

Water Workforce Action Plan Executive Summary

March 2026 / FINAL



OKLAHOMA
Water Resources Board



US Army Corps
of Engineers®



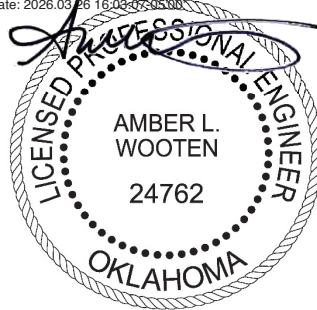


Water Workforce Action Plan Executive Summary

March 2026 / FINAL

Visit the OWRB Water Planning website for the latest information.
<https://oklahoma.gov/owrb/water-planning.html>

Digitally signed by Amber L. Wooten
Contact Info: Carollo Engineers, Inc.
Date: 2026.03.26 16:09:07-0500



Contents

OVERVIEW	1
Purpose and Background of the Water Workforce Action Plan	1
Process for Developing, Maintaining, and Implementing the WWAP	1
STRATEGY AREAS	1
Attracting New Workers	2
Retaining Existing Workers	2
Developing the Workforce	3
WWAP ACTIONS	4
Summary	4
Prioritized Actions	4
REFERENCES	5

Appendices

APPENDIX A	ACTIONS
APPENDIX B	ACTION FACT SHEETS

Abbreviations

EPA	Environmental Protection Agency
EUM	Effective Utility Management
ID	identification
K-12	kindergarten through 12th grade
OCWP	Oklahoma Comprehensive Water Plan
NRWA	National Rural Water Association
ODEQ	Oklahoma Department of Environmental Quality
ORWA	Oklahoma Rural Water Association
OWC	Oklahoma Workforce Commission
OWRB	Oklahoma Water Resources Board
SB621	Oklahoma Workforce Transformation Act
STEM	Science, Technology, Engineering, and Mathematics
US	United States
WANTO	Women in Apprenticeship and Nontraditional Occupations
WWAP	Water Workforce Action Plan

OVERVIEW

Purpose and Background of the Water Workforce Action Plan

The Water Workforce Action Plan (WWAP) was developed through a multi-agency collaborative effort in conjunction with the 2025 update to the Oklahoma Comprehensive Water Plan (OCWP). Oklahoma's water workforce helps communities have safe drinking water and provides other vital water services that protect public health throughout the state. This sector is facing increasing challenges regarding the recruitment, training, and retention of employees. One-third of water and wastewater operators in the United States (US) will be eligible to retire over the next 10 years (Environmental Protection Agency [EPA], 2020), and more specialized training is required for industry roles with the adoption of advanced treatment technologies. **The overarching goal of the WWAP is to identify and remove barriers that prolong the critical and unprecedented staff shortage in the water workforce.**

Inspired by the EPA's *America's Water Sector Workforce Initiative: A Call to Action*, the WWAP identifies the challenges regarding the decline in this workforce sector and builds collaborative responses to them. The WWAP is an ongoing process, meaning that its Actions will be updated, completed, and added as progress continues and conditions change. This report provides an orientation to the plan and an overview of its key components, and documents the Actions initially identified as of July 2025. The WWAP can help prepare and position Oklahomans to address the increasingly challenging water quality and supply needs through building a stronger water workforce.

Process for Developing, Maintaining, and Implementing the WWAP

The Oklahoma Water Workforce Work Group was formed in 2022 to support the development of the WWAP. Although the WWAP was initiated by the Oklahoma Water Resources Board (OWRB) in conjunction with development of the 2025 OCWP,

the very nature of Oklahoma's water workforce involves stakeholders with multiple viewpoints, authorities, and responsibilities. WWAP is by necessity a collaboration between entities, not specific to OWRB or any single entity. Work Group members included representatives from the following organizations.

- City of Enid
- City of Norman
- City of Oklahoma City
- Hughes Rural Water District #6
- Midwest City Public Works
- Oklahoma Rural Water Association (ORWA)
- OWRB
- Oklahoma Department of Environmental Quality (ODEQ)
- Oklahoma Municipal League
- Tulsa Metropolitan Utility Authority

This workgroup met several times from July 2022 through February 2025 to develop the structure and initial actions in the WWAP. It is anticipated that the Work Group will continue to meet periodically to update actions in the plan and add new actions as appropriate. Work Group membership may expand as this process continues to evolve.

STRATEGY AREAS

Three strategy areas were identified as the fundamental basis for the successful growth of the water workforce in Oklahoma. Each of these strategy areas is described in further detail in the following subsections of this report.

 **Attracting New Workers**

 **Retaining Existing Workers**

 **Developing the Workforce**

Attracting New Workers

The Attracting New Workers strategy area focuses on how the water industry can recruit and maintain a consistent stream of incoming water industry employees.

Developing a pipeline of workers is more important now than ever due to current staff shortages within the industry and the need for succession planning. Water and wastewater services are critical to public health, but associated careers are not as highly regarded or well-publicized relative to other essential workers such as healthcare professionals or emergency responders. Industry specific recruitment is limited, and water curriculum/ programs in kindergarten through 12th grade (K-12) and vocational schools are not widespread. Even when these opportunities are available, the low visibility of the water industry hinders knowledge sharing of these opportunities. The water industry further disadvantages those who already have limited industry representation (e.g., first generation students, individuals with low income, veterans, people of color, women, and the LGBTQIA+ community), because of limited financial aid opportunities for education and training.

Goals for this strategy area are reflected in the successes that current partnerships have had or are currently pursuing. These successes include knowledge sharing; water industry awareness and visibility to the public; water industry career opportunities; and pathways to funding sources. For instance, the [Oklahoma Strategic Alliance](#) (established in 2019) formed with the goal of supporting rural and small community water systems through support of updated infrastructure, improved operations and management, and sustainability efforts. Upon formation, the Alliance brought attention to issues that small water systems are experiencing, and empowered water providers to more effectively make system improvements as technical, legal, and financial resources are maximized to achieve industry goals.

Partnerships with entities that are outside of the water industry are also making a positive impact on the water workforce. For instance, East Central

University in partnership with the EPA, ORWA, and the Oklahoma Water Survey developed "[EdPass-H2O](#)," a K-12 Science, Technology, Engineering, and Mathematics (STEM)-based curriculum framework that provides students foundational knowledge and awareness of water industry issues, career-related opportunities, and pathways into the industry.

Examples of other agencies that water industry organizations could potentially benefit from partnering with are the US Department of Education, US Department of Veteran Affairs, US Department of Labor, and tribal nations. Through partnership with these organizations, the water industry can improve its visibility and funding opportunities for those that have limited industry representation. Other means of increasing industry visibility include the development of public outreach campaigns, promotion of industry activities via press outlets, and conducting water celebrations.

Retaining Existing Workers

The Retention strategy area focuses on how the water industry can keep employees within organizations and the water sector.

As many water workers transition into retirement, retaining the remainder of the water workforce becomes more imperative. This is the case for all water organizations, but especially for small water supply systems as most rely on institutional knowledge that is transferred from one generation to another. Many of these systems do not have their infrastructure mapped and their equipment may be outdated, so operations cannot easily be transferred without extensive training and system-specific experience. Employee retention in these systems is paramount for system operations to continue, but it is difficult when employees do not see opportunities for career growth; have limited access to professional development opportunities; can move to another industry for higher wages; lack culture and inclusion in the workplace; and/or do not have interest in the industry. **Broad goals for this strategy area include developing a clearer understanding of employees' compensation needs; enhancing onboarding efficiency; increasing**

access to professional development training; and developing industry wide progression and promotional programs.

High wages and comprehensive benefits have traditionally been thought to be the only form of employee investment needed for a successful workforce. However, some employers are finding that they need to provide a more well-rounded compensation package if career-driven employees are desired. Many employees are now seeking a workplace environment with culture, opportunities for professional and personal growth, diversity and inclusion, on-the-job training and education, tuition reimbursement, and a sense of purpose. The implementation of these compensation items can be balanced with a system's long-term business and customer needs through [Effective Utility Management](#) (EUM). Workforce is one aspect of EUM. Broadly, EUM can be used to identify areas of improvement and create action plans which strive to balance available resources and needs.

Another way to improve retention is to streamline onboarding. Some utilities have reported that it can take weeks to months for new hires to begin work because of their current hiring process, which potentially drives turnover and weakens institutional trust. Experienced staff must take on additional responsibility for training new employees via the shadow method if they do not have training programs in place.

A few utilities in Oklahoma have noted success in transitioning to a more efficient hiring process and formalizing their new hire training with standards of practice, other written materials, and online training. They have done this with limited industry guidance and resources. Many systems do not have the staffing or technical assistance readily available for program development, so they must seek additional funding for this service. Individual utilities could more readily develop these materials independently if they were given industry guidance, depending on staff availability and their skill sets. It is unrealistic for one agency or organization (e.g., EPA, OWRA, ODEQ, etc.) to develop a universal program since each system is unique, but each could advertise utility success stories and bring more resources to the table for system implementation.

Developing the Workforce

The Developing the Workforce strategy area focuses on how a utility can best serve its customers through investment in its workforce. The primary barrier in this area is the data gap with respect to water workforce wage information and staffing needs in Oklahoma. This barrier affects all three strategy areas discussed in this report, as workforce issues such as position vacancies and non-competitive wages are informally discussed and not completely understood. Further definition of these issues could allow for the development of targeted responses so that available resources are used most effectively. **Therefore, the primary goal associated with this strategy area is to gather beneficial data to better understand how to invest in the water workforce.**

Examples of beneficial data have been cited as title (i.e., system manager, operator, bookkeeper, etc.), salary (annual or hourly), age and other demographic data, fringe benefit data (e.g., retirement, vehicle, medical, dental, etc.), number of unfilled positions today, current number of employees that are at retirement age, and current number of employees eligible to retire within the next 5 to 10 years.

However, in the past, collection of this type of data has been difficult. For instance, as a part of 2025 OCWP efforts, water workforce questions were released within the initial publication of the Water Supply and Infrastructure Needs Survey but received a low response rate. The [National Rural Water Association \(NRWA\)](#) collected some workforce data through a survey conducted in 2024. The EPA included a few workforce questions in their 2023 Drinking Water Infrastructure Needs Survey. Results have not yet been released from NRWA's survey, and the EPA's depth and breadth of workforce survey questions were minimal. Consequently, developed Actions must be designed to address this identified barrier. Another potential avenue for data collection would be through partnership with the Oklahoma Workforce Commission (OWC). In June 2023, Governor Kevin Stitt approved the Oklahoma Workforce Transformation Act ([SB621](#)), creating the OWC

and giving it purpose, power, responsibilities, and duties. If a water workforce advocate were to be involved, the work done by this Commission could have potential to reshape the water industry since it can distribute funding and collect workforce data.

WWAP ACTIONS

Summary

WWAP Actions were developed for each strategy area. The initial list of WWAP Actions is provided in Appendix A. As previously noted, WWAP Actions comprise a "living" database that will be periodically updated and maintained as Actions are completed and new Actions are identified, especially if the workgroup continues.

The WWAP Actions database includes the following fields.

- **Identification (ID) Number:** For ease of reference, each Action has an ID number linked to its strategy. The ID numbers are provided with a numeric tag solely for reference, not implying any priority or order of implementation.
- **Priority:** Relative importance of the Action toward meeting the Goals for the Focus Area, scored 1 (high) through 5 (low). A score of 1 indicates an urgent Action, 3 represents moderate importance, and 5 indicates low priority.
- **Level of Effort:** Relative effort required to complete the Action, scored 1 (low) through 5 (high).
- **Target Initiation Timeline:** Goal for when the Action should be initiated. Options include less than 2 years, 3 to 5 years, and more than 5 years.

Prioritized Actions

A list of nine prioritized Actions for initial implementation was identified by the workgroup. Typically, these are high relative priority (designated as 1 or 2 on the 1 to 5 priority scale), and low to moderate relative level of effort (designated as 1, 2, or 3 on the 1 to 5 level of effort scale). A fact sheet for each of the prioritized Actions is provided in Appendix B, summarizing key aspects of the Action.

The following nine Actions were identified as implementation priorities using these criteria.

- **A-01:** Develop Water Profession Fact Sheet(s)
 - A brochure outlining various water professions was developed under this action for online and print distribution (Appendix B.2).
- **A-07:** Develop Women in Apprenticeship and Nontraditional Occupations (WANTO) Grant Partnerships
- **A-10:** Participation in a Local Event or Celebration
- **A-11:** Develop and Distribute K-12 Water Curriculum
 - A brochure outlining various K-12 water education resources for teachers was developed under this action for online and print distribution (Appendix B.6)
- **D-01:** Gather and Compile Oklahoma Water Workforce Information
- **D-02:** Develop Training for Effective Utility Management
- **D-04:** Connect with the Oklahoma Workforce Commission
- **D-05:** Develop a Water Workforce Coalition
- **D-06:** Declare a "Water Sector Professional Career Day"
- **R-04:** Develop Operator Training Course

REFERENCES

- Adams, Hunter, et al. April 2023. *The Future Workforce of the Environmental Laboratory*.
<https://doi.org/10.1002/awwa.2067>.
- American Water Works Association. 2019. *Recruiting, Hiring & Retaining Veterans*.
- American Water Works Association. 2022. *AWWA Utility Benchmarking: Performance Management for Water and Wastewater 2021*.
- American Water Works Association. 2022-2025. *State of the Water Industry Report*.
<https://www.awwa.org/state-of-the-water-industry/>
- Brumley, Jessica, et al. 2022. *Educational Program on Awareness, Sustainability, and Service in Water/Wastewater (EdPASS-H2O)*.
[Role of Academic Institutions in Creating the Water Workforce of the Future](#).
- City of Oklahoma City. "Proclamation and Citation Request."
[Proclamation and Citation Request | City of OKC](#).
- City of Tulsa. "Proclamation/Letter of Congratulations Application Form."
[Bartlett \(cityoftulsa.org\)](#).
- Huber, Brianna. April 2021. "Supporting Women in the Water and Sanitation Sector."
<https://doi.org/10.1002/awwa.1696>.
- Igielski, Sara, et al. 2024. *Reworking the Workforce: What the water sector must do to recruit and retain front-line staff*. Water Leadership Institute - Water Environment Federation.
- Kane, Joseph W. and Tomer, Adie. June 2018. "Renewing the water workforce: Improving water infrastructure and creating a pipeline to opportunity."
[Renewing the water workforce | Brookings](#).
- Meek, Emily. May 2022. "They Say Women Drink Water Too."
<https://doi.org/10.1002/awwa.1907>.
- Mulki, Sapna and Stone-Sabali, Steven. January/February 2021. "Recruit with Diversity and Inclusion in Mind." <https://doi.org/10.1002/awwa.1646>.
- Oklahoma Department of Environmental Quality. "Water Quality Division – Operator Certification."
[Operator Certification - Oklahoma Department of Environmental Quality](#)
- Oklahoma Works. 2019. "Governor's Council for Workforce and Economic Development Strategic Plan."
[Governor's Council for Workforce and Economic Development Strategic Plan \(oklahoma.gov\)](#).
- Oklahoma Rural Water Association. 2024. "Apprenticeship Program."
[Apprenticeship Program - Oklahoma Rural Water Association \(orwa.org\)](#)
- Oklahoma State Senate. "Oklahoma Workforce Transformation Act, SB 621, 2023."
[SB621 ENR.PDF \(state.ok.us\)](#).
- State of Oklahoma – Office of the Governor. "Commendation or Proclamation Request."
[Commendation or Proclamation \(oklahoma.gov\)](#).
- State of Oklahoma. 2023. "Report on the Workforce Transformation Task Force."
[WorkforceTransformationReport-Final.pdf \(oklahoma.gov\)](#).

EPA and Department of Agriculture. 2016. "Workshop in a Box: Sustainable Management of Rural and Small Systems Workshops."

[Workshop in a Box: Sustainable Management of Rural and Small Systems Workshops \(epa.gov\).](#)

EPA, et al. 2017. "Effective Utility Management: A Primer for Water and Wastewater Utilities."

[Effective Utility Management A Primer for Water and Wastewater Utilities \(epa.gov\).](#)

EPA. 2018. "Moving Toward Sustainability: Sustainable and Effective Practices for Creating Your Water Utility Roadmap."

[Moving Toward Sustainability: Sustainable and Effective Practices for Creating Your Own Water Utility Roadmap \(epa.gov\).](#)

EPA. 2020. "Water Utilities as Anchor Institutions: Impacting the equity, social, and economic fabric of communities and regions."

[Water Utilities as Anchor Institutions: Impacting the equity, social, and economic fabric of communities and regions \(epa.gov\).](#)

EPA. 2020. "America's Water Sector Workforce Initiative: A Call to Action."

[America's Water Sector Workforce Initiative \(epa.gov\).](#)

EPA. 2021. "Pipeline to a Sustainable Workforce: A Report on Decentralized/Onsite Wastewater Occupations."

[Pipeline to a Sustainable Workforce: A Report on Decentralized/Onsite Wastewater Occupations \(epa.gov\).](#)

EPA, et al. 2022. "Making Water a Career Choice: A Compendium of Water Workforce Case Studies from Across the Country."

[Workforce Case Studies: A Compendium of Workforce Initiatives and Programs from Across the Country \(epa.gov\).](#)

EPA. 2020. "America's Water Sector Workforce Initiative: A Call to Action."

[America's Water Sector Workforce Initiative \(epa.gov\).](#)

US Department of Labor. "WANTO Grant Program."

[WANTO Grant Program | U.S. Department of Labor \(dol.gov\).](#)

US Government Accountability Office. 2018. "Water and Wastewater Workforce: Recruiting Approaches Helped Industry Hire Operators, but Additional EPA Guidance Could Help Identify Future Needs."

[GAO-18-102, Water and Wastewater Workforce: Recruiting Approaches Helped Industry Hire Operators, but Additional EPA Guidance Could Help Identify Future Needs.](#)

Water Environment Federation. 2021. *Compendium of Successful Water Workforce Practices.*



APPENDIX A **ACTIONS**

OCWP Water Workforce Action List

- A Attracting New Workers
- R Retaining Existing Workers
- D Developing / Advancing Workforce
- FA Proposed Future Action

- **Priority:** Relative importance, scored 1 (high) through 5 (low). 1 = urgent, 3 = moderate importance, 5 = low priority.
- **Level of Effort:** Relative effort required to complete the Action, scored 1 (low) through 5 (high).
- **Target Timeline:** Goal for time to complete the Action. Options include <2 years, 3-5 years, >5 years.

OCWP Water Workforce Action List

ID	Description	Action Plan Developed?	Status	Priority (1 high - 5 low)	Level of Effort (1 low - 5 high)	Target Initiation Timeline (years)	Lead Agency / Entity	Working Notes
A-01	Develop fact sheets that utilities and professional societies can use (and modify) as a recruiting tool.	Yes	Ongoing	1	2	<2	OWRB	It will describe various water careers, education/training requirements/options, and how to get more information. In future, consider creating variations on this brochure that focus specifically on attracting Veterans, Women, Nontraditional, and other groups.
A-02	Provide resources, update labor policies, etc. to allow for water sector job shadowing/internship opportunities for students while they are still in high school.	No		4	5	3-5	TBD	Due to young age of students, labor laws, & insurance requirements, this can be difficult to allow at certain businesses.
A-03	Develop water-centric activities to use as part of proposed Water Sector Professional Career Day.	No		1	5	3-5	TBD	Can it fit within the OK education standards? "the employer can increase job satisfaction by allowing employees to own projects they care about and coordinate with the organization's goals... [an] employee might be internally motivated to teach and inspire other people. This person might be a good utility representative in public school classrooms or an employee training environment."
A-04	Develop brochure that provides information to utilities about existing job posting sites, hiring resources, water activities for students, etc.	No		2	2	<2	OWRB	Is this something that would be helpful? Do people know where to advertise and to find available resources, but just can't find people? Utilize the research completed so far to develop a resources list?
A-05	Create scholarship opportunities for those coming into the water sector (testing, training, apprenticeship programs, etc.).	No		2	5	>5	TBD	Who would "give" scholarships? What are criteria? What about a "reimbursement" scholarship after certification is obtained?
A-06	Create an Oklahoma specific Water Operator Hiring and Contracting Guide, similar to US EPA document.	No		2	3	3-5	TBD	https://www.epa.gov/dwcapacity/water-operator-hiring-and-contracting-guide
A-07	Develop partnerships with OK stakeholders to apply for the WANTO grant, specifically for those in the water workforce sector.	Yes		1	2	<2	TBD	https://www.dol.gov/agencies/wb/grants/wanto
A-09	Promote existing water activities in OCWP newsletter and Facebook page.	N/A	Ongoing	1	1	<2	TBD	We are including upcoming activities in the OCWP newsletter and may be able to include some (all) on OWRB social posts. What is the best way to get upcoming activities?
A-10	Participate in a Water Day or Festival or "add" a water component to another local festival.	Yes		1	3	<2	TBD	
A-11	Develop water/wastewater/stormwater curriculum for K-12 schools and assist in its integration statewide.	Yes	Ongoing	1	5	>5	TBD	

ID	Description	Action Plan Developed?	Status	Priority (1 high - 5 low)	Level of Effort (1 low - 5 high)	Target Initiation Timeline (years)	Lead Agency / Entity	Working Notes
D-01	Gather and compile information about Oklahoma water workforce.	Yes		1	4	<2	OWRB	<p>Define the problem for them with data. Statewide anonymous system survey for more detailed/accurate wage information for the water sector in Oklahoma. Title, salary (i.e. System Manager, Operator, Bookkeeper, etc. \$50K annual or \$hourly), age, fringe benefit data (retirement, vehicle, medical, dental, etc.). Number of unfilled water sector positions as of today? How many current employees are of retirement age? How many employees will be eligible to retire within the next 5-10 yrs? No specific identifying information for employee or utility system.</p> <p>Does Oklahoma Works or Dept of Commerce collect this data?</p> <p>Could this information be gathered by partnering with the Oklahoma Workforce Commission?</p> <p>Included questions on WSINS survey but didn't get great response rate. Considering workforce only survey (similar to OCWP public survey that will be available to everyone and open an extended period)</p> <p>05-18-2024 Meeting Notes: Workgroup Participants think that more survey details could be useful to provide greater insight on recruitment and retention. Include questions regarding management.</p>
D-02	Offer training(s) on Effective Utility Management.	Yes		3	4	<2	OWRB	<p>Consider splitting training by utility size (USDA Rural and Small System Sustainable Utility Management and EPA EUM). Offer training and promote systems that are doing it successfully? What is preventing people from using effective utility management or some other sustainable approach? How do we address this?</p>
D-03	Expand the circuit rider program or "encourage" use of regional operators and maintenance staff.	No		1	5	3-5	TBD	<p>Cherokee Nation is interested in encouraging this and is working on a pilot program (findings within a year or so). View this as a way to improve overall water system O&M, less stress on small system with single operator that can't leave for training, etc.</p>
D-04	Connect with Oklahoma Workforce Commission and/or its Implementation Office with the goal of having water workforce challenges included in the discussion and programs.	Yes		1	2	<2	TBD	<p>Is anyone connected to this group? Who is best to reach out and start the conversation? At minimum, we want to be in the "engage stakeholders" but can we get a more active role?</p>
D-05	Develop an informal partnership between water industry professional organizations, agencies, and utilities to share water workforce knowledge.	Yes	Ongoing - expand our group	1	1	<2	TBD	<p>Is simply knowledge sharing helpful? What is fundamental purpose of this group - grant application, program development/review, something else? (example, https://www.regionalh2o.org/work-in-water)</p> <p>OWRB (member FACT and Strategic Alliance) ODEQ (member FACT and Strategic Alliance) ORWA (member FACT and Strategic Alliance) Tribes OML/OMUP Dept. of Education / Higher Education Institution(s) Oklahoma Workforce Development Board (state and regional) Dept of Commerce Dept. of Veteran Affairs Utilities (large, medium, small, rural) Professional organizations (SWAWWA, OWEA, AWWA, WEF, others)</p>
D-06	Encourage state and local governments to declare a "Water Sector Professional Career" Day.	Yes		1	1	<2	TBD	<p>Define water as an "essential" worker OKC: https://www.okc.gov/Government/Elected-Officials/Mayor/Proclamation-and-Citation-Request State of OK: https://oklahoma.gov/governor/contact/commendation-or-proclamation.html</p>
R-01	Provide template for progression and promotional program for workers.	No		1	3	<2	Individual Utilities	<p>From survey, [utility] created a progression and promotional program for field and administrative positions. Measure of success is employee retention. Feedback from employees has been favorable.</p>
R-02	Online training course development	No		3	5	3-5	TBD	

ID	Description	Action Plan Developed?	Status	Priority (1 high - 5 low)	Level of Effort (1 low - 5 high)	Target Initiation Timeline (years)	Lead Agency / Entity	Working Notes
R-03	Create template/guide for SOP development or handbook for new hires.	No		2	3	<2	Individual Utilities	"A checklist management style really expedites our training of new hires. Before, it took more time utilizing the shadow method only."
R-04	Organize operator training courses/short school, preferably in conjunction with professional organizations.	Yes	Ongoing	1	4	<2	TBD	In conjunction with professional organizations, develop operator training short school/training. Start with Water Operator C license and expand over time to Water A and B licenses as well as Wastewater A, B, and C licenses. This training complements the Maintenance Technologist Training course that OWEA hosts. OWEA also is working on developing Pretreatment training course.
FA-01a	Create water sector employment outreach materials for Oklahoma DVA to disseminate.	No		2	3	>5	TBD	https://cdn.ymaws.com/www.isawwa.org/resource/resmgr/veteraninitiative/employertoolkit080119_awwa.pdf
zFA-01b	Partner with VA-TED to bring veterans into the water workforce.	No		4	5	>5	TBD	Several water jobs are posted on Career One Stop (National Labor Exchange) by Oklahoma agencies/companies. For example, cities of Edmond and Muskogee have a water plant operator posted, Inframark, Veolia, several engineering firms, etc. have positions listed as well. Work with career and educational services counseling for them to advocate for / work with water sector jobs and programs. https://www.va.gov/careers-employment/education-and-career-counseling/
FA-01c	Partner with the DOL Women's Bureau to help increase women's representation in the water sector workforce.	No		3	5	>5	TBD	
FA-01d	Create outreach materials which show success & pathways for adults to come into water sector workforce. (Displaced workers, adults choosing new career path, etc.)	No		3	3	3-5	TBD	
FA-02a	Create a school to work program template.	No		2	5	>5	TBD	ODEQ would need to approve curriculum if used for certification. Education accreditation required too. Concern about who would teach these classes - would utilities be willing to teach? (Example: Kansas City Water program)
FA-02b	Develop an intern package that utilities can use (who to reach out to (school counselors, etc.), materials to provide, typical intern roles/pay, etc.).	No		2	3	3-5	TBD	Goal: Provide more water industry internship programs. Build on ORWA apprenticeship and/or Oklahoma Workforce apprenticeship programs. Expand existing programs? Grant to utilities to help offset intern cost?
FA-04a	Advertise for jobs at a central clearinghouse location (e.g., ORWA, OMUP, or others), and/or create a website for this and house responsibility at a central location.	No		1	3	3-5	TBD	Example: Work for Water - jobs in OK https://www.workforwater.org/states/oklahoma/ Example: AR Be Pro Be Proud links to partner job postings on their website https://www.beprobeproudar.org/
FA-09a	Create a campaign to highlight an individual in the water sector workforce monthly (his/her occupation, path to their occupation, etc.). Broadcast consistently through stakeholder media outlets, websites, news, billboards, etc.	No		3	4	<2	TBD	
FA-09b	Develop a public outreach campaign for the water sector workforce in Oklahoma. Consistent messages created by stakeholder group to be broadcast across Oklahoma on websites, social media, news outlet, TV commercials, Billboards, etc.	No		3	4	<2	TBD	Describe benefits of working in the water industry: consistent stable industry, operator certification is transferrable across the state, generally good benefits (insurance, leave, work schedule, others?), emerging technology. (recent quote - new hires don't care about benefits. Just want to know amount of money going in their pocket.) We don't sell a product; we provide a service. Water is a people business. Provide a years worth of social media content that utilities/agencies can customize (Tahlequah's Fun Fact Fridays).



APPENDIX B **ACTION FACT SHEETS**

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION A-01: DEVELOP WATER PROFESSION FACT SHEET(S)

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: August 2025
Updated By: Carollo

Overview			
Name	A-01: Develop water profession fact sheet(s).		
Strategy Area	<input checked="" type="checkbox"/> Attracting new workers <input type="checkbox"/> Retaining existing workers <input type="checkbox"/> Developing the workforce <input type="checkbox"/> Other	Priority (1 high – 5 low):	1
Summary	Develop fact sheets that utilities and professional societies can use (and modify) as a recruiting tool.		
Timeline	Target Initiation: <2 years		
Lead Agency / Entity	OWRB		
Supporting Agencies / Entities	ODEQ, ORWA, AWWA, OWEA, Individual Utilities		
Anticipated Cost and Funding Source	~\$20,000; Funded by OWRB	Level of Effort (1 low – 5 high):	2
Description			
Drivers	Current and anticipated difficulty in recruiting water industry professionals within the next 5-10 years; Anticipated retirement of many water industry professionals.		
Barriers	Competing with other professional industries that have better pay and benefits; Ascertaining individuals who are passionate about water and career growth within the industry; Limited knowledge on why there are so many position turnovers and vacancies.		
Goals	Create interest in the water industry for career-driven individuals; Eliminate uncertainty and funding barriers regarding pathways into water industry careers.		
Action Description	<p>Action A-01 seeks to compile information regarding existing water industry professions in Oklahoma. Concise fact sheet(s) will be developed by OWRB staff for distribution to municipal and/or industrial water utilities, local educational institutions (e.g., high schools, vocational institutions, universities), and extraneous state/federal agencies (e.g., VA, Oklahoma Works). Anticipated content for initial fact sheet includes description of the role and importance of the water industry in society, and aspirational reasons why individuals should join the industry (e.g. “Help Save the World!”). Identification of various water careers will also be included. Each career listed will have a short role description, average salary information, and its education and/or training requirements. Throughout the sheet, hyperlinks will be provided if individuals are interested in learning more.</p> <p>More detailed fact sheets can be developed in the future for each water industry career identified in the initial fact sheet. These fact sheets will begin with questions to connect the individual to the role (e.g., “Do you like to work with your hands?”, etc.) Additionally, a more in-depth description will be provided of the professional’s responsibilities, education and training requirements, and salary. Additionally, professional development opportunities, education and training requirements, and information on training and scholarship programs (e.g., links, program contact information) will also be provided. Content should be developed in an approachable (i.e., in a flowchart or pictorially) manner when possible.</p>		

Items in Progress			
No.	Action	Timeline	Responsibility
1	Develop a fact sheet describing various water industry professions that provide relevant information.	Jan. / Feb. 2025	OWRB
2			
3			
...			
Next Steps			
No.	Action	Timeline	Responsibility
1	Review fact sheet and provide comments.	Feb. 2025	All
2	Finalize fact sheet. Provide editable format and PDF on OWRB's website. Provide printed copies at OWRB's booths at various conferences. Alert utilities and professional organizations about the brochure.	Feb. 2025 – Sept. 2025	OWRB
3	Determine which careers, if any, to use for more detailed brochure(s).	TBD	All
...			
Reference Documents and Files			

See attached documents.

Are you interested in...



Serving your community?



Supporting a clean environment?

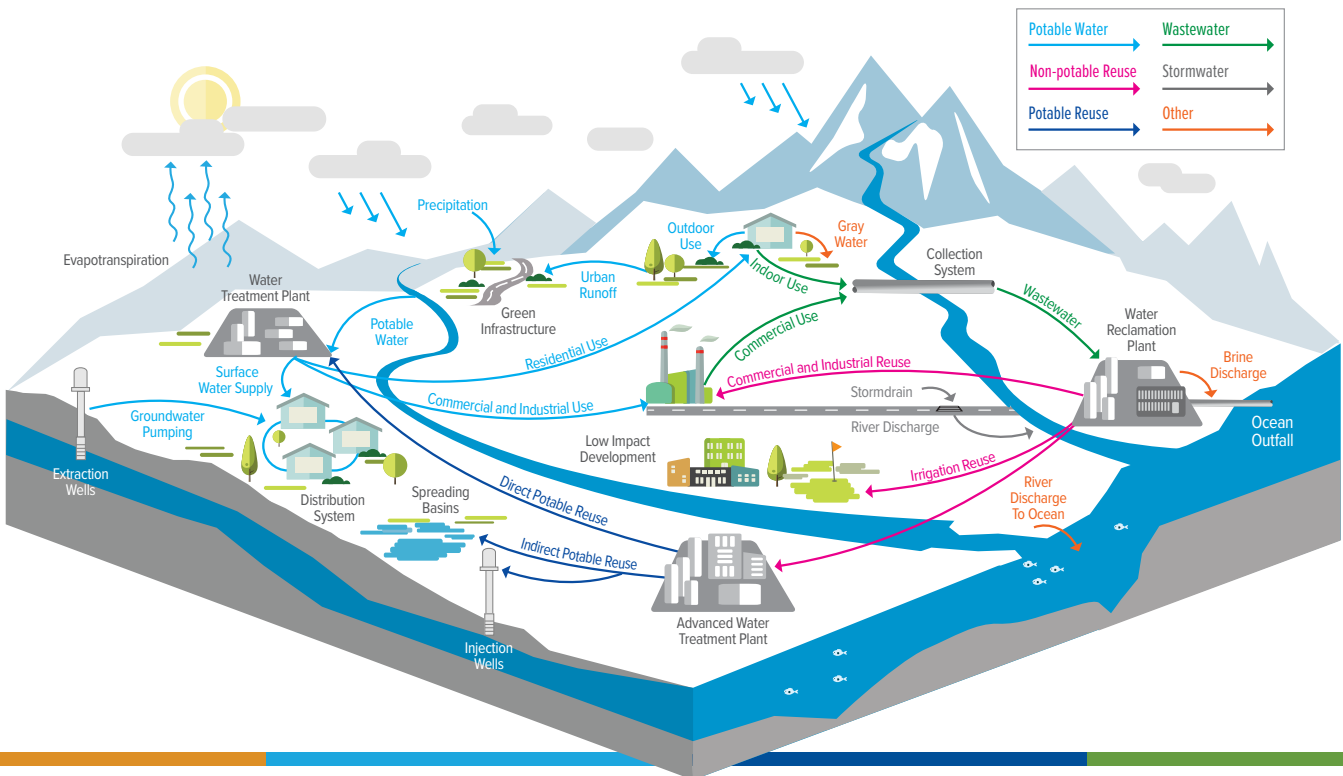



Having a stable, well-paid career?

If “YES”, then joining the Oklahoma Water Workforce might be for YOU!

Oklahoma’s drinking water, wastewater, and stormwater is facilitated by the water workers in our state. Water moves from the environment, either as surface water or groundwater, to towns or cities through precipitation or built infrastructure, and back again in a full life cycle. Water workers support strong communities by delivering water to your tap that is safe to drink. They collect and clean it after use so that the water is ready for its next intended use or to be returned to the environment. The water workforce consists of a wide variety of roles that work collaboratively to move the water cycle forward.

Currently, Oklahoma’s Water Workforce is facing challenges regarding *recruitment, training, and retention* of employees and needs strong individuals with a variety of strengths and interests to join the sector. The industry is stable, provides on-the-job training, tuition reimbursement, opportunities for professional development, and much more. **We want YOU to help us fill these essential roles in our Oklahoma communities!**



The following lists a variety of water industry roles and short descriptions. Learn more about some of these careers by visiting [Work for Water's website](#). 

- Water/Wastewater Treatment Plant Operator
- Line Maintenance Technician
- Laboratory Technician
- Electrician
- Mechanic
- Water Distribution/ Wastewater Collections Operator
- Civil/Environmental Engineer
- Utilities Meter Reader
- SCADA Technician
- Utility Manager/Supervisor



Water/Wastewater Treatment Plant Operator (Median Salary, \$54,890)

ROLE: Operation and maintenance of a variety of equipment for the purpose of treating [water](#) to potable (or drinking) standards before it is distributed for use, and/or removing chemical and biological pollutants from [wastewater](#) and subsequent sludge before it is released back into the environment or reused.

ABILITY TO: Conduct system inspections for proper functionality; execute various laboratory procedures; follow safety protocol; effectively communicate verbally and through writing; analyze water quality and operational data and take appropriate action(s); learn new technologies as they become available; provide basic service on mechanical and electrical equipment; read and interpret engineering plans; potentially manage other plant staff; collaborate with other professionals to develop recommendations to solve technical problems.

REQUIREMENTS: High School (HS) diploma or equivalent is required. Licensure is required for all operators but can start under temporary certification. Class A-D licensure requires training, examination, & experience. Learn more about Water Operator Certification from the [Oklahoma Department of Environmental Quality \(ODEQ\) website](#).



Line Maintenance Technician (Median Salary, \$44,310)

ROLE: Identify, maintain, and perform routine repair existing distribution and collection system infrastructure.

ABILITY TO: Work with small hand tools, construction and detection equipment; follow safety rules and regulations; obtain and record data in computerized programs; communicate effectively with coworkers and utility customers; understand engineering plans and maps; work outdoors and under extreme weather conditions.

REQUIREMENTS: HS diploma or equivalent is preferred but not required. Some employers may require safety certifications after hiring.



Laboratory Technician (Median Salary, \$56,750)

ROLE: Conduct quality testing and/or compliance monitoring on water and/or biosolids to verify regulatory compliance and inform utility decision making. Sometimes also referred to as Water Quality Technician or Specialist.

ABILITY TO: Work with a variety of laboratory equipment to conduct various laboratory procedures; maintain accurate records of all activities; collaborate with other departments to implement strategies for improvement; read and apply applicable environmental regulations; effectively communicate verbally and in writing.

REQUIREMENTS: HS diploma or equivalent is required. An associates or college degree in a relevant scientific (e.g., chemistry, biology, environmental science, etc.) field is usually preferred, and sometimes required. Utilities often require laboratory technicians to be [licensed as an operator](#).



Electrician (Median Salary, \$61,590)

ROLE: Install, maintain, and repair electrical power, communications, lighting, and control systems for treatment and conveyance facilities.

ABILITY TO: Identify and solve technical issues; read and apply electrical drawings to install electrical systems; use various hand and power tools to complete tasks; work well with others to help design electrical systems.

REQUIREMENTS: HS diploma or equivalent is required. Training can be acquired on the job, technical college (or vo-tech) classes, and apprenticeship as a pathway to licensure. Licensure requirements vary on utility rather than position. Find out more about becoming an electrical journeyman through the [Oklahoma Construction Industries Board](#) (OCIB).




Mechanic (Median Salary, \$46,700) 

ROLE: Install, maintain, and repair of a variety of treatment and conveyance facilities and related equipment.

ABILITY TO: Learn various repair techniques; perform routine maintenance to verify that machinery runs properly; clean and upkeep building; collaborate with other professionals such as electricians and HVAC technicians; diagnose problems and troubleshoot to solve them; work with a variety of hand and power tools.

REQUIREMENTS: HS diploma or equivalent is required. Typically, employees are trained through technical college (or vo-tech) classes and/or on-the-job training. Licensure requirements vary on utility rather than position. Learn more through the [OCIB](#).



Water Distribution/Wastewater Collections Operator (Median Salary, \$54,890) 

ROLE: Monitors and controls water and/or wastewater distribution and/or conveyance facilities such as pump or lift stations and piping, often monitoring pressure and flow rates.

ABILITY TO: Conduct system inspections to verify proper functionality; follow safety protocol; effectively communicate verbally and through writing; evaluate data and operational conditions then take appropriate action(s) if necessary; understand system requirements and applicable regulations; maintain and/or repair system equipment; learn new technologies as they become available; collaborate with other professionals to develop recommendations to solve technical problems.

REQUIREMENTS: HS diploma or equivalent is required. Licensure is required for all operators but can start with temporary certification. Class A-D licensure requires training, examination, & experience. Learn more about Oklahoma Certification from [ODEQ](#).



Civil/Environmental Engineer (Median Salary, \$100,000)

ROLE: Design, plan, and supervise the construction and maintenance of infrastructure projects such as treatment facilities, distribution and conveyance systems, and stormwater collection. Typically, civil ([Median Salary](#)) or environmental ([Median Salary](#)) work in the water industry.

ABILITY TO: Analyze as-builts and other project-related data then apply it to project design; understand and comply with regulatory requirements; prepare cost estimates; design facilities and processes to satisfy treatment, distribution, or conveyance needs; effectively communicate with clients and other professionals verbally and through writing.

REQUIREMENTS: A bachelor's degree is required but a master's degree is preferred for employers. Licensure is encouraged for all engineers but not required for employment. Certification information can be found through the [Oklahoma State Board of Licensure for Professional Engineers and Surveyors](#).



Utilities Meter Reader (Median Salary, \$41,940) 

ROLE: Manual data collection from meters to track the consumption of water for various types of utility customers such as residential, commercial, and industrial properties.

ABILITY TO: Keep detailed records of meter readings and other on-site observations; recognize system abnormalities based upon site and data observations; perform basic maintenance on the meters themselves; professionally interact with utility customers; perform physical work exposed to extreme weather conditions.

REQUIREMENTS: HS diploma or equivalent is not required but preferred. Training is typically acquired upon hiring.



Supervisory Control and Data Acquisition (SCADA) Technician (Median Salary, \$72,800)

ROLE: Deploys, maintains, and operates utilities’ SCADA systems as they relate to treatment, distribution, and conveyance operations.

ABILITY TO: Perform a variety of operational and repair tasks to maintain and service SCADA systems; use a range of hand and power tools; execute basic mathematical calculations; interpret electrical drawings and specifications; comprehend and follow various safety procedures; collaborate with various utility technicians and operators.

REQUIREMENTS: HS diploma or equivalent is required; relevant supplementary coursework at a vocational school or college/university; Associate’s degree preferred; [Control Systems Certification](#) may be required for some roles; some training completed on-the-job.



Utility Manager/Supervisor (Median Salary, \$167,740)

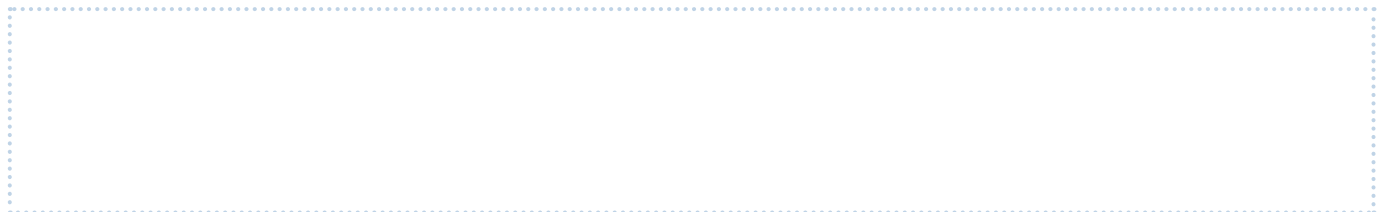
ROLE: Oversees the planning, operation, and maintenance of a system’s treatment facilities and network of distribution and/or collection infrastructure. The scope of this role will vary based upon the size and complexity of the system.

ABILITY TO: Hire, direct, train, and supervise staff; maintain oversight of short and long-term budgets; interpret technical and legal documentation to provide public safety and regulatory compliance; coordinate work through collaboration with others; solve problems effectively and efficiently; communicate with industry peers and utility customers.

REQUIREMENTS: A bachelor’s degree with multiple years of relevant experience is typically required. However, an equivalent combination of education and relevant experience can be an adequate substitute. Depending upon the utility’s size, an operator’s license is preferred.

There are quite a few positions that are not listed in this guide that help sustain the water industry. A non-extensive list of these careers are as follows: office administrator, grant writer, accountant, general contractor, and compliance specialist.

Please note that all roles, responsibilities, and requirements for specific roles vary by employer and may differ from what is listed here.



Information provided in this handout has been adapted from the Bureau of Labor Statistics, American Water Works Association, Water Environment Federation, and the U.S. Environmental Protection Agency.

Brochure was developed using funds from OWRB and USACE.



OKLAHOMA
Water Resources Board



US Army Corps
of Engineers®

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION A-07: DEVELOP WANTO GRANT PARTNERSHIPS

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: August 2025
Updated By: Carollo

Overview			
Name	A-07: Develop WANTO Grant Partnerships		
Strategy Area	<input type="checkbox"/> Cost of Water <input type="checkbox"/> Improve Retention <input type="checkbox"/> Legislature <input checked="" type="checkbox"/> Pipeline of Workers <input type="checkbox"/> Streamline Onboarding <input type="checkbox"/> Visibility <input type="checkbox"/> Partnership	Priority (1 high – 5 low):	1
Summary	Develop partnerships with OK stakeholders to apply for the WANTO grant, specifically for those in the water workforce sector.		
Timeline	Target Initiation: <2 years		
Lead Agency/Entity	OWRB		
Supporting Agencies/Entities	U.S. Department of Labor		
Anticipated Cost and Funding Source	\$20,000-\$30,000; Funded by OWRB	Level of Effort (1 low – 5 high):	2
Description			
Drivers	Support the growing diversity of the water industry; Anticipated difficulty in recruiting water industry employees within the next 5-10 years; Anticipated retirement of many water industry professionals.		
Barriers	Historical lack of workplace recruiting toward women in the water industry; Historical lack of inclusion to women in water workplaces; Need for partnership between industries external to the water sector.		
Goals	Expand the water workforce relative to the current workforce; Support the diversification of the water workforce.		
Action Description	Action A-07 seeks to support a water focused organization(s) that wishes to apply for the Women in Apprenticeship and Nontraditional Occupations (WANTO) grant. Anticipated work includes identifying eligible organizations in Oklahoma; coordination with the selected organization(s); and technical assistance to develop a project budget and narrative to satisfy application requirements at a minimum. Upon selection, OWRB would then assist with management and implementation of the grant.		
Items in Progress			
No.	Action	Timeline	Responsibility
1			
2			
3			
...			
Next Steps			
No.	Action	Timeline	Responsibility
1	Identify a water industry private, non-profit organization(s) that would be an eligible and appropriate fit for the grant.	TBD	OWRB

2	Contact those organizations who would be eligible then develop a relationship with grant-interested organization(s).	TBD	OWRB
3	Provide technical assistance to the organization(s) that wish to apply in application development and submittal.	TBD	OWRB
...			

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION A-10: PARTICIPATION IN A LOCAL EVENT OR CELEBRATION

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: August 2025
Updated By: Carollo

Overview			
Name	A-10: Participation in a Local Event or Celebration		
Strategy Area	<input checked="" type="checkbox"/> Attracting new workers <input type="checkbox"/> Retaining existing workers <input type="checkbox"/> Developing and advancing workforce <input type="checkbox"/> Other	Priority (1 high – 5 low):	1
Summary	Participate in a Water Day or Festival or "add" a water component to another local festival.		
Timeline	Target Initiation: <2 years		
Lead Agency/Entity	OWRB		
Supporting Agencies/Entities	None.		
Anticipated Cost and Funding Source	\$10,000 – \$20,000; Facilitated by OWRB	Level of Effort (1 low – 5 high):	1
Description			
Drivers	Minimal knowledge and interest in the water industry and its careers; Lack of diversity in water industry.		
Barriers	Limited understanding of the benefits of sharing via these platforms; Resources, time, and budget associated with participation in applicable local events and celebrations.		
Goals	Increase interest in the water industry and its careers; Demonstrate the importance of water sector careers among the public; Minimize the knowledge gap regarding the water industry and its professions.		
Action Description	<p>Action A-10 seeks to promote water industry organizations, activities, and opportunities to the public.</p> <p>Anticipated effort for Action A-10 includes upfront work to identify local events and celebrations (i.e., Norman or OKC Earth Day Festivals, Water Day at the Capitol, Arbor Day Fair, OKC Arts Festival, etc.) that allow for vendor participation; coordination of event participation; development of materials for participation; advertisement of participation in said celebration through newsletters and social media posts. Time and budget must be allocated to staff for the achievement of these tasks.</p>		
Reference Documents and Files			
Items in Progress			
No.	Action	Timeline	Responsibility
1			
2			
3			
...			

Next Steps

No.	Action	Timeline	Responsibility
1	Contact event and/or festival coordination team(s) to seek information regarding participation.	TBD	All
2			
3			
...			

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION A-11: DEVELOP AND DISTRIBUTE K-12 WATER CURRICULUM

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: August 2025
Updated By: Carollo

Overview			
Name	A-11: Develop and distribute K-12 water curriculum.		
Strategy Area	<input checked="" type="checkbox"/> Attracting new workers <input type="checkbox"/> Retaining existing workers <input type="checkbox"/> Developing and advancing workforce <input type="checkbox"/> Other <table border="1" style="float: right;"> <tr> <td>Priority (1 high – 5 low):</td> <td>1</td> </tr> </table>	Priority (1 high – 5 low):	1
Priority (1 high – 5 low):	1		
Summary	Develop and distribute K-12 water /wastewater/stormwater curriculum for K-12 schools and assist in its integration statewide.		
Timeline	Target Initiation: <5 years		
Lead Agency / Entity	OWRB		
Supporting Agencies / Entities	ODEQ, ORWA, AWWA, OWEA, Department of Education, OSU, OU, ECU, Individual School Districts (e.g. Tulsa STEM Alliance), NGWA, OEF		
Anticipated Cost and Funding Source	TBD; Funded by OWRB <table border="1" style="float: right;"> <tr> <td>Level of Effort (1 low – 5 high):</td> <td>5</td> </tr> </table>	Level of Effort (1 low – 5 high):	5
Level of Effort (1 low – 5 high):	5		
Description			
Drivers	Current and anticipated difficulty in recruiting water industry professionals within the next 5-10 years; Anticipated retirement of many water industry professionals.		
Barriers	Competing with other professional industries that have better pay and benefits; Ascertaining individuals who are passionate about water and career growth within the industry; Limited industry visibility students.		
Goals	Create interest in the water/wastewater/stormwater industry for K-12 students; Eliminate uncertainty and funding barriers regarding pathways into water industry careers.		
Action Description	<p>Action A-11 seeks to get water science curriculum into K-12 classrooms. Bringing curriculum into the classroom involves the development of a fact sheet that leads educators to existing water curriculum and resources. Information to include would be a brief description of the program, program sponsor, links to relevant program information, and contact information of program sponsor. Example programs would be Ed-Pass H₂O Water Careers, STEM in a Bag, and National Groundwater Association/OSU online training. An electronic version of the fact sheets will be given to individual school districts for distribution to educators. Additionally, fact sheets will also be physically distributed at community events through supporting agencies/or entities (e.g. Oklahoma Engineering Foundation (OEF) Engineering Fair or Introduce a Girl to Engineering Workshops at Discovery Lab Tulsa). An editable version will be available on OWRB’s website so that individual entities can include their logo and contact information.</p> <p>Long-term, this action will include the development of K-12 curriculum under the guidance of this committee or Oklahoma Water Workforce Coalition (Action D-05), and in partnership with professional organizations such as AWWA and OWEA. These groups can begin a library of water educational materials from existing resources. Partnership with the State Department of Education would be helpful to move this curriculum into classrooms statewide.</p>		

Items in Progress

No.	Action	Timeline	Responsibility
1	Develop a fact sheet that leads educators to previously developed water curriculum and resources.	Jan. 2025 / Feb. 2025	OWRB
2			
3			
...			

Next Steps

No.	Action	Timeline	Responsibility
1	Review fact sheet and provide comments.	Feb. / March 2025	All
2	Finalize fact sheet. Provide editable format and PDF on OWRB's website. Printed copies will be available for OWRB and other agencies to distribute at various conferences or water events.	Feb. 2025 – Sept. 2025	OWRB
3	Consider developing water specific K-12 curriculum.	TBD	OWRB
4			
...			

Reference Documents and Files

- Ed-Pass H₂O Water Careers: <https://edpassh2oecu.wixsite.com/my-site-1/our-projects/web%2Fpdf-resources>
- Tulsa STEM Alliance, STEM in a Bag: <https://playbook.tulsastem.org/experiences/stem-in-a-bag>
- NGWA at OSU: https://cas.okstate.edu/ngwa/awesome_aquifer.html
- Blue Thumb (OCC) Teaching Resources: <https://www.bluethumbok.com/teaching-resources.html>
- See attached.

WATER IS FOR YOUR CLASSROOM, TOO!

A QUICK-START RESOURCE GUIDE for integrating water curriculum into your K-12 classroom.

Teachers – The next generation of water professionals begin their career in your K-12 classroom. To help you integrate water curriculum and inspire your students, a variety of online teaching resources have been gathered and linked below for you to explore.



U.S. Environmental Protection Agency (EPA):

Navigate to EPA's [Drinking Water Activities for Students and Teachers](#) page to download a various activities on water topics such as the water cycle, non-point source water pollution, and aquifers for all K-12 age groups. Each activity has an associated teacher guide. High school students or teachers can learn more about Watershed Management through their free online academy modules.



Project Water Education Today (WET): Navigate to Project WET's website for a variety of science-based, interactive water activities. [Lesson plans](#) for all ages and [children's activity booklets](#) are available for free download or purchase on their website for a small fee.



National Ground Water Association University (NGWAU):

Navigate to NGWAU by Oklahoma State University's (OSU) [Awesome Aquifer 360](#) page. Awesome Aquifer 360 is a series of online groundwater lessons that can be adapted to grade 3 to 12 classrooms. Teachers can register or join the wait list to get free digital access and physical companion kits for their entire class by clicking here. Sponsors can donate materials to schools, or they can be purchased if access is needed immediately.



STEM in a Bag: Tulsa Regional STEM Alliance has a variety of free guides to short STEM activities on their [website](#). A few water-centric activities include the building a [water filter](#), [aquifer in a cup](#), and [pipeline challenge](#) (modified for water) for 3rd through 8th grade students. Each activity lists the required materials and the approximate duration.



Ed-Pass H2O:

Navigate to [Ed-Pass H2O's Digital Classroom](#) to access six digital classroom modules. Each module has or will have learning goals, activities, and learning standards. They also have a page of water industry [resources](#).



U.S. Geological Survey (USGS):

Navigate to USGS's [Teacher Resources](#) page to find lesson plans for middle-aged students, classroom posters for print, links to interactive water webpages.



Water Cycle in a Bag – Water Activity for Ages K-12

OBJECTIVE: Students will model the water cycle on a small scale. Students will learn the basic principles of evaporation, condensation, precipitation, and collection.

MATERIALS: Sandwich size plastic zip-lock style bag, permanent marker, water, clear tape, blue food coloring, 8 oz plastic cup, and popsicle stick.

INSTRUCTIONS:

1. With permanent marker, draw a sun and clouds on the upper half of the plastic bag leaving room on the lower half blank.
2. Fill the plastic cup with water to approximately half-full of water. Add drops of blue food coloring and stick with a popsicle stick until the water is dark blue.
3. Open the plastic bag, pour in the blue water, and seal tightly.
4. With the tape, hang the bag in a window that gets lots of sunlight.
5. Check on your bag to visualize the water cycle as droplets form and run down the side of the bag like rain.
6. This information (or box) needs to be added whether the activity can fit or not.

Brochure was developed using funds from OWRB and USACE.



OKLAHOMA
Water Resources Board



US Army Corps
of Engineers®

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION D-01: GATHER & COMPILE OKLAHOMA WATER WORKFORCE INFORMATION

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: July 2025
Updated By: Carollo

Overview			
Name	D-01: Gather & Compile Oklahoma Water Workforce Information.		
Strategy Area	<input type="checkbox"/> Attracting new workers <input type="checkbox"/> Retaining existing workers <input checked="" type="checkbox"/> Developing and advancing workforce <input type="checkbox"/> Other	Priority (1 high – 5 low):	1
Summary	Gather & compile information about the Oklahoma water workforce.		
Timeline	Target Initiation: <2 years		
Lead Agency / Entity	OWRB		
Supporting Agencies / Entities	ODEQ, ORWA, AWWA, OWEA, Department of Education, OSU, OU, ECU, Individual School Districts, OMUP		
Anticipated Cost and Funding Source	TBD; Funded by OWRB	Level of Effort (1 low – 5 high):	4
Description			
Drivers	Lack of retention among the water workforce; Staff shortages throughout the water industry; Lack of understanding regarding system resource gaps; Lack of understanding regarding employee needs; Improve utility sustainability across Oklahoma.		
Barriers	Limited resources in small systems makes it difficult for them to complete any additional work besides standard operations; Broad lack of understanding as to why it is important to share this information for your system; Assurance that personal data can be kept anonymous when required; Lack of a clear path forward for tracking industry progress over time; Gather and appropriately incorporate feedback from private water industry employers.		
Goals	Define Oklahoma water workforce issues with data to target solutions that more efficiently address problems; Maintain a better understanding of the state of the industry as it progresses over time; Improve water industry recruitment and retention efforts.		

Action Description	Action D-01 seeks to compile information regarding the Oklahoma water workforce. Desired information may include title (e.g. System Manager, Operator, etc.), salary (e.g., \$50K annually, \$25/hour), age, education level (e.g., GED, associate's degree, etc.), benefits (e.g., retirement, vehicle, medical insurance, etc.), years to retirement, number and type of unfilled positions today, number of employees eligible for retirement within the next 5-10 years, and utility management. The committee will review survey questions developed by OMUP and provide feedback. This survey will be released to all members of OML in early 2025 on a platform developed by OWRB. The survey will also be advertised by OWRB, ODEQ, and OWRA. Survey questions will be presented in a straightforward manner, and the survey itself will be easy to complete (i.e., dropdowns, multiple choice, etc.). System data will be kept anonymous. Some questions will potentially be added to ODEQ's operator license renewal form to track long term industry progression. This data will be incorporated into their database that has yet to be released (expected 2025). Some information has already been gathered through the OCWP WSIN Survey, 2023 DWINS, and NRW Workforce Survey.
---------------------------	---

Items in Progress

No.	Action	Timeline	Responsibility
1	Committee discussion regarding OMUP's requested water workforce metrics and associated metric goals.	Dec. 2024	OMUP
2			
3			
...			

Next Steps

No.	Action	Timeline	Responsibility
1	Develop and distribute Water Workforce Survey.	TBD	TBD
2			
3			
4			
...			

Reference Documents and Files

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION D-02: DEVELOP TRAINING FOR EFFECTIVE UTILITY MANAGEMENT

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: November 2024
Updated By: Carollo

Overview			
Name	D-02: Develop Training for Effective Utility Management		
Strategy Area	<input type="checkbox"/> Attracting new workers <input type="checkbox"/> Retaining existing workers <input checked="" type="checkbox"/> Developing and advancing workforce <input type="checkbox"/> Other <table border="1" style="float: right;"> <tr> <td>Priority (1 high – 5 low):</td> <td>3</td> </tr> </table>	Priority (1 high – 5 low):	3
Priority (1 high – 5 low):	3		
Summary	Organize effective utility management (EUM) trainings and promotional materials for utilities across Oklahoma.		
Timeline	Target Initiation: <2 years		
Lead Agency/Entity	OWRB		
Supporting Agencies/Entities	EUM Collaborating Organizations (EPA, AMWA, ACWA, ASDWA, APWA, AWWA, NACWA, NAWC, WEF, WERF, WRF); USDA		
Anticipated Cost and Funding Source	TBD; Funded by OWRB <table border="1" style="float: right;"> <tr> <td>Level of Effort (1 low – 5 high):</td> <td>4</td> </tr> </table>	Level of Effort (1 low – 5 high):	4
Level of Effort (1 low – 5 high):	4		
Description			
Drivers	Lack of retention among the water workforce; Staff shortages throughout the water industry; Lack of understanding regarding system resource gaps; Lack of understanding regarding employee needs; Improve utility sustainability across Oklahoma.		
Barriers	Lack of understanding on the implementation barriers of EUM, or other sustainable utility management practices; Limited understanding regarding the circulation of publicly available resources on EUM; Limited or no availability of local (utility) leadership to develop and administer new management programs.		
Goals	Establish workforce-related EUM attributes (e.g., retain a competent workforce, emphasize personal and professional development over time, maintain institutional knowledge) in Oklahoma utilities.		
Action Description	Action D-02 seeks to provide steps for utilities to move toward effective utility management by hosting training sessions for small, medium, and large utilities. Anticipated effort for Action D-02 includes upfront work by OWRB staff or consultants to understand EPA/USDA EUM materials for subsequent development and coordination of EUM training for utilities across the state. Materials for this training will be prepared if not readily available. OWRB lead training is to be designed such that attendees can host extension training on EUM with the same materials in their region of the state.		

Items in Progress

No.	Action	Timeline	Responsibility
1	Gather information that has been published by the EPA/USDA and develop training sessions for medium and large system utility leaders. Small system materials are readily available.	TBD	OWRB
2			
3			
...			

Next Steps

No.	Action	Timeline	Responsibility
1	Prepare training materials for small systems (based on USDA resources).	TBD	OWRB or ORWA
2	Review training materials for small systems.	TBD	All
3	Prepare training materials for medium/large systems (based on EPA resources).	TBD	OWRB
4	Review training materials for medium/large systems.	TBD	All
5	Schedule training session for rural and small systems.	TBD	OWRB or ORWA
6	Schedule training session for medium/large systems.	TBD	OWRB
7	Revise training materials based on participant and trainer feedback in preparation of future sessions.	TBD	OWRB
8			
9			
...			

Reference Documents and Files

- Effective Utility Management: <https://www.epa.gov/system/files/documents/2024-08/eum-primer.pdf>
- Workshop in a Box: Effective Management of Rural and Small Water and Wastewater Systems Workshops: <https://www.epa.gov/sustainable-water-infrastructure/workshop-box-effective-management-rural-and-small-water-and>

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION D-04: CONNECT WITH THE OKLAHOMA WORKFORCE COMMISSION

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: August 2025
Updated By: Carollo

Overview			
Name	D-04: Connect with the Oklahoma Workforce Commission		
Strategy Area	<input type="checkbox"/> Attracting new workers <input type="checkbox"/> Retaining existing workers <input checked="" type="checkbox"/> Developing and advancing workforce <input type="checkbox"/> Other	Priority (1 high – 5 low):	1
Summary	Connect with Oklahoma Workforce Commission and/or its Implementation Office with the goal of having water workforce challenges included in the discussion and programs.		
Timeline	Target Initiation: <2 years		
Lead Agency/Entity	OWRB		
Supporting Agencies/Entities	Oklahoma Workforce Commission, Oklahoma Strategic Alliance (OWRB, ODEQ, ORWA, Oklahoma State Secretary of Energy and Environment, OML)		
Anticipated Cost and Funding Source	\$5,000 - \$10,000; Facilitated by OWRB	Level of Effort (1 low – 5 high):	2
Description			
Drivers	Lack of acknowledgement regarding the importance and needs of the water workforce in Oklahoma.		
Barriers	Lack of public awareness regarding water workforce challenges; Lack of knowledge regarding the commission due to its establishment date; Commission appointments cannot be a utility/municipal leader.		
Goals	Tangible progress toward the inclusion of water workforce challenges in the discussions and programs developed by the Oklahoma Workforce Commission.		
Action Description	Action D-04 seeks to bring water workforce challenges to the forefront of conversations had by the Oklahoma Workforce Commission. Anticipated effort for Action D-04 includes the release of a statement by the Oklahoma Strategic Alliance. Statement to address the commission and should express the challenges that the water workforce faces. Further efforts include participation in commission meetings and cooperation in workforce data collection efforts.		
Reference Documents and Files			
Items in Progress			
No.	Action	Timeline	Responsibility
1	Understand the responsibilities, members, and possible actions of the Oklahoma Workforce Commission.	In Progress	OWRB, ORWA, OML
2			
3			
...			

Next Steps

No.	Action	Timeline	Responsibility
1		TBD	OWRB
2			
3			
...			

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION D-05: DEVELOP A WATER WORKFORCE COALITION

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: July 2025
Updated By: Carollo

Overview			
Name	D-05: Develop a Water Workforce Coalition		
Strategy Area	<input type="checkbox"/> Attracting new workers <input type="checkbox"/> Retaining existing workers <input checked="" type="checkbox"/> Developing and advancing workforce <input type="checkbox"/> Other <table border="1" style="float: right; margin-left: 20px;"> <tr> <td>Priority (1 high – 5 low):</td> <td style="text-align: center;">1</td> </tr> </table>	Priority (1 high – 5 low):	1
Priority (1 high – 5 low):	1		
Summary	Develop an informal partnership between water industry professional organizations, agencies, and utilities to share water workforce knowledge.		
Timeline	Target Initiation: <2 years		
Lead Agency/Entity	OWRB		
Supporting Agencies/Entities	ODEQ, ORWA, Tribes of Oklahoma, OML/OMUP, Dept. of Education / Higer Education Institution(s), Oklahoma Workforce Commission, Dept. of Commerce, Dept. of Veteran Affairs, Utilities, AWWA, WEF		
Anticipated Cost and Funding Source	TBD; Funded by OWRB <table border="1" style="float: right; margin-left: 20px;"> <tr> <td>Level of Effort (1 low – 5 high):</td> <td style="text-align: center;">1</td> </tr> </table>	Level of Effort (1 low – 5 high):	1
Level of Effort (1 low – 5 high):	1		
Description			
Drivers	Reported industry wide staff shortages, recruitment, and retention issues; Minimal understanding of industry resources available; Difficulty applying for funding as a single entity.		
Barriers	Dedication of time and budget from individual organizations; Desire to work with external organizations.		
Goals	Create a platform for knowledge sharing between professional organizations, agencies, and utilities; Provide organizations a platform to efficiently organize an established group for cost sharing opportunities.		
Action Description	Action D-05 seeks to provide an organized platform for the communication of water workforce knowledge between professional organizations, agencies, and utilities. With time, this action could potentially formalize into an established group for cost sharing purposes. Anticipated effort for Action D-05 includes quarterly meetings and communication between interested parties; development of meeting materials; documentation of discussions, decisions, and actions; and allocation of time and budget within individual organizations to support staff efforts. Action D-05 began with the formation of the OCWP Water Workforce Group.		

Items in Progress

No.	Action	Timeline	Responsibility
1	Meet to discuss the needs of Oklahoma’s Water Workforce under the development of the 2025 OCWP as a Water Workforce focus group.	In Progress	OWRB
2			
3			
...			

Next Steps

No.	Action	Timeline	Responsibility
1	Begin communication regarding the formation of this group by reaching out to other entities that are potentially interested, but not involved, in the OCWP Water Workforce Group.	TBD	OWRB
2			
3			
...			

Reference Documents and Files

OKLAHOMA WATER WORKFORCE ACTION PLAN

ACTION D-06: DECLARE “WATER SECTOR PROFESSIONAL CAREER” DAY

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: August 2025
Updated By: Carollo

Overview			
Name	D-06: Declare “Water Sector Professional Career” Day		
Strategy Area	<input type="checkbox"/> Attracting new workers <input type="checkbox"/> Retaining existing workers <input checked="" type="checkbox"/> Developing and advancing workforce <input type="checkbox"/> Other	Priority (1 high – 5 low):	1
Summary	Encourage state and local governments to declare a “Water Sector Professional Career” Day.		
Timeline	Target Initiation: <2 years		
Lead Agency/Entity	OWRB		
Supporting Agencies/Entities	Governor’s Office and/or Mayor’s Office, Local School Districts		
Anticipated Cost and Funding Source	\$5,000-\$10,000; Funded by OWRB	Level of Effort (1 low – 5 high):	1
Description			
Drivers	Lack of public awareness regarding the essential nature of water professions; Lack of public awareness regarding what water workers do; Desire to reduce or eliminate future water workforce staff shortages; Anticipated difficulty in recruiting water industry employees within the next 5-10 years; Anticipated retirement of many water industry professionals.		
Barriers	Proclamation must be approved by the appropriate office (e.g., governor’s or mayor’s); Competition created by existing proclamations and/or other applicants seeking the approval of a proclamation; Level of willingness for local schools to promote and/or participate in external events unknown.		
Goals	Share the importance of water professions to the public; Encourage students to seek water sector careers.		
Action Description	Action D-06 seeks to illustrate the importance of water industry professions with the establishment of “Water Sector Professional Career” Day. Anticipated effort for this task involves time and budget allocation for the completion and submittal of the appropriate application(s); promotion of proclaimed day (e.g., share through social media, contact local K-12 schools); development and coordination of K-12 celebration events at local schools.		
Reference Documents and Files			
Items in Progress			
No.	Action	Timeline	Responsibility
1			
2			
3			
...			

Next Steps

No.	Action	Timeline	Responsibility
1	Complete and submit applications to the Governor's Office, City of Oklahoma City Mayor's Office, the City of Tulsa Mayor's Office, and others seeking a proclamation for "Water Sector Professional Career" Day.	TBD	All
2			
3			
...			

OKLAHOMA WATER REUSE ACTION PLAN

ACTION R-04: DEVELOP OPERATOR TRAINING COURSE

DRAFT OCWP Water Workforce Action Fact Sheet

Date Updated: July 2025
Updated By: Carollo

Overview			
Name	R-04: Develop Operator Training Course		
Strategy Area	<input type="checkbox"/> Attracting new workers <input checked="" type="checkbox"/> Retaining existing workers <input type="checkbox"/> Developing and advancing workforce <input type="checkbox"/> Other <table border="1" style="float: right;"> <tr> <td>Priority (1 high – 5 low):</td> <td>1</td> </tr> </table>	Priority (1 high – 5 low):	1
Priority (1 high – 5 low):	1		
Summary	Organize operator training courses/short school, preferably in conjunction with professional organizations.		
Timeline	Target Initiation: <2 years		
Lead Agency/Entity	OWRB		
Supporting Agencies/Entities	SWAWWA, OWEA, OMUP, ORWA, Others (subject matter experts)		
Anticipated Cost and Funding Source	TBD; Funded by TBD <table border="1" style="float: right;"> <tr> <td>Level of Effort (1 low – 5 high):</td> <td>4</td> </tr> </table>	Level of Effort (1 low – 5 high):	4
Level of Effort (1 low – 5 high):	4		
Description			
Drivers	Lack of retention among the water workforce; Staff shortages throughout the water industry; Lack of understanding regarding system resource gaps; Lack of understanding regarding employee needs.		
Barriers	Limited availability of high-quality operator focused training that goes beyond simply knowing what is needed to pass the ODEQ Operator Certification Exam.		
Goals	Offer short school focused on teaching operators.		
Action Description	<p>Action R-04 seeks to offer operator focused training that provides instruction necessary to pass ODEQ Operator Certification Exams and effectively operate a water treatment plant. It is anticipated that the course will use standardized exams provided by a third-party test provider (like WPI/ABC). The training will be administered by a joint committee comprised of representatives from Oklahoma Water Environment Association and Southwest American Water Works Association, known as the Operator Training Committee (OTC). The OTC will develop OTC Policy Statement, training materials, arrange for instructors, approve applications, determine renewal requirements, etc. It is anticipated that the minimum requirements for course enrollment will follow ODEQ Operator Certification minimum requirements. The OTC has begun hosting smaller scale workshops for continuing education credits (June 2025).</p> <p>Action R-04 initially seeks to offer a Water Operator Level C course but may expand to include other water and wastewater operator certification levels.</p> <p>Initial thoughts about course are: 4-5 day in person training including exam, cover subjects including various water treatment processes, water management, reading drawings, math, instrumentation, safety, etc., maximum class size 50 participants, schedule so that it doesn't conflict with other water operator certification training.</p>		

Items in Progress

No.	Action	Timeline	Responsibility
1	Identify OTC members and establish detailed action plan/timeline for initial course offering.	Complete	SWAWWA / OWEA
2	Develop and execute a collaborative workshop designed for operator continuing education credit.	Complete	OTC
3			
...			

Next Steps

No.	Action	Timeline	Responsibility
1	Evaluate the scope of the OTC's next collaborative workshop and begin assigning action items among members.		OTC
2			
3			
...			

Reference Documents and Files

- OWEA hosted Maintenance Technologist Training Course: <https://www.owea.org/maintenance-technologist-training/>
- Third-party Test Provider: Testing at end is from WPI/ABC - <https://www.gowpi.org/services/abc-testing/standardized-exams/standardized-water-treatment-operator-exams/>
- ODEQ Operator Certification: <https://www.deq.ok.gov/water-quality-division/operator-certification/>
- Rose State Training: <https://rose.edu/academics/academic-divisions/workforce-development/>

...