



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

December 21, 2011
Honolulu, Hawaii

Adoption of the 2010 Update to the Hawaii County Water Use and Development Plan for
Incorporation into the Hawaii Water Plan

SUMMARY OF REQUEST:

The Commission on Water Resource Management (Commission) staff recommends that the Commission adopt Hawaii County's update to their County Water Use and Development Plan.

AUTHORITY:

The State Water Code's Declaration of Policy recognizes the need for comprehensive water resources planning and establishes the Hawaii Water Plan (HWP) as the guide for developing and implementing this policy. The HWP is intended to serve as a continuing long-range guide for the Commission in executing its general powers, duties, and responsibilities assuring economic development, good municipal services, agricultural stability, and environmental protection.

The HWP currently consists of five major components (plans): 1) Water Resource Protection Plan (WRPP), 2) Water Quality Plan, 3) State Water Projects Plan, 4) Agricultural Water Use and Development Plan, and 5) County Water Use and Development Plans.

The Water Code recognizes that the HWP must be continually updated to remain useful and relevant and further specifies that "[e]ach county shall update and modify its water use and development plans as necessary to maintain consistency with its zoning and land use policies". §174C-31(q) HRS

EXHIBIT 1 summarizes the agencies responsible for preparing each of the components, the primary objectives and the current status of each of the HWP components.

WATER USE AND DEVELOPMENT PLAN (WUDP)

A separate WUDP is to be prepared by each of the four counties and adopted by ordinance. The objective of the WUDPs is to set forth the allocation of water to land use in that county.

Administrative Rule §13-170-31 states that each WUDP shall include, but not be limited to:

- (1) *Status of county water and related land development including an inventory of existing water uses for domestic, municipal, and industrial users, agriculture, aquaculture, hydropower development, drainage, reuse, reclamation, recharge, and resulting problems and constraints;*
- (2) *Future land uses and related water needs; and*
- (3) *Regional plans for water developments including recommended and alternative plans, costs, adequacy of plans, and relationship to the water resource protection plan and water quality plan.*

Additional guidelines for preparing the WUDPs are provided in Administrative Rule §13-170-32:

- (1) *Each water use and development plan shall be consistent with the water resource protection plan and the water quality plan.*
- (2) *Each water use and development plan and the state water projects plan shall be consistent with the respective county land use plans and policies, including general plan and zoning as determined by each respective county.*
- (3) *Each water use and development plan shall consider a twenty year projection period for analysis purposes.*
- (4) *The water use and development plan for each county shall also be consistent with the state land use classification and policies.*
- (5) *The cost of maintaining the water use and development plan shall be borne by the counties; state water capital improvement funds appropriated to the counties shall be deemed to satisfy Article VIII, section 5 of the State Constitution.*

STATEWIDE FRAMEWORK FOR UPDATING THE HAWAII WATER PLAN

Section 174C-31(n) HRS provides that “[t]he commission may add to the Hawaii water plan any other information, directions, or objectives it feels necessary or desirable for the guidance of the counties in the administration and enforcement of this chapter”.

In February 2000, the Commission adopted the Statewide Framework for Updating the Hawaii Water Plan (Framework). The objectives of developing and outlining a statewide framework for the Hawaii Water Plan are:

- To achieve integration of land use and water planning efforts that are undertaken by federal, state, county, and private entities so that a consistent and coordinated plan for the protection, conservation and management of our water resources is achieved;
- To recommend guidelines for the HWP update so that the plan and its component parts are useful to the Commission, other state agencies, the counties, and the general public;
- To develop a dynamic planning process that results in a "living document" for each component of the HWP which will provide county and state decision-makers with well

formulated options and strategies for addressing future water resource management and development issues;

- To better define roles and responsibilities of all state and county agencies with respect to the development and updating of the HWP components;
- To describe and outline the techniques and methodologies of integrated resource planning as the basic approach that should be utilized in developing and updating the County WUDPs;
- To facilitate permitting and to identify potential critical resource areas where increased monitoring or baseline data gathering should proceed;
- To establish an overall schedule for phased updating of the HWP; and
- To outline an Implementation Plan for near-term and long-term actions.

The Framework includes the following recommended plan elements for the County WUDP update process:

- County-Specific WUDP Project Description
- Coordination with Commission on Water Resource Management
- Stakeholder and Public Involvement
- Development of Policy Objectives and Evaluation Criteria
- Description of Water System Profiles
- Identification of Resource and Facility Options
- Development and Evaluation of Strategy Options
- Implementation Plan

The Framework further recommends integration of HWP components at the county level and advocates the use of an integrated resource planning (IRP) approach. IRP can best be described as a comprehensive form of planning that encompasses least-cost analyses of resource management options, as well as a participatory decision-making process. It involves the development of water resource alternatives that take into consideration communities and environments that may be affected, the numerous institutions concerned with water resource development and protection, and the potential for competing policy goals.

In adopting the Framework, the Commission recognized that each county faces a unique set of conditions that have an impact on the county's planning process, including:

- The nature and occurrence of water resources and existing infrastructure in the county;
- The planning issues and water use priorities the county must address;
- The financial resources available to the county; and
- The financial and organizational structure that has been established by its County Council and administration.

Thus, the Framework recognizes the need for appropriate flexibility and versatility to encourage innovation as well as to accommodate unique and county-specific concerns that may be addressed within the WUDP. In light of the above conditions, the Framework requires that each county develop a scope of work for updating its WUDP which best meets its overall objectives. The process by which these objectives are to be achieved should be set forth in a detailed project description and schedule for updating the County WUDP.

HAWAII COUNTY WATER USE AND DEVELOPMENT PLAN (HWUDP)

In compliance with the State Water Code, the County of Hawaii began preparing the County of Hawaii Water Use and Development Plan (HWUDP) in 1988. It was adopted by the County Council by ordinance and endorsed by Mayor Tanimoto on May 10, 1990. The Commission subsequently accepted it for incorporation into the HWP on June 27, 1990.

The County Ordinance requires that the HWUDP be updated every five years. The first update was drafted in 1992 but was not adopted by the Commission pending additional refinement of plan elements. In 2003 the County of Hawaii designated funding and subsequently initiated an update to the HWUDP.

On September 28, 2005 the Commission approved the County of Hawaii Water Use and Development Plan Update project description (EXHIBIT 2), which fulfilled the requirement for a project description under the Framework.

On March 24, 2011, the County of Hawaii formally transmitted the HWUDP Update to the Commission after the Hawaii County Council adopted it as Ordinance No. 11-7 on February 8, 2011 (EXHIBIT 3).

Following the formal submission of the Plan, the Commission held public hearings in East and West Hawaii on August 3 and 4 of 2011, as required by the Water Code prior to Commission adoption of the plan.

The HWUDP serves as a continuing long-range guide for water resource development in the County of Hawaii. Its primary objective is to provide guidelines for the management of the island's water resources to ensure that the future water needs of the County are met while preserving the integrity of those same resources. The approach used involved the inventory of existing water use and resources, projections of water demand for the full build-out land use policies (i.e., County General Plan Land Use Pattern Allocation Guide (LUPAG), and zoning), and 5-year incremental water demand projections based on the rate of population growth to the year 2025 for each of the island's nine Aquifer Sector Areas (ASA; EXHIBIT 4). The 20-year demand projections based on the medium rate of population growth were assumed to be the most realistic water demand scenarios. The projections were then evaluated to determine master plan level resource and facility needs and options. This process involved: 1) evaluation of water source adequacy and determination of source development requirements, 2) evaluation of conventional water infrastructure capabilities and identification of conceptual water system upgrades, 3) exploration of alternative water resource enhancement measures, and 4) evaluation of conventional and alternative measures and selection of recommended alternative.

During the development of the update to the HWUDP, public meetings were held in the communities of Hilo, Waimea, Kona, and Naalehu to refine specific elements of the planning methodology. After the input from these meetings was incorporated, the revised plan and methodology were again presented to these same communities to solicit additional feedback.

One of the major outcomes of the public meetings was a revision of the approach used to estimate agricultural water demands. Public input suggested that the need for irrigation water was not predicated on the classification of agricultural lands. Rather, agricultural users would grow crops

that are feasible based on climatic conditions, and irrigation from ground water sources would be minimal. In response, the Plan recommended that detailed agricultural demand projections be relegated to the next update of the Agricultural Water Use and Development Plan (AWUDP), and used a range of agricultural water uses based on the AWUDP-recommended average daily demand of 3,400 gallons per acre per day.

Projected 20-year demands do not exceed sustainable yields for any of the aquifer system areas, even when agricultural demands are included. The following key findings for each of the island's ASAs are presented in the HWUDP update:

- Kohala ASA
 - Ground and surface water are plentiful and may continue as the primary sources of water
 - High-level ground water could be developed for potable water sources and the regions major ditch systems could be restored to satisfy non-potable needs
 - Accounting for worst-case agricultural demands, full development of the current land use policies are not sustainable within the Kohala ASA and the Hawi and Mahukona Aquifer System Areas
 - However, full development can be sustained without agricultural water demands
 - Potential water shortages can be mitigated by the transfer of water between aquifer system areas, but this will require water infrastructure upgrades
 - Projected 20-year demands indicate no foreseeable threats to current sustainable yield estimates

- East Mauna Kea ASA
 - When worst-case agricultural demands are included with the demands from the full development scenarios, the region's water demands come close to the current sustainable yield estimates
 - If agricultural demands are excluded, the water demand from the full build-out of the current land use policies as well as projected 20-year demands are well below the sustainable yield
 - Spring sources that used to provide potable water may be replaced with ground water sources if it is more beneficial and economical than compliance with Federal Safe Drinking Water Act requirements

- West Mauna Kea ASA
 - Current water usage is one-third of the sustainable yield
 - Full build-out to LUPAG maximum densities is not sustainable
 - Full development of current zoning is sustainable if worst-case agricultural water demands are excluded
 - 20-year projected demands range between 60% and 80% of sustainable yield
 - Water resource planning for this sector is important and the feasibility of the transfer of water from the neighboring Kohala ASA should be examined
 - Water conservation should be a primary focus for this sector, and utilizing the highest quality water for the highest uses should be promoted

- Irrigation with non-potable sources should be encouraged and measures to reduce the potable water consumption of residential customers should be taken
- Northeast Mauna Loa ASA
 - This sector has the highest current water usage on the island and the island's highest sustainable yield
 - Full development of current land use policies can be accommodated, including worst-case agricultural demands
 - It is recommended that the efficiency of the Department's Hilo Water System be improved as the loss of source water through leakage is suspected
- Southeast Mauna Loa ASA
 - As the sector is sparsely populated, it has the lowest current water usage and the lowest 20-year projected demands on the island
 - Full development of current land use policies with worst-case agricultural water demands could account for half of the sector's sustainable yield
 - Ground water sources may replace existing tunnel and spring sources for potable water needs
 - However, tunnel and spring sources are numerous in the sector and should be examined to supply non-potable demands, both in the Southeast Mauna Loa ASA and the adjacent Southwest Mauna Loa ASA
- Southwest Mauna Loa ASA
 - Current water usage, 20-year projected demands, and full development demands account for only a small fraction of sustainable yield if worst-case agricultural demands are not included
 - If worst-case agricultural water demands are included, full build-out LUPAG and zoning demands exceed and approach sustainable yield, respectively
 - Due to the limited availability of basal ground water high level ground water is expected to be the primary water resource for the sector
 - Transmission of water is the primary challenge to overcome in this sector, particularly to the areas that are currently supplied by individual rainwater catchments and water hauling
 - Alternative measures to supply both potable and non-potable water should be further evaluated and compared
- Northwest Mauna Loa ASA
 - Existing water demands account for over one-quarter of the sector's sustainable yield and 20-year projected demands will be approximately half of the sustainable yield
 - Full development of LUPAG maximum densities with and without worst-case scenario agricultural demands is not sustainable
 - Full build-out to the maximum zoning densities will require 30% to 60% of sustainable yield

- A proper balance of water transfer from other aquifer sectors and water conservation measures must be achieved because of the limited potential of future water development
- The relative compactness of the two major resort developments in the sector increases the possibility of combining non-potable sources into a water system to satisfy the non-potable needs
- Wastewater reclamation should be continued
- Demand-side conservation programs should be implemented by the potable water purveyors to bring their water usage closer to the island's water use averages
- Kilauea ASA
 - Water demands associated with the full development of current land use policies and 20-year projected demands are sustainable with and without worst-case agricultural demands
 - High-level ground water sources may continue to be the primary source of potable water for the sector
 - The key issue in this sector is whether to develop a municipal water system in the Central Puna area as the high amount of ambient rainfall appears to be sufficient to supply the large amount of rainwater catchment systems
- Hualalai ASA
 - Projected water demands in this sector are the highest on the island due to the increases in population and tourism
 - Full development of current land use policies are not sustainable with worst-case agricultural water demands, while zoning full build-out without agricultural demands approaches sustainable yield
 - Although 20-year projected demands are less than half of sustainable yield, measures should be considered to control future water demands
 - Demand-side conservation measures should be implemented, and it would be prudent for County Planning officials to re-examine land use policies as controlling development density should be considered
 - Efforts should be initiated to utilize reclaimed wastewater and brackish basal water for non-potable uses
 - Water transfer from the adjacent Southwest Mauna Loa ASA should be explored

The HWUDP update also had the following general recommendations:

- The highest quality water should be reserved for the most valuable end use
- Water conservation should be promoted
- Additional monitoring and studies are recommended to determine the "safe" sustainable yields and to improve the accuracy of the island's ground water hydrologic units
- Regional studies should be initiated to examine the impacts of water transfers amongst sectors to satisfy increasing competition for water resources
- Future updates of the HWUDP should promote a policy of well-planned source development
- Water development coordination and cooperation between public and private sectors are emphasized to assist the success of future planning

- Involvement of collaborative and advisory groups has had a positive impact on water resources planning, and it is encouraged that these groups continue to provide input and insight

ANALYSIS

I. Consistency with State Water Code Requirements and Recommended Framework Elements

The Update to the HWUDP meets the statutory requirements set forth in the State Water Code and sufficiently addresses the recommended elements in the Framework pertaining to the update of the County WUDPs. The envisioned outcomes, benefits, and products are directly supportive of the Commission's duties and responsibilities set forth in HRS §174C-5, the requirements for the HWP described in HRS §174C-31, and the requirements for the WUDP described in the Administrative Rules.

II. Public Hearing

Following a 90-day statewide notice, the Commission held two public hearings in East and West Hawaii on August 3 and 4, 2011. The Commission received both oral and written comments.

Several testifiers raised concerns regarding uncertainties in recharge, sustainable yield, and aquifer boundaries. These issues are more appropriately addressed in the Commission's WRPP, which is the component of the Hawaii Water Plan that establishes hydrologic unit boundaries and their characteristics, including ground water sustainable yields. The Commission uses best available information and periodically updates resource assessments as new and better information becomes available. The HWUDP quotes relevant sections from the WRPP that emphasize the uncertainty in the estimates.

The National Park Service (NPS) expressed concerns regarding impacts of Keauhou Aquifer System Area pumpage on cultural and ecological uses within the Kaloko-Honokohau National Park. The Commission was briefed on this issue at the November 2011 Commission meeting. The Commission continues to work with the NPS, USGS, Department of Water Supply, and private hydrologists to address concerns regarding development pressures in Kona.

Several individuals commented on the uncertainty in agricultural water demand estimates. Pending the next revision of the Agricultural Water Use and Development Plan, which should provide more information on agricultural water demands, the HWUDP brackets actual demand by considering best- and worst-case demand scenarios, recognizing that actual demand will fall somewhere in between.

Several comments recommended that the planning horizon be extended from 20 years to a longer timeframe and that a discussion of watershed management issues be included. Staff will consider including these as additional recommended plan elements in future updates. However, it should be noted that the HWUDP considers full build-out condition for current land use policies and designations, which represents an unknown timeframe far into the future.

Another common concern was the need to better integrate water and land use planning. This is the primary objective of the HWUDP. The updated HWUDP has analyzed the impacts on water resources given current land use plans and policies. This information is meant to be used by land use planners in making future decisions on land use. Indeed, the HWUDP identifies specific areas, such as Kona, where reduction of current planned development densities should be considered.

We also received some minor corrections and updated information. An addenda will be attached to the official HWUDP Update document. The revisions are not considered significant or substantial and do not change the methodology or results, so additional public hearings are not required.

III. Sustainable Yield

As noted above, uncertainties in sustainable yields exist and the Commission continually revisits the estimates as new and better information becomes available. In 2008, the Commission updated the WRPP and adopted some new sustainable yields for the Big Island. Most of the sustainable yield estimates were not revised, pending the completion of the USGS's recharge study, which was ongoing at the time the WRPP was being updated. The only estimates that were reduced were for the Hawi and Manuka Aquifer System Areas, which decreased 52% (14 mgd) and 40% (17 mgd), respectively. For the Hawi Aquifer System Area, reduction in sustainable yield does not change any of the key findings listed above for the aquifer sector area (which currently has a total estimated sustainable yield of 140 mgd), nor for the aquifer system area. For the Manuka Aquifer System Area, the net adjustment to sustainable yield for the aquifer sector area (which currently has a total estimated sustainable yield of 114 mgd) results in zoning with agricultural water demands slightly exceeding sustainable yield. However, in both cases, projected 20-year demands are far below sustainable yields.

The USGS recently completed a water-budget model and assessment of ground water recharge for the Island of Hawaii. As recharge is a vital piece of the Commission's determination of sustainable yield, this new data has the potential to change the sustainable yield estimates for the aquifer sector areas discussed above. However, staff is working with USGS to see if the results of the Rainfall Atlas update, which was just released, can be incorporated into the recharge assessment. We hope to have the results of the State's first comprehensive analysis of evapotranspiration, which is another significant component of the water budget, by the end of the year. That will be another new piece of information that will help us to further refine recharge and sustainable yields.

IV. Chapter 343 – Environmental Assessment (EA) Compliance

Chapter 343 is not applicable to the proposed action based on §HAR 11-200-5(d), which states:

For agency actions, chapter 343, HRS, exempts from applicability any feasibility or planning study for possible future programs which the agency has not approved, adopted, or funded. Nevertheless, if an agency is studying the feasibility of a proposal, it shall consider environmental factors and available alternatives and

disclose these in any future assessment or subsequent statement. If, however, the planning and feasibility studies involve testing or other actions which may have significant impact on the environment, then an environmental assessment shall be prepared.

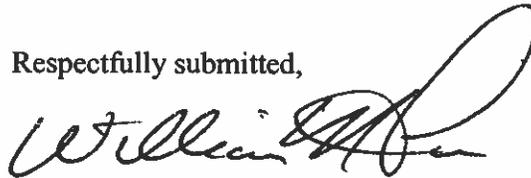
The water use and development plans are planning studies, which do not involve testing or other actions that will impact the environment; therefore chapter 343 is not applicable to this agency action.

RECOMMENDATION:

Staff recommends that the Commission:

1. Adopt Hawaii County's update to their Water Use and Development Plan for incorporation into the Hawaii Water Plan.

Respectfully submitted,



WILLIAM M. TAM
Deputy Director

- Exhibits:
- 1 Hawaii Water Plan Components
 - 2 County of Hawaii Water Use and Development Plan Update Project Description (Table of Contents)
 - 3 Hawaii County Council Ordinance 11-7
 - 4 Island of Hawaii Groundwater Hydrologic Unit Map

APPROVED FOR SUBMITTAL:



WILLIAM J. AILA, JR.
Chairperson

Hawaii Water Plan Components

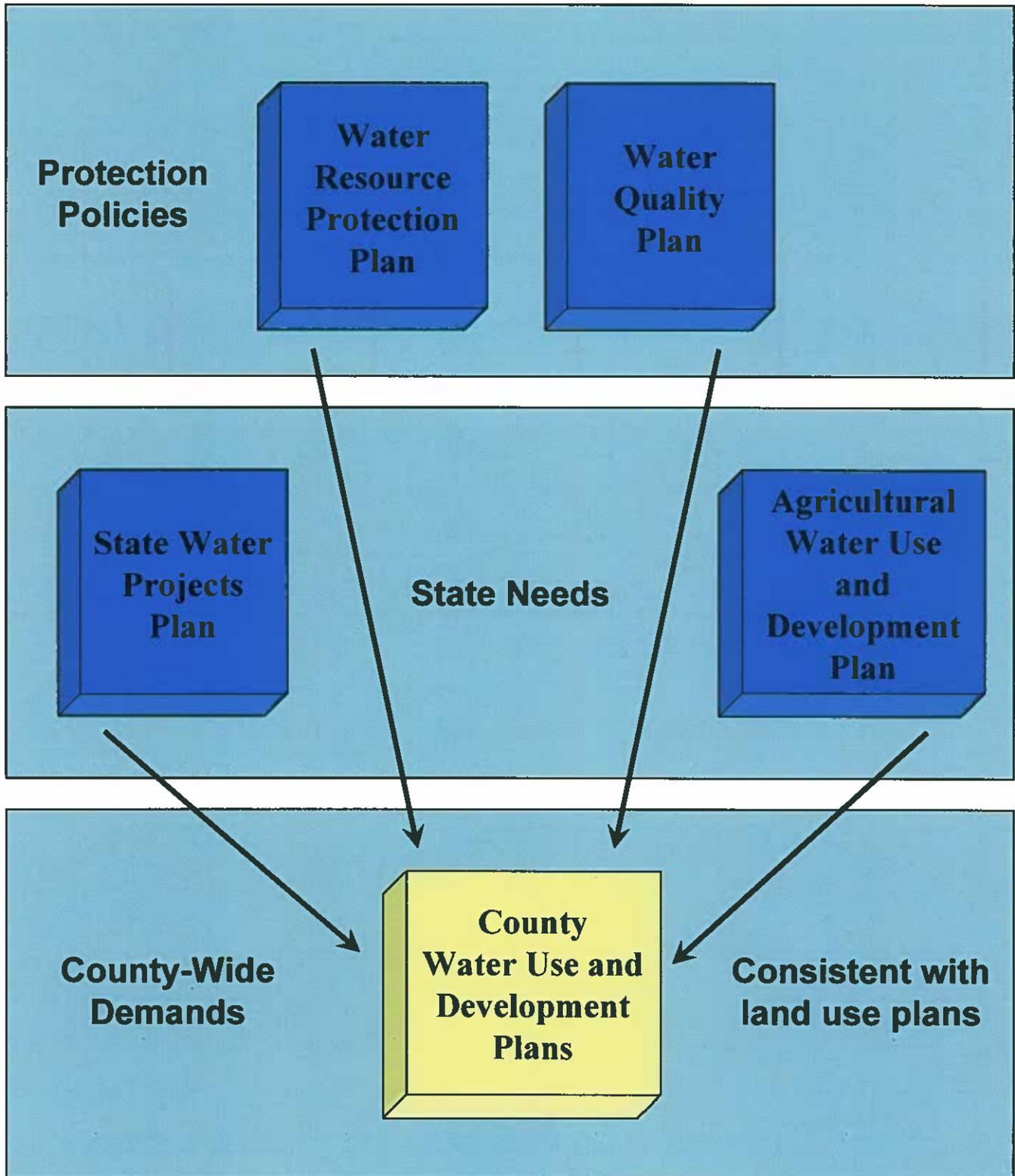


EXHIBIT 1

Hawaii Water Plan Components Status

- **Water Resource Protection Plan**
 - Prepared by the Commission on Water Resource Management
 - Protects and sustains statewide groundwater and surfacewater resources, watersheds, and natural stream environments.
 - Last updated in 2008

- **Water Quality Plan**
 - Prepared by the Department of Health
 - Protects the public health and sensitive ecological systems by preserving, protecting, restoring and enhancing the quality of ground- and surface-waters throughout the State
 - Last updated in 1990

- **State Water Projects Plan**
 - Prepared by the DLNR's Engineering Division
 - Provides a framework for planning and implementation of water development programs to meet projected water demands for State projects
 - Last updated in 2003
 - Currently being updated

- **Agricultural Water Use and Development Plan**
 - Prepared by the Department of Agriculture
 - Develops a long-range management plan that assess state and private agricultural water use, supply, and irrigation water systems
 - Last updated in 2004
 - Currently being updated

- **County Water Use and Development Plans**
 - Prepared by each of the four counties
 - Sets forth the allocation of water to land use through the development of policies and strategies to guide the County in its planning, management, and development of water resources to meet projected demands
 - Kauai County WUDP last updated in 1990
 - Maui County WUDP last updated in 1990
 - 2009 Central District Review Draft submitted to the County Council for adoption
 - 2011 Lanai Plan adopted by the County Council and awaiting official transmission to the Commission
 - Upcountry Maui District update underway
 - Hawaii County WUDP update currently awaiting Commission adoption
 - City and County of Honolulu WUDP last updated in 2011
 - Koolau Loa and Waianae Watershed Management Plans adopted by the Commission in 2011
 - Koolau Poko Watershed Management Plan update underway

HAWAII COUNTY WATER USE AND DEVELOPMENT PLAN

Hawaii Water Plan

PROTOTYPE CHAPTER

*For the:
Department of Water Supply
County of Hawaii*

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EXHIBIT 2

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY *(not included)*

CHAPTER 1. INTRODUCTION	1-1
1.1 BACKGROUND	1-1
1.1.1 State Water Code	1-1
1.1.2 History of Hawaii County WUDP	1-1
1.1.3 Statewide Framework for the Update of the Hawaii Water Plan.....	1-2
1.1.3.1 Ground Water Hydrologic Units.....	1-2
1.1.3.1.1 Sustainable Yield	1-3
1.1.3.2 Surface Water Hydrologic Units.....	1-4
1.1.4 The Hawaii Water Plan Update Status.....	1-7
1.2 PHYSICAL SETTING	1-8
1.2.1 Location and Size.....	1-8
1.2.2 Climate.....	1-8
1.2.3 Geology.....	1-11
1.2.4 Hydrology	1-16
1.3 ECONOMY AND POPULATION.....	1-19
1.3.1 Economy	1-19
1.3.2 Population	1-20
1.4 LAND USE.....	1-23
1.4.1 State Land Use	1-23
1.4.2 County General Plan.....	1-23
1.4.3 County Zoning	1-27
1.5 AVAILABLE WATER RESOURCES	1-28
1.5.1 General.....	1-28
1.5.2 Ground Water.....	1-28
1.5.2.1 Wells	1-28
1.5.3 Surface Water.....	1-31
1.5.4 Rainwater Catchment.....	1-37
1.5.5 Reclaimed Wastewater.....	1-37
1.6 EXISTING WATER USE	1-38
1.6.1 General.....	1-38
1.6.2 Domestic Use.....	1-38
1.6.3 Industrial Use.....	1-38
1.6.4 Irrigation Use	1-41
1.6.5 Agricultural Use.....	1-41
1.6.6 Military Use	1-42
1.6.7 Municipal Use.....	1-42
1.6.7.1 County Water Systems.....	1-42
1.6.7.2 State Water Systems	1-43
1.6.7.3 Federal Water Systems	1-43

Page i

	<u>Page</u>
CHAPTER 3. SECTOR REPORTS	3-1
801 KOHALA AQUIFER SECTOR <i>(not included)</i>	801-1
802 EAST MAUNA KEA AQUIFER SECTOR <i>(not included)</i>	802-1
803 WEST MAUNA KEA AQUIFER SECTOR <i>(not included)</i>	803-1
804 NORTHEAST MAUNA LOA AQUIFER SECTOR <i>(not included)</i>	804-1
805 SOUTHEAST MAUNA LOA AQUIFER SECTOR <i>(not included)</i>	805-1
806 SOUTHWEST MAUNA LOA AQUIFER SECTOR <i>(not included)</i>	806-1
807 NORTHWEST MAUNA LOA AQUIFER SECTOR <i>(not included)</i>	807-1
808 KILAUEA AQUIFER SECTOR <i>(not included)</i>	808-1
809 HUALALAI AQUIFER SECTOR	809-1
809.1 SECTOR PROFILE	809-1
809.1.1 General	809-1
809.1.2 Economy and Population	809-1
809.1.2.1 Economy	809-1
809.1.2.2 Population	809-1
809.1.3 Land Use	809-2
809.1.3.1 Hawaii County General Plan	809-2
809.1.3.2 Hawaii County Zoning	809-5
809.2 AVAILABLE WATER RESOURCES	809-6
809.2.1 Ground Water	809-6
809.2.2 Stream Diversions	809-11
809.2.3 Rainwater Catchment	809-11
809.2.4 Reclaimed Wastewater	809-11
809.3 EXISTING WATER USE	809-12
809.3.1 General	809-12
809.3.2 Domestic Use	809-15
809.3.3 Industrial Use	809-16
809.3.4 Irrigation Use	809-16
809.3.5 Agricultural Use	809-16
809.3.6 Military Use	809-19
809.3.7 Municipal Use	809-19
809.3.7.1 County Water Systems	809-19
809.3.7.2 State Water Systems	809-20
809.3.7.3 Federal Water Systems	809-20
809.3.7.4 Private Public Water Systems	809-21
809.3.8 Water Use by Resource	809-21
809.3.8.1 Ground Water	809-21
809.3.8.2 Surface Water	809-22
809.3.8.3 Rainwater Catchment	809-22
809.3.8.4 Reclaimed Wastewater	809-22
809.4 FUTURE WATER NEEDS	809-22
809.4.1 Full Build-Out Water Demand Projections	809-22

FIGURES

1-1	Judicial Districts & Aquifer Boundaries.....	1-5
1-2	Surface Water Hydrologic Units.....	1-9
1-3	Volcanoes.....	1-13
1-4	Simplified Geological Map.....	1-14
1-5	The Water Cycle.....	1-16
1-6	Annual Rainfall.....	1-17
1-7	Ground Water Quality & Location.....	1-21
1-8	Recoverable Groundwater by Wells & Tunnels.....	1-22
1-9	State Land Use District Boundaries.....	1-25
1-10	Registered Wells.....	1-29
1-11	Surface Water Resources.....	1-35
1-12	Water System Service Area Map.....	1-39
2-1	Full Build-Out Water Demand Projection Methodology.....	2-2
2-2	5-Year Incremental Water Demand Projection Methodology.....	2-3
2-3	Theoretical Projected Demand.....	2-4
2-4	Projected Demand H-M-L Growth Scenarios.....	2-8
809-1	2005 Revised General Plan LUPAG.....	809-3
809-2	County Zoning.....	809-7
809-3	Well Location.....	809-9
809-4	Streams & Diversions.....	809-13
809-5	Existing Water Use by Categories.....	809-15
809-6	Water System and Service Area.....	809-17
809-7	DWS Existing Water Use by Categories.....	809-20
809-8	Low Growth Rate A Water Demand Projection.....	809-25
809-9	Medium Growth Rate B Water Demand Projection.....	809-26
809-10	High Growth Rate C Water Demand Projection.....	809-27
809-11	Water Demand Projection Summary.....	809-28
809-12	Water Demand Projections and Full Build-Out.....	809-29
809-13	DWS Water Demand Projection.....	809-30

TABLES

1-1	Aquifer Sectors.....	1-5
1-2	Stratigraphic Rock Units in the Island of Hawaii.....	1-15
1-3	County General Plan Population Projection.....	1-23
1-4	State Land Use Classification.....	1-23
1-5	General Plan Land Use Pattern Allocation Guide.....	1-24
1-6	County Zoning.....	1-27
1-7	Summary of Existing Well Sources.....	1-31



BILL NO. 326
(DRAFT 3)

ORDINANCE NO. 11 7

AN ORDINANCE AMENDING CHAPTER 29, HAWAI'I COUNTY CODE 1983 (2005 EDITION), RELATING TO WATER USE AND DEVELOPMENT.

BE IT ORDAINED BY THE COUNCIL OF THE COUNTY OF HAWAI'I:

SECTION 1. Purpose. The purpose of this bill is to delete sections of Chapter 29, Hawai'i County Code, which are reiterations and summaries of those provisions already contained in the State Water Code (Hawai'i Revised Statutes Chapter 174C), adopt the updated Hawai'i County Water Use and Development Plan, and amend the provisions regarding the future updating of the Hawai'i County Water Use and Development Plan.

SECTION 2. Material to be repealed is bracketed and stricken. New material is underscored. In printing this ordinance, the brackets, bracketed and stricken material and underscoring need not be included.

SECTION 3. Chapter 29, article 1, section 29-1 through section 29-4, of the Hawai'i County Code 1983 (2005 Edition, as amended) are amended to read as follows:

"Section 29-1. Purpose.

The State water code, chapter 174C, Hawai'i Revised Statutes, mandates the preparation and adoption of a water use and development plan by each County for incorporation into the Hawai'i water plan. The contents of the County water use and development plan are dictated by chapter 174C. The purpose of this chapter is to comply with the dictates of chapter 174C and adopt the water use and development plan.

~~[(a) Recognizing that the waters of the State are held for the benefit of the citizens of Hawai'i, and that such citizens have a right to have those waters protected for their use, the State Legislature established by Act 45, Session Laws of Hawai'i (SLH) 1987, the State water code, which is intended to address problems relating to the supply and conservation of water and to serve as a program of comprehensive water resources planning. As a method of facilitating this intent, the code, now codified as chapter 174C, Hawai'i Revised Statutes, mandates the creation of a Hawai'i water~~

- plan which shall be directed toward the achievement of the following objectives:
- (1) ~~The attainment of maximum reasonable beneficial use of water;~~
 - (2) ~~The proper conservation and development of the waters of the State;~~
 - (3) ~~The control of the waters of the State for such public purposes as navigation, drainage, sanitation, and flood control;~~
 - (4) ~~The attainment of adequate water quality; and~~
 - (5) ~~The implementation of water resources policies.~~
- (b) ~~Among other things, the Hawai'i water plan shall consist of water use and development plans for each county which shall be prepared by each separate county. Such water use and development plans shall set forth the allocation of water to land use in each particular county and are intended to serve as technical reference documents on the current and future water resource conditions on each island.~~
- (c) ~~A Hawai'i County water use and development plan has been prepared under the direction of the Hawai'i County department of water supply. The document is intended to fulfill the requirements set forth by the State water code and includes the following:~~
- (1) ~~The status of water and related land development, including an inventory of existing water uses for domestic, municipal, and industrial users, agriculture, aquaculture, hydropower development, drainage, reuse, reclamation, recharge, and resulting problems and constraints;~~
 - (2) ~~An analysis of future land uses, as described in the Hawai'i County general plan, and related water needs; and~~
 - (3) ~~Regional plans for water developments including recommended and alternative plans, costs, adequacy of plans, and relationship to water resource protection and quality plan.~~
- (d) ~~Pursuant to the provisions of the State water code, each county water and development plan is required to be adopted through ordinance by the council of the county to which it pertains before it may properly be incorporated into the Hawai'i water plan.]~~

Section 29-2. Adoption of [The] the Hawai'i County water use and development plan.

The Hawai'i County water use and development plan of [~~December 1989,~~ August 2010, incorporated herein by reference, is hereby adopted[-], and any revision, amendment, or modification of the same, pursuant to section 29-3, shall be deemed a part of the plan without further adoption or amendment to this chapter and shall be incorporated into this chapter by reference.

Section 29-3. Amendments.

~~[This ordinance may be amended in the same manner as any general ordinance.]~~

The department of water supply, acting through its water board, shall have the authority to propose amendments to the water use and development plan. The water board shall hold one public hearing in East Hawai'i and one public hearing in West Hawai'i on all proposed amendments. The water board shall transmit the proposed amendments to the council for approval. Within ninety days of receipt of a proposed

amendment, the council shall act upon the amendment. If the council fails to act within the ninety days, the amendment shall be deemed approved.

Section 29.4. ~~[Mandatory plan review.]~~ Plan review.

~~[The Hawai'i County water use and development plan shall be reviewed in 1995 and every fifth year thereafter. The water commission of the County of Hawai'i shall serve as the plan review committee. The planning director and the manager of the department of water supply shall serve as technical advisors to the plan review committee. The committee shall hold at least one public hearing in East Hawai'i and West Hawai'i in order to ascertain whether amendments to the plan are necessary. The committee may propose amendments to the existing plan and all such proposed amendments shall be submitted to the council in bill form no later than December 31, of the plan review year.]~~

The Hawai'i County water use and development plan shall be reviewed as required by the State water code, chapter 174C, Hawai'i Revised Statutes."

SECTION 4. Severability. If any provision of this ordinance, or the application thereof to any person or circumstance, is held invalid, such invalidity shall not affect other provisions or applications of the ordinance which can be given effect without the invalid provision or application, and to this end, the provisions of this ordinance are declared to be severable.

SECTION 5. This ordinance shall take effect upon its approval.

INTRODUCED BY:



COUNCIL MEMBER, COUNTY OF HAWAI'I

Hilo _____, Hawai'i

Date of Introduction: December 15, 2010
Date of 1st Reading: December 15, 2010
Date of 2nd Reading: January 20, 2011
Effective Date: February 8, 2011

REFERENCE: Comm. 4.3

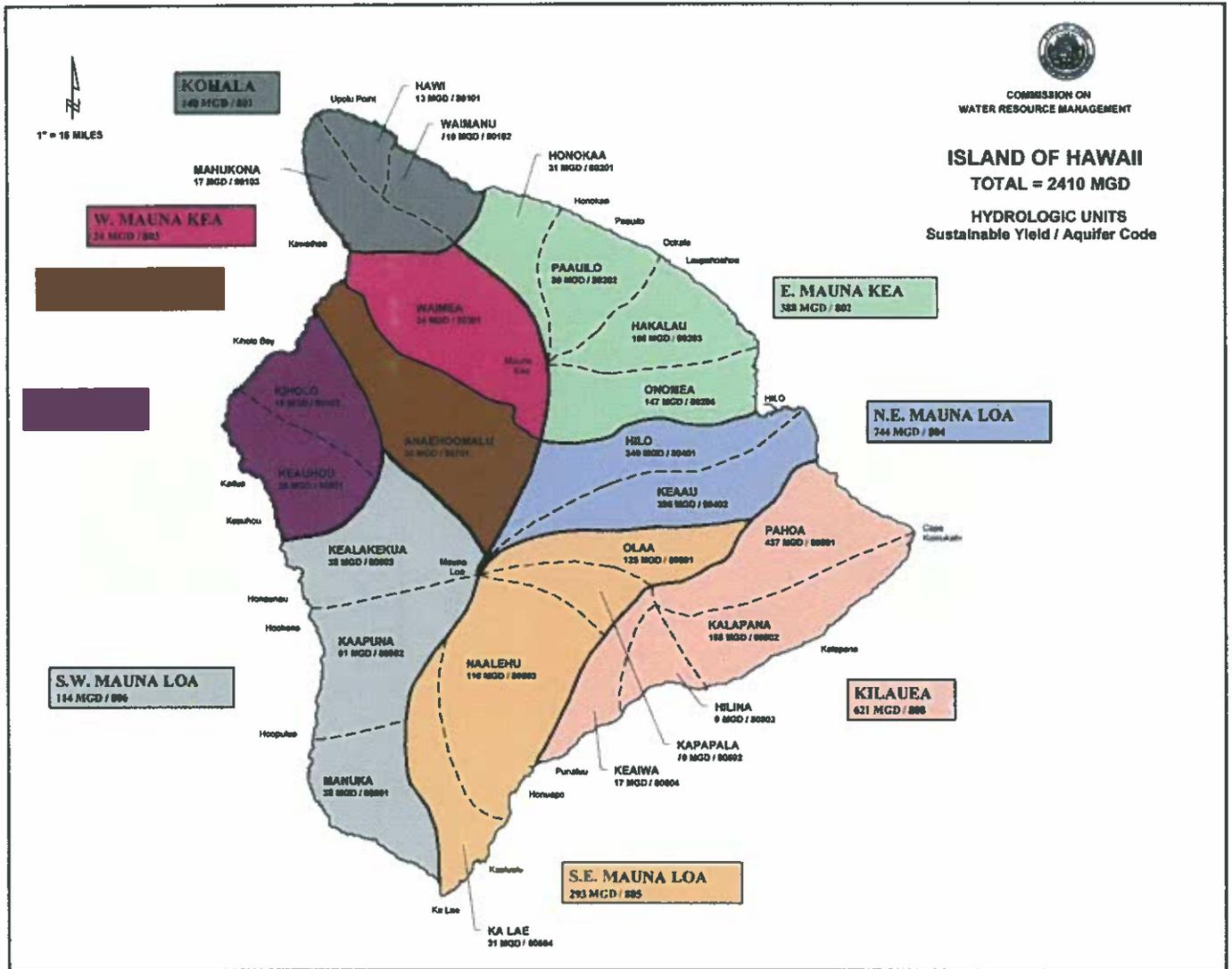


Figure 3-15: Island of Hawaii Ground Water Hydrologic Units and 2008 Sustainable Yields

Map Projection: Universal Transverse Mercator