

HOW AND WHY

HAWAII

CAN AND SHOULD
BECOME 100% SELF-SUSTAINING
WHEN IT COMES TO

FOOD & KOA

BY: RURAL LIFE HAWAII CORP.

KEN FUJYAMA

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MY VISION

I have a vision of how Hilo can become a major supplier of food for the whole State of Hawaii. How can that be done? The State of Hawaii has the land to make it happen! We have Mauna Kea and Mauna Loa that will lift the warm clouds from the east northeast thus lowering the cloud temperature that causes rain. We use only 1% of the water from our aquifer for all of Hilo. We have rich soil and abundant rock, and the perfect year-round mild tropical climate.

I look at land not for what it is zoned or classified for, but how to maximize what it can produce in terms of food or other economic things of value while not destroying the environment or even our tiny, threatened birds and mammals. When thinking about how Hawaii can become self-sustainable for food, farmable lands and pastures become the number one priority of land use. Water is number two.

It wasn't until I was in my late twenties that I decided what I really wanted to do. Then I was blessed to have met Mr. William P. Silva, a retired accountant who agreed to sell me his vacant acreage so I could build my first house and lot subdivision. While we were discussing how I would finance the project he told me he would give me the deed to the property, and I could pay him after the project was completed. I could not believe he offered me that. The banker for the project was also amazed so he made me a complete 100% construction loan for the subdivision and provided all funds to build all 17 houses.

In following Mr. Silva's footsteps, this New Ahupua'a project will be able to help many young farmers and businesspeople who in turn will help Hawaii become more self-sustaining for food.

"This is the first reason to support HB 533"

NEW AHUPUA'A

VISION FOR FOOD CROPS

Dry land ili 82,000 acres

CROPS IN KULEANA	CROPS IN KULEANA	NON CROP
Fruit orchards	Honey	Manufacturing -Food
Vegetables	Plant nurssury	Manufacturing-Products
Dry land taro	Herbs	Head office
Cassava	Goat rotations	Support businesses
Ulu	Sheep rotations	Processing animal feed
Vinyards	Hog rotation	Processsing Compost
Okinawa potato	Lavendar	Rock quarry
Papaya	Medicinal plants	Housing material
Cacao	Vanilla	Farm dwellings
Yams	Taro	Fumigation
Hydroponics	Coconut	lumber yard-other
Aquaponics	Citrus orchards	Processing wood pellets
Strawberries	Beans	Processing feed pellets
Tomatoes		Rain catchment west Hawaii
Micro greens		Raincatchment New Ahupua'a
Compost		Small animal slaughter house
Wood chips		Farmers market
Coffee		Winery
Saffron		Prison
		Foreign Trade Zone
	Import bulk animal feed	Import and assemble parts
	Process total feed	Export finish products
	Pass through products	Local sales of finish products
	Import foods	

"This is the second reason to support HB 533"

NEW AHUPUA'A

VISION FOR KOA INDUSTRY

Wet land ili 38,000 acres

CROPS IN KOA FOREST	KOA TIMBER FOREST	Supporting Facilities
Koa Logs	Koa self-sustainability plan	Koa lumber mill
Prawns	Koa Timber	Kiln drying plant
Ginseng	Fire Breaks and accessibility	Koa lumber yard
Fish	Koa experimental sites	Equipment yard
Fruit trees	Seed collection systems	Hydro power genrators
Coffee	EXP 1	EXP 1
Mushrooms	Exp 2	Exp 2
Animals	Timber experimental sites	Exp 1 Lumber yard
Tree nursery	Agroforestry	Exp 2 Lumber yard
Compost	Nature and waterfalls trails	
Vinyards	Helecopter Pads	
Taro	Helecopter access to ponds	
Water Plants		

Note:

1. All crops shown are examples only.
2. EXP 1 and EXP 2 are proposed high value timber to create a mixture in test plots.
3. There are a few fairly level sites which could be used for water crops.
4. There are several streams and rivers within this wet ili which will make traversing North to South a bit more challenging.



HAWAII NEEDS 1,000,000 ACRES OF NEW FARMLANDS

For the State of Hawaii to ever become self-sustainable for food, major tough decisions must be made by the legislature.

- **The reason we need new State lands for local crops is because large landowners are already using their lands for other purposes other than producing crops for local consumption. Good portions of their Agriculture Lands of Importance lands are being used for pasture.**
- **It would be very difficult to expect landowners to switch from what they are doing now on their land just to satisfy the potential need of the State to become self-sufficient on food.**
- **Hawaii has plenty of land that could be made productive for farming and ranching by changing the mind set of how land is to be used to generate food for the State of Hawaii.**
- **Most of the lands in its rough condition are overlooked as good farming lands. Sugar and pineapple lands originally were not level, free of boulders, ditches, trees nor did they have a natural supply of water. No, the lands had to be prepped for farming with water brought in by irrigation.**

- Hawaii has so much land that housing should never be a problem, however, **housing should be built only on the most unsuitable lands for farming.** Unsuitable lands for agriculture can create sloping subdivisions, that will create choice view lots.
- Presently, **Hawaii uses only 4.9% (201,000 acres) of the total land area of 4,108,000 acres in the State for urban development.** Future urban residential development should only be done on unsuitable lands for farming.
- When sugar and pineapple were at their height, only 264,000 acres were used or 6% of the total land area in Hawaii.
- Today, roughly 95,000 acres are used for diversified crops that provide only 6.5% of the food that is consumed in Hawaii. Crops (some of which are not food quality) produced on the balance of 35,000 acres are exported out of Hawaii.
- **Great farmlands can be built from sloping lands** by creating terraces and with the excavated material more level lands can be created.
- More than half of each island on the west side below the 1,000 feet elevation is **too arid to raise crops without irrigation.**
- **Irrigation and regeneration plans are a must for commercial farming to prosper.**
- The **State must build irrigation systems** to provide water to all farms.
- Buildable house lots and subdivisions that fall within areas that have 40 inches or more rainfall a year as shown on the rainfall atlas should not have to install county water systems to get subdivision approval.
- As of 2020 all commercial crops in the State were raised on 120,000 acres. **Nearly 20% of those crops raised were exported.**
- **Conclusion: If the crops that were produced and remained in Hawaii came from 95,000 acres and the crop equaled to 10% of the food consumed, then we will need (95,000 acres divided by 10% equals 950,000 acres) or 1,000,000 acres of land to produce crops for Hawaii to become self-sustainable.**

NEW AHUPUA'A

STATE OF HAWAII LANDOWNER

Legend

- HIGHWAYS AND ROADS
- NEW AHUPUA'A BOUNDARY
- PRIVATE AG LANDS
- RIVERS
- STATE BOUNDARIES

Daniel K. Inoue Hw.

Hilo

Volcano

The New Ahupua'a Project for crops and forestry products will double the production of local crops for the State.

This is the third reason to support HB 533.

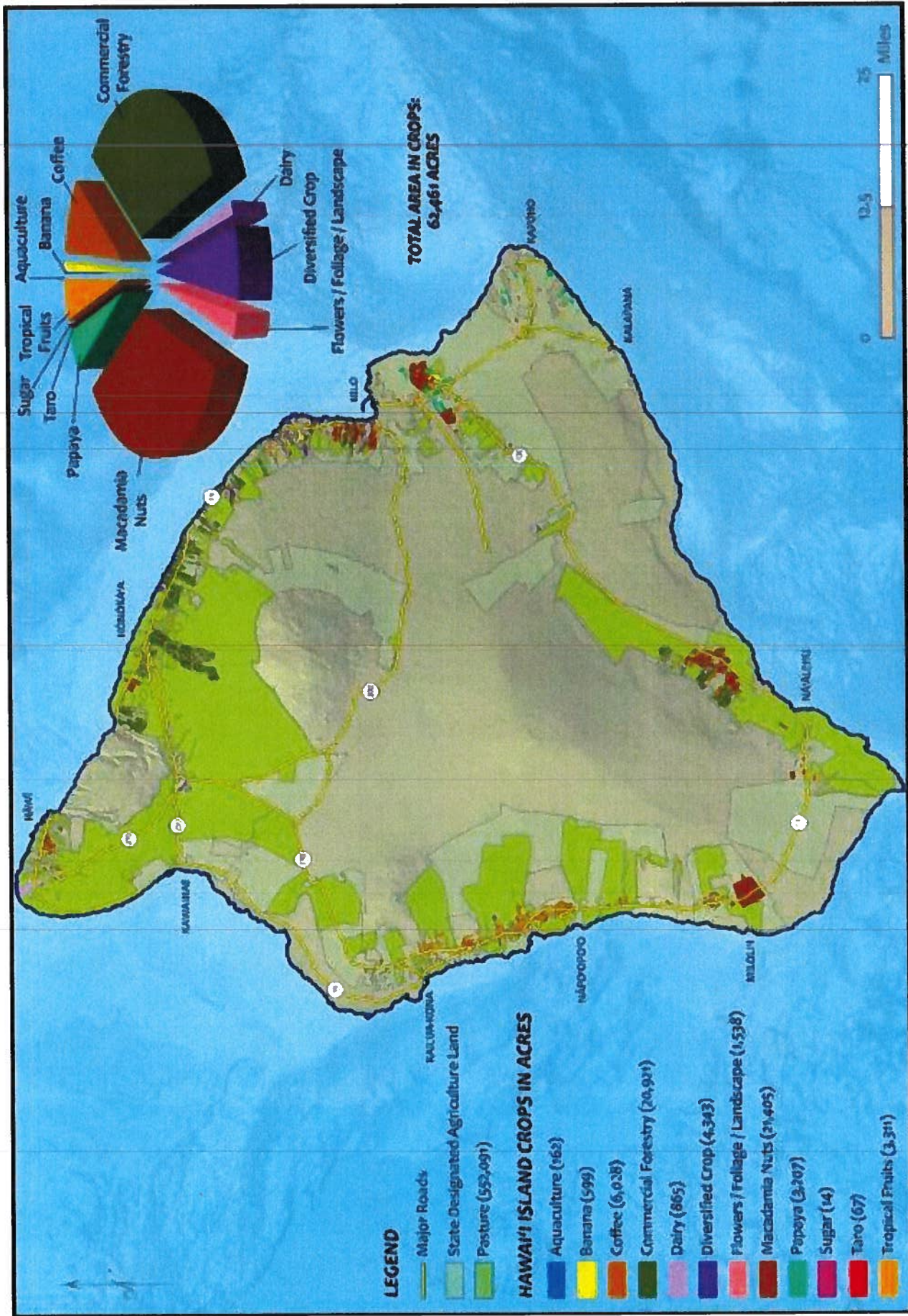
Department of Agriculture Summary of 2020 Agricultural Footprint

Table 1. Summary of 2020 Agricultural Footprint for the major Hawaiian Islands.

Crop Type	2020 Crop Summary by Acreage						State Total		Change from 2015	
	Hawai'i	Kaua'i	Maui	Moloka'i	Lāna'i	O'ahu	2020	2015	Acres	%
Aquaculture	162	183	-	26	-	300	670	651	19	3
Banana	599	30	64	-	-	360	1,053	969	84	9
Coffee	6,028	3,806	944	122	-	169	11,068	10,149	919	9
Commercial Forestry	20,921	2,559	36	2	-	27	23,546	22,864	682	3
Dairy	865	-	-	-	-	-	865	1,855	-990	-53
Diversified Crop	4,343	1,146	3,405	1,017	95	10,595	20,601	16,904	3,697	22
Flowers / Foliage / Landscape	1,538	150	144	26	10	510	2,378	2,432	-54	-2
Macadamia Nuts	21,405	-	793	7	-	2	22,207	21,545	662	3
Papaya	3,207	-	-	109	-	164	3,480	2,824	656	23
Pineapple	-	-	959	-	-	3,437	4,396	4,508	-112	-2
Seed Production	-	14,255	647	2,352	-	7,376	24,630	23,728	902	4
Sugarcane	14	-	-	-	-	-	14	38,810	-38,796	-100
Taro	67	345	113	2	-	17	537	612	-75	-12
Tropical Fruits	3,311	516	612	216	-	260	4,915	3,980	935	23
Crop Total:	62,461	23,191	7,718	3,880	105	23,277	120,632	151,831	-31,199	-21
Pasture	552,091	42,345	115,241	37,867	-	18,035	765,579	761,429	4,150	1
Total Agriculture:	614,552	65,536	122,959	41,747	105	41,312	886,211	913,261	-27,050	-3

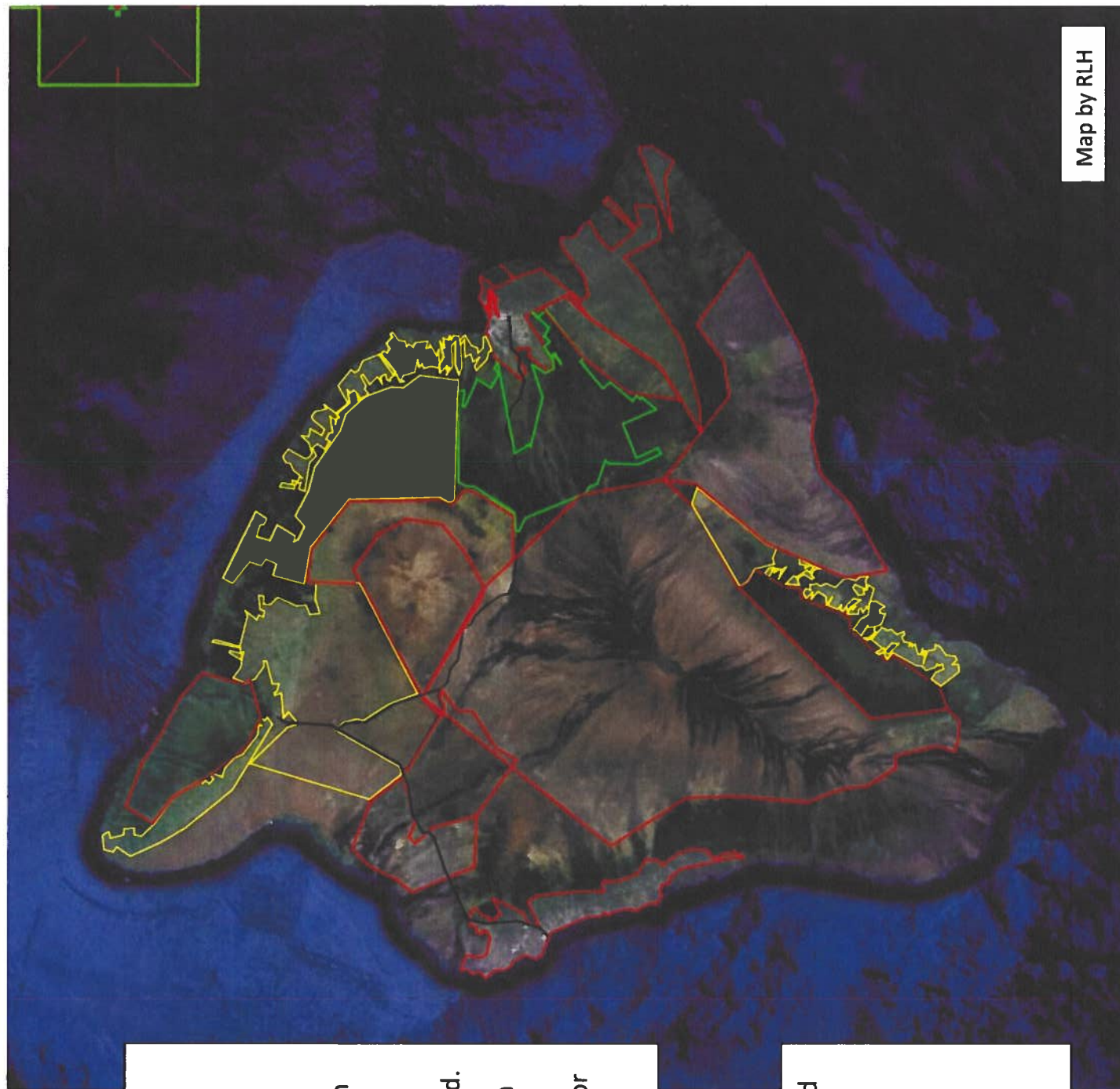
Note:

New Ahupua'a acres for local crops would double present crop production in the State plus create a sustainable Koa Industry plan for 38,000 acres.



Hawaii Island Crop Summary Map (2020)



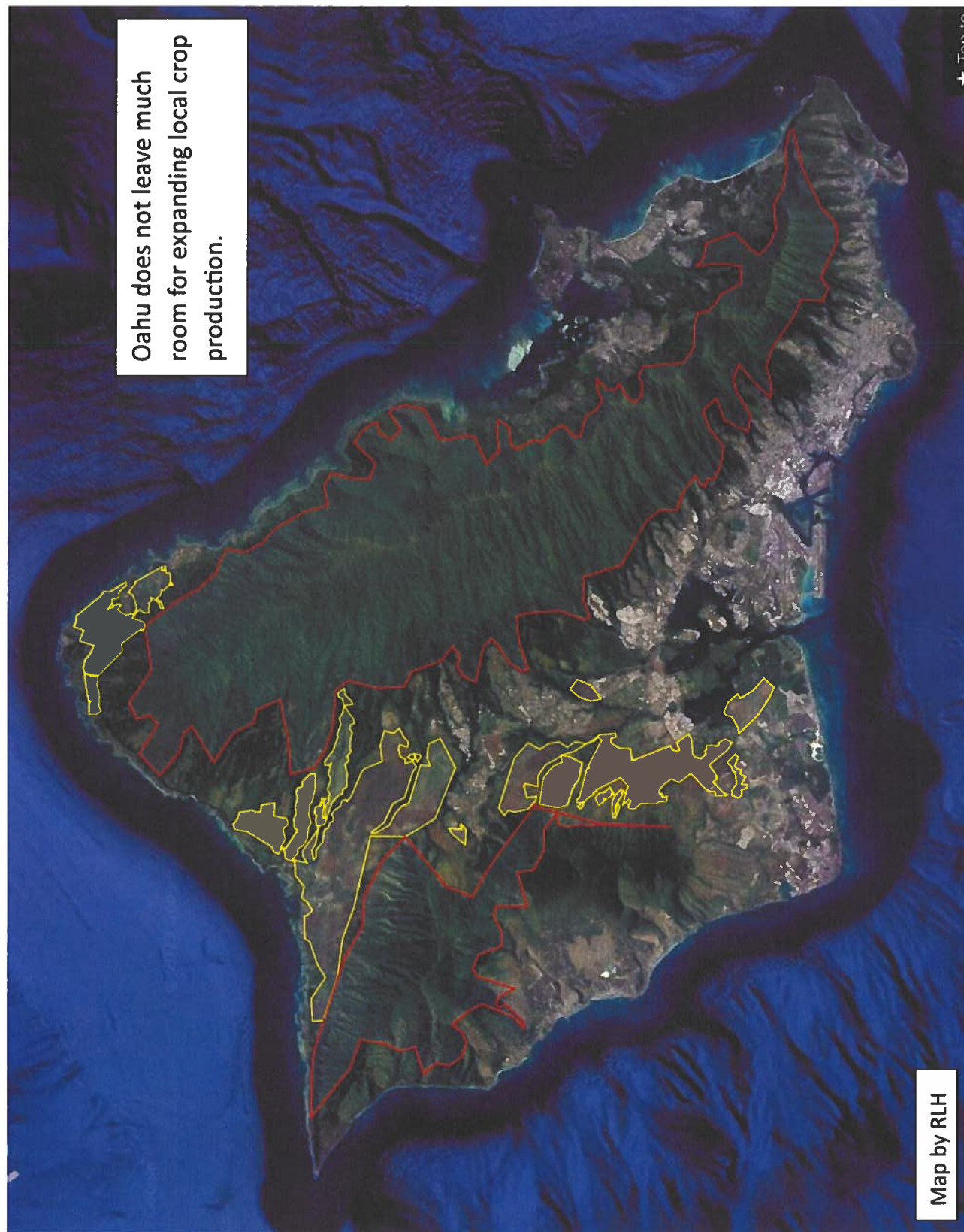


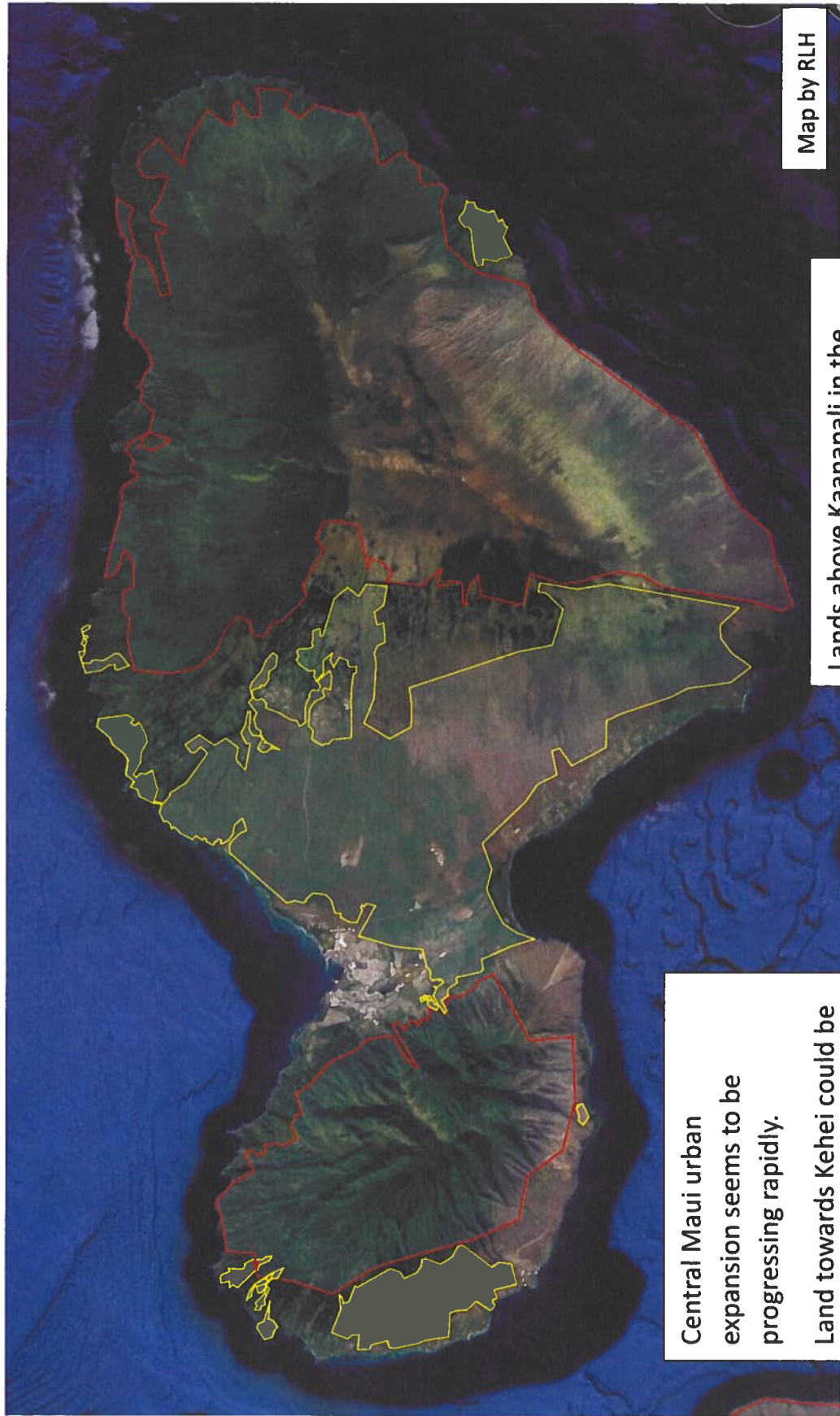
This map shows that there are several large areas of State and Hawaiian Homelands that could provide all three classifications of lands, such as Prime, Unique, and Agricultural Lands of Importance on Hawaii Island. Nearly all available lands on the rest of the islands are being use for export crops or ranching.

Red lines show State-owned lands.

Yellow lines show private farmlands.

Green lines show New Ahupua'a.



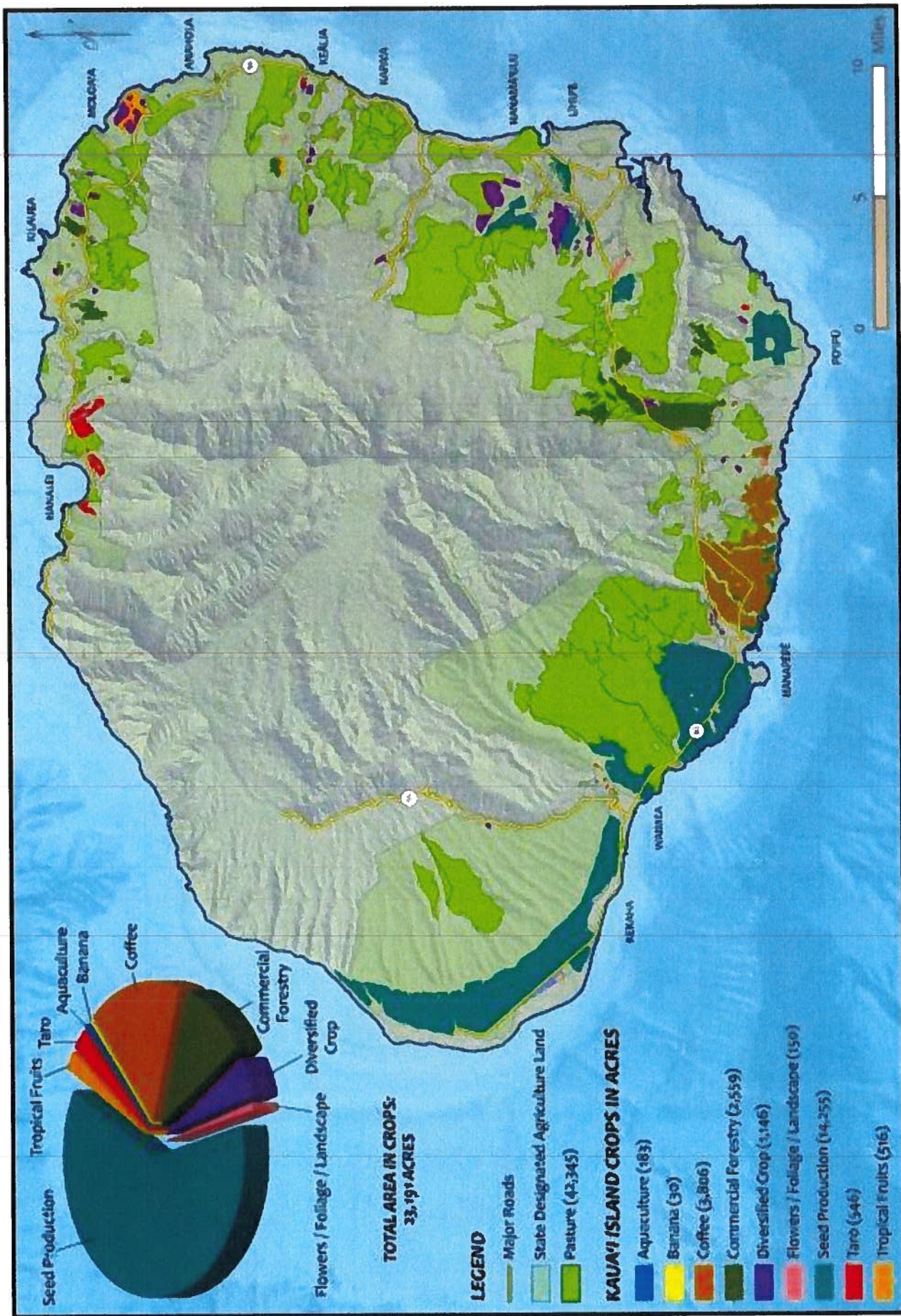


Map by RLH

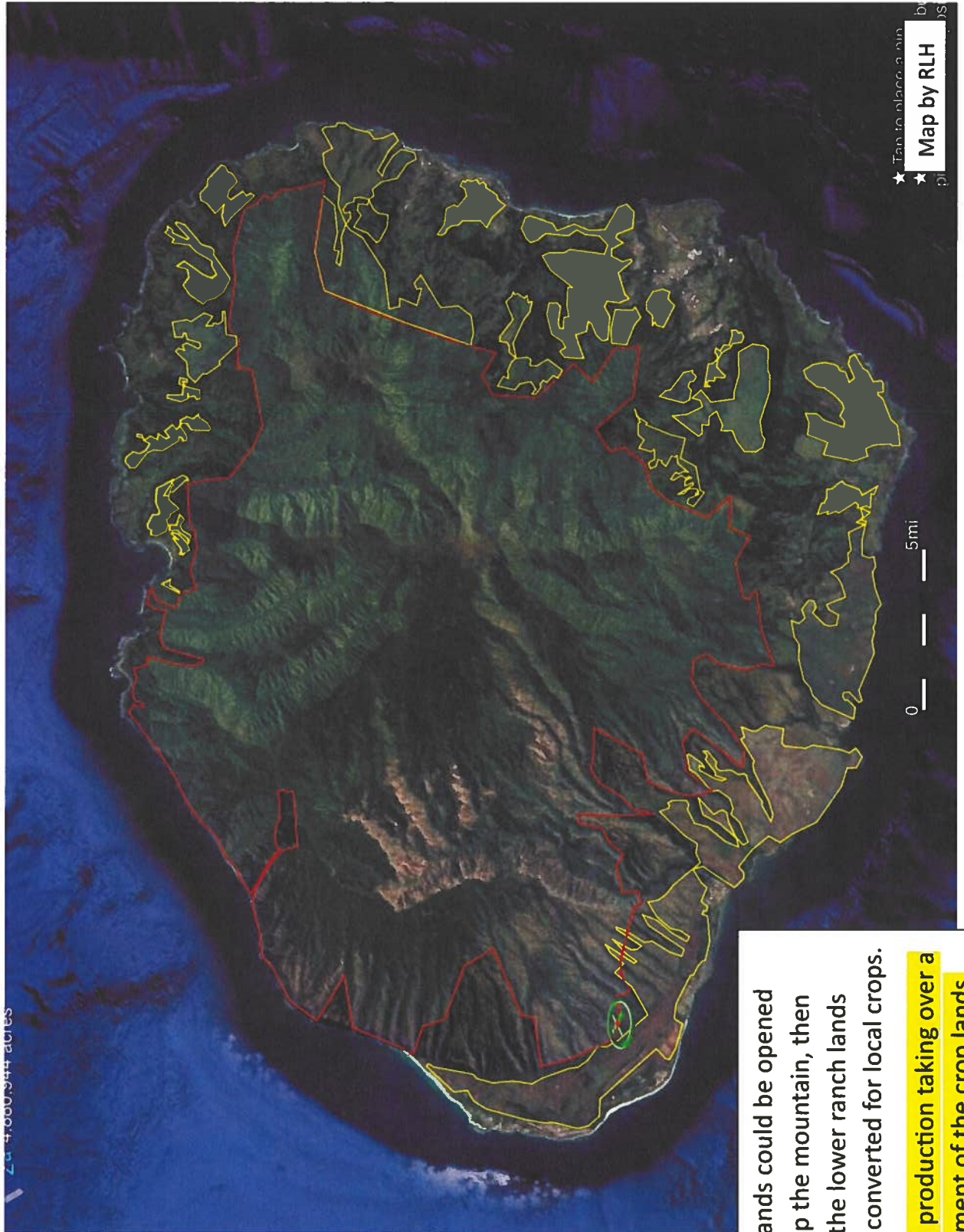
Lands above Kaanapali in the mountains can be made to be cliff housing so lower lands can be terraced to raise crops.

Central Maui urban expansion seems to be progressing rapidly.

Land towards Kehei could be developed to higher crop farming. Lands should be irrigated.

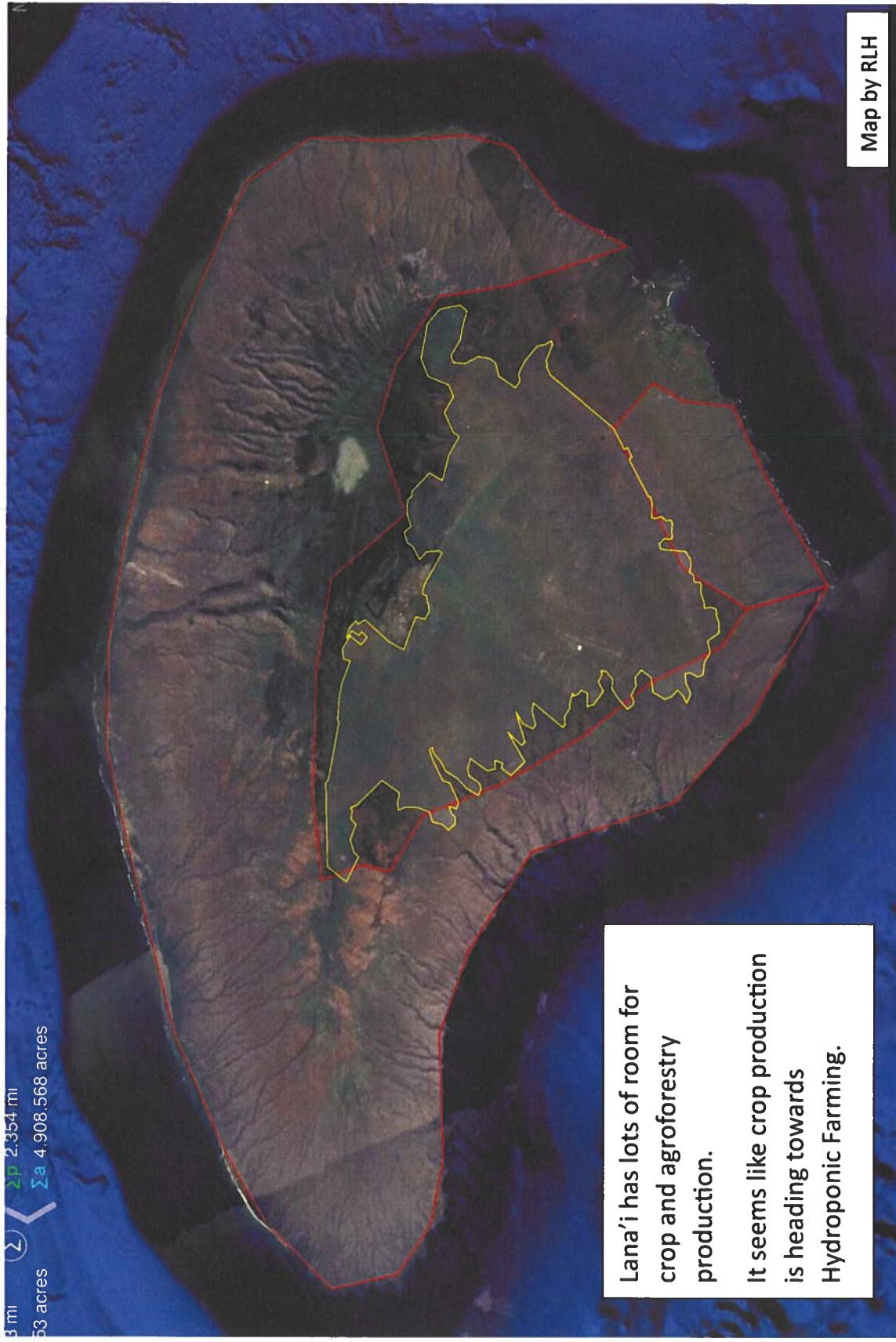


Kaua'i Island Crop Summary Map (2020)



If ranch lands could be opened further up the mountain, then some of the lower ranch lands could be converted for local crops.

The seed production taking over a large segment of the crop lands.



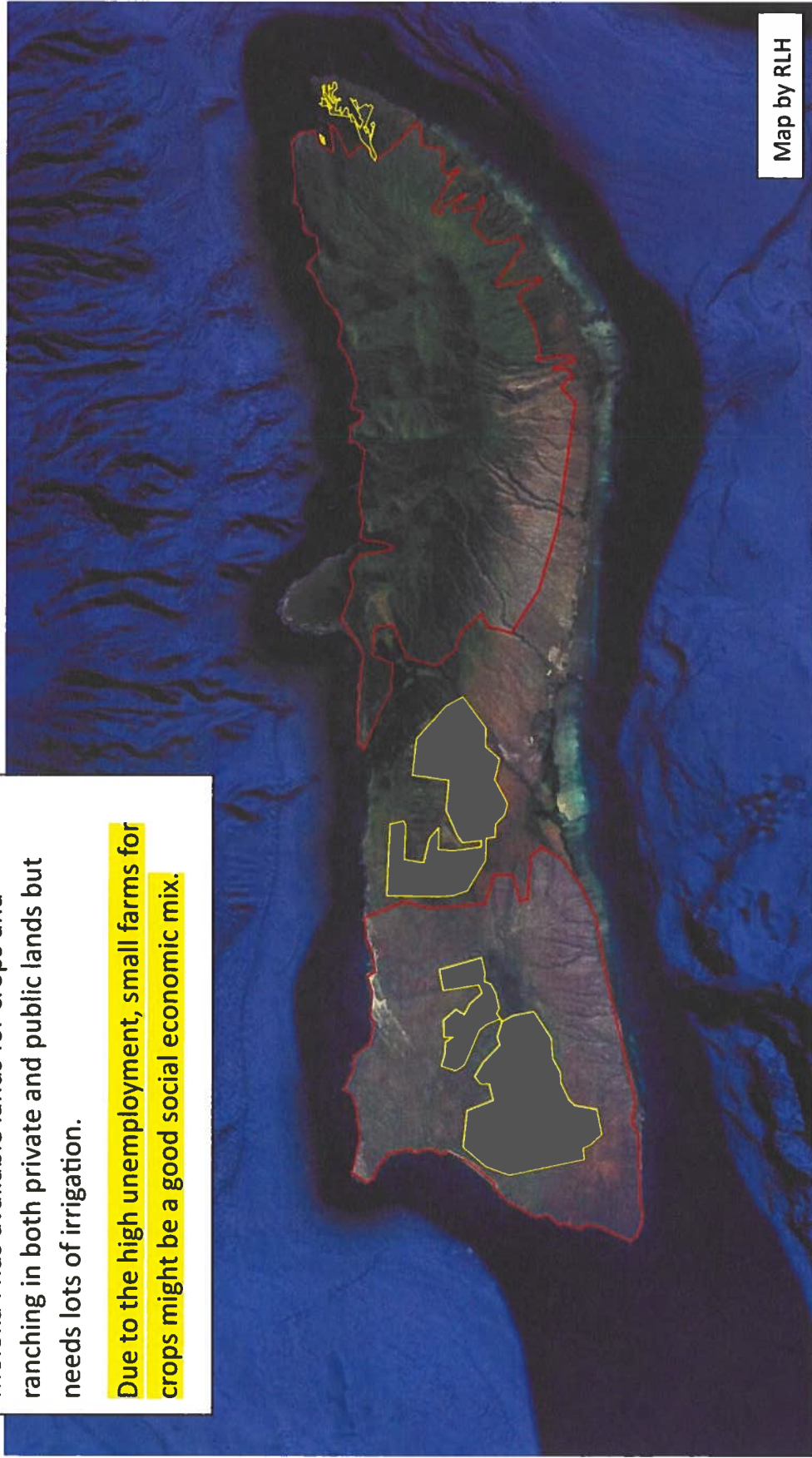
Lana'i has lots of room for crop and agroforestry production.

It seems like crop production is heading towards Hydroponic Farming.

Map by RLH

Moloka'i has available lands for crops and ranching in both private and public lands but needs lots of irrigation.

Due to the high unemployment, small farms for crops might be a good social economic mix.



Map by RLH



HAWAII CAN BECOME SELF-SUSTAINABLE FOR **FOOD**

- **House Bill 533 is the key ingredient to make Hawaii a self-sustainable State for food because it will put in place a development management company that will create a master plan focusing on how it will make it happen, starting with the New Ahupua'a, as opposed to the Department of Agriculture (HDOA) with its 268 employees working to create and maximizing opportunities primarily for export.**
- **The New Ahupua'a should be the leading project supported by the State Legislature and the Governor for it has all the amenities to start a major diversified area for crop farms and a major Koa industry.**
- For Hawaii to become self-sustainable in terms of producing all the food we eat, we should classify all lands beyond just Prime, Unique, and Agriculture Lands of Importance, so select classification could target potential users.
- Not all the available lands are prime or even good farmlands in its present state, many will need groundwork and connections to irrigation systems.
- Poor pasture lands that take several acres to support one head of cattle can be converted to good producing lands depending on the elevation of the land and constant water supply. Improving the land could increase the carrying yield of the number of head per acre thereby reducing the need to increase the acres needed to raise calves and good grass-fed cattle.

- Realistically, sloping lands can be prepped to create good farmlands. If the state created good, graded farming lands with irrigation water, then leased the lands (large enough to mechanize) to small commercial farmers, these small farmers could supply the local market with diverse crops that large farmers normally do not want to do.
- As an incentive for farmers, leases for State owned lands should have both Preferential Rights and Possessory Interest that applies towards the land, allowing the lessee to maintain the property up to the end of the lease term in the event the lessee intends to stop farming.
 - Possessory interest means that upon terminating the lease the lessee will be assured that they will be able to recover the fair market value for all improvement assets.
 - Preferential Rights would mean that the Lessee would have the first right of refusal if the Lessee wanted to get a new lease.
- Other incentives explained in HB 533 pertaining to GE taxes and State income taxes.
- A Large portion of the Agricultural Land of Importance would be great for raising goats and sheep. This would also lower the volume of imported meats to Hawaii.
- The State needs to plan and implement new rules for drip irrigation systems, whenever possible to conserve water for all western sides of each island where there is potential to increase good farmlands for crops.
- With irrigation water systems, rocky lands can still be used for hydroponic and aquaponic farms. The good part about these high-tech systems is the water is recirculated and very little wasted.
- After evaluating and making available lands to produce crops for the local market, what guaranty is there that the land will be put into or stay in farming to produce goods for the local market?

- **The best option now and going into the future is for the State of Hawaii to use whatever land it has for farming including terracing sloping lands, grading high ridges and valleys, creating mini dams in each stream and river to hydrate the aquifers and create reservoirs to service all available lands for farming so Hawaii will become self-sustaining for food.**
- **The second option is for the State of Hawaii to buy or exchange large tracts of land that are presently used for farming or lands that can be converted to farmlands from large private landowners.** Part of the exchange would be for the State of Hawaii to provide rezoned residential properties on unfavorable sloping lands for farming belonging to the State of Hawaii for existing farmlands or lands that can be converted to farms.



Terraced Farmlands



VISION TO EFFECTIVELY USE ALL TYPE OF LANDS

LAND CLASSIFICATION

- Prime lands
- Unique Lands
- Agriculture lands of Importance

ADDITIONAL CLASSIFICATIONS to target specific uses.

- Forestry under growth crops
- Forestry high value timber
- Forestry construction grade timber
- Waste lands can be used for Hydroponic and aquaponic farms.
- Hydroponic ground level no roof
- Hydroponic multi-level, roof, walls, lighting, pumps
- Aquaponics ground level no roof
- Aquaponics multi-level, roof, walls, lighting, pump
- Steep lands
- Rehydrate dry fields and riverbeds to allow runoff water to soak.
- Cut and fill sloping lands into farmable lands.
- High elevation lands
- Arid lands with little grass and shrubs good for goats and sheep
- Pasture lands good
- Pasture lands arid
- Wetland fields natural or manmade
- Ponds fresh water manmade
- Harbors, bays, and saltwater fishponds
- Deep ocean
- Rotational pastures and paddocks to increase yields.
- Rivers with small to large hydroelectric potential
- Rocky with little or no soil
- Varying elevations good for different crops



WATER

Water from rain that fills the aquifers is one of the most crucial assets a community has when it depends on deep wells to pump fresh portable water back up to the community. **When it comes to farming deep well waters are not normally used for commercial farming.** The NEW AHUPUA'A project is unique from the standpoint that it is in a designated watershed area. The following will show that the concerns of the availability of water presently and for the future will not be significantly affected by the creation of the NEW AHUPUA'A in this area.

RAINFALL: The rainfall within the New Ahupua'a area averages 250 inches per year and averages **800,000,000,000 gallons per day**, 934 times the amount retained in our aquifer. Most of the rainfall is created by the lifting of the clouds due to the slopes of Mauna Kea and Mauna Loa which lowers the temperature of the clouds brought in with the east-northeast trade winds, causing rain.

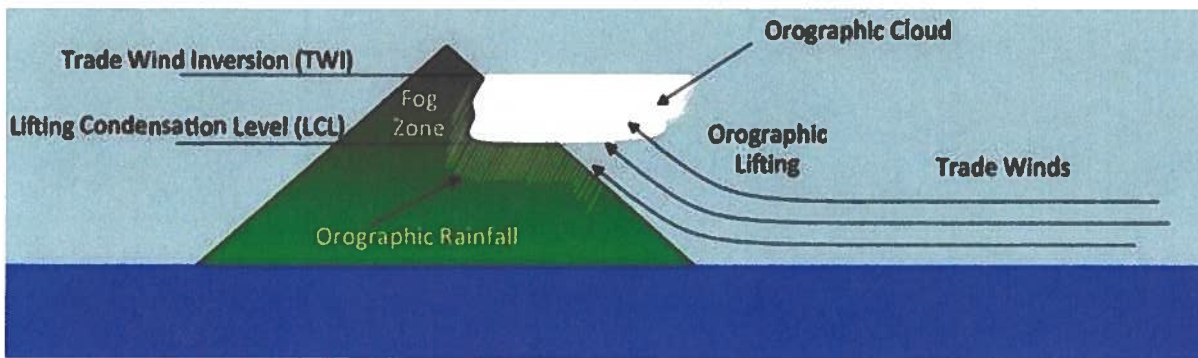
HYDROLOGIC UNITS:	MGD	PEOPLE	GPP
HAWAII ISLAND	2,393	206,000	11,616
OAHU	393	1,016,508	376
MAUI	357	164,221	2,173
KAUAI	328	73,810	4,461
MOLOKAI	79	7404	10,670
LANAI	6	3102	1932
NEW AHUPUA'A	869	45,248	19,000
WATER PUMPAGE:	9		

Note: Hawaii County pumps only 1% of water from aquifers.

Table reflects the volume of water available in the aquifer.

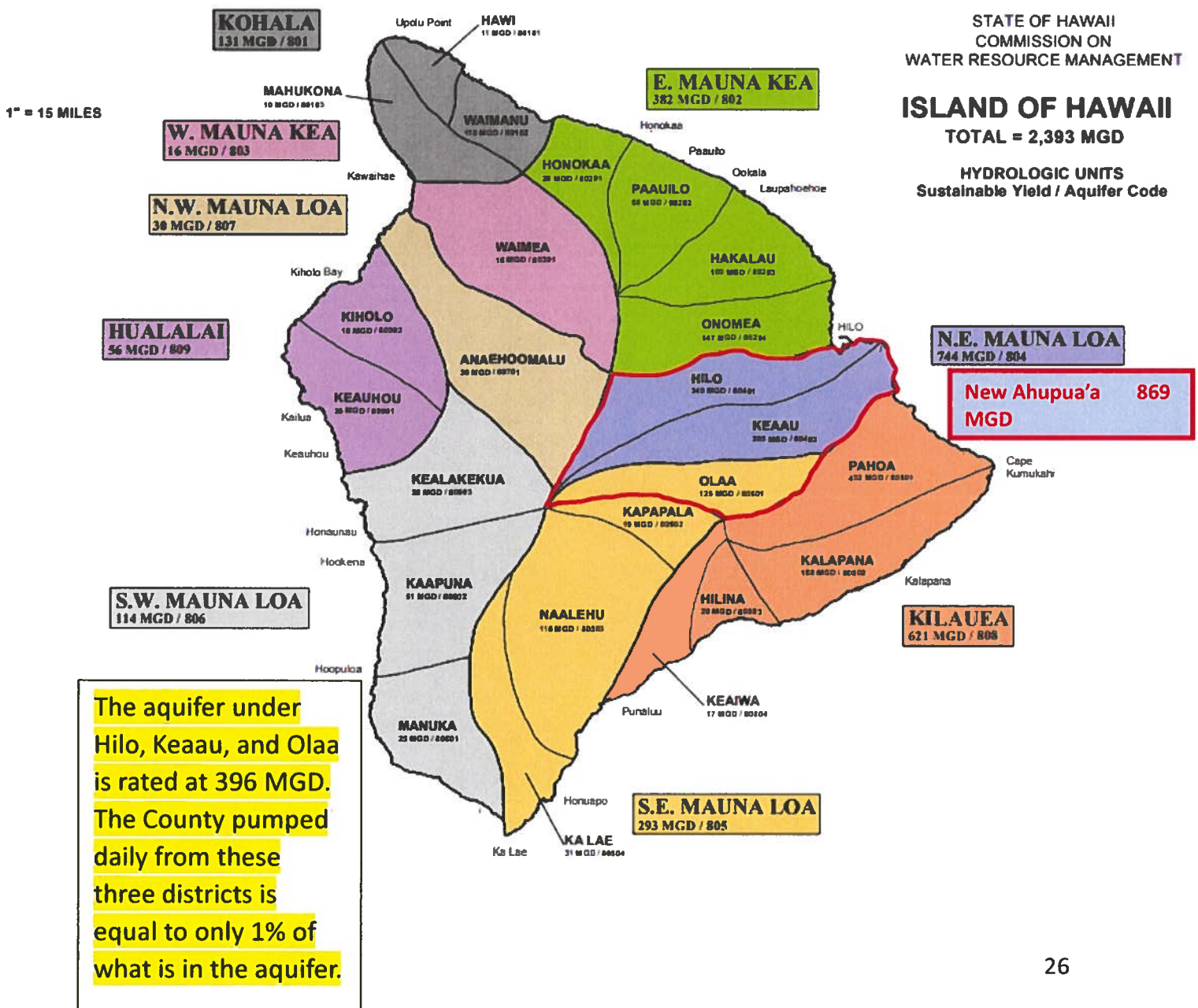
MGD = Million Gallons per Day

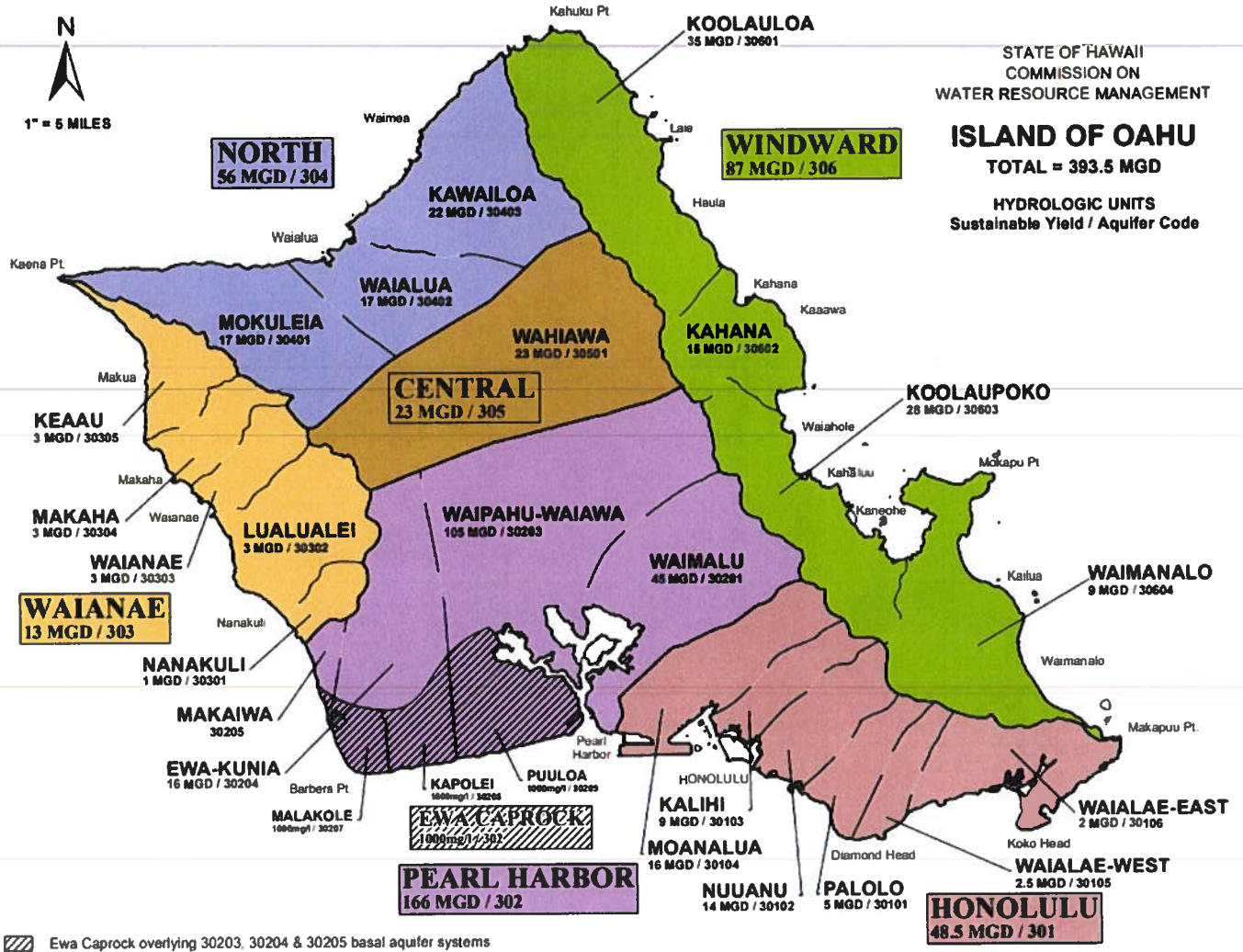
GPP = Gallons Per Person



Rainfall Patterns & Cloud Lift

When wind blows against the slopes of mountains, air is forced to rise (orographic lifting), producing orographic clouds and rain on the windward slopes. Because “trade winds” in Hawai‘i blow persistently from the ENE direction, the pattern of cloudy, wet conditions on the windward slopes is familiar to everyone in Hawai‘i.





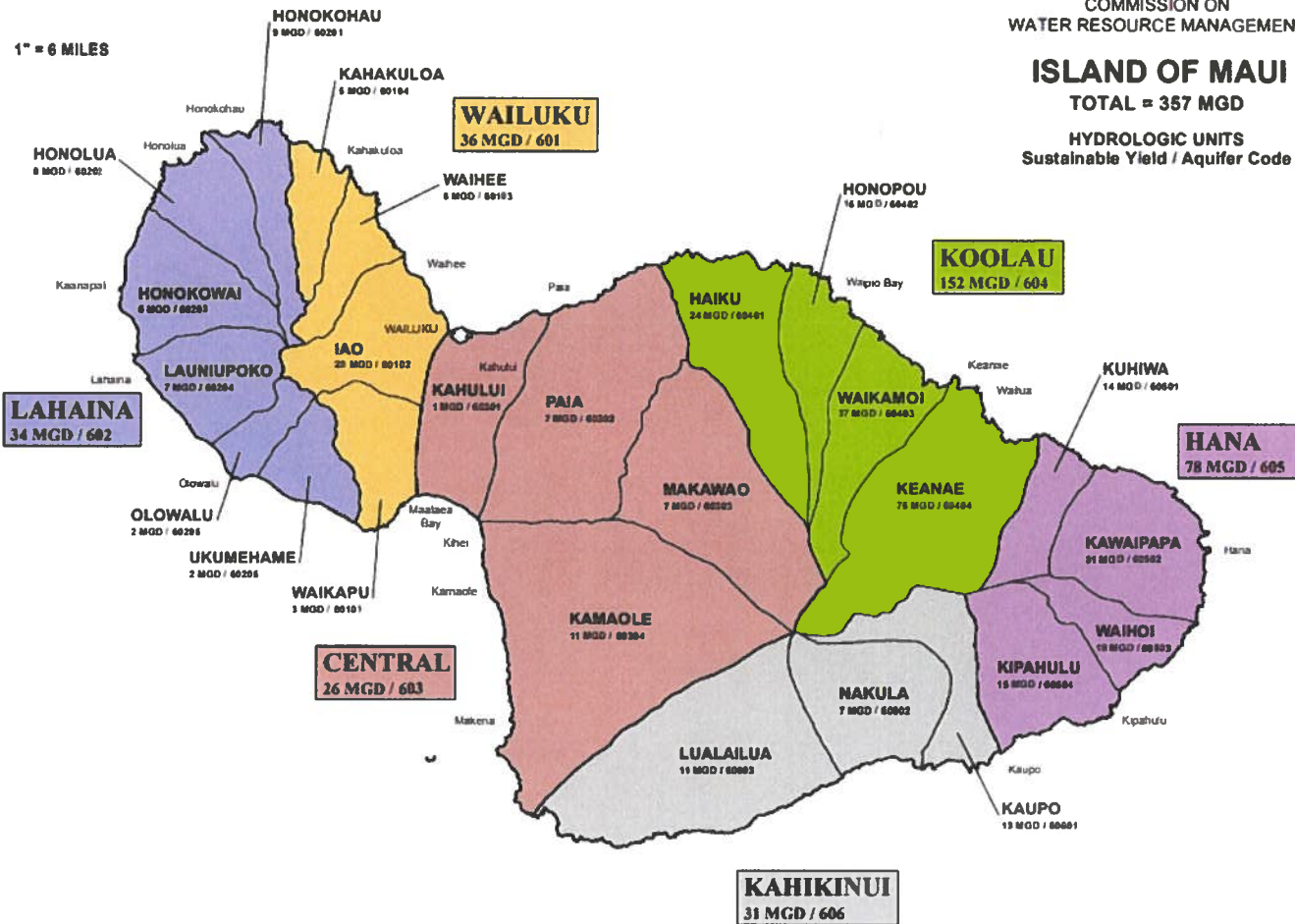
The total aquifer on Oahu equals 393 MGD for over a million people.

STATE OF HAWAII
COMMISSION ON
WATER RESOURCE MANAGEMENT

ISLAND OF MAUI

TOTAL = 357 MGD

HYDROLOGIC UNITS
Sustainable Yield / Aquifer Code





- 29

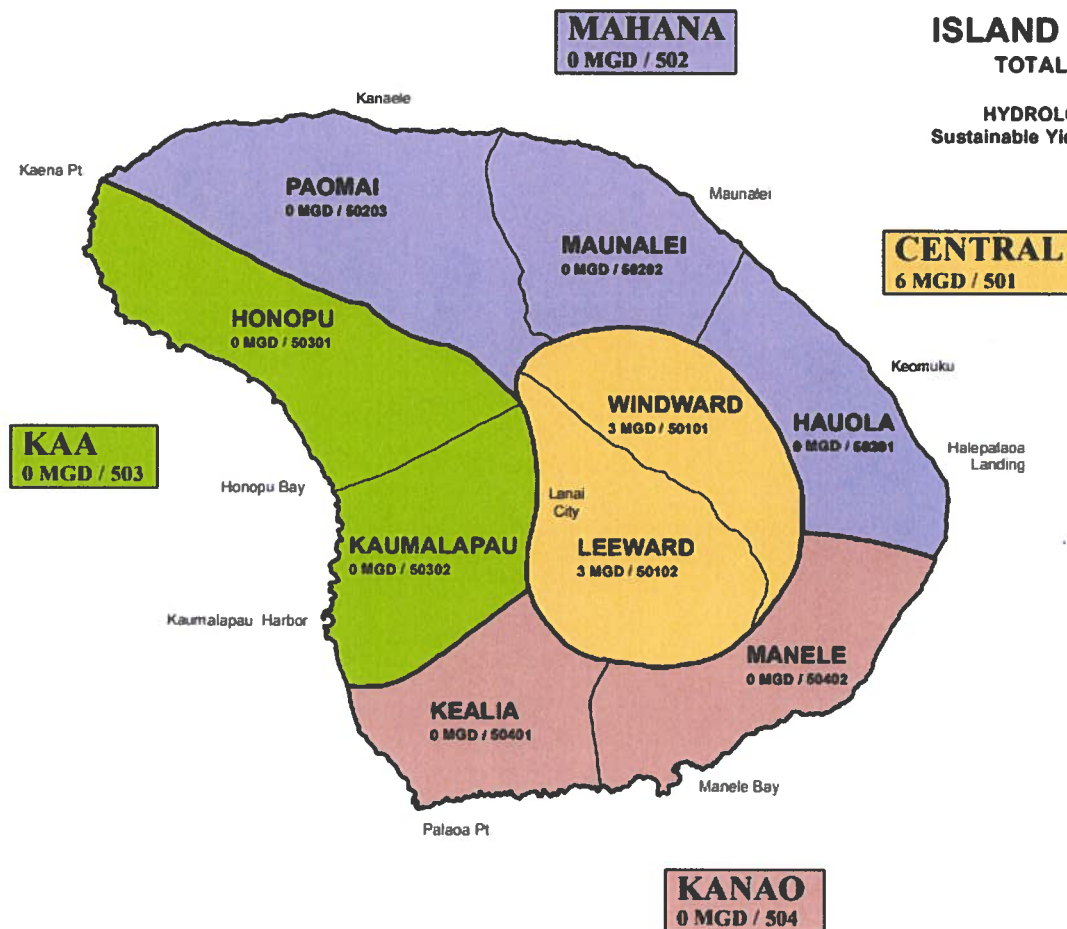
1" = 3 MILES

STATE OF HAWAII
COMMISSION ON
WATER RESOURCE MANAGEMENT

ISLAND OF LANAI

TOTAL = 6 MGD

HYDROLOGIC UNITS
Sustainable Yield / Aquifer Code



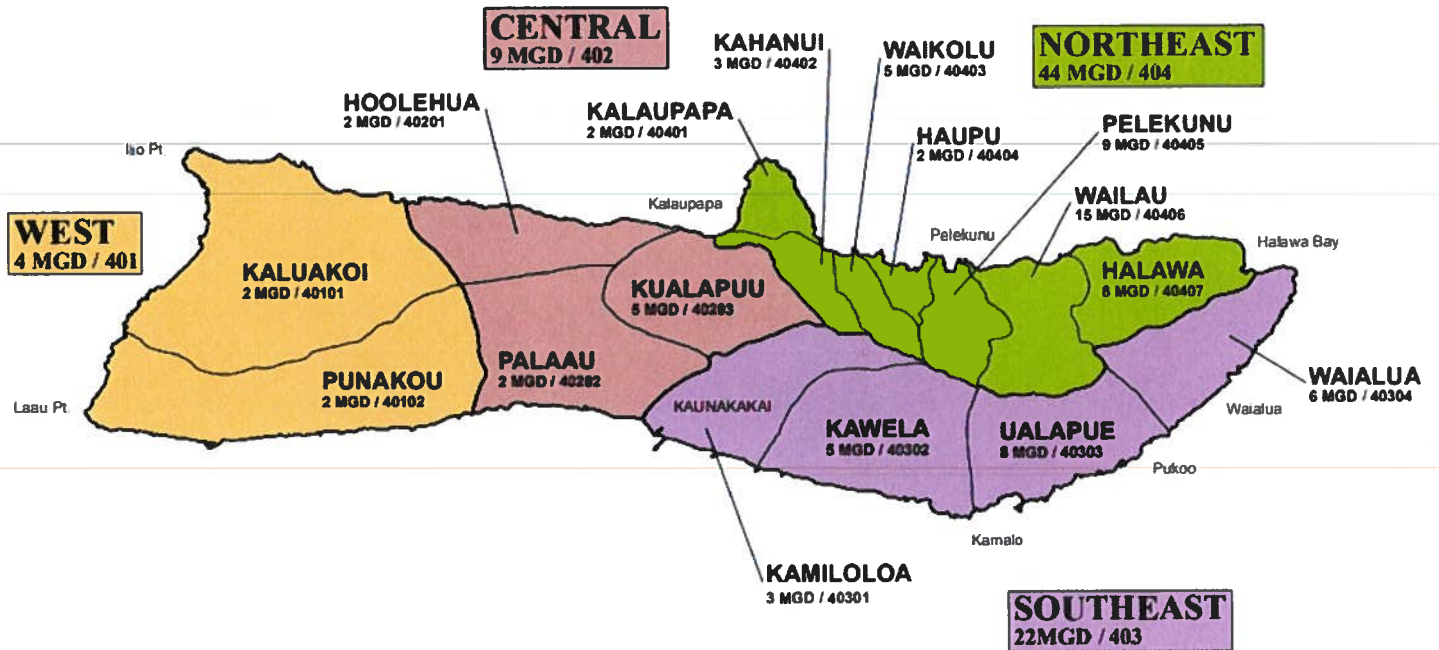
Ellison is already expanding Hydroponic Farming.

1" = 5 MILES

ISLAND OF MOLOKAI

TOTAL = 79 MGD

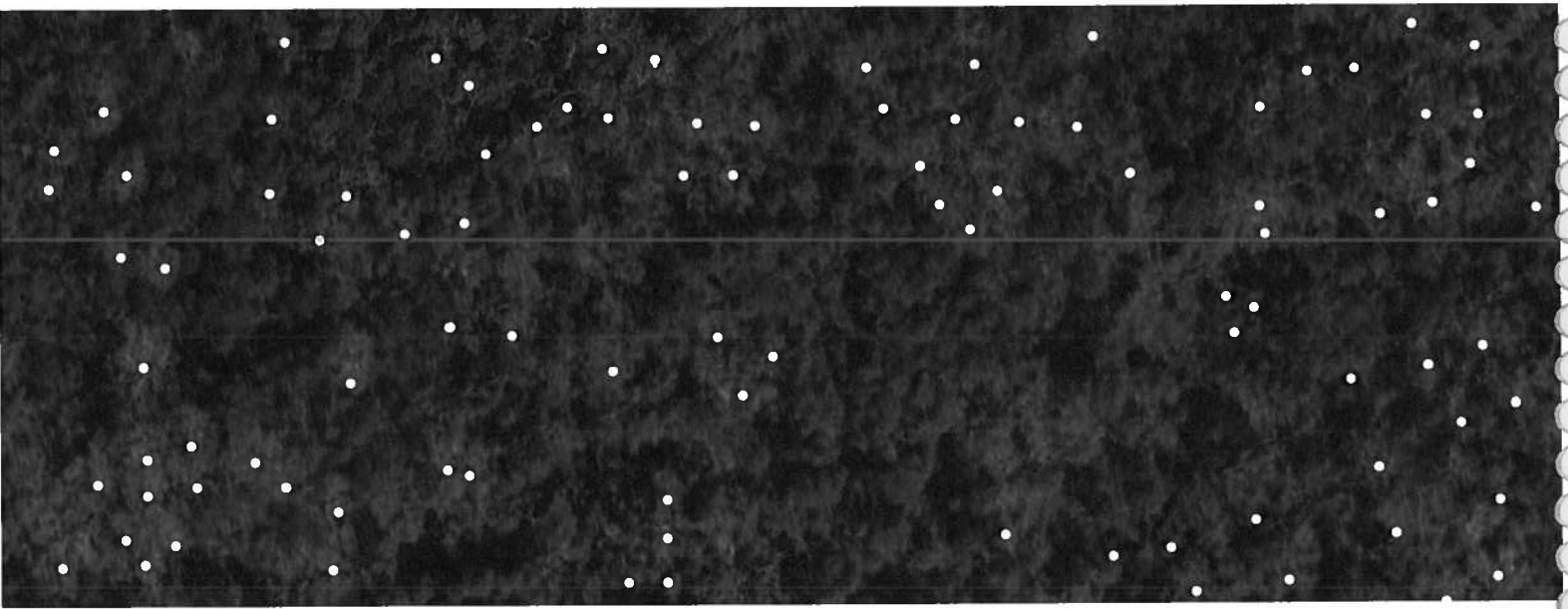
HYDROLOGIC UNITS
Sustainable Yield / Aquifer Code





Capture The Rain for Farm Irrigation

- Water from irrigation sources is the key component for almost all new proposed farms. As part of the overall goal to make Hawaii self-sustainable for food, the creation of new water sources is the key for expanding local crops.
- Some islands need more water in their aquifers, plus all need to collect more surface water to irrigate farmland. All islands have the potential to do both by slowing the flow of surface water to rehydrate the lands and by creating small dams within as many of the gulches necessary that do not stop the total flow of the water in the streams and rivers.
- In evaluating all the lands to produce crops and animals, we must evaluate each major parcel to see how much rainwater can be captured in reservoirs, the soil type, elevation, and existing vegetation for animal feed. Even if the land does not have all the amenities for a good farm, rehydration must be done to make the land more farmable.
- Rainwater captured in reservoirs above the farm is far less expensive than pumping water from deep wells with low volumes of water.
- Even a small portion of the rainwater from the New Ahupua'a area, pump up to 1,500 to 2,000 feet above the reservoirs, to the crest of the saddle road just ten miles away can be done with hydroelectric pumps installed in the rivers of the New Ahupua'a project. Free power! Free water!



THE KOA FORESTS ARE DYING

- The Koa Action Plan of the DLNR says *"It is important to recognize that the objectives described herein can only be accomplished with adequate, long-term funding and partnership."*
- A Goal of the Koa Action Plan is to: *Develop markets and infrastructure to support a thriving and sustainable wood products industry.*
- The mass killer of the Koa trees has been identified by scientists as fusarium oxysporum, a type of fungi.
- The fungus attacks the Koa trees by traveling underground, by way of an affected host tree grafting its roots to healthy tree roots thus giving the fungi a vehicle to reach healthy trees, and by air with the possible aid of bugs.
- At the rate that the Fusarium Oxysporum fungi is spreading, there may never be a self-sustainable Koa Forest unless a plan to stop the Koa wilt is implemented on site that has been practiced with other wilt problems.

Note: White dots on picture represents dying Koa trees.



THE 'OHI'A FORESTS ARE DYING

'Ohi'a Forests are being killed by a fungus called *Perthecia* of *Ceratocystis*. The 'Ohi'a's lehua blossom, which is the main food source for the threatened I'iwi bird, is being decimated because of this fungus.

Fungicide trials

The ROD pathology team, led by Lisa Keith, at USDA Pacific Basin Agricultural Research Service is testing fungicides on 'ōhi'a seedlings in the nursery.

Beetles & frass

Our partners at the U.S. Geological Survey are investigating the connection of ambrosia beetles to dead and dying diseased 'ōhi'a trees.

Disease control for land management

Because there is a high possibility that ambrosia beetle frass is carried by the wind, our entomologists and staff from the Department of Land and Natural Resources - Division of Forestry and Wildlife are testing a tree-felling method to see if it's possible to slow the disease front."

ROD = Rapid 'Ohi'a Death

Other flowering trees should be planted at higher elevations in DHHA and State-owned lands.

Spot regeneration should first be started in areas where existing Mamane trees exist and along dry stream and riverbeds. After lands show new life then flowering type trees should be planted.

A BILL FOR AN ACT H.B. 533

RELATING TO A DEVELOPMENT ZONE.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. The legislature finds that Hawaii imports eighty-five per cent of its food at a cost of \$3,000,000,000 annually. This adds to Hawaii's negative \$1,600,000,000 trade deficit and Hawaii's food insecurity.

The legislature further finds that the State is the largest landowner in Hawaii and has thousands of acres that can be developed into farmland, including the approximately one-hundred twenty thousand acres of fee simple lands in Waiakea forest reserve, Hilo forest reserve, Olaa forest reserve. Converting these lands into a perpetual agricultural ahupua`a will create jobs and provide sustainable food for the people of Hawaii along with a forestry manufacturing center using high value timber, construction grade timber, and non-timber products that can produce exportable goods over and above the volume that could be consumed in the State.

The purpose of this Act is to establish a development zone within a county with the second largest resident population in the State as a district entitled the new ahupua'a zone, for the purpose of increasing agricultural production in the State.

SECTION 2. The Hawaii Revised Statutes is amended by adding a new chapter to be appropriately designated and to read as follows:

"CHAPTER .

NEW AHUPUA'A ZONE

§ -1 **New ahupua'a zone; established.** (a) There is established within the department of agriculture a development zone known as the new ahupua'a zone. The new ahupua'a zone shall be situated in a county the second largest population in the State consist of the approximately one hundred twenty thousand acres of forest reserve land located in the central eastern region of the county.

(b) The department of land and natural resources shall establish the boundaries of the new ahupua'a zone by rules adopted pursuant to chapter 91.

§ -2 **Purpose.** The purpose of the new ahupua'a zone shall be to develop methods for the State to achieve self-sufficiency in food production.

§ -3 **Management; authority; duties.** (a) The governor shall select a for-profit or nonprofit entity to manage the new ahupua'a zone.

(b) The entity shall:

(1) Implement a master plan for the new ahupua`a zone by seeking farmers and businesses to operate within the new ahupua`a zone;

(2) Perform all land leasing, land licensing, and negotiations for joint venture projects;

(3) Manage the new ahupua`a zone through a master lease with at least per cent of the rent paid to the State within sixty days of receipt;

(4) Provide monthly income reports to the chairperson of the board of agriculture;

(5) Not be responsible for lease and license payments not received;

(6) Expedite completion of the first draft of a proposed use map for the master plan for the new ahupua`a zone within ninety-one days of being selected by the governor;

(7) Clear the land in phases to assess the general conditions of the land and natural resources;

(8) Coordinate special operating licenses, structured joint venture agreements, and construction of agricultural field roads;

(9) Receive, evaluate, approve, or disapprove all farming, forestry and construction plans submitted by lease holders, licensees, and joint venture partners in a timely manner; provided that any plan not approved or disapproved within ninety days shall be automatically approved; provided further that upon approval of a plan, the entity shall inspect the work to verify that the work complies with the plan. Inspectors designated by the entity shall inspect the operations at least once per year or at an interval designated by the entity;

(10) Seek private investors;

(11) Seek federal grants and philanthropic donations for special projects;

(12) Set aside a portion of the land within the new ahupua`a zone for a foreign-trade zone that is a secured area under United States Customs and Border Protection supervision and generally considered outside Customs and Border Protection territory upon activation;

(13) Form a business cooperative for businesses directly associated with the new ahupua`a zone to assist the farmers and business owners;

(14) Allow rock quarry sites within the new ahupua`a zone at sites selected by the entity;

(15) Allow the harvesting of timber within the new ahupua`a zone for construction and high value luxury products;

(16) Establish a forestry harvesting plan that considers all forestry management guidelines, including a reforestation plan or conversion plan for other non-timber uses;

(17) Allow water wells to be constructed within the new ahupua`a zone;

(18) Allow water from streams and rivers to be used for irrigation and hydropower plants located within the new ahupua`a zone; provided that no more than fifty per cent of the natural flow may be diverted for irrigation;

(19) Allow lessees, licensees, and joint venture businesses to install rain catchment ground covers in addition to any covered roof areas and reservoirs built within the boundaries of the new ahupua`a zone;

(20) Allow lessees, licensees, and joint venture businesses to install solar power fields within the boundaries of each entity within the boundaries of the new ahupua`a zone;

(21) Allow farm dwellings to be built within the boundaries of each entity in the new ahupua`a zone and rented to persons who work within new ahupua`a zone; and

(22) Seek and assist selected farmers to create test plots of new and proven commodities within the new ahupua`a zone.

(c) The entity may seek and negotiate the building of a private or government-run prison, that separates medium security inmates, maximum security inmates, and mentally ill people for humanitarian and psychological reasons, and allows on-the-job training and real work experiences for inmates who qualify to participate in training and work programs in agriculture, forestry, construction, or manufacturing.

§ -4 **Exemption; construction permits.** All construction for grubbing, grading, building, electrical work, plumbing, sewer infrastructure, and the installation of water wells and surface water collections systems shall be exempt from all state and county building permit requirements; provided that all construction plans shall be prepared by licensed engineers or registered land surveyors, as appropriate, who possess an active license to practice within the scope of their expertise in the State.

§ -5 **Exemption; taxes.** (a) Any company operating within the new ahupua`a zone shall be exempt from the general excise tax imposed pursuant to chapter 237 on all sales derived from the new ahupua`a zone for the first ten years of the company's lease in the new ahupua`a zone.

(b) Any business operating in the new ahupua`a zone shall be exempt from all state taxes derived from activities in the new ahupua`a zone while business improvements made by the business are being depreciated.

(c) All general excise taxes paid by a business for goods and services relating directly to any business conducted in the new ahupua`a zone shall be reimbursed by the State to the business as a tax refund as shown on the business's year-end tax return for the first seven years that the business operates in the new ahupua`a zone.

§ -6 **Exemption; water connections.** The new ahupua`a zone shall be exempt from providing water connections to the county of Hawaii.

§ -7 **Exemption; zoning.** Implementation of all proposed projects within the new ahupua`a zone shall be exempt from zoning and land use designation requirements, but shall be subject to the approval of the division of forestry and wildlife of the department of land and natural resources.

§ -8 **Hawaii enterprise zone program; inclusion.** The new ahupua`a zone shall be included within the Hawaii enterprise zone program pursuant to chapter 209E. All tax exemptions allowed to a business operating within the new ahupua`a zone shall be credited to the businesses on an annual basis as required by the Hawaii enterprise zone program. Tax exemptions specifically for the new ahupua`a zone as stated in this chapter or tax credits based on the Hawaii enterprise zone program shall be used by each business based on whichever is more advantageous to the business.

§ -9 **Rules.** The department of agriculture shall adopt rules pursuant to chapter 91 for the purposes of this chapter."

SECTION 3. There is appropriated out of the general revenues of the State of Hawaii the sum of \$ _____ or so much thereof as may be necessary for fiscal year 2023-2024 and the same sum or so much thereof as may be necessary for fiscal year 2024-2025 for the new ahupua`a zone.

The sums appropriated shall be expended by the department of agriculture for the purposes of this Act.

SECTION 4. This Act shall take effect on July 1, 2023.

INTRODUCED BY: _____

Report Title:

Department of Agriculture; Development Zone; Appropriation;
Department of Land and Natural Resources; Forest Reserves

Description:

Establishes the new ahupua'a zone within a county with second largest resident population to be managed by an entity selected by the Governor and to develop agriculture. Appropriates moneys.

References/Credits

- Hawaii County Planning Department: maps, zoning code
- State of Hawaii Division of Forestry: Hawaii forestry Action Plan
- John Powley, Matt Stevenson, Mark Thorne: Meat Goat Basics for Hawaii College of Tropical Agriculture and Human Resources U.H. at Manoa
- State of Hawaii DLNR: Water Resource Management Hydrologic Units
- USDA Pacific Basin Agricultural Research Center: U.S. Geological Survey; DLNR; Division of Forestry and Wildlife
- State of Hawaii DOA Market Analysis and News Branch: Top 20 Agricultural Commodities 2018
- Department of Water Supply: County of Hawaii; Water Supply Ground Water; Pumping; Keith Okamoto P.E. Manager-Chief Engineer
- J.B. Friday, Nicklos Dudley: Koa Wilt
- Faith Inman-Narahari: Koa Action Plan; Natural Resource and Environmental; Department; U.H. at Manoa; Robert Hauff, Sheri S. Mann, Irene Sprecher, Lisa Hadway DLNR DOFW
- University of Hawaii at Manoa: Rainfall Atlas of Hawaii; Rainfall Patterns and Cloud Lift
- Lisa Keith: Fungicide trials ROD; USDA Pacific Basin Agricultural Research Service; U.S. Geological Survey; DLNR DOFAW
- Hawaii Forestry Action Plan: State of Hawaii DOFAW
- Harlod C. Baker: Agricultural Lands of Importance; College of Tropical Agriculture; Cooperative Extension Service; U.H. at Manoa
- Forestry Agroforestry: U.S. Natural Resources Conservation Service

- Forestry management Plans: Forestry Programs; State of Hawaii
- Agroforestry Strategic Framework: fiscal year 2019-2024; USDA
- USDA Natural Resources Conservation Service: Programs
- USDA CAP Forestry Management Plan (106)
- Developing a Forestry Stewardship Plan: University of California Forestry Research and Outreach
- Relating to the Forest Stewardship Program: 2020 Regular Session Report to the thirteenth Legislature; State of Hawaii
- Hilo Forest reserve 64,000 Acres: Forestry Programs; State of Hawaii
- Hawaii Commercial Agricultural Production Expansion 11/5/2021; USDA Pacific Region; Hawaii
- Vegetable and berry yield Estimates: University of Vermont Extension
- Economic Profile: State of Hawaii
- Commodities: U.S. Department of Agriculture
- Hawaii Forestry Extension
- Agroforestry Practices: USDA