

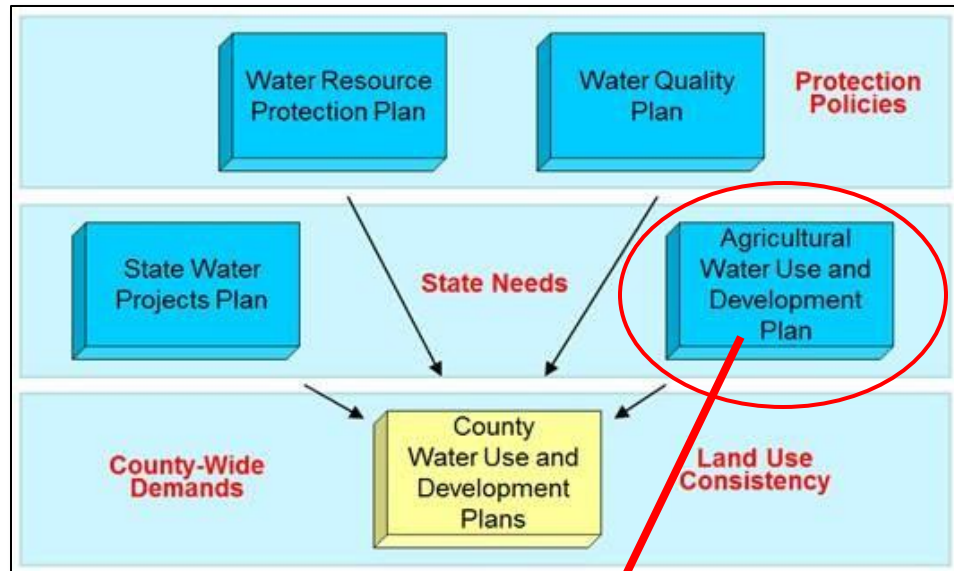
ADOPTION OF THE AGRICULTURAL WATER USE AND DEVELOPMENT PLAN

Presentation to the Commission on Water Resource Management
by CWRM Planning Branch

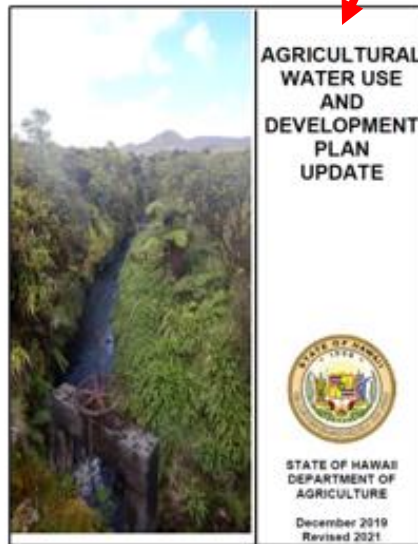
March 18, 2025



AWUDP AND THE HAWAI'I WATER PLAN



- Water Commission briefing on November 17, 2024
- One of several component plans of the Hawai'i Water Plan (HWP)
- Original AWUDP (2004)
- 2021 AWUDP update process began in 2014



PURPOSE OF THE AWUDP

- Assesses public *and* private agricultural water use and current demands
- Address projected agricultural water demands (over the next 20 years)
- Identify system rehabilitation needs and prioritize system repairs
- HRS §174C-31 (e) and Framework (2000)



COMMON QUESTIONS AND COMMENTS

1. Why did it take so long to recommend plan adoption?
2. Why did the DOA prioritize statutory requirements over the Framework elements?
3. Why does the 2021 AWUDP not include the irrigation systems studies in the 2004 plan?
4. Not enough information about the rehabilitation needs for each system and no comprehensive strategy for capital improvements
5. How were the agricultural water demands of farmers estimated and why are they so high?
6. More emphasis needed on developing alternative water sources such as reused (R-1) water and initiating conservation programs
7. The plan does not adequately assess existing and future irrigation needs, specifically the needs of DHHL

4. Lack of info and strategy for infrastructure improvements

- Chapter 3 includes general information about the water systems not studied in 2004
- Chapter 4 provides an update of water systems studied in 2004 and associated CIP needs
- Chapter 9 includes short-term (5-year) repair plan, suggestions for long-term management, and funding options based on information in Ch. 3 and Ch. 4
- Many of the private systems declined visual inspections and/or did not provide information
- Future update should look beyond former plantation systems and include wider range of infrastructure improvements/needs (wells, reservoirs, etc.)

Condition:

- Update 2018 dollar amounts to reflect 2025 cost estimates
- DOA will commit to participating in the Agribusiness Development Corporation's (ADC) Strategic Planning effort to identify a 5-year CIP plan for the ADC systems

5. High agricultural water demand rates

- Water demand rates based on survey, interview and water meter data
- Diversified Ag. Rate (2004) = 3,400 gpd vs. (2021) = 3,900+ gpd
- Rates are higher than estimated water demands using IWREDSS
- System losses and inefficient delivery systems are not captured in the water demands

Table 130
Agricultural Water Demand Planning Rates
(at the farm meter)

Description	Water Demand (gpd/acre)
Diversified agriculture (for usable acreage that is 50 percent planted)(average condition) (e.g. leafy vegetables and truck crops)	3,900
Diversified agriculture (for usable acreage that is 100 percent planted) (e.g. nursery, feed, and forage crops)	7,800
Diversified agriculture (for usable acreage that is 50 percent planted) under drought conditions or in dry areas	8,100
Diversified agriculture (for usable acreage that is 100 percent planted) under drought conditions or in dry areas	16,200
Irrigated pastures dependent on grass varietal, soil, and climatic conditions (for usable acreage that is 100 percent planted)	8,000
Aquaculture, taro, and other wet crops	Dependent on crop and location

Condition:

- Add statement to relevant sections of AWUDP stating the water demand data may not apply to all locations and IWREDSS is another resource
- CWRM to explore how climate change data can be incorporated into IWREDSS model

6. More emphasis needed on water conservation, reuse, and alternative water sources

- Little information about water conservation and opportunities to use recycled water instead of potable water for agriculture
- CWRM \$1M for statewide water reuse study

Condition:

- New reuse study should be used to inform next AWUDP update

7. Not enough information about current and future irrigation needs, esp. DHHL

- AWUDP limited to plantation irrigation systems and associated water demands
- Fails to consider the irrigation needs of projects and programs outside the plantation system lines
- DHHL agriculture water needs (current) not connected to legacy plantation systems and future needs not considered in the plan

Condition:

- Incorporate a reference and hyperlink to the 2020 State Water Projects Plan (SWPP) to communicate DHHL agricultural water demands
- Consult with DHHL in a timely manner on current and future water needs



RECOMMENDATION

- Revised AWUDP does not meet full intent of statutory (HRS §174C) and Framework (2000) requirements
- Staff recognize the required and recommended plan elements are an enormous undertaking and in some cases beyond DOA's ability to complete
- Framework update (2025) attempts to address some of these challenges
- 2021 AWUDP is not perfect, but much improved from 2004

