
Section 1

Introduction

1. INTRODUCTION

The Water Resource Protection Plan (WRPP) is one of five major plans that comprise the Hawaii Water Plan (HWP), established pursuant to Chapter 174C, Hawaii Revised Statutes (HRS §174-C) (State Water Code). The Water Resource Protection Plan, together with the Water Quality Plan (WQP), State Water Projects Plan (SWPP), Agricultural Water Use and Development Plan (AWUDP), and the County Water Use and Development Plans (WUDPs), provides the overall guidance and direction for managing Hawaii's water resources (see Figure 1-1). Article XI, Section 7, of the Constitution of the State of Hawaii (State Constitution) establishes the State as trustee of water resources, with the constitutionally mandated responsibility to set policy, establish regulatory procedure, and establish and protect water use priorities while assuring water rights. Initially prepared in 1990, the WRPP update reflects the latest efforts in water resource planning as part of the State's mandate to protect and sustain the water resources for the benefit of the citizens of the state of Hawaii.

The plan is organized into the following sections:

- Section 1 Introduction:** This section gives an overview of the State Water Code and the HWP, including background information on both the initial 1990 WRPP and the organization of this update.
- Section 2 General Water Resource Management Principles and Policies:** The State Constitution, the State Water Code, and the Hawaii Administrative Rules set forth water management principles and policies for the State. The Commission on Water Resource Management (CWRM) applies these principles and policies when implementing the State Water Code. This section summarizes water management principles and policies, and presents CWRM's goals and objectives for executing the agency's mandated responsibilities.
- Section 3 Inventory and Assessment of Resources:** The State Water Code mandates that the HWP provide an inventory of water resources statewide. This section provides the resource inventory, as well as supporting information and a discussion of issues that contribute to resource assessment and management.
- Section 4 Monitoring of Water Resources:** Careful program planning and interagency cooperation is necessary for effective implementation of statewide-resource monitoring programs. This section of the WRPP describes Hawaii's existing ground water, surface water, and climate monitoring and assessment programs, and provides recommendations for future actions, program expansion, and agency coordination.
- Section 5 CWRM Regulatory Programs:** CWRM uses regulatory controls to implement policies for ground and surface water development and water use. Regulations are employed to protect the resource, optimize its availability, and obtain maximum and reasonable-beneficial use of water, CWRM relies on a permit system to enforce these regulations. This section summarizes CWRM's regulatory programs and recommendations.

Hawaii Water Plan Components

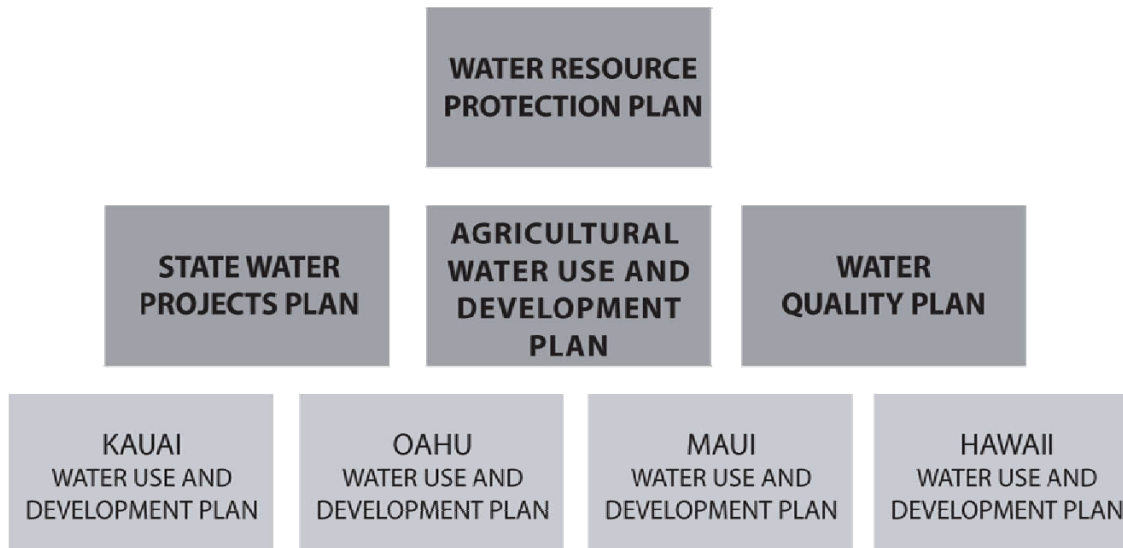


Figure 1-1. Hawaii Water Plan Components

- Section 6** **Existing and Future Demands:** This section focuses on data available about existing and future water demands statewide, as well as the issues that are associated with quantifying water use and projecting water demand. Available data on existing ground water use and surface water use are presented, followed by a summary of water demand projections through 2030, as prepared by each county. The section concludes with a discussion of county-level water planning and the status of each county’s planning efforts.
- Section 7** **Resource Conservation and Augmentation:** To protect and conserve the State’s water resources, the CWRM encourages water conservation and the use of alternative resources wherever feasible. This section reviews existing water conservation and augmentation activities in Hawaii and establishes goals and priorities for statewide planning programs. Climate change and its impacts to Hawaii’s water resources are also discussed. Recommendations provide State leadership and guidance for the establishment, development, and implementation of such programs.
- Section 8** **Drought Planning:** Droughts have affected the islands throughout Hawaii’s recorded history, with the most severe events occurring in the past 15 years being associated with the El Niño phenomenon. Direct and indirect impacts due to drought, manifest themselves as changes in the environment, economy, public health, and available water supplies. This section reviews

and assesses drought-mitigation planning efforts undertaken in the state of Hawaii.

- Section 9 Watershed Protection:** For the most part, modern watershed protection and management programs have sprung from the Clean Water Act of 1977 and subsequent supporting legislation. This section describes watershed protection programs currently being implemented at the federal, State, and county levels, and summarizes community efforts and partnership projects that have achieved success in Hawaii. The section concludes with recommendations that encourage more integrated watershed management, by building upon existing programs linking mountain and shoreline area activities.
- Section 10 Water Quality:** The State Water Code provides that the Department of Health (DOH) shall have primary jurisdiction and responsibility for administration of the State's water quality control programs. This section provides information on the purpose and function of the WQP, reports the status of efforts to update the WQP, and describes current DOH programs that will contribute to the WQP plan update.
- Section 11 Priority Recommendations and Implementation Plan:** Recommendations are provided throughout the WRPP. This section organizes recommendations into an implementation plan providing for short and long-term actions. For planning purposes, cost implications and budget estimates are included as appropriate.

This plan update is ambitious in content and is comprehensive in its treatment of resource protection. It reflects CWRM's acknowledgement and understanding of the numerous issues that must be addressed in the preservation and stewardship of our state's limited water resources.

1.1. Overview of Statewide Water Resource Planning

It is generally recognized that the Hawaii's water resources need judicious management and regulation to assure availability and quality. In 1978, the State Constitutional Convention mandated the Legislature with formulating a statutory plan to address these concerns. Accordingly, in 1987, the Fourteenth Legislature enacted the State Water Code to "protect, control, and regulate the use of Hawaii's water resources for the benefit of its people" (HRS §174-C).

CWRM administers the State Water Code. CWRM's general mission is to protect and enhance the water resources of the state of Hawaii through wise and responsible management. HRS §174C-2(c) specifies the following:

The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper

ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.

A major responsibility of CWRM is to assemble the eight-part HWP, which consists of the following components:

- WRPP, prepared by CWRM;
- WQP, prepared by the DOH;
- SWPP, prepared by the Department of Land and Natural Resources (DLNR);
- AWUDP, prepared by the Department of Agriculture (DOA), and the
- WUDPs, prepared by each county.

The State Water Code provides that each HWP plan component, with the exception of the WQP, must be *adopted* by CWRM. The DOH's Water Quality Plan is *accepted* and incorporated by CWRM into the HWP. CWRM will integrate the plan components from various agencies into a cohesive tool for managing, protecting, and studying water resources statewide.

The State Water Code imposed a December 31, 1989 deadline for the completion and adoption of the HWP. While it may be argued that the HWP, adopted by CWRM in 1990, falls short of achieving the intended objectives, the existing plan establishes sufficient provisions and appreciable guidance to manage and protect the state's water resources.

Specific plan recommendations that emanated from the 1990 HWP clearly identified the need for further studies, assessments and follow-up actions that should be undertaken by government agencies. In 1992, the State and each county prepared draft updates to their respective HWP components, but CWRM's adoption of the 1992 draft HWP update was deferred, pending refinement of the individual plan components and availability of additional information.

As agencies struggled to complete the 1992 draft HWP update, a consensus arose among State and county entities that a comprehensive water resource planning process was needed to guide the development of various HWP components and integrate components into a comprehensive planning document. Under the authority of HRS §174C-31, which provides that CWRM may add to the HWP any information, directions, or objectives it feels are necessary or desirable for the guidance of the counties in the administration and enforcement of State Water Code provisions, CWRM developed a document to guide the updating process. In 2000, CWRM adopted the *Statewide Framework for Updating the Hawaii Water Plan* (Framework) (see Figure 1-2). The Framework is intended to provide focus and additional guidance to each agency responsible for updating specific components of the plan.

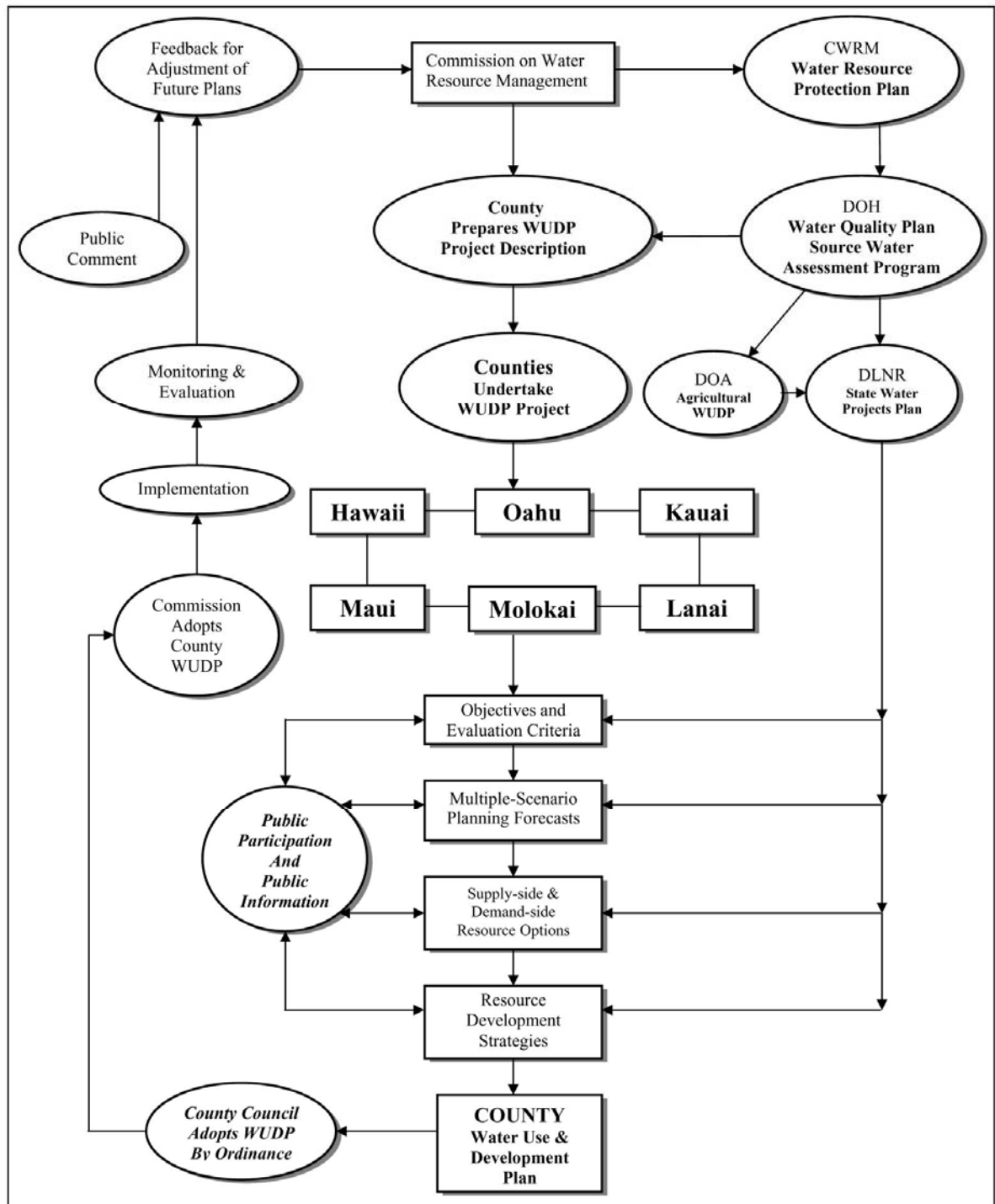


Figure 1-2. Framework for the Hawaii Water Plan

The Framework incorporates techniques to address the current complexities associated with planning activities regulation and management of water resources. It should be viewed as part of a long-term vision to prepare a “living document,” which over several iterations will result in a truly comprehensive water resource plan. The dynamic process delineated in the Framework directs current State and county efforts to update the HWP components.

1.2. Water Resource Protection Plan Objectives

The WRPP is the key component of the HWP. CWRM is responsible for the preparation, implementation, and updating of the WRPP.

The scope of the WRPP, as provided by the State Water Code in HRS §174C-31, is as follows:

- (1) *Study and inventory the existing water resources of the State and the means and methods of conserving and augmenting such water resources;*
- (2) *Review existing and contemplated needs and uses of water including State and County land use plans and policies and study their effect on the environment, procreation of fish and wildlife, and water quality;*
- (3) *Study the quantity and quality of water needed for existing and contemplated uses, including irrigation, power development, geothermal power, and municipal uses;*
- (4) *Identify rivers or streams, or a portion of a river or stream, which appropriately may be placed within a wild and scenic rivers system, to be preserved and protected as part of the public trust. For the purposes of this paragraph, the term “wild and scenic rivers” means rivers or streams, or a portion of a river or stream of high natural quality or that possess significant scenic value, including but not limited to, rivers or streams which are within the natural area reserves system. The commission shall report its findings to the legislature twenty days prior to the convening of each regular legislative session; and*
- (5) *Study such other related matters as drainage, reclamation, flood hazards, flood plan zoning, dam safety, and selection of reservoir sites, as they relate to the protection, conservation, quantity and quality of water.*

§174C-31, HRS further provides that:

The Water Resource Protection Plan shall include, but not be limited to:

- (1) *Nature and occurrence of water resources in the State;*
- (2) *Hydrologic units and their characteristics, including the quantity and quality of available resource, requirements for beneficial instream uses and environmental protection, desirable uses worthy of preservation by permit, and undesirable uses for which permits may be denied;*
- (3) *Existing and contemplated uses of water, as identified in the water use and development plans of the State and the counties, their impact on the resources, and their consistency with objectives and policies established in the water resource protection quality plan;*
- (4) *Programs to conserve, augment, and protect the water resource; and*
- (5) *Other elements necessary or desirable for inclusion in the plan.*

Thereafter, the commission, in coordination with the counties and the department of health, shall formulate an integrated, coordinated program for the protection, conservation and management of the waters in each county based on the above studies. This program, with such amendments, supplements, and additions as may be necessary, shall be known as the water resource protection and quality plan.

1.3. Current Update of the Water Resource Protection Plan

The initial WRPP was completed and adopted by CWRM in 1990. As new and better information becomes available (e.g., hydrologic information and land use changes), CWRM must periodically update the WRPP. The 1990 WRPP provided the means by which to address many issues, including but not limited to estimates of sustainable ground water yields by island, description of aquifer sectors and aquifer systems, and an initial evaluation of current and projected water needs for the State and the counties.

This current update to the WRPP includes policies, program directives, resource inventories, and recommendations across a broad spectrum of resource management issues. Efforts supporting this update focused on the following tasks:

- Declaration of CWRM policies, goals, and objectives;
- Update of ground water hydrologic units and sustainable yields;
- Establishment of surface water hydrologic units and a stream coding system, and the development of a surface water diversion database;
- Explanation and description of CWRM's surface water management program and implementation plan;
- Development of statewide ground and surface water monitoring program priorities;
- Examination of water conservation and augmentation alternatives, drought preparedness and mitigation actions, and watershed protection programs; and
- Development of recommendations for future actions and funding requirements.

This update of the WRPP is intended to provide for more successful coordination and integration of State and county efforts related to sustainable water resource development and to enable CWRM to more effectively implement the statutory objectives of the State Water Code. Regularly updating this and other components of the HWP will facilitate the counties' integration of updated information into their respective WUDPs. Preparation and revision of HWP components through a "living document" approach provides county and State decision makers with well-formulated options and strategies for addressing future water resource management and development issues.

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