
**Honolulu Board of Water Supply**

**Stakeholder Advisory Group** Meeting 53

Thursday, January 16, 2025, 4:00 – 6:00 pm

Blaisdell Center – Hawaii Suite

**Meeting Notes**

## PURPOSE AND ORGANIZATION OF MEETING NOTES

The purpose of these notes is to provide an overview of the Board of Water Supply (BWS) Stakeholder Advisory Group meeting. They are not intended as a transcript or as minutes. Major points of the presentations are summarized herein, primarily for context. Copies of presentation materials were provided to all participants and are available on the BWS website. Participants made many comments and asked many questions during the meeting. These are paraphrased to be more concise.

## ATTENDEES

This was an in-person meeting in which 19 stakeholders participated, in addition to BWS staff, consultants and members of the public. The stakeholders represent diverse interests and communities island wide.

The following Stakeholders Advisory Group members attended:

| | |
|---|---|
| Matt Bailey | Castle Hospitality Group |
| Pono Chong | Resident of Council District 6 |
| Bill Clark | Resident of Council District 6 |
| Mark Fox | Environmental |
| Shari Ishikawa | Hawaiian Electric Company |
| Brady Jencks | Resident of Council District 7 |
| Kaleo Manuel | Kamehameha Schools |
| Helen Nakano | Resident of Council District 5 |
| Ryan Obrero | Honolulu Board of Realtors |
| Dana Okano | Hawaii Community Foundation |
| Dean Okimoto | Nalo Farms, Inc. |
| Elizabeth Reilly | Resident of Council District 4 |
| Alison Richardson Omura | Coca-Cola Co. |
| Richard Poirier | Resident of Council District 9 |
| John Reppun | KEY Project |
| Cynthia Rezentes | Resident of Council District 1 |
| Wayne Tanaka | Sierra Club |
| Cruz Vina, Jr. | Resident of Council District 8 |
| Guy Yamamoto | YHB Hawaii |

## WELCOME

Facilitator Dave Ebersold welcomed everyone to the 53rd meeting of the BWS Stakeholder Advisory Group. Meeting objectives were identified as:

- Provide landfill overview and update
- Review climate change impacts & approach for Water Master Plan
- Provide Red Hill updates
- Accept notes from meeting #52

Dave also welcomed and recognized new members Kaleo Manuel and Ryan Obrero

**PUBLIC COMMENTS:** None.

## LANDFILL OVERVIEW AND UPDATE

Dave introduced BWS Manager and Chief Engineer, Ernest Lau, to provide an overview and update on Oahu's groundwater aquifer and siting a new landfill. Ernest first welcomed everyone and expressed gratitude for their continued involvement in the Stakeholder Advisory Group. He noted 2025 marks his 13th year as manager of the BWS, and many Stakeholders have been members since the beginning. Ernest highlighted the importance of both longstanding and new members in guiding the future of Honolulu's water resources and the group's crucial role in ensuring the sustainability of the island's water supply.

Ernest began his presentation by reiterating the BWS's mission and vision statements, Ka Wai Ola and Water for Life, reaffirming the mission to provide safe, dependable, and affordable water for the community. Ernest shared an infographic that illustrates the water system, emphasizing that Honolulu is entirely dependent on groundwater from underground aquifers. These sources, which include freshwater floating on seawater and dike-impounded water in the mountains, supply approximately 145 million gallons per day to serve a million residents, businesses, and visitors through 2,100 miles of pipelines.

Ernest continued his presentation by discussing the City and County of Honolulu's request for BWS's position on a proposed municipal solid waste landfill. The landfill is intended to accommodate both municipal waste and construction and demolition waste, following the imminent closure of the landfill in Nānākuli. He provided historical context, stating that in November 2022, Dr. Roger Babcock, Director of the Department of Environmental Services (ENV), requested input on six proposed landfill sites. These sites met all State and City landfill siting requirements except for one critical factor: they were all located over groundwater aquifers essential for the island's drinking water supply.

In response, BWS disapproved of all six sites, citing the risk of contamination. Ernest explained that as rainwater percolates through landfills, it can pick up various contaminants, including harmful chemicals like PFAS. While landfill systems are designed to collect and contain this leachate, there remains a risk of leakage, particularly during heavy rainfall events, which could wash contaminants into the environment and, ultimately, the groundwater. He emphasized that despite their previous disapproval, the City announced in December 2024 that they had selected one of the originally rejected sites. Upon confirmation of this, Ernest sent another letter on December 17, 2024 reaffirming BWS's disapproval. Under BWS administrative rules, this triggered a 30-day period for ENV to appeal or request reconsideration of the decision. As of this stakeholder meeting, no such request had been received, though the deadline remained open until midnight.

If an appeal were filed, Ernest noted that he would be required to conduct a hearing, allowing ENV to present additional technical information. Ernest commented that, in his view, this hearing should be public, enabling community input on the proposed landfill. Following the hearing, he would either uphold or amend his disapproval. If his decision were upheld, ENV would have another 30 days to appeal to the Water Board, which would have the final say.

COMMENT: Bob Leinau commended BWS for articulating the risk posed by landfill leachate. He then asked about liability, if taxpayers get stuck with any problems associated with the landfill. He also recommended that there be opportunities for the general public to be educated about issues associated with the landfill.

A: Ernest mentioned that he attended a public meeting conducted by Council Member Matt Weyer and Representative Amy Perruso, commenting that the public is well educated on where the soft spots are on the proposed landfill above a high-quality water resource.

Q: Helen Nakano commented that the process for siting the landfill is bureaucratic. Can BWS directly suggest the ideal landfill site instead of waiting for other agencies to propose it?

A: Ernest answered that BWS's responsibility is drinking water for the community to drink and use, not to site landfills. BWS is not an expert on landfills and issues related to site one. Ernest recommended military land and suggested they should look harder and put more pressure on the military to give up land. The best areas for a landfill without picking a specific site are in the coastal areas where there is a caprock formation along the coastlines, not on the interior of the island where the volcanic aquifer has only soil above it.

COMMENT: Cynthia Rezentes commented that the City seems to be positioning themselves so that there will be such a groundswell of opposition to a new site that they will extend Waimānalo Gulch.

A: Ernest acknowledged that very important concern and noted that since 2022, BWS has not been involved in any discussions about siting a proposed landfill. The strategy is strictly being done within ENV and the City Administration.

Ernest continued his presentation, noting that the concern remains that landfills, once constructed, are permanent structures, and the risk of contamination of the island's groundwater cannot be ignored. Contaminants from landfills can leak into the groundwater, creating long-term issues that may not surface immediately but will undoubtedly require management for generations.

Ernest emphasized that Waimānalo Gulch Landfill currently generates between 3.6 to 5 million gallons of leachate annually. Given that the proposed site in Wahiawā receives nearly double the rainfall, there is a significant risk that the amount of leachate could also double, increasing the chances of groundwater contamination. The larger issue is not just about siting a landfill today but about what happens in the next 20 to 30 years when the site reaches capacity. The same conversation will repeat itself, and the cycle will continue indefinitely.

Ernest discussed how groundwater moves through the island's volcanic rock, acting as a natural sponge that holds freshwater. The proposed landfill site is located on the interior part of the island, inside the No-Pass Zone, where the aquifer is more vulnerable to contamination. Unlike caprock areas that help retain freshwater, this region does not provide the same level of protection. Rainwater that seeps into the ground carries contaminants deeper over time, as seen with legacy chemicals from

pineapple and sugar plantations, which are still present in Central O‘ahu’s water supply even after decades of treatment. If the landfill’s containment system were to fail, contaminants could migrate and affect wells that supply other communities.

Federal and State regulations require landfills to maintain their leachate collection systems and caps for only 30 years after closure. There is no clear oversight beyond that timeframe to ensure that leaks do not develop in the future. This raises concerns about who will be responsible for addressing contamination decades from now. If pollutants are found in the water supply, the burden of treatment will ultimately fall on the BWS and its customers, as seen in Central O‘ahu, where expensive activated carbon systems are required to remove contaminants from drinking water.

COMMENT: Cynthia Rezentes commented that the City and County of Honolulu do not maintain their landfills properly, noting that a landfill in her district was closed in 1989 but was never covered or maintained as required.

A: Ernest noted that concern and mentioned that landfills have a lifespan, and once filled, a new site must be found, leading to more landfills. The focus should be on reducing waste through reducing, reusing, and recycling. Ernest drew a parallel to the incident at Red Hill, where a decision made 80 years ago led to long-term consequences. Similarly, landfill site selections need to be made with long-term environmental impact in mind.

COMMENT: Could landfill materials be compacted and repurposed for constructive use instead of just being discarded? Laws might currently prevent this, but laws can change.

Q: John Reppun asked how can we keep this discussion active and ensure landfill management remains a priority? He commented that the BWS must take a firm stance.

A: Ernest replied that the discussion on waste management must remain a priority at the City Council and Legislature while looking at sustainability in the long term. Ernest also mentioned that BWS is posting updates on landfill proposals on its website.

Q: Helen Nakano asked if the military had been asked to provide land for a landfill. Additionally, have they considered using uninhabited islands or volcanic formations to establish landfills, and using genki balls to purify water in those areas?

A: Ernest replied that currently, they have not pursued such options.

Q: Helen Nakano asked if waste could be exported to other states or countries?

A: Ernest answered that there was a past attempt to export waste. Cynthia Rezentes added that a previous effort to send waste to Washington State failed because the proposed site was on Native American land. The waste eventually was redirected to Waimānalo Gulch or H-POWER. Waste exportation is also an expensive option.

COMMENTED: Guy Yamamoto commented that the focus should be on waste reduction before landfill solutions. In Japan, households sort waste into multiple categories beyond just general recycling. Honolulu can improve its waste sorting system to minimize landfill dependency.

## CLIMATE CHANGE IMPACTS & APPROACH FOR THE WATER MASTER PLAN

Dave Ebersold introduced Sebastian Malter, a Climate Resilience Expert and Water Resources Engineer with CDM Smith, to discuss climate change impacts and approach for the Water Master Plan. Sebastian expressed his gratitude for the opportunity to contribute to the project, particularly in applying climate science to water master planning. He emphasized the significance of integrating climate change considerations into infrastructure planning to ensure longevity and resilience under evolving climate conditions.

Sebastian highlighted various climate-related initiatives underway in Hawai'i, including community climate preparedness programs, climate action efforts, and infrastructure vulnerability assessments. He noted that while the BWS previously conducted a climate risk assessment focusing on immediate risks from natural hazards and malevolent acts, the master plan update presents an opportunity to shift toward long-term resilience planning. By incorporating climate change projections, the update aims to ensure that new or upgraded infrastructure can withstand future conditions.

Sebastian elaborated on the urgency of these efforts by pointing to the increasing frequency of natural disasters nationwide, including hurricanes, storms, wildfires, flooding, and heat waves. Hawai'i, with its unique topography and geographic vulnerabilities, faces a range of climate threats, from extreme heat to droughts and hurricanes. Sebastian asked the stakeholder members to share their primary concerns regarding climate change.

- Bob Leinau expressed his concern about the continuously rising $CO_2$ levels, which contribute to atmospheric heat retention.
- Ryan Obrero highlighted the financial burden of climate change-related disasters, such as wildfires and heavy rains, on local residents. He noted that rising insurance costs due to these disasters make it increasingly difficult for future generations to afford to live in Hawai'i.
- Shari Ishikawa emphasized how climate change is intensifying the frequency and magnitude of its impacts on infrastructure. She described the ongoing challenge of reinforcing systems to withstand climate threats while simultaneously seeking external expertise to address emerging risks, such as wildfires.
- Bob Leinau added that the rise in mosquito populations due to higher temperatures leads to increased infections among native birds. He also pointed out the detrimental effects of rising ocean temperatures on coral reefs, referencing the severe damage to the Great Barrier Reef.
- John Reppun commented that climate change is already impacting human health and will only escalate in the future.
- Helen Nakano noted her concern with the lack of behavioral change despite widespread awareness of climate risks. She argued that providing more information alone is ineffective, as people continue to neglect simple actions such as picking up litter. She suggested that public engagement efforts should focus on behavioral psychology to encourage meaningful change rather than just disseminating facts.

Sebastian thanked the members for their input. He continued his presentation by explaining that water utilities must consider both structural and non-structural impacts when assessing climate risks. He then illustrated how climate change affects water supply and infrastructure. For instance, prolonged droughts reduce water availability, while extreme heat increases water demand for both human consumption and vegetation. Storms and coastal flooding can damage infrastructure, leading to service interruptions and equipment failures. Additionally, outdoor workers face greater health risks and reduced productivity due to extreme heat, necessitating more breaks and overtime.

Sebastian underscored the need for a holistic approach in water master planning, considering various climate stressors beyond just flooding. He explained that the master plan update will leverage climate science to assess hazard severity and frequency, identify vulnerabilities, and develop risk mitigation strategies. These findings will then inform the Capital Improvement Plan, ensuring that investments in infrastructure are climate-resilient.

To achieve this, Sebastian described the process of climate modeling. He explained that climate models use global data to simulate atmospheric and oceanic processes, with emission scenarios serving as key inputs. These scenarios help predict future temperature and precipitation patterns. While global models provide broad projections, downscaling techniques allow scientists to refine these predictions for local conditions, such as those in Hawai'i.

Sebastian noted that while climate data is publicly available, interpreting and applying it to infrastructure planning requires specialized expertise. He mentioned that the team would collaborate with experts like Dr. Chip Fletcher, who has conducted extensive research on climate impacts in Hawai'i. He demonstrated examples of rainfall and temperature projections, showing how certain models predict a significantly drier and hotter future for the islands. He also introduced tools like NOAA's sea level rise projections, which illustrate potential flood impacts under various scenarios. He stressed that sea level rise is already occurring, with measurements showing a half-foot increase over the past century. While thermal expansion and land subsidence contribute to this trend, the melting of ice sheets in Antarctica and Greenland remains a major uncertainty. He noted that past geological records indicate that even with $CO_2$ levels similar to today's, sea levels were much higher, suggesting that further rises are inevitable even if emissions cease immediately.

To incorporate climate science into the master plan, Sebastian outlined four key steps: data collection, identification of relevant climate stressors, technical analysis, and development of mitigation strategies. He listed chronic stressors, such as gradual temperature increases and long-term sea level rise, alongside acute events like hurricanes and wildfires. The team will assess how these hazards impact water demand, supply, and infrastructure, considering both structural and operational vulnerabilities.

Sebastian provided a detailed explanation of water demand modeling, referencing a predictive model developed by his colleague Bill Fernandez. This model incorporates climatic and non-climatic factors such as local economic conditions, water pricing, and plumbing efficiency to estimate future demand. By adjusting inputs like temperature and rainfall projections, the team can predict how climate change will affect water consumption. He shared an example from another project, where worst-case climate scenarios led to a 20% increase in water demand by 2050.

Sebastian concluded his presentation by reiterating the importance of incorporating climate resilience into infrastructure investments, given that water systems are designed to last for decades. The master plan update presents a crucial opportunity to integrate forward-looking climate strategies into capital planning, ensuring that Hawai'i's water supply remains secure despite evolving climate threats.

Q: Bob Leinau asked if water resources should be the primary metric for zoning decisions on islands, considering long-term availability and potential limitations.

A: Ernest Lau acknowledged that this question frequently arises in community meetings. He stated that while past efforts, such as a 2050 plan, attempted to address sustainability, there is no definitive answer yet.

COMMENT: John Reppun noted the imbalance between tourists and residents, emphasizing the need to rethink tourism as it intersects with waste generation. Dave Ebersold referenced a 50-year plan from 1970 predicting O'ahu's population exceeding 2 million and reliance on nuclear-powered seawater desalination, highlighting how projections have evolved.

COMMENT: Mark Fox commented on how information should influence behavior, particularly for decision-makers. He suggested that data should be presented in a more digestible way, citing difficulty following rainfall and temperature slides during the presentation. Sebastian thanked Mark for his feedback and acknowledged the importance of effectively presenting data to support informed decision-making.

COMMENT: Pono Chong commented that the presentation felt more like persuasion rather than purely informative, which affected the reception of the information. Sebastian responded that the intent was to showcase the available data and its potential use, acknowledging the importance of careful presentation.

Q: Dave Ebersold asked whether climate change analysis could present opportunities beyond increased costs and what those might look like.

A: Sebastian stated that while climate change often drives costs up, the cost of inaction could be greater. He emphasized that factoring climate change into planning ultimately results in long-term savings.

Q: Dave Ebersold followed up by asking if planning could incorporate smarter decisions based on future climate changes.

A: Sebastian advised against planning solely for worst-case scenarios 100 years ahead. Instead, he recommended an incremental approach, reevaluating every 10-20 years, allowing for adjustments based on evolving conditions.

Q: Dana Okano questioned whether infrastructure planning should account for the full life expectancy of assets rather than shorter-term planning horizons.

A: Sebastian confirmed that infrastructure planning considers asset lifespans. He gave examples of adaptive infrastructure, such as modular flood walls and floating fire stations in San Francisco, which adjust based on environmental conditions.

Q: Bob Leinau asked about the role of AI in long-term projections, considering models that extend to 2050-2070.

A: Sebastian noted that while AI is being integrated into modeling, it lacks the scientific and engineering judgment needed for interpretation. He suggested AI might supplement but not replace traditional modeling.

Q: Ernest Lau asked what other potential disasters or threats might arise due to climate change beyond those currently anticipated. He also inquired about biological threats, such as new pests or invasive species.

A: Sebastian predicted an increase in landslides due to more extreme rainfall patterns, with longer

droughts followed by intense precipitation events.

COMMENT: Ernest Lau suggested looking at regions with hotter, wetter climates to anticipate future challenges Hawai‘i might face.

COMMENT: Mark Fox mentioned the increasing risk of animal diseases and the need for proactive planning.

## ACCEPTING MEETING #52 NOTES

Meeting 52 notes were approved.

## RED HILL UPDATE

Dave introduced Ernest Lau, BWS Manager and Chief Engineer, to provide an update on Red Hill. Ernest summarized the relationship between the BWS and the military as “strained”, noting that the military has been actively attacking the BWS publicly. Ernest emphasized the importance of observing how the incoming administration's leadership approaches the issue of Red Hill, the military’s presence in Hawai‘i, and the fate of land leases in the area. He stated that, for now, the BWS is adopting a wait-and-see approach, as the current leadership within the military is expected to transition within the next one to two years. This change will bring a new group of officers, extending up the chain of command to the Pentagon. There were no other major updates on Red Hill, though Ernest noted that linking Red Hill to the landfill issue is likely a point of contention for the military.

## NEXT STEPS

Dave shared a list of Stakeholder Advisory Group meetings in 2025: Thursday, April 17; Thursday, July 17; and Thursday, October 16 from 4 to 6 p.m. Dave thanked the attendees for their attention and participation and concluded the meeting.