



**Honolulu Board of Water Supply  
Stakeholder Advisory Group**

Meeting 28 Tuesday, October 16, 2018 4:00 – 6:30 pm  
Neal S. Blaisdell Center, Hawaii Suites  
777 Ward Avenue, Honolulu, HI

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**

There were 15 stakeholders present, in addition to BWS and CDM Smith staff and members of the public. The stakeholders represent diverse interests and communities island-wide.

The following Stakeholders Advisory Group members attended:

- |                           |                                |
|---------------------------|--------------------------------|
| Matt Bailey               | Aqua-Aston Hospitality         |
| Bill Clark                | Resident of Council District 6 |
| Mark Fox                  | The Nature Conservancy, Hawaii |
| Shari Ishikawa            | Hawaiian Electric Co.          |
| Bob Leinau                | Resident of Council District 2 |
| Helen Nakano              | Resident of Council District 5 |
| Robbie Nicholas           | Resident of Council District 3 |
| Dean Okimoto              | Nalo Farms                     |
| Alison (Omura) Richardson | Coca-Cola Bottling Company     |
| Dick Poirier              | Resident of Council District 9 |
| Elizabeth Reilly          | Resident of Council District 4 |
| John Reppun               | KEY Project                    |
| Cruz Vina Jr.             | Resident of Council District 8 |
| Guy Yamamoto              | YHB Hawaii                     |
| Suzanne Young             | Honolulu Board of Realtors     |

## WELCOME

Dave Ebersold, meeting facilitator and Vice President of CDM Smith, welcomed the group and outlined the meeting objectives:

- Receive updates regarding the BWS
- Prioritization of Stakeholder Advisory Group 2019 meeting topics and issues
- Stakeholder input on the Water Systems Facilities Charge
- Update on the Water Master Plan scorecard (progress)

## PUBLIC COMMENTS

None.

## ACCEPTANCE OF NOTES FROM MEETING 27

The group accepted notes from the prior meeting.

## BWS UPDATES

Ellen Kitamura, Deputy Manager and Chief Engineer of BWS, delivered an update on Nuuanu Reservoir #1. Ellen began with a brief history and purpose of the reservoir and projects planned for 2019:

- The original purpose was to provide water supply and hydroelectric power for Honolulu.
- Over time, the reservoir no longer needed for water supply due to development of artesian wells.
- The hydroelectric plant was decommissioned in 1930.
- Current function is as a debris and storm water detention basin.
- State designated Nuuanu #1 as a regulated dam in 2014.
- Dam improvements design is scheduled for fiscal year 2019 (\$1 million).

Ellen told the group that Hurricane Lane affected the island in the latter part of August. This was immediately followed by Storm Olivia, which produced 8 inches of rain in early September, causing the water levels behind the dam to rise faster than normal. The water level within the reservoir is usually about 2.5 feet but rose to 11 feet after the storm. Water levels rose 4 feet in just 6 hours, which caused greater concern. On September 10, 2018, BWS Water Systems Operations responded by installing six gravity siphons in an attempt to bring the water levels down. BWS monitored the dam continuously and alerted the City Emergency Operating Center when the water levels became concerning.

Ellen added that the National Weather Service had predicted more bands of rain coming in, which would have caused the water level to possibly climb higher. The BWS notified the public and elected officials about the situation. Ernest Lau, BWS Manager and Chief Engineer, participated in two press conferences to keep the public updated and to notify them that the situation was resolved by late Friday afternoon.

The water level never reached the spillway, as can be seen in the photo below, but it came close. It took 6 hours for the water level to rise to the point of taking action and it took 6 days to pump it down to the pre-Hurricane Lane level of 2.5 feet.



*Photos: Before and After Pumping*

Ellen showed an inundation map that outlined the area of potential flooding. She explained that BWS is working to refine the map and also on an extensive public notification/communications plan. She said that BWS informs the Department of Emergency Management where the water level is, and when necessary, that department takes over and goes door-to-door. It would take about three hours to contact and inform all the people that are in the impacted area to evacuate.

**Q.** When all the water was being pumped out, where did it go, and why did we take it down so low? The reservoir could hold at least that much water (11 feet). It just seems like you'd want to have as much water in that reservoir as possible.

**A.** Normally, water being pumped out of the reservoir is directed into the stream located just below the reservoir. BWS keeps the water level is around 2.5 feet, but rainfall from Hurricane Lane followed by Tropical Storm Olivia pushed the water level to a point that we became concerned. To drain the reservoir as quickly as possible, water was also pumped into a storm drain on Pali Highway. The water didn't reach the spillway but if it ever does, BWS has an obligation to inform the residents that flooding may occur. Recent storms have shown a pattern of short, heavy rainfall which has a lead to a rapid rise of the water level in the reservoir and it has become normal practice to keep the water level as low as possible, generally about 2.5 feet. BWS is planning improvements to the dam, including an outlet pipe to help reduce flooding and emergency pumping in the future.

**Q.** Knowing the reservoir was there in 1886, why would the City and County of Honolulu allow for development in that zone?

**A.** Ellen said that she didn't know about the decision of the administration that far back.

**Q.** The Nuuanu reservoir was a source of both water and hydroelectric power. Why doesn't the BWS pass the reservoir on to the State? Or what's the potential for hydroelectric, groundwater recharge? These seem like opportunities that should be explored. Otherwise, it's just a carrying cost for the BWS. Lastly, what's the acreage that contributes to that reservoir?

**A.** Barry Usagawa told the group that the dams and all the waterworks in the Nuuanu Valley came under the administration of the BWS in the 1920s. At that time, the reservoirs were used for drinking water and later on, for flood control. The dams are on state land but are BWS's responsibility.

The watershed is small. Water that flows in the subdivision above Waokanaka Street drains across Pali Highway into Nuuanu Stream. Some of the drainage discharges into the reservoir.

Barry said that there are benefits to having this reservoir. Mauka of the reservoir are the remnants of the old hydroelectric plant. Part of the Hawaii Freshwater Initiative is to increase water capture. Therefore, BWS is looking at the feasibility and an Environmental Assessment project to capture storm water in Nuuanu #4, pipe it down to Nuuanu #1 and through the hydroelectric plant next to a historic building. That water will be injected into wells to recharge the aquifer and will be pumped by BWS's pumping station.

He said the BWS is improving the design of the dam. We are putting an outlet pipe in the middle of the dam. Instead of siphoning or pumping, we will be able to just open a valve and let the water flow down so we can control levels. One problem is that the spillway is earthen. Normally, spillways are concrete-lined. So water flow could erode into the dam, but after 129 years of use, there's no sign of erosion. After the planned improvements are completed, in about five years, the dam will meet regulations and BWS will use it for beneficial purposes.

**Comment:** The BWS could perhaps get some funding for the purposes you described if there was an additional public benefit (like a park area above the reservoir or something else that would help to contribute to the public value of the space). Also, the governor has talked about working on hydroelectric pumping uphill during the day, with gravity flow down. Could that happen here and in other reservoirs?

**A.** Barry said we evaluated the economics of that kind of system where using and dropping the same water creates power at the peak hour times. However, the economics weren't favorable. With the amount of infrastructure needed, BWS wouldn't be able to make up the cost of the investment.

He talked about additional public benefits that may help lead to funding for the costs of the operation, like maintenance, and said that Nuuanu #4 may have more potential. It used to be a fishery and DLNR Aquatic Resources was interested in potentially restoring that use. There's a lot of hiking in the area. Nuuanu #4 is being improved now. Your suggestion may be a possibility, but those discussions still have to happen.

**Q.** At what point do you exceed design capacity? And, when water starts flowing over the top of the spillway, or when the pumps can't handle it all, where does the water go? I know you showed where you hope it doesn't go, but I'm just kind of curious about where it would go.

**A.** Ellen explained that the flows were split during the major pumping effort. Part went to where it would naturally flow and the rest went into the City drainage system. Splitting the flows allowed BWS to bring the water level down without causing flooding. She said that all of the water eventually goes into Waolani stream.

Barry added that consultants looked at our ability to store water from a 100-year storm, the benchmark of all drainage system design. This drainage system cannot handle 100-year storm unless we make the dam 35 feet higher, which is costly. The spillway will be designed to handle the 100-year storm and flows will pass through.

The capacity of the downstream drainage system is an issue for the city. The drainage system doesn't fall under the control of the Board of Water Supply.

#### **PRIORITIZATION OF STAKEHOLDER ADVISORY GROUP 2019 MEETING TOPICS AND ISSUES**

Dave thanked everyone for taking the time to participate in interviews about their experiences with the Stakeholder Advisory Group and what they hope to discuss in 2019. Dave said that the feedback was insightful, informative and inspiring.

He summarized questions asked during the stakeholder interviews and feedback received:

#### **Thinking back about the meetings and other activities of the Stakeholder Advisory Group, what was the best part of the process?**

- Diversity of the group and sharing different points of view
- Leadership and passion Board of Water Supply
- Facilitation
- Activities, like the zero-sum game
- Field trips
- The environment to speak freely

#### **What could have been done better?**

- Most common response was “nothing”
- Sometimes there was too much detail, or information became too technical

**On a scale of one being terrible and five being excellent, how were these different things handled?**

The group ranked the performance on these very high and very important:

- Demonstration of being heard by BWS's leadership
- Contributing to BWS's board's decisions

In fact, a number of people said that without these, they wouldn't continue to come back and participate.

**Do you have suggestions for how we could do any of these things better?**

- Keep a balance in the level of detail provided to stakeholders; however several commented that the group couldn't have gotten to a recommendation on rates without the “nitty gritty”
- Offer more field trips

**During the coming year, what should be the three most important priorities for the Stakeholder Advisory Group to work on?**

- Progress on Water Master Plan implementation
- Developing and ensuring alternative water sources
- Climate change
- Watershed programs and sustainability
- Conservation
- Continuing public education
- Water quality
- Get the sewer component off the water bill
- Emergency preparedness
- Water-energy nexus

Dave explained the water-energy nexus. When you use water in your home, it has to be pumped to get there, which requires using electricity. If you're conserving water, you're also conserving electricity, so that's the water energy nexus. BWS is one of Hawaiian Electric's largest customers.

**Members of the group have suggested forming working groups. What do you think about that approach?**

- Depends on the situation or topic

**What will success of the Stakeholder Advisory Group look like to you?**

- Most common response was: “We feel like the group has already been successful with the Water Master Plan, rates, and the Long Range Financial Plan”
- Make sure that the group has a purpose going forward

Dave asked related follow up questions to the group:

- How do you envision helping ensure implementation of the Water Master Plan?
- When you talk about climate change, what information can the board bring to you about climate change as it relates to Board of Water Supply? What particular aspects or things about that do you want to delve into?
- How can the Stakeholder Advisory Group help ensure BWS meets its sustainability and watershed conservation goals? As you think about this issue, how do you see it helping out?
- Regarding the question about the water bill and the sewer bill: This one takes a lot of political capital to overcome. Is this a place that the group really wants to invest time and effort?

**Comment:** We're private citizens, and as a group, we don't really have any political connections. We don't really have anything to lose by tackling an issue like that (*getting sewer bill off the water bill*). That seems like a real good assignment for this group – helping to formulate an education campaign, and research other municipalities that separate water and sewer on their bills.

**Comment:** I think it's a great comment. Some of us may or may not have something to lose politically as individuals, but that's not the point. We also may have certain political relationships or something similar. Life is often more relational than transactional and so if we were going to consider tackling something like that (*getting sewer bill off the water bill*), then who do we in this group know? What opportunities do we have to make contact with people who could make a difference? What do we know about organizing some sort of strategic communications campaign around something like that? Who do we need to talk to? There may be fertile ground in this group for something like that.

The thing that people may have to lose or not is if they individually go talk to somebody, it may end up putting them in an uncomfortable situation. They may be pressured in a way they don't want to be pressured (e.g., make a contribution).

**Comment:** With regard to implementation of the WMP, the very fact of our being here and meeting occasionally, the BWS leadership and staff will report to us on progress made toward implementation. That puts a marker on the calendar. It says: We need to report to the Stakeholder Advisory Group what happened. I have to go and report to my boss monthly the progress of myself and of the team that I supervise. That keeps me accountable and on track.

**A.** This is a good point. Sometimes having the calendared reporting can help keep progress from slipping.

**Comment:** Regarding climate change, we've seen the maps of impacts with a sea level rise of 3.2 feet, but what hasn't been well quantified and I think is really important is how the saline intrusion will affect fresh water because the implications could really be huge. I think it takes the public a long time to wrap their minds around this kind of information.

But I think that's such a huge implication for the next 50 to 100 years, and it may take that long for it to sink in.

**Comment:** Climate change is interesting because everybody is concentrating on sea-level rise. That is scary, but climate change also includes things like the amount of storms we're having every year. How do we maintain our infrastructure and agriculture, for example? I've been out three months this whole year and we're underwater (financially) because of it.

Also, regarding the dams and reservoirs -- there are a ton of reservoirs that are privately owned that we're not getting reports on, and that's kind of scary too. Do you think if the Nuuanu dam was a private dam and they had that much rain, we would hear about it? Those are the kinds of things about climate change that I think the Board of Water Supply would have a chance to gain good information about.

**Comment:** If there's anything that we can do as a group to advocate for helping with the situation regarding Red Hill, I'd like to suggest that. We have developed relationships with different sectors. I understand that we could not (act on behalf of) the Board of Water Supply, because politically that would not be proper. But maybe independently, we could do something. I am very, very unhappy with the current stalemate. Personally, I am trying to get our representatives in Congress to at least put that issue higher on their list of priorities.

**Comment:** The BWS used to focus just on providing water for municipal use. Now everyone has been pulled into talking about water resources on a statewide level. This has been erasing the boundary between municipal and state on water issues; and for that matter, federal too, when it comes to things like the Navy and Red Hill and so on. As part of ensuring implementation of the Water Master Plan, this group can become a forum that the Board of Water Supply can use to bridge some of those boundaries between levels of government.

When it comes to things like climate change, you asked about the possibility of speakers that we might recommend. There are places in the world that have just been hit so very hard, like Puerto Rico. This could be a good forum that the Board of Water Supply and others can utilize for those guest speaker discussions. Bring in speakers from other areas. It doesn't matter what the level of government is. We're being hit by the same set of issues. So this is a great forum for that.

**Comment:** I just read about someone who apparently invented something that can make all the water we need out of just the air (which sounds pretty crazy). But we do have a lot of humidity around here sometimes. If we really want to conserve water, maybe there are some alternative technologies coming up that could really help, so we aren't using up ground water.

**Q.** Regarding water from alternative sources and thinking about all the water that we recently had to divert out of the reservoirs: Are we looking at plans on how to divert that extra water into another source, where we can refill aquifers rather than just sending it down into the sewer?



**A.** That's one of the elements of the project that Barry was talking about up in Nuuanu. BWS would take excess storm flows and recharge the aquifer. However, when there is a lot of rainfall in a very short period of time, BWS needs to draw down a reservoir to get rid of the water as soon as they can for the safety of the public.

**Q.** Stakeholders don't have any leverage over BWS managers who are managing implementation of the Water Master Plan. From the BWS's standpoint, how is that WMP actioned through the existing structure?

**A.** Annually we give a report to the BWS Board. We will have a metrics presentation for you later in this meeting.

#### **WATER SYSTEM FACILITIES CHARGE UPDATE**

Dave said the Water System Facilities Charge has been an ongoing topic for the stakeholder group and BWS. He said the BWS is seeking additional input from the stakeholder group at this meeting and that BWS Board Chair Bryan Andaya is very much interested in ideas and advice the SAG has to offer. BWS staff wants to bring options to the BWS Board, preferably in a December timeframe, so the Board can consider adoption of a new WSFC in the first quarter 2019. BWS leadership has made it clear that they don't want to tackle the WSFC unless they can offer an appropriate solution.

Dave reviewed details about the WSFC, which were presented to the Stakeholder Advisory Group at prior meetings. The WSFC is a one-time charge that is paid when a customer makes a connection to the BWS water system for the first time or when a customer needs additional capacity from the system. The WSFC is paid the first time a water meter is put in. As long as that meter stays in place, remains the same size, and there's no need for additional capacity, there's no additional WSFC. Most people are unaware they have paid a WSFC because it was included in the purchase price of their home.

The WSFC has two purposes. First is to fund growth-related capacity expansions, like when a developer builds an area. Or it may be charged to recover the initial cost of building added capacity into the system. Dave explained that when the system infrastructure is first built, it's sized somewhat bigger than current needs. This is to assure there's sufficient capacity for growth. When a new business comes in or a new home is built, BWS doesn't have to go enlarge a particular pipe, because the extra capacity already is there. Existing ratepayers paid for the extra capacity, and the WSFC provides a way to recover those earlier investments.

The WSFC covers the backbone of the system: things that are shared by all customers. The methodology for setting and administering the WSFC is set out in the American Water Works Association's M-1 manual; this is the methodology that BWS is following.

Dave said the current BWS Water System Facilities Charges were established in 1993 and that water use patterns have changed since then. As BWS has looked at updating rates, they recognized it would be appropriate to take a look at the technical analysis behind the WSFC and determine what changes would be appropriate.

There are five basic steps to updating the WSFC:

1. Determine the existing capacity that's available within the system. We know how big the pipe is, but how full is it and how much capacity is available?
2. What does it cost for someone to buy into the existing capacity?
3. Then, we look at the Water Master Plan and the Infrastructure Investment Plan for the next 10 years, to identify how many growth-related projects are expected to be started during that period and at what cost.
4. We calculate the amount of capacity needed by each customer class in terms of gallons per day per fixture unit.
5. Then we calculate the updated costs and evaluate any policy or implementation issues.

BWS completed an analysis of changes to update the WSFC for all BWS customer classes (shown below).

### Water System Facilities Charges Summary of Changes

◆ Analyses completed for all customer classes

Customer Type	Change
Single-family	+ 18.4%
Multi-unit low rise	+ 6.5%
Multi-unit high rise	+ 7.8%
Non-residential <50 fxtu	- 40%
Non-residential >50 fxtu	Increases as number of fxtu increases
Agricultural	Large increases reflecting actual agricultural usage

fxtu: fixture unit

DRAFT – for illustration and discussion only

Dave asked the group to consider the following questions.

- When you look at increases, does it make sense to phase any of them over time?
- Should they be subsidized in some other way?
- If so, what BWS goals would be supported by the subsidy: is it avoiding rate shock, or is it encouraging conservation, or is it because it's easier to understand and implement?
- If there are going to be subsidies, how much should they be?
- Should receipt of a subsidy be conditional? A subsidy could be made available, but certain actions would be necessary to receive it. Otherwise, you would need to pay the full charge.
- What should be the role of BWS in supporting agriculture?

Discussion included the following insights and questions:

**Q:** Regarding the minus-40% change for non-residential customers, it seems counter-intuitive to me to look at further reducing their current rate. Why not just let it stay the same as it is now?

**A.** In the analysis that was done back in 1993, they looked at water use patterns in different sizes of non-residential development. At the time, the analysis showed a significant difference in water use between businesses that have 50 (or fewer) fixture units and those that have more. When we looked at the data in the updated analysis we didn't see any difference in how much water is being used based on how many fixture units you have. That water use pattern seems to have changed since 1993. Maybe it's a result of updated plumbing codes, or people's water ethos, or other changes. The findings just didn't support keeping a separation in charges. But, it's illegal to charge someone more than the known correct amount, so there's no choice but to drop it down.

**Q.** What about categories such as state, county, or even federal parks that have yet to be carved out and they need, for instance, a water meter. How does that fit in to any of this?

**A.** A public park would be a non-residential customer. The Water System Facilities Charge would be based on the number of fixture units.

**Q.** Does the statement you made about the law prohibiting charging more than a user's percentage or portion of water work the other way? Is it required that the user be charged an amount equivalent to their percentage of use?

**A.** No.

**Q.** Can you give them a bargain if you want?

**A.** You can. You don't have to charge them at all, in fact. You have the option to, but you don't have to impose this charge. But keep in mind what happens if you don't impose it. The money you don't collect still has to come from somewhere. And, as we've seen, it comes from all rate payers. If someone is connecting to the system and needs a share of that capacity and isn't going to pay for it, then it's all the other customers who are going to pay.

**Q.** I was asking because I was wondering if there was a requirement in the law that you had to charge a rate proportionate to their use.

**A.** There is not.

Dave posed a question to the group: What did you think about any of these percent increases? Any impressions?

**Comment:** The change of 18.4% for single-family residential seemed like a lot. But when I saw the dollars and considered the cost to build a new home, I didn't feel so bad about it.

**Comment:** When you consider the rates have been in place since 1993, it's hard to argue against a big increase. When you get into the non-residential larger facilities, you're talking about big dollars. If someone is building a 1000-unit facility, as a percentage of the total building cost, it isn't very meaningful.

Dave moved on to the topic of a WSFC for agricultural customers. The current agricultural WSFC is based on single-family residential usage in 1993. Carrying this forward to today, agricultural customers would have fewer fixture units than they did 18 years ago. But we know from actual usage that the average agricultural customer on BWS's system uses 6,000 gallons of water in a single day. That's more than an average single-family residence uses in a whole month. Comparing a farm to a house probably isn't the best methodology. Looking at another point of comparison, agricultural customers make up about 0.3% of BWS's total customer base, but they're using 2.5% of the water – also indicating disproportionate usage.

BWS looked at different ways to calculate a WSFC for agricultural customers. The American Water Works Association approaches this by looking at the capacity of the water meter: How much water can flow through meters of different sizes. Dave said the team went back and did a detailed analysis of the actual usage of BWS's agricultural customers for different meter sizes. For a ¾-inch meter, assuming the BWS agricultural customer is like a single-family house, the WSFC is almost \$4,000. If the charge were based on how much water a BWS agricultural customer with a ¾ inch meter uses, the WSFC would be about \$60,000.

**Q.** Could you explain again how the actual water usage exceeds the amount of the meter?

**A.** Dave said it doesn't exceed the amount of the meter. That said, there are customers who probably are pushing as much water through their meter for as long as they can. They've got a ¾-inch meter. It's the smallest size and it's probably running pretty full most of the time.

The current basis for the WSFC for agriculture underestimates the capacity that agricultural customers are putting on the system. As a result, any change we make to the WSFC to reflect increases and show actual capacity is going to result in a big change. In looking at the information and doing all the analysis, our sense is that basing the WSFC on AWWA meter capacity ratios would be a better approach. The analysis shows a reasonable fit of the AWWA ratios and BWS's data. The AWWA ratios are commonly used across the country, and they're certainly the easiest to administer. Plus, it's a lot kinder to people on a ¾-inch meter and a 2-inch meter than basing the charge on actual usage.

Dave added that BWS's agricultural customers could be looking at huge increases, which leads us to look at how we might phase in the increase or consider subsidies to reduce the cost impacts. The question is how do we go about doing that and what's a reasonable approach? How much should the WSFC charges be?

**Comment:** In terms of subsidies for agricultural use, we first should look at how much water they use efficiently. It's interesting to look at produce that uses lots of water, versus something like Dragon Fruit, which doesn't. Ag can be a lot of different things. It can be the

pikake in the lei around her neck, or it can be food that is really important. I would think that if subsidies were offered, food would be at the top of the list of priorities.

Dave asked the group to keep this comment in mind as he described a few scenarios. Referencing a PowerPoint slide (below), he explained that if the change in the charge were to be fully implemented now, you see the different impacts by meter sizes: ¾-inch, 1-inch, 1½ inch, 2 inches. The current charge is shown in the fiscal year 2019 column. For a ¾-inch meter currently the WSFC is \$6,600; that would go up to \$26,000. A 1-inch meter would go from \$10,900 up to \$45,000. A 1½-inch meter would go from \$29,000 up to \$87,000. And a 2-inch meter would go from \$64,000 to \$140,000.

**Scenario: Implement 100% charge in FY 2020**

**Potential Water System Facility Charge – Ag (per account)**

Meter Size	FY 2019	FY 2020
¾ inch	\$6,671	\$26,438
1 inch	\$10,934	\$44,944
1-1/2 inch	\$29,651	\$87,244
2 inch	\$64,866	\$140,121
Total Revenue from 10 new customers*	\$376,954	\$938,542
Amount of Subsidy	FY 2019 \$561,588	FY 2020 \$0

\* 1 new ¾ inch, 2 new 1 inch, 3 new 1.5 inch and 4 new 2 inch Ag customers

Current charges are still in effect in FY2019.  
Revenue at full charge \$0.9 million.

He said to get an idea of how much money is involved, on average 10 new agricultural customers connect to BWS's system each year. For this exercise, we assumed one of them is a ¾-inch meter, two of them are 1-inch meters, three are 1½-inch meters, and four are 2-inch meters. Currently, from those ten new customers BWS will collect \$377,000. Under the hypothetical new charge, it would be \$938,000. By doing nothing, by just leaving the charge as it is currently, it results in a de facto subsidy of \$560,000, assuming the charge is based on capacity.

**Q.** If you're a large company that's moving millions of dollars around, that large an increase might be tolerable. But, if you're a smaller farmer who happens to have a large meter, it would crush you. Are these rates ever tied to the gross income per year as one of the indicators?

**A.** Keep in mind this is a one time charge. You pay it once when you first connect to the system. The only factor that it considers right now is the size of the meter. You're free to consider other things as you debate amongst yourselves in this exercise. Right now the WSFC is charged like you were a single family home and what we're talking about is moving it more towards it being based on water usage.

Dave discussed other islands' WSFC (or similar charge). On Maui the WSFC for a ¾-inch meter is \$18,800. On Kauai it's \$21,000. Hawaii apparently doesn't have any ¾ inch meters. For 1-inch meters, it's \$33,000 on Maui and \$35,000 on Kauai. It's \$70,000 for a 1½-inch meter on Kauai and \$71,986 on Maui, and \$100,000 on Maui and Kauai for 2-inch meters. Maui, Kauai and Hawaii don't use fixture units like BWS does. They use meter ratios for all their customers regardless of whether it's a single-family house or agricultural customer.

**Q.** Can you talk a little bit about what that looks like if you're an agricultural customer who is expanding?

**A.** If the WSFC is based on meter size and that customer needs a bigger meter, BWS would charge for the differential from what they had to what they need. For instance, if a customer paid for 20 fixture units but only used 10, then later needs the full 20 fixture units for a renovation, that customer wouldn't be charged for more. The customer would only pay for any differential over 20 fixture-units.

Dave went on to explain that BWS and its rate consultants looked at a number of scenarios and tried to project what each one would look like in terms of the WSFC and what this would mean in terms of a subsidy. The group looked at:

- Maintaining the current WSFC for agricultural customers
- Increasing 5% or 10% per year
- Setting the charge at 60% of the full charge, which mimics agricultural water usage rates
- Waiving the resource development component of the WSFC (If the state invested in new wells, then BWS wouldn't have to pay to develop that new resource, so that portion of the fee could be waived.)
- Doubling the charge over a five-year period
- Phasing in the full charge over a five-year period, with 100% recovery by FY 2023

Dave showed the chart on the next page to illustrate the outcomes of each of these options. He noted that agricultural customers are paying 60% of their current cost of service. That means that as a class, they're currently getting an annual subsidy of \$1.6 million dollars on the usage charge. That adds up \$8 million dollars over a five-year period. On the game boards there were eight red chips in the center of each table, representing the current \$8 million dollars subsidy that ag customers are getting from usage charges

## Comparison of % recoveries and subsidies FY 2023

Meter Size	Current	5% Annual	10% Annual	60% Recovery	RD Waiver	Double in 5 Years	Full Charge
3/4 inch	25%	31%	37%	60%	69%	50%	100%
1 inch	24%	30%	36%	60%	69%	49%	100%
1-1/2 inch	34%	41%	50%	60%	69%	68%	100%
2 inch	46%	56%	68%	60%	69%	93%	100%
5-year Subsidies (\$ million)	\$2.81	\$2.61	\$2.39	\$2.34	\$2.13	\$1.87	\$1.40

\* 1 new ¾ inch, 2 new 1 inch, 3 new 1.5 inch and 4 new 2 inch Ag customers

Current charges are still in effect in FY2019.  
Revenue at full charge \$0.9 million.

Dave asked each table to discuss and hopefully reach consensus as to which of those options makes the most sense. He said each table should pick one option and think about what goals are being supported by that decision. Does it enhance conservation? Is it avoiding rate shock? Will it encourage conservation among ag customers? How much should those subsidies be? Should subsidies be conditional upon some desired action?

The BWS each year collects \$10 to \$15 million in Water System Facility Charges. Dave said we're projecting about half a million of that is from agricultural customers. BWS's annual revenue from all sources is currently about \$235 million.

The groups spent some time in lively discussion. Each table group was invited to provide more than one person to report out.

### First table:

- Some of us were focused on the recovery, how quickly you can do the recovery and what would be the percentage. Some of us were concerned about the ramp up. Whether it was the 10% annual increase or doubling the charge in five years, it wasn't much of an issue for us. It was more about the process and how you roll it out.

The option of doubling in five years could work, but we would want to push the rollout back by a year or two to stretch it over a longer period.

We felt that there's something unique that could happen in agriculture with proper outreach to the general public and landowners who have ag land. We need to help them understand that this is coming as a one-time business expense, so it could have a favorable impact on moving along with fallow lands that are sitting there with plans or with lease negotiations that are going slow. People need to get things done. We feel there's a synergy that could be reached with proper outreach to let people know this is

a one-time business impact and to stress the business benefits. You could encourage getting fallow lands back into production. Diversification is important. The rate shock could be huge, but outreach and ramp-up could help BWS avoid losing support.

On the other side of that, we were also thinking of the young farmer, the start up, the first timer. There could be shock about, "Oh, my gosh. This is huge," and we don't want BWS to get a black eye. We're thinking if we could ramp up implementation and make it a little slower, there would be proper time for outreach. Ag interests could help BWS meet up with resource conservation districts and other good folks that provide core services to agriculture and farmers. They would be really helpful.

If we proceed more slowly, we can ultimately get to the percentage of recovery that I know some of them are really anxious to do. We feel that the Board of Water Supply does have a role in supporting ag. That's being done right now with the subsidy for ag on the water usage side.

- Ag has to move towards technology to survive in the future. BWS gave me a couple of fittings so I could measure how much water was coming out of my faucets and things like that. I used them and they're neat. You'd be surprised what you can find out using these tools. You get a sense of how much water flows through a hose and information like that. In the future, some kind of subsidy should be offered for using technology, rewarding farmers for using water meters. Incentives like that going forward are going to be important.

I wanted to ask one question about the ramp up idea. What is the average time to get a water meter once you submit an application for one? If it takes too long, and you ramp up after the first year, it just doesn't work because nobody is going to be able to take advantage of that first year. That's why our thought is to extend it for two years. At least with a longer ramp up, the guys who really want to move will have a chance to move and take advantage of the lower rate.

**A.** Barry said we are trying to get the amount of time down but right now it averages maybe about a year. That time includes trying to get all of the information in, all of the permitting completed, and so on. It's something that we're working on.

- We weren't really advocating lengthening the process, just steepen it. The ramp would remain flat in the beginning and then go steeper towards the end. You'd get to the end point in the same year, 2023. But you'd accelerate it in the last couple of years. This is providing that you do a good job with outreach the first few years, which we trust you will.

Dave moved on to the second table.

**Second table:**

- There's so much information we don't have. What are we really trying to achieve? Are we trying to encourage agriculture? I believe pretty strongly there's a huge difference



between agribusiness and small, rural, family farming that has potential to produce a lot of food.

Are we talking about farms where people are going to be living on their farms? In which case, they're going to need a meter for residential use. There are a lot of factors involved here. This is a discouraging process. We're not talking about whether or not these are farms that are owned or farms that are leased? Are they long-term leases?

What's the incentive for a farmer to get in and stay in? What's the incentive for a landowner to keep that land in ag for a very, very long time? If it is in ag for a very long time, then these kinds of costs can be absorbed. Otherwise we're just discouraging agriculture.

- I don't know if we were supposed to move chips around, but we did and we put them all on “no change”. We didn't like the game, so we played it the way we wanted to play it and made up our own rules. I felt convinced to leave it at “no change” in part because I said: well, all you're doing is saving \$1.4 million dollars. For the BWS, that's .06% of your annual revenue from all sources. Is this the place you want to create \$1.4 million in savings? And without more information it was hard to feel like this is the place you want to capture another .06% of revenue.

Dave clarified that it's not that the revenue won't get collected, but rather where it's going to come from. In the next rate study, the BWS will recall that a “no change” policy was adopted, and conclude that we need to make sure we build that lost revenue into the usage rates.

- Our discussion dealt more with land use, open space, and agricultural use than it did to how much income comes to the Board of Water Supply. It felt like the land use issue is really important and maybe the money could be made up in another place to keep from discouraging farming, especially for the person who's just starting out. For the guys just starting out, it's tough for them to look at coming up with another \$5,000 or \$6,000. They're going to scrape every nickel together and starting out with bare land. They probably can hardly put in a meter. If we really want to encourage the use of ag land, we have to make it easy on the front end.
- I feel that if we're only growing 5 to 10% of our food, new farmers need all the incentive and encouragement we can give them.

Dave asked for input from the third table.

**Third table:**

- We were able to eliminate two cases right off the bat. We didn't think that the current system was warranted, and we didn't want to go to the full (100%) charge.

We believe that some subsidy should occur for ag and looked at the percentages. We were a little bit confused about the option to double in five years, because some people could have a 1-inch meter, but they could be using a lot of water. Maybe they should

have a two-inch meter. We thought the percentage recoveries were pretty good, and so preferred the middle of the road at 60%.

- I think also our decision was based on minimal information. When BWS gets only 10 new ag customers a year, that changes our outlook. Also, the WSFC is not necessarily based on the size of a farm and the type of crop could vary. There was a lot of information we didn't have, so we left our chips on “no change”, but we're very much open for other considerations.

Dave commented that there's lots of information the BWS does not have, and that just isn't known. Cropping patterns change all the time, so there's a lot of uncertainty. Dave emphasized that: If this was an easy thing to solve, BWS would have come to the stakeholders with a recommendation and say, "What do you think?" But BWS has been grappling with this for months about what makes sense and what's the right thing to do. Dave extended thanks to the group for being willing to help tackle a tough issue.

**Comment:** There have to be other islands or communities that are wrestling with these kinds of issues. We should get more information and see how other people are chipping away and creating a wheel. We need to look at that kind of information. We should look at other islands, not just what their rates are, what their rate structure is, but what their challenges are, what they feel the issues are, as well. Maybe have an inter-island or national discussion throughout the Pacific about how are we all wrestling with this kind of issue?

#### **SUMMARY AND NEXT STEPS**

Dave thanked everyone for taking the time to participate in interviews about their Due to limited time, the agenda item on the Scorecard Update was not covered. A copy of the update of the Water Master Plan scorecard metrics was included in the handouts and the agenda item will be presented at the January 2019 meeting.