



THE FUTURE IS NOW: PROTECTING OAHU'S AQUIFER

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Preserving and Protecting Our Aquifers

O'ahu's primary source of water, the Pu'uloa or Pearl Harbor aquifer may need further protection to ensure long-term sustainability. In a context of climate change, withdrawing water from the aquifers at the current sustainable yield limit could potentially render this aquifer unusable as a future public water supply while also threatening culturally and ecologically important springs.

Casey Lund (Hawaii News Now) reports on the need to protect natural resources such as the Pu'uloa or Pearl Harbor aquifer. An interdisciplinary team of researchers from the University of Hawai'i at Mānoa (UHM) recently published the results from their 'Ike Wai project. Their findings suggest revisiting the current sustainable yield or legal limit of aquifer withdrawal to preserve and protect O'ahu's primary water source in a context of climate change.

Leah Bremer, lead author with UHERO Environmental Policy and Planning Group and the Water Resources Research Center said,

“The current legal limits of withdrawing from the Pu'uloa aquifer may not be sufficient to protect this important resource. Excessive water withdrawal into the future, could negatively impact not only the aquifer viability as a primary drinking water source in the future but also cultural and ecological springs that feed Sumida Farm, lo'i kalo systems, coastal wetlands, and nearshore ecosystems. Further, the research also suggests that native forest protection can play an important role in reducing the combined impacts of land-use and climate change on groundwater resources. However, the research team also cautions that, more data on the ecohydrology of forests are needed to further refine this estimate.”

The Sumida Farm, which is fed by an aquifer spring vital to their watercress cultivation, was selected for the study to analyze how the effects of urbanization and climate change are impacting local agriculture and the island's freshwater sources. Emi Suzuki of Sumida Farm, spoke about preserving and protecting the aquifers as a natural resource for the islands and how it impacts so many aspects of the 'āina, and it may come down to Hawai'i and the global community making tough choices between “green golf courses or green food on the table.”

Co-authors of the study include Ahmed Elshall ('Ike Wai and HIGP), Kimberly Burnett (UHERO), Christopher Wada (UHERO), Aly El-Kadi (WRRC and HIGP), Clifford Voss (WRRC), Laura Brewington (Pacific Risa), and Jade Delevaux (The Natural Capital Project).

Learn more about this research at UHERO and UH News:

<https://uhero.hawaii.edu/groundwater-management-for-people-and-ecosystems-under-a-changing-climate-insights-from-the-pu'uloa-aquifer/>

<https://www.hawaii.edu/news/2021/07/29/main-oahu-aquifer/>

Hawaii News Now: <https://www.hawaiinewsnow.com/2021/08/04/uh-study-oahus-primary-aquifer-need-additional-protections/>