Honolulu Board of Water Supply

Stakeholder Advisory Group Meeting 44

Thursday, October 20, 2022, 4:00 – 6:00 pm

Virtual Meeting

Draft 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 a virtual meeting in which 13 stakeholders participated on-line and/or by phone, 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 participated:

Alison Richardson	Coca-Cola Co.
Bill Clark	Resident of Council District 6
Bob Leinau	Resident of Council District 2
Chase Shigemasa	Resident of Council District 7
Cheryl Walthall	General Contractors Association of Hawaii
Cruz Vina Jr.	Resident of Council District 8
Cynthia Rezentes	Resident of Council District 1
Dean Okimoto	Nalo Farms, Inc.
Dick Poirier	Resident of Council District 9
Helen Nakano	Resident of Council District 5
Elizabeth Reilly	Resident of Council District 4
Mark Fox	Environmental
Markus Krebs	Outrigger Reef Hotel

WELCOME

Facilitator Dave Ebersold welcomed everyone to the 44th meeting of the BWS Stakeholder Advisory Group.

Meeting objectives were identified as:

- Discuss Draft Water Shortage Response and Recovery Plan

- Accept notes from meeting #43
- Receive input on Cost of Service and Water Rate Study
- Provide BWS updates

PUBLIC COMMENTS: None.

DRAFT WATER SHORTAGE RESPONSE AND RECOVERY PLAN

Dave introduced Barry Usagawa, Program Administrator for the BWS Water Resources Division, to provide a presentation on the draft Water Shortage Response and Recovery Plan

Before discussing the details of the plan, Barry mentioned that the BWS will be hosting a Public Hearing and will be seeking Board adoption of the plan in November 2022. The draft plan and presentation will be available on the BWS website, www.boardofwatersupply.com. Public comment and stakeholder input are a valuable part of the outreach process.

The Water Shortage Response and Recovery Plan Table of Contents includes:

- Authorization
- Water shortage plan objectives, triggers, and response
- Water shortage affecting availability of water
- Surcharges, exceptions, appeals and penalties
- Declaration and termination of water shortage condition
- Recovery phase

Barry began his presentation by defining water shortage and low ground water conditions as described in Sections 3-318 to 322 in the BWS Rules and Regulations:

- A water shortage condition exists when water supply is not available to meet existing and/or future max day water demands due to degradation of water quality, disruptions to water system delivery infrastructure or low groundwater condition.
- A low groundwater condition exists when 3 or more index well levels fall below levels designated (caution, alert, critical), and chloride levels rise for 3 consecutive months at sufficient sources to hamper operations.

Barry then shared excerpts from the Honolulu City Charter, Article VII, Sec 7-105 (J), which prescribes the powers, duties, and functions of the BWS and its Board of Directors. In particular, he referenced:

- The prevention of waste and pollution of water;
- The limitation to beneficial uses of all water; and
- In times of shortage or threatened shortage of water or of danger to potability of the water of any ground water basin or area by overdraft on such basin, the restriction of the drawing of water in all wells supplied from such basin on a basis proportionate to the proper and beneficial uses served by them respectively.

Barry also shared Chapter II, Section 2-209 of the BWS Rule and Regulations which provides guidance on conservation measures and interruption of water supply. It states “Whenever, in the Department's opinion, special conservation measures are advisable in order to forestall water shortages, the Department may restrict the use of water by any means or method of control.”

The above statements provide BWS with authorization and guidance on how to protect groundwater resources from overdraft and forestall effects from water shortages.

The purpose of the Water Shortage Response and Recovery Plan is to provide the BWS with strategic and tactical steps to assess the need to declare a water shortage and manage water demands related to a water shortage condition. The plan includes the following phases:

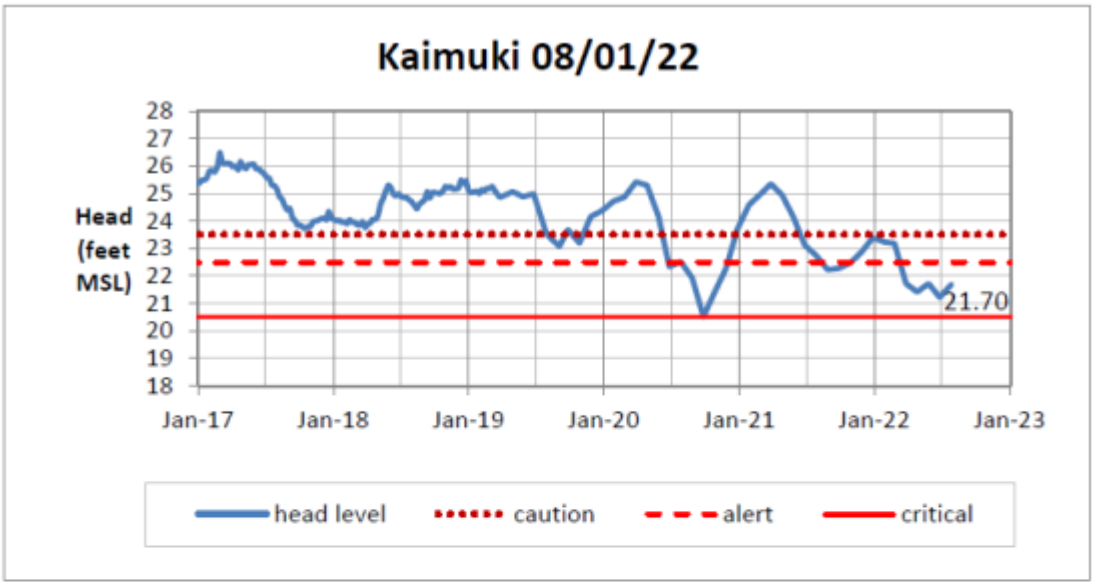
- **Notification of event causing water shortage.** Upon being made aware of the event, BWS staff will follow incident-specific response procedures depending on the type of event.
- **Initial Response: Compensating pump operations.** BWS staff will assess its remaining source capacity to meet max day demand and make appropriate adjustments to its system.
- **Declaration of water shortage condition.** BWS staff will inform the public of the water shortage condition and continue to monitor pumpage, chloride and hydrologic trends regularly.
- **Mandatory water conservation and development moratorium.** If needed, BWS can restrict water use and/or development, while also prioritizing Capital Improvement Projects to develop source capacity and system interconnectivity.
- **Recovery (terminating water shortage condition).** Final phase where full recovery from the water shortage condition is met.

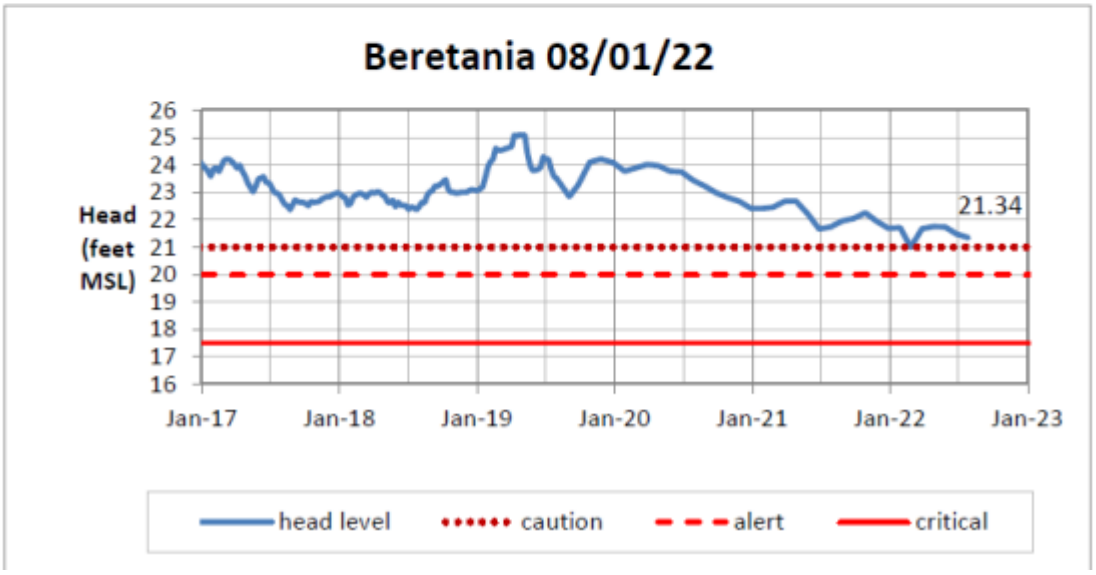
Barry shared a table (see below) that lists all 14 BWS Index Wells, their average median groundwater elevation, and the caution, alert, and critical elevations for each well. He explained that a low groundwater condition exists when three or more of these wells are at alert or critical level.

BWS INDEX WELLS AND LOW GROUNDWATER CONDITION WATER LEVEL TRIGGERS

CWRM Aquifer System	BWS Index Area	BWS Index Well Name	Avg. Median GW Elevation (ft MSL)	Caution Level (ft MSL)	Alert Level (ft MSL)	Critical Level (ft MSL)
Palolo	Kaimuki	Kaimuki H.S. 25-1A Deep MW	25.0	23.5	22.5	20.5
Nuuanu	Beretania	Thomas Square 83 MW	23.0	21.0	20.0	17.5
Kalihi	Kalihi	Kalihi "Kapalama" MW	23.0	20.5	19.5	17.0
Moanalua	Moanalua	Manaiki T-24 MW	20.0	18.5	17.5	15
Waimalu	Halawa	Halawa T-45 MW	17.0	15.5	14.5	12.0
	Kalauao	Upper Waimalu T-52 MW		15.5	14.5	12.0
Waipahu-Waiawa	Pearl City	Waiawa T-27 MW	17.0	14.0	13.0	12.0
	Waipahu	Waipahu 241 Deep MW		17.0	16.0	15.0
	Hoaeae-Kunia	Kunia T-41 Deep MW		13.0	12.0	11.0
Makaha	Makaha	Makaha V Well	18	7.0	6.0	4.0
Waialua	Helemano	Helemano MW	11	11.0	10.5	10.0
Koolauloa	Punaluu	Punaluu Deep MW	18	17.0	16.0	14.0
	Kaluanui	Kaluanui Deep MW		16.0	15.0	14.0
Waialae-West	Waialae-West	Kapakahi Well (State Well Number 3-1746-003)	8	7	6.5	6

Barry then shared two graphs (see below) depicting water level trends at the Kaimuki and Beretania Index Wells. Kaimuki is in alert condition largely due to the shutdown of Halawa Shaft. Beretania is not in an alert condition but is affected by high chlorides.





Barry continued his presentation by discussing source capacity and chloride content conditions that would trigger an Alert or Critical water shortage conditions (see table below).

WATER SHORTAGE CONDITION TRIGGERS

Water Shortage Condition	Source Capacity Demand Trigger	Chloride Content Trigger*
No Water Shortage	Available pumping units meet max day demand in 16 hours w/ standby not included.	Stable Chloride and Head Level Trends
Alert	Available pumping units meet Q_{95} max day demand in 20 hours, standby pumps not included.*	Chloride content rises between 12 ppm and 16 ppm over three consecutive months at sufficient sources to hamper operations.
Critical	Available pumping units cannot meet Q_{95} max day demand in 22 hours, standby pumps not included*	Chloride content rises over 16 ppm over three consecutive months at sufficient sources to hamper operations.

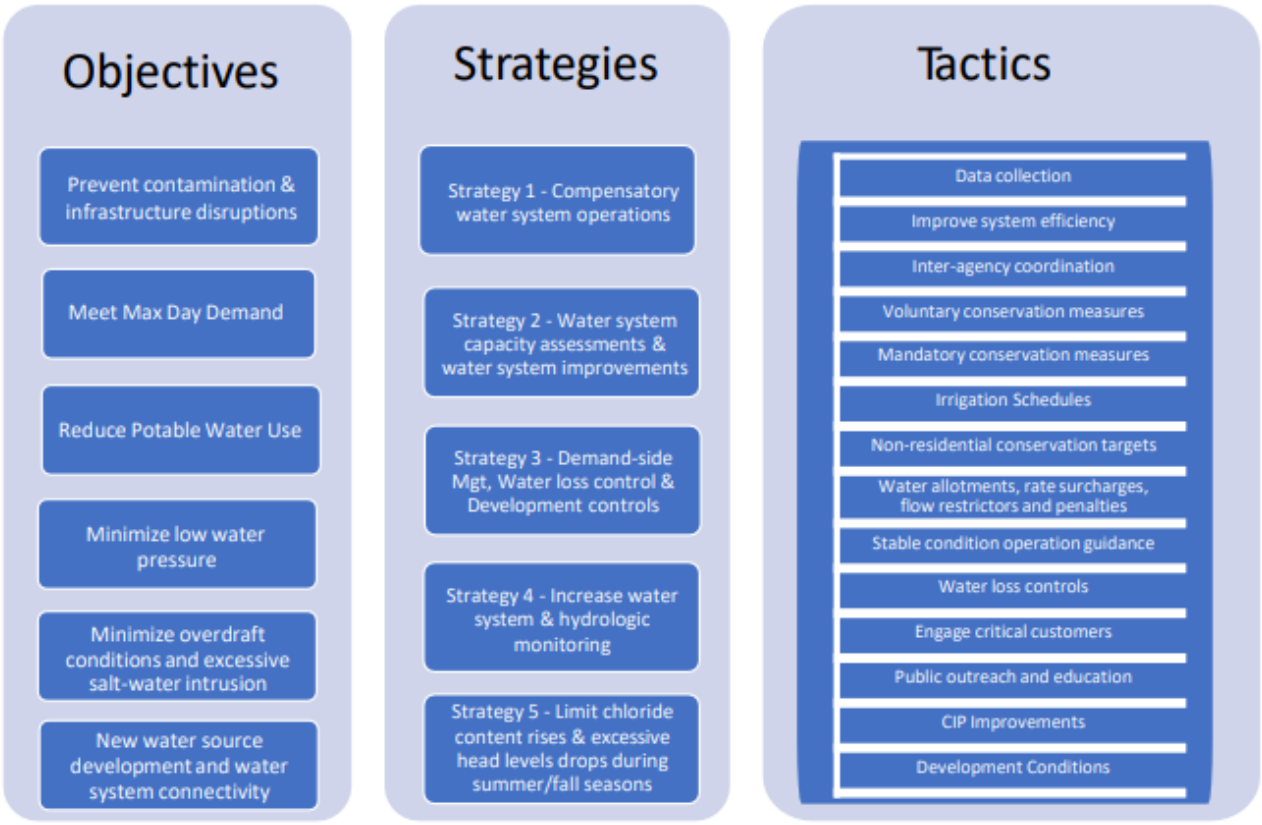
*Chloride content must rise at sufficient wells to hamper operations to activate a Low Groundwater Condition

Barry noted that the source capacity demand and chloride content triggers are independent. An exceedance of either metric could result in a water shortage condition.

Barry shared historical pumpage data for the Aiea-Halawa and Honolulu (Salt Lake to Hawaii Kai) water systems. For the Aiea-Halawa system, pumpage exceeded the source capacity demand trigger in Summer 2021, creating an alert water shortage condition. This prompted BWS to issue a call for voluntary water conservation, and the community responded by using less water. Production dropped, which moved pumpage further from alert condition stage. Barry advised that this water system will be in alert condition every Summer until replacement wells for the sources impacted by Red Hill are in place.

Barry explained that the conservation response to source capacity / demand triggers can be progressively restrictive depending on the severity of the water shortage condition. The conservation response can range from general conservation messaging and voluntary requests for water reduction, to mandatory water use reductions, water allotments, rate surcharges, flow restrictors and building moratoriums.

Barry continued by listing the objectives of the Water Shortage Response and Recovery Plan, as well as the strategies and tactics employed to meet those objectives. These are noted in the graphic below.



Barry shared an excerpt of the BWS Rules and Regulations, Section 1-101, which provides guidance on the availability of water for proposed developments. He explained that the Aiea-Halawa & Honolulu water systems are presently in Alert Water Shortage, Category 2 condition, and the BWS is approving permits while also requesting 10% voluntary water conservation.

Barry discussed a building moratorium, which is one of the most extreme tactics BWS may implement to control the rate of water demand growth and the risk of water shortage. The Draft plan includes the following limitations that could be included in a building moratorium:

- Limit approvals to a single minimum size water meter for existing vacant lots.
- For redeveloped residential and non-residential parcels, limit water demands to:
    - Existing use or previous water allocations, or
    - Existing water meter sizes.
- Require alternative onsite water supplies such as grey water reuse, stormwater catchments, A/C condensate recovery and high efficiency plumbing fixtures.
- Fee In-Lieu: Retrofit another building with high efficiency plumbing fixtures and obtain fixture credits for the redevelopment (No Net Gain in Water Use)

The draft plan also provides allowances for affordable and homeless housing projects, additional dwelling units on existing lots, and Department of Hawaiian Homeland projects.

A building moratorium would require formal declarations and public notifications, such as:

- Board Action for the declaration of a building moratorium
- Verification of growth forecasts and building permit approvals against source capacity

accounting for offsetting conservation trends.
- Reporting water system and pumpage status, as well as other information to the BWS Board
- Notification to affected elected officials, agencies, landowners, and developers.
- Board Action for the Termination of a building moratorium

The draft plan also details surcharges, exceptions, appeals, and penalties BWS could implement in the event of a critical water shortage condition:

- A surcharge of up to 20 times the existing the water rate can be established for customers whose monthly consumption exceeds their water allotment.
- Customers may submit a written application for exceptions regarding the water allotment system or any water use restrictions, to be granted by the Manager.
- Customers may appeal any denial of their exception application by writing to the BWS Board.

Penalties for violation of water use restrictions declared by the Board include flow restrictors for excessive water use, charges for the installation and removal of flow restrictors, discontinuation of water service, and ultimately being charged with a misdemeanor pursuant to Chapter 1, Article 3, Section 1-3.1 of the Revised Ordinances of Honolulu.
Regarding the declaration and termination of a water shortage condition, the BWS must inform the public and customers by publishing a notice in a newspaper once a day for 3 consecutive days. BWS will also use social media and other means to inform the public.

Dave Ebersold informed Barry that he received a question from SAG member Christine Olah, who could not be present. Christine reviewed the presentation material ahead of time and asked if the public notice in the newspaper would include a list of guidelines and recommendations for consumers to conserve. Barry commented that the notice will likely point customers to the BWS website, which will contain that information.

Barry concluded his presentation by discussing the recovery phase of the water shortage condition. During the recovery phase, BWS will step down pumping and conservation measures accordingly until aquifer levels have recovered. This process usually continues to the next wet season.

This concluded Barry's presentation on the Draft Water Shortage Response and Recovery Plan. Dave opened the floor for questions and further discussion.

Q: Regarding the no-pass line as it relates to the designation of the aquifers, is there water spill over from one aquifer to the other? Also, are declarations of critical water shortage conditions aquifer-to-aquifer or island wide?

A: Water shortage conditions are system specific. However, water conservation messaging is directed island-wide since water conservation reminders are important. Barry also commented that no-pass zones are related to waste disposal.

BWS Information Officer Kathleen Elliott-Pahinui clarified that the water shortage conditions apply to the portions of the BWS water system, which extends across multiple aquifers.

Seeing no further questions, Dave asked the SAG members if the BWS Board of Directors should approve this plan. Mark Fox and Elizabeth Reilly commented yes.

WATER RATES UPDATE

Dave introduced the next item on the agenda, Water Rates Update, which he presented along with

BWS Waterworks Controller Joe Cooper. Dave called on Joe Cooper to begin the presentation.

Joe thanked the SAG members for their input on the Cost of Service Study and allocations for previous rates schedules. Their participation is an important part of the water rate development process.

Objectives for the water rates update presentation include:

- Brief refresh on cost of service and rate making process
- Understand external drivers of revenue requirement and their impact
- Seek feedback on cost of service allocations
- Provide an introduction to tradeoffs and affordability

Joe shared excerpts of the Revised Charter of Honolulu Section 7-109, which authorizes the BWS to "fix and adjust reasonable rates and charges for the furnishing of water and for water services so that the revenues derived therefrom shall be sufficient to make the department self-supporting." The BWS is a semi-autonomous agency of the City and County of Honolulu, it does not receive City or State taxes or fees to maintain its operations. Joe also reminded the group that the Public Utilities Commission regulates privately owned utilities and the BWS is not privately owned.

Joe explained that the cost-based ratemaking is the industry standard for utilities. According to the American water Works Association M1 Manual, cost-based ratemaking fulfills 3 key objectives:

- Providing sufficient funding to build, operate, maintain, and reinvest
- Providing safe and reliable drinking water and fire protection
- Allowing for economic development and community sustainability

These objectives align with the BWS's mission of providing a safe, dependable, and affordable water now and into the future.

Joe explained the three primary steps of the ratemaking process, which are:

- **Revenue Requirement**. Comparing revenue with operating and capital costs.
- **Cost of Service**. Identifying differences in costs to serve each of the customer classes.
- **Rate Design**. Considering level and structure of rate design for each class of service.

Joe invited Dave to provide more detail on Revenue Requirement. Dave explained that the Revenue Requirement covers 4 cost drivers:

- **Operations & Maintenance costs**.
- **Capital Expenses Paid in Cash vs. Debt**. How the Capital Improvement Program (CIP) is financed.
- **Reserves and Working Capital**. Financial policies for credit ratings and stability.
- **Trends and Risks**. Preparedness to respond to changing trends and risks.

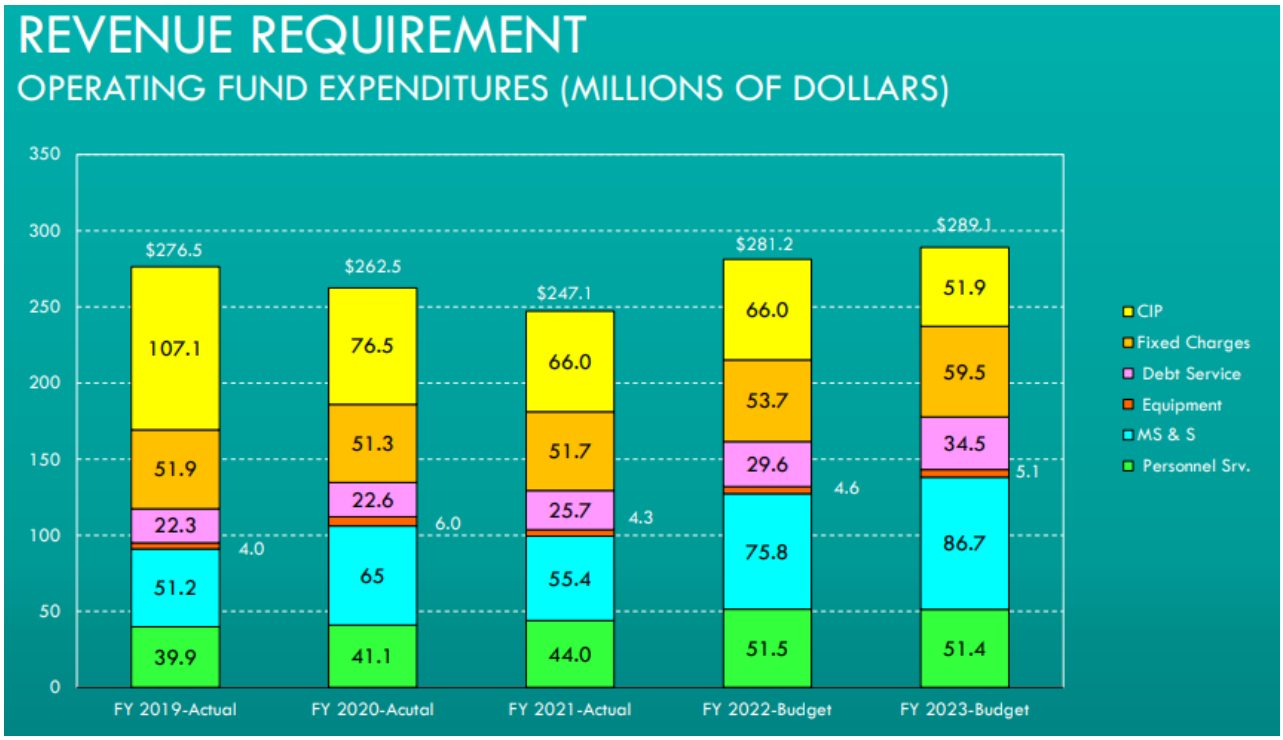
All BWS revenues go toward its operations, improvements, and growth of the water system. The BWS's current fiscal year budget projects revenues to be used as follows:

- Capital Projects (18%). This is the cash-funded portion of the CIP.
- Fixed Charges (20%). These costs include benefits for employees, retirement programs,

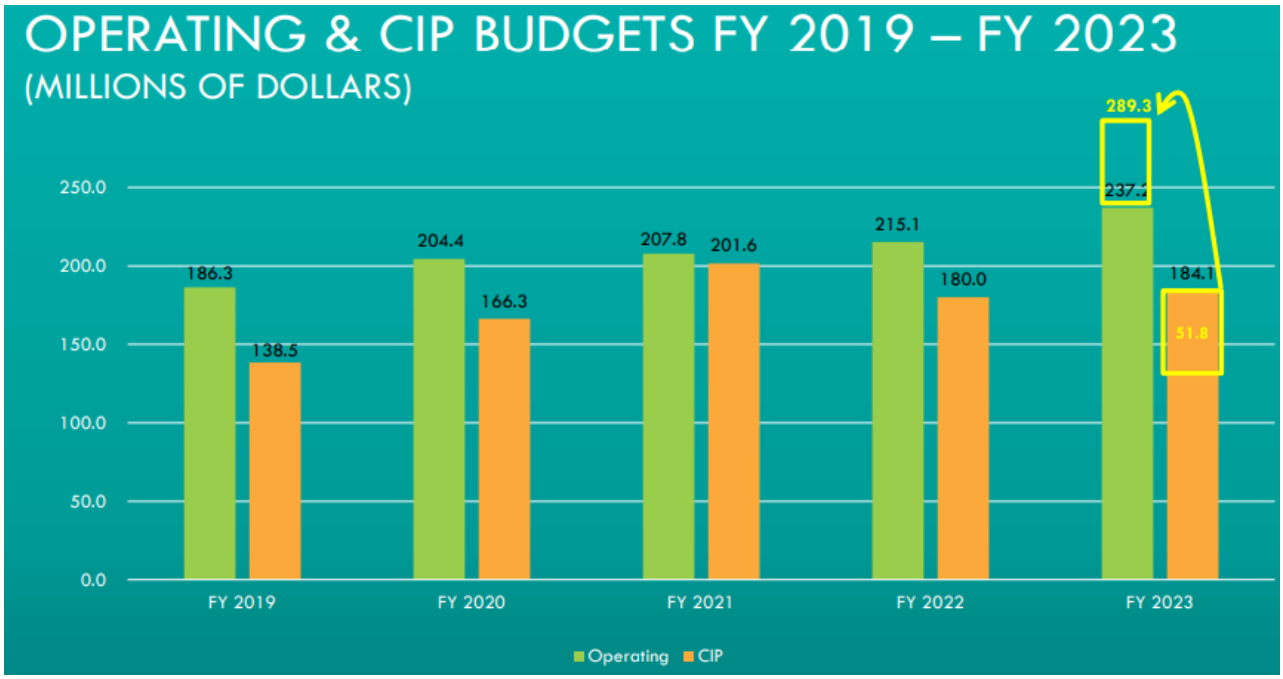
electricity costs, and more.

- Operations & Maintenance (32%)
- BWS Employee Salaries (18%)
- Debt Service (12%)

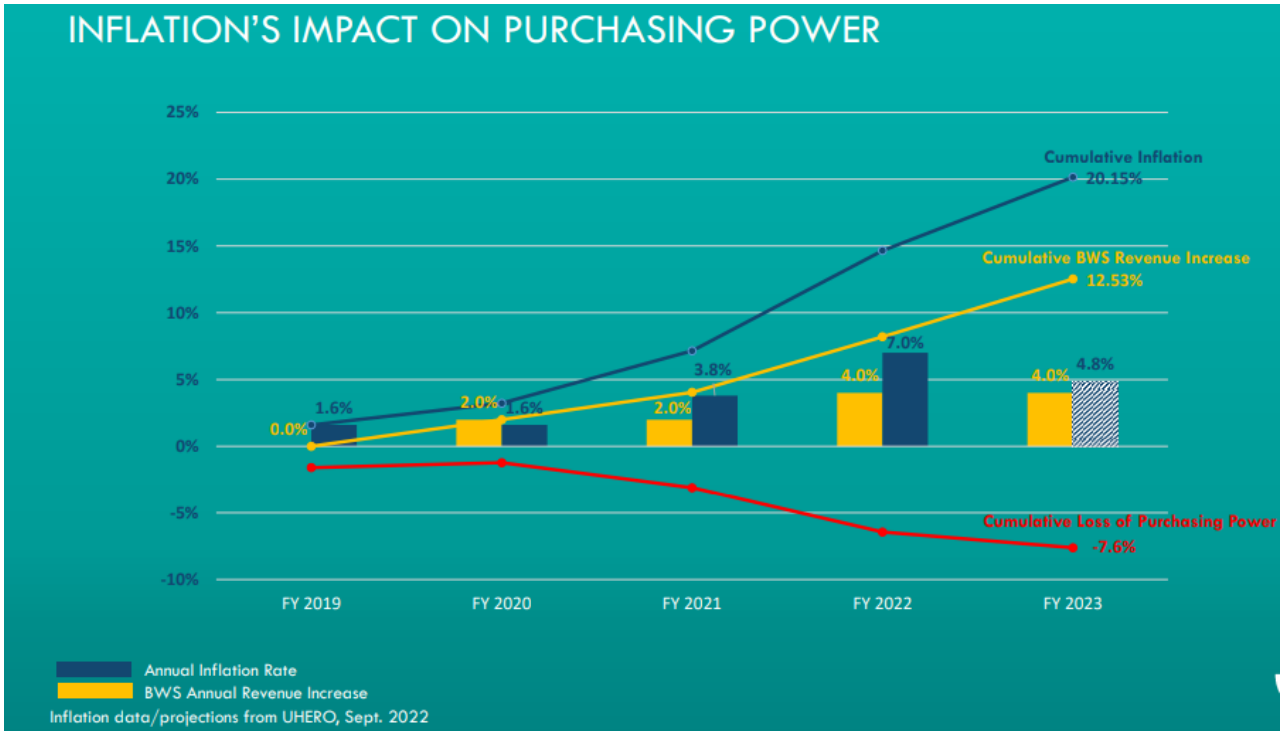
Dave shared a graph (shown below) showing the actual operating fund expenditures from Fiscal Year 2019 to Fiscal Year 2021, as well as the budgeted operating fund expenditures for Fiscal Year 2022 & 2023. He mentioned that debt service expenditures increased from $22.3 Million in FY2019 to $34.5 Million budgeted for FY 2023. This was anticipated by a BWS Long Range Financial Plan decision to fund an increased portion of the CIP using long-term debt to spread the cost of the facilities over their lifetime and to maintain affordability for ratepayers.



Dave shared a graph (shown below) detailing the operating and CIP budgets for Fiscal Years 2019 to 2023. The CIP budget has been on an upward trend, which is consistent with the Long Range Financial Plan decision to ramp up the rate of pipeline replacement. Operating budget increases are driven by electrical expenses, employee salaries and benefits, and more. BWS Executive Assistant Raelynn Nakabayashi commented that, much like everyone else, BWS is impacted by inflation. However, electricity has been the biggest cost driver, in addition to operating costs relating to Red Hill.



Dave then shared a graph (shown below) of inflation's impact on purchasing power from Fiscal Year 2019 to 2023. Over that time, the cumulative rate of inflation was 20.15%, while the cumulative BWS revenue increase was 12.53%. This results in 7.6% cumulative loss of purchasing power due to an external factor outside of BWS control.



Another external factor impacting BWS operating costs is the response to Red Hill, which is anticipated to require investments in new BWS facilities in excess of $200 Million. These investments include installing new monitoring and exploratory wells, developing new water sources to replace 17.5 MGD of potable water well pumping capacity, as well as potential additional capital costs and increases to

operations and maintenance costs. The ability to recover costs from the Navy is undermined. BWS has requested assistance from the Hawaii Congressional Delegation.

After the Revenue Requirement, the next step of the ratemaking process is Cost of Service, which Dave explained is the cost of providing water service to each distinct customer class. The Cost of Service compares costs to rate-based revenue, shows the impact of the rate structure on customer classes, and informs rate policies and decisions about the rate structure. The Cost of Service is based on the following:

- BWS annual operation and maintenance expenses
- BWS capital-related costs (infrastructure)
- Customer's quantity of water used
- Customer's use and stress on the system
- Number of services to each customer class
- Size of customer services (meter size)

Each of these costs are different among each of the BWS's primary customer classes: Single-family, Multi-family, Non-Residential (Commercial/Industrial), and Agricultural. The process of assessing the Cost of Service involves the following steps:

- Dividing the $289 million Revenue Requirement among the six major functions of the BWS: Sustain, Capture, Treat, Move, Store, and Deliver. This is done by analyzing how BWS budgets are coded and categorized into these functions.
- Using comprehensive hydraulic model results to understand how costs are allocated to Base demand, Max Day demand, and Peak Hour demand. Costs for the Sustain and Deliver functions are ignored for the Cost of Service analysis because they do not vary by customer class.
- Conducting a detailed analysis of billing data and using engineering judgement to differentiate Base demand, Max Day demand, and Peak Hour demand costs by customer class.

This complex analysis also considers water-use peaking factors, since the water system must be designed to meet peak water system demands. Residential customers have higher peaking factors compared to other classes.

The Cost of Service analysis also looked at how COVID-19 caused changes in customer water use patterns. From January 2016 to February 2020, Single-Family Residential and Non-Residential usage was about the same at around 35%-40% of potable consumption by customer type. In March 2020 with the shutdown of the commercial sector due to the global pandemic, Non-Residential usage dropped while Single-Family Residential usage went up dramatically. Agricultural and Multi-Unit Residential percentages remained flat. Continued analysis of these data tells us that water demand among customer classes is still in flux and has not yet returned to pre-pandemic conditions. Because of this, the recommendation is to maintain existing cost of service allocations until water use patterns impacted by COVID-19 stabilize.

Dave reminded the group of adjustments to Cost of Service that were implemented by the previous Rate Study in Fiscal Year 2019.

- Single-Family Residential customers were paying 90% of their Cost of Service and it was decided to gradually increase that to 95% by Fiscal Year 2023.
- Multi-Family Residential customers were paying 109% of their Cost of Service and it was recommended to decrease that to 100% by Fiscal Year 2023.

- Agricultural customers were paying 60% of their Cost of Service and it was decided to maintain that subsidy due to the importance of local, on-island, fresh produce.
- Non-Potable customers were paying 77% of their Cost of Service and it was decided to increase that slightly to 80% to still provide an incentive to use non-potable water.
- R-1 customers were paying 70% of the Cost of Service and it was decided to maintain that subsidy as an incentive to use non-potable water for irrigation.
- RO customers were paying 55% of their Cost of Service and it was decided to increase that to 63% to still provide an incentive to use non-potable water for industrial use.
- Non-residential customers were paying 120% of their Cost of Service, offsetting subsidies for other classes. It was decided to balance that downward and provide source of funds for community value programs.

Dave asked the group if it makes sense to maintain this structure and general allocation? Vina Cruz and Elizabeth Reilly both commented yes. Dave commented that the group will have an opportunity to provide more comments in the future before it goes out for public comment or Board adoption.

Ernest commented that BWS does not plan to make significant changes to the Cost of Service allocations and will keep them in line with previous recommendations.

After the Cost of Service, the next step of the ratemaking process is Rate Design, which Dave explained is the level and structure of rate design for each class of service. Dave started with an overview of the current rate structure.

Residential water rates are categorized by Single-Family and Multi-Unit classes. They use a tiered water rate structure, which charges higher rates for higher water use. The rate structure for both classes include an Essential Needs tier, where the first 2,000 gallons of water per month are set at a rate lower than cost of service for the purposes of affordability.

Non-residential customers pay a flat rate. Water use patterns between the types of non-residential customers vary, so it's difficult to set a tiered rate structure.

The Agricultural water rate structure is also tiered based on water-use and includes an Essential Needs tier. The structure assumes that water usage of more than 6,000 gallons of water per month is for agricultural use, so that tier is at a subsidized rate.

Q: Are Agricultural rates designated by zoning, or do they need to have a business license for agricultural production?

A: Jennifer Elflein, BWS Program Administrator for Customer Care, explained that the application for the agricultural rate requires customers to provide a copy of their General Excise Tax filing and proof that they are in commercial agricultural business. Otherwise, they would be a single-family ratepayer.

Dave continued his presentation by explaining non-potable and recycled water rates. Their rates are flat and subsidized to incentivize use of alternate water sources. He noted the RO water rate is higher than the other non-potable rates due to the extensive treatment process. Yet, the rate is still lower than Cost of Service.

Dave explained that the SAG and BWS staff put much work and thought into the previous Rate Design, which was a significant change from previous rate structures. The current recommendation is to develop a similar Rate Design going forward for consistency and to avoid customer confusion.

Ernest commented that everyone is dealing with inflation and its impacts. He also recommends maintaining the current structure with updated unit costs for tiers and customer classes. He commented that affordability is top-of-mind and wants to keep rate increases in the single-digit range. Ernest also mentioned that the City Department of Environmental Services will also be announcing sewer rate increases around the same time BWS announces its new water rate schedule. Input from the SAG and the Commercial Stakeholder Advisory Group will help craft future rate proposals before they go to the BWS Board.

Dave continued his presentation with discussion on maintaining water systems facility charge fee waivers for affordable housing, homeless housing, and retrofitting fire sprinklers. These waivers expire at the end of the current rate schedule (June 2023) and will require specific action to renew them.

Ernest commented that these waivers have become increasingly popular with more affordable housing projects. In the past year, waiver requests exceeded the 500 unit limit, resulting in almost $1 million in lost revenue from impact fees that fund projects to build capacity in the water system. Board decision will be required to renew the program, but SAG input is valued.

Dave referenced two comments in the text chat, which stated that it is important to continue these waivers.

Q: Can accommodations be made for redefining "affordable" on a regular basis?

A: Ernest responded that the criteria for affordable units or housing is defined by the City Department of Planning and Permitting (DPP). The projects qualify under the DPP criteria.

Q: Are the waivers tied the land or the specific development? What happens if the project changes? Is there a list of current waivers issued?

A: Ernest responded that a presentation can be arranged for a future SAG meeting. These projects are identified when the building permit is issued. BWS asks DPP to identify how many units qualify as "affordable" and the waiver is issued and calculated at that stage. This is to encourage developers to move forward with their projects sooner rather than later.

Q: Regarding operating cost increases in 2023, could funds from the Federal infrastructure bill be used to balance the BWS budget instead of shifting funds out of the CIP? It was noted that Hawaii is set to receive $2.8 billion from this bill.

A: Ernest responded that BWS and other County water departments have contacted the Department of Health about how much funds are availability and how quickly they can be used. Additionally, Ernest thanked Mayor Rick Blangiardi and the Honolulu City Council for receiving $25.3 million of American Rescue Plan Fiscal Recovery funds to support CIP projects. The City Council, in their budgeting process for Fiscal Year 2023, allocated $25 million in American Rescue Plan Act Federal Relief Funding for projects relating to Red Hill. BWS continues to look for opportunities to leverage Federal funds.

Q: Minutes from the previous meeting and tonight's presentation referenced reaching out to the Hawaii Congressional Delegation. What has been the delegation's response to these requests?

A: Ernest responded that BWS has met with all 4 members and their staff. BWS submitted a request for

$200 million toward replacement wells to replace the capacity lost from 3 BWS wells that were shut down due to Red Hill. BWS is also engaging directly with Navy about joint efforts to install monitoring wells to better understand impacts to the aquifer.

Dave concluded the presentation by explaining the need for rate increases to balance the needs of the system with infrastructure costs and rate affordability. This process involves a series of conscious decisions and consideration of tradeoffs for the group to discuss before a formal recommendation to the BWS Board.

This concluded Joe and Dave's Rate Study Update. Dave opened the floor for questions and further discussion.

COMMENT: Water is worth more than everything. It's important to emphasize the value of water, and it should be one of the highest priorities that we take care of and ensure is adequate.

COMMENT: SAG Member Vina Cruz offered to assist the BWS with its community outreach to neighborhood boards. He urged the BWS to make a presentation that highlights the importance of finding replacement sources for Halawa and Aiea wells and the impacts of inflation. He hopes to see a draft of this presentation at future SAG meetings.

Ernest invited all SAG members to join BWS at future community outreach presentations. Ernest provided further comment that inflation is driving up the costs of operating and maintaining the system, as well as the cost of construction. Additionally, as the Federal Reserve increases borrowing rates, it drives up the costs of revenue bonds. Joe confirmed that the true interest cost of the revenue bonds is just over 3%. These rates could likely increase to the 4.5% range.

Ernest commented that BWS is pursuing Water Infrastructure Finance and Innovation Act loans through the Environmental Protection Agency to fund improvement projects. BWS continues to explore new financing opportunities to keep rates affordable.

Dave mentioned that he expects to present specific rate options or proposals for the SAG to comment on at the next meeting in January 2023.

BWS UPDATES – DEPUTY MANAGER AND CHIEF ENGINEER

Ernest Lau, BWS Manager and Chief Engineer, informed the board that former Deputy Manager and Chief Engineer Ellen Kitamura retired in September. Ernest announced the new Deputy Manager, effective October 16, 2022, is Erwin Kawata, who was formerly the BWS's Program Administrator for Water Quality.

Erwin was invited to share a few words. He thanked Ernest for the opportunity to serve as Deputy Manager and is looking forward to continuing to work for BWS and its customers. Erwin was also congratulated for being selected the City and County of Honolulu 2022 Manager of the Year.

BWS UPDATES – RED HILL

Ernest continued his report by providing an update on Red Hill.

During the week of October 14, 2022, the Navy reported multiple main breaks at Joint Base Pearl Harbor-Hickam (JBPHH), the largest being a 36-inch cast iron pipe originally installed in 1951. The 36-inch main was recently repaired, and their system is slowly returning to normal. During that time, they did request for BWS to open two emergency water connections. To prevent water from the Navy system from entering the BWS water system, backflow prevention devices were tested and installed

prior to opening the emergency connections. This event demonstrates the vulnerability of the Navy's existing water system, which depends on one water source for its entire system due to the shutdown of Red Hill Shaft. The system also remains in a boil water condition.

Q: Can the BWS and Navy water systems be joined together? Is the BWS system capable of taking on those additional residents?

A: Ernest responded that though these old connections exist, there are still several factors to consider when connecting the systems. Navy-owned reservoirs are at higher elevations, which may not be compatible with the BWS system pressure-wise. Additionally, JBPHH water demand is at 18-20 MGD. With 3 BWS wells shut down, BWS cannot take the additional demand without severely impacting current customers. BWS has informed the Navy that, in the event of a water supply issue within their system, BWS cannot be expected to supply water to the entire base. The Navy needs to build more capacity and make their system more resilient.

COMMENT: Tap water at JBPHH, Aliamanu, and Iroquois Point must be boiled before use. There are still challenges with supplying enough bottled water to affected customers.

Ernest commented that BWS can take a harder stance to not provide emergency water to the Navy system. However, there are people who rely on that water to survive, so we must be mindful of helping them out while knowing our limitations.

Q: About a mile and a half up Pupukea Hill, there is an acre of land that contains a BWS reservoir and an undeveloped area. Can the undeveloped area be developed into something constructive like an Avocado farm?

A: Ernest urged the member to provide the location to Kathleen Elliott-Pahinui for follow up.

Ernest mentioned that Governor David Ige issued a proclamation for Imagine a Day Without Water. This is the 3rd year the BWS is celebrating the event Statewide.

NEXT STEPS

Dave reminded the group of the dates for upcoming stakeholder advisory group meetings: Thursday, January 19, 2023; Thursday, April 20, 2023; Thursday, July 20, 2023; and Thursday, October 19, 2023.

Dave thanked the attendees for their attention and participation and concluded the meeting.