

Slide 1




**WATER FOR LIFE**  
*Safe, dependable, and affordable water now and into the future*

**Stakeholder Advisory Group**

**Board of Water Supply  
City & County of Honolulu**

**Wednesday January 10, 2018**

Slide 2



**WATER FOR LIFE**  
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Board of Water Supply  
City and County of Honolulu

**Dave Ebersold**  
Facilitator

**WELCOME**

The slide features a teal background with a decorative border at the bottom. The top banner includes the 'WATER FOR LIFE' logo and the Board of Water Supply logo. The text 'Dave Ebersold' and 'Facilitator' is positioned above the large 'WELCOME' text.

Slide 3



**WATER FOR LIFE**  
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**Board of Water Supply**  
City and County of Honolulu

**Public Comments on Agenda Items**

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### Meeting Objectives

- ◆ Receive updates regarding the BWS
- ◆ Provide results of BWS Board Workshop on water rates
- ◆ Seek input on the impact that trends and risks can have on the financial planning process
- ◆ Share the initial results of the rates modeling and get your reaction

Slide 5

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City and County of Honolulu

**Ernest Lau P.E.**  
BWS Manager and Chief Engineer  
**BWS UPDATES**

Slide 6

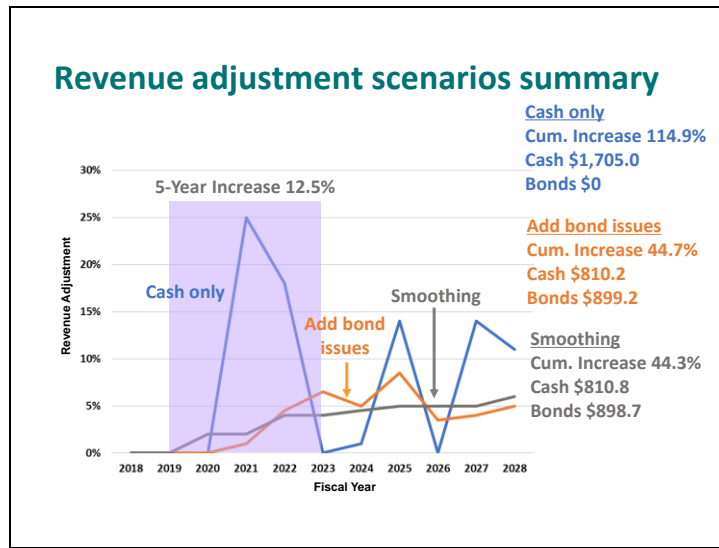
**WATER FOR LIFE**  
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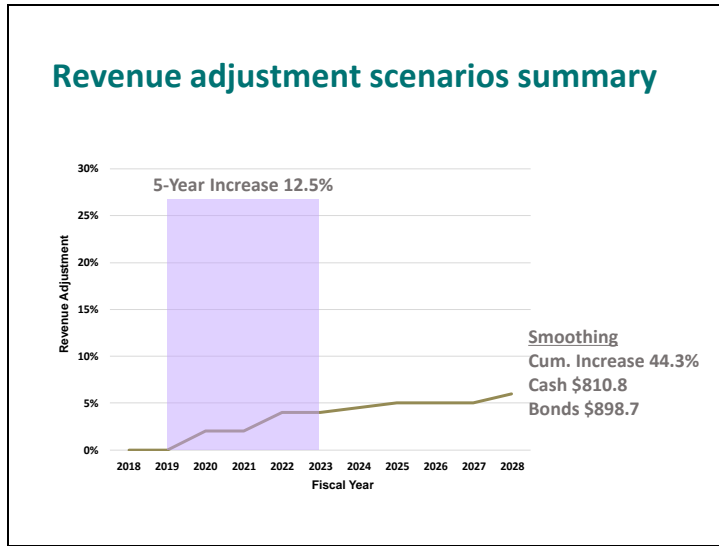
**Board Workshop on Water Rates**

**January 5, 2018**



















**Board Rates Workshop provided guidance on 9 key water rate policy issues**


 Cost of Service Alignment	 Non-residential Rates
 Affordability	 Monthly Charge
 Residential Rates	 Fee Subsidies
 Recycled/Non-Potable Rates	 Fire Protection Charge
 Agricultural Rates	

### Item 1: Cost of Service Alignment




Option 1	Option 2	Option 3
Leave single-family and multi-family cost of service recovery as is	Adjust single-family and multi-family rates closer to cost of service recovery	Adjust single-family and multi-family rates to match cost of service over the next XX years

## Item 2: Affordability




Option 1	Option 2
Formalize the BWS's affordability efforts in a program and pilot test additional components	Make no changes to current affordability efforts

### Item 3: Residential Rates




Option 1	Option 2	Option 3
Shift tiers to encourage more conservation	Shift tiers to encourage more conservation and establish an "Essential Needs" tier	Leave tiers as is

### Item 4: Recycled/Non-potable Rates




Option 1	Option 2	Option 3
Make no changes to recycled/non-potable rates	Increase recycled/non-potable rates to recover more of cost of service, especially for RO customers (may exceed 100%)	Adjust rates to recover full cost of service

### Item 5: Agricultural Rates



Option 1	Option 2	Option 3
Retain existing subsidy levels	Reduce subsidy levels but continue to recover less than the full cost of service	Adjust rates to recover full cost of service


### Item 6: Non-residential rates



Option 1	Option 2	Option 3
Make no changes to non-residential rate structure	Direct staff to develop data for comprehensive evaluation of alternatives for next rate study	Revise non-residential rates to include at least two tiers for water delivery




### Item 7: Monthly Charge




Option 1	Option 2
Change the structure of the monthly charge to vary by meter size	Make no change to current structure of the monthly charge

### Item 8: Fee Subsidies



Option 1	Option 2	Option 3
Provide subsidies for: <ul style="list-style-type: none"><li>Affordable housing</li><li>Homeless shelters</li><li>Fire sprinkler retrofit</li></ul>	Provide no additional fee waivers or subsidies	As determined by Board

### Item 9: Fire Meter Standby Charge




Option 1	Option 2
Establish a Fire Meter Standby Charge to recover the cost of service	Continue current practices of no Fire Meter Standby Charge


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**Mahalo!**                      **Questions & Answers**



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City and County of Denver

**Action**

Review and accept notes from  
Stakeholder Advisory Group Meeting #22  
held on Thursday, December 7, 2017

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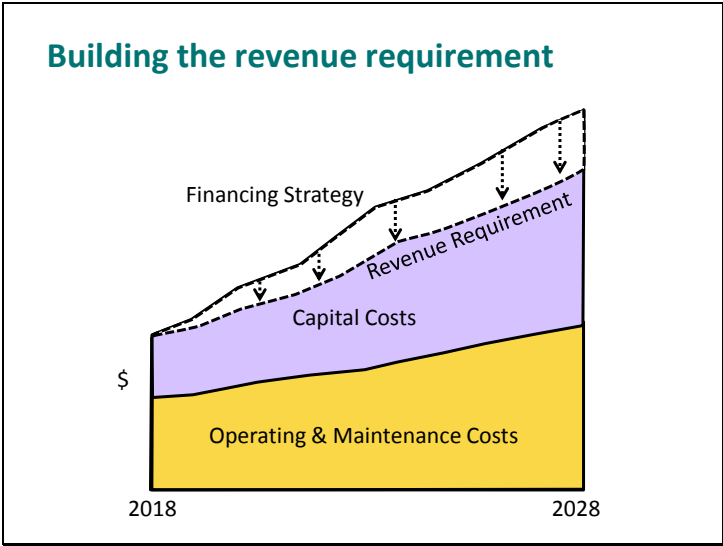


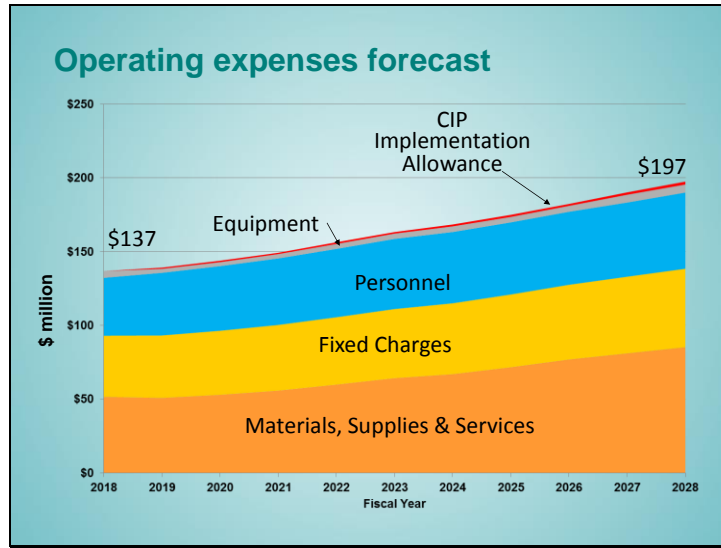
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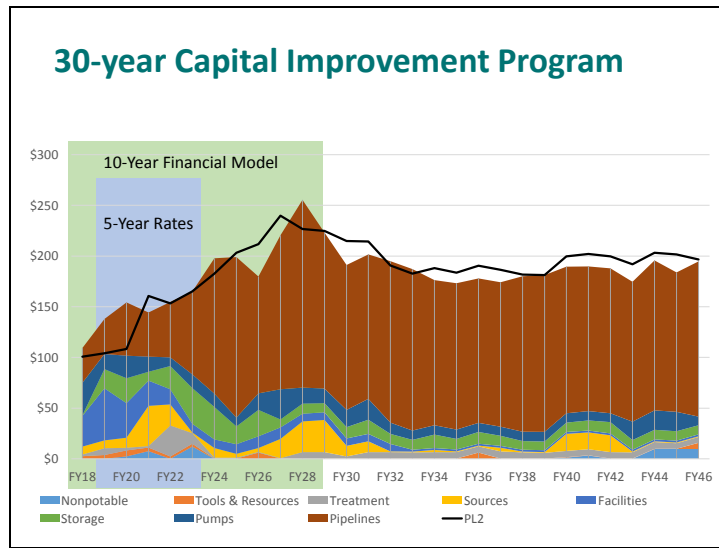
**Dave Ebersold**  
Facilitator

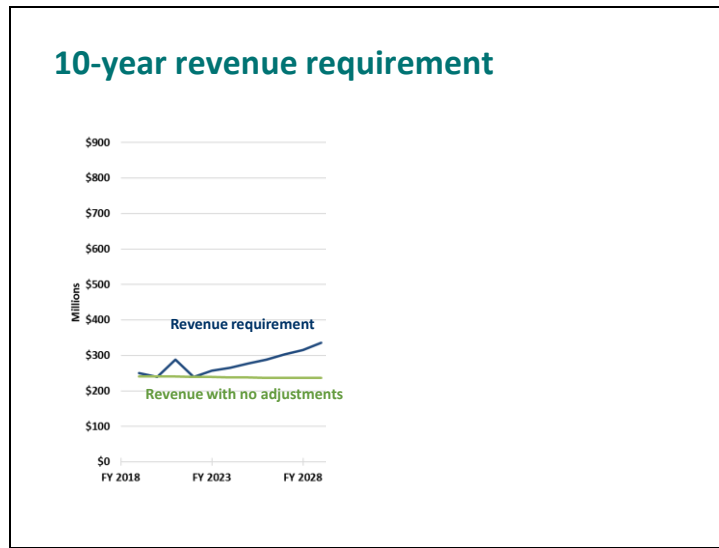
**IMPACTS OF TRENDS AND RISKS ON  
THE FINANCIAL PLANNING PROCESS**

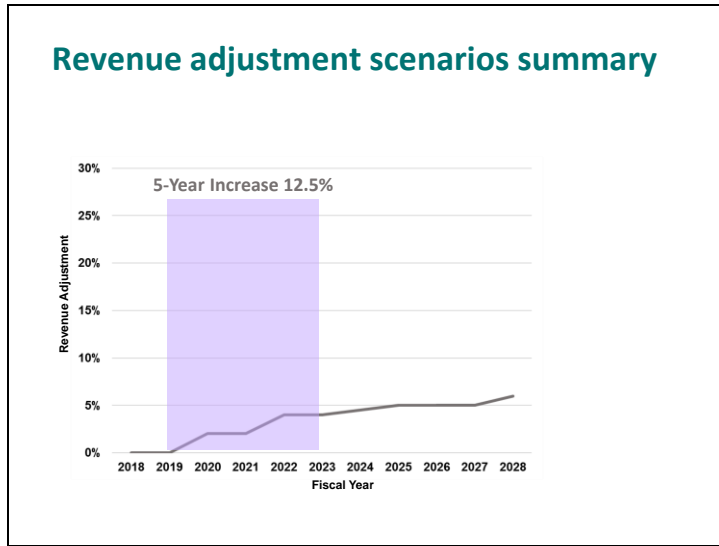






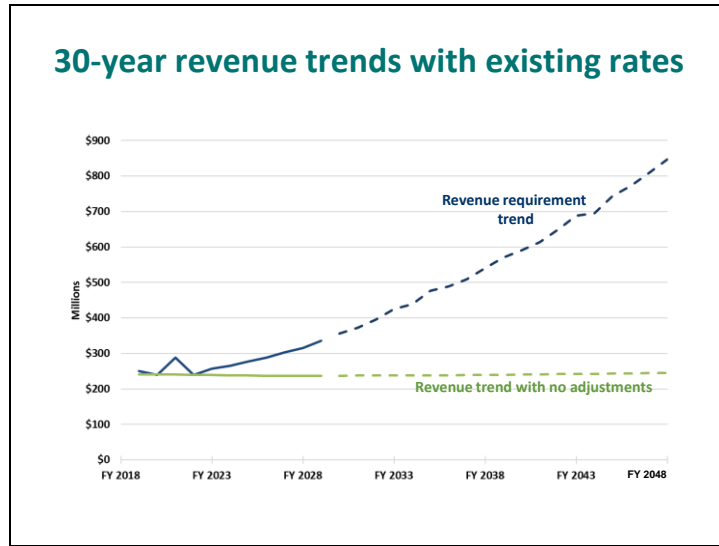


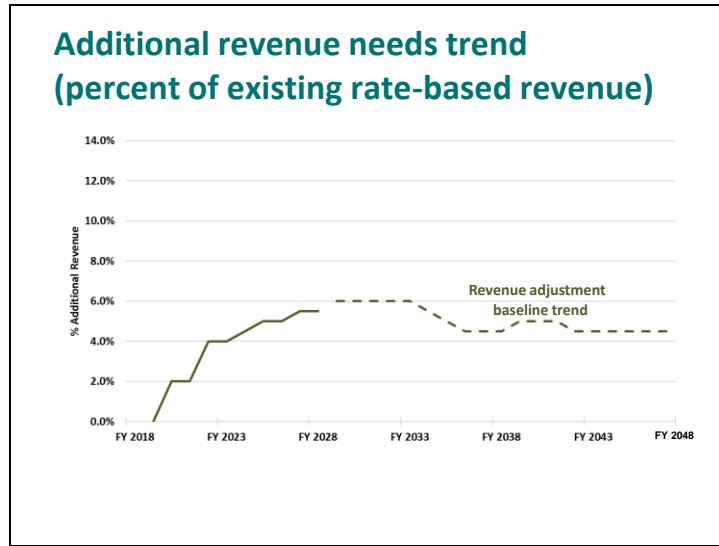




### Long range assumptions

Item	Assumption
State Revolving Fund Loan Amounts	FY 2029: \$10M FY 2030 – 2035: \$12M/year FY 2030 – 2040: \$15M per year
State Revolving Fund Loan Terms	FY 2018 – 2021: 0% FY 2022+: 0.5% Energy Savings Performance Contract: 0% Annual fees 1% of outstanding balance
Debt issues	Varies by year, overall 50/50 debt/cash
Bond terms	FY 2018 – 2021: 4% FY 2022+: 4.5% Issuance cost: 0.5% 30 years
O&M Escalation	3.5 percent per year
Days of Working Capital	Minimum of 60 days, target of 180 days
Water Demand	0.1% per year growth in customers 5-year GPCD reduction from WMP



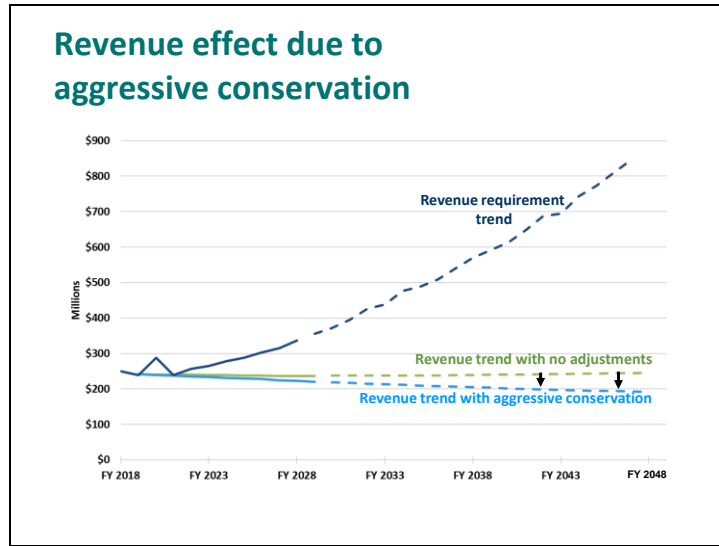


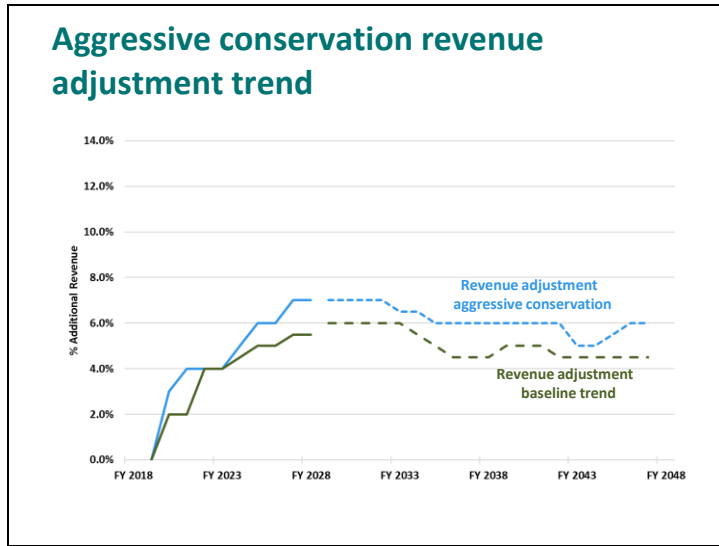
### Long range planning scenarios

Scenario	Uncertainties Considered
Aggressive conservation	Water demands
Aggressive growth	Water demands, water quality
Major natural disaster	Water demands, water quality, economic factors
Major source water contamination	Regulatory requirements, water quality
Climate change	Climate change, water demands, water quality, economic factors
Economic cycle	Economic factors









### Aggressive conservation financial mitigation strategies

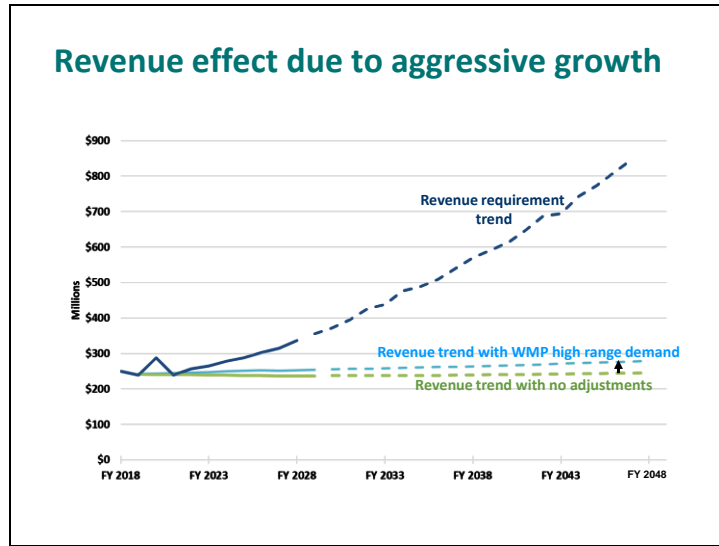
Access Working Capital	Defer Expenses	Raise/Restructure Rates	Issue Debt	Public Private Partnerships
--	X	X	X	--

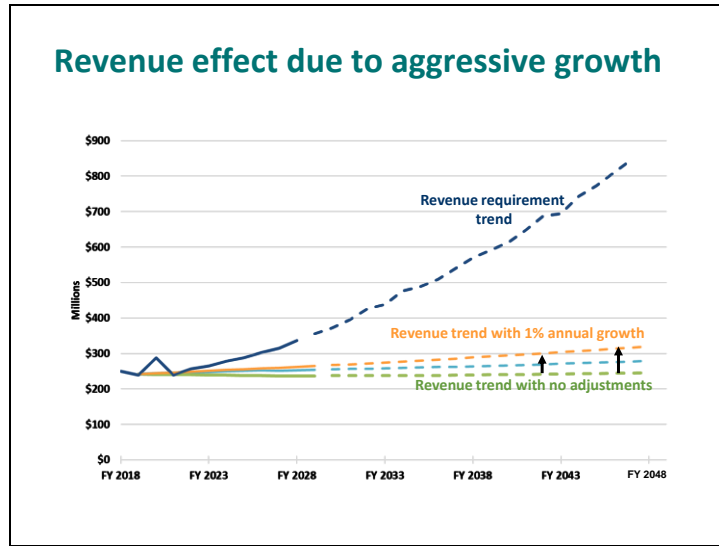


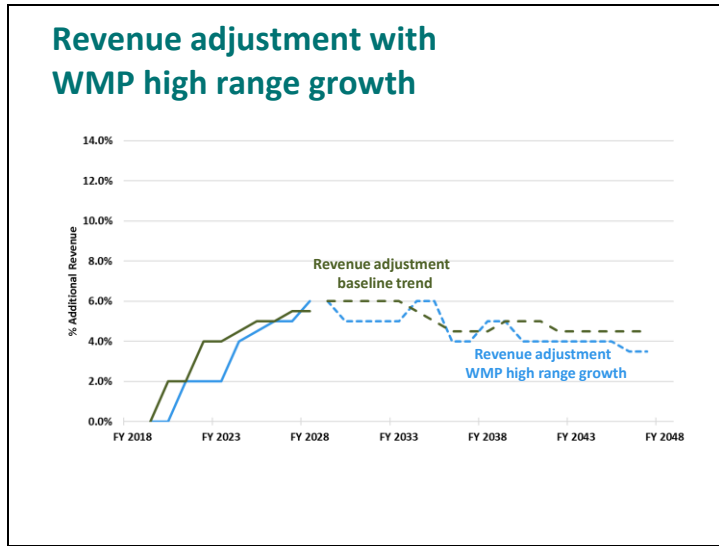
**Aggressive growth considered two alternatives**

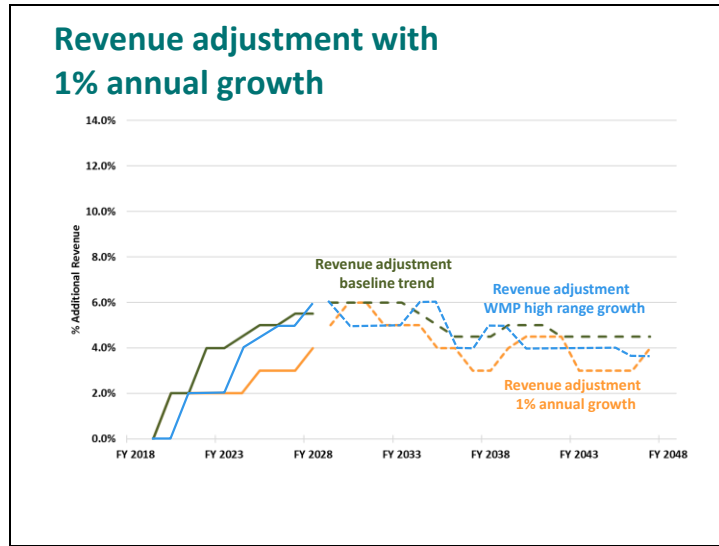
- 1. WMP High Range Demand Projection Assumptions**
  - 0.6 percent per year growth in usage through 2025
  - 0.4 percent per year through 2026 – 2040
  - 0.5 percent per year 2041 – 2047
  - No change in usage between existing tiers
- 2. Aggressive Growth above WMP Assumptions**
  - 1% per year in usage

◆ **Expected changes in O&M costs are offset by additional rate-based revenue**





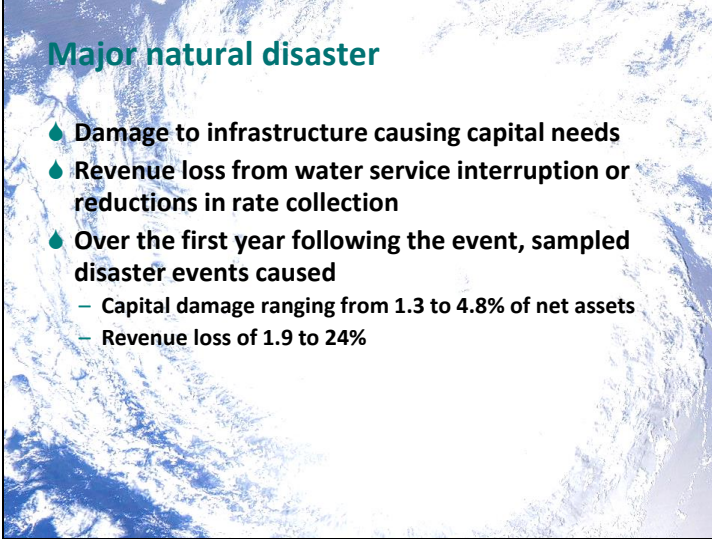






### Aggressive growth financial mitigation strategies

Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships
X	--	X	X	X

A satellite image of a tropical cyclone, showing a distinct eye and spiral cloud bands over a dark ocean surface. The image is used as a background for the slide content.

### Major natural disaster

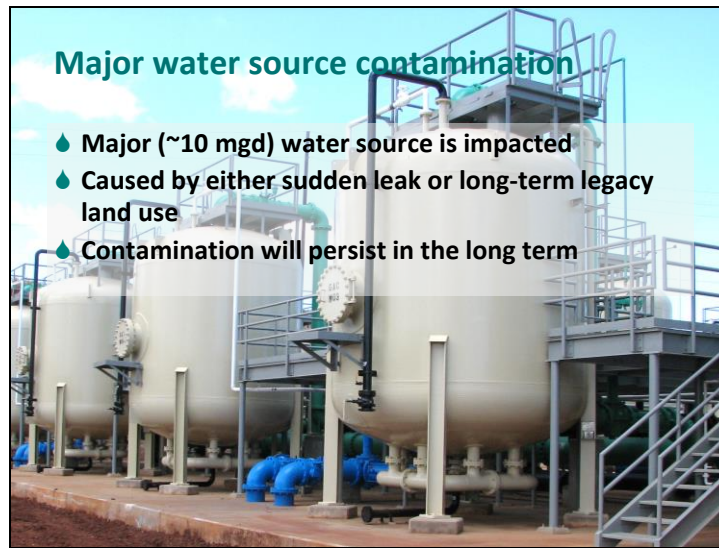
- ◆ **Damage to infrastructure causing capital needs**
- ◆ **Revenue loss from water service interruption or reductions in rate collection**
- ◆ **Over the first year following the event, sampled disaster events caused**
  - Capital damage ranging from 1.3 to 4.8% of net assets
  - Revenue loss of 1.9 to 24%

### BWS disaster recovery scenarios

Item	Scenario A		Scenario B		Scenario C	
	Rate	\$ M	Rate	\$ M	Rate	\$ M
Damages % of net assets	2%	\$22.4	4%	\$44.8	4%	\$44.8
Revenue Loss	50% Months 1-3	\$28.9	25% Months 1-3	\$14.4	100% Month 1	\$19.2
Revenue Loss	25% Months 4-12	\$43.3	10% Months 4-12	\$17.3	50% Months 2-3	\$19.2
Days Cash	201		163		177	

### Major natural disaster financial mitigation strategies

Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships
X	X	--	X	X

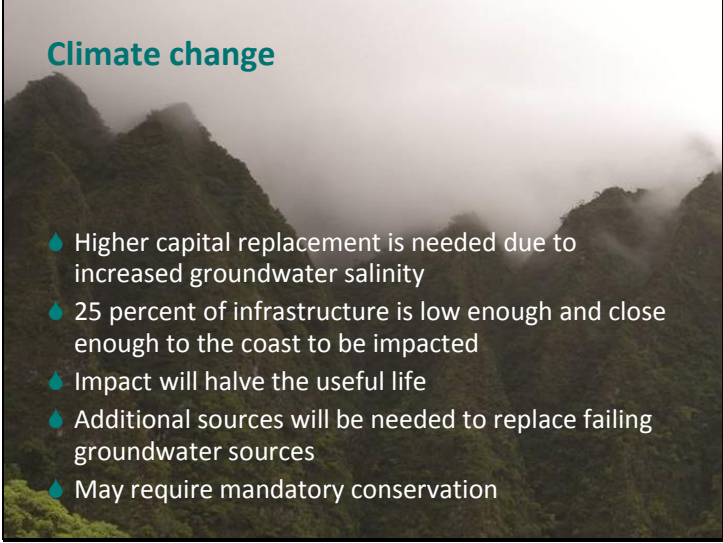


### Effect of major water source contamination example

	Develop New 10mgd Source + 1 mile of 36in Pipeline	5 miles of 36-inch Pipeline	Install 10 mgd Treatment
Capital Cost	\$85M	\$125M	\$30M
Annual Additional O&M Cost	\$500k	\$1.25M	\$3M

### Major water source contamination financial mitigation strategies

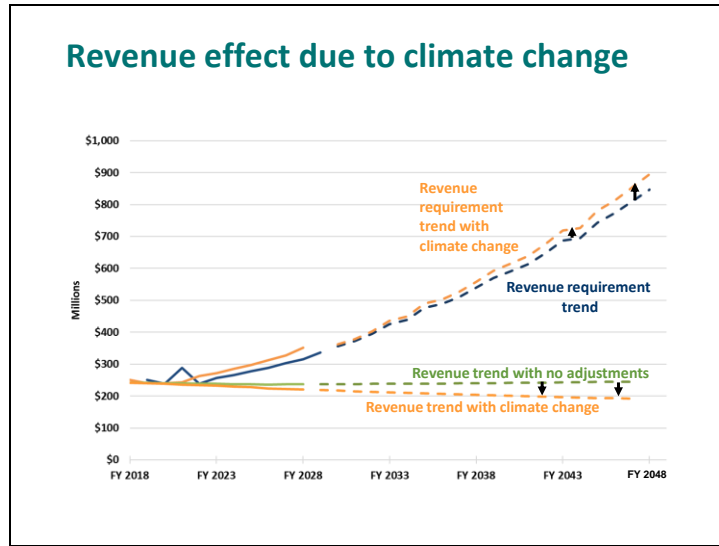
Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships
X	X	X	X	X

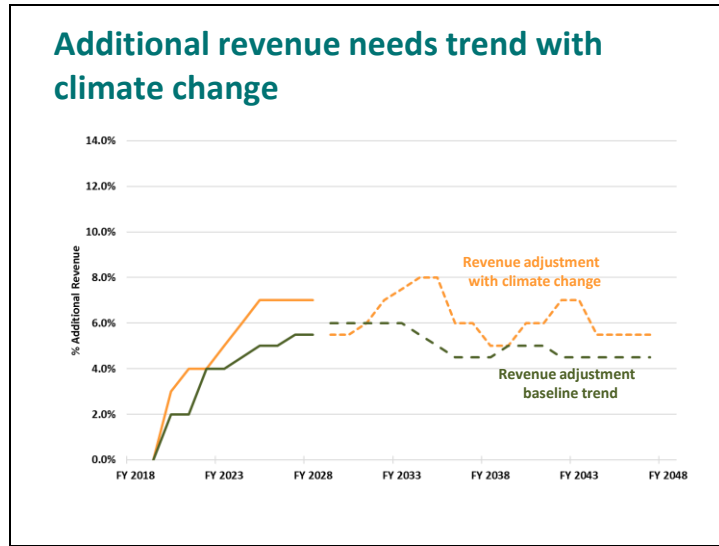


### Climate change

- ◆ Higher capital replacement is needed due to increased groundwater salinity
- ◆ 25 percent of infrastructure is low enough and close enough to the coast to be impacted
- ◆ Impact will halve the useful life
- ◆ Additional sources will be needed to replace failing groundwater sources
- ◆ May require mandatory conservation





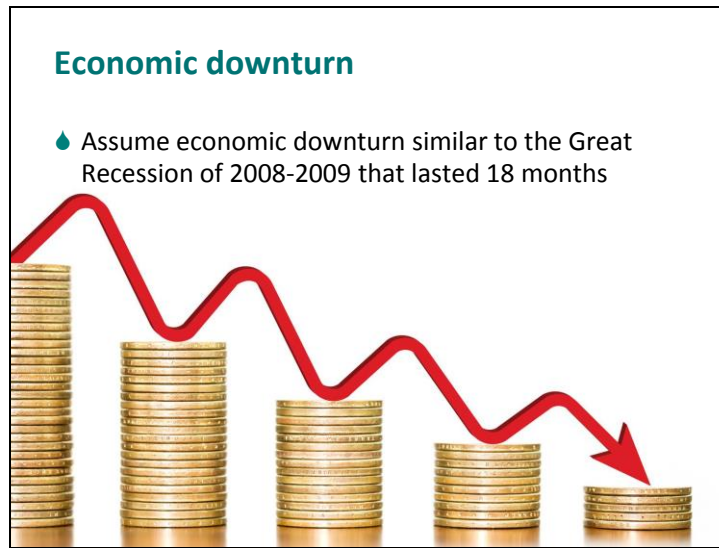


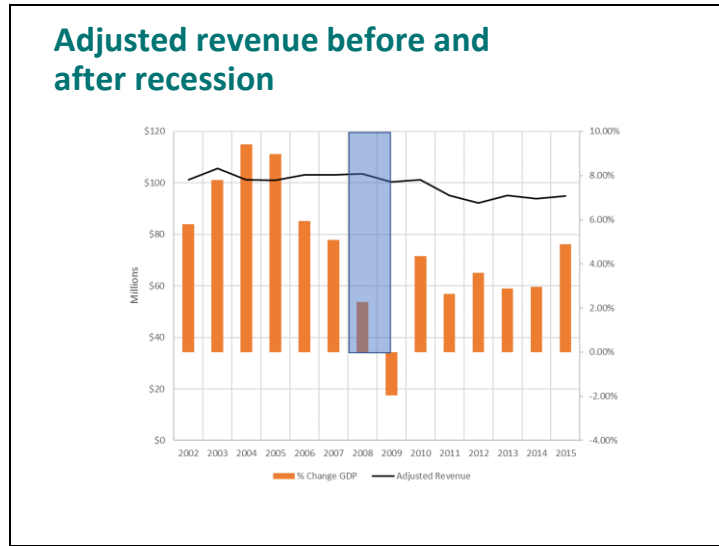
### Climate change financial mitigation strategies

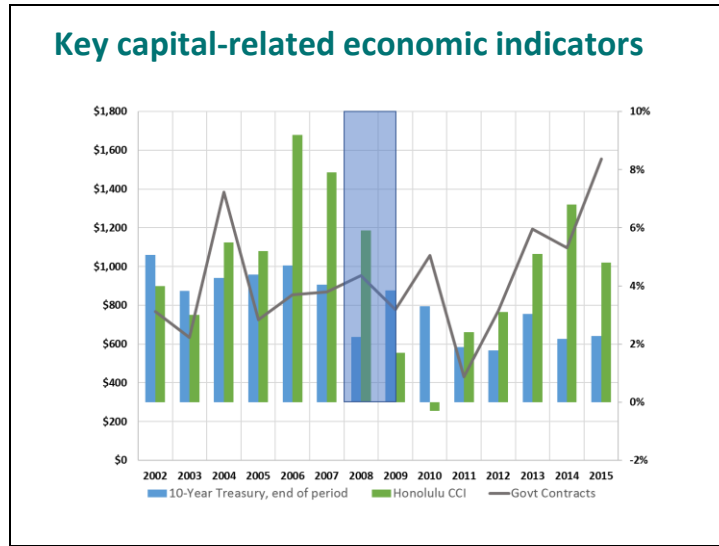
Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships
X	--	X	X	X

## **BWS plans for climate change adaptation**

- ◆ Hawai'i Climate Change Mitigation & Adaptation Commission
- ◆ City Climate Change, Sustainability and Resiliency Office
  - City Resilience Team
- ◆ UH Manoa research on climate change modeling forecasts
- ◆ Assessing Infrastructure Vulnerability to Climate Change, Water Research Foundation
- ◆ Pearl Harbor-Honolulu groundwater modeling to understand groundwater quantity and quality
- ◆ BWS Watershed (Ahupua`a) Management Plans
- ◆ Stormwater capture from Nuuanu Reservoir to supplement aquifer recharge







### Economic downturn financial mitigation strategies

Access Working Capital	Defer Expenses	Raise/Restructure Rates	Issue Debt	Public Private Partnerships
X	--	--	X	--




### Conclusions from long range trend analysis

- ◆ Monitoring using Water Master Plan scorecard and other available metrics important to assessing changing conditions
- ◆ Financial tools available to BWS appear adequate
- ◆ With commitment to Water Master Plan implementation and BWS's financial policies, high rate shock under any scenario not anticipated

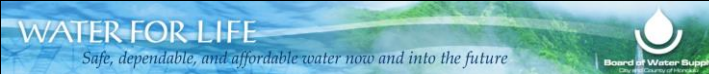
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**Mahalo!**                      **Questions & Answers**



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**Dave Ebersold**  
Facilitator

**Brian Thomas**  
Public Financial Management

**INITIAL RESULTS OF THE WATER  
RATES MODELING**



### Water rate objectives

- ◆ Legal
- ◆ Recover Full Cost of Water
- ◆ Credit Strength
- ◆ Fair and Equitable
- ◆ Stable and Predictable
- ◆ Encourage Conservation
- ◆ Understandable
- ◆ Affordable

## Legal

- ◆ Threshold requirement
- ◆ Rate structure must comply with all applicable laws and regulations

### **Recover full cost of water**

- ◆ Must provide adequate revenues to cover costs, required reserves, and desired working capital
- ◆ Cover the full cost to provide water service, including watershed protection, infrastructure investments, sufficient staff resources, maintenance, planned management, and long-term water supply sustainability

### Credit strength

- ◆ Generates a reliable revenue stream and supports favorable bond ratings
- ◆ Strikes a balance between cash and loans to meet revenue requirements

### **Fair and equitable**

- ◆ All customers in a given customer class (e.g. single-family residential) are charged on the same basis
- ◆ Rate differences between customer classes are based on differences in cost of service, service-level requirements, and community values



### **Stable and predictable**

- ◆ Rates are structured so that increases are relatively consistent, providing opportunity for customers and the utility to forecast costs and revenue, respectively

### **Encourage conservation**

- ◆ Rate structure is effective in encouraging conservation of water and supporting the goal to achieve Low-Range Gallons Per Capita per Day as set in the Water Master Plan.

### **Understandable**

- ◆ Sufficiently straight forward, simplified, and clear that individual customers (person or business) can readily identify, understand, and calculate the individual charges comprising their total bill
- ◆ Provides a linkage between charges and the services they support

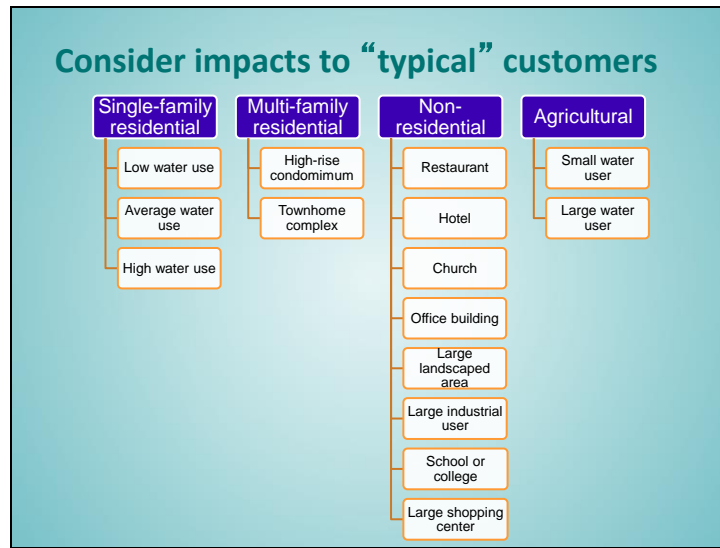
## Affordable

Affordable has multiple components, all of which point to delivering the right quality of water for the lowest reasonable price:

- ◆ Can depend on reliable water service
- ◆ Water bills are reasonably consistent, month-to-month
- ◆ Recognize and address that low income residents have limited means to pay their bills

### Affordable (Cont.)

- ◆ Recognize that customer classes provide valued services, e.g. agriculture, and affordable water supports the sustainability of those services
- ◆ Customers have the ability to control their expenses through conservation
- ◆ The right qualities of water (potable v. non-potable) for the right uses are available at reasonable prices



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Facilitator

**SUMMARY AND NEXT STEPS**

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### Next Stakeholder Advisory Group meetings

- ◆ Wednesday, February 21, 2018  
4:00 – 6:30 pm  
Hawaiian Electric Training Rooms, Honolulu Club
- ◆ Tuesday, March 13, 2018,  
4:00 – 6:30 pm  
Blaisdell Center, Hawaii Suites
- ◆ Others TBD

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**Mahalo!**

The advertisement features a central image of a young boy splashing water, with the word 'PRESERVE' in large, bold letters. The background is a light teal color with a decorative border at the bottom.