

County of Hawaii Water Use & Development Plan Update Keauhou Aquifer System



County of Hawaii
Department of Water Supply
for the
State of Hawaii
Commission on Water Resource Management

November 19, 2014

Background

Hawaii County Water Use & Development Plan

- Updated original WUDP prepared in 1990
- Initiated in 2004
- Final Draft Plan 2010
- Adopted by County Ordinance – February 2011
- Accepted by CWRM – November 2011

Background

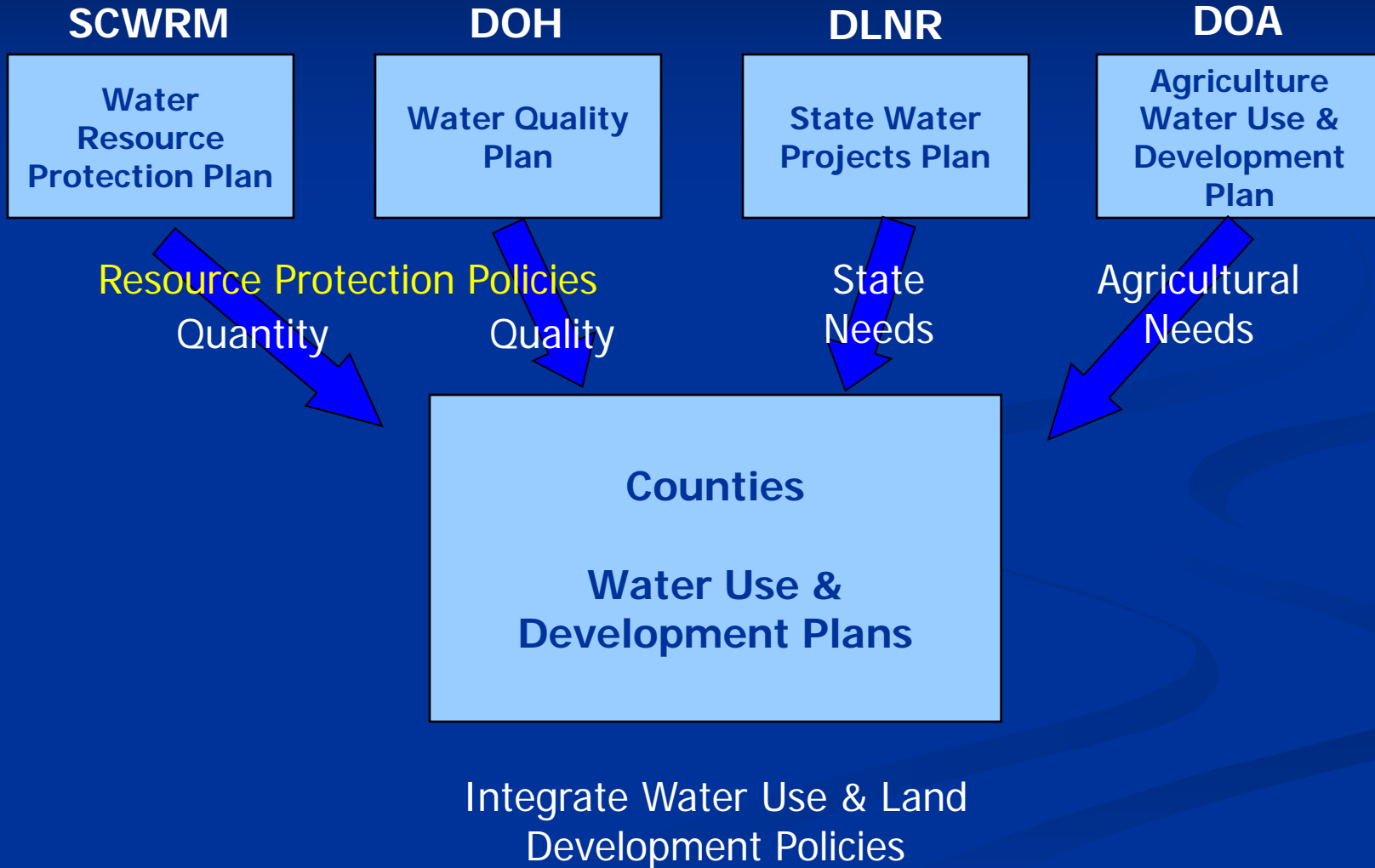
Findings and Recommendations

- Conducted island-wide assessment
- Identification of “sensitive” and “less-sensitive” areas
- Priority focus on most “sensitive” areas
 - Hualalai Aquifer Sector – Keauhou Aquifer System
 - West Mauna Kea Aquifer Sector – Waimea Aquifer System

Guiding Principles

- Water is a most precious resource and shall be used wisely – conserve; don't waste it.
- Highest quality water shall be used for the community's highest beneficial uses.
- Lower quality water (reuse water, surface water, brackish water) should be used whenever possible.

Hawaii Water Plan



County Water Use & Development Plans

Objective –

*“to set forth the allocation of **water to land use** through the development of policies & strategies to guide the County in its **planning, management and development of water resources to meet projected demands**”*

*The Commission recognizes that there is a need for flexibility to accommodate each county's individual needs, priorities, and specific water issues. Plan versatility is also necessary to encourage innovation as well as to **accommodate unique and county-specific concerns** that may be addressed within the WUDP.*

Assessment of Land Use Plans & Policies

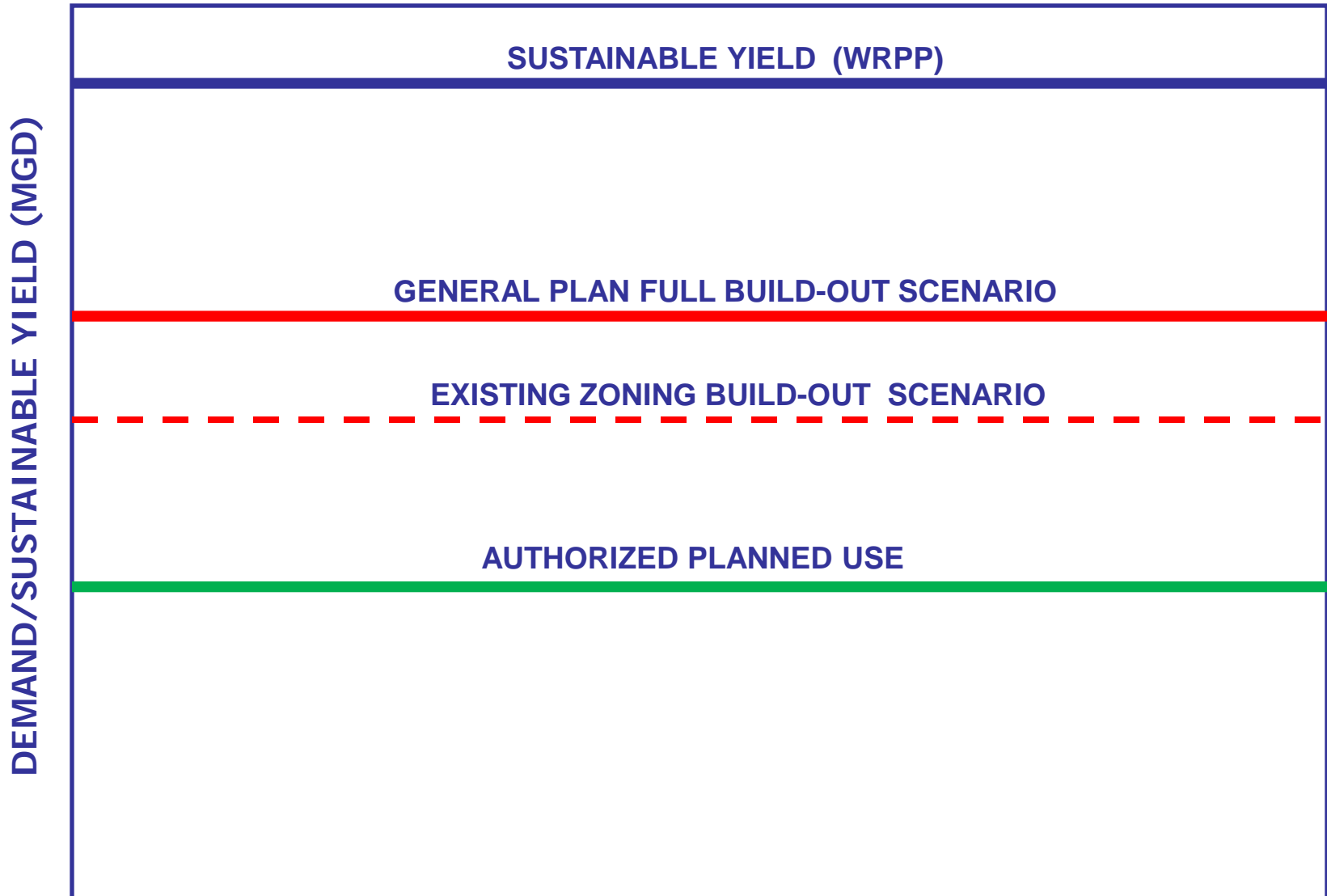
- Initial Assessment (Island-wide comparison)
 - Preliminary evaluation of sustainability of land use policies
 - Identification of “sensitive” and “less-sensitive” areas
 - Concept of “Full Build-out” scenarios
 - Application of standard water planning methods to existing land use plans and policies
 - Focus on domestic demands and groundwater sources

Full Build-out Scenario – ALL land area to be developed to its theoretical maximum extent

Land Use Plans & Policies

- State Land Use Classifications
 - Generalized Land Use Policies
- County General Plan – LUPAG
 - Land Use Pattern Allocation Guide
 - Ultimate Development “County Vision”
 - Community Development Plans – “Local Area Vision”
- County Zoning
 - Allowable Development “authorized” by Ordinance
 - Development still needs agency permits and regulatory approvals

SUSTAINABILITY OF LAND USE POLICIES



Proposed Refinements
Hawaii County WUDP Update 2014

Refinements

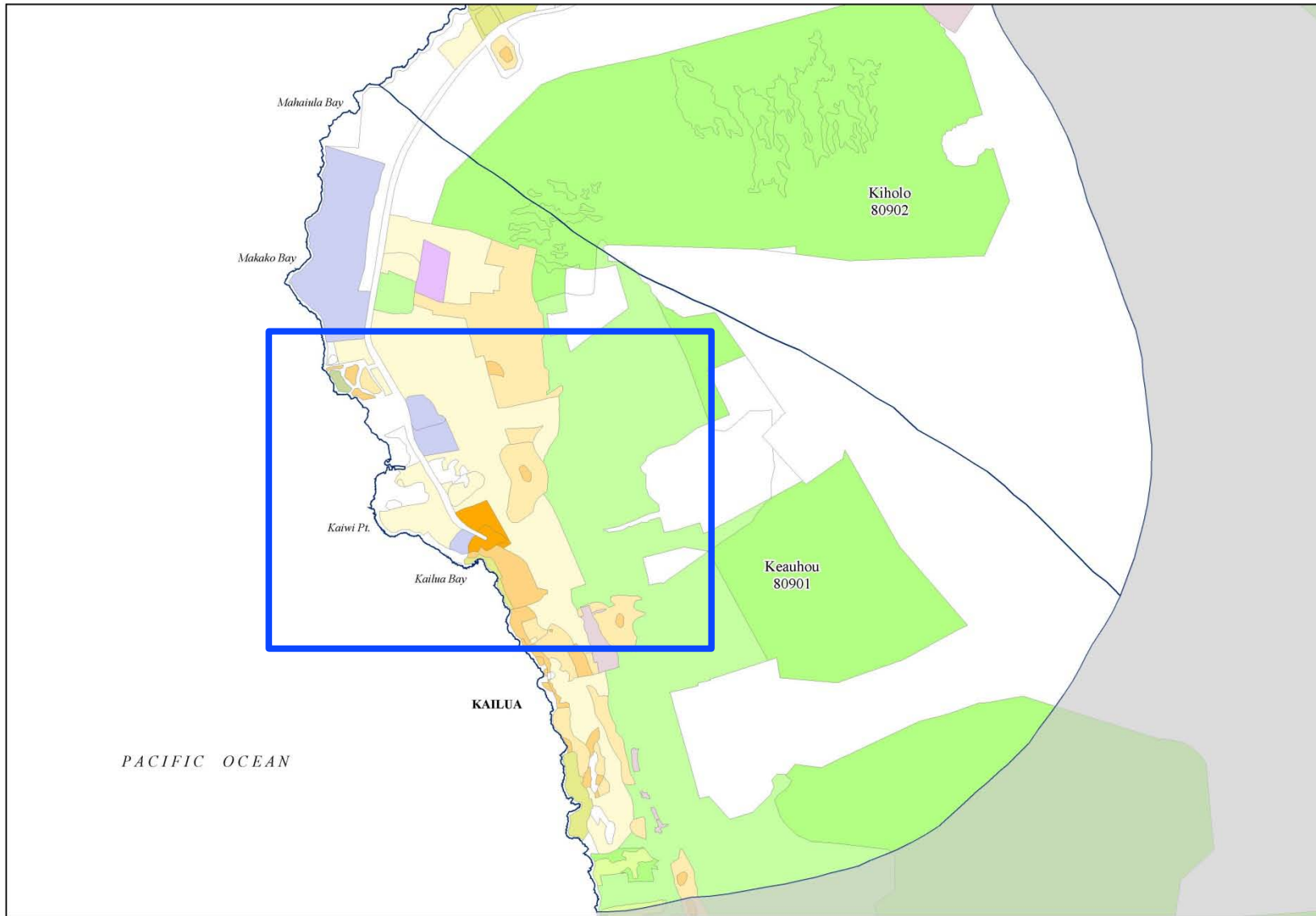
Incorporation of New Planning Information

- Kona Community Development Plan
- LUPAG Updates – County Planning Department
- Proposed and Recent Masterplan Developments

Refinements

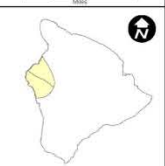
Assessment of Recent Developments

- Identification of existing users / developed parcels
- Focus on "infill development" of undeveloped lands
- Identify lands with "Authorized Planned Use"
 - DWS Water commitments/credits
 - Developer agreements
 - Vacant parcels with water laterals
 - Planning Department agreements
- Evaluation of water use trends – "unit rates"
- Reality check of original water use projections



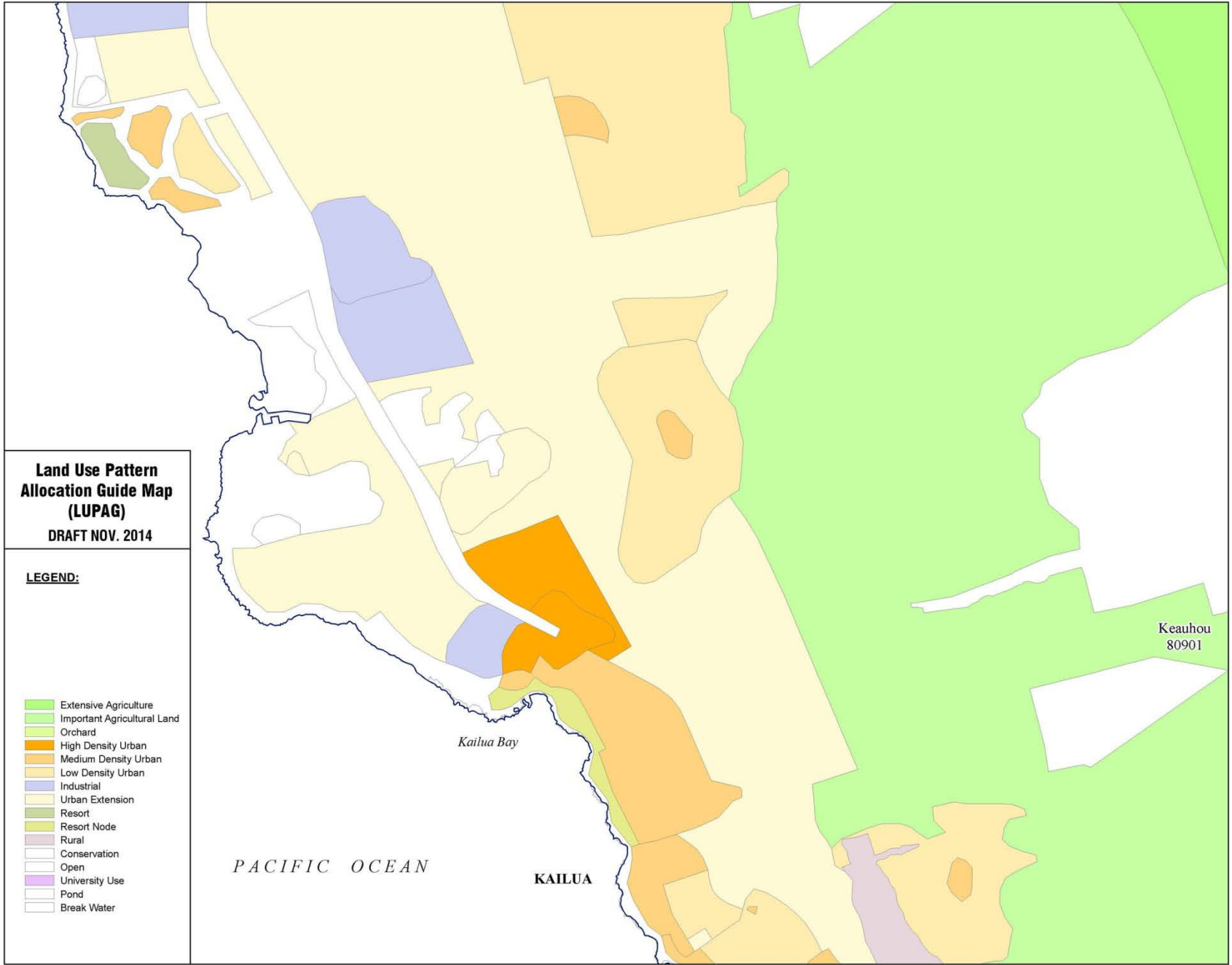
Hawaii County
 Department of Water Supply
**DWS UPDATE TO THE WATER USE
 AND DEVELOPMENT PLAN**
 Job No. 2003-818

- LEGEND:**
- Extensive Agriculture
 - Important Agricultural Land
 - Orchard
 - High Density Urban
 - Medium Density Urban
 - Low Density Urban
 - Industrial
 - Urban Extension
 - Resort
 - Resort Node
 - Rural
 - Conservation
 - Open
 - University Use
 - Pond
 - Break Water



LUPAG
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**Land Use Pattern
Allocation Guide Map
(LUPAG)**
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Keauhou
80901

Kailua Bay



















PACIFIC OCEAN

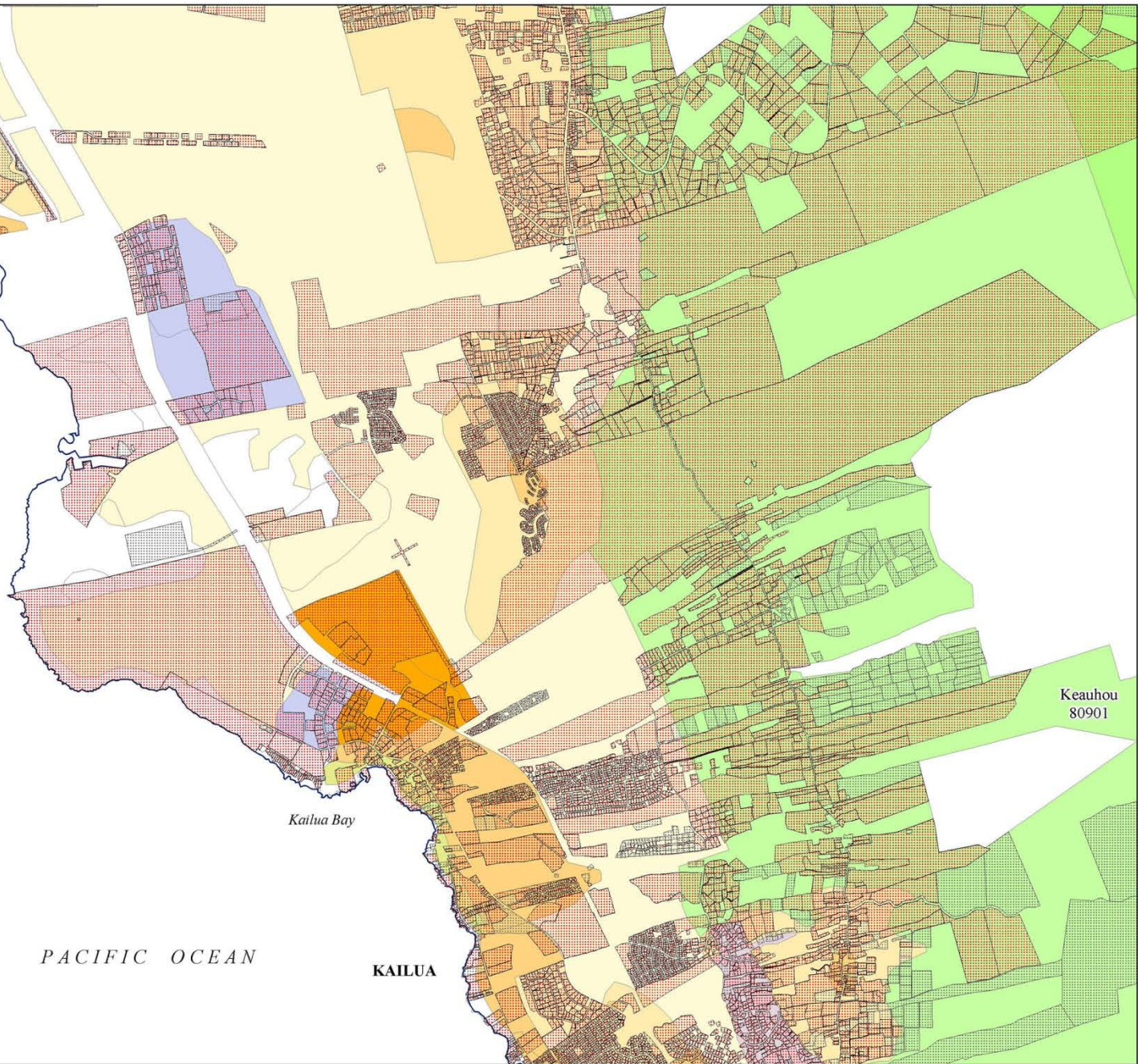
KAILUA

Existing Water Service & Developed Properties

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LEGEND:

-  Exist Water Service
-  Developed Properties
-  Extensive Agriculture
-  Important Agricultural Land
-  Orchard
-  High Density Urban
-  Medium Density Urban
-  Low Density Urban
-  Industrial
-  Urban Extension
-  Resort
-  Resort Node
-  Rural
-  Conservation
-  Open
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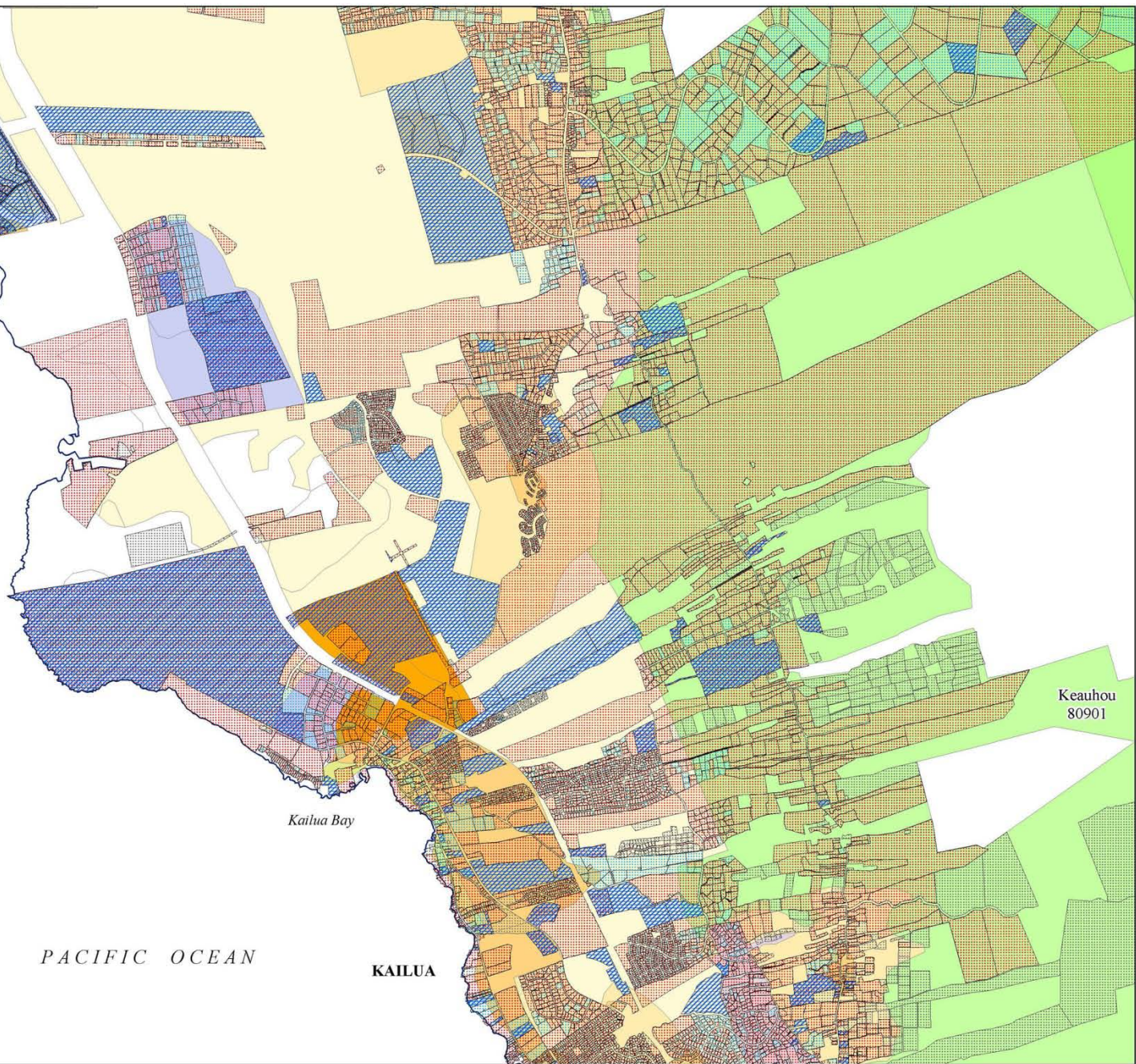


Authorized Planned Use

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LEGEND:

-  Water Commitments
-  Developer Agreements
-  Planning Dept Projects
-  Vacant Laterals
-  Exist Water Service
-  Developed Properties
-  Extensive Agriculture
-  Important Agricultural Land
-  Orchard
-  High Density Urban
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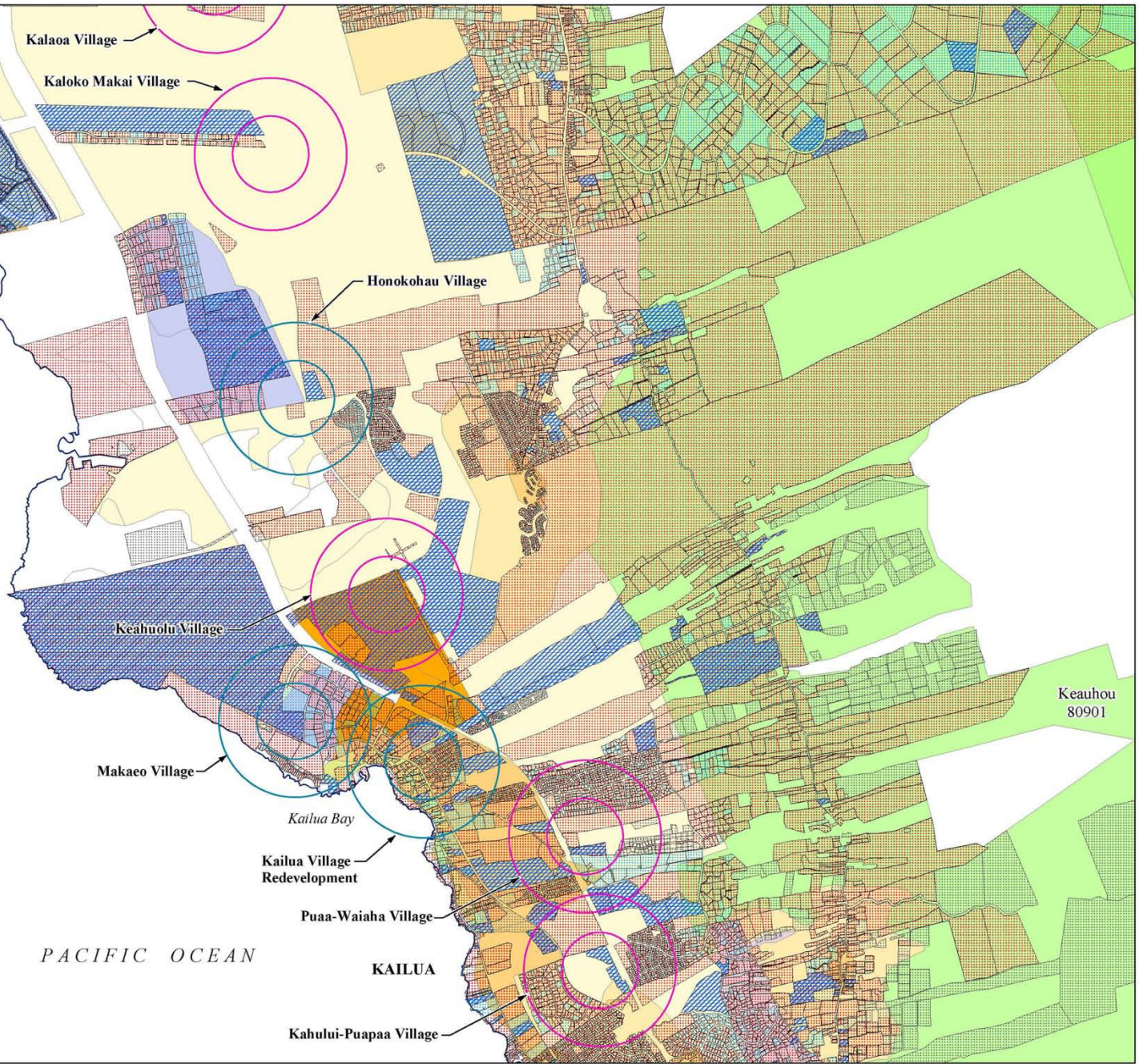


Kona Community Development Plan (CDP)

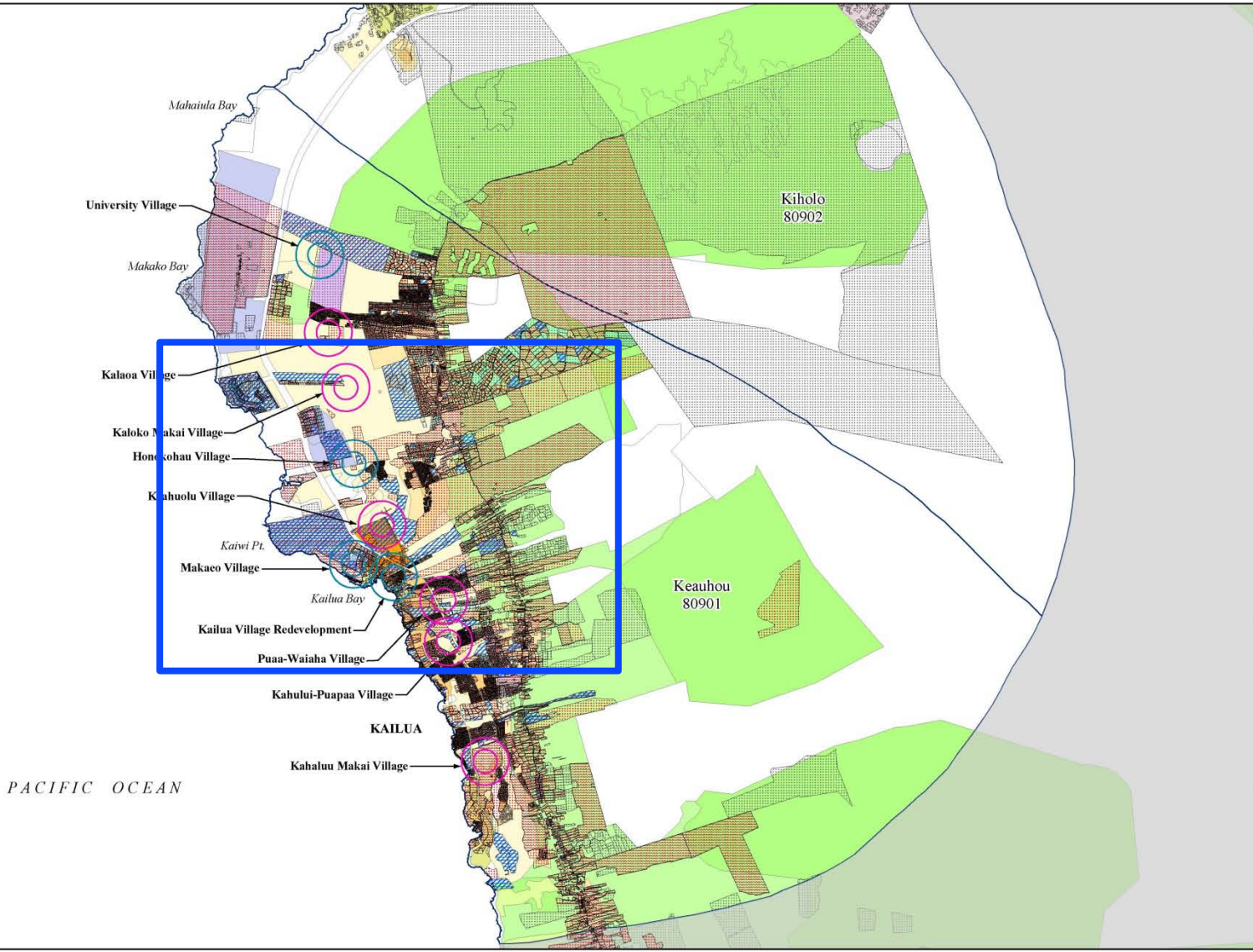
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LEGEND:

-  Neighborhoods
-  Regional Centers
-  Water Commitments
-  Developer Agreements
-  Planning Dept Projects
-  Vacant Laterals
-  Exist Water Service
-  Developed Properties
-  Extensive Agriculture
-  Important Agricultural Land
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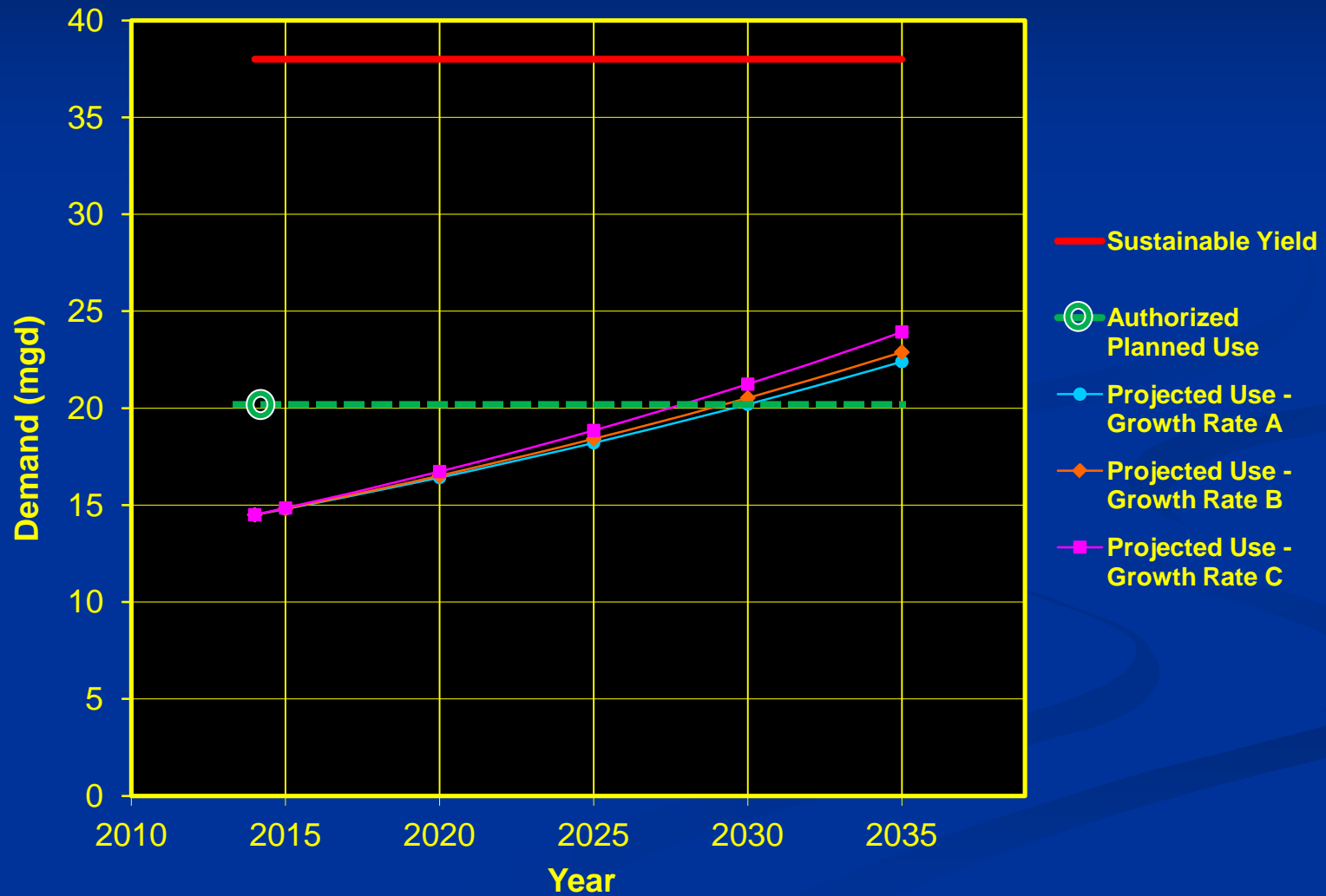
[Pink Box]	Neighborhoods
[Blue Box]	Regional Centers
[Blue Hatched Box]	Water Commitments
[Blue Dotted Box]	Developer Agreements
[Blue Grid Box]	Planning Dept Projects
[Blue Stippled Box]	Warrant Laterals
[Red Stippled Box]	Exist Water Service
[Green Stippled Box]	Developed Properties
[Light Green Box]	Extensive Agriculture
[Light Green Box]	Important Agricultural Land
[Light Green Box]	Orchard
[Orange Box]	High Density Urban
[Yellow Box]	Medium Density Urban
[Light Yellow Box]	Low Density Urban
[Light Yellow Box]	Industrial
[Light Yellow Box]	Urban Extension
[Light Green Box]	Resort
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INDEX MAP - Island of Hawaii

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Keauhou Aquifer System Area Projected Demands



Summary – 2014 Preliminary Inspection

- 2010 WUDP has served its initial purpose of identifying sensitive & less sensitive areas of the Island
- Much of the area is already served by DWS System
- Existing use and authorized planned use added together is currently about 20 MGD
- Initial data suggests that unit rates (residential & agricultural) are typically within normal planning ranges

Questions?

