

WATER FOR LIFE

Safe, dependable, and affordable water now and into the future



Honolulu Board of Water Supply

Stakeholder Advisory Group

Meeting 26 Wednesday April 11, 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 17 stakeholders and 5 members of the public present, in addition to BWS and CDM Smith staff. The stakeholders represent diverse interests and communities island-wide.

The following Stakeholders Advisory Group members attended:

Bill Clark	Resident of Council District 6
Mark Fox	The Nature Conservancy of Hawaii
Shari Ishikawa	Hawaiian Electric Co.
Will Kane	Mililani Town Association
Bob Leinau	Resident of Council District 2
Gladys Marrone	Building Industry Association of Hawaii
Helen Nakano	Resident of Council District 5
Robbie Nicholas	Resident of Council District 3
Dean Okimoto	Nalo Farms
Alison Omura	Coca-Cola Bottling Co.
Dick Poirier	Resident of Council District 9
Elizabeth Reilly	Resident of Council District 4
John Reppun	KEY Project
Cynthia Rezentes	Resident of Council District 1
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 BWS
- Seek input on draft Water System Facilities Charges
- Seek input on the draft public presentation on proposed water-rate increases
- Seek input on the future direction of the Stakeholder Advisory Group

BWS UPDATE

Ernest Lau, BWS Manager and Chief Engineer, talked about a Navy-sponsored update meeting on the status of the Red Hill Tanks. The meeting provided information on six alternatives being explored for the tanks. Once a selection is made among the six tank upgrade alternatives, the Navy is required to make a presentation to the House Armed Services Committee within 30 days. Information also was shared about a study of potential sites for relocating the tanks, which had not been shown previously. Also for the first time, the Navy provided cost estimates, ranging from hundreds of millions of dollars up to \$5B for a single tank upgrade.

One of the alternatives is to build 40 new tanks on Red Hill. The existing 20 tanks built in 1940 would be abandoned and replaced by new cut and cover tanks about half the size of the current, requiring 40 tanks to be constructed. The tanks would be buried under the ridge and would remain over the groundwater aquifer. The price tag ranges from \$5 billion to \$10 billion and the timeline to perform the work goes out to 2051.

Q. At first I was wondering what your preferences are as far as repair or move, but now I'm hearing the move is just vertical, with the tanks still in the vicinity of the aquifer.

A. Yes. The tanks still would be over the groundwater aquifer. I would think they would prefer new tanks as opposed to renovating 75-year-old tanks and continuing to have tanks over the groundwater aquifer. The preferred alternative from BWS's perspective would be to relocate the tanks *not* over the groundwater aquifer. Of course, the Navy has their own perspective and might prefer the current Red Hill location because they could pump fuel up the hill and use gravity flow back down to Pearl Harbor to fuel the ships. The underground tanks also would be protected from what they call "kinetic attack", which means bombs and missiles. It's possible to protect the water resources while meeting the Navy's requirements by using a double wall system. Unfortunately, the cut and cover tanks look like they are still single wall. BWS looks forward to hearing from the Navy.

Q. To date, the discussion has pretty much focused on the tanks themselves. BWS is the pro on underground pipe. What can be said about the integrity of the delivery system?

A. Three major pipelines carry fuel about three miles to and from the Red Hill tanks. This is a concern and it isn't covered under the current action.

Q. Will there be environmental cleanup from the old tanks?

A. Right now it doesn't look like there are plans for any remediation action. It's a point BWS has raised because there's documented fuel contamination under and near the tanks. The Navy should try to clean it up and remediate that site, but that doesn't look like it's in the plans right now. We'll remind them.

Q. One of the bills in the legislature this year addressed the safety of injection wells. Are injection wells threatening the water that BWS pumps up?

A. In some instances, an injection well can be beneficial. BWS is looking at potential use of injection wells to recharge the aquifer at Nuuanu. Big rain events would be captured behind BWS's Nuuanu reservoir, then let it down to Nuuanu reservoir number one, and then injected to recharge the aquifer.

Ernest continued his update, turning attention to a large main break of a 20-inch diameter cast iron pipe that runs along Dole Street. The break impacted both sides and both directions of Dole Street. The street was closed, and nobody could pass. The pipe was installed in 1928. The last break on this stretch of pipeline was in 2014. The pipeline runs through the University of Hawaii Manoa campus and also runs through the middle of Punahou School.

Challenging breaks like this one are among the reasons behind the long-term Water Master Plan, the 30-year infrastructure investment program, and plans to ramp up to 21 miles a year of pipeline replacement, and the need to increase water rates.

He said four public hearings on proposed BWS rate changes have been advertised in the newspaper. Media has been help to get the word out, and the hearings also are being promoted on the BWS web site and many other outlets. Ernest encouraged members of the stakeholder group to attend the hearings.

Comment. I just wanted to say thanks. After getting blasted about the recurring breaks on MacArthur Street at the March stakeholder group meeting, BWS sent a team out to the neighborhood. People in the community were pleased that BWS was out there and that there is a plan to address main breaks. It goes a long way to approach people who are having problems and let them know that you're just not asking for more money, but are looking to help them out. I just wanted to thank you for that.

Response. Thank you. This idea was brought to BWS and we took it to heart. We went out to Waianae, MacArthur Street, and we're also going out to Nuuanu.

Comment: I'd like to suggest that everywhere you go you bring a piece of the 1928 pipe from Dole Street, or whatever pipes you are replacing. People are very visual. When they see all the corrosion and pitting of these old pipes, then they understand. The Dole main break was very disruptive to the community. It would be a terrific if the BWS would send photos to businesses and the schools, the University, and explain how old the infrastructure is.

Response: What did the Punahou area, University of Hawaii look like in 1928? The pipeline probably was in the middle of nowhere and there was very little development. Then the Punahou School grew, and the University of Hawaii grew to the place where it is, so the pipeline is in the middle of the mall of the Manoa campus.

Draft Water System Facilities Charge

Dave launched into a discussion of the draft Water System Facilities Charge (WSFC). Since the March stakeholder group meeting, BWS has held conversations with developers and with agricultural communities to explain the WSFC and hear concerns and ideas.

Dave explained that BWS wants to continue the conversation and hear from the stakeholder group. The current version regarding WSFCs remains very much a draft. BWS is looking for input and direction on the policy implications that come out of these changes.

Dave introduced Brian Thomas from Public Financial Management to assist with the presentation. Brian began by explaining that WSFC, also called an “impact fee”, is a one-time charge paid by new water system customer for the cost of backbone facilities necessary to provide water system capacity. A WSFC is assessed to existing customers requiring increased water system capacity.

Backbone facilities refer to those components of the system necessary to provide service to all customers (providing “general benefit”). This includes sources of supply, treatment and source related pumping; major water transmission lines and transmission-related pumping; and daily storage. Revenues generated through the WSFC are used to pay for growth-related water facilities, essentially reimbursing existing rate payers who funded excess capacity in the system.

Brian indicated that BWS’s current WSFCs were set in 1993 and are based on fixture units. The WSFCs were escalated for three or four years, however the philosophy, methodology, and size of BWS’s WSFCs are 25 years old. Much has changed in those two+ decades. Costs have gone up, water use patterns and quantities have changed, peaking factors have changed, conservation and water use efficiency have increased, and even water-use fixtures have changed significantly. As BWS started looking at water rates and cost of service over the past few years, it was appropriate to also take a look at the WSFCs.

Brian presented an overview of the basic steps used to update the BWS WSFC

Five basic steps to updating the WSFC

1. Determine existing available capacity in the “backbone system” and its monetary value (buy-in)
2. From WMP and 10-year IIP, identify planned additions and upgrades to meet growth, and their cost (incremental)
3. Estimate how much capacity each customer type needs (gallons per day per fixture unit)
4. Calculate updated costs
5. Evaluate policy and implementation issues

The first step is to look at the existing system to determine the current available capacity and its cash value. Then, the Water Master Plan and 10-year Infrastructure Investment Plan (capital program) are reviewed to identify facilities that will be put in place over the next 10 years. Consideration is given to what portion of those facilities may also be needed to meet existing demands and what portion is needed for projected growth. Many facilities impact both, so they’re split accordingly.

Showing a bar chart, Brian explained:

- for **resource development** the BWS system has 174 million gallons per day of capacity, 29 million of which are available for new use;
- for **transmission** the BWS system has 189 million gallons per day of capacity, 23 million of which are available for new use; and
- for **daily storage** the BWS system has 193 gallons per day of capacity, 27 million of which are available for new use.

In this instance, *million gallons per day* is measured as capacity. It does not refer to millions of gallons distributed over the year.

Q. Looking at the charts, it seems that the limiting factor is resource development. Is that so?

A. That's one of the limiting factors.

Q. You need to start with a baseline somewhere, and it seems to me the other two limiting factors (transmission and daily storage) are higher than the \$174 million. I'm thinking that would be where you have the smallest extra capacity.

A. You need to consider all three elements. As you go through time, you're going to ultimately hit your limit on resource development, so you're going to have to add facilities and do something about the transmission constraints. It depends on which element is used most.

The WSFC has two parts: buy in and incremental. The combination of buy-in and incremental recognizes that the system has available capacity, but additional capacity will be needed within the 10-year period.

The cost basis to determine the *buy-in* component is computed as the Replacement Cost New Less Depreciation (RCNDL), which estimates the replacement costs reflecting the remaining depreciable life of the facility. Buy-in is designed to recoup the historical costs of investment in proportion to the amount of reserve capacity available for new growth. It is based on the average equity or debt-free investment position of the existing customers.

The *incremental component* captures the cost of future system expansion needed to serve new development over the coming 10 years, including both construction in progress and projects in the Infrastructure Investment Plan. The incremental component is designed to recover the costs of future growth-related projects planned over the next 10 years.

Q. Just to be certain, is this a one-time fee?

A. Yes. It's a one-time charge. You're buying into the system and an identified share of the capacity of a given pipeline, treatment facility, or reservoir.

Brian noted that in these discussions of costs and buy-in, it's important to keep in mind that there are benefits for buying into water system capacity previously built. Despite building the system with extra capacity, it's likely that BWS will need to add capacity in the future. This *incremental capacity* will be needed to keep pace with new demands.

Brian called upon Barry Usagawa to talk about these new facilities, some of which are already started. Barry explained that the Water Master Plan (WMP) created the framework upon which BWS will expand their system and identify where added capacity is needed. Among the major projects underway:

- The Honolulu district 42-inch main will come from Liliha Street and King Street all the way to Isenberg. This will parallel an existing pipe built back in the 1940s. Half of the new pipeline will provide added reliability to the existing system and the other half will be for growth.
- The Kuwale Reservoir will hold about four million gallons to alleviate a coming shortage in Leeward. 100% of this new capacity is for short-term storage in Waianae.
- A 24-inch main in Ala Moana will replace the 12-inch line that has reached its useful service life. BWS is replacing and upsizing the pipe so there's sufficient capacity to provide additional transmission to Kakaako and Waikiki. 50% of the project will be charged to current customers and 50% will be charged to new growth.
- New wells are planned for Waialae and Waikiki Gulch, to provide additional water resources for new growth.
- A desalination plant also is planned, with costs be recaptured through the WSFC.

The BWS uses an increment called a “fixture unit” to assess the level of demand placed on the system by each customer class. A fixture unit is not just the number of fixtures; you don’t count them, e.g. five sinks and two toilets. Rather, a fixture unit is a unit of capacity representing how fast and how much water flows for a given fixture within a given period of time. In this case that measure is one cubic foot flowing for one minute in a 1½-inch pipe.

Q. Who defined this?

A. It was defined by sanitary engineers in the 1800s.

The next step is to figure out how much each customer class should pay given their differing water use attributes. The current WSFC has separate charges for single-family (single-family homes and duplexes), low-rise multi-unit (apartments, condominiums, and townhomes less than four floors), high-rise multi-unit (apartments, condominiums, and townhomes more than three floors), small non-residential (less than or equal to 50 fixture units), large non-residential (greater than 50 fixture units), and agricultural classes.

Q. Is a hotel non-residential?

A. It is.

Q. What about people staying in someone’s home, like a vacation rental in a single-family residential? That’s a significant variable these days.

A. That would be classified as single-family residential. The usage in the building would probably be about the same. Demands in hotels and resorts aren’t affected by occupancy as much as you would

think because there's so much ancillary water use on the site, for example for the gardens etc. If a facility is at 70% occupancy versus at 80% occupancy, the usage pattern doesn't change all that much.

Q. You had mentioned earlier that these rates were negotiable. Are these standardized or is it related to people putting in their own infrastructure?

A. The WSFC is negotiable. Rather, by policy, BWS can say whether they will charge 100% or if charges could be set lower depending on circumstances.

Q. I note that the fee portion for transmission either doubled or tripled. Why is that?

A. There are several reasons. It's really hard to say how the current rate was calculated. That was 25 years ago in 1993. Part of it is just the incremental cost of new transmission. Today transmission is a larger component on a unit basis, so transmission costs are higher.

Q. I'm still having a problem with why transmission went up so much. You showed a minimum charge of 20 fixture units. It doesn't matter if it's a single-family, multi-unit low-rise, high-rise, or whatever. With these numbers, a single-family would pay somewhere in the vicinity of \$4,200.

A. Yes. The reason the minimum is 20 fixture units is that's what's typical for a single-family home with three bedrooms, two baths, and appropriate irrigation.

Q. Is that fixture unit standardized across all United States? That seems absolutely crazy to go by cubic feet instead of gallons. There are so many conversions.

A. A fixture unit is simply a unit of measure. It's volume per unit at time.

Comment. You usually measure water by gallons.

Response. The reason fixture units are used is because there's some notion of equity. If somebody has five bathrooms in a single-family home versus two, they get to pay more because that one-time impact to capacity is greater. It provides a conservation signal as you think about the appliances and the fixtures being put in. That's why BWS has chosen fixture units.

Brian continued, explaining that with a new look at fees and charges, and a more contemporary consideration of use by differing customer classes overall, the WSFC charge would be expected to increase for single-family residential, high-rise multi-unit residential, and for large non-residential.

Q: Will the policy include a timeframe to show at which point the cost should be reviewed again? The current cost is a reflection of the "now, or today", which assumes that future costs are going to change. The policy should include more frequent reviews.

A: Agreed.

Q: Are we trying to impress or persuade a certain group? Are you asking us if this is fair for the public and you want them to accept the increase in water rates?

A: The WSFC is different than the water rates that we've been talking about that everybody pays every month. The WSFC is a one-time charge that a customer pays when they first get a water meter on a piece of property.

Comment: It's important to persuade and engage your audience. You have shown us a tremendous amount of data. During the Kuleana project, a speaker from the Sierra Club came to talk to local area teachers. He was a bright, smart young man and was very involved with legislators. He had presented a lot of data to help prove his points and thought he had convinced every single legislator that he visited that what he was proposing was the right thing to do, but legislature didn't vote that way. So he changed his method of communication to include stories and anecdotes to illustrate his facts and make them more relatable. That is what worked in the end and so I think that this is important to share with the group.

Response: Thank you! Just to be clear, the details of the analysis being shown to the Stakeholder Advisory Group members is to help with your understanding of the changes, and to get your input on if they make sense and if this is the right way to go. Once stakeholders have provided that input and decisions have been made about which changes should be implemented, then the BWS will communicate with the public through different messaging. For communication with the public, we absolutely agree with you.

Draft Water System Facilities Charge and How it Affects Agricultural Customers

Dave began the next part of the discussion, focusing on what agriculture customers currently pay for the WSFC, their water use, and potential changes to the charge. He mentioned earlier, any potential changes to the WSFC are still draft and no decisions have been made.

The current WSFC for an agricultural customer is based on the estimated fixture units of single-family residences (SFR) with the equivalent meter sizes. Quite a bit has changed since this approach was developed in 1993. As part of the recent analysis, BWS looked at the average number of fixture units in new SFR homes, meter sizes, and water use patterns.

The analysis showed that the water usage by agricultural customers compared to SFR customers on the same meter size is quite different. In a single day, the average agricultural customer uses 6,000 gallons. More than half of BWS's SFR customers use less than that amount in a full month.

Comment: It seems like the 6,000 gallon-figure needs some spatial application per acre. In other words, there are so many different types of ag customers, from someone growing lettuce for a restaurant to another person growing pineapples on a thousand acres. The average is not as meaningful without having an acreage application.

Dave said that this is a good comment and added that if a customer has more acreage, they will likely need larger water meter. He showed a slide of BWS's agricultural customers average water use by meter size.

Average agricultural usage by meter size

Meter size	Number of meters (FY2016)	Average Usage * gpd/account
5/8"	55	1,200
3/4"	92	2,600
1"	127	2,800
1 1/2"	116	8,300
2"	114	11,900
3"	2	10,800
4"	1	37,600
6"	0	0
8"	1	3,500
Total	508	6,000

*Average of FY 15 and FY 16

Agricultural customer class is 2.5% of BWS's potable water usage

Agricultural customers make up about 1/10th of the BWS's customer base. There are about 500 agricultural customers on BWS's system and most have water meters that are 2 inches or smaller. Agricultural customers with 5/8-inch to 2-inch meters use, on average, between 1,200 gallons to about 11,900 gallons per day.

He described the methodology of calculating the WSFC for agricultural customers. Under that methodology, the change from the current WSFC to potential future charge for agricultural customers would be quite large.

Ernest told the group that BWS had two meetings with different farmers, including some of the members of the Stakeholder Advisory Group. They discussed possible changes to the charge based on the updated methodology. BWS now has a more accurate picture of the impacts on water system capacity. Farmers use a lot of water because they are growing crops, which is fundamentally different from how residential customers use water. He emphasized that there will be a lot more discussion about the findings before any decisions are made.

Ernest shared some of the insights and ideas that were discussed at the ag meetings:

- Can you phase in the charge?
- Do we want to provide a subsidy on this WSFC?
- Let's go knock on the door of the legislature because State government is pushing agriculture as an important priority for the State of Hawaii.
- These are some of the real challenges farmers face in addition to the food safety and modernization act.

He said that the draft charges presented were intended to recover the full cost of the impact of new agricultural customers on the water system. He added that the BWS is interested in the concerns that stakeholders have with the draft charges, and options for addressing them.

Dave also noted that there was a meeting with developers regarding potential changes to the WSFC on March 19th. Gladys Marrone attended this meeting. Some of the input on that draft WSFC included:

- How would the BWS look at WSFC for live-work units? Some are used for work only; others are lived in residentially.
- Can I go to a nearby building that I do not own, replace its high-flow plumbing fixtures with new low-flow fixtures, and receive a credit towards the WSFC for my new project? ENV does something like this for sewer connections now.
- We appreciate seeing the methodology shown today. It helps us understand and put the numbers in good perspective and good light.

Comment: At the meeting with developers, live-work units referred to the town homes in Kapolei that have the commercial enterprises downstairs and living units upstairs. Someone also asked about “mixed use”, high-rise buildings with commercial underneath and how that would be assessed.

Response: There was also a question about whether or not a single meter should serve the entire building or if it would be more appropriate to have separate meters for residential customers and non-residential customers.

Comment: The question about upgrading an adjacent property is essentially the same thing that goes on with customers that cause a lot of pollution. With the EPA, you can take an area and fix somebody else’s air pollution problem, and that allows you to put more pollution up in the air in your own area. I think that concept probably needs to be looked at.

Comment: I am concerned about the potentially higher costs of the WSFC for agricultural customers based on the meter size. Hawaii is trying to encourage more people to work in agriculture. These high costs may discourage that, especially for some of our younger farmers. You are proposing switching from fixture units to meter size based charges and this seems like a really high increase in cost. This will make it challenging to even get into the business.

Comment: The State is trying to encourage agriculture to start looking at tech. The State is very enamored with greenhouse agriculture because, in the long run, it uses less water. I don’t know how many of the young kids are looking at technology. For older guys like me, it’s a little bit harder because I don’t understand new technology like the kids, but I think moving towards technology in agricultural practices will make a difference.

Larger farms are not making money right now. Small farms will have to pool their resources with other small farms because of all of the costs, FSMA requirements, and more. They’ll need to band together and start buying in bulk or dealing collaboratively with FSMA, for example.

The State has to do something about this. If farmers want to sell to Safeway and Whole Foods, they have to go through two separate audits; the farmers have to pay to bring the auditors in from the mainland. It costs about \$8,000 to \$10,000 per audit, once a year. Small farms can’t do that alone. These are some of the other things that need to be considered besides the water.

Response: Ernest thanked Dean Okimoto, John Reppun, and Elizabeth Reilly for attending the WSFC meetings for agriculture. He said the meeting attendees said that they understood the WSFC but that the amount of the charge under the revised methodology was a surprise.

Ernest said that at those meetings, people discussed potential legislative solutions, like asking the State to provide funding for the BWS to offset costs specifically for the agricultural WSFC. He said that he was willing to join meeting attendees in advocating for the State to take a more active role in supporting agriculture.

Also pointed out at the meetings was that the conversation needs to include other agricultural issues like FSMA, Important Ag Lands incentives, and more. There may be opportunities for reallocating a portion of the barrel tax receipts to support ag. There was a suggestion about creating a new food tax that everybody pays that goes to help agricultural.

Education for agricultural customers about water conservation opportunities was also discussed at those meetings. People recognized that any subsidies provided to agricultural customers are borne by the BWS's other customers. They were pleased that the BWS had reached out to the agricultural community to provide information and work with the group in advance of making any final decisions about the WSFC.

Comment: There was one farmer in the room that was concerned because he's already thinking about his expansion in the future and was thinking, "Oh, that's not going to happen."

Q: Where are these ag lands that are dormant that have infrastructure that we need to get back into use again? Those are viable, fabulous opportunities now. What is the timing of rolling the future WSFC out? Is there an opportunity for an incentive to get some of these dormant lands active? Is there an incentive opportunity there that we can start to look at with the State to get some of these players to the table to talk about it? I would like to know what would be the timing component as it relates to rolling this out?

Comment: This conversation has basically centered around potable water. I know the BWS traps water like at the Nuuanu reservoirs. Perhaps the BWS could develop other reservoirs to capture storm water runoff to help recharge aquifers. There is always the subject of using recycled water in agriculture. Maybe those things would be germane to the conversation about getting water to farmers.

Response: There is no WSFC for R1 water or non-potable water in some of the non-potable systems right now. The issues of using R1 water to grow crops include FSMA. That's actually a window of opportunity to look at recycled/non-potable water sources in terms of reducing costs.

Comment: Some farmers here are trying to get the Federal government to look at R1 water for use in agriculture. If that happens, I think that might be a big plus because part of the problem for large landowners is that water delivery has been accomplished using open ditch irrigation systems. That's very different from getting potable water from the BWS. There was an article in the paper about land where they're only able to irrigate half of the acreage, because they don't have a delivery system. The State hasn't put money in the budget for these things. We have a governor who has said that ag is very important but he hasn't put any money for it into the budget. So how do you make ag a top priority without providing funding?

Comment: I just want to mention that the WSFC needs to be thought through, because I don't want to see anyone misinterpret the BWS's intentions about supporting agriculture. It is easy to forget that this is a one-time charge. That being said, I think we've all expressed our great support for agriculture in wanting to have rates offset by others, and now there's this. It really has to be thought through very carefully before it's (higher WSFC rate) shared with the general public. There are other factors that need to rise to the top and be part of the conversation, such as what we've discussed today, including with the county and Important Ag Land incentives. I just wanted to share that with you. I'm a little concerned for BWS on that perception.

Comment: I'd like to see a GIS map of the BWS's ag water use. This is a really complicated discussion, and I think it would be great if what comes out of this effort is the impetus to have a much deeper discussion. Maybe BWS should hold off on changing those ag WSFC rates while that discussion takes place. The BWS is a player in that ag discussion and can help that move forward.

It was mentioned that farmers are going to have to band together. We're kind of notorious for being independent, hard headed, every farmer for themselves, but that's changing. This is the beginning of a discussion about the future of agriculture in so many ways.

One other thought is that BWS could put itself in line for potential for Federal funds if it works with soil and water conservation districts, and the natural resource conservation service on conservation plans. There are funds out there that maybe could pay for things like meters for farmers, but that means going through the steps of doing a conservation plan. Farmers and the agencies involved can get easily overwhelmed. One of the things we've got to look at is setting up systems to support farmers.

Comment: First, I hear a lot about banks not being interested in even talking to farmers about loaning money. Secondly, the land use commission has changed agricultural land to developing land. There's more money in development than there is in farming. I've seen too much land go through the land use commission, including land that is supposed to be a watershed, turned over to developers. Can we get information about what the problems are for farmers in actually getting financing, and what are the problems that they have with the legislature?

Comment: Related to banking and getting loans for ag, there's something called a five-year licensing agreement. What can you do in five years on a piece of land in agriculture? That's something very basic that needs to change. In my area, there are five-year licensing agreements available, and you can't do anything in five years, and you can't get a loan, of course.

Comment: That's why people develop their land rather than farm it – because they can make money. Over 20 years ago, banks used to have an agricultural loan department. Their portfolios were losing too much money, because agriculture is high risk, especially with climate change nowadays. Just look at the weather we've had in the last month and a half. We have five inches of rain and then we get four days of sunshine. In that interim period, we go back in, we replant, and then we get five more inches of rain the next week. How much money do you think a farmer loses by doing that?

There will be movement toward technology and covered greenhouse operations. In Hawaii, the vog is really bad. People don't know that vog affects crops too. Basically that's why banks won't finance. I don't think it's the developer's fault that farmers sell land to them. Rather, it's that the rules were never developed to protect ag.

Until we passed that Important Ag Lands (IAL) law, there was nothing on the books to protect ag land going forward. Now we do. Our government has to put all the land owners' feet to the fire and identify those lands that should be in ag forever, and they're starting to. Almost 230,000 acres now in the islands have been identified. Of course, some of the best lands are gone, but I don't want to fight the developers for the lands that are gone already. I would rather look at the areas that are viable for agriculture going forward and save those lands now for the future of Hawaii.

Comment: I was thinking about the legislature and the barrel tax, and the comment about ag and farmers being kind of loners and needing to come together. That barrel tax was passed because it was going to put money towards agriculture and clean energy. The reality is 60% of the barrel taxes collected go to the State general fund, and then bits are parceled out to various departments. I wonder what the potential is for an opportunity to get more farmers and other folks at the legislature working together in a coordinated fashion, so it's not just the farm bureau. We do see that, when pressure from constituents is put on the legislature, it can have an impact. I'd be curious to know what we (the collective we) could do to put some pressure on that legislature to dedicate more money.

It is troubling that the governor's sustainability initiative strives to double local agriculture for local consumption by 2020, and yet he didn't even ask for money for ag, much less didn't get it. He asked for the money for DLNR to get 30% of the watersheds protected by 2030. He's not getting it all, but if he's not even asking for money for the ag sustainability initiative, that's troubling. That's another place where coordinated pressure on the fifth floor could get money in the budget.

Comment: There is a phenomenon going on out there, in areas like ours. We've got small rural family farms all over the place. The area used to be all farming. We've got all of these farm families but unfortunately they're aging and are in their 80s and 90s. We don't have mechanisms for turning over those lands slowly to next generation farmers. Maybe we need farmland trusts. Maybe we need some tools. Maybe there can be share-cropping agreements so that people can age in place and be the mentors to next generation farmers. There are lots of existing meters out there that would be put to use, and that's where a lot of food would be grown. That's a phenomenon for us to look at.

Then the other thing is to think about ag lands when we are looking at the schedule of BWS's resources. Looking way out, in the upper saddle of this island, between mountain ranges, maybe some of that farmland really should be targeted for reforestation to increase groundwater recharge. Part of the purpose of agriculture is to develop more groundwater resources over time.

Response: Dave reminded everyone of the different subsidies of the WSFC that are being considered by the BWS Board. These subsidies would be for affordable and homeless housing, homeless projects, and fire sprinkler retrofits.

Response: Ernest reiterated that the BWS Board is far from being ready for a decision about WSFC rates for agriculture. Waiving the connection charge for affordable housing would be in the range of \$5 million plus over a five-year period. The Board made it clear that they're not quite ready yet to decide anything related to the WSFC.

Comment: I still plan to attend the rest of the Board meetings this whole year to find out which way this goes because they do pay attention to our concerns from the stakeholders group. They take our concerns into serious consideration.

Response: Ernest said BWS really appreciates Cruz Vina's coming out, and welcomed any other stakeholder members to come the Board meetings. Bill 58 was signed into law by the mayor on the day that he gave the State of the City address. Bill 59, the incentives bill, has already been passed. They're talking about Bill 69, which is related to fire sprinkler retrofits.

Comment: To get any special considerations on (WSFC) pricing, it shouldn't be based on the land designation so much as the actual land use. Like we've talked today, there's a lot of ag land that's not being used for ag and it shouldn't qualify you for any special rates. I think it needs to be tied to the actual use of the land, not just the designation.

PUBLIC PRESENTATION

With the lengthy discussion about the WSFC, time ran out to show the presentation developed for public hearings. Dave invited stakeholders to stay after the meeting to see the presentation and/or discuss it.

CONTINUING THE STAKEHOLDER ADVISORY GROUP

Dave said that the Stakeholder Advisory Group is reaching the end of the process related to water rates. There will be another meeting in July to share the results of all the public input. He said the BWS wants to hear stakeholders' thoughts on that input and if any changes to the proposed water rates are warranted before they go to BWS's Board for approval.

He asked: What do you want to do going forward? After about three years together, this is the 26th meeting. He asked what stakeholders might be willing and interested in doing to continue to advise the board on water related issues. He asked what topics would be important to discuss, going forward?

Comment: I think that there may be technologies coming along that would help increase water conservation. Another topic is contamination of water and trying to make sure that the water is tested, find out why it happened, who did it, and what we can do to keep from happen again. We see all these chemicals in our water and we hear that the amounts are "just a little bit", but maybe there's more to the discussion about that. What can we do today to be smarter about that?

Comment: I probably would like to see a little more BWS discussion regarding protecting, saving, and enhancing our watersheds to be able to have better groundwater recharge. Given the sea level rise predictions and the other climate effects on the island, I think it's going to behoove us to jump on that sooner rather than later when there's no opportunity to do any kind of improvements or expansion of our watersheds to be able to protect our groundwater.

Comment: That covers conservation and recharge, so I'm going to throw down re-use (as a topic for the Stakeholder Advisory Group). Dana Okano, who took over at the Hawaii Community Foundation where Josh Stanbro left off, is doing an amazing job carrying forward HCF's fresh water initiative, which Ernie and Barry have been consistent and active participants on behalf of the BWS. The focus of the fresh water initiative is re-use, recharge, and conservation. I would love to see this group continue if together we feel that there are constructive things we can discuss and offer to the BWS in relation to all those topics. We could help support the fresh water initiative, BWS's advocacy at the legislature or the counties to make those things happen, or to help support the Board in the things it wants to do with respect to all those things. I enjoy coming to these meetings probably quarterly or semi-annually as much as I also enjoy participating as a member on the fresh water initiative with Barry and Ernie. We all

want to do these things, and it reminds us that we can do them better, faster collectively when we're pushing them along together.

Comment: I think what everyone is saying is, we're setting our priorities, and just trying to follow up in how we're doing. In my world, this is the "PDCA" – plan, do, check, act. We're doing the planning, you're going to do the doing. I think we just want to check and see how everything is going.

Response: This is kind of driving things along, making sure that the plans are followed through, and things like that.

Comment: When I spend time on something, I'd like to feel that it made a difference. So I was always very happy to come to the BWS meetings, because I felt that I made a little difference, that I was doing things that would better the community. Participating in meetings every month is a bit much, so I would want to come at least a quarterly basis.

Comment: I know charter amendments happen only once every 10 years. But I think we have to think about that a little bit before the proposed amendments come out in writing. In other words, I don't know who sponsored that last proposed amendment about the BWS, but I know what they were looking for. They were looking for money, and they know where it is. I know that's not going to take up our time for every quarterly meeting, but we have to think about that before that comes up again, because it *will* come up again.

Response: Dave said that was a really good point. It goes back to the comment about plan, do, check, act – for BWS being accountable for the things that it said it was going to do and executing the plan appropriately.

Comment: I just read an article in *Scientific American* that has new prognostications relative to coastal communities. There may be more intrusion into fresh water aquifers than we were planning on. I think it's important to keep talking about global impacts and how they affect Hawaii. It doesn't seem to be a static target; it seems to be a dynamic thing that's accelerating. It's important to try to keep people aware of the situation because there are a lot of people who deny it.

Comment: As a relative newcomer to the entire group, I have probably spent a third of the time that everybody's put in here, but I think everybody's input is diverse and very on target, whatever backgrounds or industries or whatever causes that they represent. I think it's a very good mix of people, and I hate to see it just disappear. I'd support some kind of semi-annual or quarterly meeting. As someone who's been here the least amount of time, I really enjoyed everybody's input, and it's very interesting to know that the community cares, no matter what sector you come from, we all have the best intentions for our water system and the community as a whole.

Comment: I'm interested in seeing how some of this gets implemented and done. More than that, I'm interested in maintaining a position of being a resource for the BWS. I think that there's a really cool synergy here that's occurring among all of us, so I'm willing to find time if BWS finds it of value. We may not be able to identify exactly what that is today, but if it's of value to know that BWS can call and we will come, I'd like to offer that up.

Response: Ernest said the Stakeholder Advisory Group is extremely valuable to BWS. Thank you.

Barry Usagawa thanked everyone for all of the input regarding their interest in continuing the Stakeholder Advisory Group and for having the drive to actually execute the plans. He said that he and Dave had talked about what stakeholders get in return for what they have provided to BWS. He said the group has given much valued feedback; served as the sounding board; and guided BWS on how to shape the programs that were put into Water Master Plan, and how to execute them.

He asked if stakeholders got out of this process what they intended, or if anyone had ideas on what BWS could do for their constituents or their watershed goals. As one example, BWS is coming to East Honolulu to deal with Maunalua Bay, the Ka Iwi coast, Hanauma Bay and all the ocean resources with the next East Honolulu Watershed Management Plan.

Comment: I got a greater understanding of the big picture of how BWS manages and fixes. I absolutely am a huge fan of your think tank, understanding most of BWS participants are engineers. My affinity for engineering has gone up – the way BWS looks at things and breaks it down and looks to fix. I'm always walking away learning yet something new.

I find myself out there in other situations, if something comes up about BWS, I listen, and I want to interject and say something sometimes. I do, confidently; confidently, because of what I understand and I try to clarify something that could be misconstrued or misstated. The networking and hearing others' opinions from across the island also opened my eyes and I've learned.

Comment: I'll give you a really specific example. We've gotten better educated about engineering and how BWS deals with water breaks, like on the Kalanianaole Highway on the way to Hawaii Kai and now at Dole Street. We have a better appreciation for all of what you have to do and when these things come up, we're able to talk about them.

The very specific example is the funding for watershed management and conservation. I already knew BWS cared about watershed protection, recharge and the forests, and I've known Ernie since he was on Kauai. He was the chair of the Hawaii Association of Watershed Partnerships at that time, and one of the first ones, and one of the most dynamic, committed ones. I knew you BWS was going to include something in the Water Master Plan about the forests and watershed recharge, but I about fell out of my chair when you announced that funding for watershed protection would be an amount equal to 4% of your CIP budget. I never anticipated something like that. That is the specific example of what I got out of it. I work at the Nature Conservancy; we work on forests and watershed, but I can't thank BWS enough. That kind of commitment is amazing, so thanks.

Dave thanked the group for the input and said that, over the coming weeks, the BWS will be reaching out to each stakeholder individually to talk about what interests they have specifically in continuing. If any stakeholders are not able to continue on, Dave asked if they would think about someone to suggest. He added that stakeholders are really needed back here in July to talk about public input on rates. He said this was a great conversation tonight, and he looks forward to seeing stakeholders at upcoming public meetings on rates and thanked everyone for coming.