



# Workforce Planning

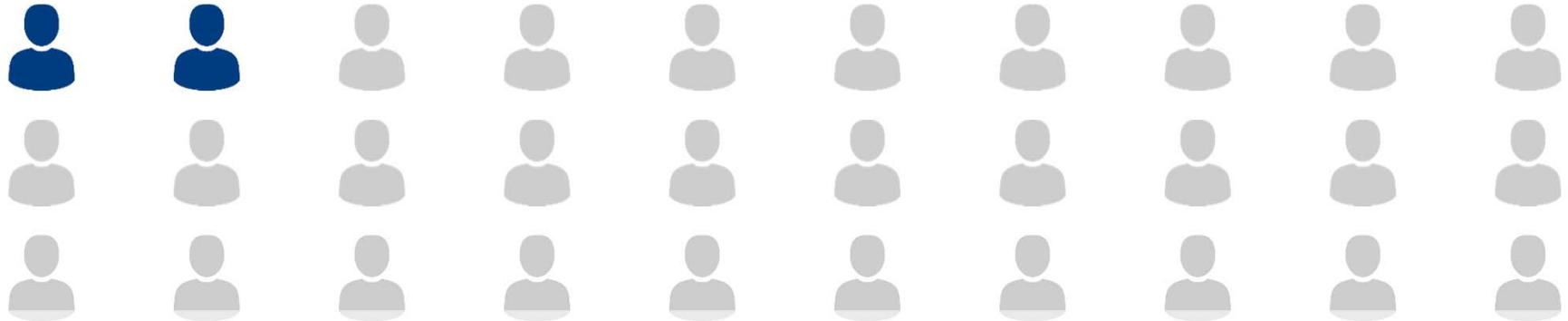
Austin Thompson

Environmental Finance Center

The University of North Carolina at Chapel Hill

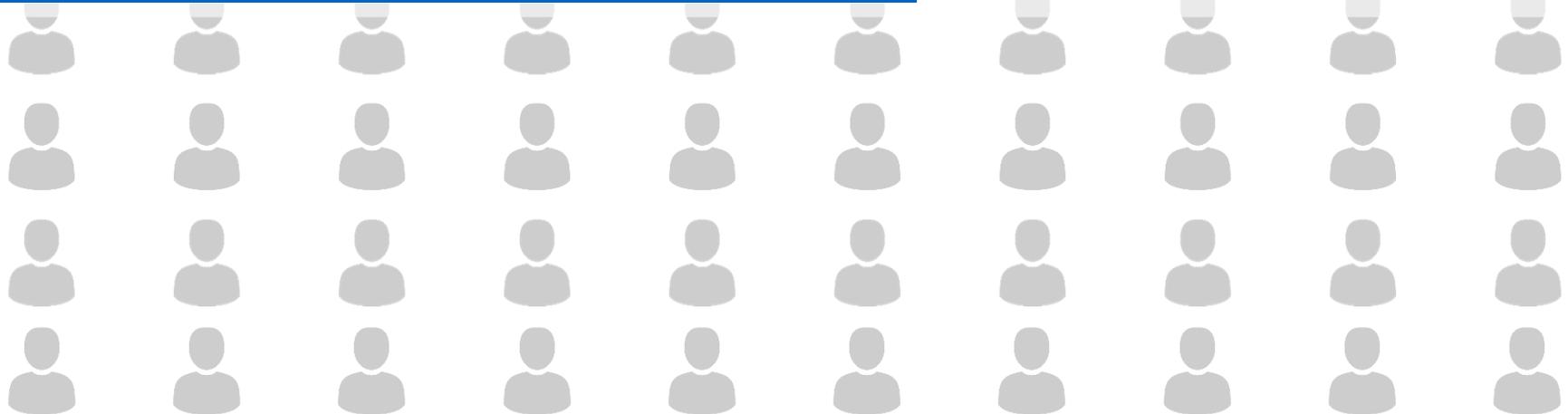
919-962-5795

[Thompson@sog.unc.edu](mailto:Thompson@sog.unc.edu)



There are about 1.7 million Americans employed in **water-related jobs**, out of a total workforce of about 153 million people

Source: Renewing the Water Workforce Report and Bureau of Labor Statistics data  
<https://www.brookings.edu/research/water-workforce/>





# Water Workforce





# 212

Different water-related occupations, from water operators to positions in the skilled trades like electricians and technicians to financial, administrative, and management positions



And there is no fixing your workforce with duct tape...





Who will replace your best  
colleagues when they leave?

Who will replace you?



# Two Major Workforce Goals

- Keep your best people around as long as you can
- Bring in great new people to the organization



Some questions to start...



# Did you grow up wanting to work in the water sector?

Yes, I was a very astute child.

Nope.

I didn't even know this job existed



# Who Works in Water

- All of us “work in water”
- How did you get into the water business? What is your story?

# Do your friends and family really understand what you do for a living?

Yes

Sort of...

Not even  
a little



# Can you see yourself working in the water sector for the rest of your career?

Yes

No



**Are you confident that there is someone currently working for your organization that could replace you?**

Yes

No



# Keep Your Best Employees



What makes you want to stay in your job?

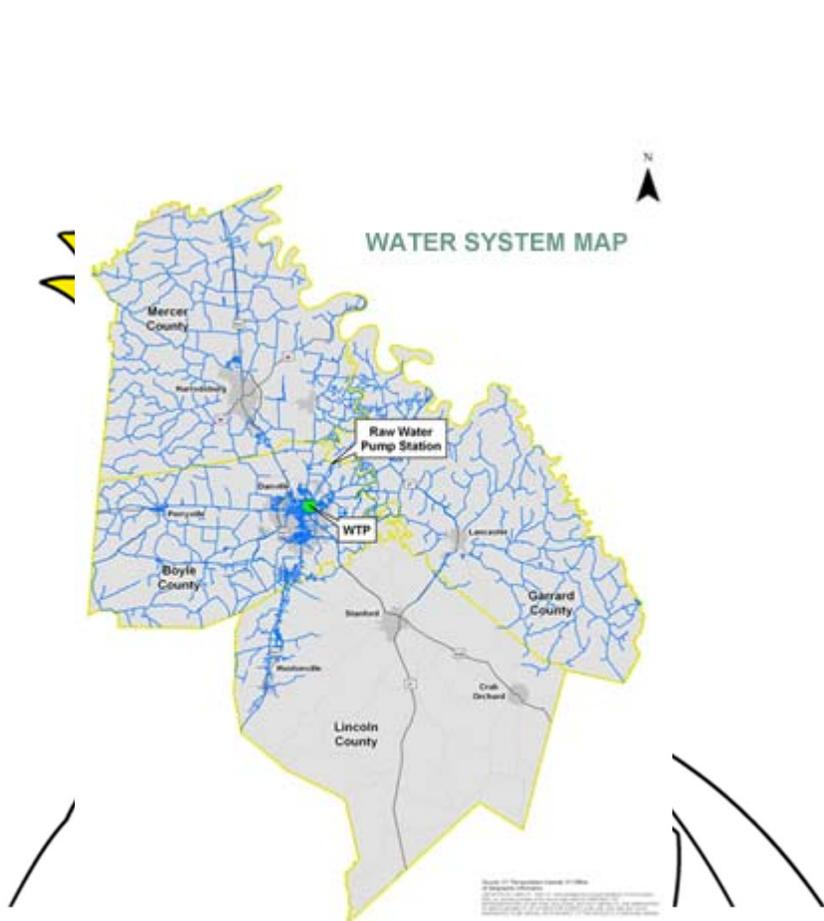


# Succession Planning





# Knowledge Management





# Asset Management Can Help



Larry Covington · Picacho MDWCA



But no matter how good you are  
at succession planning...

Your  
employees  
will leave,  
eventually.

Guaranteed.





# Are you ready for people to leave?

- Retirement

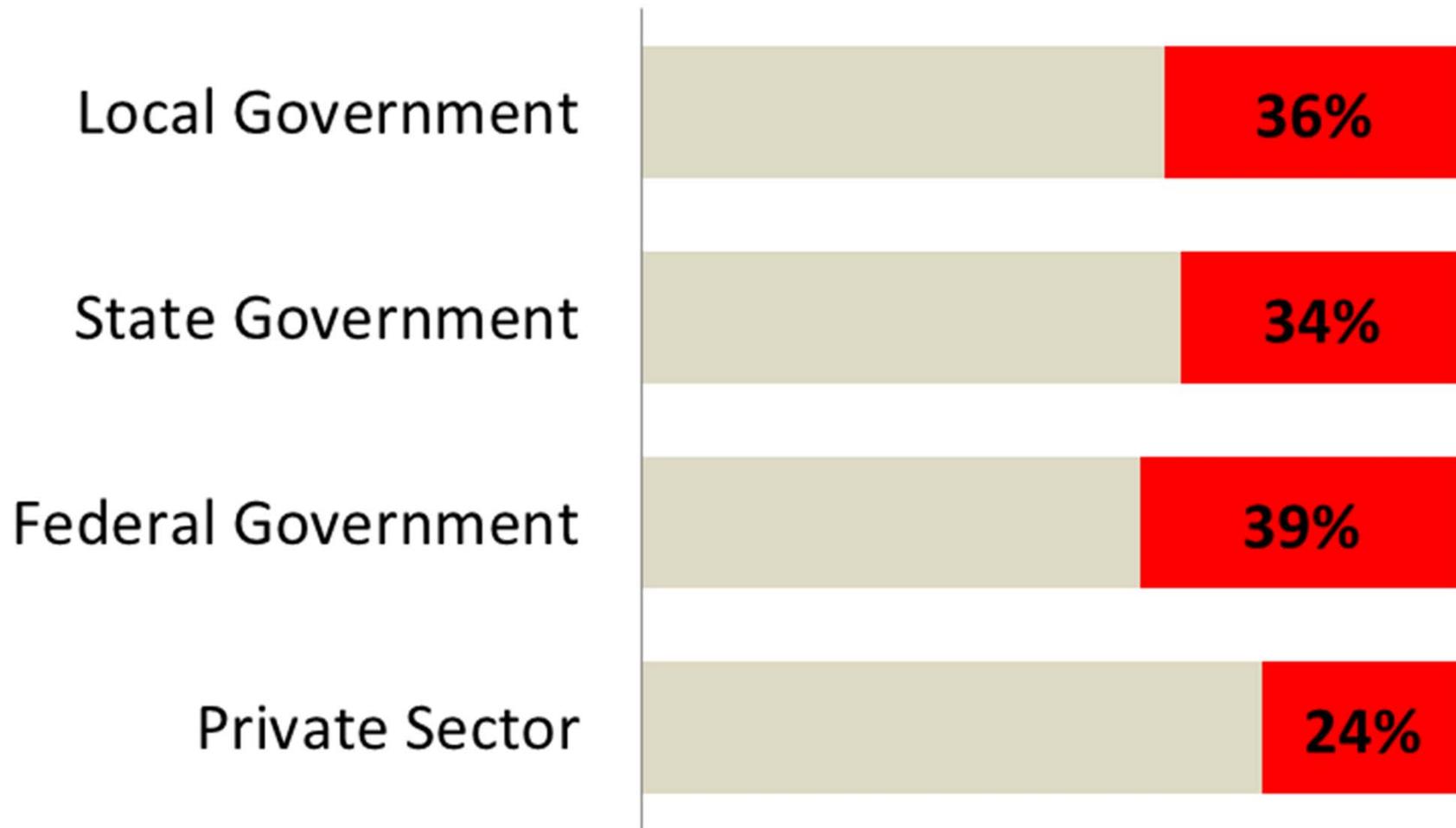
I'm quitting to pursue my dream of not working here.



som<sup>ee</sup>cards  
user card



# Many U.S. workers are **aged 50+**





# Are you ready for people to leave?

- Retirement
- Leaving for a different job
- FMLA
- Other circumstances...



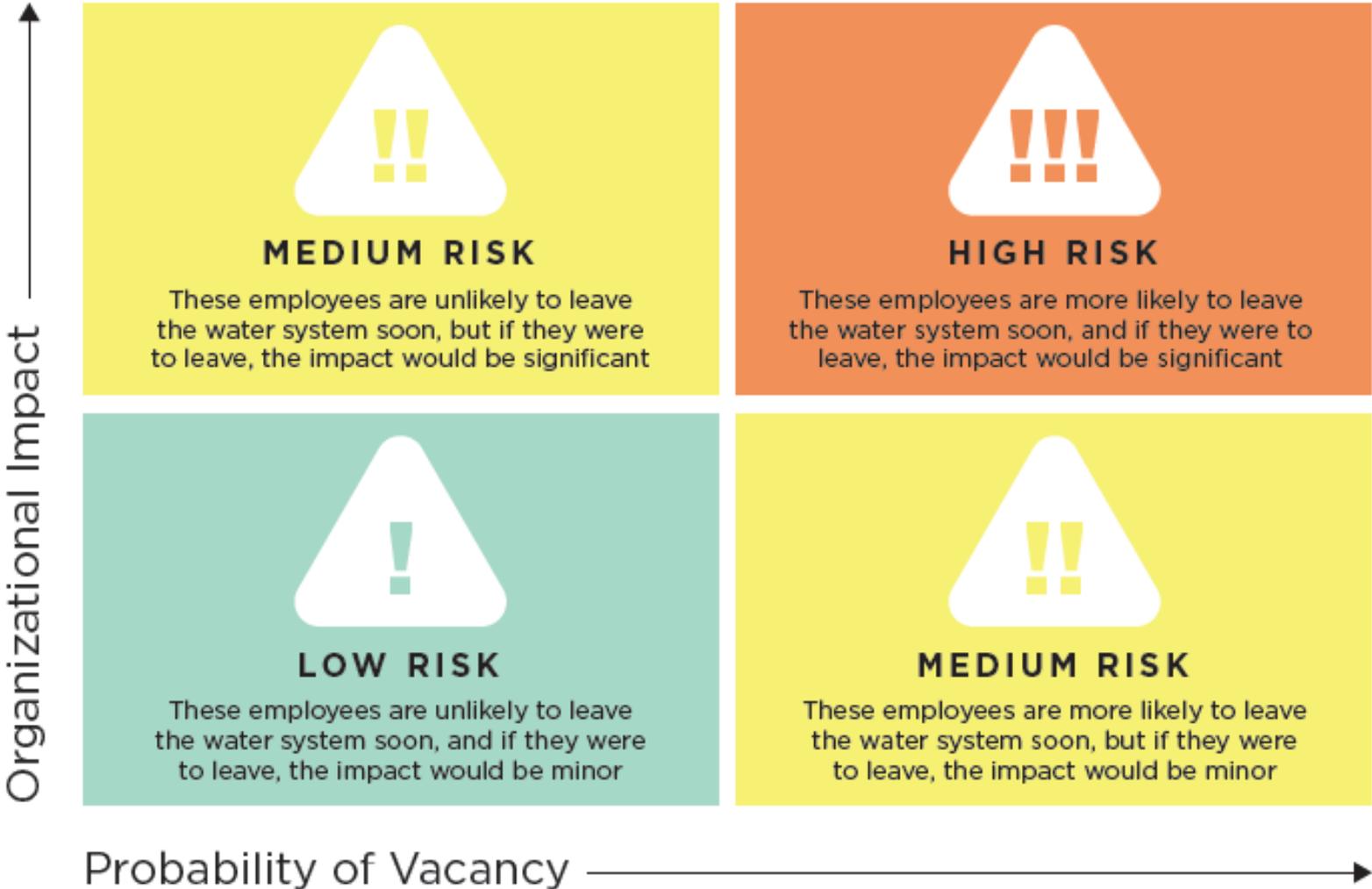


# Who Works in Water

- You know who within your organization works in water
- How critical are these people to your operations? How easy will it be to replace them?



# Human Capital Criticality





# Hire Great New People



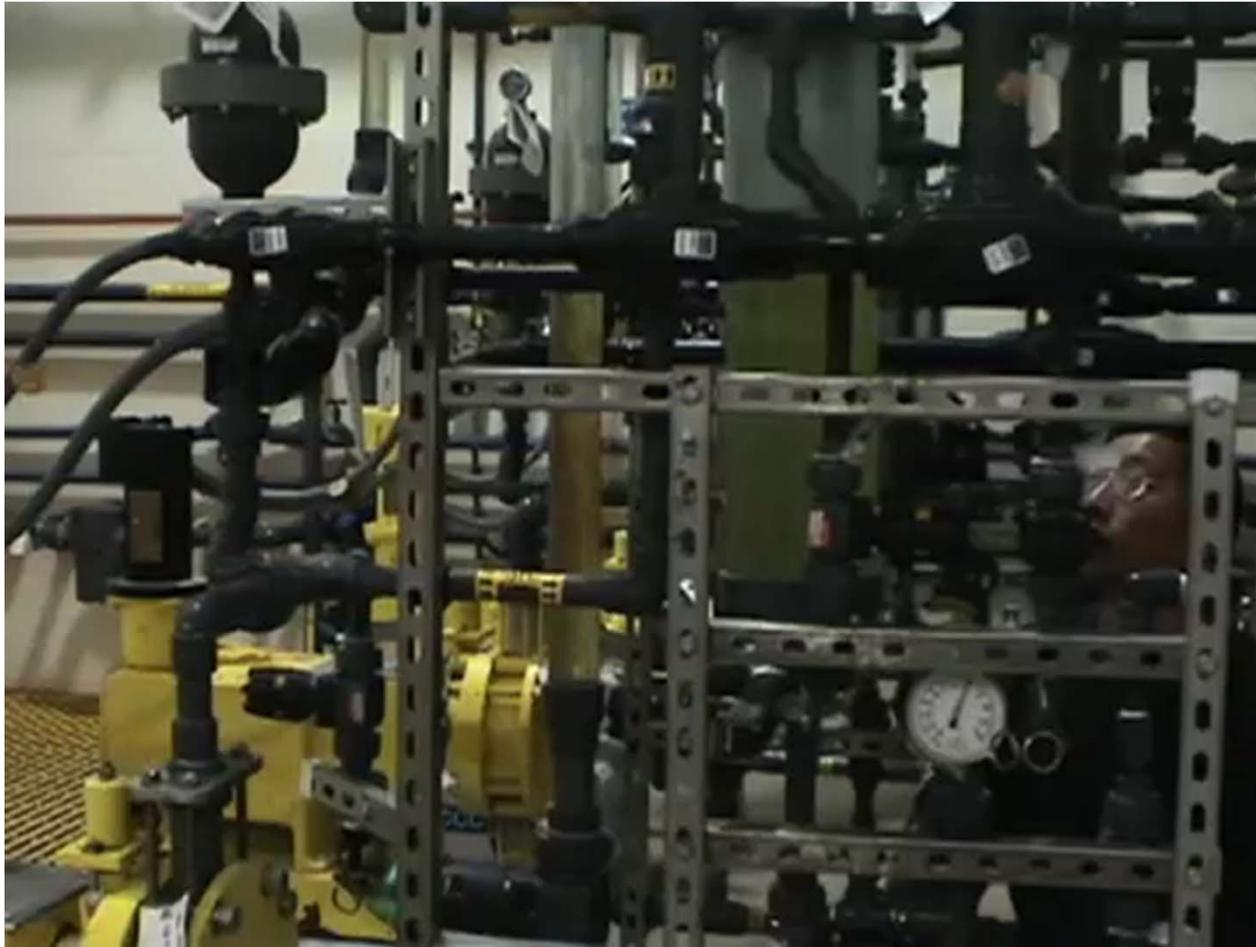
**WE ARE**  
**HIRING**

COME CHANGE THE WORLD WITH US





# Job Skills Needed



Andrew Kwan, East Bay Municipal Utility District, CA  
<https://www.youtube.com/watch?v=ORZlhncbb6Y>



# What knowledge, skills and abilities are needed today?

- Think across the board—not just for operators. Think about everyone who tied to your water system



# Knowledge, Skills and Abilities Needed by the Employee of the Future

## Technical Background

- Science, engineering, technology, and math (STEM)
- Ability to use computers and software programs as a tool



# Knowledge, Skills and Abilities Needed by the Employee of the Future

## Personal Characteristics

- Dedication and reliability
- Drive, ambition and initiative



# Knowledge, Skills and Abilities Needed by the Employee of the Future

## Soft Skills

- Critical thinking, problem solving and decision making
- Planning, organizing, directing and controlling

# What is the hardest KSA to find?

Science and math  
knowledge

Technology knowledge

Critical thinking/problem  
solving skills

Dedication and reliability



# How can we evaluate...

- Science and math knowledge
- Technology knowledge
- Critical thinking/problem solving skills
- Dedication and reliability



People are not necessarily aware of jobs in the water sector

It's up to us to explain why this is a good career choice. Here's one view...



# Why a Career in Water?

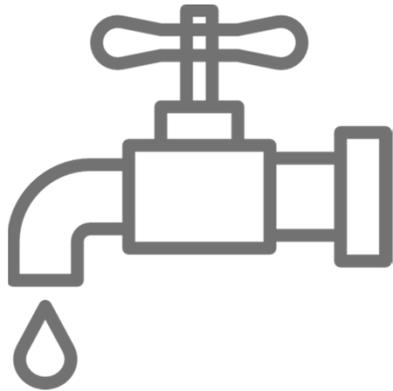


Jennifer Walsh  
Senior Principal Engineer  
Hazen & Sawyer

Interviewed on the Words on Water podcast:

<https://wordsonwaterwef.com/2018/02/12/words-on-water-jennifer-walsh-on-being-a-millennial-in-the-water-sector/>





Public  
Service



Environmental  
Stewardship



High-Tech  
Nature



Career  
Benefits



# Public Service



Operators say the most satisfying aspect of their work is contributing to the environment and public health



# Public Service

We need  
water to  
live













MEASURING  
LINE

THE FAMILY  
**Handyman**







# Environmental Stewardship



Andrew Kwan, East Bay Municipal Utility District, CA  
<https://www.youtube.com/watch?v=ORZlhncbb6Y>



# Put the Mission in Your Job Ad

## **PURPOSE OF THE POSITION**

(The main reason for the position, in what context and what is the overall end result)

The Water Treatment Plant Operator is responsible for of the water plant in order to ensure that residents have safe and clean water in accordance with federal, territorial and municipal legislation, policies and standards.

## **SCOPE**

(The way that the position contributes to and impacts on the organization)

Reporting to the Public Works Foreman, the Water Treatment Plant Operator maintains the water plant. This includes maintaining the water and sewer treatment plant and facilities.

The delivery of safe and clean water is vital to the safety and health of the community. Failure to provide adequate services will jeopardize the health of the community. Failure to meet federal, territorial and municipal legislation and water quality standards will significantly jeopardize the health and well-being of residents and may result in liability for the municipality. Failure to deal with residents and the public in a courteous and respectful manner will lead to complaints concerning municipal services.

## **RESPONSIBILITIES**

(Major responsibilities and target accomplishments expected of the position including the typical problems encountered in carrying out the responsibilities.)

1. Maintain the water treatment plant systems in order to ensure the availability of a clean

Job  
Description for  
a Water  
Treatment  
Plant Operator

Northwest  
Territories –  
Municipal and  
Community  
Affairs



# High Tech Nature



Reverse Osmosis



SCADA



UV Filtration



Solar Power

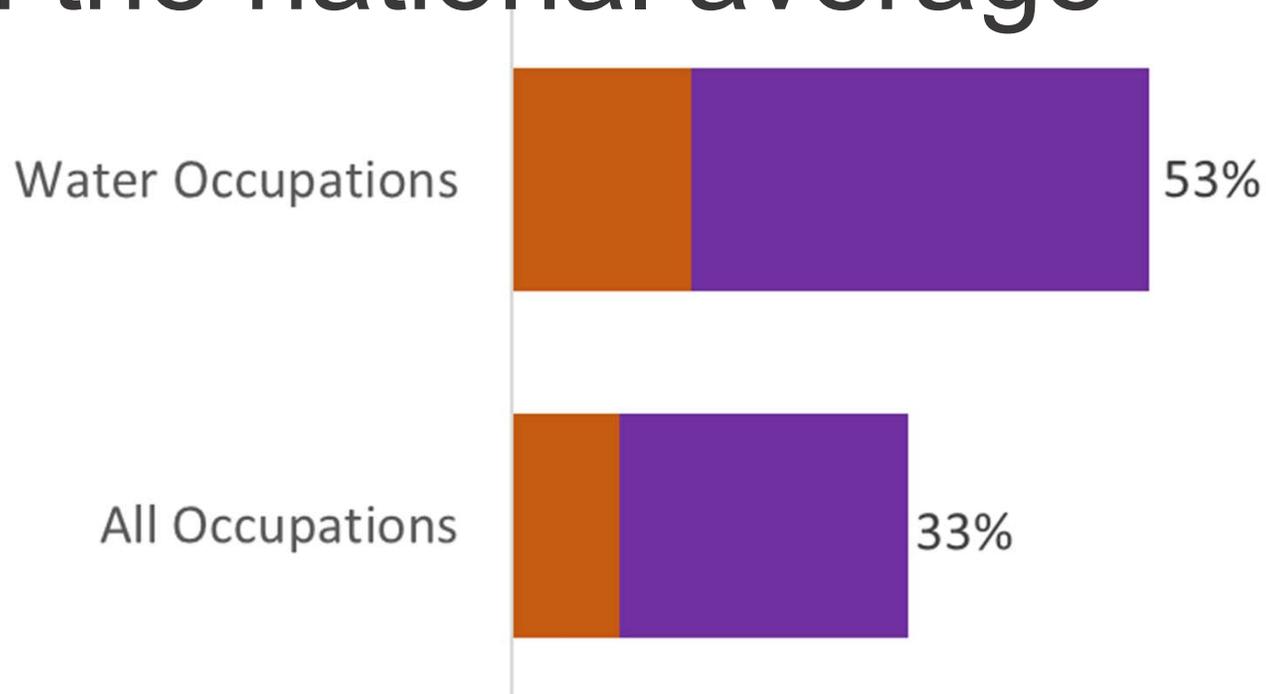


# Career Benefits



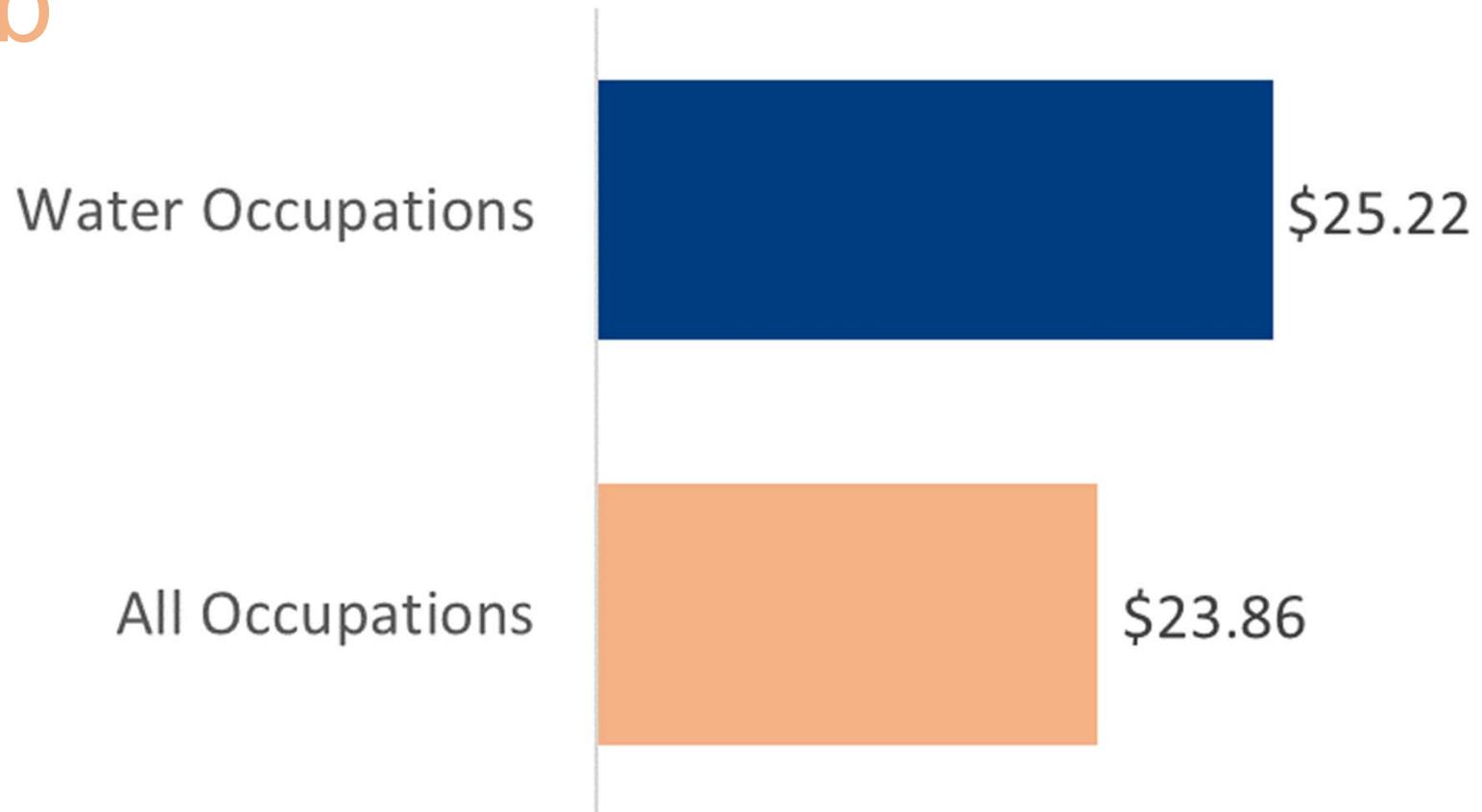


More than 50 percent of water workers have a **high school diploma** or **less**, which is higher than the national average



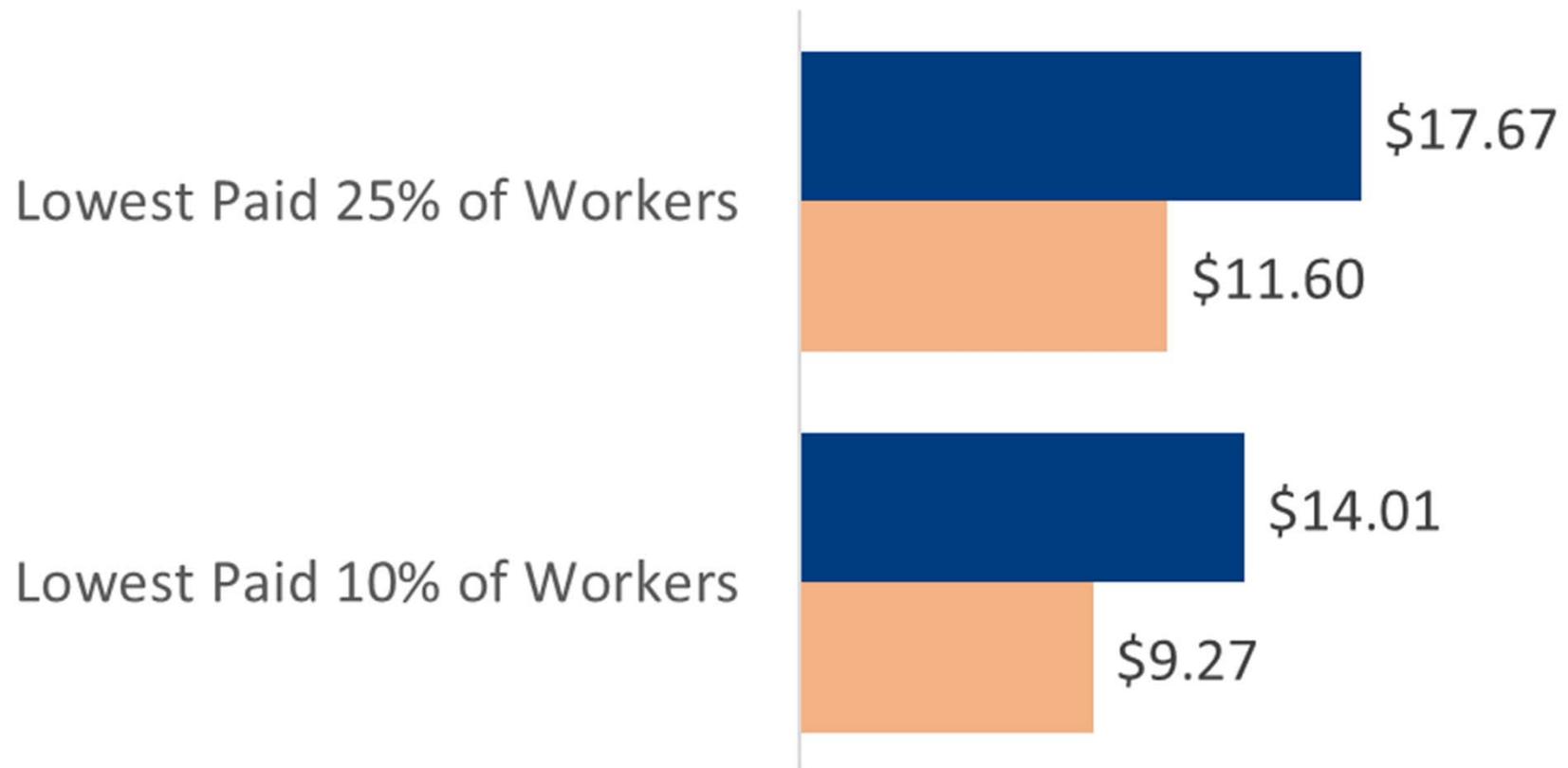


But **water jobs** pay better per hour than the **average American job**





And **water jobs** pay much better per hour than **average jobs** at the low end of the pay scale



Source: Renewing the Water Workforce Report <https://www.brookings.edu/research/water-workforce/>



# How to Find Good Employees





Have a Good Job Description

**HELP  
WANTED**



# Elements of Good Job Posts

- Accurate job title and summary
- Explains job responsibilities transparently
- Clearly states skills and qualifications, including physical demands
- Explains the organization



# Elements of Good Job Posts

- Opening and closing date
- Specific about hours and location
- Includes salary and benefits range
- Includes contact information





What do you think of Irvindale's job description?

What would you change, if anything?

Please work with your neighbors



# Elements of Good Job Posts

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- Includes contact information

Adapted from <https://theundercoverrecruiter.com/write-effective-job-description/>



# Find People Who Share Your Values



What types of candidates is SUEZ looking for? 

SUEZ welcomes applications from all qualified job candidates, and we embrace diversity. The personal attributes of a successful applicant include:

- A positive attitude
- Motivation and a desire to learn, improve, and succeed
- Ability and willingness to work and communicate as a team
- Dedication to complete customer satisfaction
- Ability to apply business knowledge and build our company

did this answer your question?





# Start Young!

## Another successful Kids 4 Clean Water summer camp

Wednesday, August 23rd, 2017

 Recommend 51

 Tweet

 G+

 Save

The children of the San Mateo Subdivision in northern Ambergris Caye participated in the annual Kids 4 Clean Water camp from Monday, August 14th to Sunday, August 20th. The annual event features a five day program that serves as a platform to educate residents of the area on the environmental and health issues associated with its water reserves. The camp aims to teach children about water safety, the water cycle, water pollution, and environmental conservation.





# Give Tours

From trucks to tours to treats, our annual Open House gets bigger and better every year. And you are the reason why.

## Treatment plant tours

<https://www.neorsd.org/community/open-house-always-the-number-1-event-in-the-number-2-business/>

Tours of our award-winning state-certified laboratory will be scheduled throughout the day. Guests interested in attending a tour must register for a tour upon arrival at the Open House. Please proceed to the Tours tent to register for

## Bike tours

Three bike tours of the Southerly Wastewater Treatment Plant are available. Three tours for 20 visitors each are available while spaces last. Register for a 10:00 a.m., 12:00 p.m. or 2:00 p.m. tour.



# Give Tours



“I end every tour with a discussion of all of the careers available in water”



# Internships

OUR SCHOOLS: Hartford Public High School Summer Interns Learn an Industry and Help to Bolster Future Workforce of Hartford Water Company MDC



OUR SCHOOLS: Hartford Public High School Summer Interns Learn an Industry and Help to Bolster Future Workforce of Hartford Water Company MDC

MDC's *Learn and Earn* is a 4 week paid program that took place this year from July 11, 2016 to August 5, 2016. 9 students from



Ray Baral  
Metropolitan District  
Commission, CT

“The money is a bonus to students. And while a lot of their friends sleep in until noon in the summers, they were here actually learning something and getting prepared for a career after high school. They all appreciated that.”



Ray Baral  
Metropolitan District  
Commission, CT

“Certainly, we wanted them to be good students, but they didn’t have to be ‘A’ students. The most important thing is that they want to be here and they want to learn.”



# Internships

## Learning by Doing

Interns at the water and wastewater utility in Denton, Texas, gain valuable skills while helping staff members perform essential tasks.

By Linda J. Edmondson

March 2014

Winning Them Over



Intern Benjamin Cruz deploys monitoring equipment at the plant raw water intake in Lewisville Lake. Interns are trained to program, deploy and retrieve monitoring devices and analyze and interpret the data at monitoring stations around the city. This intern went on to become a public health officer in the U.S. Air Force.



# Post High School Training



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:: City of Riverside T3 Program – Technical Trades Training

**Invalid version of Flash found. Please upgrade**

## So you're a senior in High School – What's Next?

What's next... is your future! And it is never too soon to start thinking seriously about what type of work you want to do in your life, and how you can obtain it.

Opportunities surround you – just like our T3 Program. T3 is a vocational program waiting to be taken advantage of by just the right student. It provides high school students a chance to continue their education, learn a skill, and make a good living.



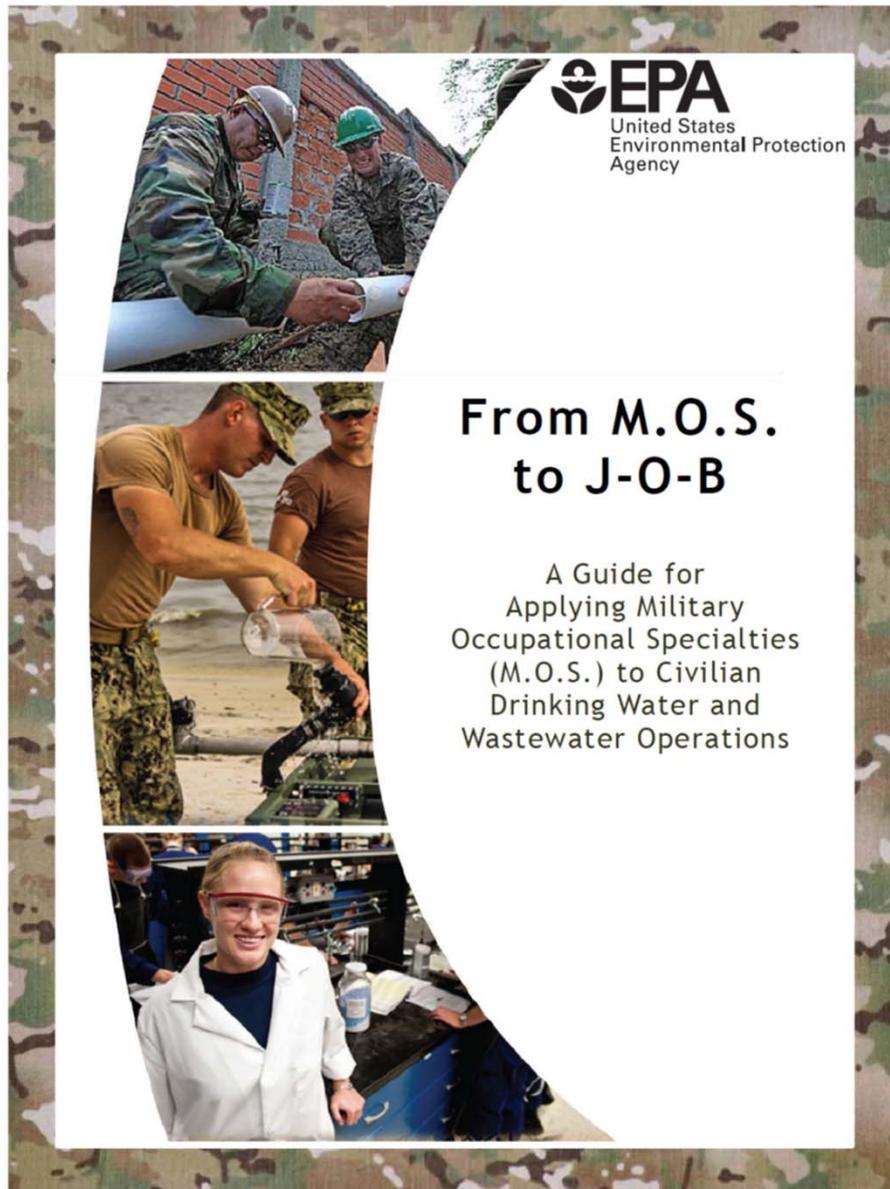
## Program Details

Up to two graduating students from Norte Vista School and up to two students from Ramona High School in Riverside may be selected to participate in the two-year T3 training program.



# Veterans of Uniformed Services





# EPA guide for applying Military Occupational Specialties (M.O.S.) to civilian drinking water and wastewater operations

[https://www.epa.gov/sites/production/files/2015-11/documents/from\\_mos\\_to\\_job.pdf](https://www.epa.gov/sites/production/files/2015-11/documents/from_mos_to_job.pdf)



# Employee Referral Program

CONTRACT CENTER PARTNERS

## REFERRALS

THEY REALLY PAY OFF



**\$150** THAT'S RIGHT, YOU CAN MAKE UP TO \$150 FOR EVERY PERSON YOU REFER

### BONUS DETAILS

Applicants must put your FULL NAME in their application when they apply. The amount of bonus is based on the number of interviews and offers received. Please

## Who do you know?

- ▶ You know great people.
- ▶ We're looking for great people.
- ▶ You refer them to us.
- ▶ We hire them.
- ▶ You earn cash or extra PTO for every referral hired and gift opportunities for every referral interviewed!

**\* 1 = \$750**  
**\* 2 = \$1,500**  
**\* 3 = \$2,250**

Get the idea?  
Now there's...

Even More  
to Think  
about

Get more details about  
the program at:



[www.drivetime-erp.com](http://www.drivetime-erp.com)

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# Employee Referral Program



Money



Extra Days Off



Recognition



Event Tickets



Food & Drink



Departmental  
Competition



# Employee Referral Program



Do you offer an employee referral program? 

Yes, employees may refer candidates for eligible positions and receive compensation if the hire is successful.

did this answer your question?





# SCENE

[ SPRINGFIELD CITY  
EMPLOYEE NEWS EXTRA ]



December 2017

## Human Resources launches Employee Referral Program

This program is designed to reward current employees for successful referrals, while reducing the cost of recruiting and bringing the City the most qualified applicants.

“Human Resources is excited to launch this new program. Employee referrals have a proven track record of success in providing a cost-effective way to secure top talent for hard to fill positions. Given both the competition for talent and the quality of the City’s workforce, the new referral program is a great strategy for the City and our employees,” said Director of Human Resources Darla Morrison.

Currently, the referral program is limited to specific, hard-to-fill positions. Employees can access the full policy, including a listing of eligible positions, as well as submit your referral application on CityShare under the Human Resources Services tab. The referral will remain on file and will be considered active for two years after the referral application has been submitted. However, the referral will only be active for the job posting for which the referral was originally submitted. The applicant you are referring must apply for the position prior to the application deadline and must submit your name in the ‘Referred By’ question on their application.



**Downtown Springfield Christmas Parade:**  
Saturday Dec. 9, 2-4 p.m.  
downtown Springfield.

The Downtown Springfield Association invites the community to celebrate seasonal storytelling at the 2017 Christmas Parade. Come be part of the tradition this year as parade participants show off their floats, bands march their way around downtown and holiday cheer is spread for all, with an appearance by Santa.

The route starts on South Avenue and Elm Street and

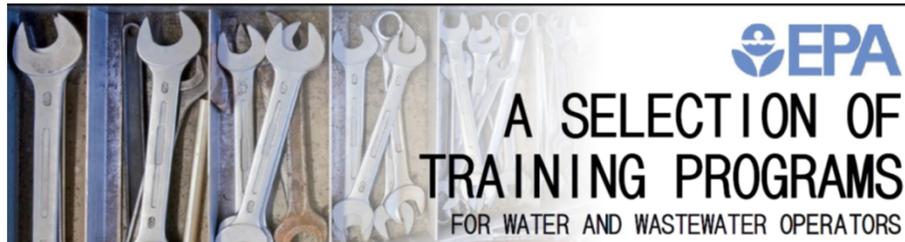


▶ See *EMPLOYEE REFERRAL PROGRAM* on page 2



<http://www.workforwater.org/>

The screenshot shows the homepage of the Work for Water website. At the top left is the logo "Work for Water" with the tagline "Great Careers for a Great Cause". To the right of the logo are navigation links: "About Us", "Jobs", "Utilities", and "Publications and Resources". Further right is a search bar with a magnifying glass icon and a "Search" button. Below the navigation is a horizontal menu with links: "Resources for Water Professionals", "High School/Votech", "College", "Military Second Career", and "Advanced Science". The main content area on the left contains a welcome message: "Welcome to **Work for Water!** It's the place where students and job seekers can explore green careers, and utilities will find a clearinghouse of resources for recruiting in the wonderful world of water. Developed by the **American Water Works Association** and **Water Environment Federation**, the world's leading technical experts on drinking water and water quality, this site is packed with resources to find jobs or prepare for rewarding careers in protecting public health and the environment. Learn about what it takes to work for water and get a great job for a great cause!". To the right of the text are three vertical panels, each with a colored header and a photograph: "High School/Votech" (green header, photo of a young man), "College" (teal header, photo of three young people), and "Military Second Career" (orange header, photo of two people at a computer).



**SORT BY SPONSOR OR MAJOR CONTRIBUTOR**

- DEPARTMENT OF LABOR/WORKFORCE INVESTMENT AGENCY
- UTILITY
- STATE OR PROVINCE
- UNIVERSITY/COMMUNITY COLLEGE
- HIGH SCHOOL
- UTILITY ASSOCIATIONS AND OTHER ORGANIZATIONS

**SORT BY PROGRAM ELEMENTS**

- INTERNSHIP
- APPRENTICESHIP
- MENTORING
- FOR NEW OPERATORS
- FOR EXPERIENCED OPERATORS
- FOR MAINTENANCE/OTHER WORKERS

**OVERVIEW**

This is a compilation of fact sheets describing training programs, internships and mentoring programs that help new operators enter the water and wastewater industries, as well as enhance the skills and knowledge of experienced operators.

The fact sheets are intended to promote the sharing of unique ideas and best practices for industry professionals seeking to establish similar training programs. The fact sheets represent the experiences of states, utilities, educational institutions and other organizations that sponsored and developed these programs.

Program sponsors found these programs to have many benefits, including:

- ✓ Creation of highly-qualified and highly-trained technical and professional staff;
- ✓ Development of leadership and supervisory skills in new and current staff;
- ✓ Effective way to build a pool of new recruits;
- ✓ Promotion of succession planning and knowledge transfer;
- ✓ Exposing new audiences to water sector careers.

*EPA would like to acknowledge the members of the Workforce / Operator Certification Workgroup for their efforts in developing these fact sheets.*

EPA compilation of fact sheets describing training programs, internships and mentoring programs

<https://www.epa.gov/sustainable-water-infrastructure/selection-training-programs-water-and-wastewater-operators>

115TH CONGRESS  
2D SESSION

# S. 2346

To establish an innovative water infrastructure workforce development program, and for other purposes.

---

IN THE SENATE OF THE UNITED STATES

JANUARY 25, 2018

Mr. BOOKER (for himself and Mrs. CAPITO) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

---

## A BILL

To establish an innovative water infrastructure workforce development program, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

### **SECTION 1. WATER INFRASTRUCTURE AND WORKFORCE INVESTMENT.**

(a) FINDINGS.—Congress finds that—

(1) utilities and local governments invest significant resources in planning, designing, constructing, operating, and maintaining water, wastewater, and stormwater systems—

(A) to ensure a safe and reliable water supply for customers; and

(B) to maintain public health, safety, and quality;

(2) during the 10-year period beginning on the date of enactment of this Act, 30 of the largest water and wastewater utilities in the United States will—

(A) invest \$233,000,000,000 in operating and capital spending; and



# Building a Stronger America: President Donald J. Trump's American Infrastructure Initiative

— INFRASTRUCTURE &

**INVEST IN OUR COUNTRY'S MOST IMPORTANT ASSET - ITS PEOPLE: The President is proposing reforms so Americans secure good-paying jobs and meet the needs of our industries.**

- The President's plan would reform Federal education and workforce development programs to better prepare Americans to perform the in-demand jobs of today and the future. This includes:
  - Making high-quality, short-term programs that provide students with a certification or credential in an in-demand field eligible for Pell Grants.
  - Reforming the Perkins Career and Technical Education Program to ensure more students have access to high-quality technical education to develop the skills required in today's economy.
  - Better targeting Federal Work-Study funds to help more students obtain



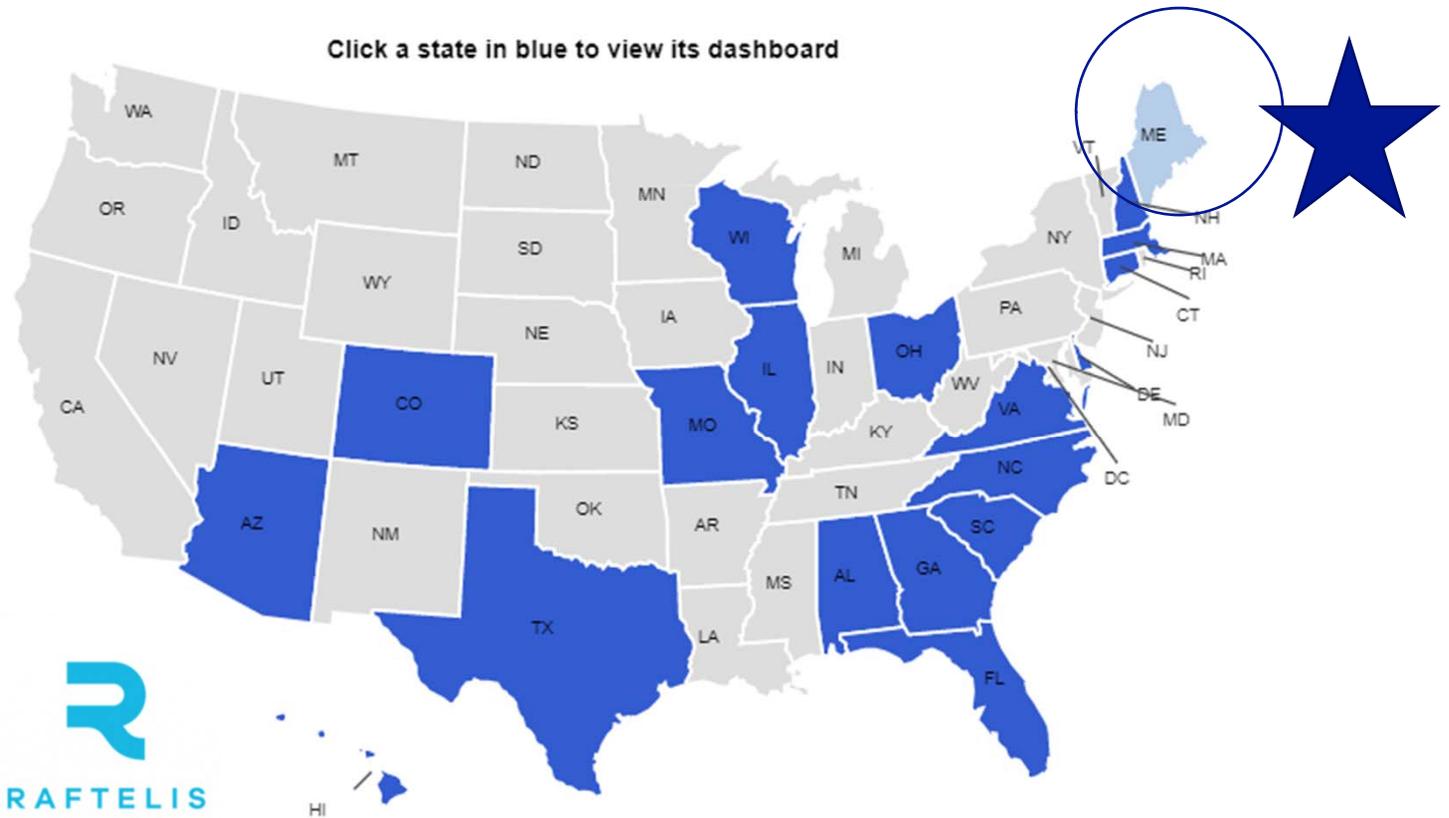
**Quick Break!**

**One last item to cover...but it should be fun!**



# The 2019 Maine Rates Dashboard!

Click a state in blue to view its dashboard



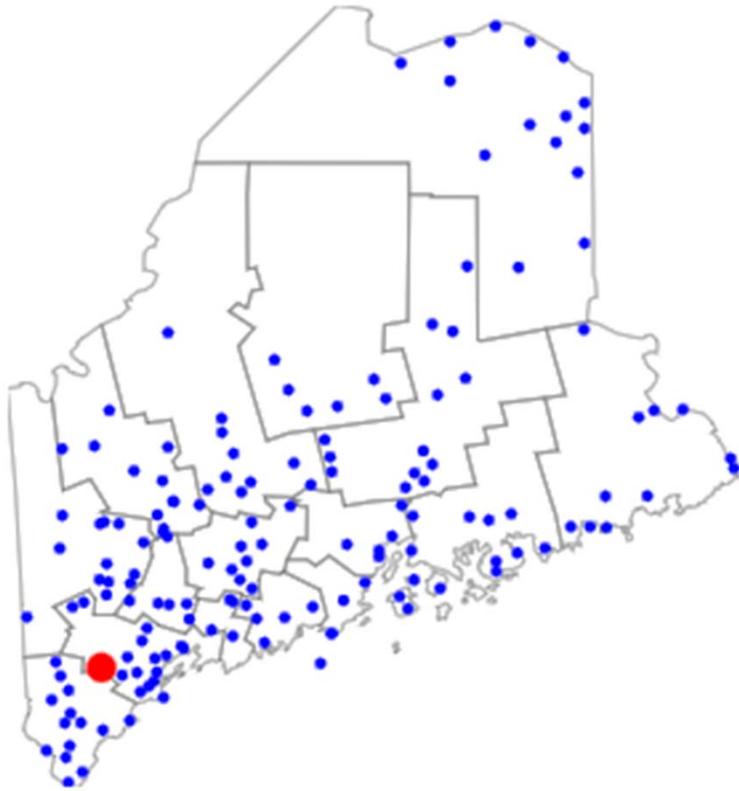
**Tighe&Bond**  
Engineers | Environmental Specialists

**RAFFELIS**





# Who is in the survey group?



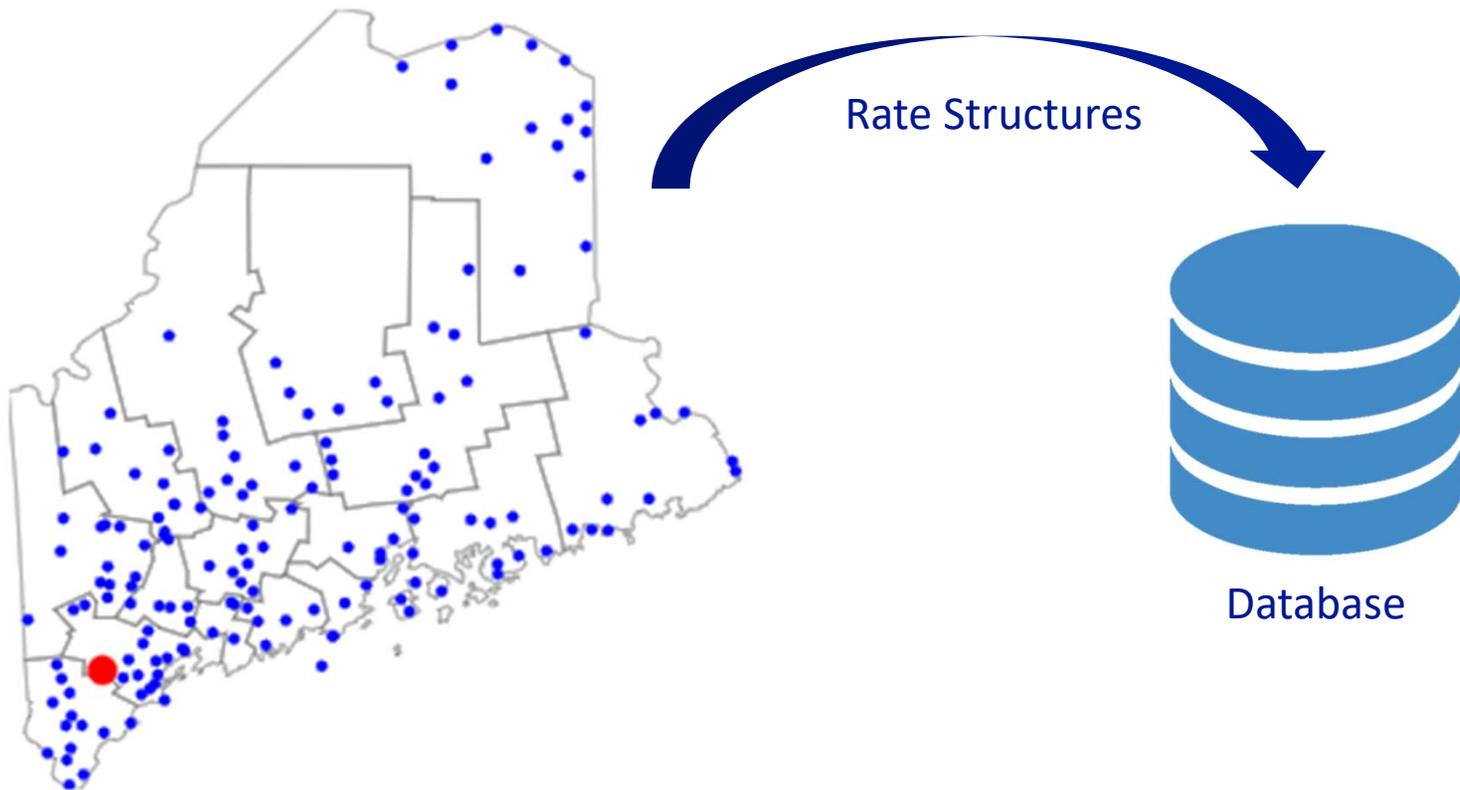
Rate Structures from 220 Rate-Charging Utilities

Service Type	Percent of Group
Sewer Only	36%
Water Only	48%
Water and Sewer	16%
<b>TOTAL</b>	<b>100%</b>

Utility Type	Percent of Group
Authority	0%
County/District	53%
For Profit	5%
Municipality	35%
Not for Profit	0%
Sanitary District	6%
<b>TOTAL</b>	<b>100%</b>



# How does it work?





## Additional Data Sources



United States™  
**Census**  
Bureau





# Anatomy of the Dashboard

 **2019 ME Water and Wastewater Rates Dashboard**  
Rates as of July 1, 2019  
Dashboard updated: October 31, 2019

  **Tighe&Bond**  
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Portland Water District - Portland

Rates Comparison | Characteristics | Links | Edit Data or Add Utility

Select residential bill and monthly consumption amount

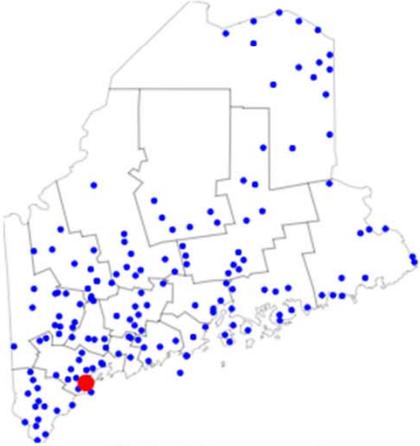
Water Bill  Sewer Bill  Water + Sewer Bill

6,000 gallons  
802 cubic feet

Monthly Water Bill: \$26.88

Select comparison group: All Utilities

Comparing to all utilities in survey



158 rate structures compared

Effects of raising rates by: 0%

Download Data

**Bill Comparison**  
Water Bill at 6,000 gallons  
Median: \$39.80  
Min \$8.50 Max \$156.41  
Value: \$26.88

**Conservation Signal**  
Water Price / 1,000 gallons, after 10,000 gallons  
Median: \$4.42  
Min \$0.00 Max \$22.04  
Value: \$3.26

**Cost Recovery**  
Operating Ratio Incl. Deprec. 2018  
Value: 1.30

**Median Affordability**  
Annual Water Bills as % MHI  
Value: 0.63%



# Anatomy of the Dashboard



UNC  
SCHOOL OF  
GOVERNMENT  
Environmental  
Finance Center



Smart Management for  
Small Water Systems

**2019 ME Water and Wastewater  
Rates Dashboard**  
Rates as of July 1, 2019  
Dashboard updated: October 31, 2019



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Portland Water District - Portland

Rates Comparison
Characteristics
Links
Edit Data or Add Utility

Select residential bill and monthly consumption amount

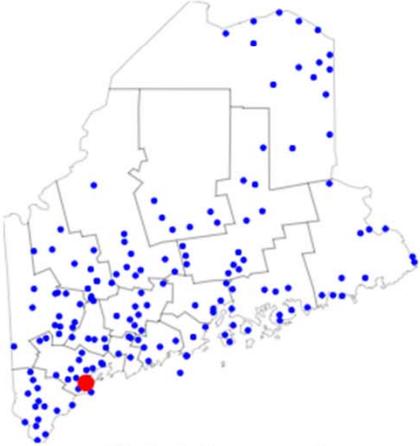
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Comparing to **all utilities in survey**



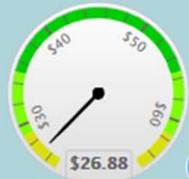
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1.30

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Annual Water Bills as % MHI



0.63%



# Anatomy of the Dashboard

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**Smart Management for Small Water Systems**

**2019 ME Water and Wastewater Rates Dashboard**  
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**RAFTELIS**

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Portland Water District - Portland

Rates Comparison | Characteristics | Links | Edit Data or Add Utility

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 Water Bill  Sewer Bill  Water + Sewer Bill

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802 cubic feet

**Monthly Water Bill: \$26.88**

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Comparing to all utilities in survey

158 rate structures compared

Effects of raising rates by: 0%

Download Data

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Water Bill at 6,000 gallons  
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Gauge: \$3.26 (Min \$0.00, Max \$22.04)

**Cost Recovery**  
Operating Ratio Incl. Deprec. 2018  
Gauge: 1.30 (Min 0.5, Max 3)

**Median Affordability**  
Annual Water Bills as % MHI  
Gauge: 0.63% (Min 0%, Max 3%)



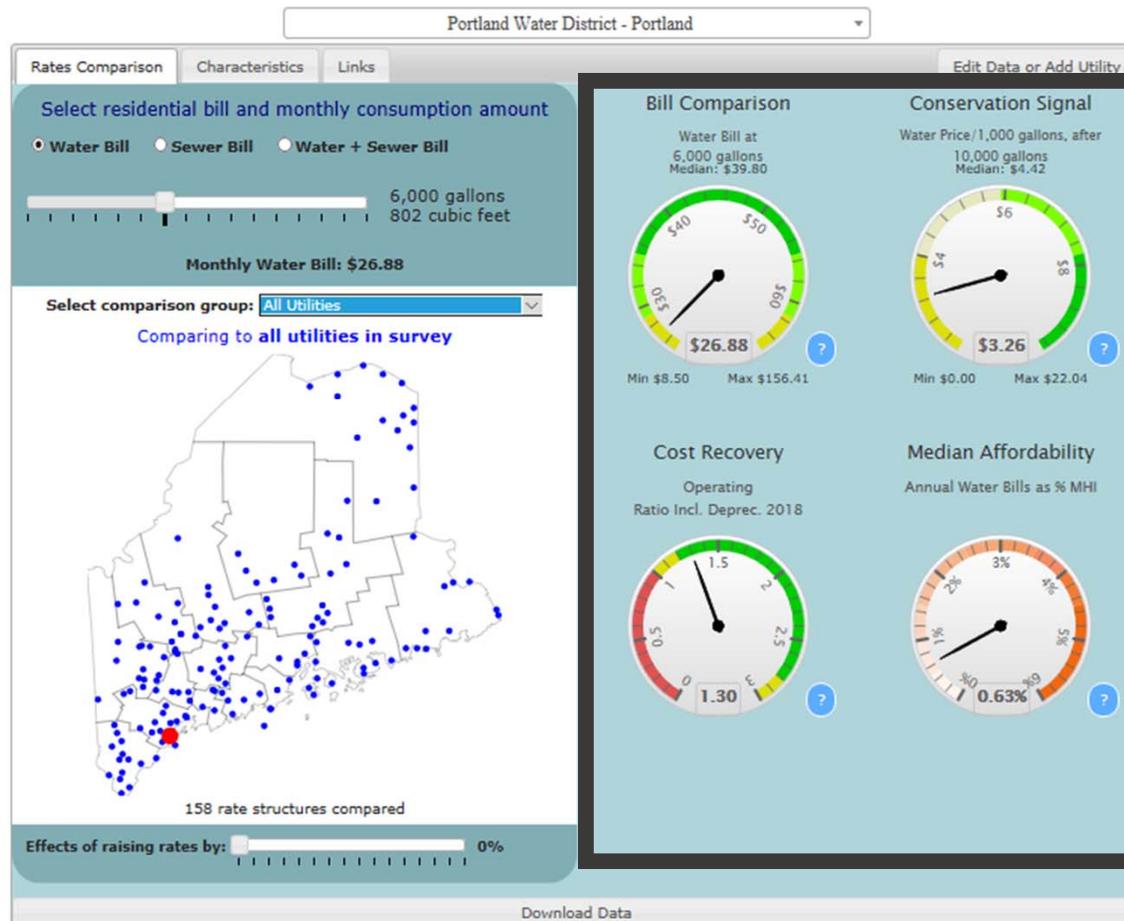
# Anatomy of the Dashboard



2019 ME Water and Wastewater Rates Dashboard  
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# Anatomy of the Dashboard

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SCHOOL OF GOVERNMENT  
Environmental Finance Center

 **Smart Management for Small Water Systems**

**2019 ME Water and Wastewater Rates Dashboard**  
Rates as of July 1, 2019  
Dashboard updated: October 31, 2019

 **RAFTELIS**

 **Tighe & Bond**  
Engineers | Environmental Specialists

Portland Water District - Portland

Rates Comparison | Characteristics | Links

Select residential bill and monthly consumption amount

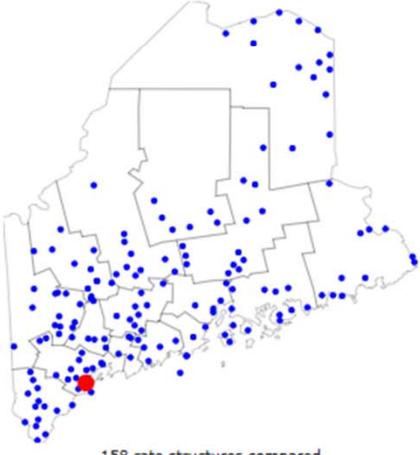
Water Bill  Sewer Bill  Water + Sewer Bill

6,000 gallons  
802 cubic feet

Monthly Water Bill: \$26.88

Select comparison group: **All Utilities**

Comparing to all utilities in survey



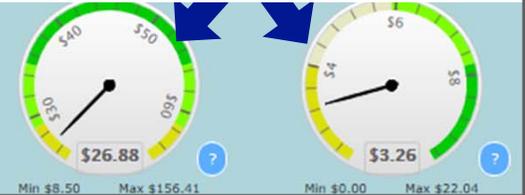
158 rate structures compared

Effects of raising rates by: 0%

Download Data

**Bill Comparison** Conservation Signal

**Compare to your peer group**



Min \$8.50 Max \$156.41 Min \$0.00 Max \$22.04

**Cost Recovery** Median Affordability

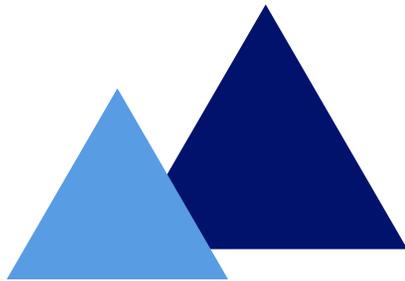
Operating Ratio Incl. Deprec. 2018 Annual Water Bills as % MHI



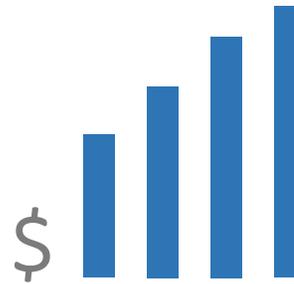
1.30 0.63%



## Compare Your Rates to Rates of Systems that have Similar...



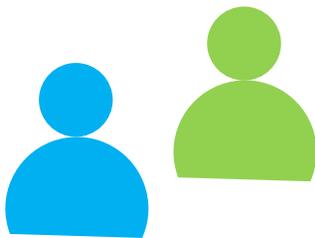
Size



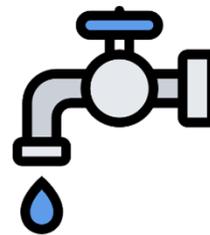
Rate Structure



Location



Demographics



Type



Financials



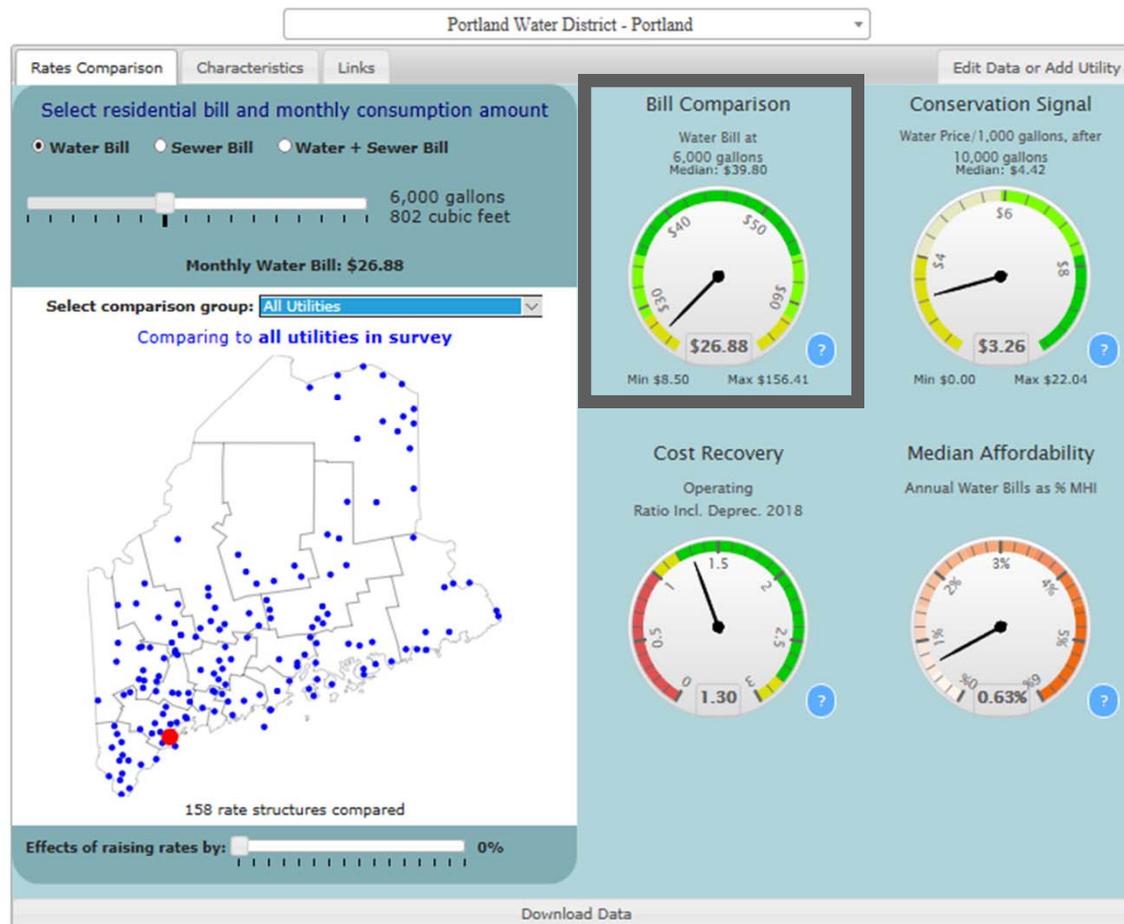
# Anatomy of the Dashboard



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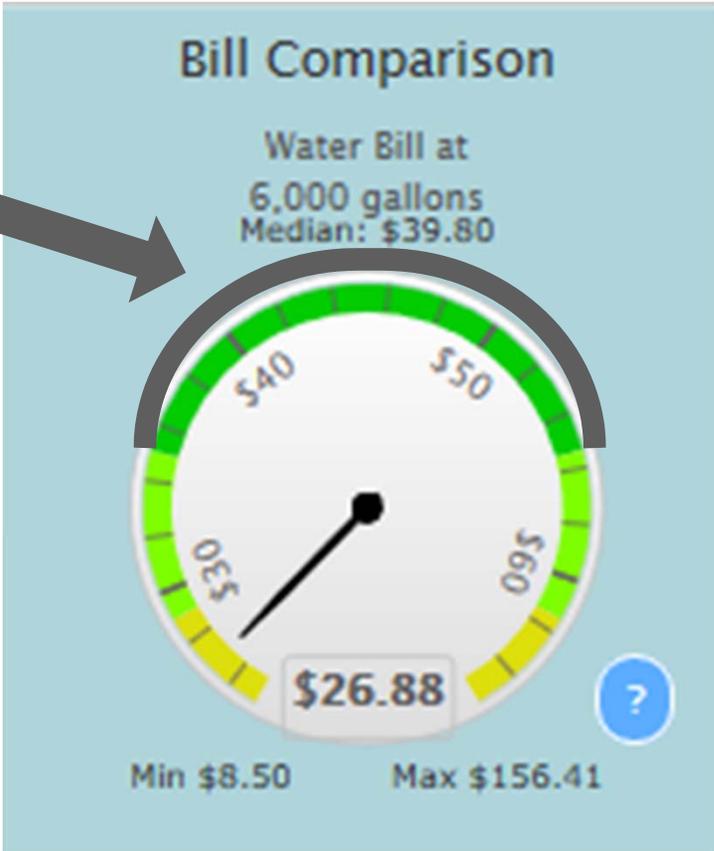




# Dial: Bill Comparison

Darkest green band = middle 50% of utilities

Half of all utilities in your peer group have bills that fall within this range

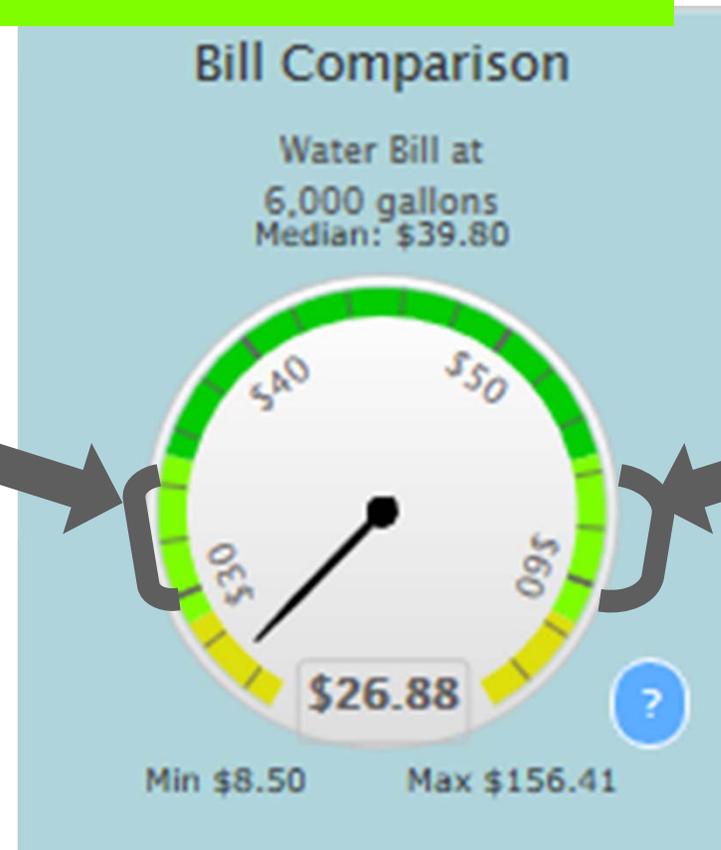




# Dial: Bill Comparison

Light green bands = the 15% below and above the middle 50%

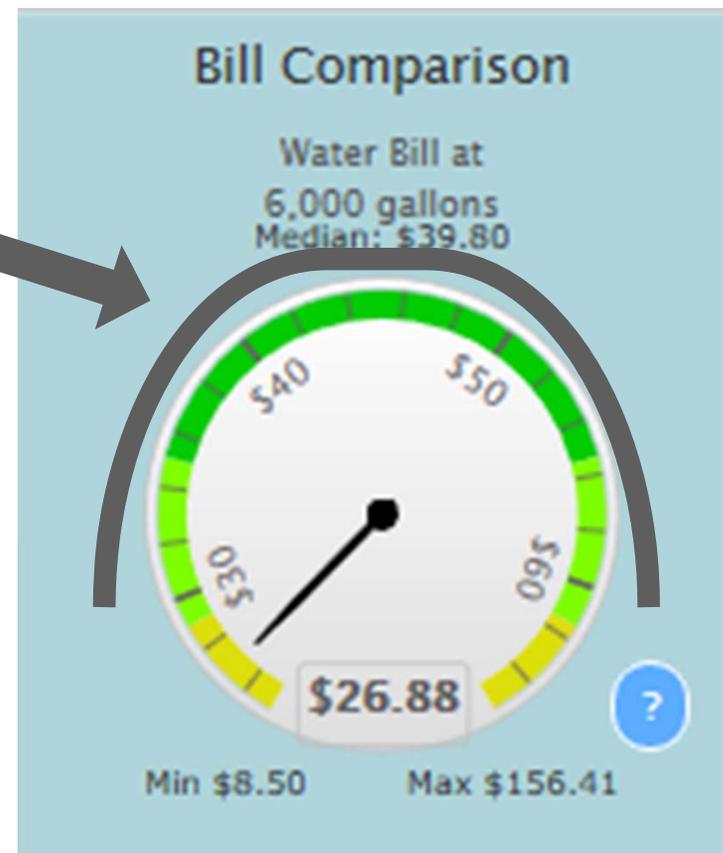
**15%** of utilities in your peer group have bills **lower** than the middle 50%,  
**15%** have bills **higher** than the middle 50%



# Dial: Bill Comparison

Both greens combined = 80% of utilities

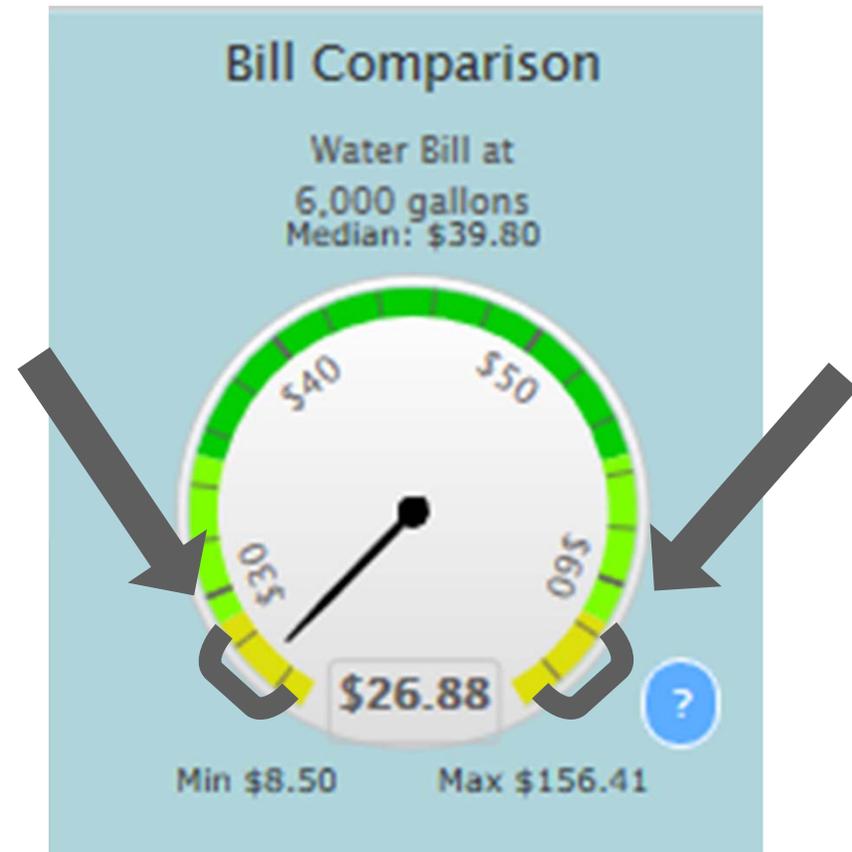
**The majority** of all utilities in your peer group have bills that fall within the range of the green bands



# Dial: Bill Comparison

Yellow = the lowest and highest 10% of utilities

**10%** of utilities  
in your peer group  
have bills **lower** than  
90% of other utilities,  
**10%** have bills **higher**  
than 90% of utilities





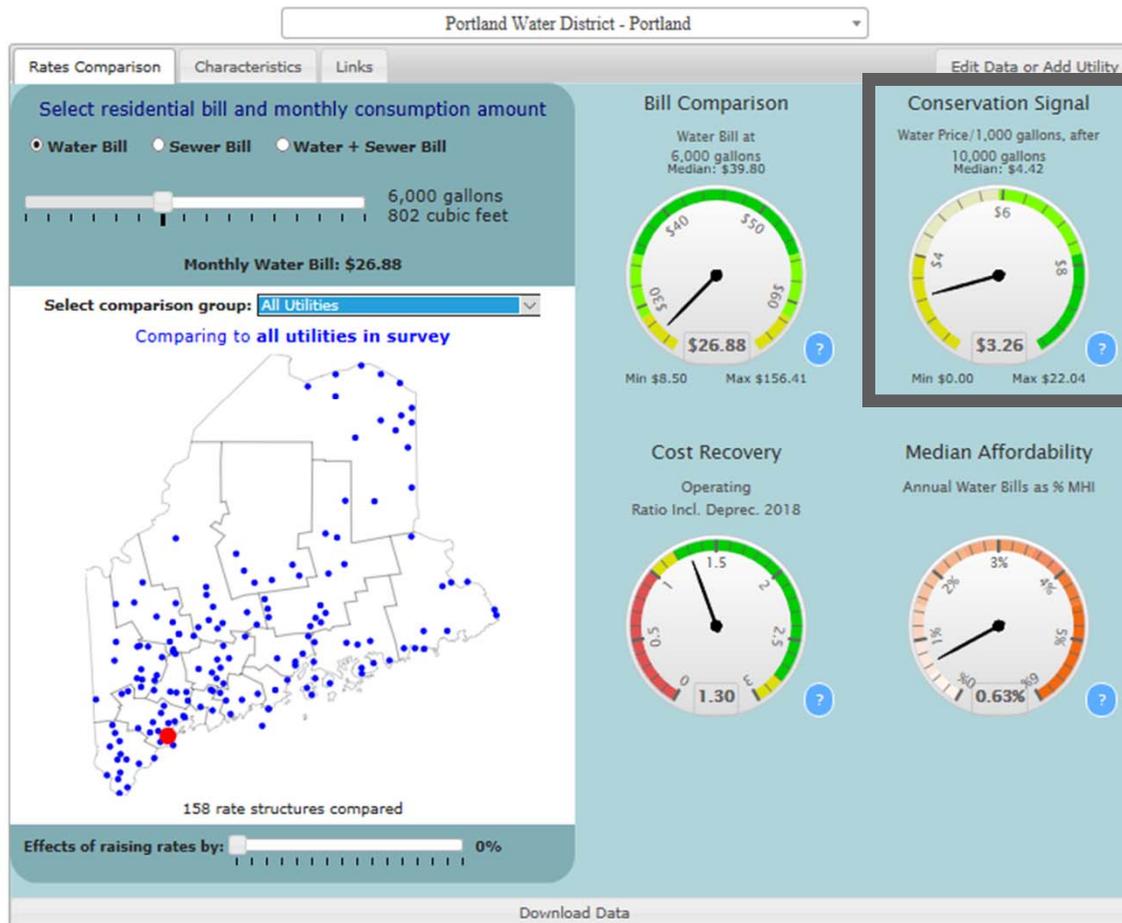
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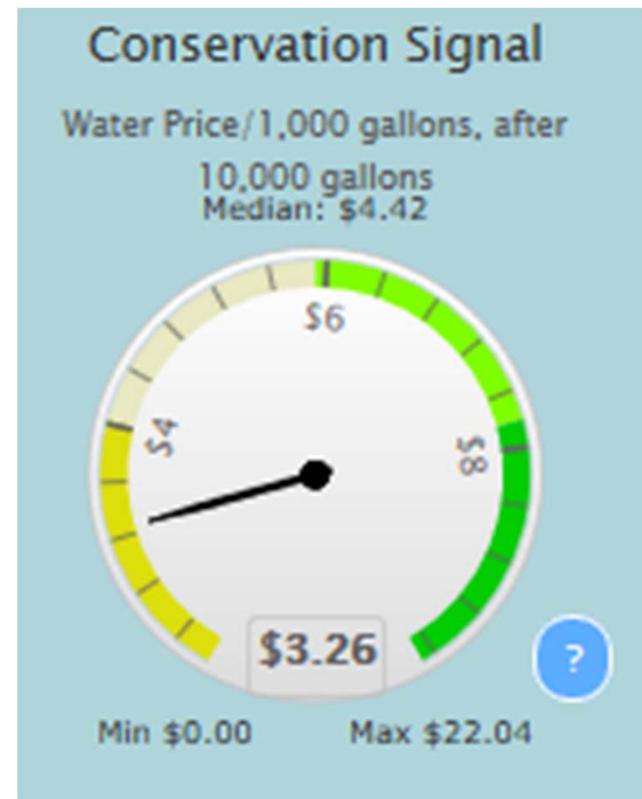




# Dial: Conservation Signal

Colored bands = quartiles

In this example, the marginal price of 1,000 gallons after 10,000 gallons is below the 25<sup>th</sup> percentile among its peer group, sending a weak conservation signal





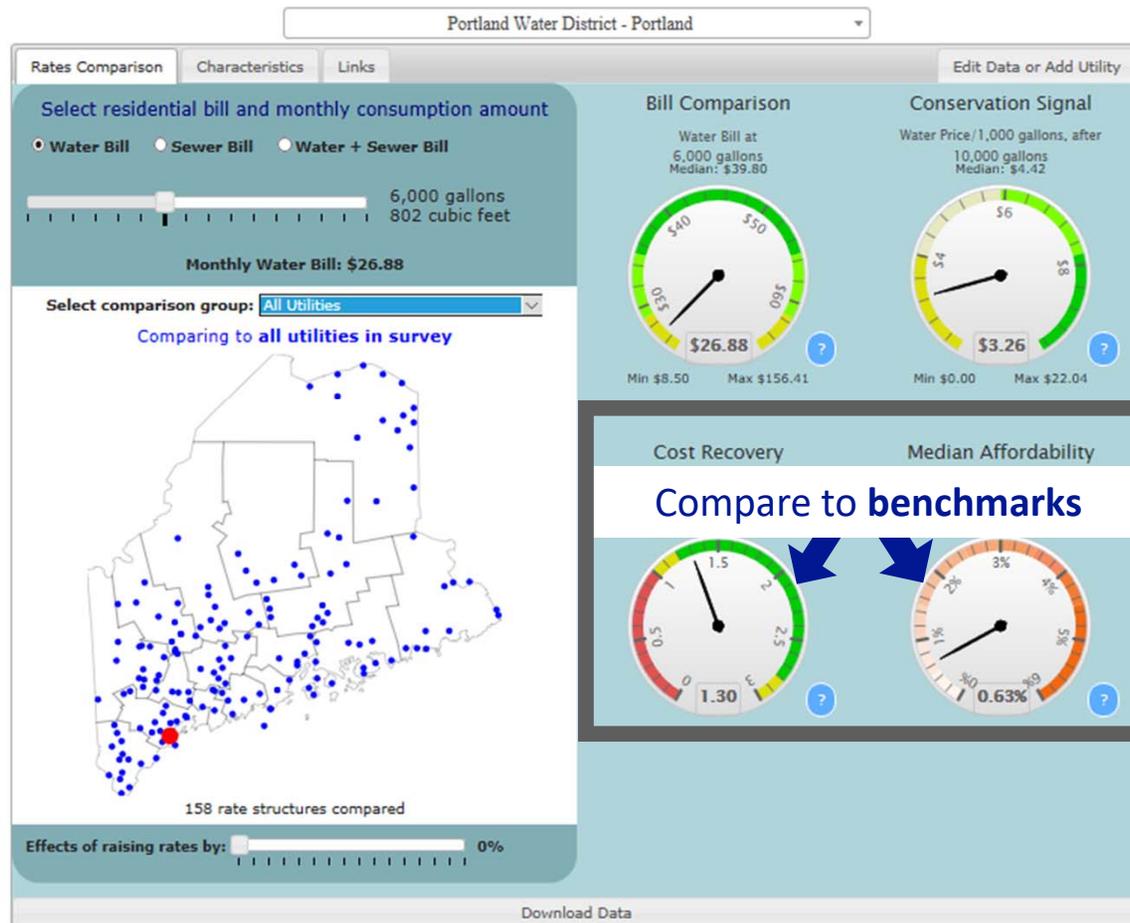
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# Anatomy of the Dashboard



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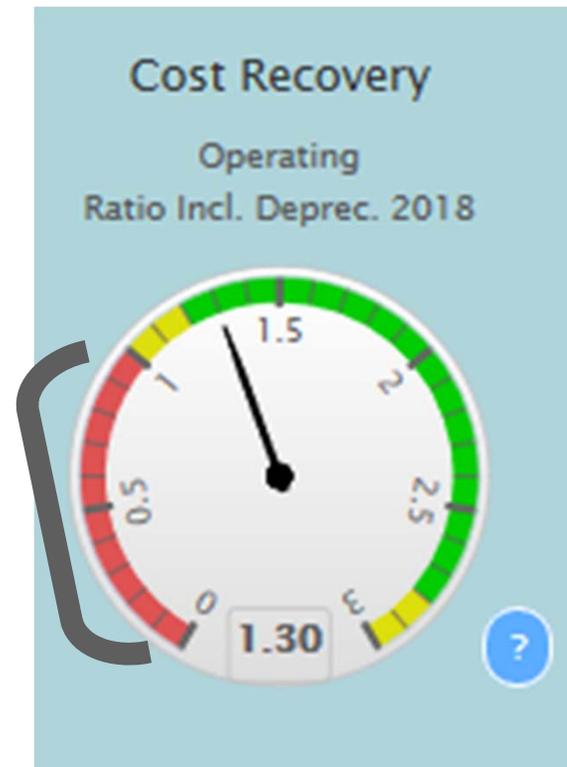




# Dial: Cost Recovery

Red = costs exceed revenues; a concern for financial sustainability

Operating revenues  
Operating expenses  
(including depreciation)

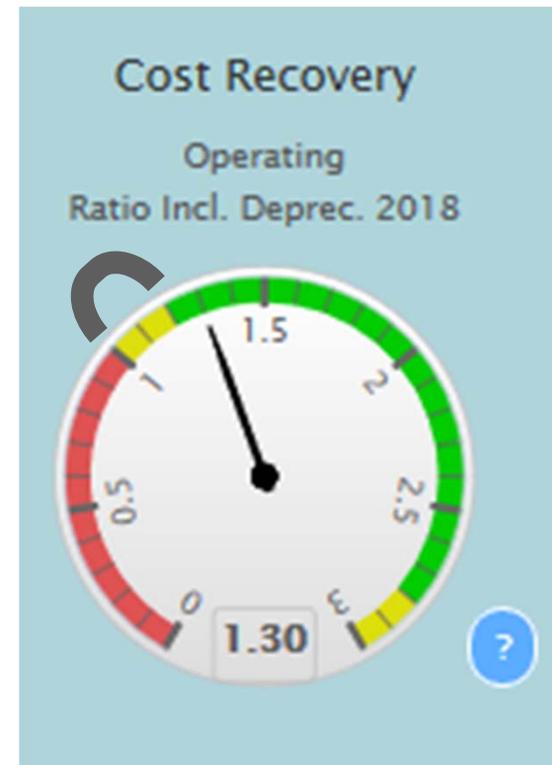




# Dial: Cost Recovery

Yellow = revenues are sufficient to cover costs, but could be problematic in long-term

Operating revenues  
Operating expenses  
(including depreciation)

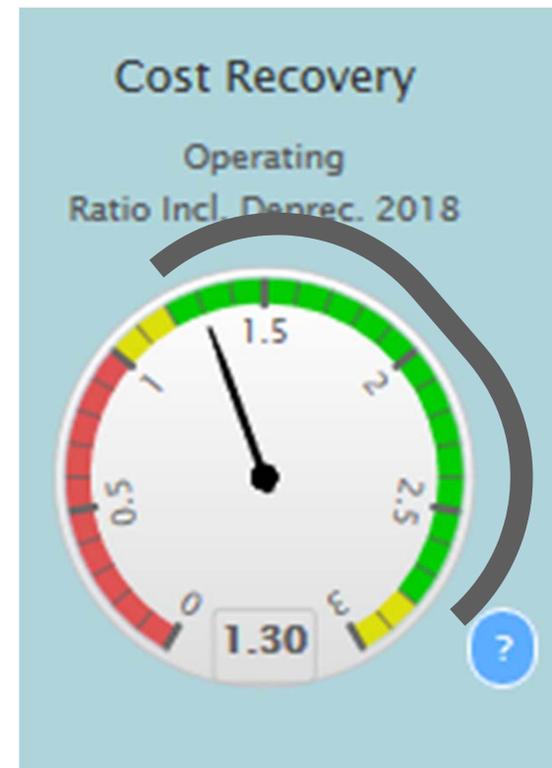




# Dial: Cost Recovery

Green = revenues are likely enough to pay for day to day costs as well as long-term goals

Operating revenues  
Operating expenses  
(including depreciation)

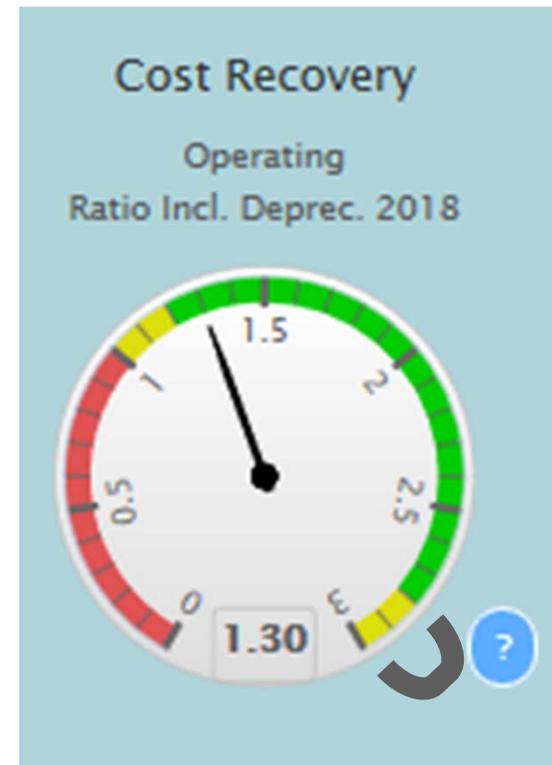




# Dial: Cost Recovery

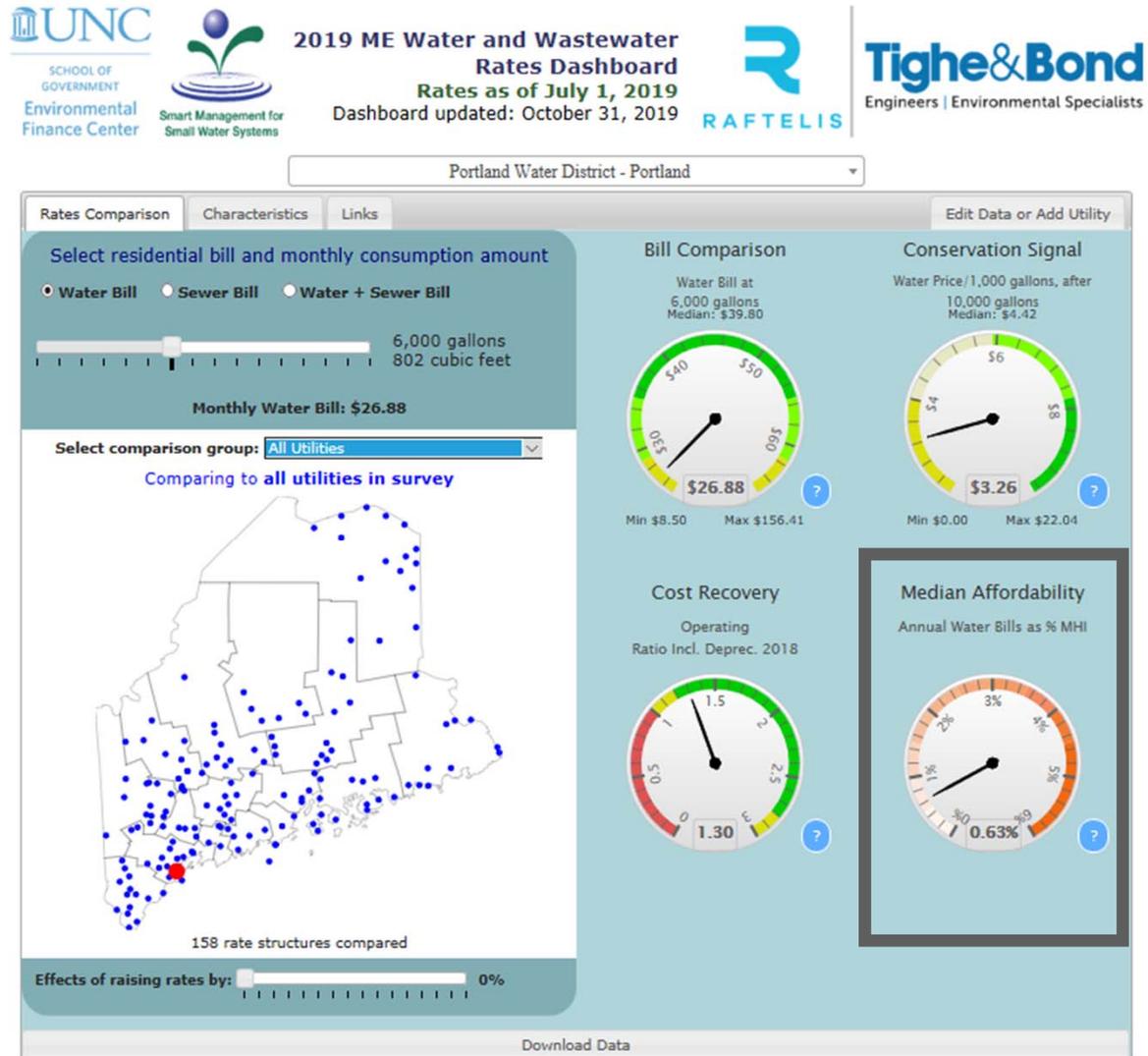
Yellow = revenues may be “too” good

Operating revenues  
Operating expenses  
(including depreciation)





# Anatomy of the Dashboard

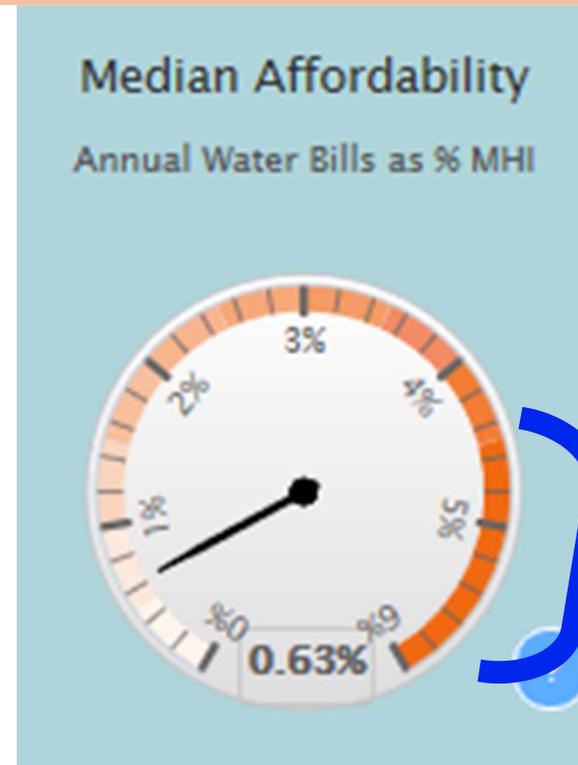




# Dial: Median Affordability

Darker shades of orange indicate a higher percentage of MHI spent annually on bills

The percentage of median household income (MHI) spent annually on water and wastewater bills



Portland Water District - Portland

Rates Comparison Characteristics Links Edit Data or Add Utility

Select residential bill and monthly consumption amount Bill Comparison Conservation Signal

Water Bill

**Affordability**

Annual Bill (Monthly Bill times 12 Months Per Year)  
= Annual Median Household Income

This dial shows what a household making the median level of income in Portland city would spend annually, as a percent of their income, on Water & Sewer using 6,000 gallons per month. Half of the households in the community would be spending a greater portion of their income for these bills.

Raw Data	
Annual Bills	\$1,323.60
Annual MHI	\$51,430

The median affordability metric is often referred to as "percent Median Household Income (MHI)." It is only one of many metrics that can be used to assess affordability. There is no universally accepted definition of what "affordable rates" means and other factors such as poverty rate, income distribution, and fixed income will influence the affordability of rates in a community. The color spectrum reflects that this metric is on a continuum, without any single threshold that dictates what is affordable or unaffordable. The MHI data are derived from the U.S. Census Bureau's 5-year American Community Survey estimates for 2013 - 2017 MHI (in 2017 dollars).

For a more comprehensive look at affordability in your community using multiple metrics, use our [Residential Rates Affordability Assessment Tool](#)

For more information about percent MHI, including considerations about its assumptions, [read this blog post about Percent MHI Indicator](#)

Ok

Effects of raising rates by...

Download Data

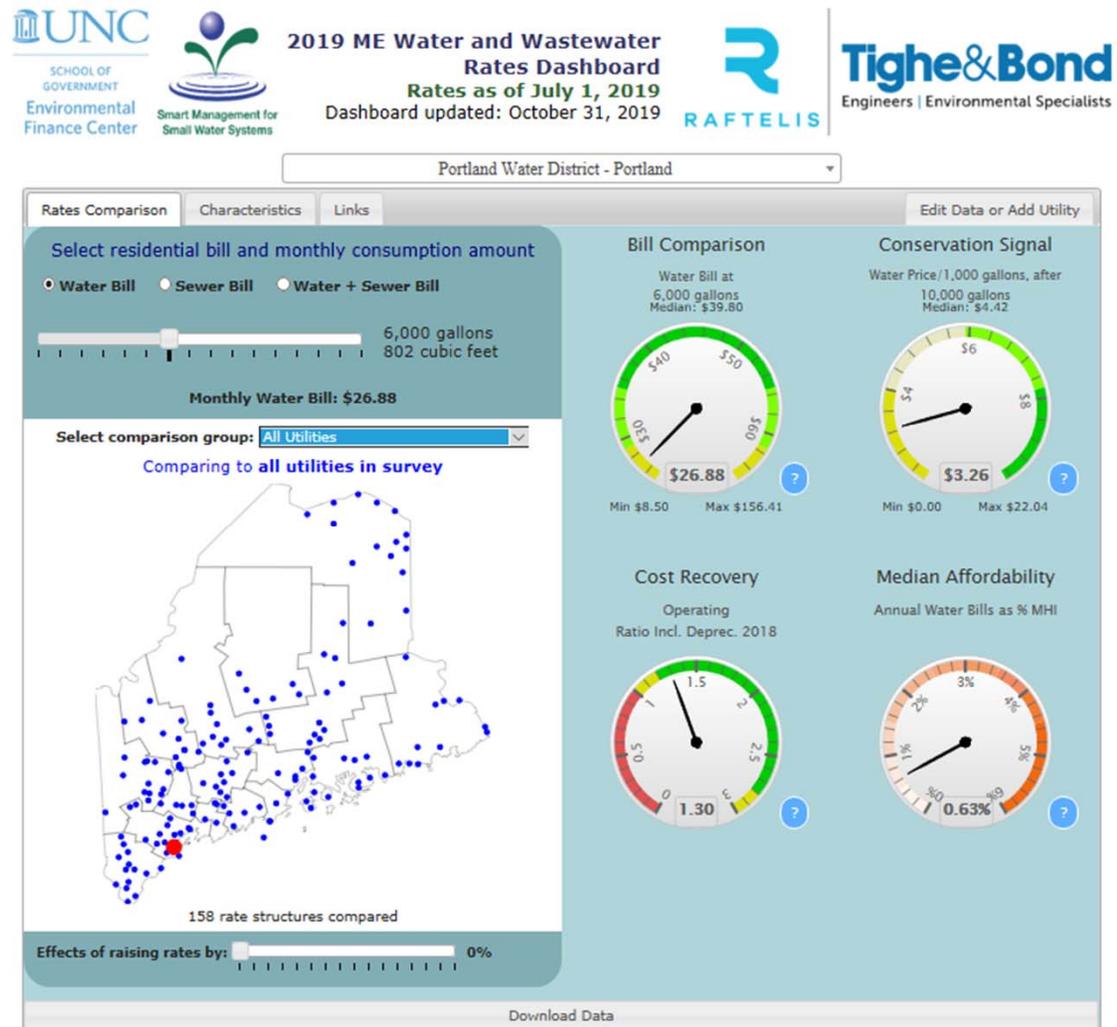


## Other Tabs and Additional Interactive Features!!

Other features include:

- Characteristics tab
- Links tab
- Edit data or add utility
- Comparison Groups
- Effects of raising rates
- Download data

[Link for Presentation](#)





Before we go...



# Two Favors and a Reminder

- Please fill out an eval form for us before you leave
- Please leave the polling device on the table
- Contact us anytime for direct technical assistance on any finance and management topic of our project



# Thank you!

In case you need to contact me:

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[Thompson@sog.unc.edu](mailto:Thompson@sog.unc.edu)