



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

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

May 18, 2021  
Honolulu, Hawai'i

Adoption of the State Water Projects Plan Update

SUMMARY OF REQUEST

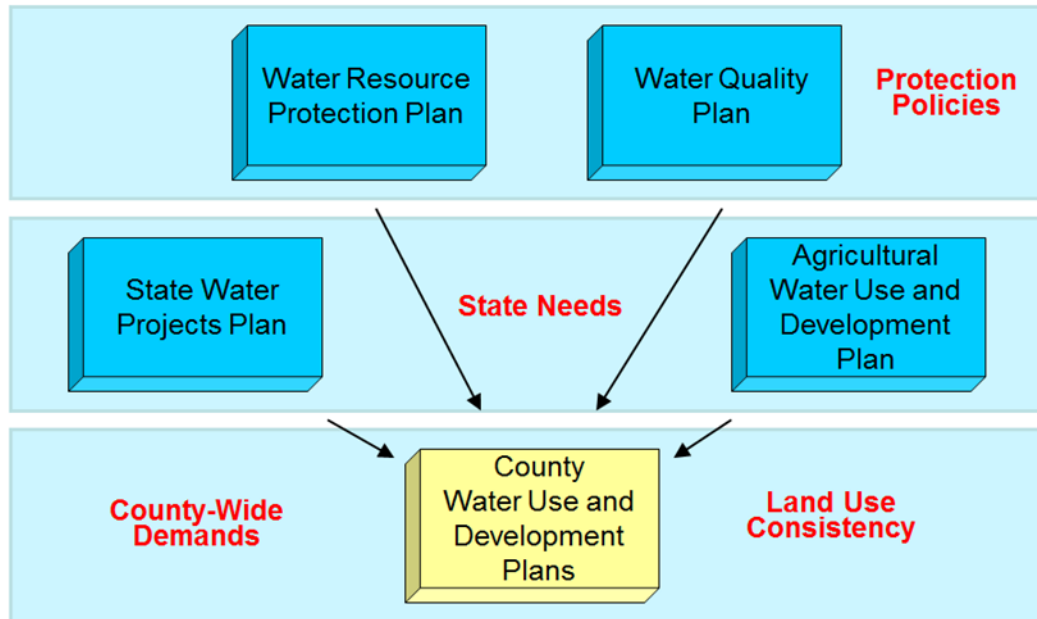
The staff requests that the Commission on Water Resource Management (Commission) adopt the State Water Projects Plan Update, June 2020, which was prepared by the Engineering Division of the Department of Land and Natural Resources.

BACKGROUND

The State Water Code, Chapter 174C, HRS, requires that the Commission on Water Resource Management (Commission) implement and utilize comprehensive water resources planning in its regulation and management of our State's water resources. The Water Code sets forth the requirement for initial development and updating of the Hawai'i Water Plan to guide the Commission in executing its general powers, duties, and responsibilities assuring economic development, good municipal services, agricultural stability, and environmental protection.

The Hawai'i Water Plan is intended to serve as a continuing long-range guide for water resource management. The Hawai'i Water Plan currently consists of five major components (plans) identified as the: 1) Water Resource Protection Plan, 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 mandates that these individual plans be prepared and integrated into a comprehensive "master plan" to provide for effective coordination and long-range planning between state and county agencies.

To fulfill this mandate, the components of the Hawai'i Water Plan must be reviewed and updated on a regular basis. The initial Hawai'i Water Plan, including the State Water Projects Plan, was adopted by the Commission in 1990. It provided the means to address many issues, including but not limited to establishment of ground water hydrologic units, estimates of sustainable ground water yields and surface water flows by island, existing water systems, and an initial evaluation of current and projected water needs for the State and the Counties.



STATE WATER PROJECTS PLAN (SWPP):

State Water Code §174C-31(a)(3), Hawai‘i Revised Statutes (HRS), requires that the state water projects plan shall be prepared by the agency which has jurisdiction over such projects in conjunction with other state agencies. As such an agency, the Department of Land and Natural Resources, Engineering Division (Engineering Division) is responsible for the preparation and updating of the SWPP. The major objective of the SWPP is to provide a framework for planning and implementation of water development programs to meet projected water demands for State projects. The SWPP should be consistent with the Water Resource Protection Plan and the Water Quality Plan and should be implemented in coordination with the County Water Use and Development Plans to ensure orderly authorization and development by the State and County over the twenty-year planning horizon. The State Water Code and its administrative rules describe the requirements of the SWPP.

State Water Code §174C-31, Hawai‘i Revised Statutes (HRS) require that:

- 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
- The commission shall coordinate the incorporation of the state agricultural water use and development plan into the state water projects plan
- In formulating or revising each county's water use and development plan, the state water projects plan, the water resource protection plan and the water quality plan, each county and the commission shall incorporate the current and foreseeable development and use needs of the department of Hawaiian home lands for water as provided in section 221 of the Hawai‘i Homes Commission Act.

State Water Code, §13-170, Hawai‘i Administrative Rules, offer further guidance that the SWPP shall include and address:

- Status of State water and land developments and their existing water use requirements
- Future land uses and related water needs

- Statewide plans for water developments including recommended and alternative plans, costs, and adequacy of plans.
- Consideration of current and future state programs and projects and provide information on:
  - Type of project
  - Source of water
  - Existing uses
  - Contemplated uses
  - System capacity

The *Statewide Framework for Updating the Hawai'i Water Plan* offers additional guidance and recommended SWPP plan elements:

- Current and future demand forecasts
- Water demand forecasting techniques
- Integrated resource planning elements
  - Water system profiles
  - Resource development options
  - Source development plan
- Resource strategies
- Uncertainties

#### PREVIOUS STATE WATER PROJECTS PLAN UPDATES

The SWPP was initially adopted in 1990. The first update of the SWPP occurred in 2003, providing statewide water demand projections out to year 2020. In 2017, the current and future water demands of the Department of Hawaiian Home Lands (DHHL) were documented through a partial update of the SWPP.

#### 2017 SWPP UPDATE

At its May 16, 2017 regular meeting, the Commission adopted the 2017 Update of the State Water Projects Plan (SWPP, 2017), which focused on the current and future water demands of DHHL. There were two reasons for this: 1) DHHL possesses one of the largest areas of land of all State agencies and thus could have significant impact and requirements on water resources; and 2) water needs for DHHL are a stated purpose of the water resources trust and have a special protection and priority in the State Water Code. Based on the detailed DHHL water demands published in the 2017 SWPP update, the Commission made water reservations for DHHL in its September 18, 2018 regular meeting.

The following table shows DHHL groundwater reservations based on the 2017 SWPP update.

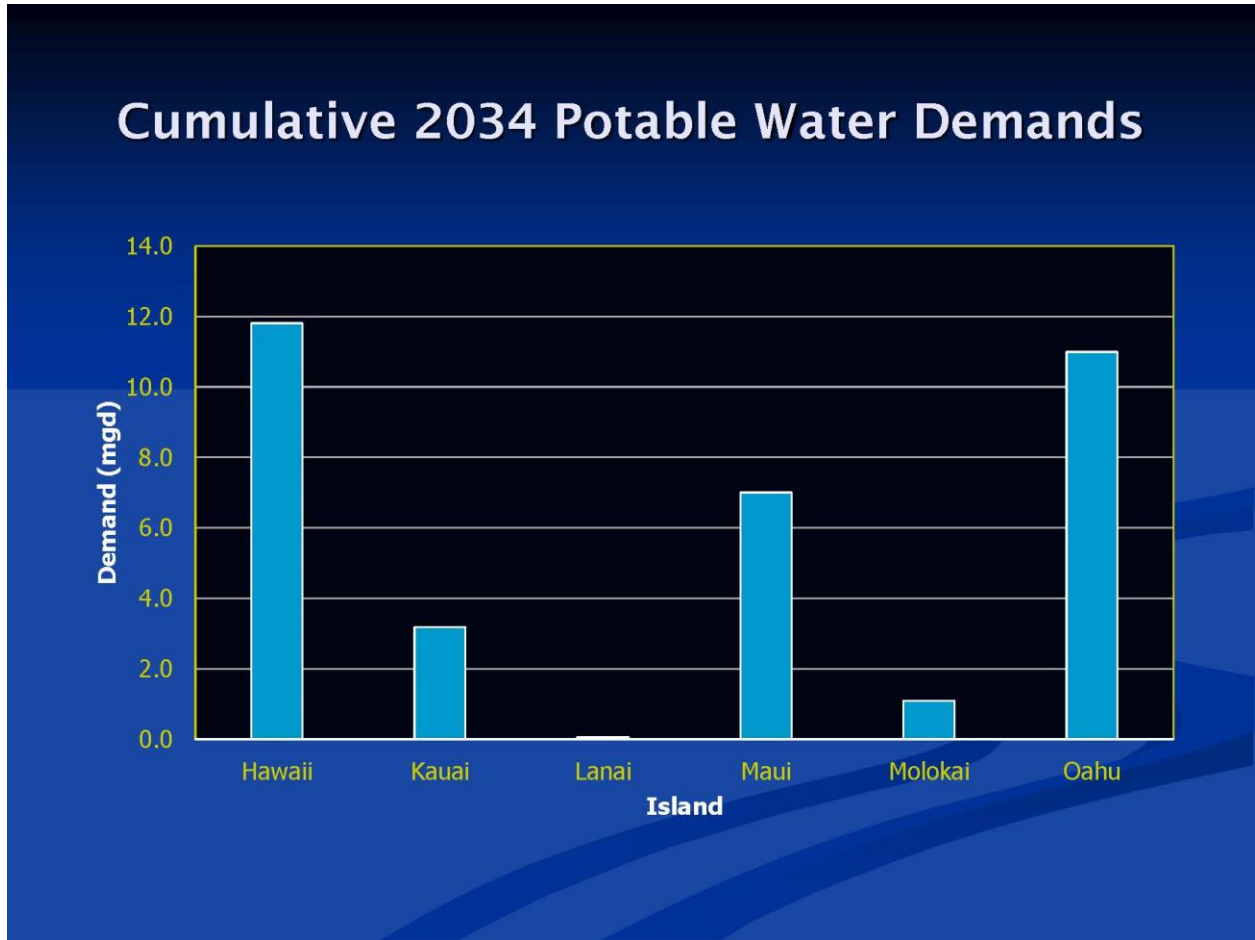
Island	Aquifer System Area	Proposed Reservation Amounts (million gallons per day)
Kauaʻi	Wailua	0.708
	Anahola	1.470
	Kekaha	0.336
	Makaweli	0.405
Lanaʻi	Leeward	0.067
Maui	Honokōwai	0.770
	Kamaʻole	2.547
	Keʻanae	0.003
	Kawaipapa	0.118
	Lualaʻiula	0.063
Hawaiʻi	Hāwī	0.148
	Māhukona	3.014
	Honokaʻa	0.396
	Hakalau	0.083
	Onomea	0.250
	Hilo	0.492
	Keaʻau	1.336
	ʻŌlaʻa	0.025
	Nāʻālehu	0.185
	Pāhoa	0.660

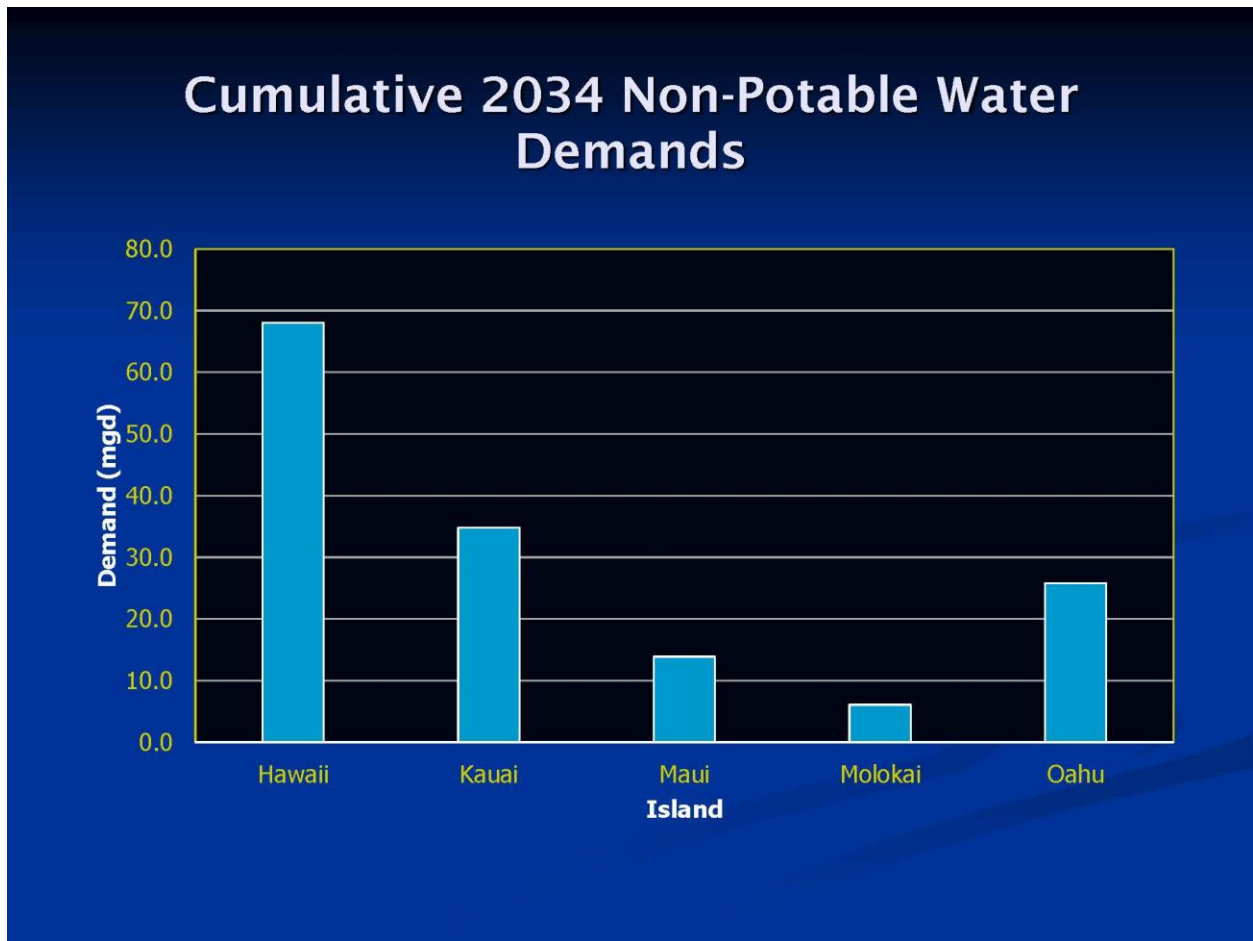
2019 SWPP UPDATE

The 2019 SWPP update (Exhibit 1) involved the compilation of available information from State agencies on future projects requiring water supply throughout the entire State of Hawaiʻi. For DHHL, the data from the 2017 SWPP update was used in the 2019 SWPP update. A 20-year planning horizon between 2015 and 2034 was established for the data collection and demand projections. This update involved the following key tasks:

- Inventory of existing state sources – water systems, wells, stream diversions
- Identification of proposed State projects/developments
- Assessment of future water demand projections on a 20-year timeframe
- Water development strategies and potential implementation plans to meet the projected demands
- Consistency with other Hawaiʻi Water Plan components

Projected water demands were based on State agency consultation and reviewed against Hawaiʻi water system standards or other references for projects that do not conform to the water system standard land use types. Potable and non-potable water use demands were sorted by State department, island and hydrologic unit. Since the DHHL water demands were updated in the 2017 SWPP update, these figures were simply incorporated into the 2019 SWPP update. Forecasts were made for low, medium, and high demand scenarios, with the medium demands summarized in the tables below. Cumulative statewide potable water demand forecast is 34.147 million gallons per day (mgd) and non-potable demand forecast is 148.57 mgd. Most of the forecasted non-potable demands are from the Department of Hawaiian Home Lands for loʻi kalo irrigation and the Department of Business, Economic Development and Tourism (Natural Energy Labs of Hawaiʻi) for deep seawater applications.

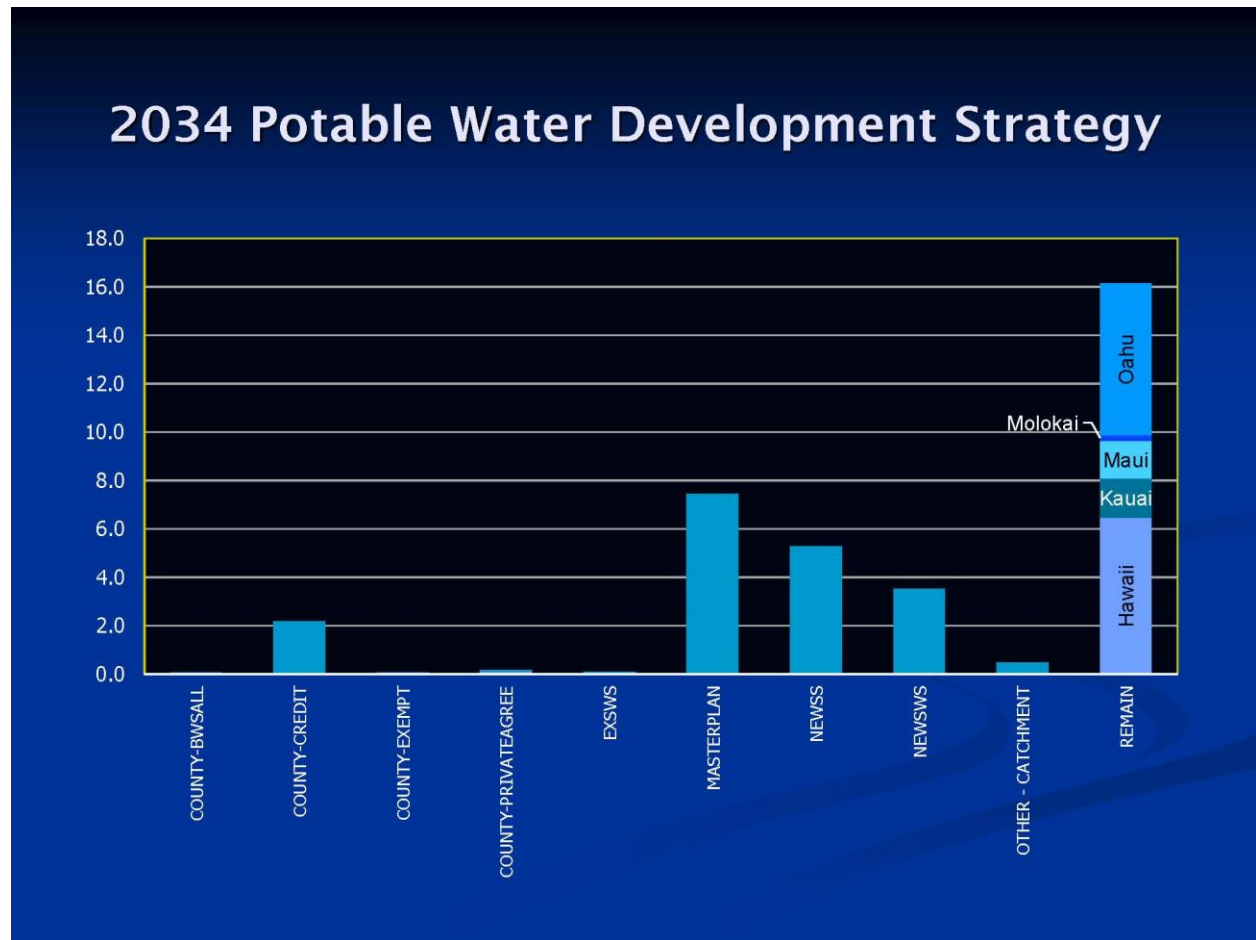


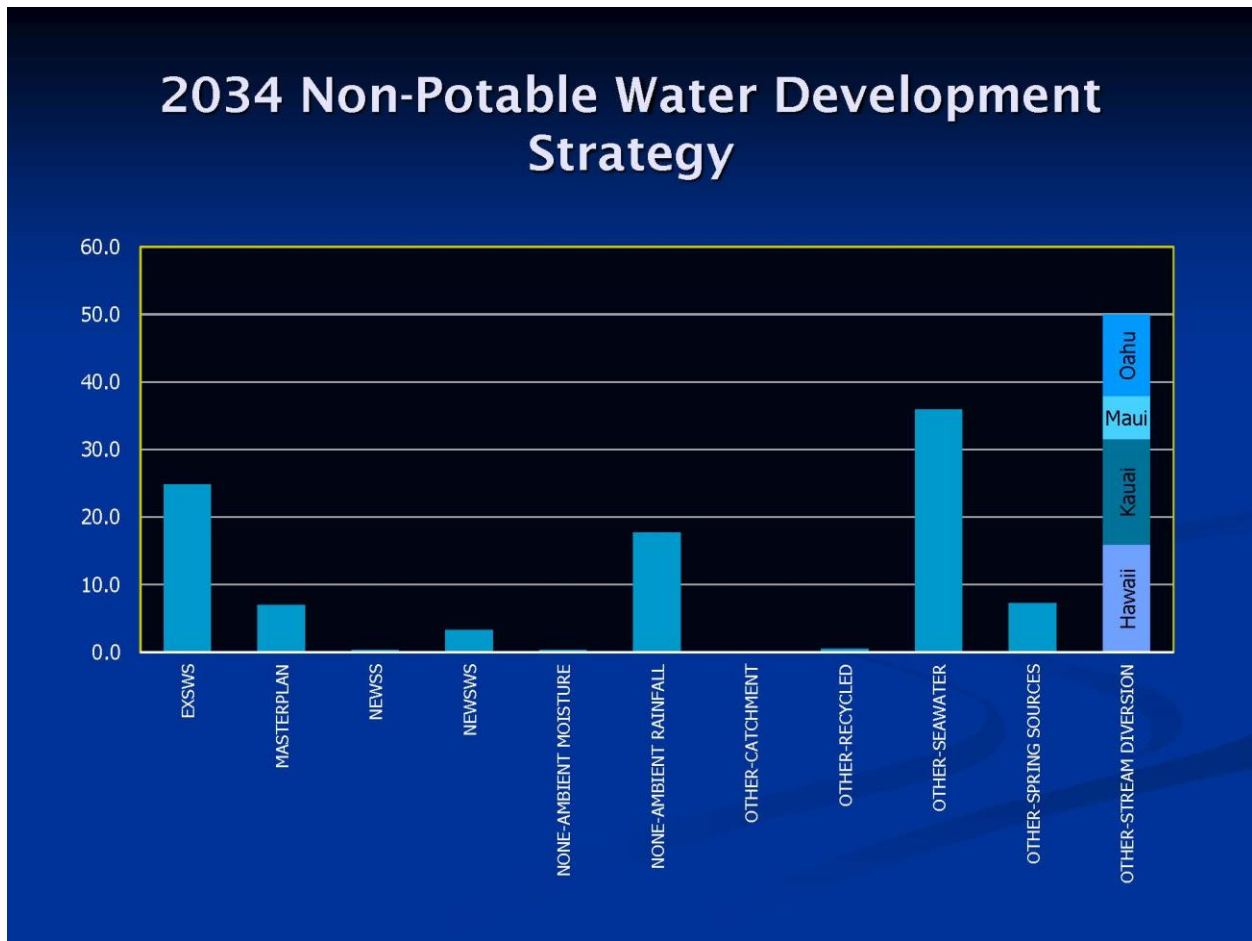


Water development strategies to meet the projected demands were identified as potential supply options for each State agency's respective projects. State agency water conservation programs were also evaluated since water conservation can affect the agency's water demands. Similar to its water demands, the DHHL water development strategies were updated in the 2017 SWPP update, and these were also simply incorporated into the 2019 SWPP update. The following potential strategy options were considered for each island:

- Existing State Water Systems
- Existing State Sources
- Existing and Planned Water Master Plans
- County and Private Water Agreements
- New State Water Systems
- New/Planned State Wells
- Planned Private Sources
- Coordination of Remaining SWPP Water Demand and County Water Departments
- Water System Development Cost Estimates
- Water Catchment Systems
- Stream Diversions and Spring Sources
- Recycled Water
- Seawater

Factors considered while evaluating the water development strategies include ensuring consistency with the Hawai'i Water Plan component plans, promotion of non-potable resources, and water conservation initiatives. A review of system efficiencies (water loss audits) in order to assess water conservation initiatives may be considered in future updates. The majority of State project potable demands are expected to be served by County water systems (REMAIN) or water master plan improvements (MASTERPLAN). Non-potable demands are expected to be served by potential stream diversions, seawater, or existing state water systems (EXSWS).





The 2019 SWPP update dedicates a chapter to each of the counties with detailed analysis of existing state water resources, project water demand and water development strategies for the projects. The plan also includes island maps depicting state projects and a comprehensive Appendix section showing state project water demands sorted by multiple criteria.

The 2019 SWPP conclusions and recommendations call for continued collaboration among State and County agencies to:

- Integrate of water demands and development strategies with County Water Use and Development Plans
- Coordinate with County water departments to assess feasibility of accommodating State project demands and plan new sources as necessary
- Review and update existing data in County water master plans and State water resource databases
- Continue to implement the Hawai'i Water Conservation Plan, seek non-potable source strategies and begin to develop methods to utilize recycled water



ENVIRONMENTAL REVIEW CHAPTER 343 HAWAI‘I REVISED STATUTES (HRS)

This planning study is exempt from the application of HRS Chapter 343 pursuant to HRS §343-5(b) and Hawai‘i Administrative Rule §11-200.1-8(a). This is a planning-level study that will not involve testing or other actions that may have a significant impact on the environment.

DHHL FUTURE PROJECTS AND DEMAND REVISIONS

This update of the SWPP incorporates data from the 2017 SWPP update to account for the water needs of DHHL. However, Commission staff acknowledges that as DHHL projects and plans evolve, it is possible that water use demands would be amended, which should be included in future SWPP updates to ensure coordinated efforts across State and County government to meet their needs. DHHL is planning to conduct a beneficiary consultation process on Moloka‘i in the next few months to refine DHHL’s future development plans and water demands. DHHL provided Commission staff a list of projects that could have further water demand refinements as these projects are further planned out or implemented.

Kaua‘i DHHL Projects

- Pu‘u ‘Ōpae Kuleana Agriculture Homestead Community, Waimea
- Hanapēpē Residential and Agriculture Homestead Community, Hanapēpē
- Anahola Kuleana Agriculture Homestead Community, Anahola
- Pi‘ilani Mai Ke Kai Residential Homestead Phase III, Anahola
- Wailuā Homestead Community, Wailuā

O‘ahu DHHL Projects

- Kauluokahai, Increment II-C Residential Homestead Community, Kapolei
- Waimānalo Residential and Agriculture lots, Waimānalo
- 820 Isenberg Affordable Rental Apartments, Mō‘ili‘ili
- ‘Ewa Beach Residential Homestead Community, ‘Ewa Beach

Moloka‘i DHHL Projects

- ‘Ualapu‘e Kuleana Homestead Community, ‘Ualapu‘e
- Nā‘iwa Agriculture Subdivision and Infrastructure Improvements, Ho‘olehua
- Ho‘olehua Agriculture Lot Subdivision, Ho‘olehua
- Kalama‘ula Agriculture Lot Subdivision, Kalama‘ula

Maui DHHL Projects

- Honokōwai Homestead Community, Lāhainā
- Lealii Residential Homestead Phase II, Lāhainā
- Puunani Residential Homestead Community, Waikapū
- Pulehunui Agriculture Homestead Community, Central Maui
- East Maui Homestead Development, Ke‘anae and Hāna

Hawai‘i Island DHHL Projects

- Villages of Laiopua Residential Homesteads – Villages 1 & 2, Kōna
- Honomū Agriculture Homestead Community, Hilo

2019 SWPP UPDATE ADOPTION PROCESS:

The process for public participation in the Hawai‘i Water Plan, including the SWPP, is described in Section §174C-31(p), HRS:

“The commission shall not adopt, approve, or modify any portion of the Hawaii water plan which affects a county or any portion thereof without first holding a public hearing on the matter on the island on which the water resources are located. At least ninety days in advance of such hearing, the commission shall notify the affected county and shall give notice of such hearing by publication within the affected region and statewide.”

Commission staff held two virtual statewide public hearings via Zoom meetings in January 2021 fulfilling the requirements for the public notice and hearing. The public hearing notice is shown in Exhibit 2.

Three individuals from the Ha‘ikū Community Association provided oral testimony during the public hearings. The general comments given were in regards to local concerns about future water supply, water for agriculture, the uncertainty of sustainable yield in the Ko‘olau aquifer sector, and lack of hydrological data in the Ha‘ikū area.

Commission staff appreciates these comments and plans to address them in the next update of the Water Resource Protection Plan in the determination of revised sustainable yield values.

Two written testimonies were received. The Kā‘anapali Land Management Corporation submitted comments and questioning the validity of the SWPP as it relies on information from the Agriculture Water Use and Development Plan (AWUDP), which is currently being updated.

Commission staff acknowledges that the timing of the SWPP update does not allow for the use of data from the latest draft of the AWUDP, and recommends that future updates of the SWPP incorporate data from the AWUDP update after that document has been adopted by the Commission.

To align this update of the SWPP with the recent request by DHHL to reserve water from the ‘Ualapu‘e Aquifer System Area, the Engineering Division updated the language and numbers for the area to be consistent with the 0.855 MGD reservation request. This also allows the SWPP update to incorporate information from the DHHL 2019 Moloka‘i Island Plan..

Staff finds that the revisions made after the public hearing are not substantive and to not require another public hearing prior to the Commission adoption.

Commission staff believes the 2019 SWPP update meets the requirements of the Water Code, its administrative rules, and the Framework to Update the Hawai‘i Water Plan. Staff provided feedback and comments to Engineering Division throughout the project on progress summaries and draft versions of the SWPP report.

Commission staff will continue to work with DHHL and Engineering Division to accurately reflect the most current DHHL water demands in the next SWPP update or any interim addenda as appropriate.

RECOMMENDATIONS

Staff recommends that the Commission adopt the updated State Water Projects Plan. By adopting the State Water Projects Plan, the Commission is not approving or endorsing any of the State projects listed in the SWPP, nor does this assure or imply the availability of water needed for these State projects.

Ola i ka wai,

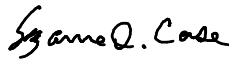


M. KALEO MANUEL  
Deputy Director

Exhibits:

1. 2019 SWPP update final report
2. Public Hearing Notice SWPP Update

APPROVED FOR SUBMITTAL:



SUZANNE D. CASE  
Chairperson