

# **CENTRAL OAHU WATERSHED MANAGEMENT PLAN OAHU WATER MANAGEMENT PLAN**

## **Scope of Work Approval**

**October 16, 2013**

**Commission on Water Resource Management**

Consultant:

**Brown AND Caldwell**

# **Central Oahu WMP Presentation Outline**

- Plan Status, Background and Watershed Approach
- Overview of Central Oahu
- Scope of Work Summary
- Project Schedule and Adoption Process
- Stakeholder/Community Involvement

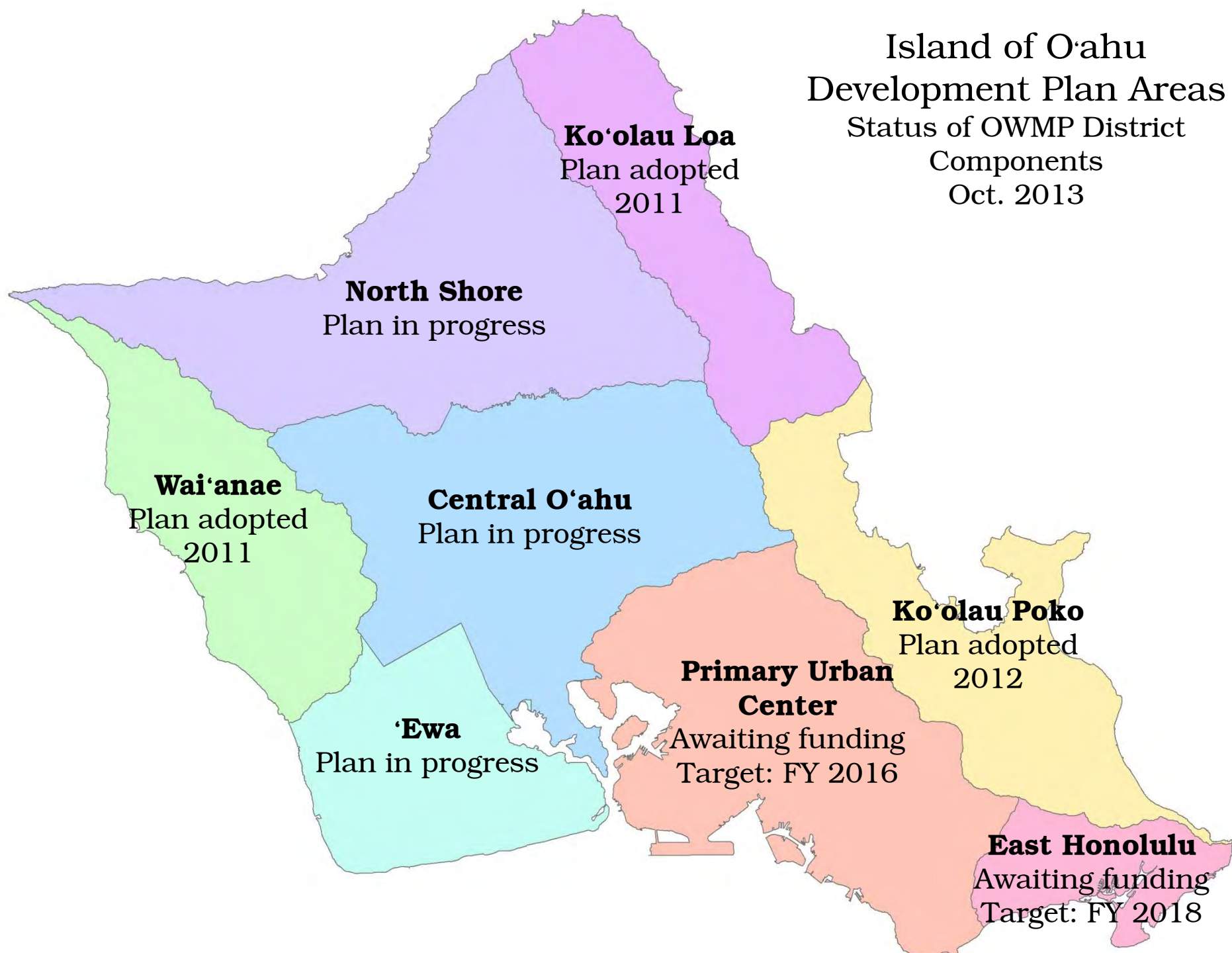
# Island of O'ahu

## Development Plan Areas

Status of OWMP District

Components

Oct. 2013



## **Consistency with Other Plans and Policies**

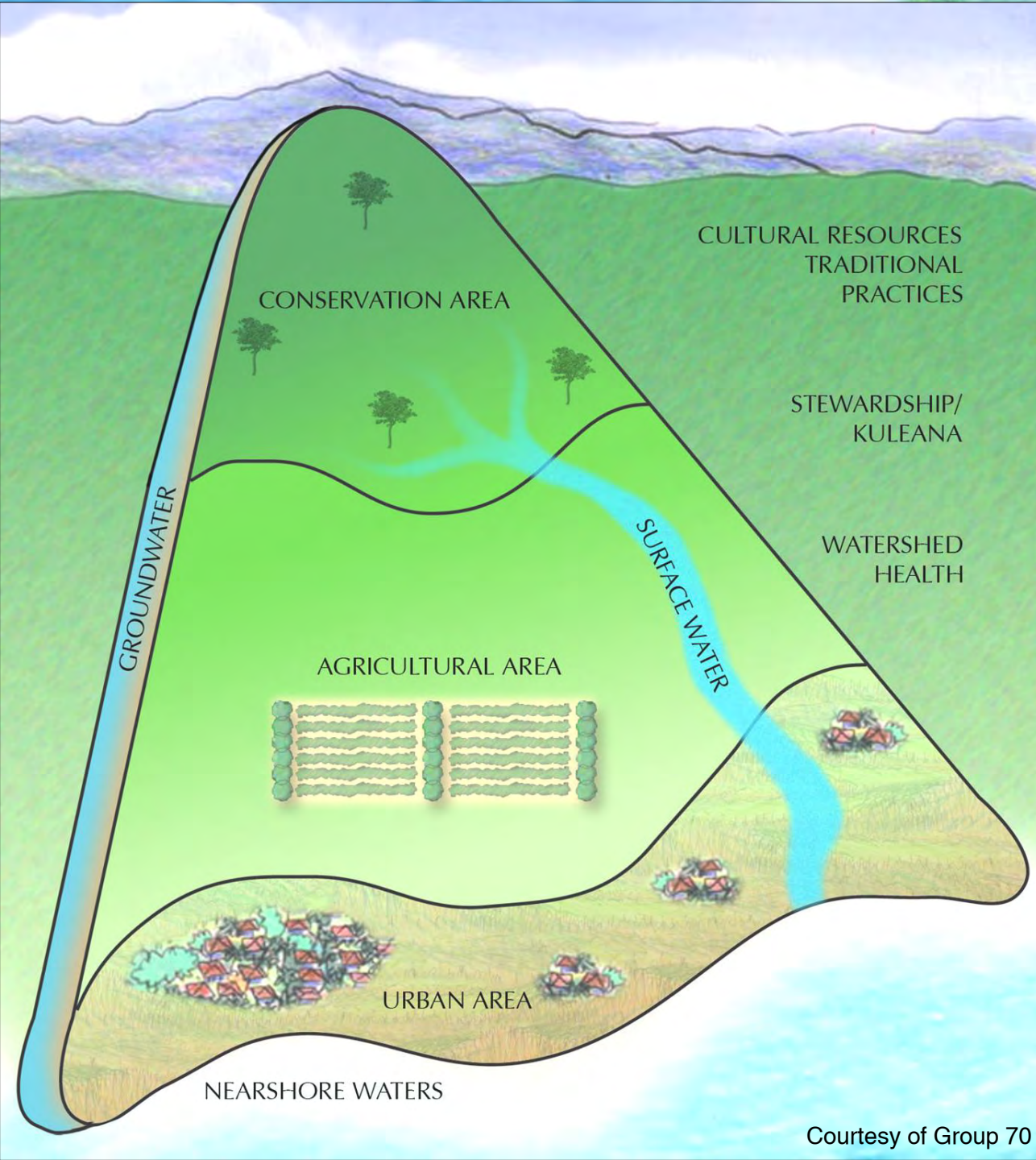
- On March 17, 2004, the Commission approved the Oahu Water Management Plan Framework of 8 Regional Watershed Management Plans as Oahu's County Water Use and Development Plan.
- WMPs meet the statutory requirements of Sections 174C-5 and 31, HRS, State Water Code and Chapters 13-170-31 & 32, HAR, and addresses the recommended elements in the Statewide Framework to Update the Hawaii Water Plan.
- WMPs incorporate the applicable elements of the Hawaii Water Plan. Plan protects watersheds, promotes water efficiency & conservation for Urban & Ag and diversifies natural & alternative water supplies to meet demand;
- WMP's meet the requirements of Chapter 30, Articles 1, 2 and 3, ROH. The OWMP serves as the WUDP for the City and County of Honolulu. The OWMP consists of policies and strategies, which guide the activities of the City and County of Honolulu and advises the Commission in the areas of planning, management, water development and use and allocation of Oahu's natural water resources.





Board of Water Supply  
City and County of Honolulu

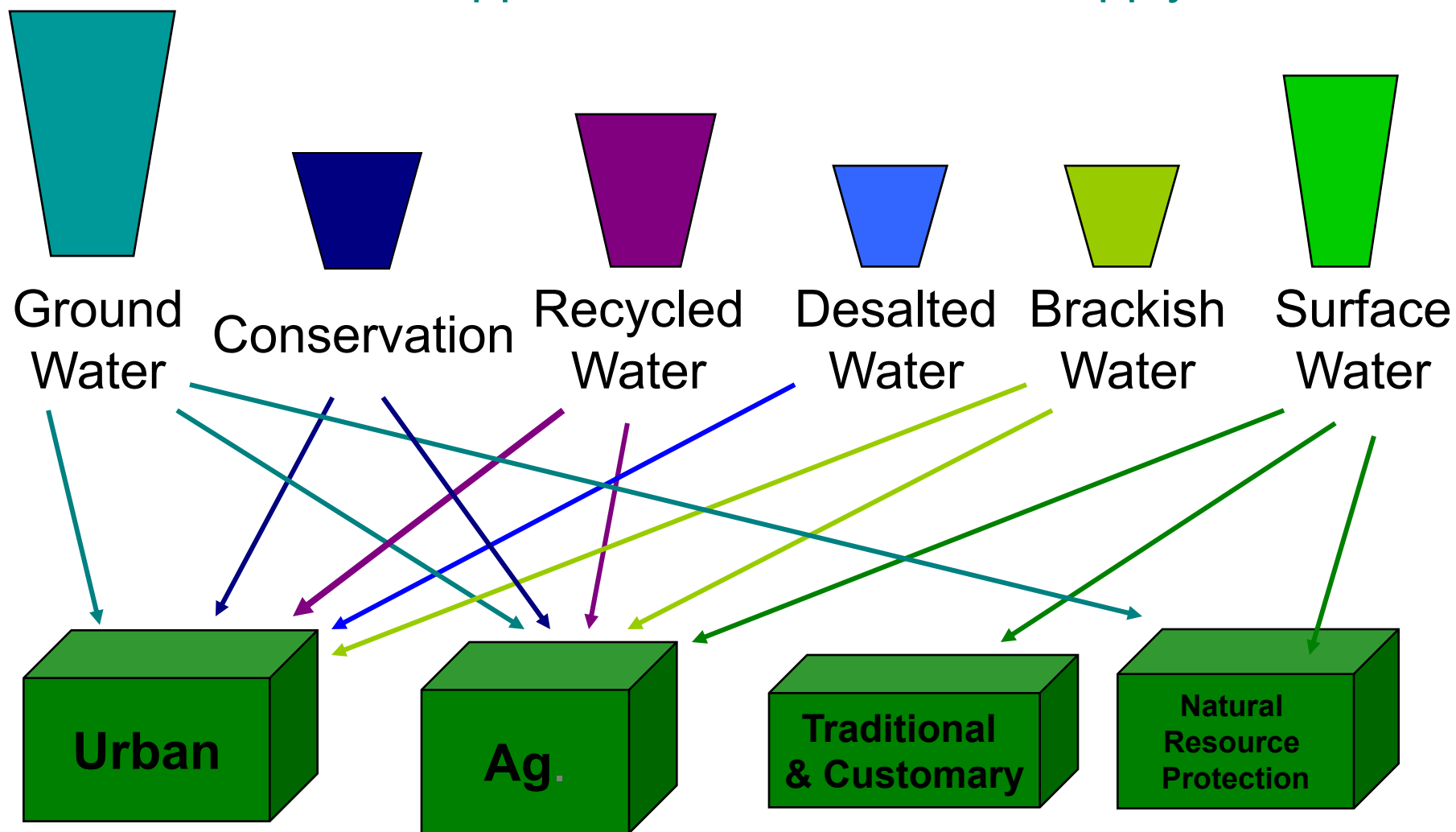
# Watershed Management Applying the Ahupua`a Concept

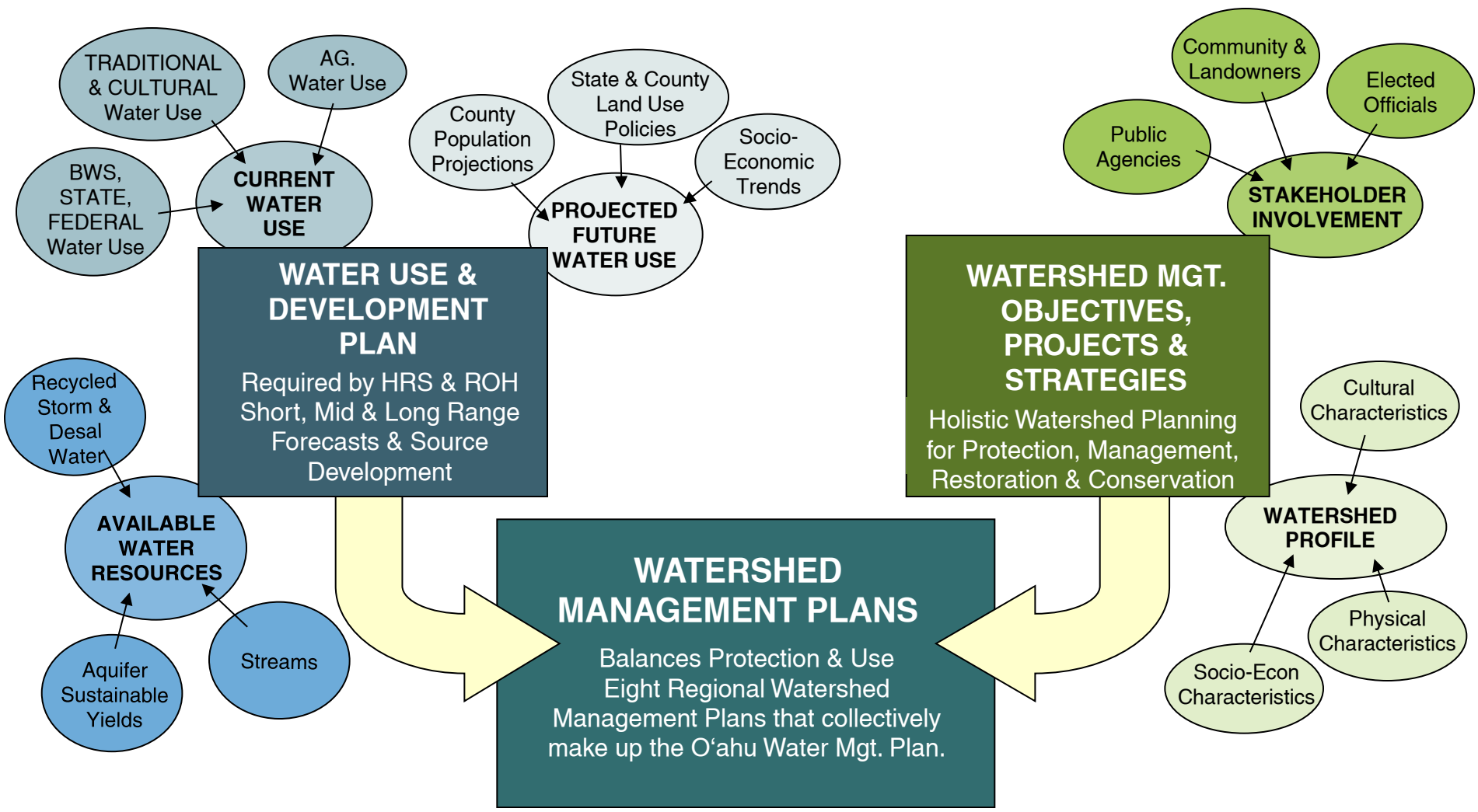


Courtesy of Group 70



## Holistic Approach to Water Use & Supply







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- 4 Plan Objectives, Water Supply, and Watershed Management Projects and Strategies
- 5 Implementation

## APPENDICES

- A O'ahu Watershed Management Plan Framework
- B Plans, Policies, Guidelines, and Controls
- C O'ahu Water Use Permit Index
- D Overview of O'ahu Hydrogeology
- E Water Use and Demand – Methodology
- F Neighborhood Board Endorsements



# OWMP Overview Chapter

**Overview section provides an islandwide context for the regional WMPs**

- Plan goals and objectives applying the ahupua‘a watershed-based approach to holistic resource management;
- Plans, policies, guidelines and controls covering federal laws, State Water Code, Hawaii Water Plan (WRPP, AWUDP, SWPP & DHHL), Framework, water rights, public trust doctrine, the precautionary principle, and State & City land use plans and ordinances;
- Urban and agricultural water demand forecasts by land use district;
- Sustainable yield, permitted use and water uses by water management area
- Mean perennial stream flows for gaged streams;
- Existing and potential ground water, surface water and alternative sources of water to meet demand;
- Summary of adequacy of supply;
- Uncertainties and contingencies for ground water and surface water supplies and demand forecasts, including climate change; and
- Plan implementation.

## Watershed Management Plan Goal

To formulate an **environmentally holistic, community-based, and economically viable** watershed management plan that will provide a balance between:

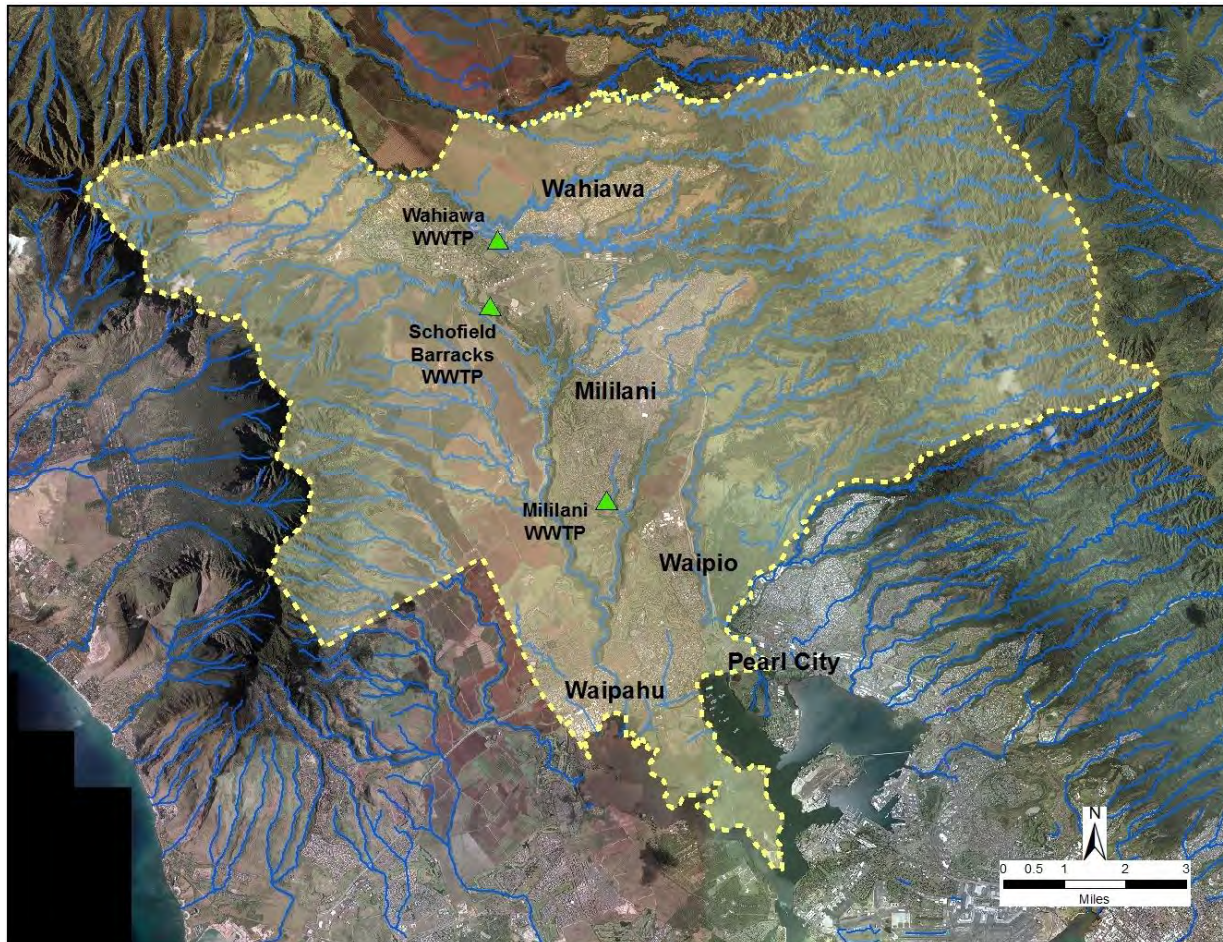
- (1) the protection, preservation and management of O‘ahu’s watersheds
- (2) sustainable ground and surface water use and development to serve present users and future generations

# **Watershed Management Plan Objectives**

1. Promote Sustainable Watersheds
2. Protect and Enhance Water Quality & Quantity
3. Protect Native Hawaiian Rights and Traditional & Cultural Practices
4. Facilitate Public Participation, Education & Project Implementation
5. Meet Future Water Demands at Reasonable Costs



## Overview of Central Oahu



### Population:

168,539 people  
*(2010 Census Data)*

### District Size:

70,921 acres

Agricultural: 30,359 ac. (43%)

Conservation: 25,645 ac. (36%)

Urban: 14,917 ac. (21%)





Aquifer System	Sustainable Yield (SY) (mgd)	Permitted Use (mgd) 2012	SY Available (mgd)	12-MAV (mgd) <i>as of 12/31/12</i>	SY Minus Pumpage (mgd)
Waipahu-Waiawa	104	84.856	19.144	50.133	53.867
Ewa-Kunia	16	15.301	0.699	12.351	3.649
Wahiawa	23	24.663	-1.663	8.648	14.352
<b>TOTAL</b>	<b>143</b>	<b>124.820</b>	<b>18.180</b>	<b>71.132</b>	<b>71.868</b>





- Kiikii
- Waikele
- Honouliuli
- Waiawa
- Kapakahi
- Waipio

### Streams:

- Kaukonahua Stream
- Poamoho Stream
- Honouliuli Stream
- Waikele Stream
- Waikakalaua Stream
- Kipapa Stream
- Waiawa Stream
- Manana Stream
- Waimano Stream



# Scope of Work

<b>Phase 1</b> <b>Watershed</b> <b>Analysis</b> <b>Supply &amp;</b> <b>Demand</b>	<ul style="list-style-type: none"> <li>• Research all related data &amp; studies on Central Oahu's water resources including stakeholder's needs, issues &amp; concerns about water</li> <li>• Quantify current and future urban &amp; agricultural water supply and demands</li> <li>• Develop future (potable/non-potable) water use scenarios: low, mid, high to 2035 and an ultimate supply &amp; demand scenario</li> </ul>	  Stakeholder and Public Outreach, including Community and Neighborhood Board Meetings  
<b>Phase 2</b> <b>Plan</b> <b>Formulation</b>	<ul style="list-style-type: none"> <li>• Identify critical water resource issues in Central Oahu</li> <li>• Develop Central Oahu-specific sub-objectives (water policies) and a broad range of watershed management strategies, projects and programs that address the critical water resource issues</li> <li>• Develop a implementation plan</li> </ul>	
<b>Phase 3</b> <b>Public</b> <b>Review Draft</b>	<ul style="list-style-type: none"> <li>• Prepare Preliminary Draft COWMP</li> <li>• Present the Public Review Draft to the community/stakeholders for input</li> </ul>	
<b>Phase 4</b> <b>Final Draft</b>	<ul style="list-style-type: none"> <li>• Compile and review comments from the Public Review Draft of the COWMP</li> <li>• Revise the Public Review Draft of the COWMP</li> <li>• Compile Final Draft of COWMP</li> </ul>	
<b>Phase 5</b> <b>Adoption</b>	<ul style="list-style-type: none"> <li>• Present the Final Draft COWMP to the (5) Neighborhood Boards for endorsement of the plan</li> <li>• City Council Adoption by Ordinance</li> <li>• CWRM Adoption into the Hawaii Water Plan</li> </ul>	

# Schedule of COWMP

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Total Project Duration – 34 Months



# Central Oahu WMP Approval Process



## BRIEFINGS:

- BWS Manager & Board
- City Dept. of Planning & Permitting
- CWRM

## CITY COUNCIL Adoption by Ordinance

- 5 Public Hearings in total
- 3 Council Readings
- 2 Zoning & Planning Committee Meetings

CWRM 90  
Day Notice



Public  
Hearing

CWRM  
Adoption

# Stakeholders

## Stakeholder/Public Outreach Summary

- Interviews with key stakeholders to identify water resource issues and determine current and projected water use
- Seek public input via community/Neighborhood Board meetings
  - Receive feedback from the community about issues and concerns
  - Present findings and forecasts on water demand and supply
  - Develop district-specific sub-objectives and strategies
  - Present the COWMP Public Review Draft for input
  - Compile and review comments from the Public Review Draft of the COWMP
  - Present the Final Draft COWMP to the (5) Neighborhood Boards for endorsement of the plan
- Over 70 interviews/meetings are planned.

# **Stakeholders**

## **Neighborhood Boards (NB)**

- **Wahiawa-Whitmore Village** (NB No. 26)
- **Mililani Mauka-Launani Valley** (NB No. 35)
- **Mililani-Waipio** (NB No. 25)
- **Waipahu** (NB No. 22)
- **Pearl City** (NB No. 21)

# Stakeholders

## Large Landowners/Developers

- Aloun Farms
- Castle & Cooke Homes Hawaii, Inc.
- Del Monte Fresh Produce Hawaii, Inc.
- Dole Foods Hawaii
- Koolau Mountains Watershed Partnership
- Larry Jefts
- Monsanto Hawaii
- Pioneer Hi-Bred International, Inc.
- Syngenta Hawaii

## Large Water Users

- Various golf courses

## Water Purveyors

- BWS
- Agribusiness Development Corporation
- Schofield Barracks & Pearl Harbor Systems

## Other Entities and Organizations

- Aqua Engineers
- Hawaii Agriculture Research Center (HARC)
- Hawaii Crop Improvement Association
- Kunia Water Association (KWA)
- Kunia Water Cooperative (KWC)
- University of Hawaii (UH), Water Resources Research Center (WRRRC)



# Stakeholders

## Government Agencies

- National Oceanic and Atmospheric Administration (NOAA)
- U.S. Army Corps of Engineers (ACOE)
- U.S. Army Garrison
- U.S. Fish and Wildlife (USFW)
- U.S. Geological Survey (USGS)
- Commission on Water Resource Management (CWRM)
- Department of Agriculture (DOA)
- Agribusiness Development Corporation (ADC)
- Department of Hawaiian Home Lands (DHHL)
- Department of Health (DOH), Safe Drinking Water Branch and Clean Water Branch
- Department of Land and Natural Resources (DLNR)
  - Division of Aquatic Resources (DAR)
  - Division of Forestry and Wildlife (DOFAW)
- Hawaii Coastal Zone Management (CZM)
- Office of Hawaiian Affairs (OHA)
- Department of Planning and Permitting (DPP)
- Department of Environmental Services (ENV)

## **Central Oahu WMP CWRM Coordination**

- Approval of Scope of Work
- Regular updates and coordination with CWRM staff
- Public Review Draft
- CWRM public hearing for plan adoption
- CWRM meeting for adoption of the COWMP

# **Central Oahu WMP Project Team**

- **Honolulu Board of Water Supply (BWS)**
  - Barry Usagawa, Water Resources Program Administrator, Water Resources Division
- **Department of Planning and Permitting (DPP)**
  - Kathy Sokugawa, Chief Planner, Planning Division,
  - Randy Hara, Matt Higashida, Planners, Policy-Planning Branch
- **Commission on Water Resource Management (CWRM)**
  - Lenore Ohye, Planning Branch Head
  - Neal Fujii, Jeremy Kimura, CWRM Planning Branch