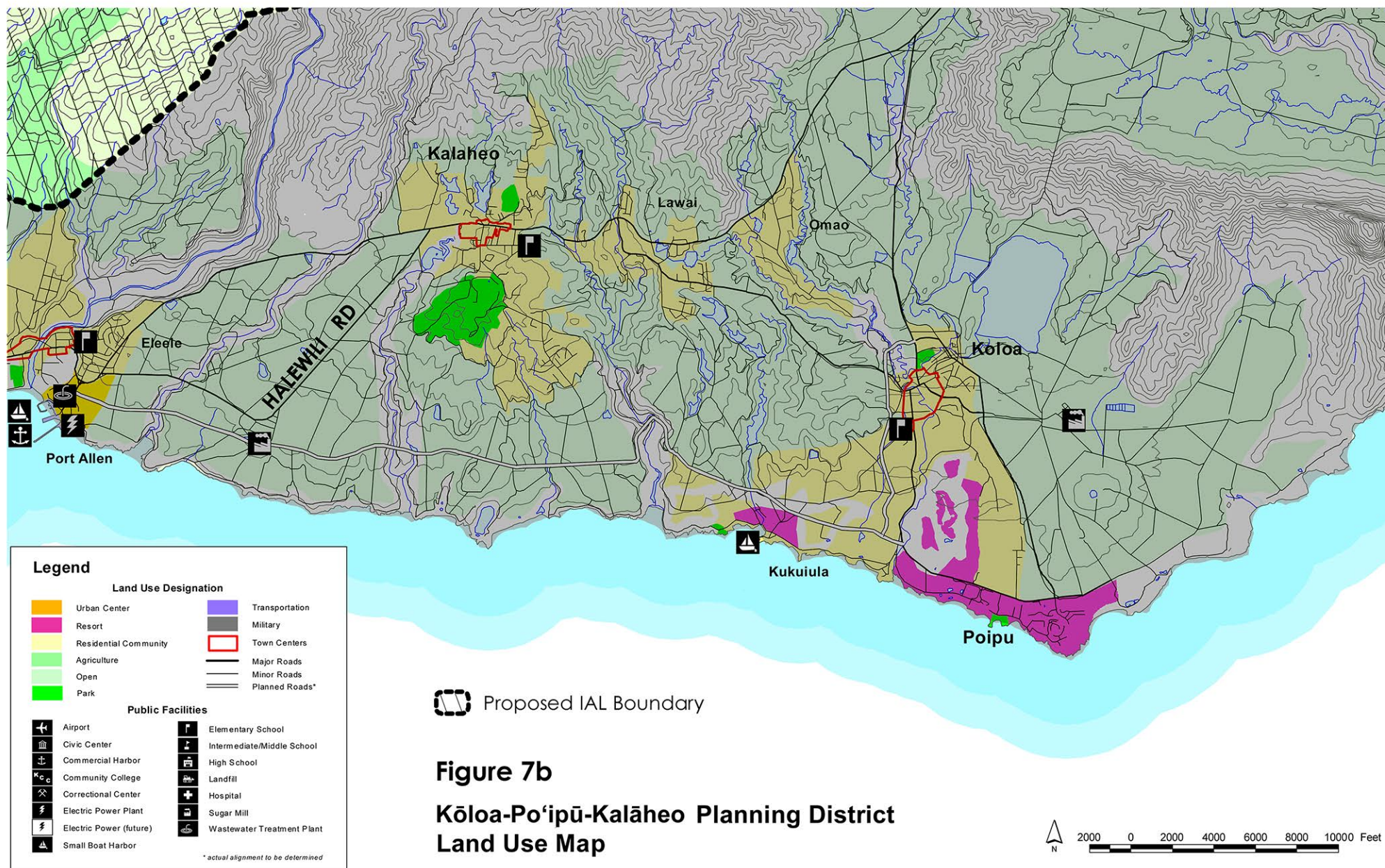
In August 2009, the County of Kaua‘i undertook a planning effort to define the Important Agricultural Lands on Kaua‘i. In August 2015, the County has released a final report for the IAL study. Utilizing a criteria based analysis with a scoring system and geographic information system (GIS), a series of maps were prepared to illustrate agricultural lands suitable for IAL at varying thresholds from overall ag. scores of 10 to 40.

In Figure 9, the County’s assessed agricultural land score at the 23 and above threshold is illustrated within Robinson Family Partners’ land. A total of approximately 9,100 acres is determined to be land suitable for IAL at the 23 and above threshold by the County’s definition on Robinson Family Partners’ land.

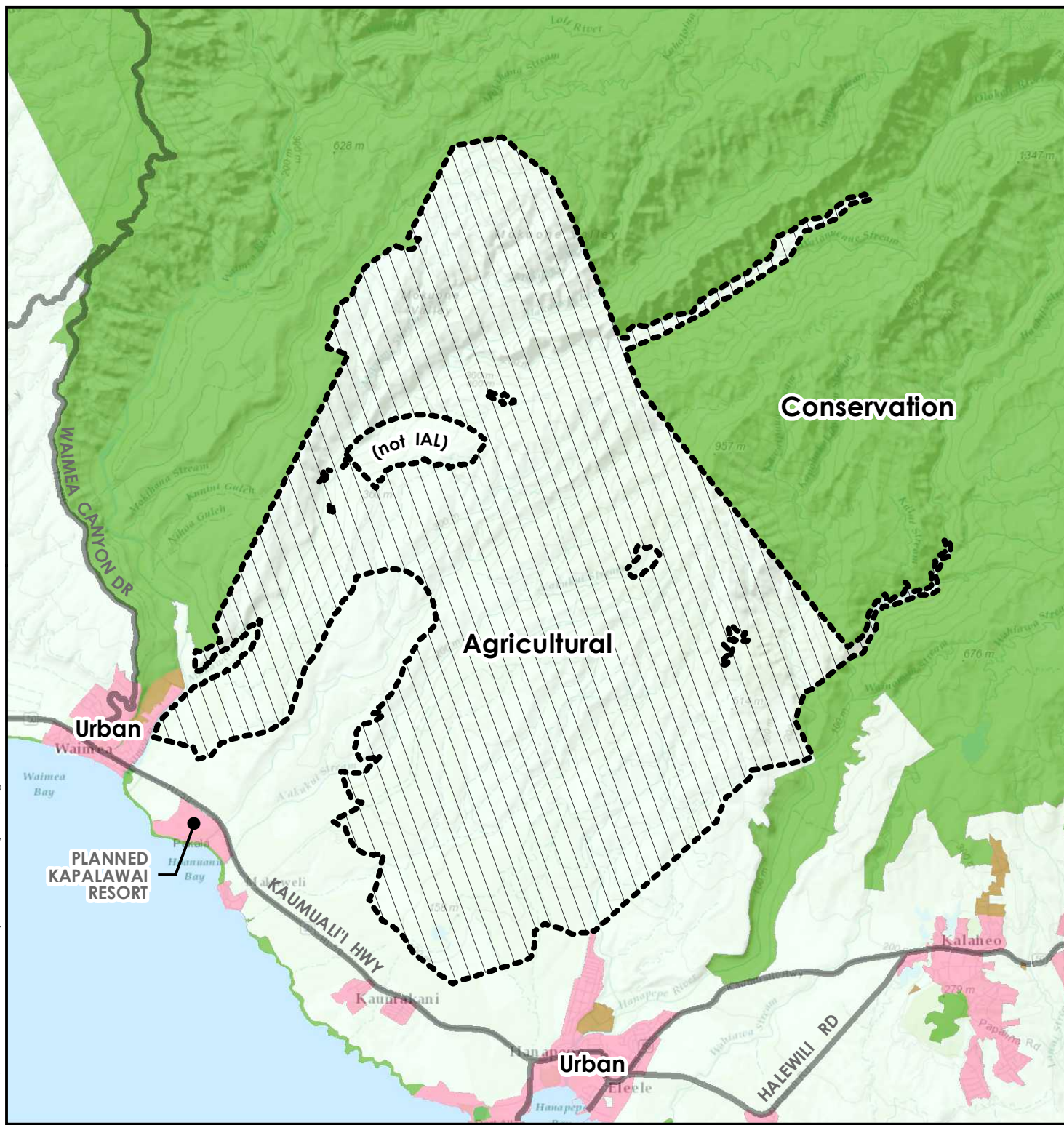












DATE: 6/11/2016

## LEGEND



Proposed IAL Boundary

State Land Use District

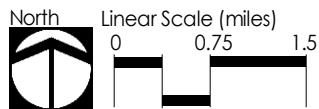
- Agricultural
- Conservation
- Rural
- Urban

## Figure 8

State Land Use District

# Robinson Family IAL

Island of Kauai



As illustrated within the proposed IAL, the approximate County IAL assessment scores characterize the lands as follows:

<b>COUNTY IAL SCORE</b>	<b>APPROXIMATE AREA (ACRES)</b>
23 and above	4,960
Between 20 and 23	808
Between 15 and 20	2,967
Between 10 and 15	5,920
Below 10	5,233
<b>TOTAL:</b>	<b>20,888</b>

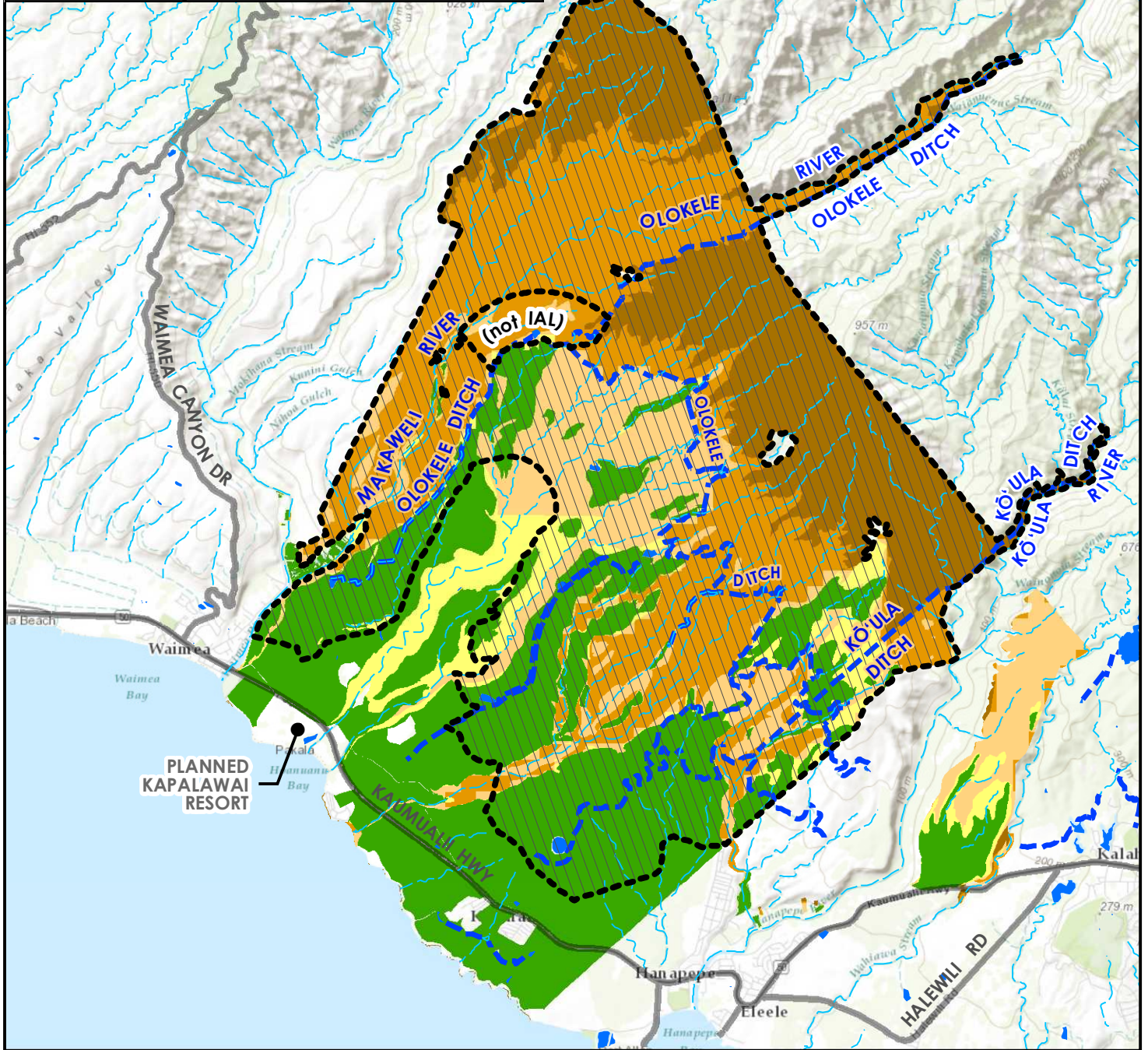
All the proposed IAL lands meet various levels of the County IAL assessment scores. Collectively, as a single managed agricultural operation, the proposed IAL ensures the long-term protection of a very important agricultural resource for Kaua‘i.

Under the County of Kaua‘i’s IAL Study, it was estimated that “beef production to support the current diet of residents would require approximately 91,533.6 acres of land.” If the entire proposed IAL lands by Robinson Family Partners were utilized for beef production, that would represent approximately 22% of the island’s beef needs; increasing the island’s ability to become more self-sufficient. As noted in the County’s IAL Study, it is “important to note that lands for support of beef production does not require the best soils or topography (of “highest importance”). Thus, the county should still consider supporting landowner/ farmer-led petitions for designation of lands for beef production, especially if sufficient water and necessary acreage are met to support the amount of cattle to be managed.” The County’s IAL Study goal is clearly focused on a County-led IAL petition that should focus on the lands of “high importance” estimated to require approximately 21,000 acres pursuant to the criteria of Act 183. However, the Study notes that this priority “should not preclude the County’s support of landowner/ farmer designations of agricultural lands that are being used for beef production.” As such, Robinson Family Partners has consulted with the County of Kaua‘i Planning Department to voluntarily proposed a majority of their lands IAL; including approximately 4,900 acres of “highest importance” land and the balance of the 20,888 acres a ranch operation that has been in business for over 150 years. A very significant agricultural operation to help the island become more self-sufficient.

As a result of an area calculation from the figure, approximately 4,900 acres of the proposed IAL land overlaps the County’s assessed agricultural land with ag. score of 23 and above. In other words, 4,900 acres of the proposed IAL meets the 23 and above threshold criteria as IAL by the County’s definition. This quantity of high quality IAL land proposed to be voluntarily designated IAL exceeds the targeted quantity of 4,895 acres recommended by the County for Robinson Family Partners’ lands. Therefore, the proposed IAL is generally consistent with the County’s IAL assessment at the 23 and above threshold.



County's Ag Score	Total (ac.)	Overlap with Robinson IAL
23 and above	± 9,132 (100%)	± 4,960 / ± 9,132 (54%)



DATE: 4/20/2016

## LEGEND

Robinson Family Partners' Lands  
County Ag Score

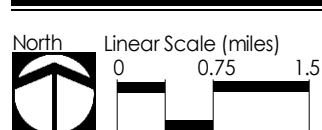
- 23 and above
- Between 20 and 23
- Between 15 and 20
- Between 10 and 15
- Below 10

- ⬢ Proposed IAL Boundary
- Streams
- Canals/Ditches
- Lakes/Reservoirs

Figure 9

County of Kaua'i IAL Assessment  
Agricultural Land Threshold Map

**Robinson Family IAL**



Island of Kaua'i



Source: County of Kaua'i (2015).  
Disclaimer: This graphic has been prepared for general planning purposes only.

## References

- County of Kaua‘i. 2015. *County of Kaua‘i Important Agricultural Lands Study*. Hawai‘i.
- Gay & Robinson Tours, LLC. 2000. *Gay & Robinson: Brief tour of a sugar plantation on the island of Kaua‘i*. Makaweli, Hawai‘i.
- Makaweli Meat Company website. 2016. [www.makawelimeatcompany.com](http://www.makawelimeatcompany.com).
- Spatial Data Analysis & Visualization Research Lab, University of Hawai‘i at Hilo. 2015. *Stateside Agricultural Land Use Baseline 2015*. Hawai‘i.
- Star Bulletin News website. 2008. *Gay & Robinson to quit sugar*. Vol. 13, Issue 255 – Thursday, September 11, 2008. <http://archives.starbulletin.com/2008/09/11/news/story03.html>.
- U.S. Department of Agriculture National Agricultural Statistics Service. 2012. *2012 Census of Agriculture. Hawaii. State and County Data. Volume 1. Geographic Area Series. Part 11*.