

STATEWIDE AGRICULTURAL LAND USE BASELINE 2015

Prepared for

**HAWAI'I DEPARTMENT
OF AGRICULTURE**

Prepared by

**UNIVERSITY OF HAWAI'I AT HILO
SPATIAL DATA ANALYSIS &
VISUALIZATION RESEARCH LAB**

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Ryan Perroy PhD
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What is a Baseline?

A snap shot in time...

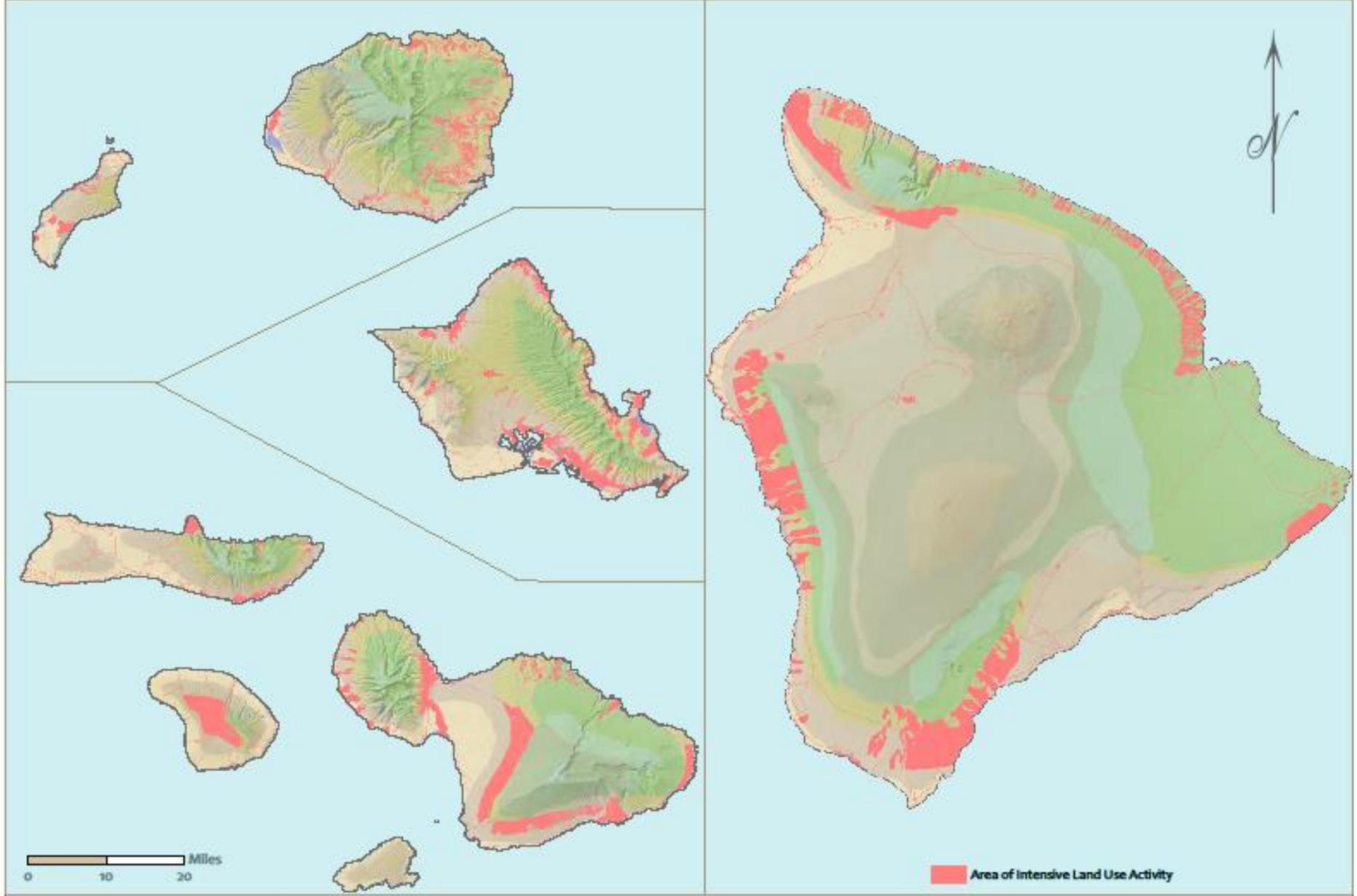
A tool for measuring change... backwards and forwards.

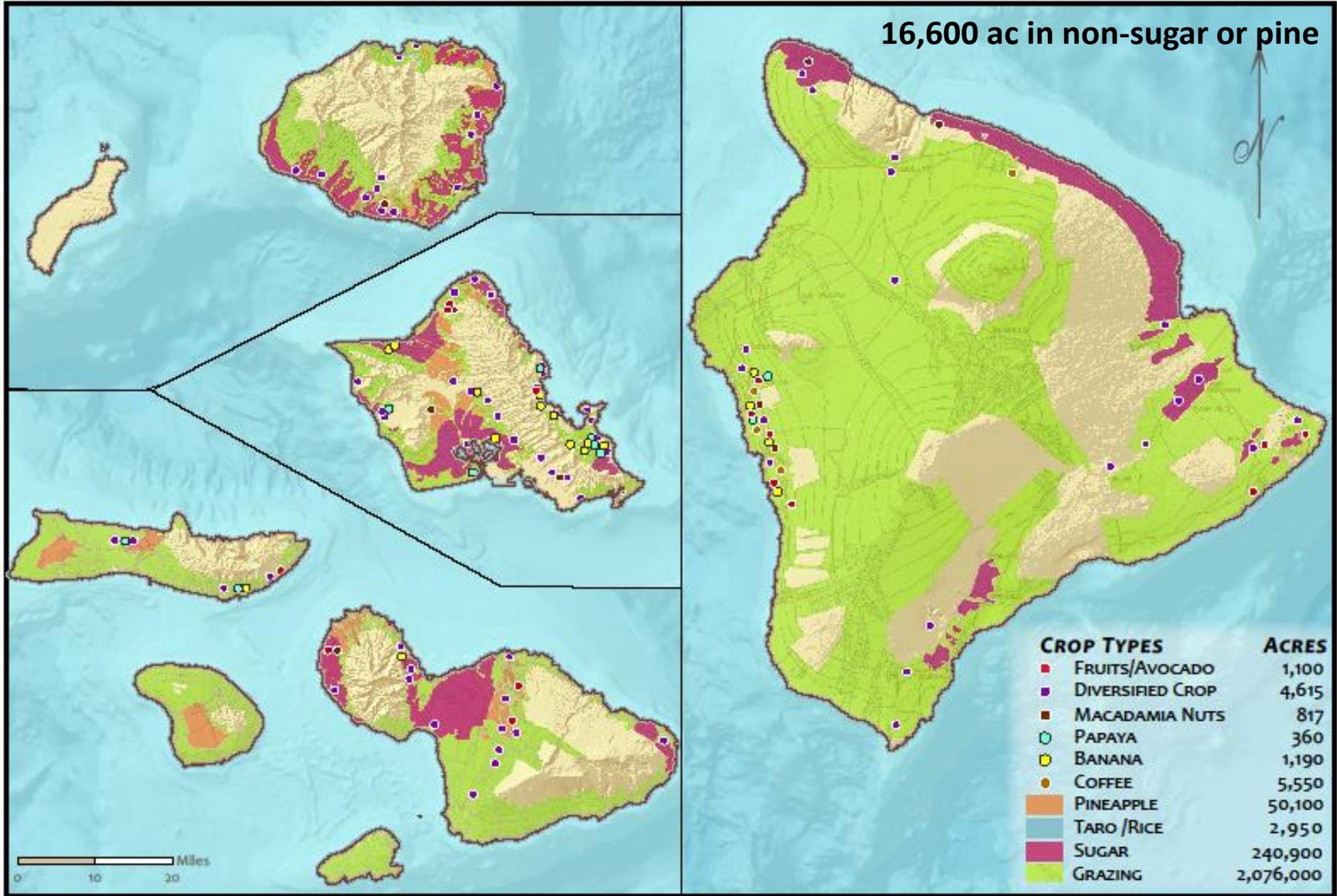
A Baseline is Not a Plan

It can inform planning but it doesn't carry recommendations.

At its best a Baseline is a

Tool to Provoke Informed Discussion

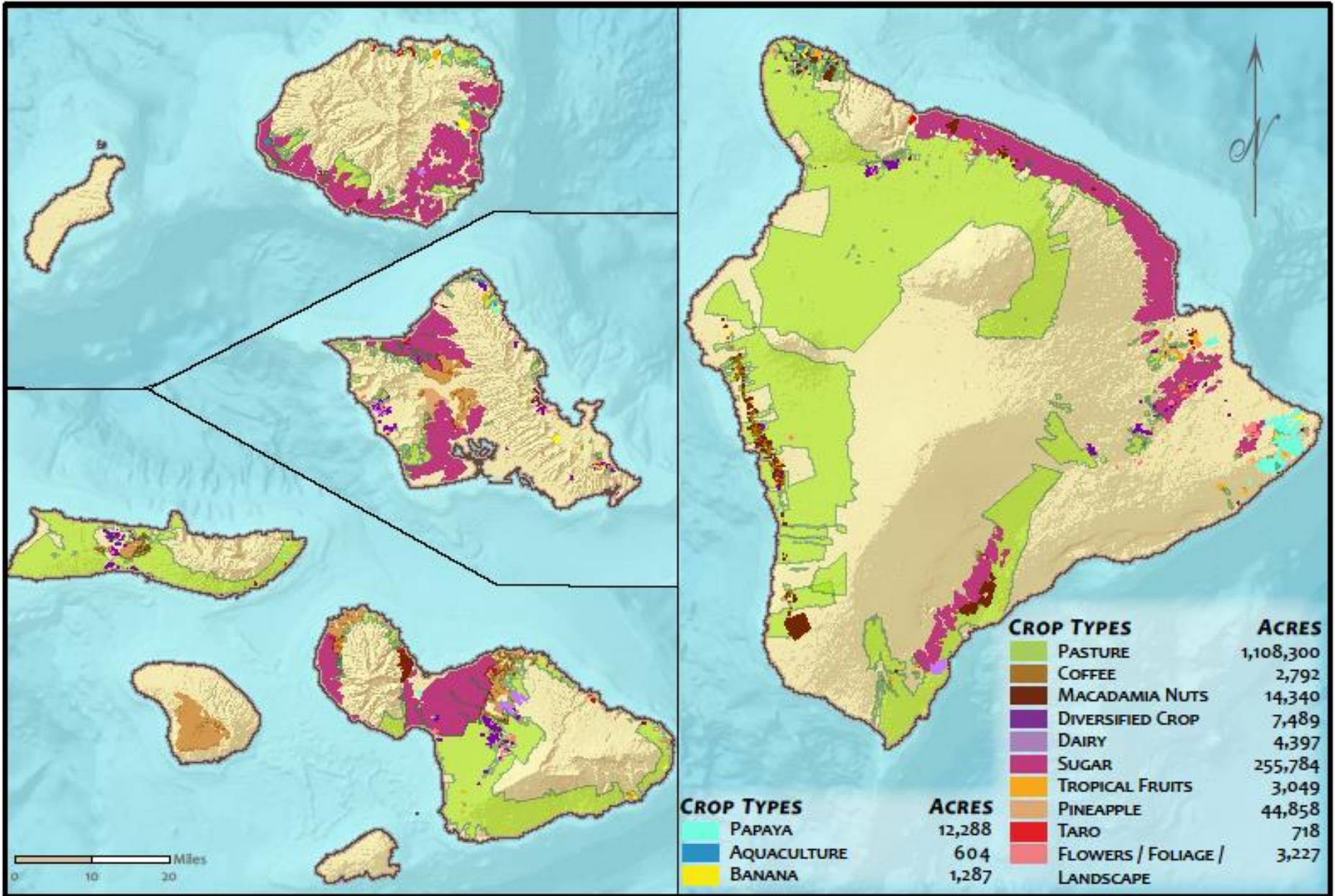




HAWAII'S AGRICULTURAL LAND UTILIZATION (1937)

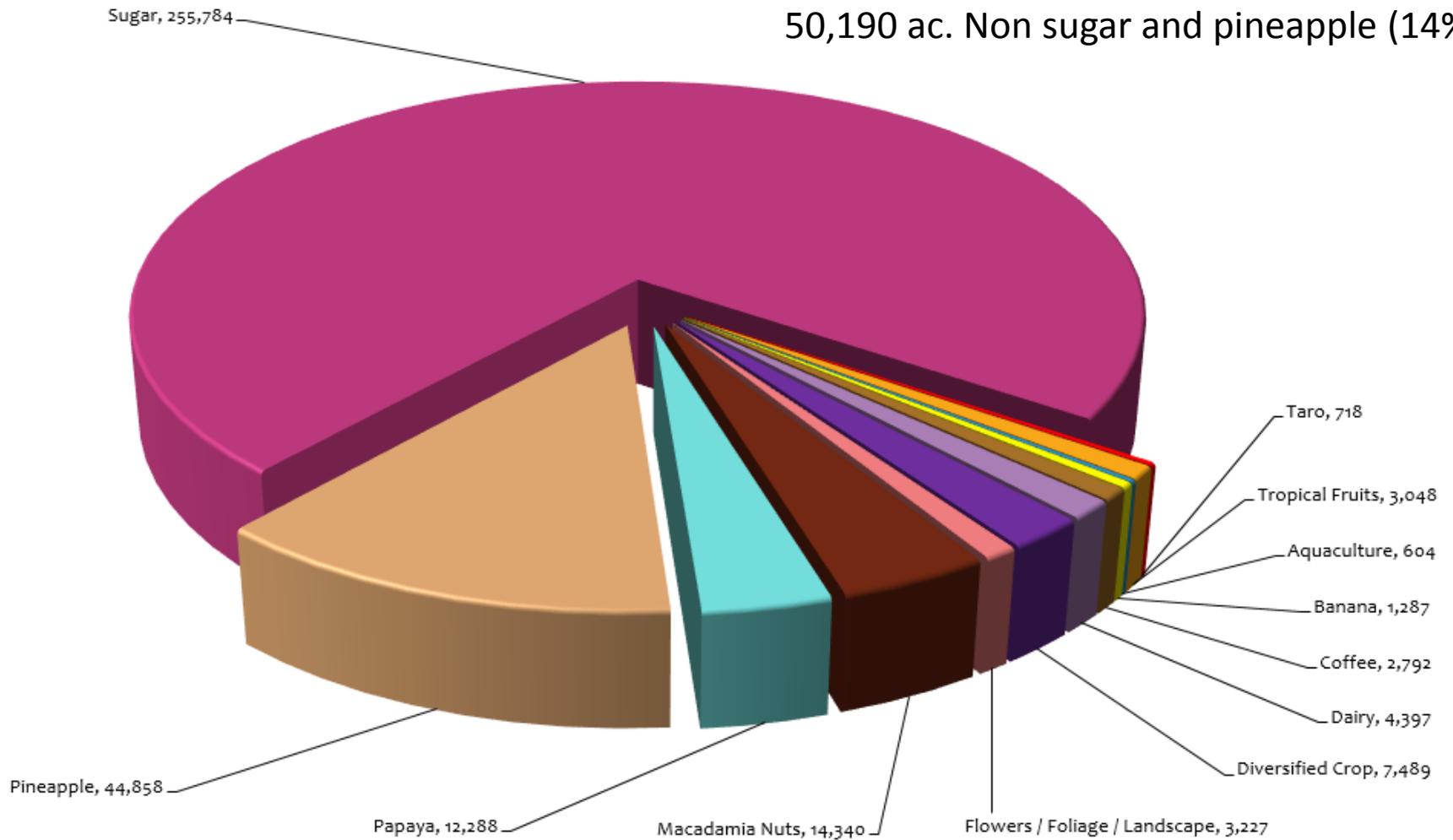
SOURCE: BASED ON DATA FROM THE TERRITORIAL PLANNING BOARD
LAND UTILIZATION STUDY





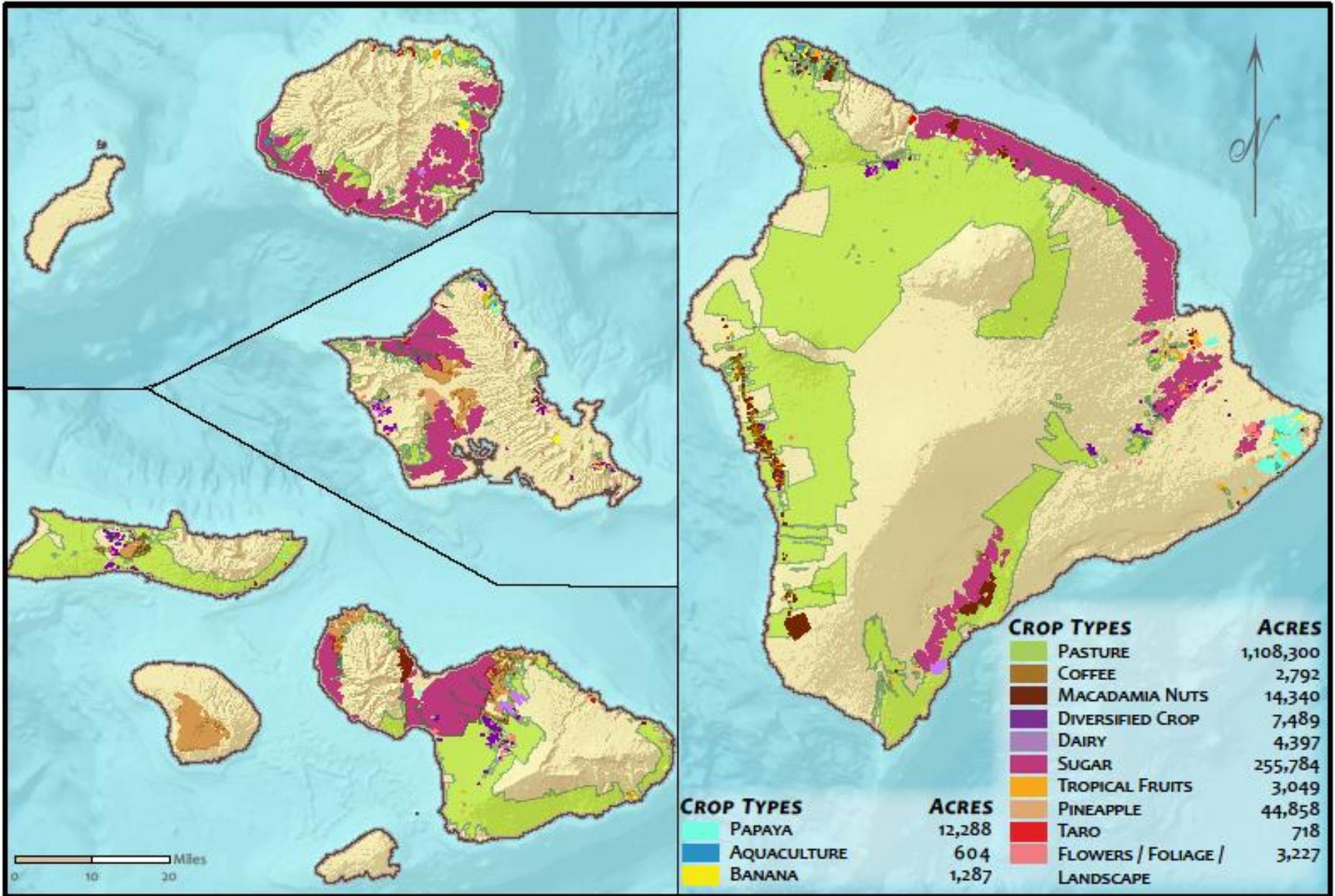
1980 Statewide Crop Summary (Acres)

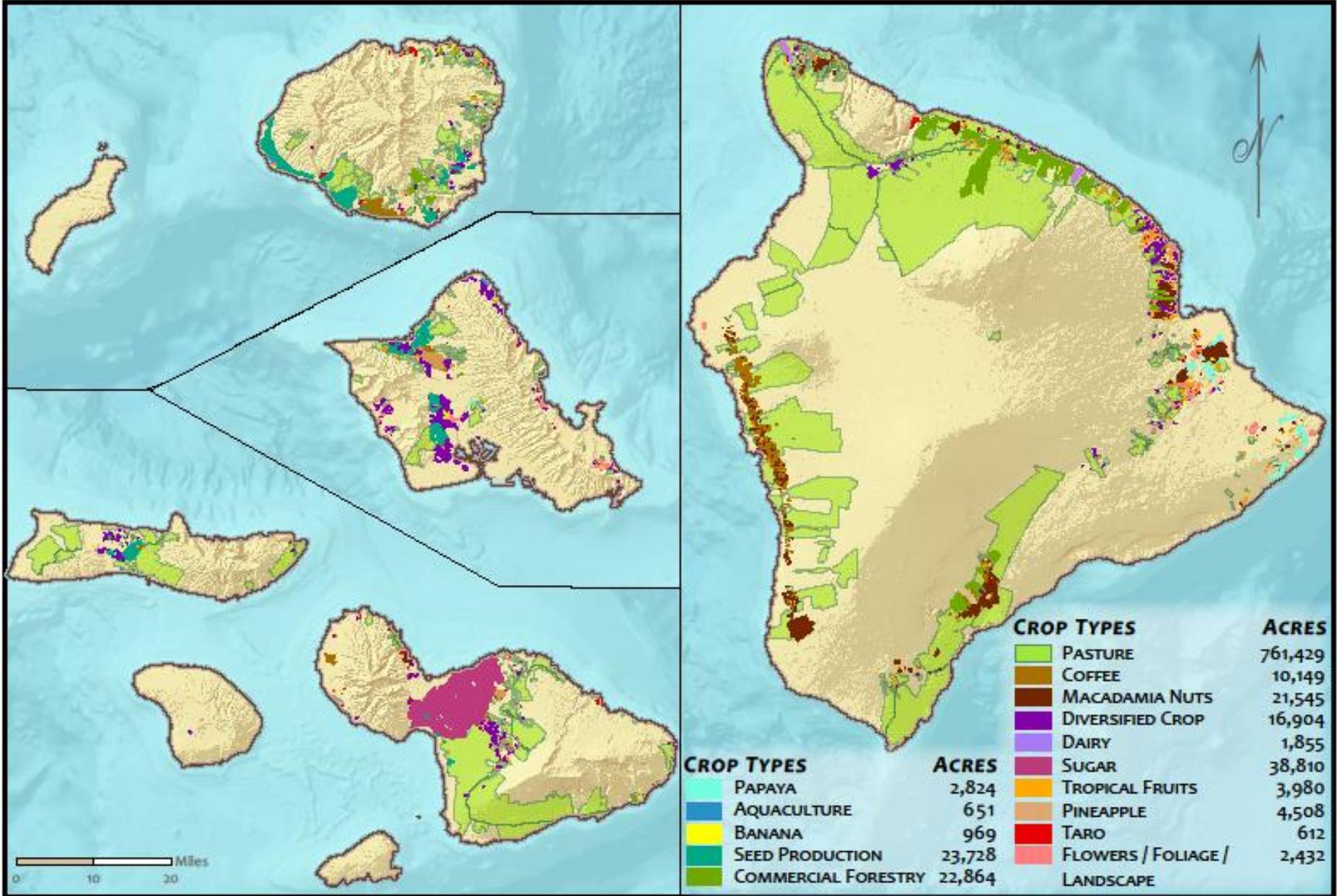
50,190 ac. Non sugar and pineapple (14%)

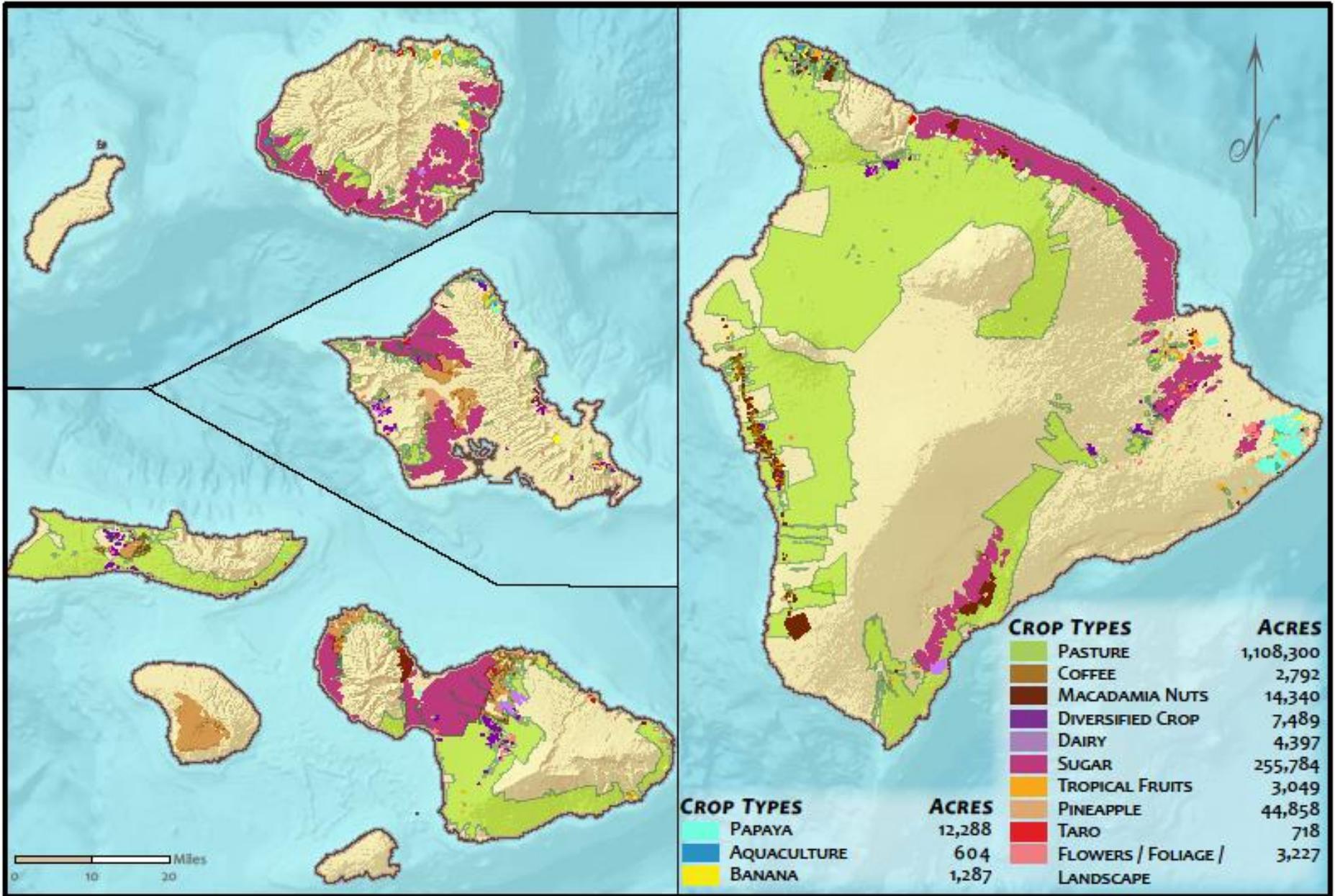


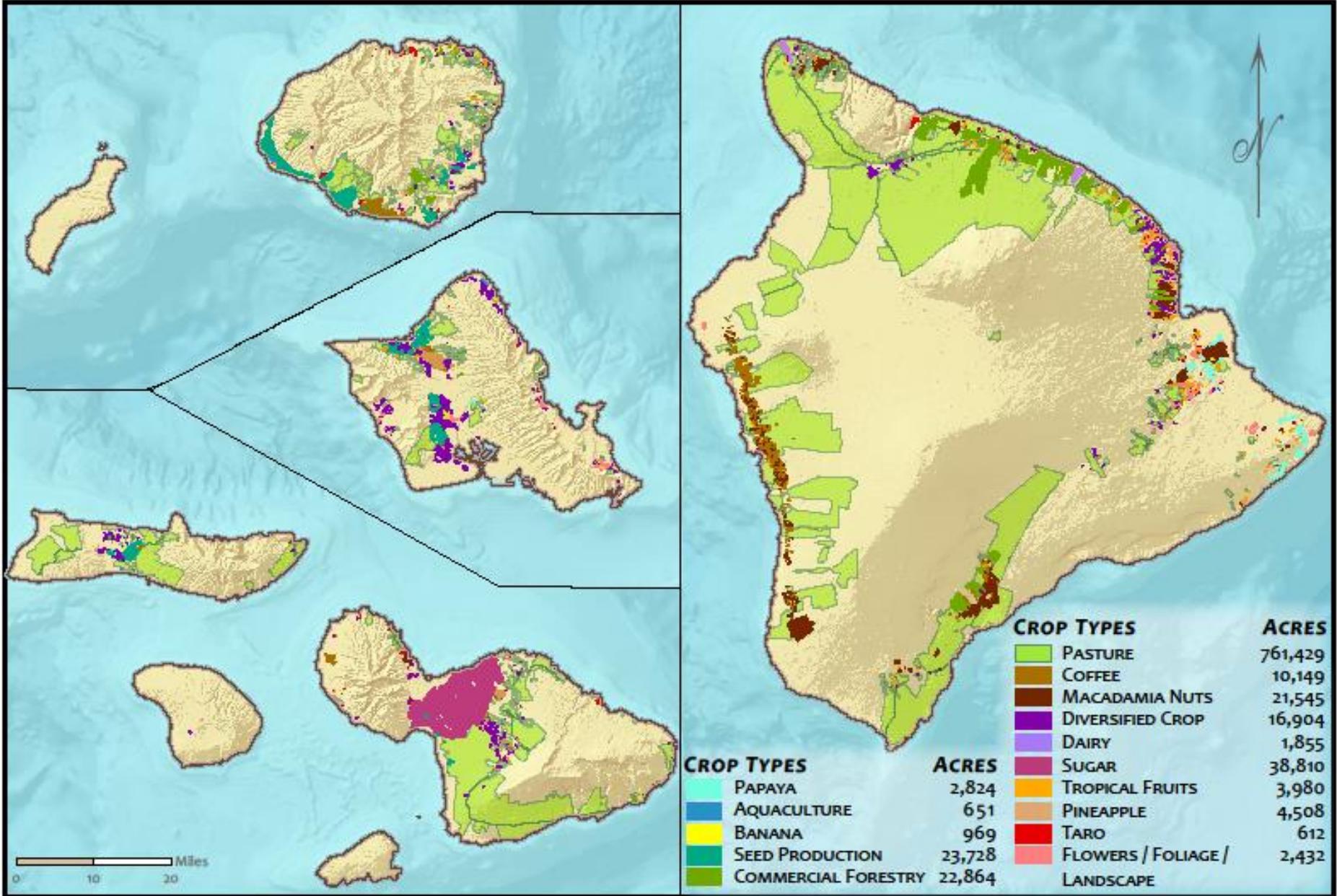
Total Crop Acres 1980

350,833 Ac.



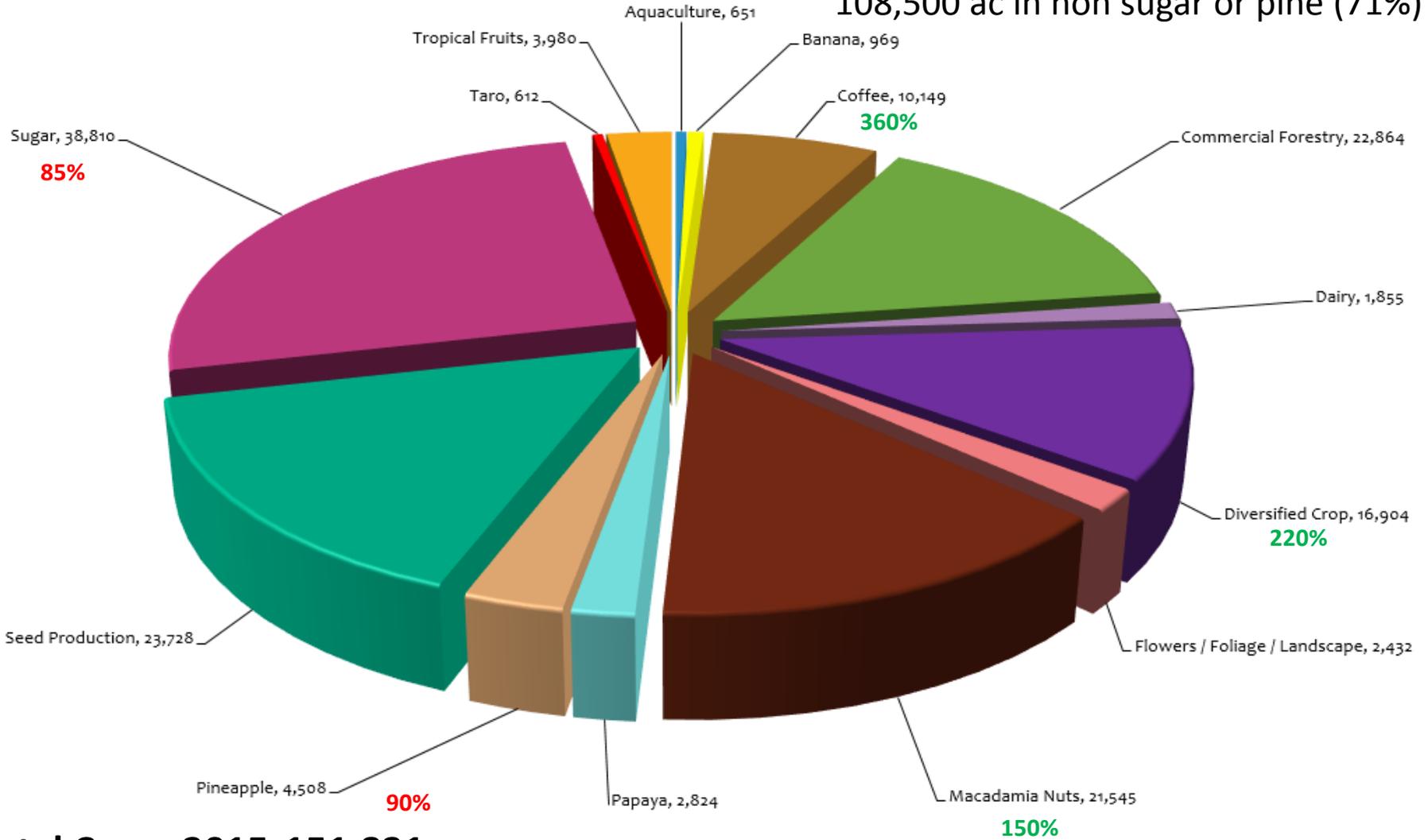






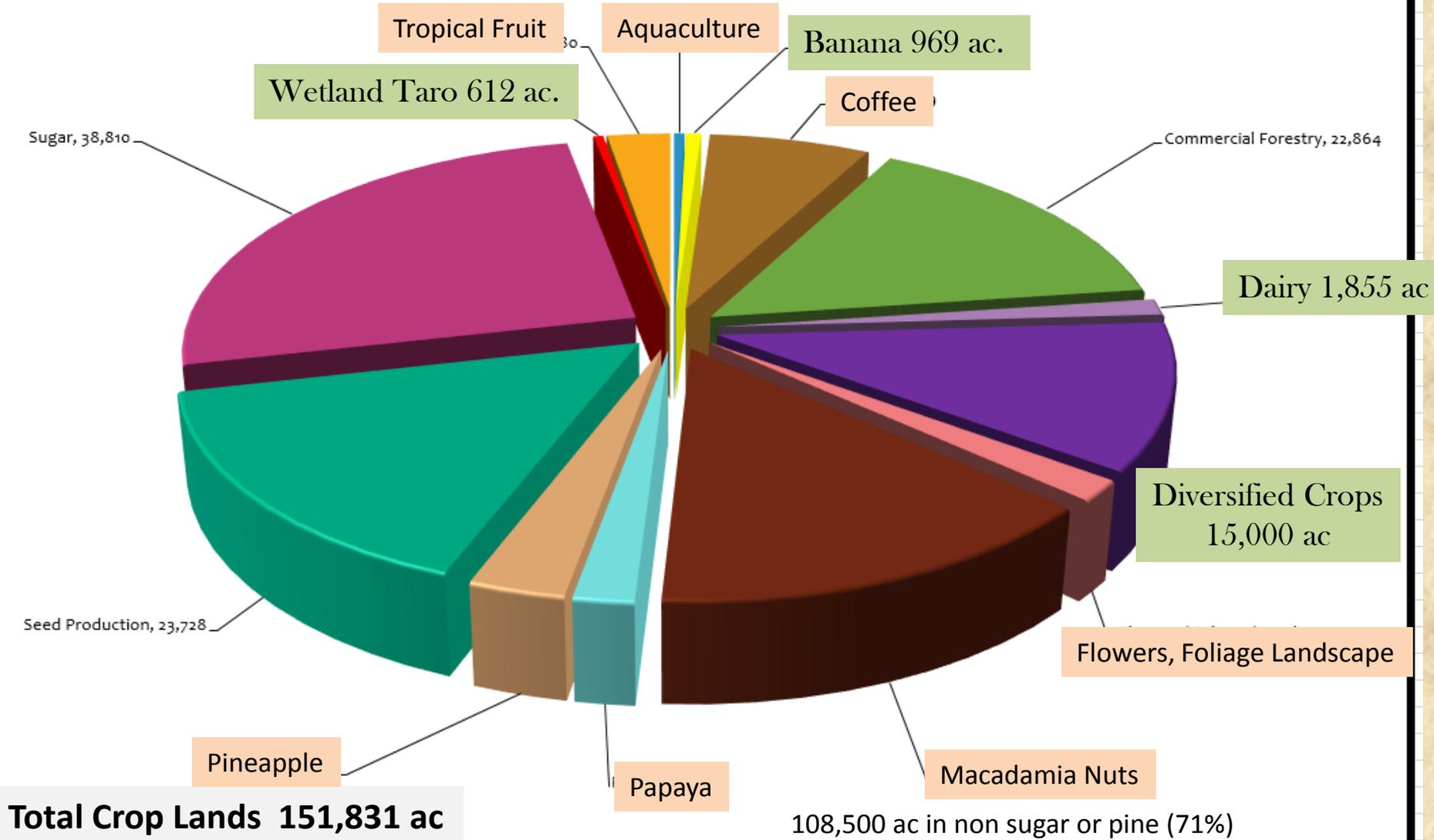
2015 Statewide Crop Summary (Acres)

108,500 ac in non sugar or pine (71%)



Total Crops 2015 151,831 ac.

2015 Statewide Crop Summary (Acres)



70% of Hawaii's Productive Crop Lands in 2015 are in Export Crops

Sugar, Timber, Corn Seed, Mac Nuts, Coffee and portions of Papaya, Pineapple, Flowers, Fruits, Div Ag and Aquaculture

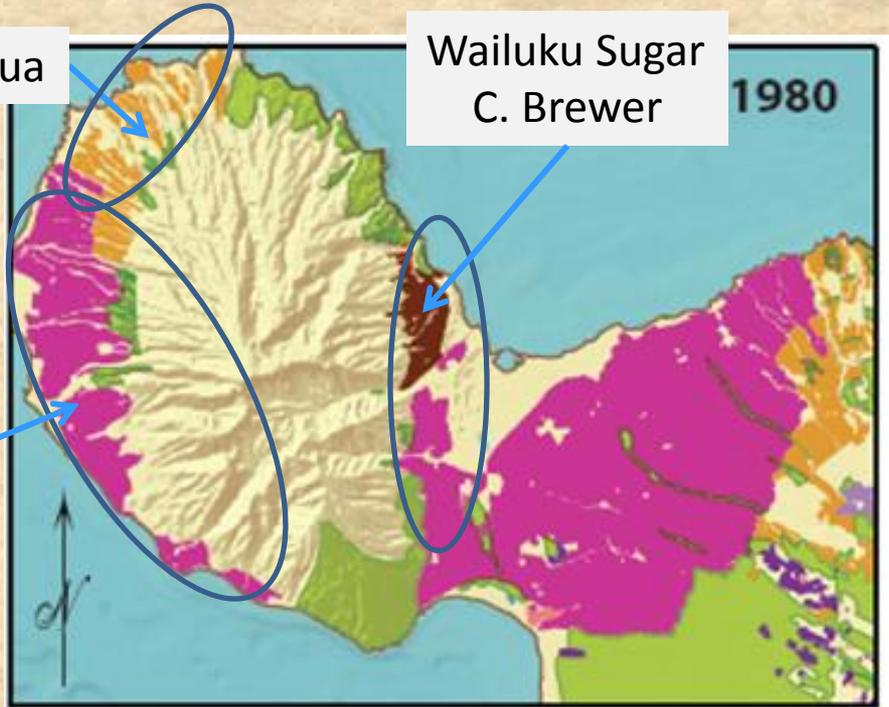
WEST MAUI

ML&P Honolua

Wailuku Sugar
C. Brewer

Pioneer Mill
Amfac

1980

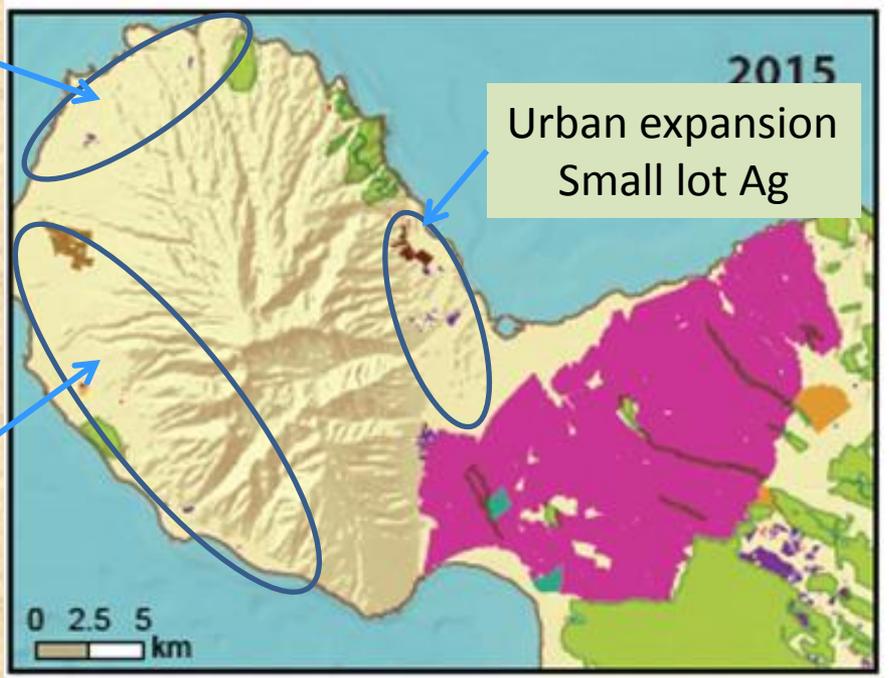


ML&P Selling Land
High-end Resort /Res

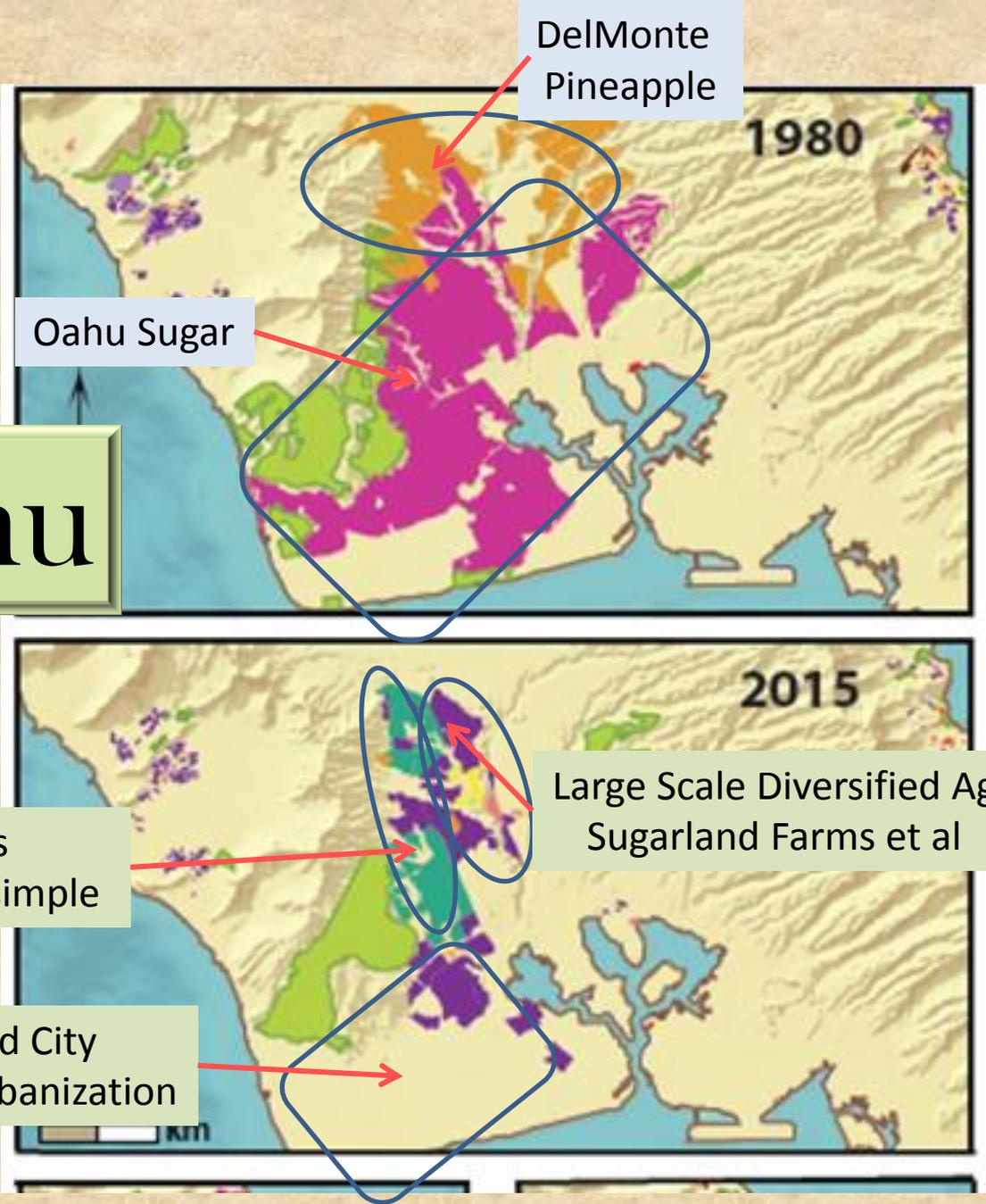
Urban expansion
Small lot Ag

2015

AMFAC Lands Sold
Gentlemen Estates



Central Oahu



DelMonte
Pineapple

Oahu Sugar

1980

2015

Seed Companies
Campbell sells in fee simple

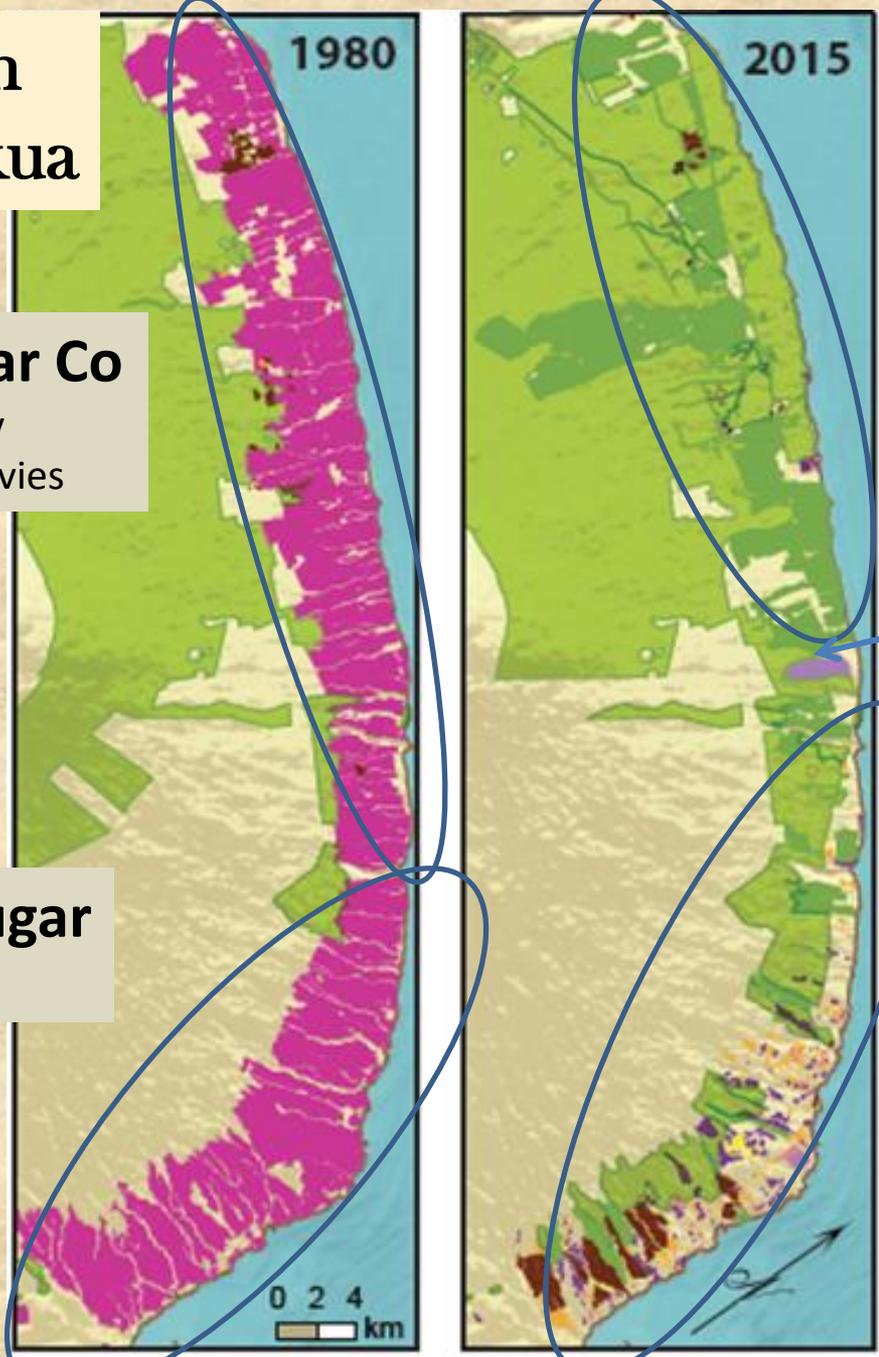
Large Scale Diversified Ag
Sugarland Farms et al

Kapolei: Second City
Campbell Estate Urbanization

Rural South Hilo/Hamakua

Hamakua Sugar Co
Morgan Family
Formerly Theo Davies

Mauna Kea Sugar
C. Brewer



Kamehameha Schools
State Ag Parks
Private Homesteads

Big Island Dairy
State Lease

Private Homesteads
Diversified farms & orchards

An aerial photograph of a farm. In the foreground, a worker wearing a blue shirt and a hat is bent over, tending to rows of young green plants in a field. The field is divided into sections by white irrigation pipes. In the background, there is a large, open field with a similar irrigation system, and a line of trees and a fence are visible. The sky is overcast.

Each region evolves differently depending on the opportunities that surrounds it

Who owns the land matters

Central Oahu becomes Hawaii's new bread basket

On the Neighbor Islands, most crop production is export oriented with smaller farms focusing on direct sales and niche markets

Shifting Ag Production Formats

Industrial Agriculture



Rural Agriculture

Large Centralized Land Ownership

Small Diversified Land Ownership

Regional Water Management

Reliant on Rainfall, DWS or Others to Deliver Water

Stable Unionized Employment

Family, Seasonal, Informal Labor

Bulk Export Crops

Boutique Exports and Local Fresh Products

Central Processing/Treatment

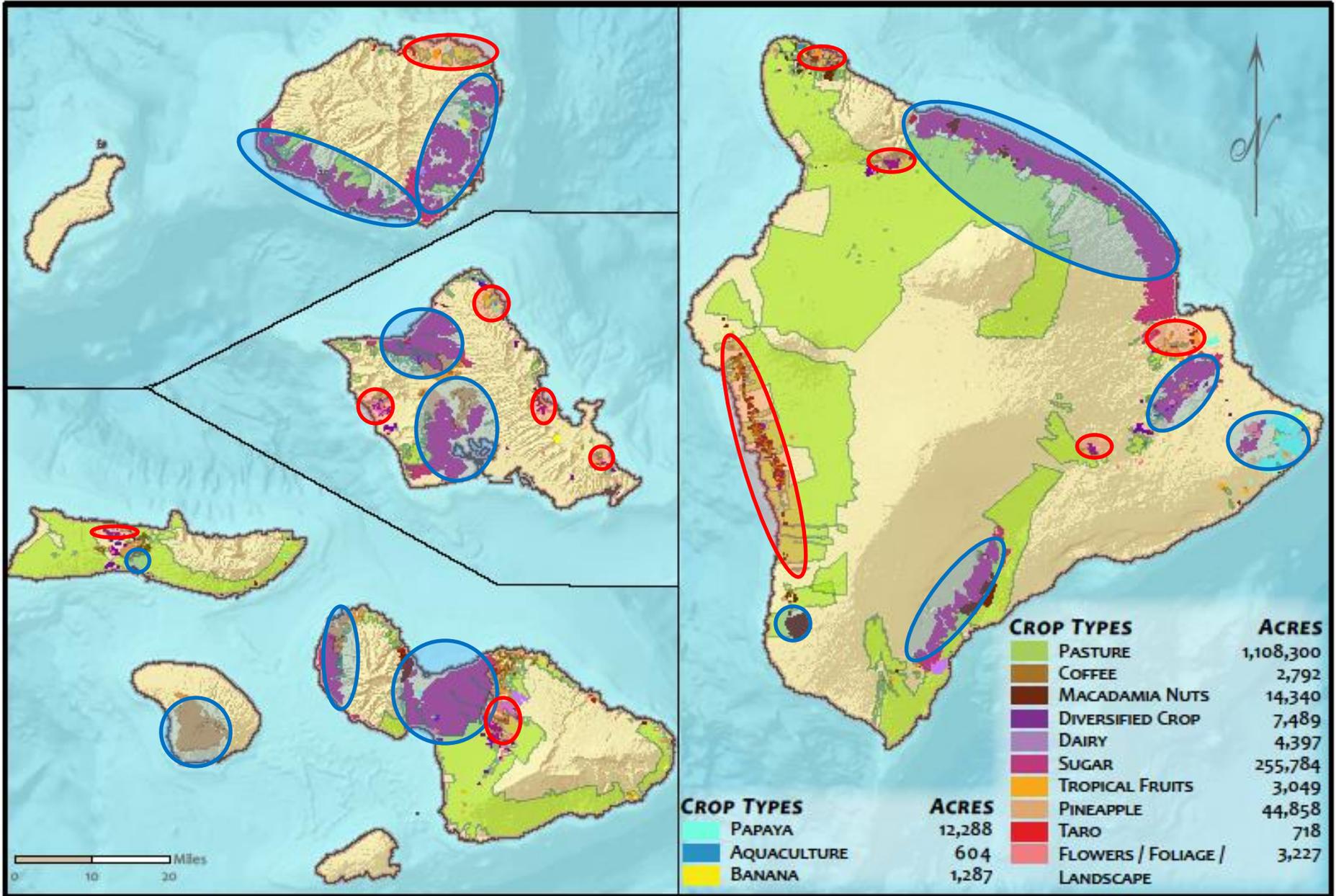
Decentralized Processing

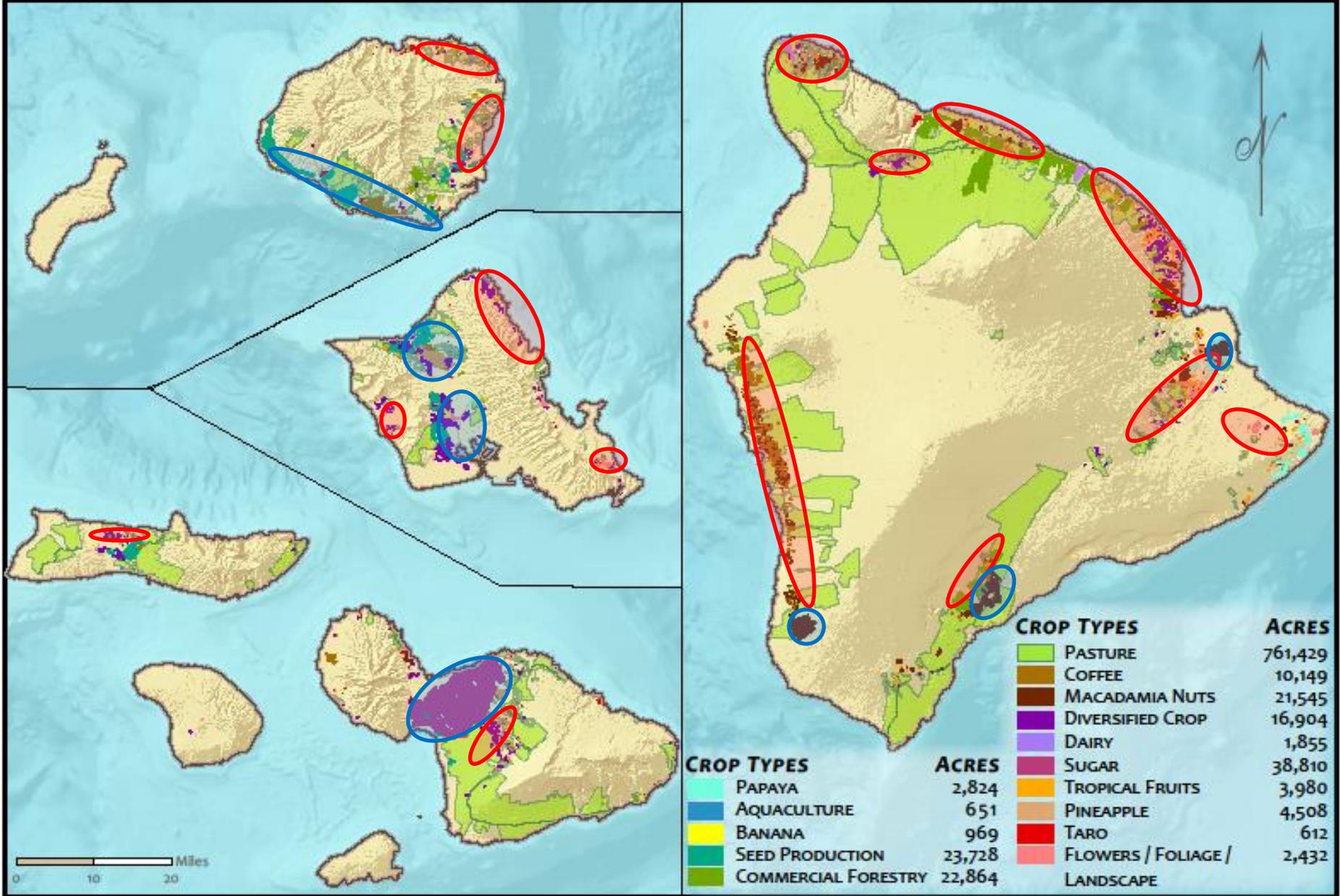
Bulk Markets

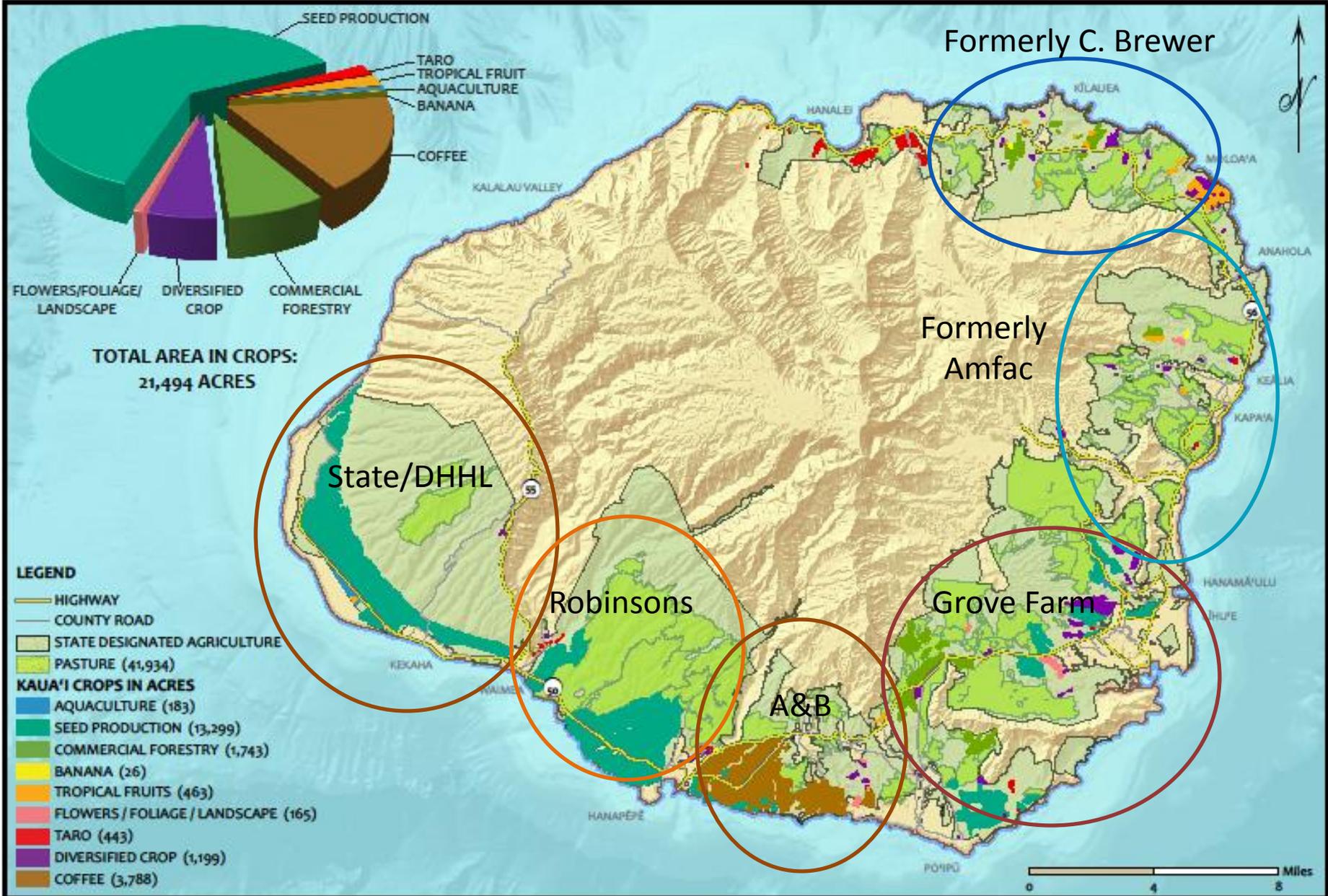
Farm to Various Markets

Boardroom Decisions Making

Kitchen Table Decision Making







KAUAI CROP SUMMARY (2015)



324 ac Tropical Fruit
300 ac Diversified crops

Wiomani Rd

Kalaiea View Dr
Kalaiea View

Papaa Rd

Kuhio Hwy

Diversified Crops

Tropical Fruit

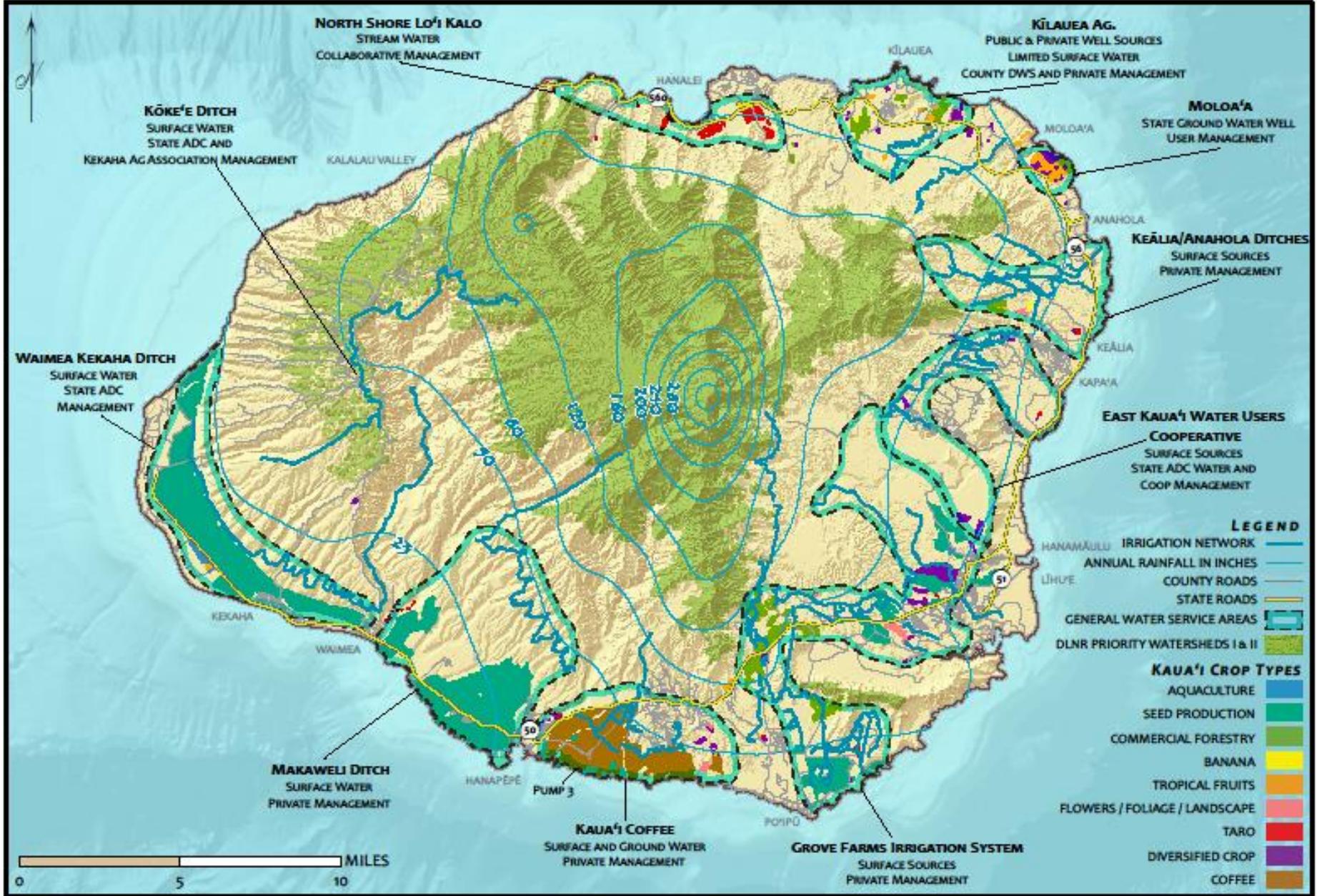
Koolala Rd

Moloaa Rd

Moloa'a

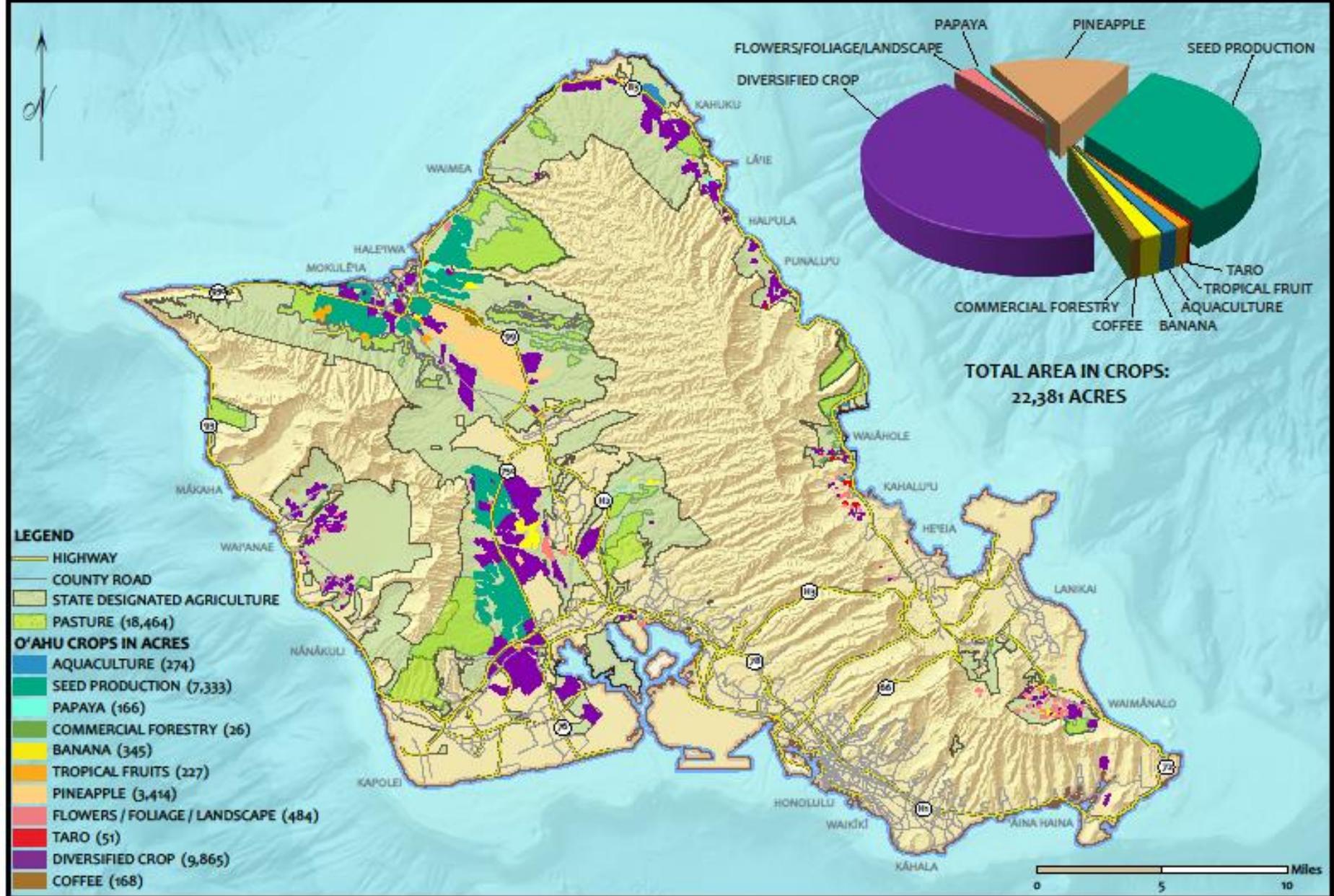
Google earth

© 2015 Google
Image © 2015 DigitalGlobe



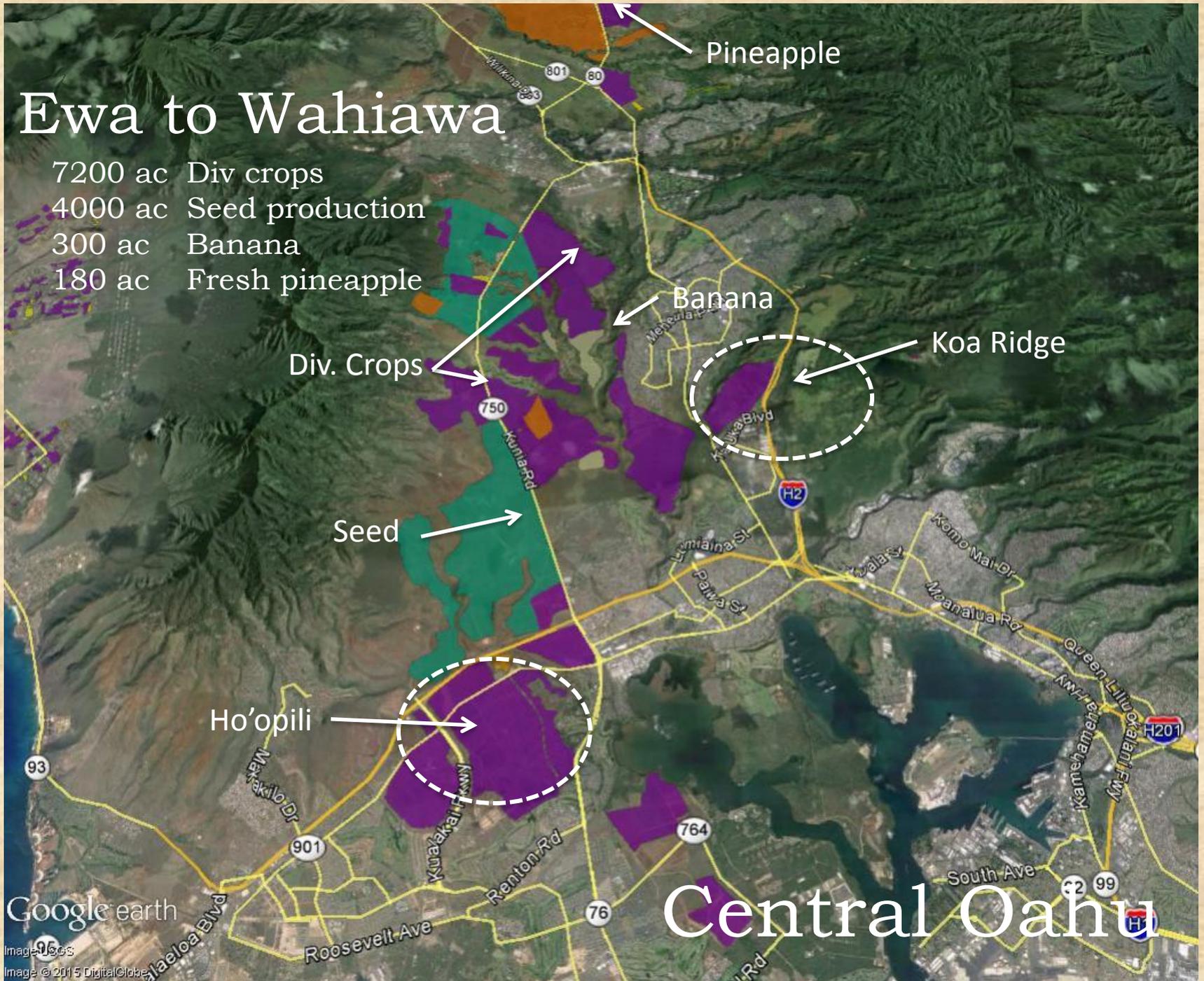
KAUAI AGRICULTURAL WATER RESOURCES (2015)

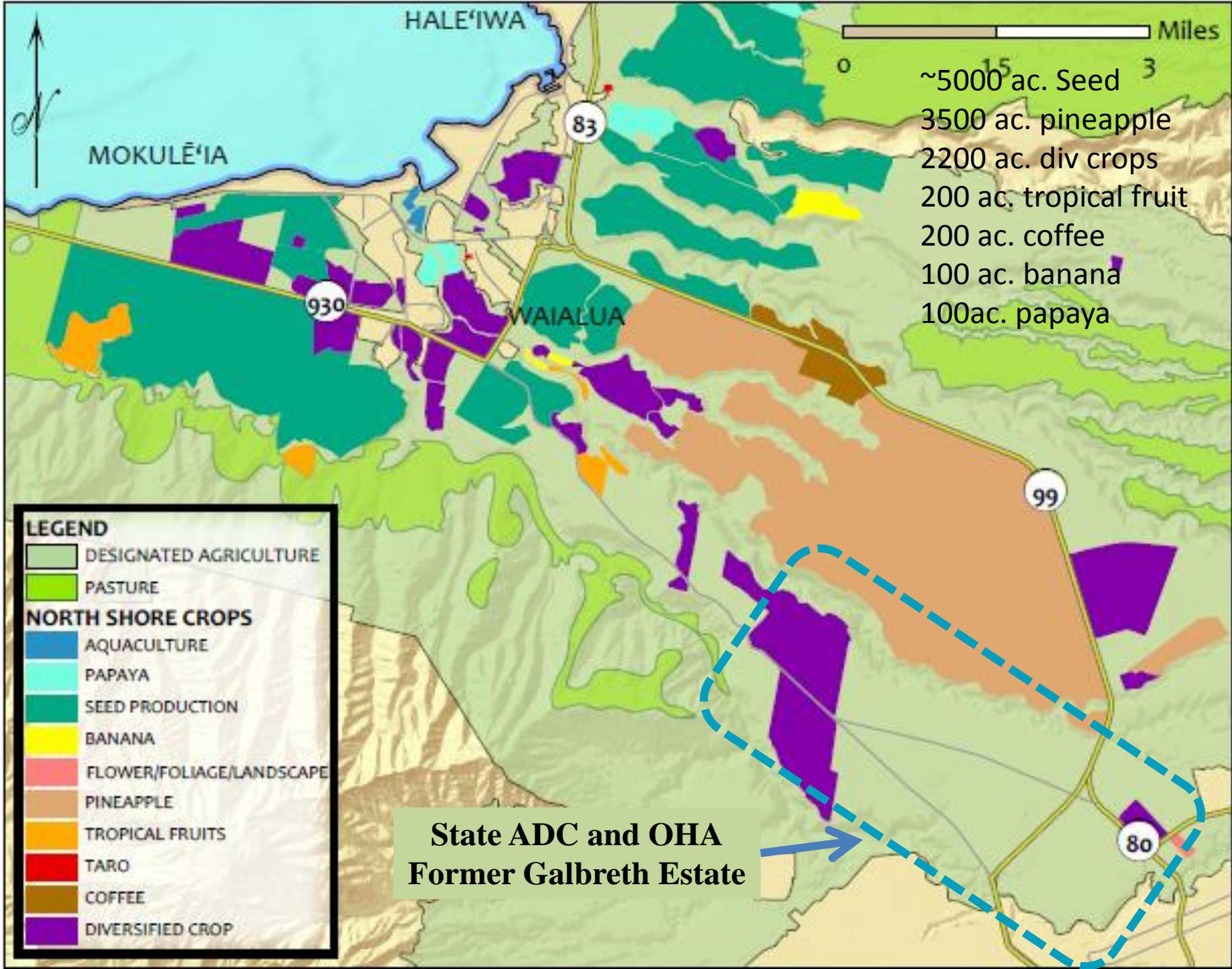




Ewa to Wahiawa

7200 ac Div crops
4000 ac Seed production
300 ac Banana
180 ac Fresh pineapple



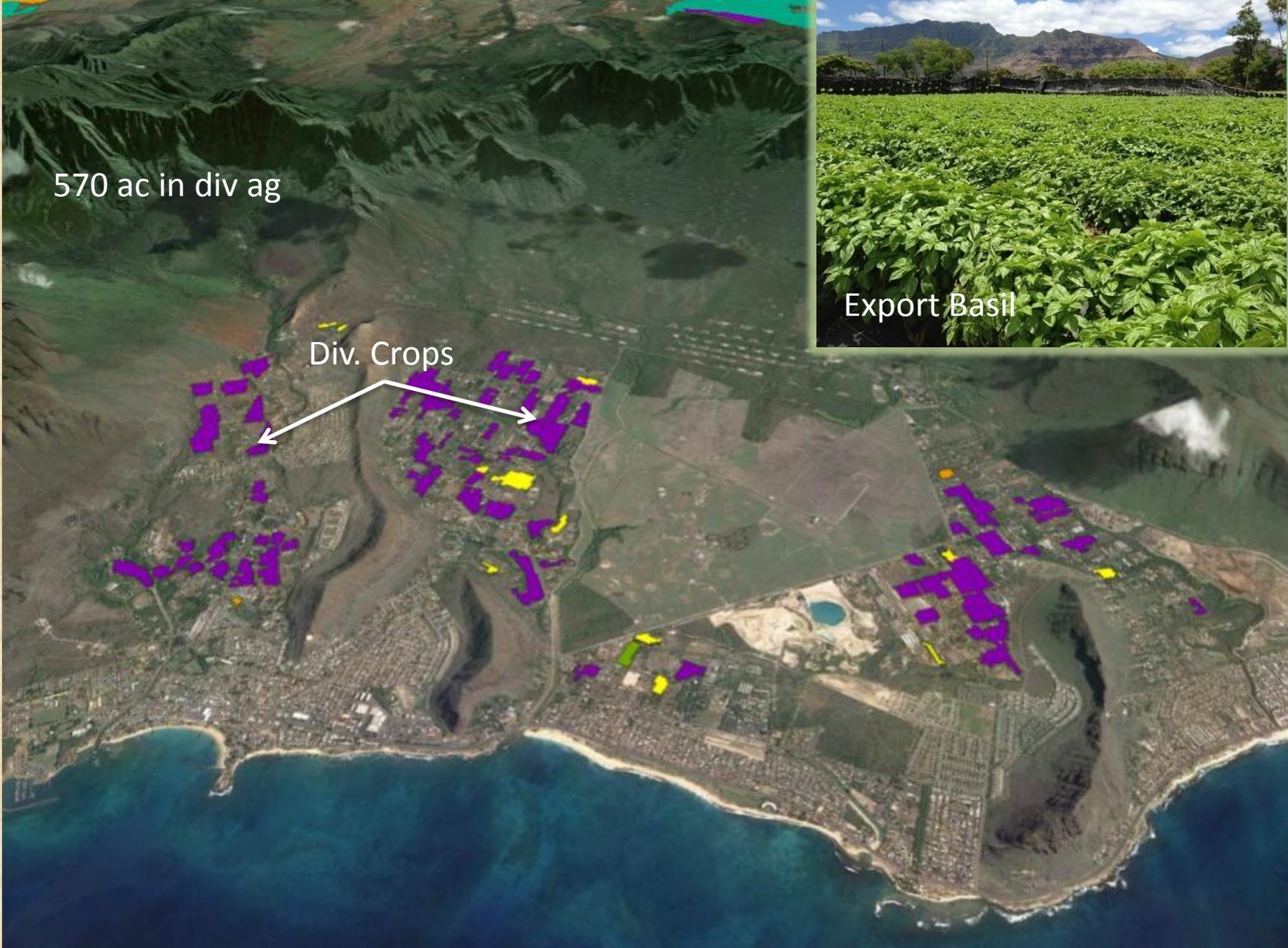


570 ac in div ag



Export Basil

Div. Crops

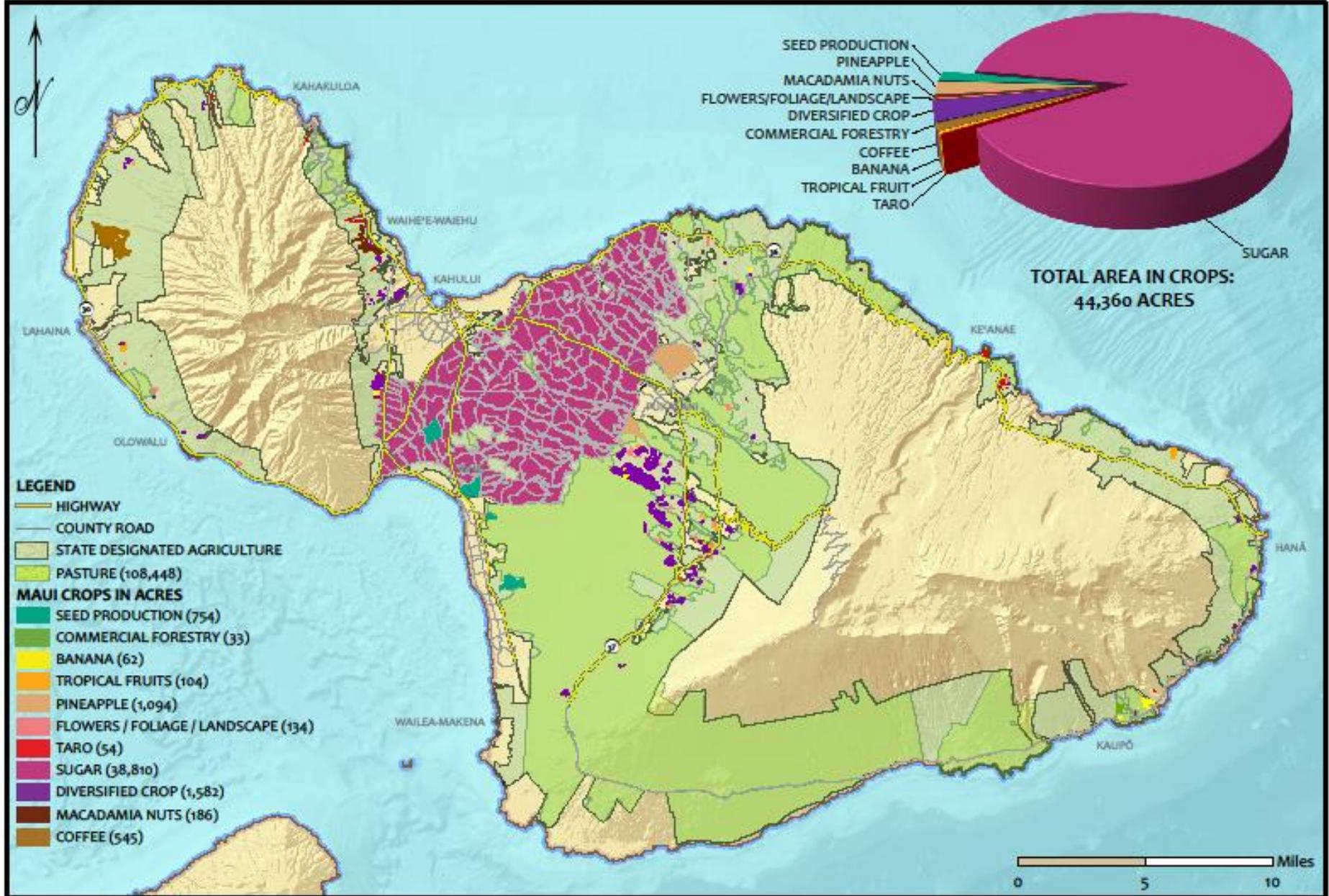


Google earth

Data SOEST/UHM
Image © 2015 DigitalGlobe
Image USGS

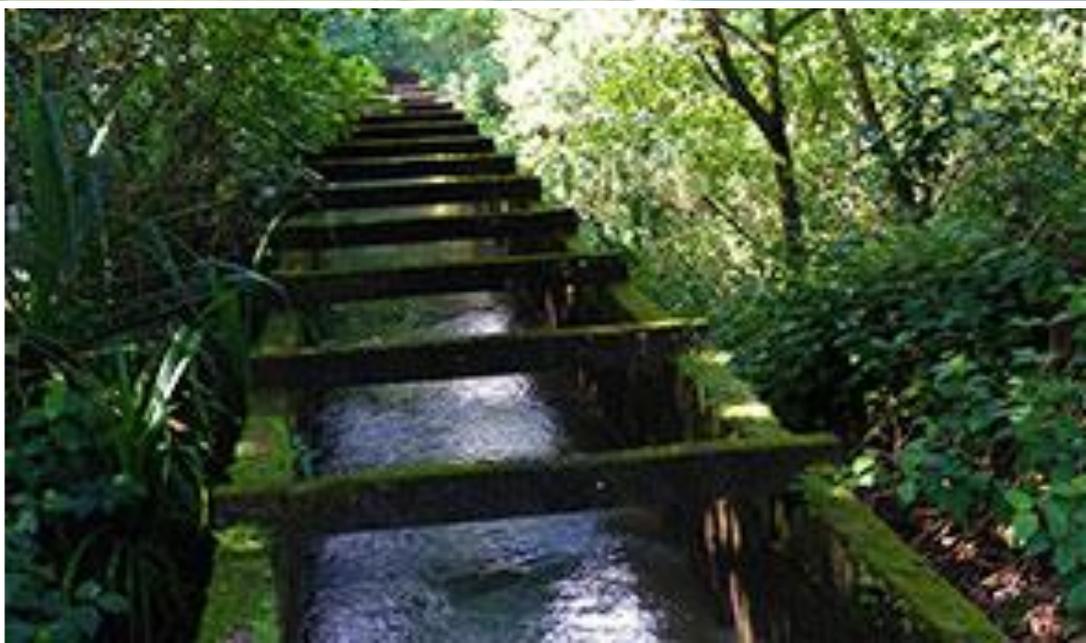
Waianae Coast



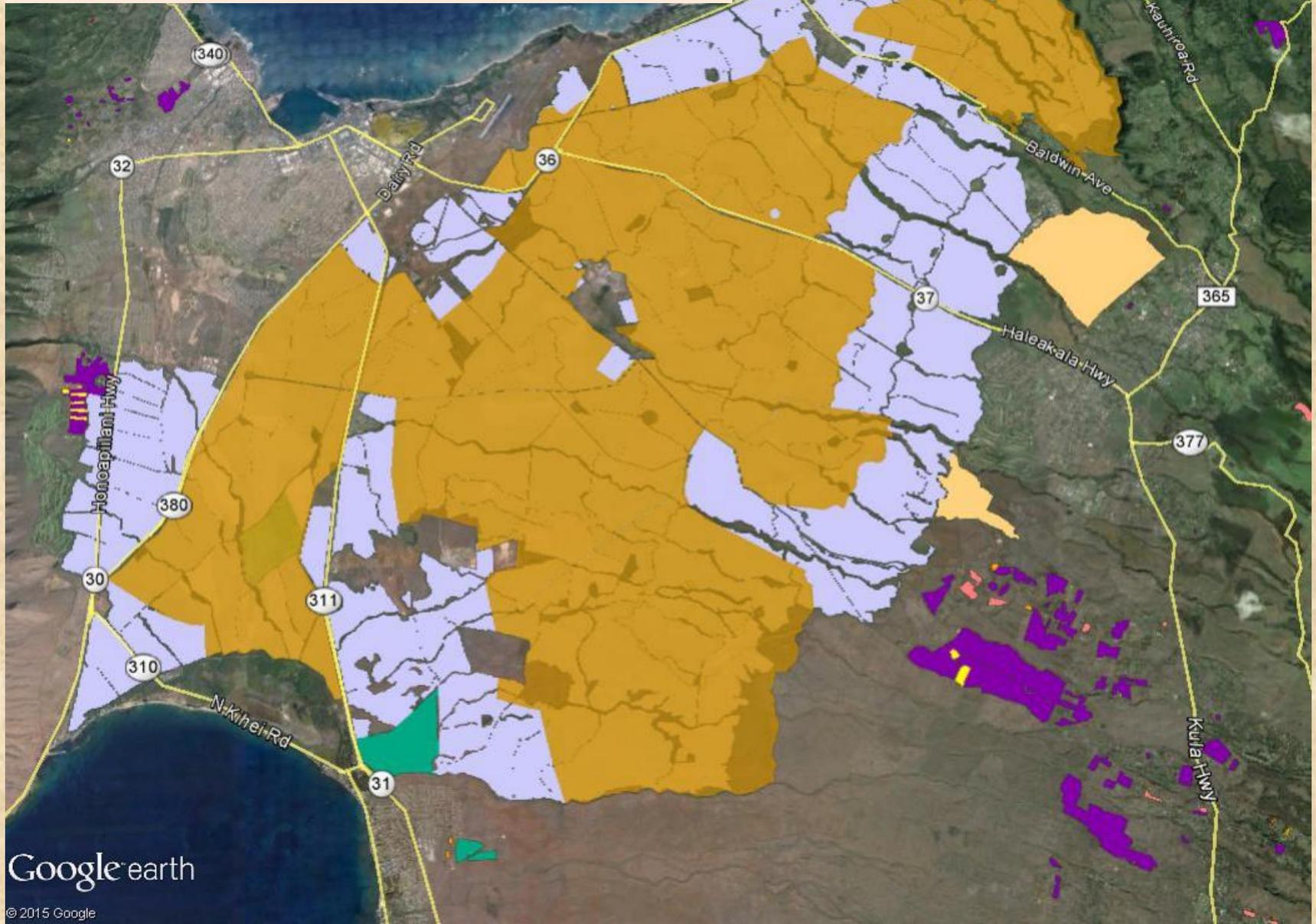




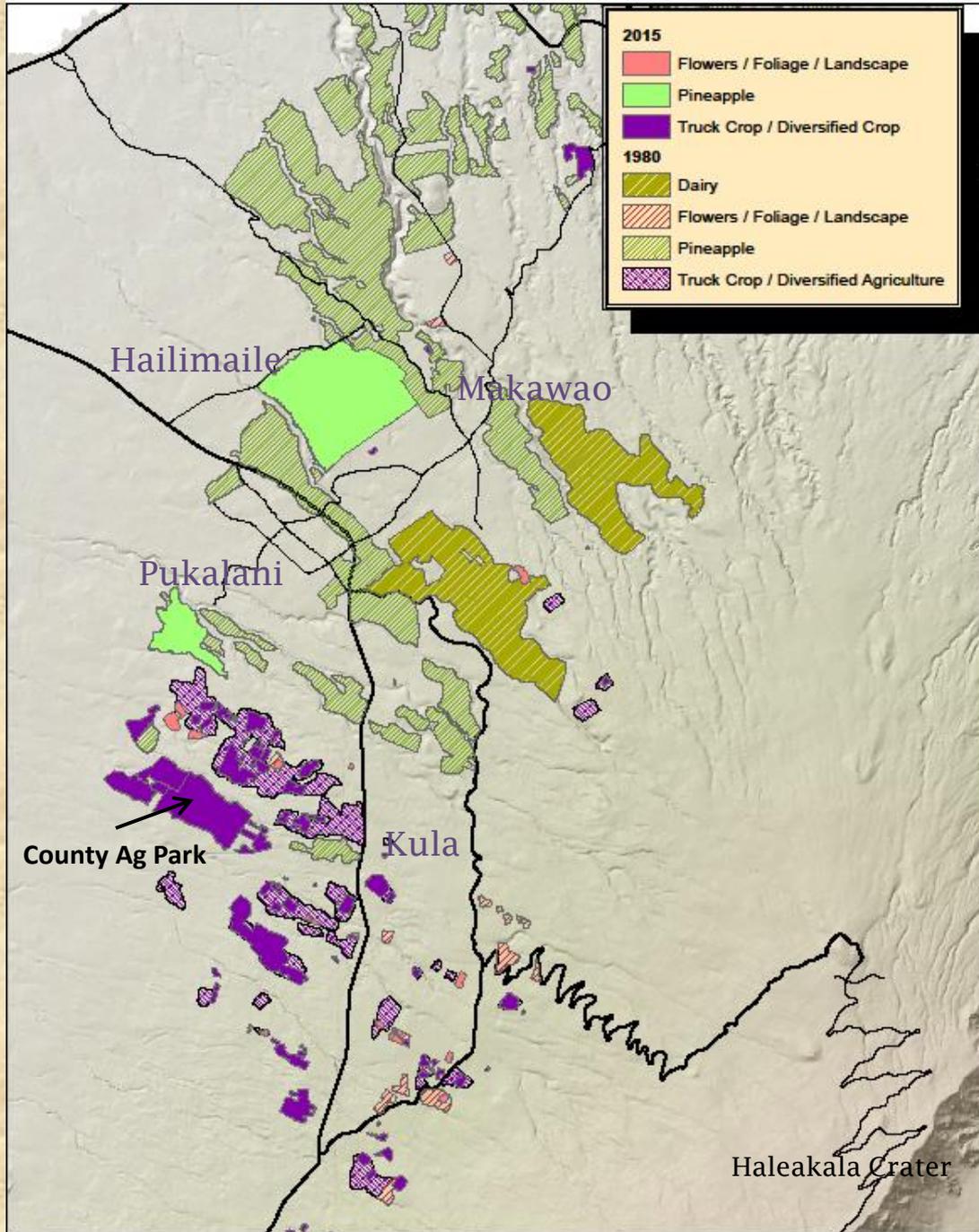
FOR SALE
• 53 acres 68500 PER ACRE
• Sub-dividable
• 1750 sq. ft house
• 2400 sq. ft barn
For more information:
GMAOPIOENIKU@GMAIL.COM

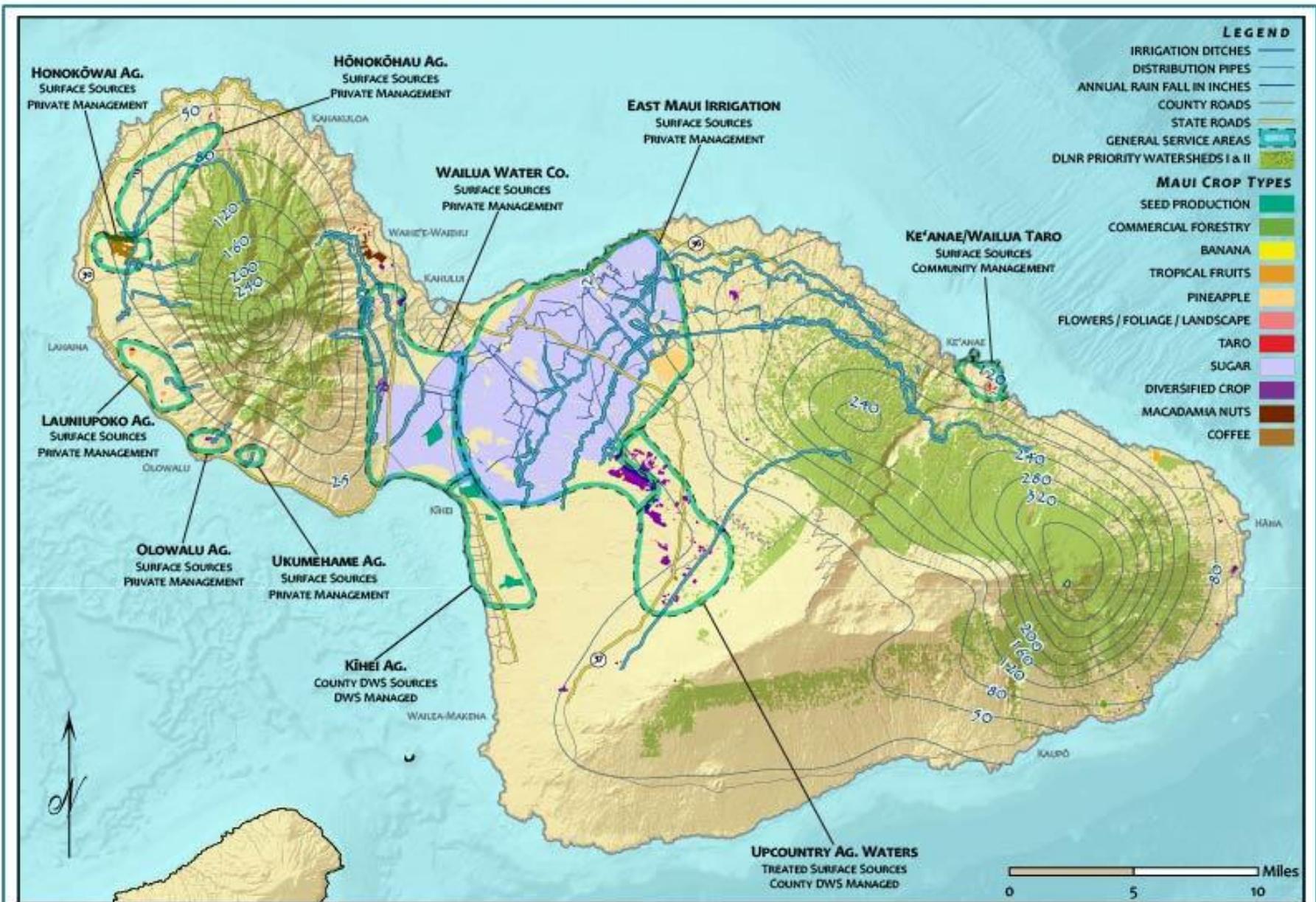


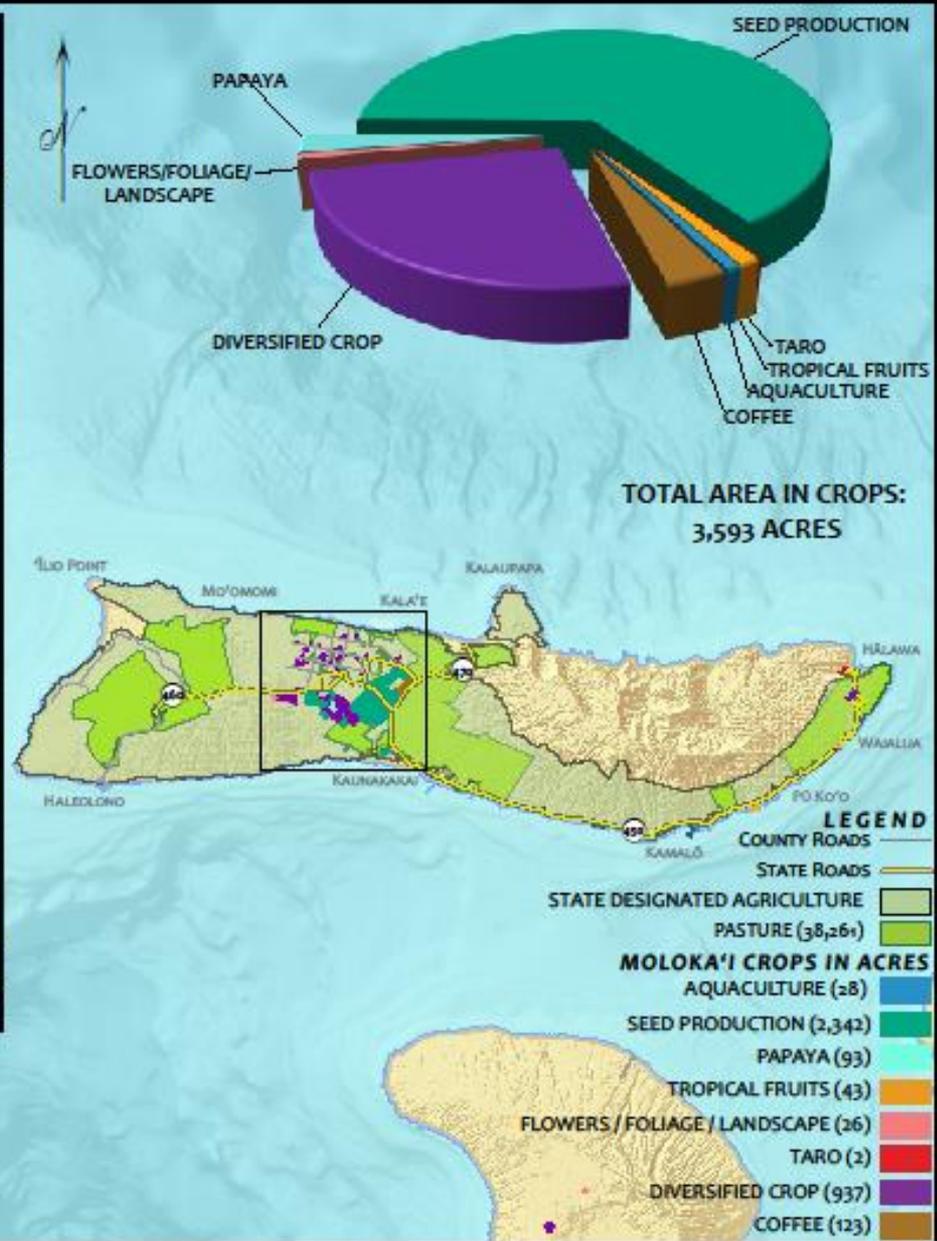
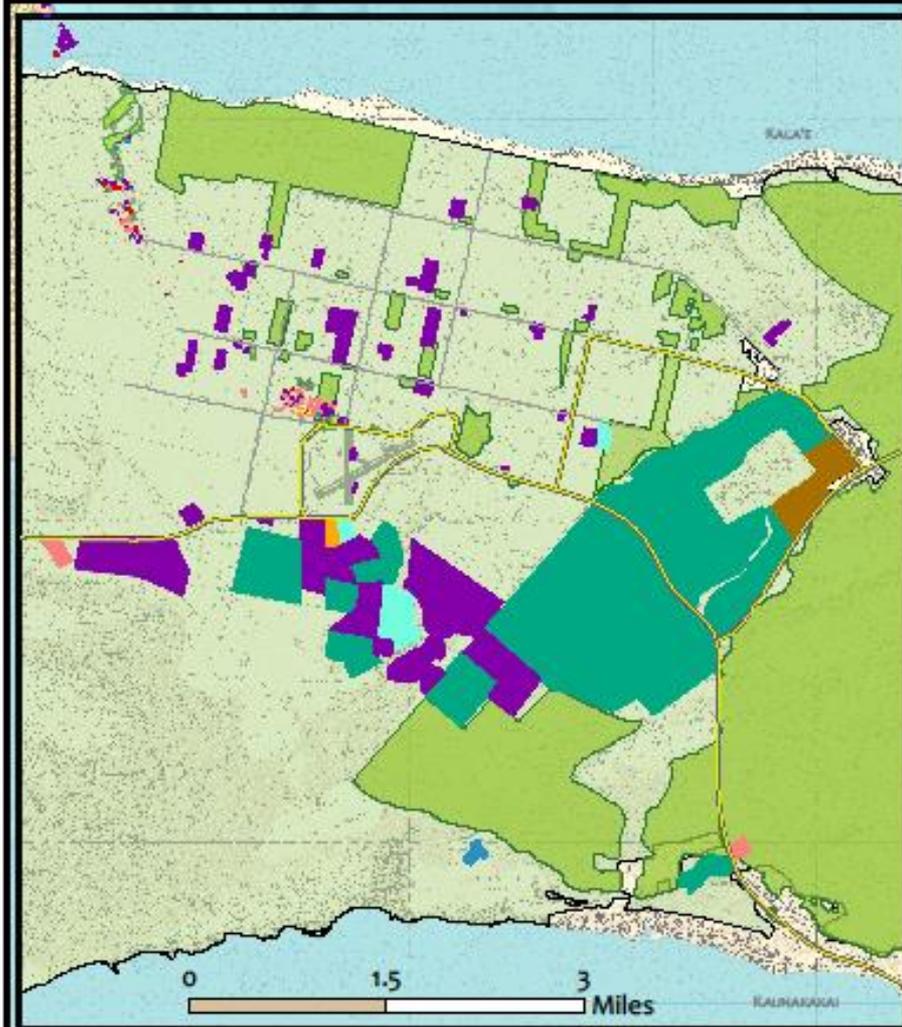
Important Ag Lands on 2015 Crops

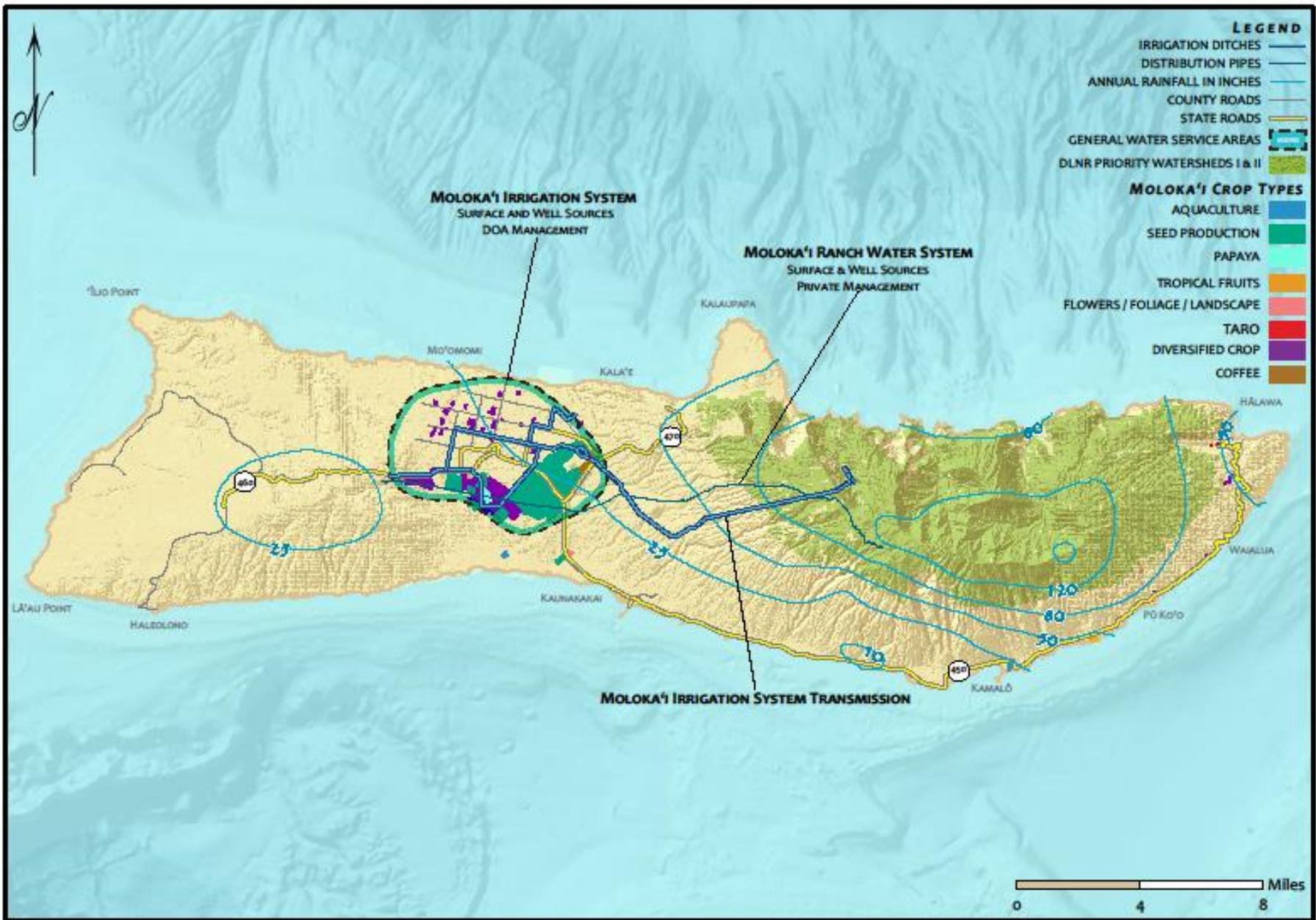


Upcountry Maui Crop Comparison 2015 vs. 1980



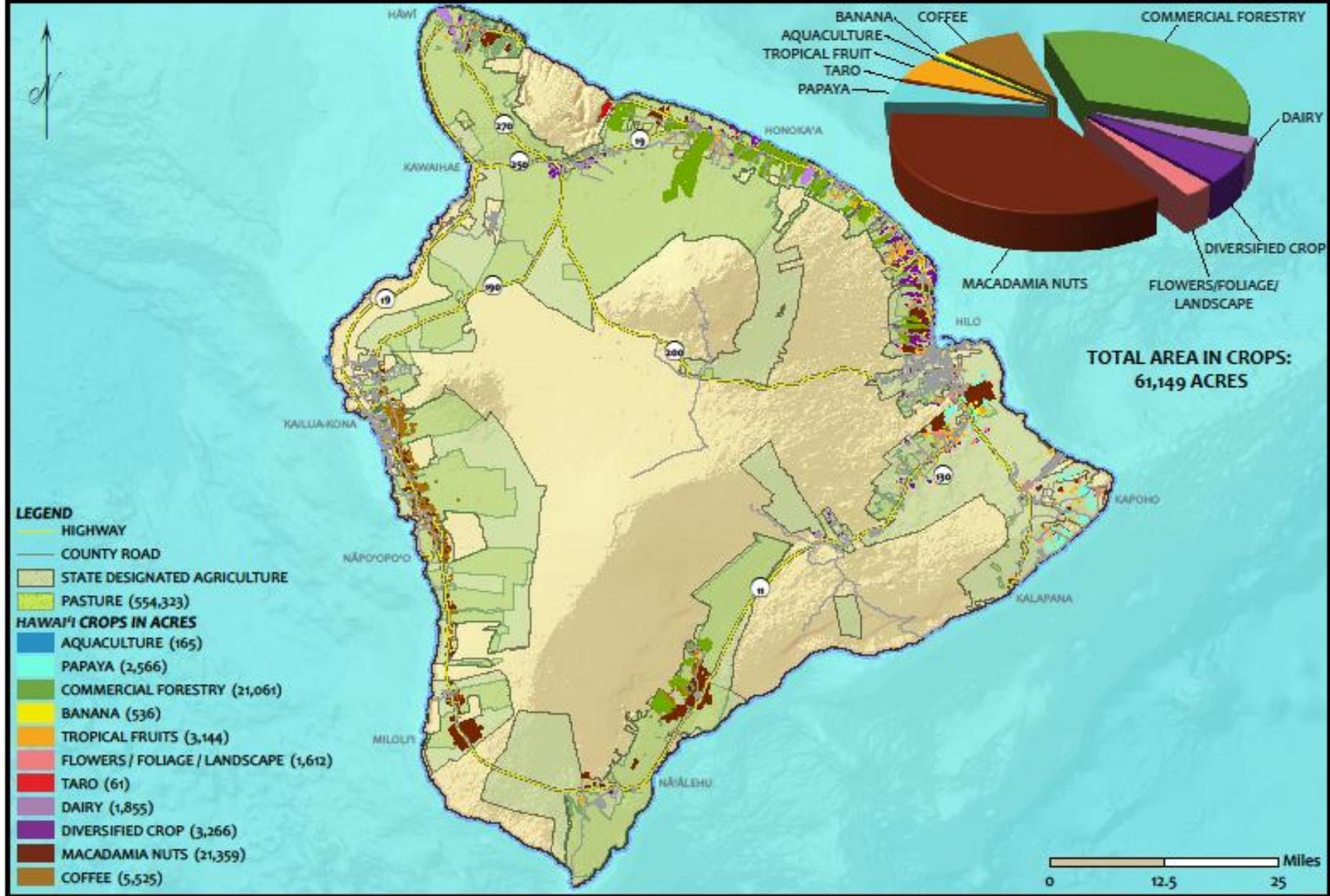






MOLOKA'I AGRICULTURAL WATER RESOURCES (2015)



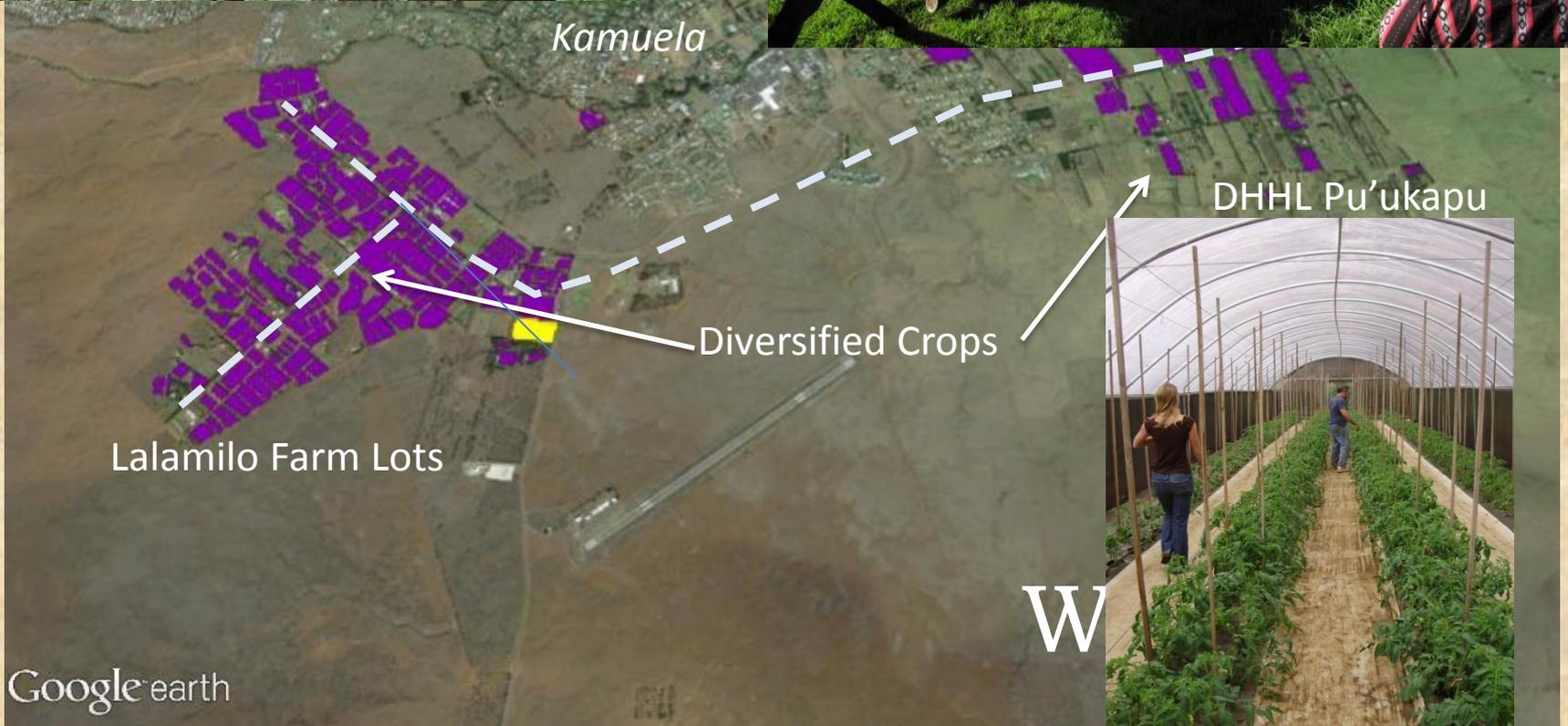


HAWAII ISLAND CROP SUMMARY (2015)





Kamuela

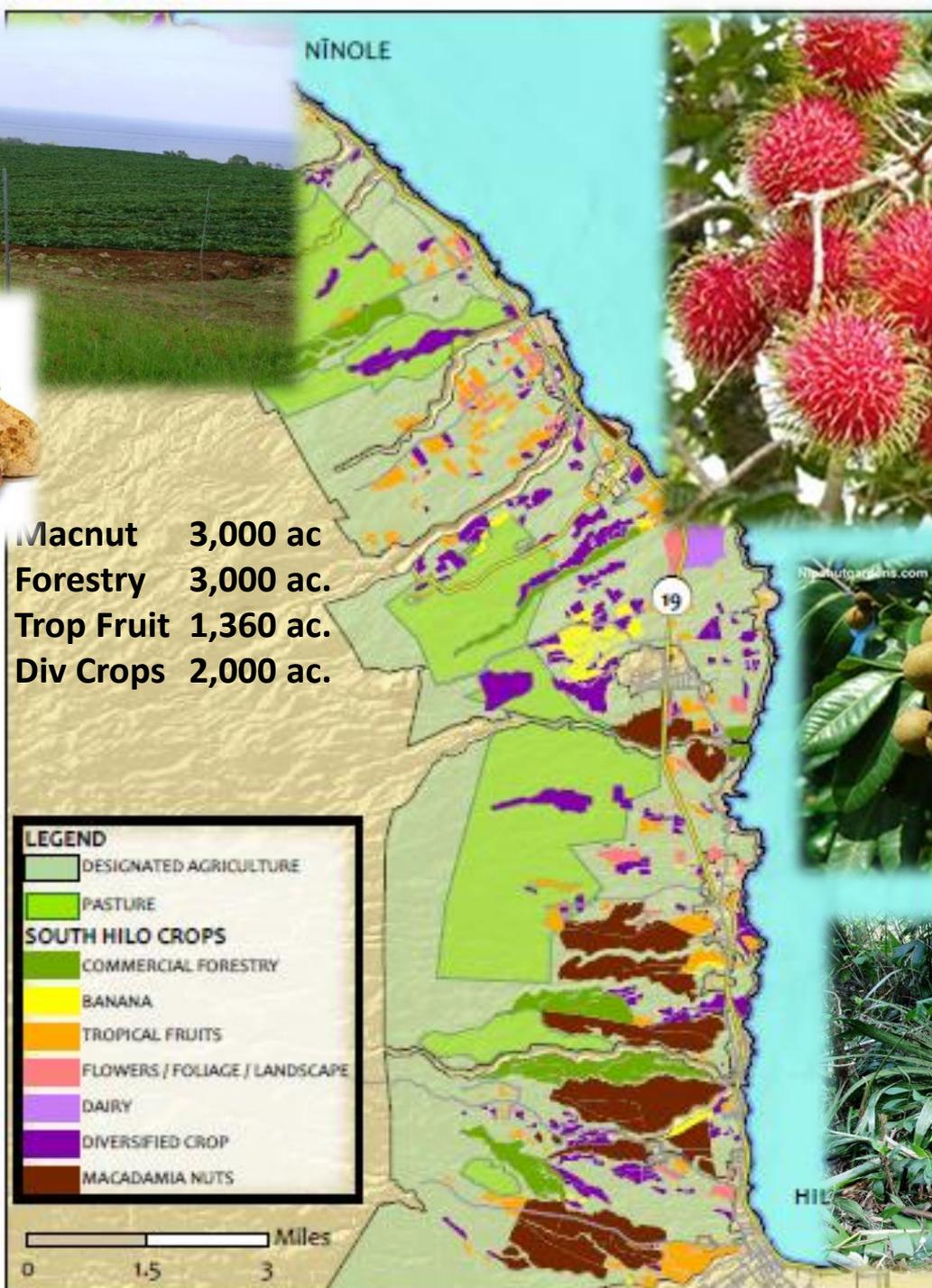


Lalamilo Farm Lots

Diversified Crops

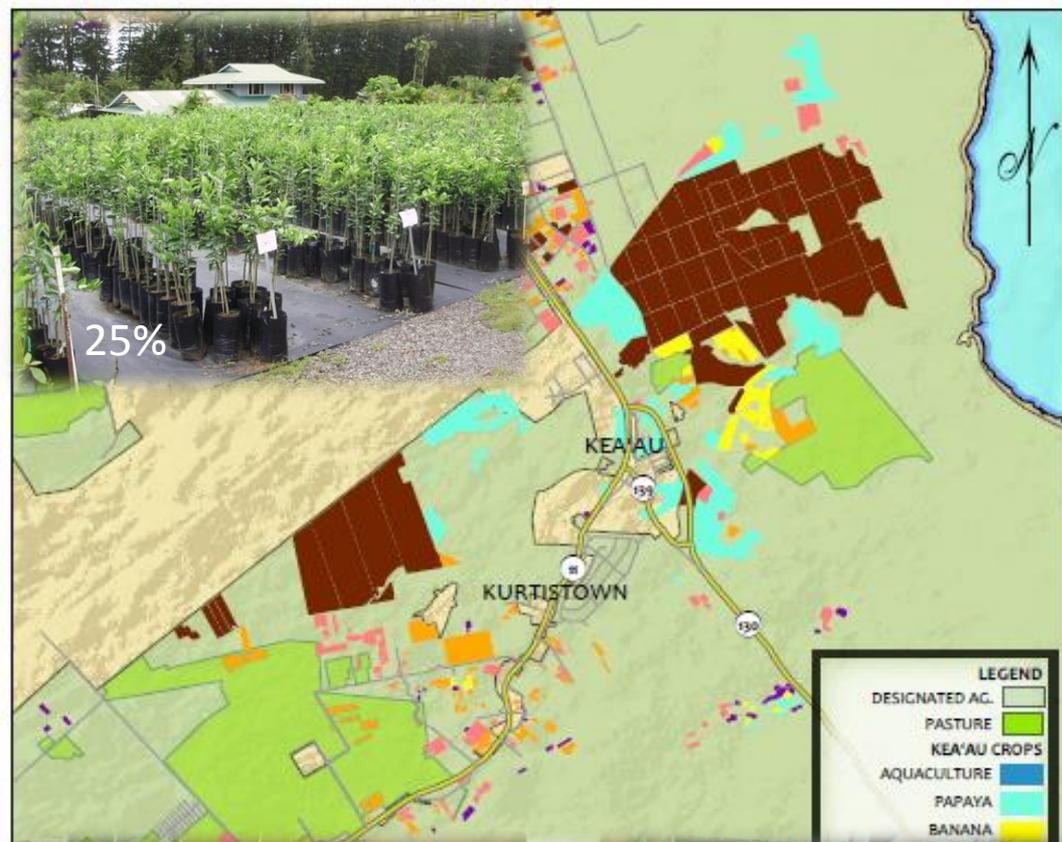
DHL Pu'ukapu





Macnut 3,000 ac
 Forestry 3,000 ac.
 Trop Fruit 1,360 ac.
 Div Crops 2,000 ac.





LEGEND	
DESIGNATED AG.	[Brown Box]
PASTURE	[Light Green Box]
KEA'AU CROPS	[Dark Green Box]
AQUACULTURE	[Blue Box]
PAPAYA	[Cyan Box]
BANANA	[Yellow Box]



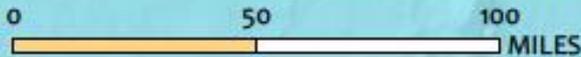


HAWAII AGRICULTURAL WATER RESOURCES (2015)





Island	Pasture Acres
O'AHU	18,400
MOLOKA'I	38,200
MAUI	108,400
KAUA'I	41,900
HAWAII'I	554,300
Total	761,200



135,000 head in 2014
 10,400 local harvest
 34,000 shipped (80% from HI)



Local Foods



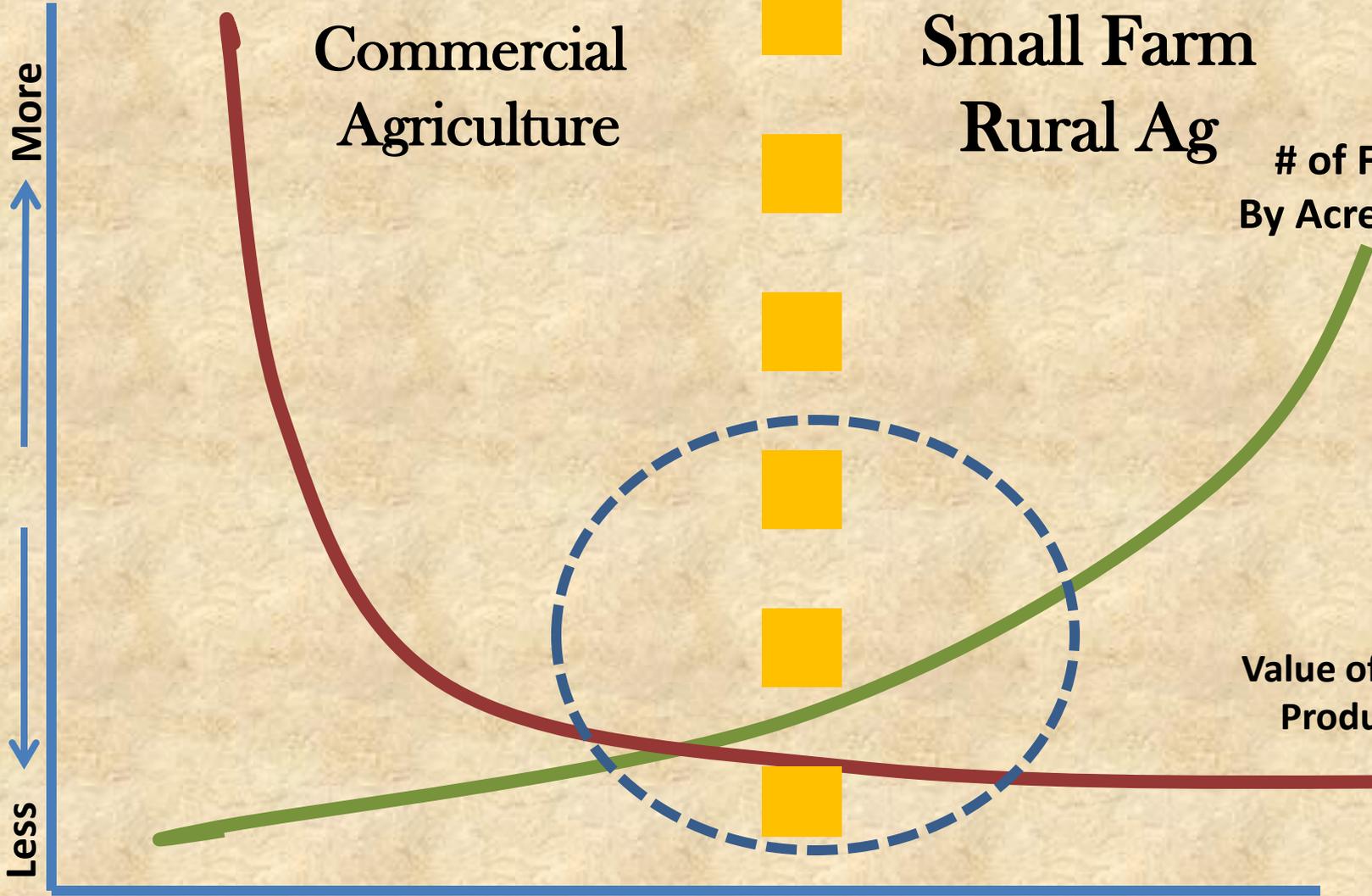
**Commercial
Agriculture**

**Small Farm
Rural Ag**

**# of Farmers
By Acres farmed**

7000 total
750 veg/melon
3000 fruit nut
1200 nursery
1000 ranchers

**Value of Crop
Produced**



Larger

Smaller

Take Aways

A great deal has changed since we developed our land use and water management regulations in the 70-80's:

- **Land Ownership patterns have fractured**
- **Regional agriculture is nearly gone**
- **Surface water storage has diminished due to dam safety regulations**
- **Millions of gallons have been returned to their natural stream courses statewide**
- **New and remaining ag users are smaller, more diversified, more decentralized, less corporate and with less capital**

The natural resource regulatory environment has become more complex, more demanding and compliance has become significantly more expensive.

Regulating Authorities have become docket and complaint driven with less emphasis on planning or setting pieces in place to support/enable new agriculture

What is a new Farmer or Rancher to do?



Thoughts?



