

WAI 101

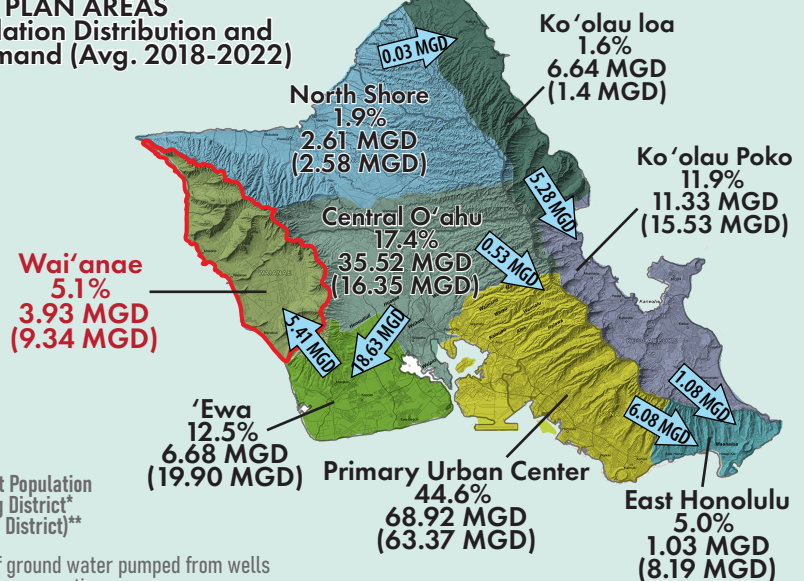
Wai'anae Watershed Management Plan Update

Water Demand & Supply

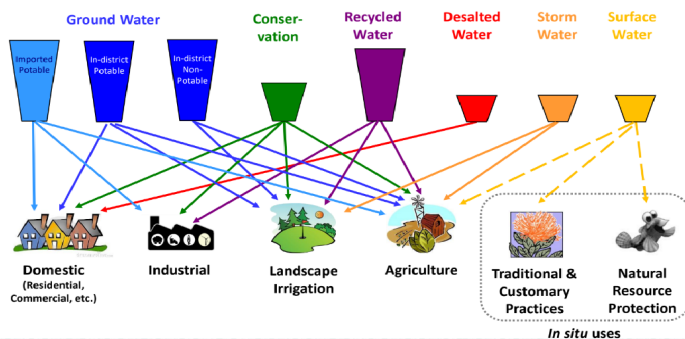
- With a net demand of 9.34 million gallons per day (MGD) and an average of 3.93 MGD pumped from water resources within the Wai'anae District, demand exceeds supply by more than 5 MGD.
- More than 50% of water used in the Wai'anae District is imported from the Pearl Harbor sector.
- 51% of all water use in Wai'anae is by residential use, 27% is by Agriculture, and 7% is by Military*

*Based on a 5 year average from CY2020-CY2024

Island of O'ahu DEVELOPMENT PLAN AREAS Estimated Population Distribution and BWS Water Demand (Avg. 2018-2022)



Water Supply to Water Uses

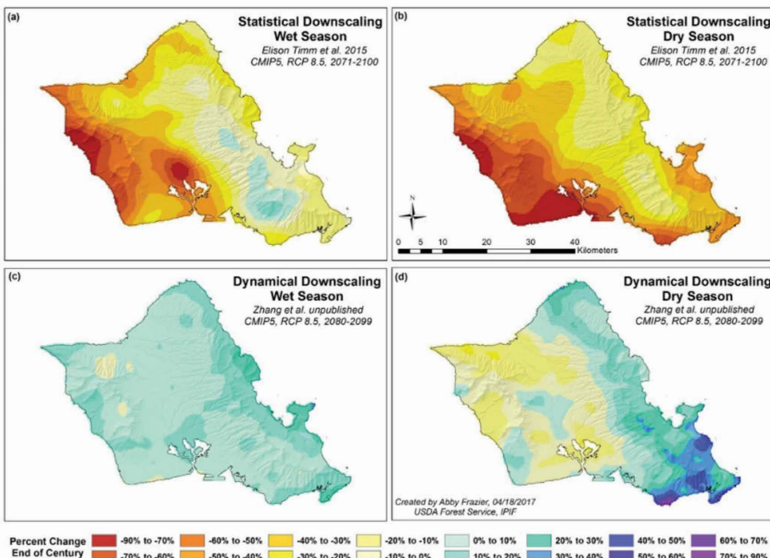


Natural & Alternative Water Supply

- Groundwater
- Surface water
- Recycled and brackish nonpotable
- Desalination
- Brackish and Seawater

Climate Change Impacts

- Data from 1970's - 2011 show that mean annual rainfall at the summit of Mt. Ka'ala has decreased from 100" to 65" of rain per year
- Rainfall modeling by University of Hawai'i projects that areas of Wai'anae could get 70%-90% drier by year the 2100.
- Current investigation is underway to determine specific impacts of sea level rise to BWS groundwater wells



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Preliminary List of Key Water Resource Issues

Climate Change

Changes in temperature and weather patterns will increasingly affect the availability of freshwater sources, thereby reducing dependable access to water for agriculture and human consumption.

Near Shore and Stream Water Quality

Pollutants can contaminate streams and nearshore waters and threaten human health and marine ecosystems. Wastewater infrastructure (wastewater treatment plants, cesspools, and sewer lines and outfalls) is another threat to nearshore waters.

Water Demand, Supply and Conservation

With over half of Wai'anae's water supply provided by aquifer sources outside the district, and a projected increase in district population, the WWMP seeks to ensure sustainable water supply for the district.

Drought, Wildfires and Other Natural Disasters

Rising temperatures, recurring drought, non-native vegetation, and human-caused fires places Wai'anae at a heightened risk for wildfires.

Watershed Health

Invasive species increases water consumption, soil erosion, and competition that decimates native vegetation. Protecting and restoring native forests and landscapes from mauka to makai is essential for safeguarding future water supply.

Flooding and Drainage

Increased urbanization in low-lying areas combined with climate change contribute to a greater risk of flooding in Wai'anae, which may result in repetitive damage to development and infrastructure.

Protecting Traditional & Customary Practices

Perpetuating Native Hawaiian traditional practices and cultural resources is dependent upon access to natural and cultural resources and the ability to use and care for the water, land, and air.

Rainfall Capture and Collection

With precipitation decreasing, there is a significant need to capture and collect as much rain water as possible for agriculture, landscaping, public supply, domestic use, and managing stormwater runoff.

Groundwater and Surface Water

Healthy watersheds play an important role in facilitating the infiltration of water into the ground, thus replenishing aquifers and streams. The decrease of stream flow could adversely affect aquifer recharge, freshwater supplies, agricultural practices and aquatic and riparian ecosystems.

Access to Mauka Lands

Restricted mauka access are designed to prevent illegal activity and contamination to ensure the safety of potable water resources. However, cultural access/stewardship is an important ongoing consideration.