

A blue-tinted photograph of industrial machinery, possibly a water treatment plant, featuring large pipes and valves.

Workforce Planning

Glenn Barnes

Environmental Finance Center

The University of North Carolina at Chapel Hill

919-962-2789

glennbarnes@sog.unc.edu

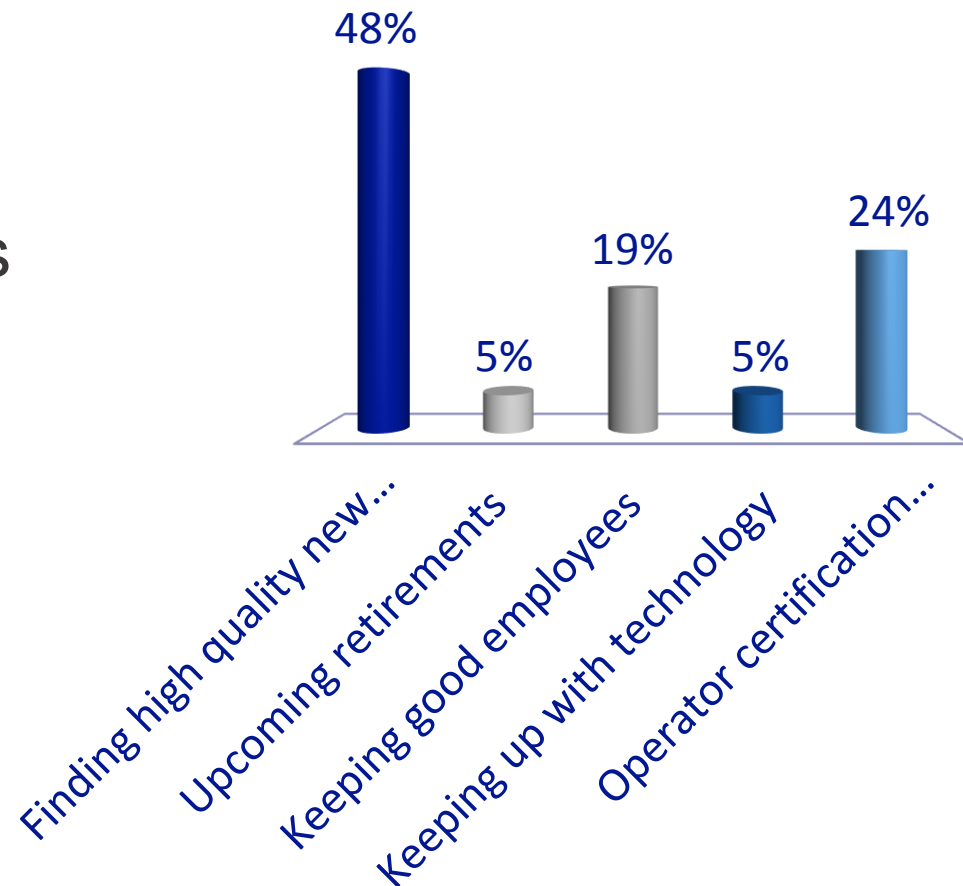


Who will replace your best colleagues when they leave?

Who will replace you?

Your biggest workforce concern?

- A. Finding high quality new employees
- B. Upcoming retirements
- C. Keeping good employees
- D. Keeping up with technology
- E. Operator certification requirements



A blue-tinted photograph of industrial machinery, possibly a conveyor system or manufacturing equipment, serves as the background for the top portion of the slide.

Workforce Development Process

- Review your workforce
- Identify who's leaving
- Consider changes in your needs
- Analyze skill gaps
- Find new people



Workforce Development Process

- **Review your workforce**
- Identify who's leaving
- Consider changes in your needs
- Analyze skill gaps
- Find new people



Who Works in Water

- What people within your organization work in water? You can make a list
- How critical are these people to your system? How easy will it be to replace them?



Workforce Development Process

- Review your workforce
- **Identify who's leaving**
- Consider changes in your needs
- Analyze skill gaps
- Find new people

Are you ready for people to leave?

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



Human Capital Criticality

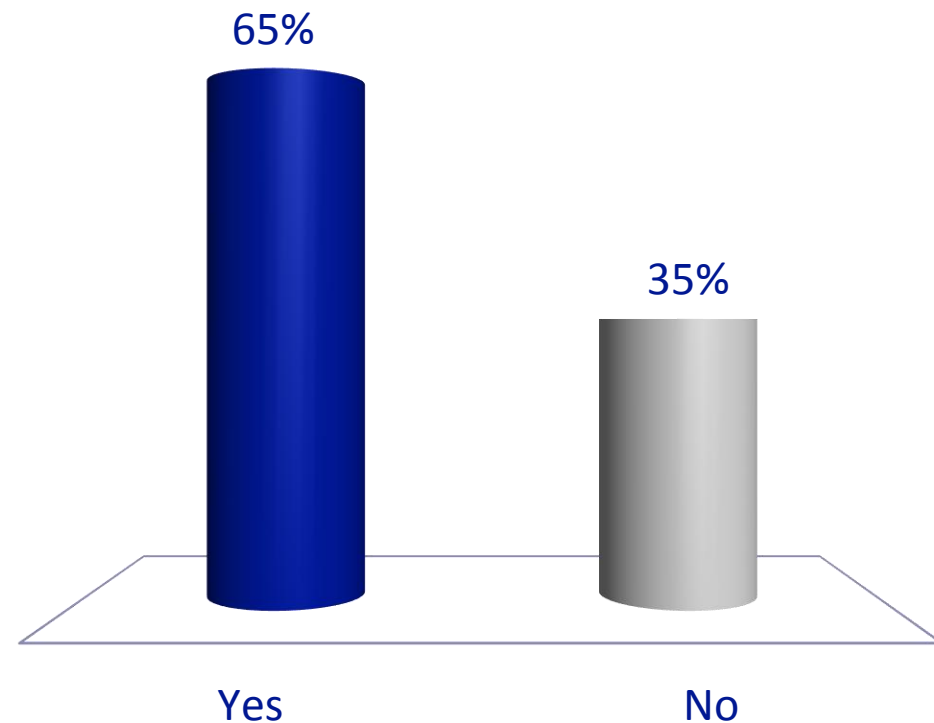




Are you confident that there is someone working for GWA now that could replace you?

A. Yes

B. No





Workforce Development Process

- Review your workforce
- Identify who's leaving
- **Consider changes in your needs**
- Analyze skill gaps
- Find new people



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



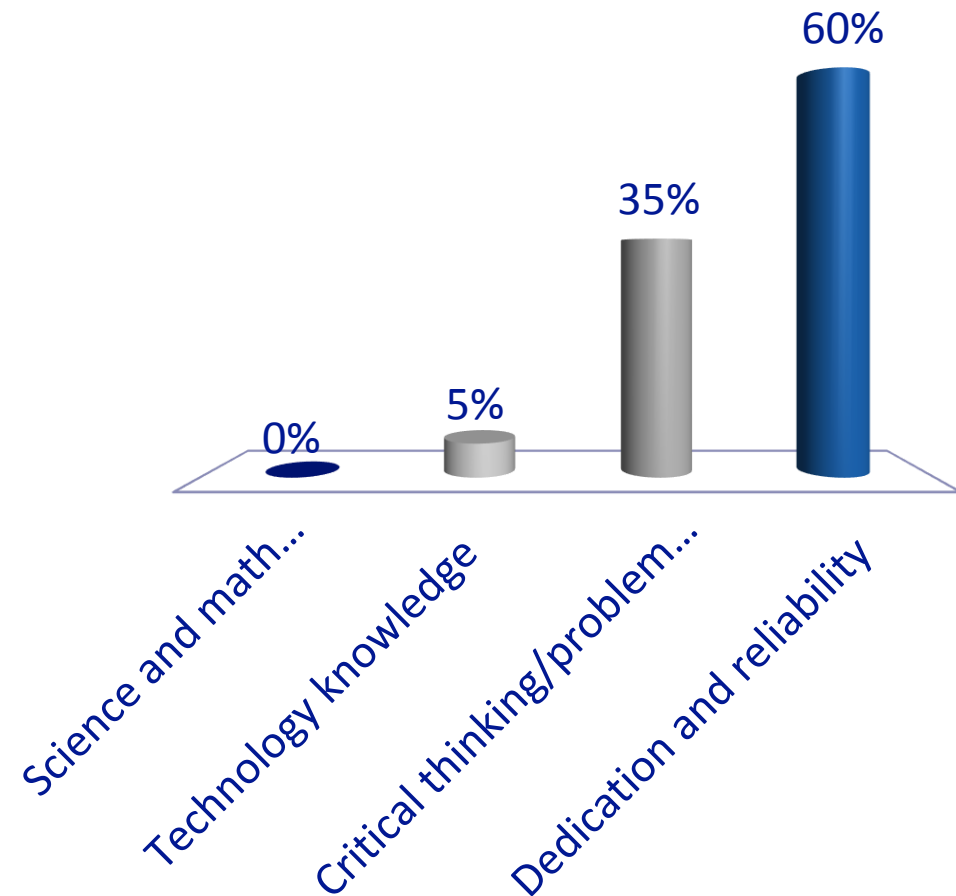
Knowledge, Skills and Abilities Needed by the Employee of the Future

Soft Skills

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

What is the hardest KSA to find?

- A. Science and math knowledge
- B. Technology knowledge
- C. Critical thinking/problem solving skills
- D. Dedication and reliability





Keep in mind...

- Even if you don't have key people leaving, you may need workforce development to make sure your current employees keep up with the changing demands of the water sector



“People worry about paying to train staff who then leave...

...But what happens if we don't pay to train them and they stay?”



Workforce Development Process

- Review your workforce
- Identify who's leaving
- Consider changes in your needs
- **Analyze skill gaps**
- Find new people



Analyze Skill Gaps

Workforce Requirements (Demand)

- Number
- Competencies
- Grades
- Locations

—

Workforce Supply

- Number
- Competencies
- Grades
- Locations

=

The Human Resource Gap

A blue-tinted photograph of industrial machinery, possibly a large pipe or valve, serves as the background for the top portion of the slide.

Workforce Development Process

- Review your workforce
- Identify who's leaving
- Consider changes in your needs
- Analyze skill gaps
- **Find new people**



Creating Interest in Water Careers



**WE ARE
HIRING**

COME CHANGE THE WORLD WITH US





It's important to understand
why and how people get into
the water business



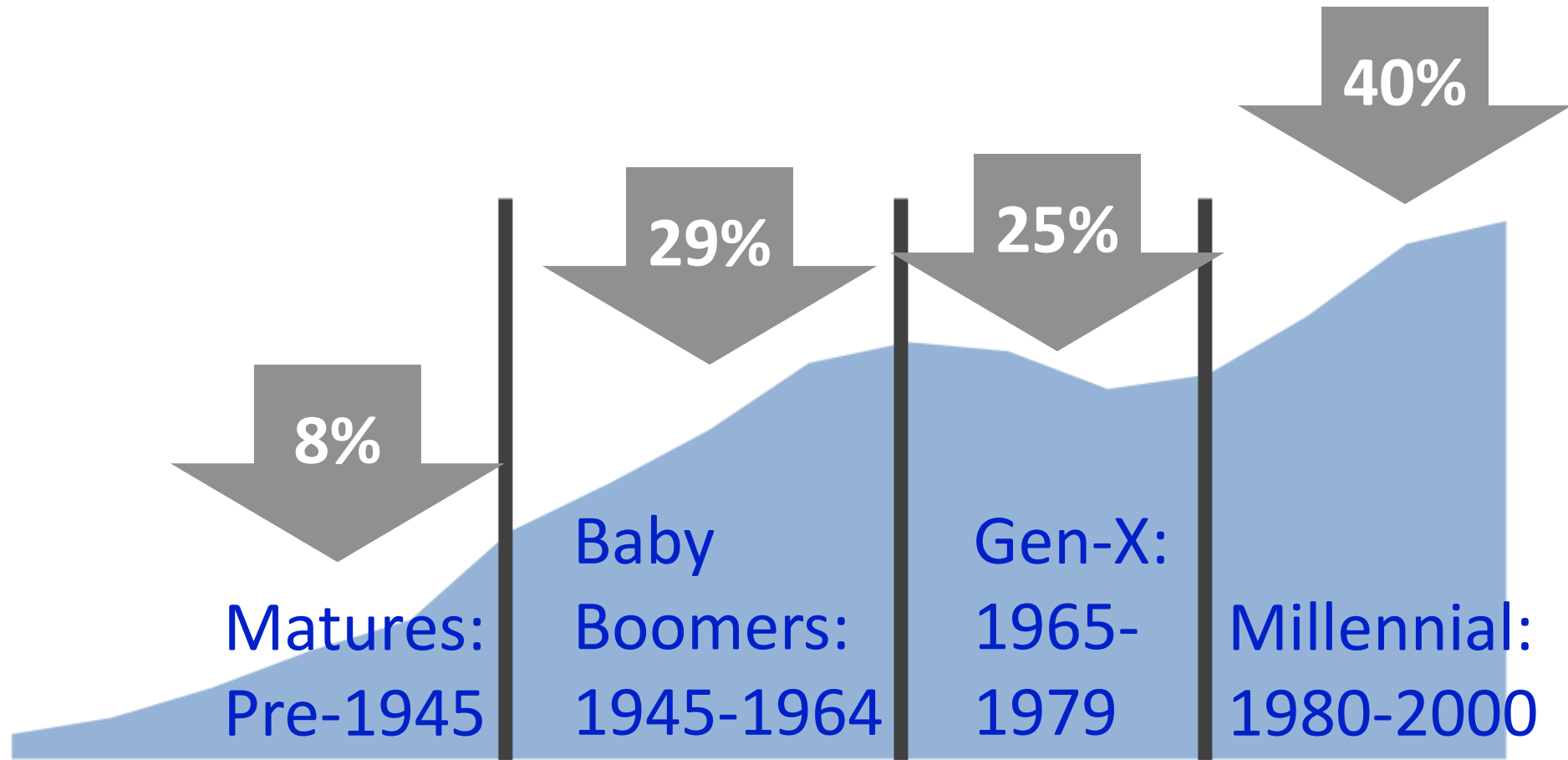
Who Works in Water

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



Demographics

Guam Population Today



Source: 2010 Census



People are not necessarily
aware of jobs in the water
sector



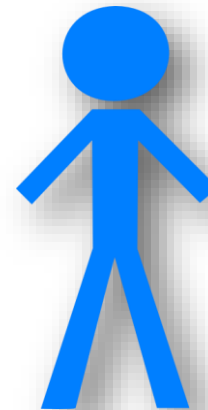
Public
Service



Environmental
Stewardship



High-Tech
Nature



Personal
Benefits

Public Service

We need
water to
live





Meaningful, Important Work

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



2015 New York Water Environment
Association Survey



Environmental Stewardship



We Are Committed to Sustainable Business Practices

The Middlesex Water family of companies is committed to the support of sustainable business practices that reflect responsible water and wastewater management. As a provider of water and wastewater services, we look to continuously improve our environmental performance through economically sound, ecologically sensitive, and technologically practical processes.

70% of the Earth is water. From seas to lakes, to rivers and creeks, water is everywhere. Valuing water means valuing our future.

– Value of Water Coalition

High Tech Nature



Nano Filtration Membrane
System
(Pilot Butte, Saskatchewan, Canada)



The Aqua Drone
(VITO)



SCADA with remote access
(Shrader Engineering)

Personal Benefits



How to Find Good Employees



Employee Referral Program

CONVALL 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 on their application when they apply.
For each referral who is hired, you will receive a \$150 bonus. Bonus

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



Cast a Wide but Targeted Net



**Professional
Organizations**



K-12 Outreach Opportunities



High school
internship
(The Urban Water
Institute, KSU)



Kid's Camp
(City of Fresno Water
Division)



In school programming
(Jacksonville Electric
Authority)

Post-Secondary Outreach Opportunities



INTERN PROGRAM

Inland Empire Utilities Agency provides college students (undergraduate or graduate level) or an individual who has graduated from an accredited college or university the opportunity to explore a wide range of career paths within a regional wastewater treatment agency. Interns are assigned to an Agency department for a specific period of time to learn the administration and operation of the Agency. Assignments may include general administrative duties as well as working on special projects.

Professional/Mid-Career Outreach Opportunities



What Is The Citizens' Academy?

The City of Richmond Department of Public Utilities (DPU) Citizens' Academy is a four-week program that provides Richmond citizens an inside look at the operations of DPU. Participants will be introduced to the five utilities DPU operates: natural gas, water, wastewater, stormwater, and electric streetlighting. Tours of various DPU facilities and demonstrations of equipment will be conducted. This program will provide citizens an opportunity to ask questions about the department's operations.

Employing Veterans: Programs & Funding



[National Association of State Approving Agencies \(NASAA\)](#)



[U.S. Department of Labor Veterans' Employment and Training Service \(VETS\)](#)



EPA

United States
Environmental Protection
Agency



From M.O.S. to J-O-B

A Guide for
Applying Military
Occupational Specialties
(M.O.S.) to Civilian
Drinking Water and
Wastewater Operations





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.

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



Work for Water Great Careers for a Great Cause

About Us Jobs Utilities Publications and Resources

Search

[Resources for Water Professionals](#) [High School/Votech](#) [College](#) [Military Second Career](#) [Advanced Science](#)

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!

High School/Votech

College

Military Second Career



Workforce Planning

Glenn Barnes

Environmental Finance Center

The University of North Carolina at Chapel Hill

919-962-2789

glennbarnes@sog.unc.edu