

WAI Committee

From: Eva Blumenstein <Eva.Blumenstein@co.maui.hi.us>
Sent: Thursday, August 15, 2019 11:39 AM
To: WAI Committee
Cc: Jeff Pearson; Christy Chung; Raynette Yap
Subject: WAI-36 presentation
Attachments: 2019-08-19 WUDP WAI.pdf

Dear Chair Lee:

Please find attached the Department of Water Supply's August 19 presentation to introduce the Maui Island Water Use & Development Plan update.

Thank you,

Eva Blumenstein

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MAUI ISLAND WATER USE & DEVELOPMENT PLAN UPDATE

**Council of the County of Maui
Water and Infrastructure Committee**

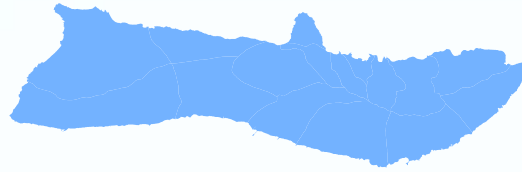
August 19, 2019

County of Maui Department of Water Supply

Presentation Outline

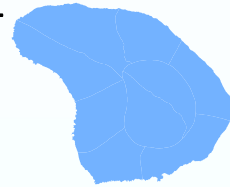
- Plan Approval Process and Status
- Purpose and Requirements
- Regulatory and Planning Framework
- Approach and Methodology
- Resource Assessment
- Existing Use & Projected Demand
- Strategies

Plan Approval Process and Status



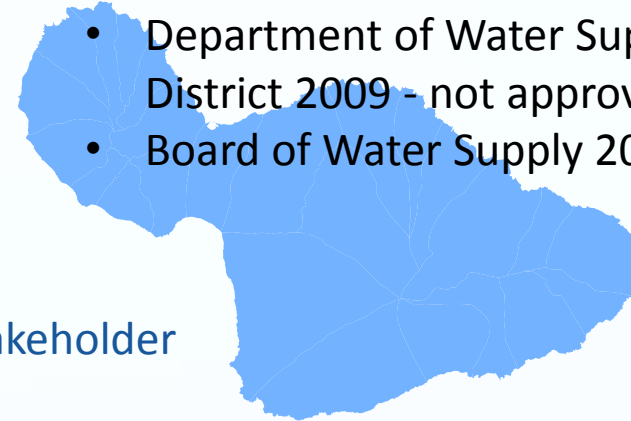
Moloka'i ...2020

Lana'i - adopted 2011



Maui

- Department of Water Supply Central District 2009 - not approved by CWRM
- Board of Water Supply 2019



2016

20 Public meetings, Targeted Stakeholder Meetings and Public Workshops

2017

16 Presentations and Briefings to CWRM/Board of Water Supply/County Council

2018

Board of Water Supply Public Hearings

2019

Board of Water Supply Comments

2020

County Council Adoption by Ordinance

CWRM Final Plan Approval

WUDP Purpose and Requirements

Guide and advise the Maui County Council and the State Commission on Water Resource Management in planning, management, development, use and allocation of the island's water resources

Ensure that the future water needs of the county are met by allocating water to land use

The plan shall serve as the primary **guide** to the council, the department, and all other agencies of the County:

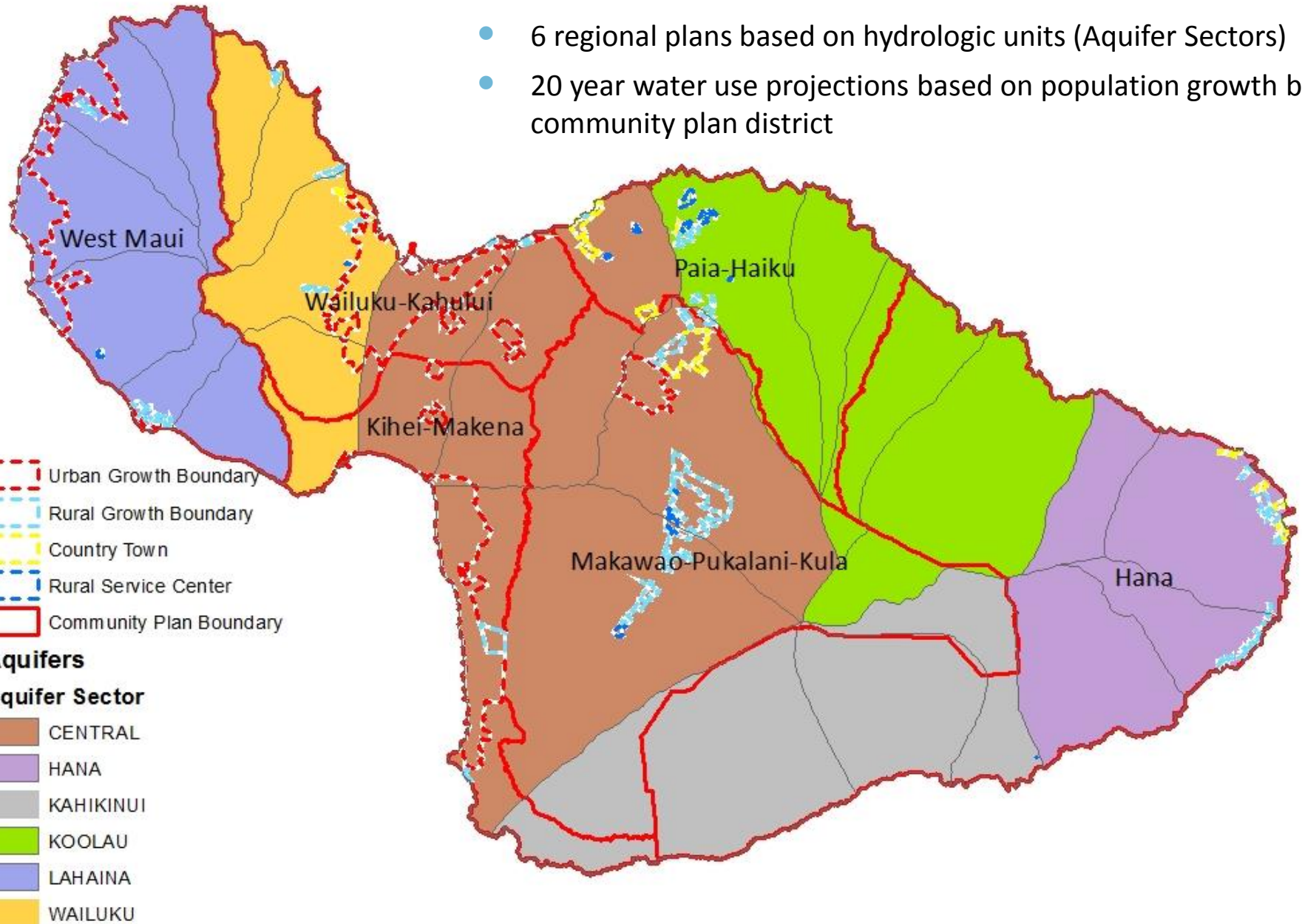
1. In approving or recommending to other agencies the use or commitment of the water resources in the county;
2. In using public funds to develop water resources to meet existing and projected future demands on the public water system as set forth in the plan

HRS§174C-31, HAR §13-170-30 – 32

Maui County Code Chapter 14.02

WUDP Approach and Methodology

- 6 regional plans based on hydrologic units (Aquifer Sectors)
- 20 year water use projections based on population growth by community plan district



Regulatory and Planning Framework

Hawai'i Water Plan

Maui County WUDP 1990
Agricultural WUDP – 2004
State Water Projects - 2003 (DHHL 2017)
Water Resource Protection – 2019 Draft
Water Quality – 2019

Land Use Plans

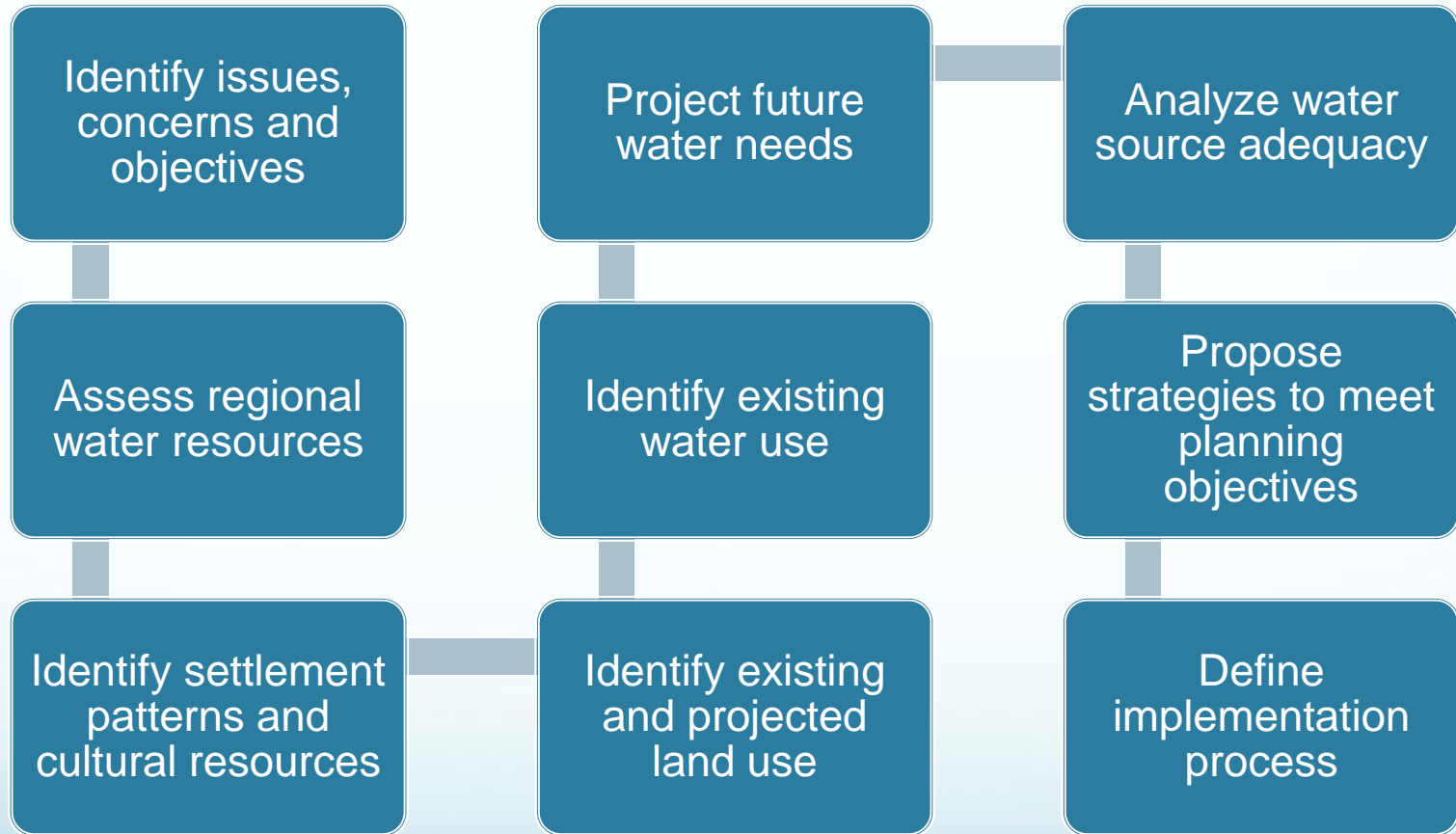
Countywide Policy Plan (2011)
Maui Island Plan 2012
Community Plans (1994 – 2002)
State Land Use designations and policies
DHHL Land Use Plans

- Supports and integrates with Maui Island Plan and directed growth plan
- Applies to all water systems and users, potable and non potable water
- Allocates water resources to land use by identifying strategies and policies to meet demand associated with planned growth
- Informs the DWS capital improvement program (source, storage, infrastructure, conservation)

The WUDP does not:

- Propose growth rates or locations different from Maui Island Plan
- Provide infrastructure detail (specify source site and schedule)

Methodology



Integrated Planning Process/Community Participation

2016 - 2018:

- 12 regional community meetings
- 7 target interest group meetings.
- Ka Pa'akai consultation process
- 16 presentations and briefings to CWRM, Board of Water Supply, County Council, Planning Department, Cultural Resources Commission
- 5 Board of Water Supply public hearings
- Surveys distributed at meetings and online



**Issues &
Concerns**



**Values &
Principles**



**Planning
Objectives**

Planning Objectives

- Maui Island Plan, directed growth strategies
- Community plans
- State Land Use Plan, Hawaii Water Plan, Watershed Management Plans
- WUDP public process: community, stakeholder, and policy board meetings, surveys and online outreach

Objective	Description
Availability	Provide Adequate Volume of Water Supply
Quality	Maximize Water Quality
Reliability	Maximize Reliability of Water Service
Efficiency	Maximize Efficiency of Water Use
Cost	Minimize Cost of Water Supply
Viability	Establish Viable Plans
Conformity	Maintain Consistency with General & Community Plans
Equity	Manage Water Equitably
DHHL	Provide for DHHL Needs
Agriculture	Provide for Agricultural Needs
Culture	Protect Cultural Resources
Sustainability	Maintain Sustainable Resources
Environment	Minimize Adverse Environmental Impacts
Resources	Protect Water Resources
Streams	Protect and Restore Streams

Major Changes and Constraints

No data adjustments made for events that occurred after plan submitted to Board of Water Supply August 10, 2018

Na Wai 'Eha contested case

- Scenario used: Hearing officer's November 2017 recommendation
- Adjust when decision on IIFS and water use permits
- Affects strategy

East Maui contested case/HC&S Transition

- June 2018 IIFS incorporated
- HC&S diversified ag plan and alternative ag use scenarios evaluated
- Affects water use demand

West Maui – establishment of IIFS

- Available stream assessments incorporated
- WUDP process - consult with community on approach & scenarios
- Affects strategy

CWRM Water Resources Protection Plan Update – revisions to sustainable yield

- Anticipated revisions
- Does not affect strategies

Resource Assessment

Groundwater

- Sustainable Yield
- Water Quality
- Climate change impacts
- Designated management areas

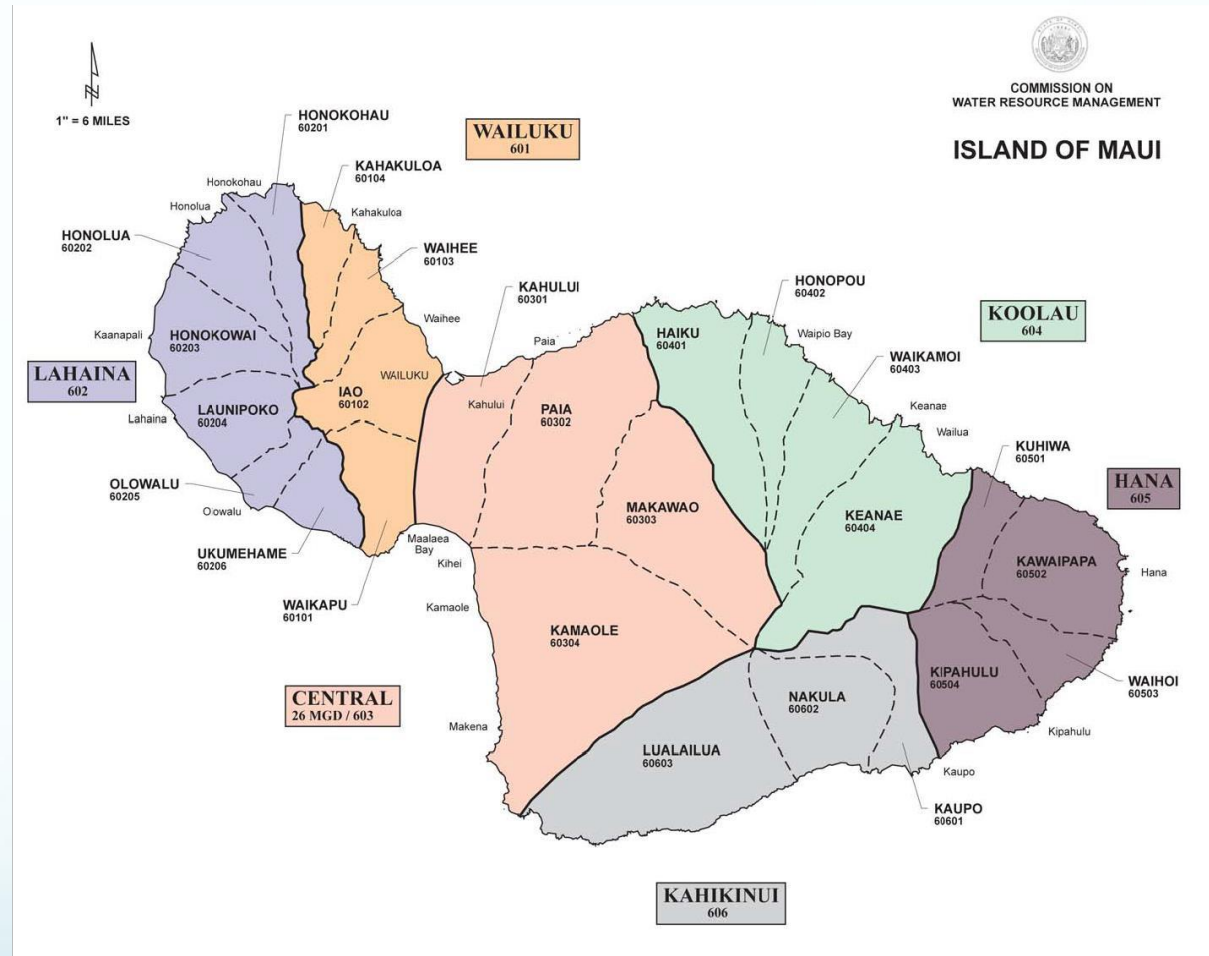
Surface Water

- Interim Instream Flow Standards
- Low flow conditions
- Base flow vs Total Flow
- Climate change impacts

Stormwater

Recycled water

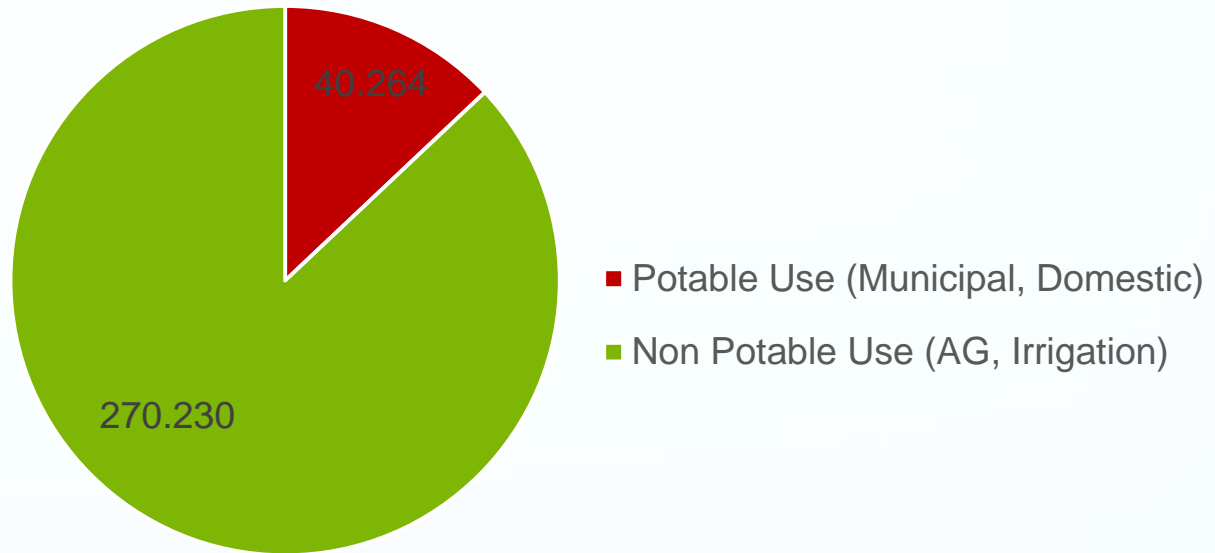
Ambient rainfall and rainwater catchment



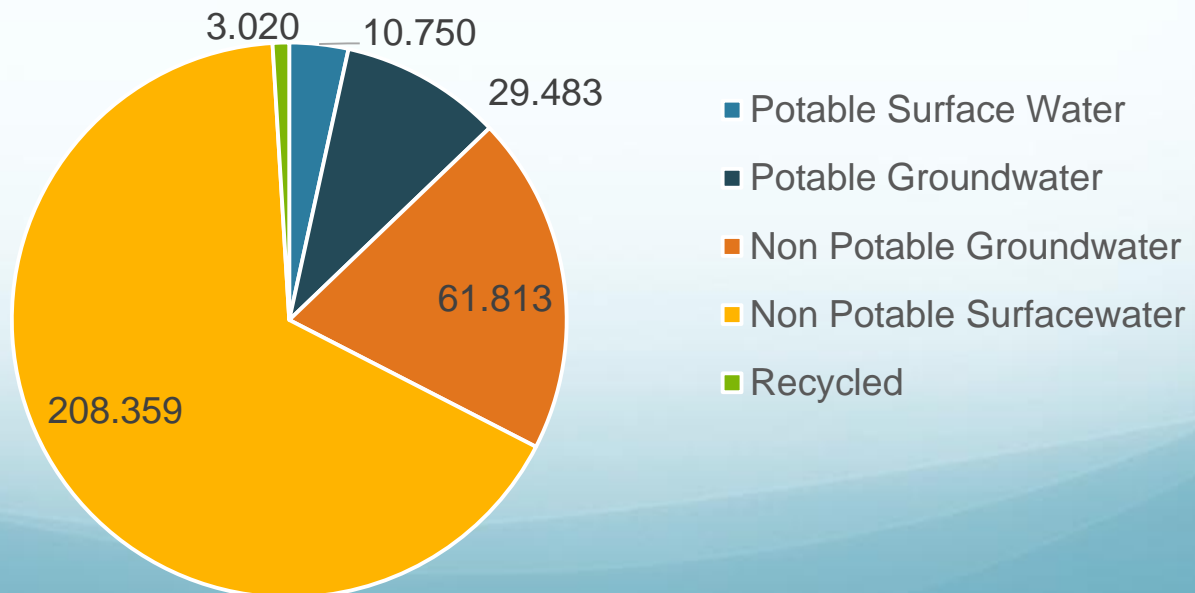
Water Use 2014

Island wide, million gallons per day

Water Use by Type

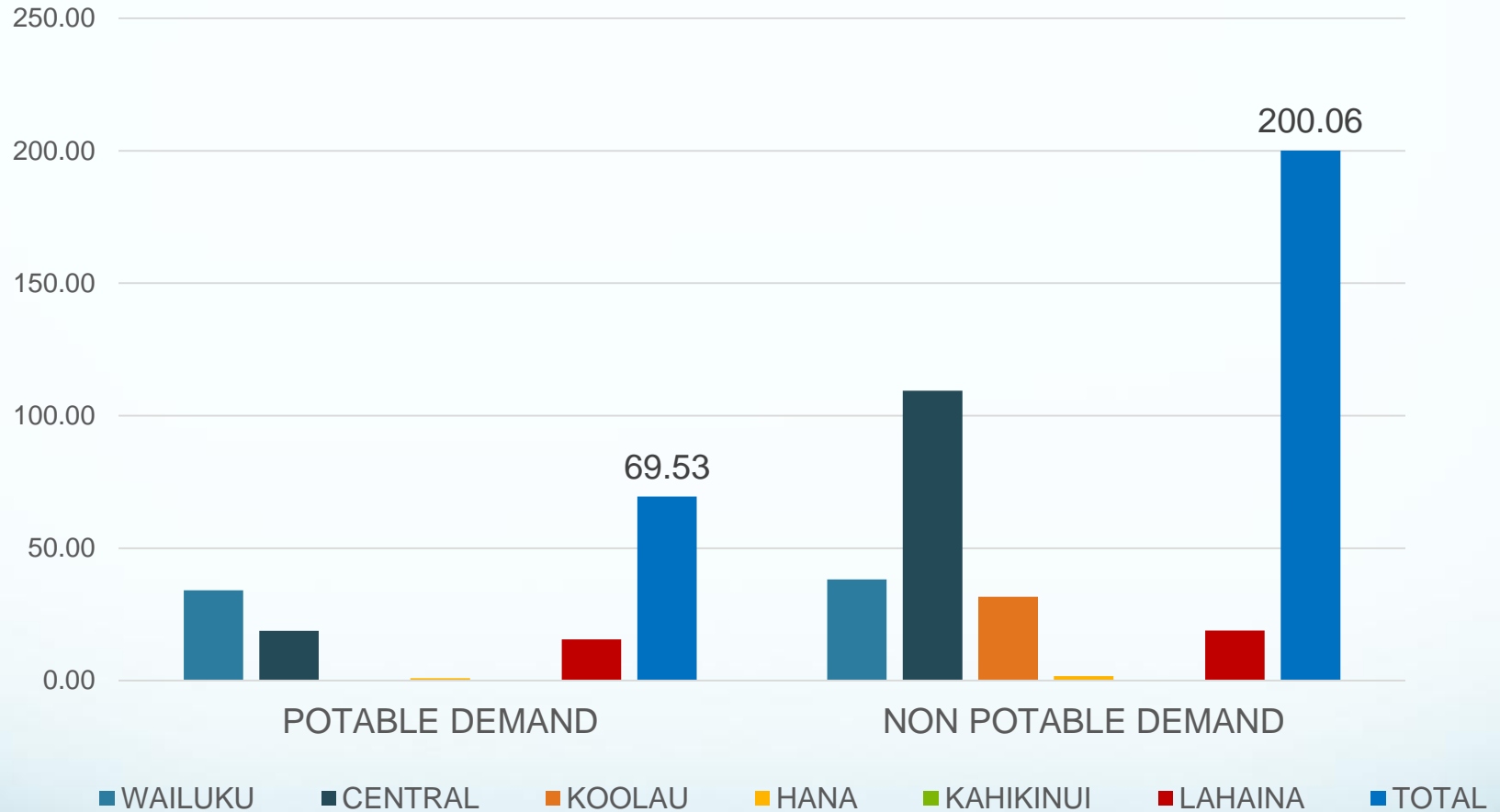


Water Use by Source



Projected Water Use 2035

Island wide, million gallons per day



Identify, Evaluate and Prioritize Resource Strategies

Groundwater and Surface Water

Conservation

Recycled water

Stormwater

Desalination

Water Resource Augmentation

Watershed protection

Streamflow restoration

How do they measure up:

- Meet planning objectives
- Relative life cycle cost comparisons
- Viability: legal issues, community acceptance, uncertainties, other constraints
- Consistency with Hawaii Water Plan components and land use policies
- Native Hawaiian Rights
- Drought and Climate Change impacts
- Public trust priorities



In a Nutshell

- ✓ **Guide** to the Council and county agencies in the use or commitment of the water resources in the county
- ✓ Comprehensive water planning / not DWS centric
- ✓ 20-year planning horizon
- ✓ Planning by hydrologic units (aquifer sectors)
- ✓ Recommended resource strategies (not infrastructure) for six Regional Plans