



Strategies for Navigating a Declining Workforce

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October 24, 2023

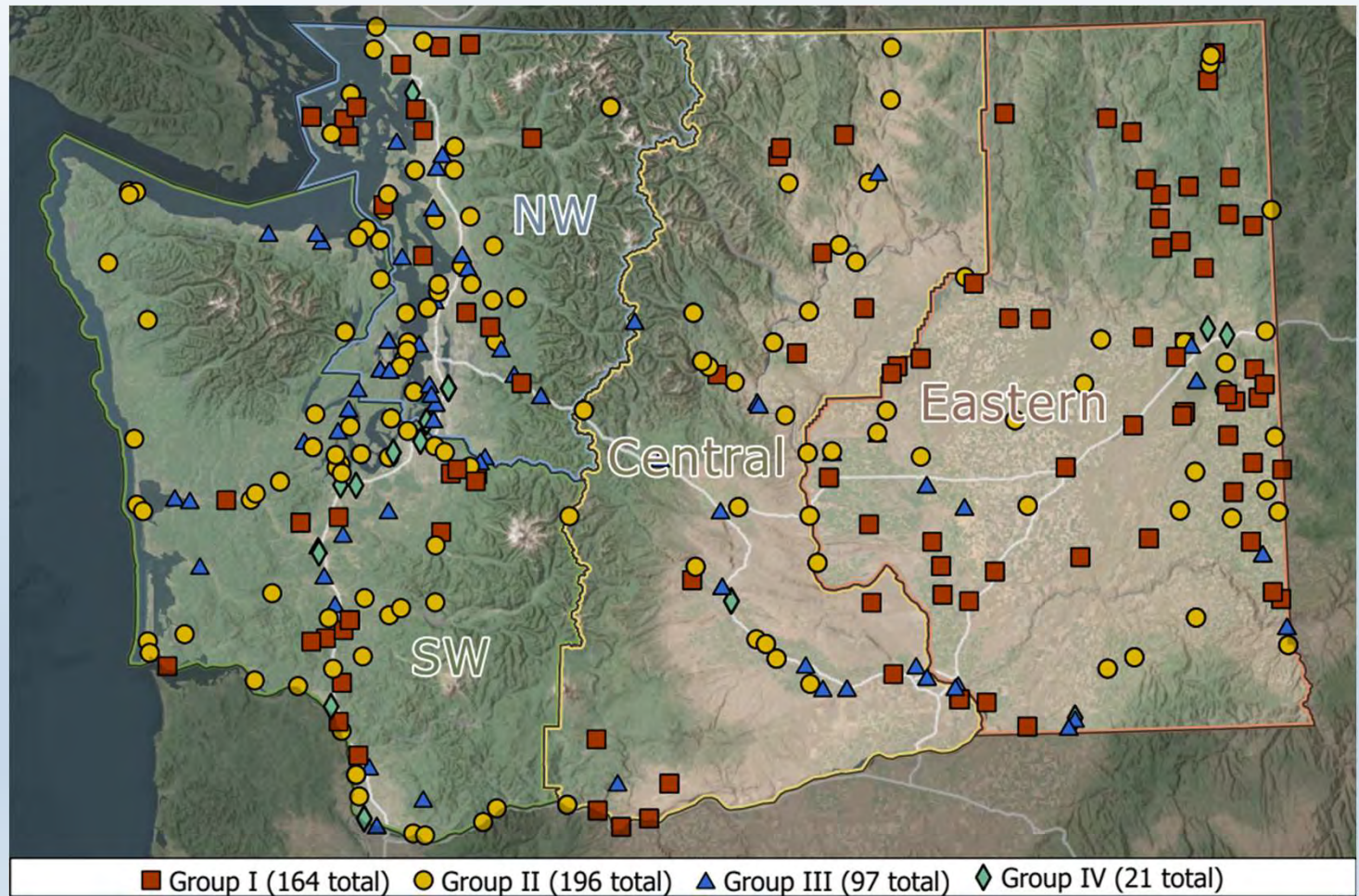
Problem Statement

- Across the state, communities are dealing with a wastewater operator shortage within their treatment plants:
 - This shortage is leaving many municipalities in need of immediate replacements or short-term transition plans.
 - Small rural towns are particularly at risk.
 - Many of these municipalities rely on operators to be far more than just operators.
 - A sudden retirement, illness, or extended leave has the potential to significantly impair system operations, potentially threatening human health and the environment.
 - Without qualified individuals to ensure state and federal standards are met, communities run the risk of failing to provide an essential public health service to their residents and local businesses.

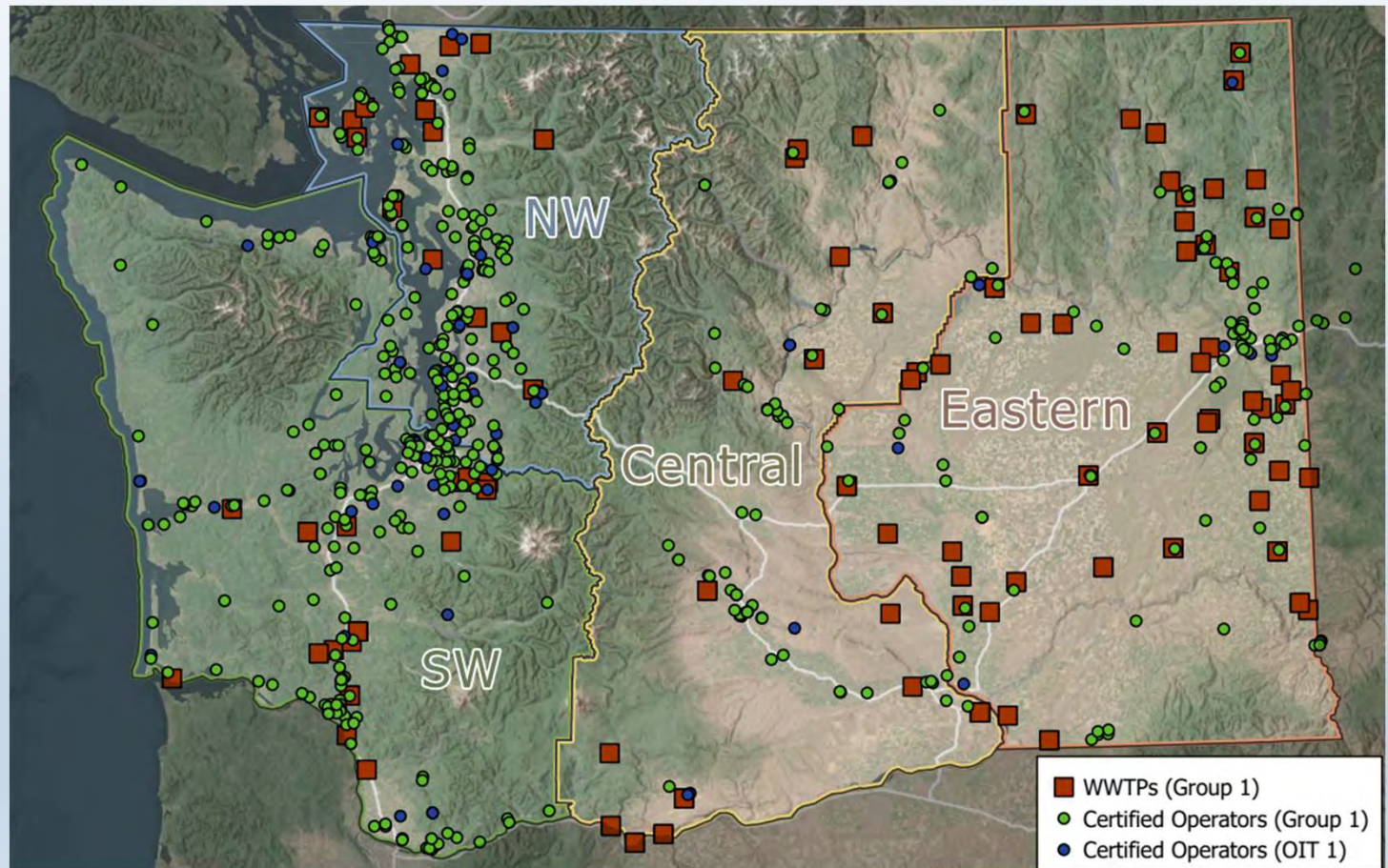
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Existing Conditions- WWTP Locations

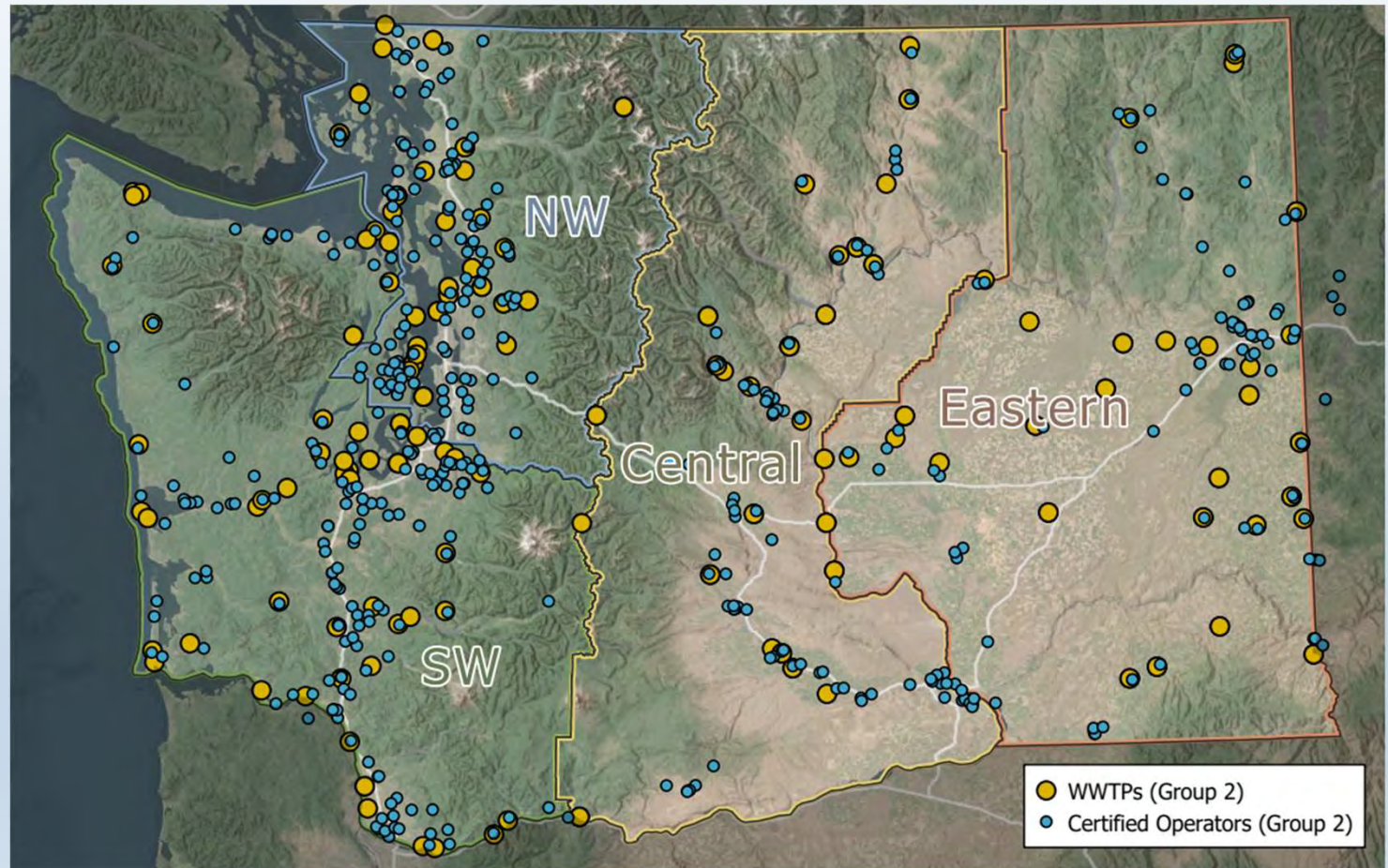


Existing Conditions -Group I Certifications

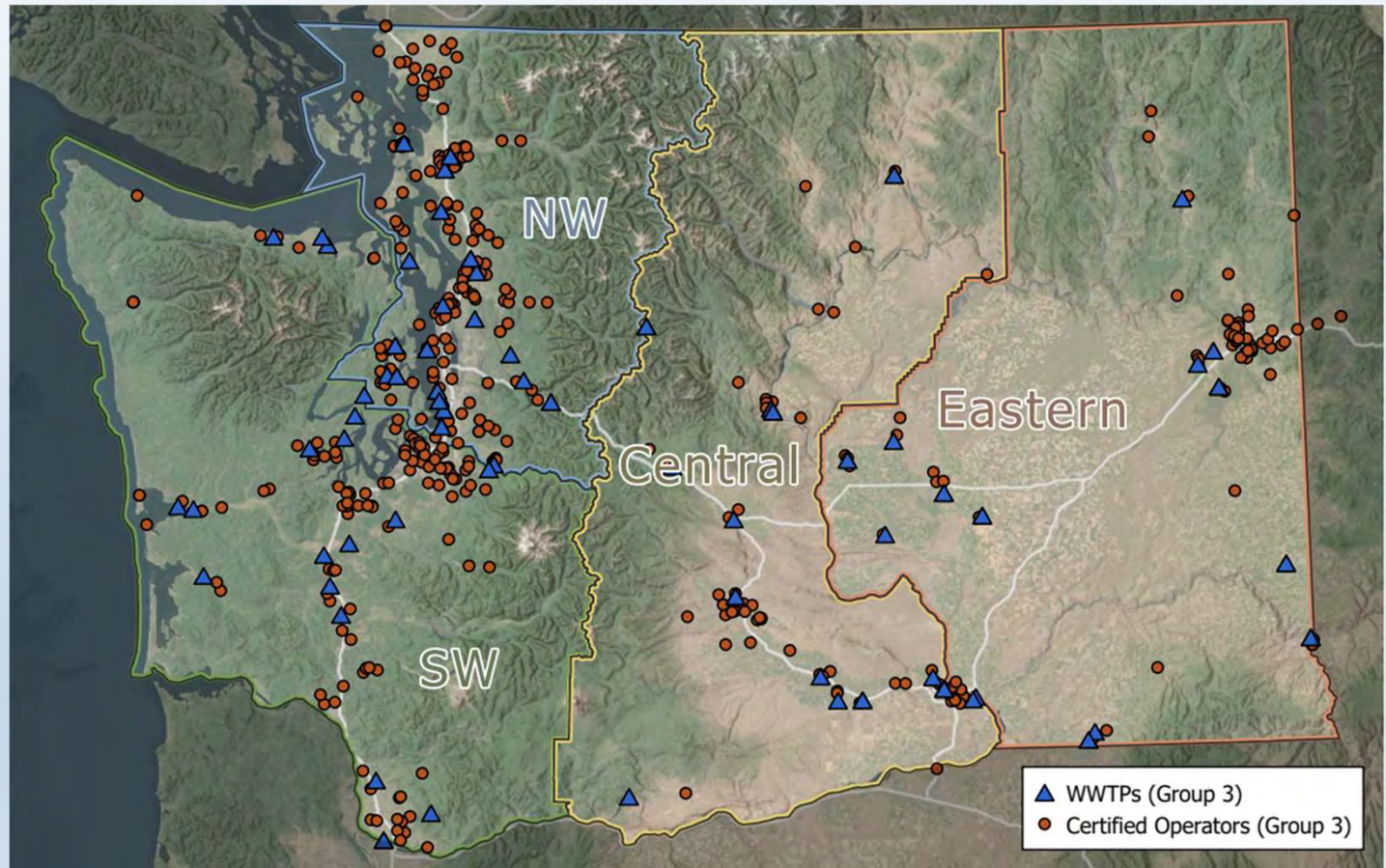


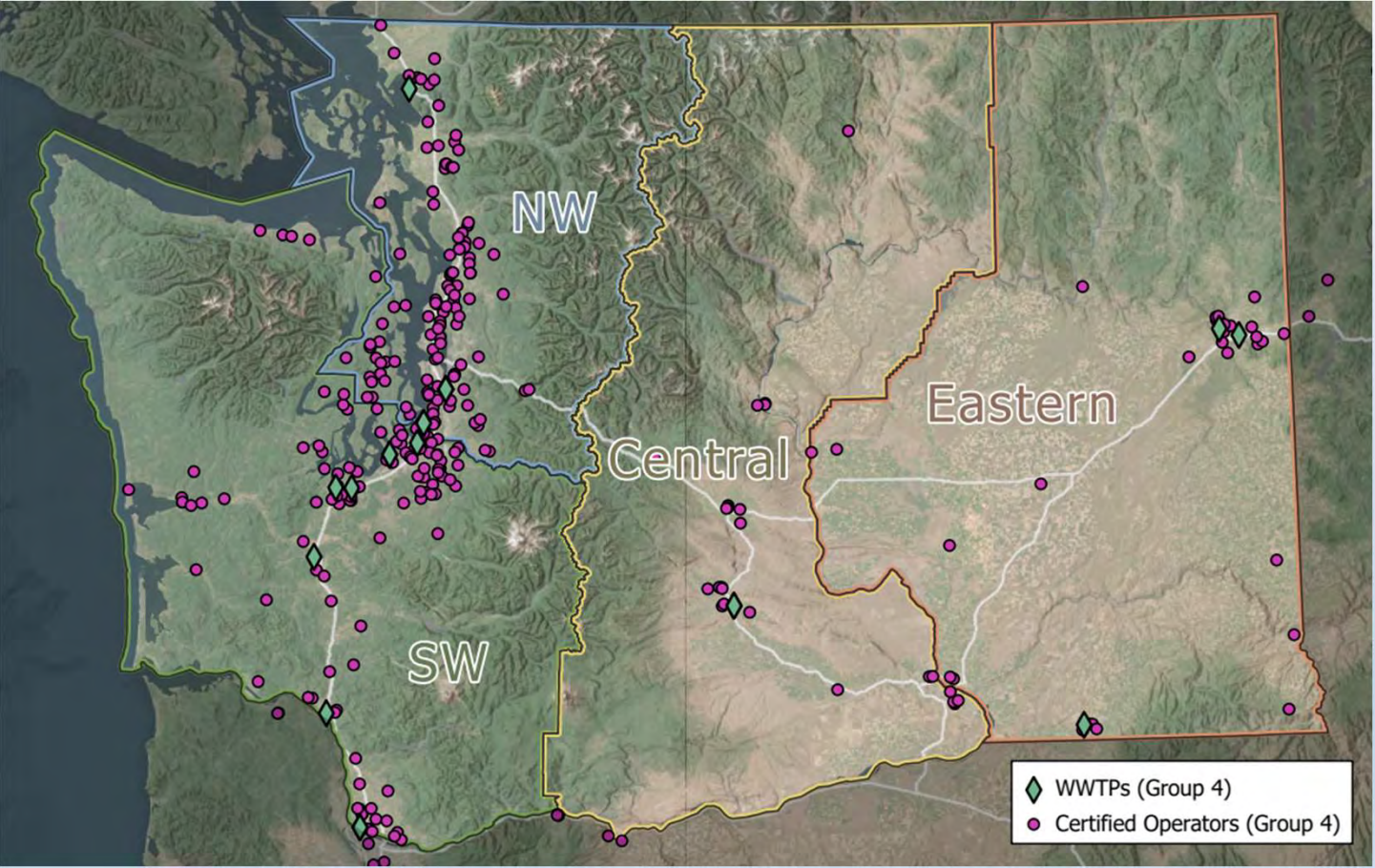
Existing Conditions

-Group II
Certifications



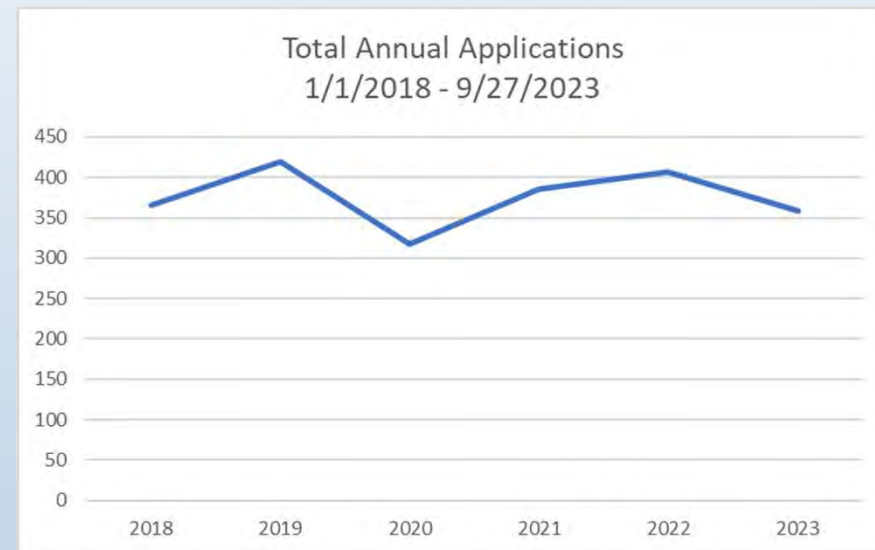
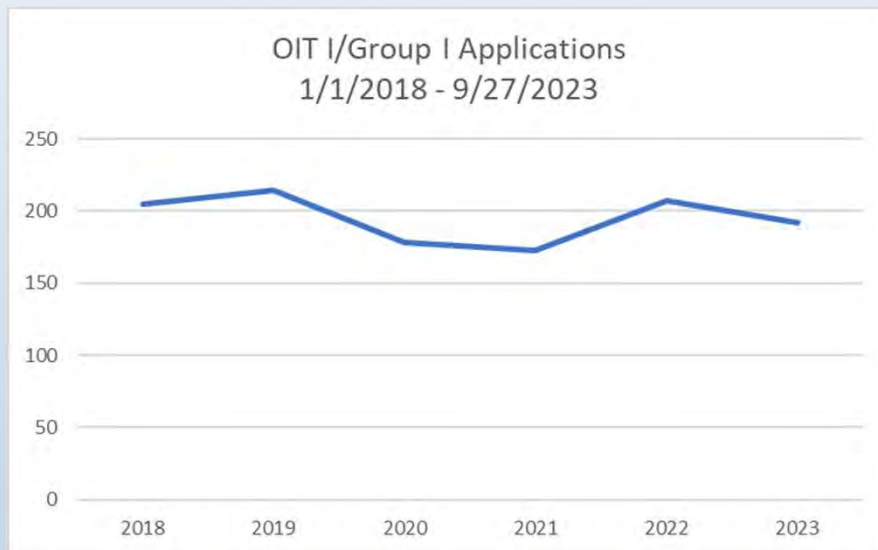
Existing Conditions- Group III Certifications



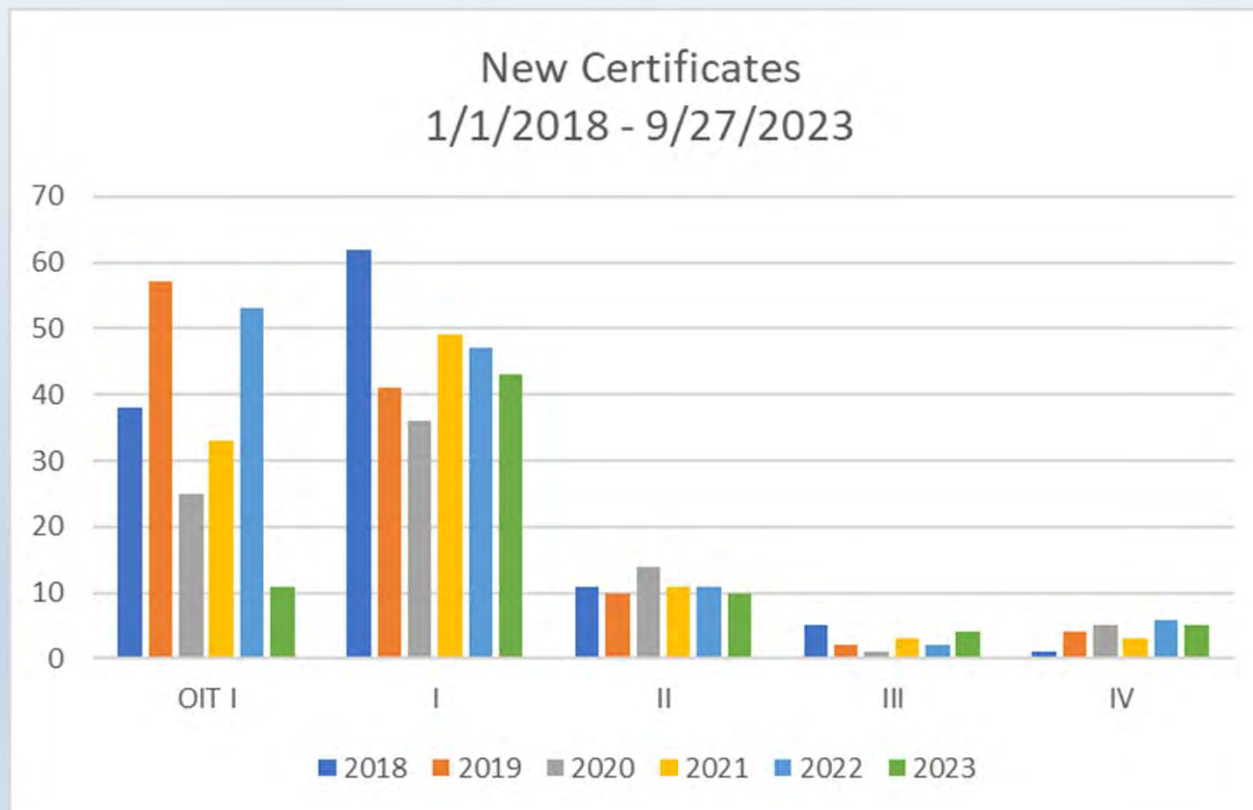


Existing Conditions- Group IV Certifications

Wastewater Operator Certification



Wastewater Operator Certification



Wastewater Operator Certification

- Number of total certified operators last three years dropped from approx. 2050 to 1750
- Approx. 15% reduction in certifications in Washington State
- Lowest average in the last 20-years
- Total as low as 1581 at one point



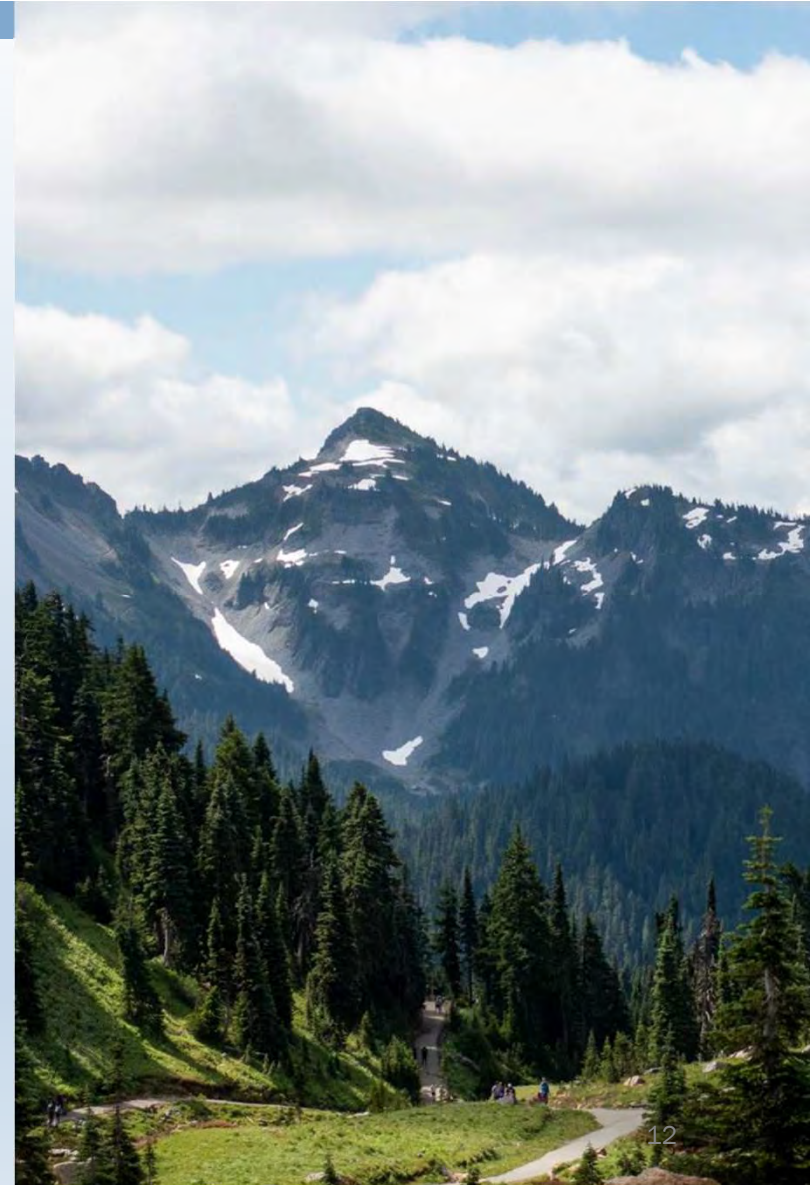
Scenarios

1. Emergency medical leave (first responder scenario)



1. Retirement (long term planning scenario)

RETIRED



Scenario 1- Emergency Medical Leave

- Other scenarios:
 - Maternal/Paternal
 - Vacation
 - Sick
 - Dependent care
 - Family emergency
 - Etc...



Initial Assessment

ABCs

- Access:
 - the facility
- Begin:
 - reviewing permit requirements and O&M manual
- Check:
 - signature authority in Ecology's WQWebPortal
- Is there an immediate threat to human health or the environment?

Triage Assessment

- Examples:

- Grouping
 - Emergency
 - Priority
 - Non-Urgent

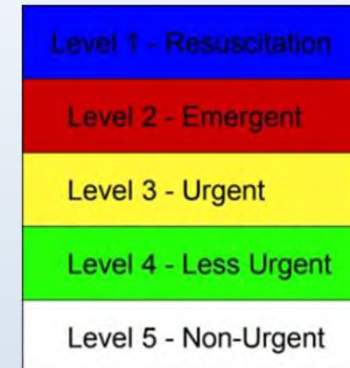
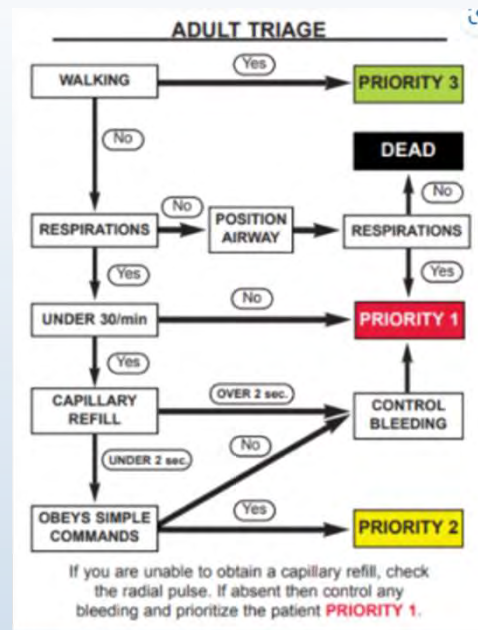
- Criteria

- Threats to human health & the environment
- Permit compliance
- Failure (equipment/process)

- Flow Chart

- Matrix

- Checklist



	1 Red Resuscitation (0min)	2 Orange Urgent (15min)	3 Yellow Less urgent (60min)	4 Green Not urgent (180min)
A	Obstructed airway Stridor	Threatened airway		
B	SpO ₂ < 80 RR > 35 or < 8	SpO ₂ : 80-89 RR: 31 - 35	SpO ₂ : 90-94 RR: 26 - 30	SpO ₂ ≥ 95 RR: 8 - 25
C	HR > 130 BP _{sys} < 80	HR: 121 - 130 HR < 40 BT _{rect} : 80 - 89	HR: 111 - 120 HR: 40 - 49	HR: 50 - 110
D	GCS ≤ 8	GCS: 9 - 13	GCS = 14	GCS = 15
E		Tp > 40 Tp < 32	Tp: 38.1 - 40.0 Tp: 32 - 34	Tp: 34.1 - 38.0

Apply Resource Interventions

Technical Assistance

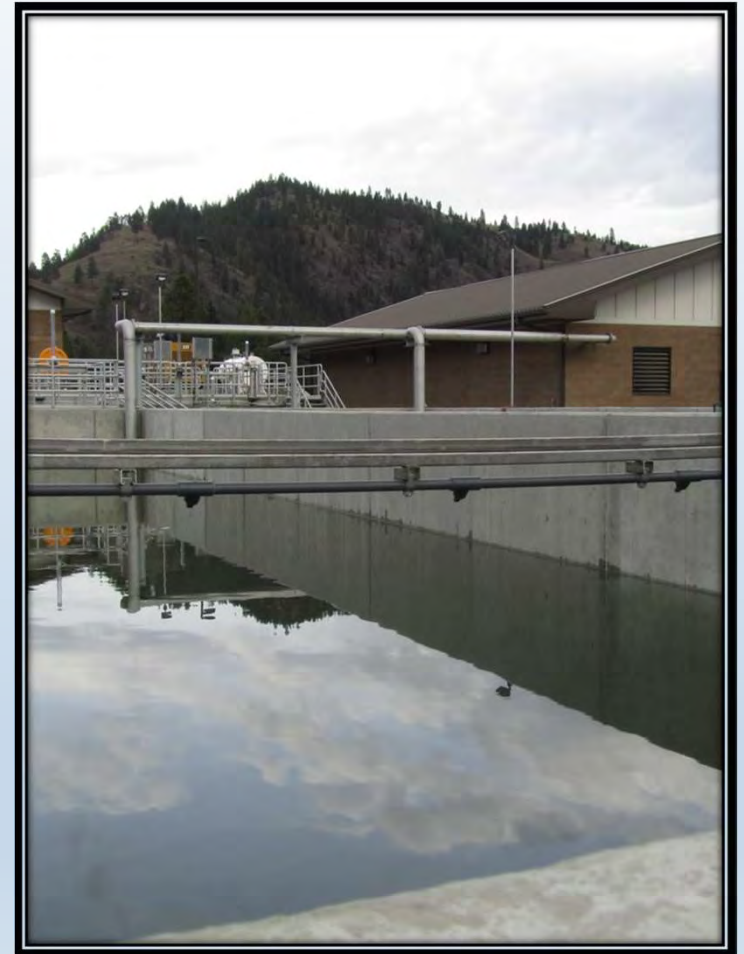
- Evergreen Rural Water of Washington (ERWOW)
- Rural Community Assistance Corporation (RCAC)
- Ecology
- Neighboring Facilities
- Contract Operators
- Vendors/Manufacturers
- Cross trained other dept. staff

Administrative Assistance

- ERWOW
- RCAC
- SCI
- Remote monitoring
- Facility Documents (O&M, Equipment & Lab Manuals)
- Facility Permit Manager
- Emergency Contacts

On-going Assessment

- Is the WWTP stable?
 - Have all/any reportable events ended?
 - Is the WWTP discharging within permit limits?
 - Is all primary equipment operational?
 - Do I still need assistance from TA providers?
- Determine frequency of reassessing conditions (daily, weekly, monthly)
- Start follow up reporting as applicable
- Review routine maintenance is sufficient
- Assess for sufficient replacement parts
- Start the recruitment/position filling as applicable



Scenario 2-Retirement



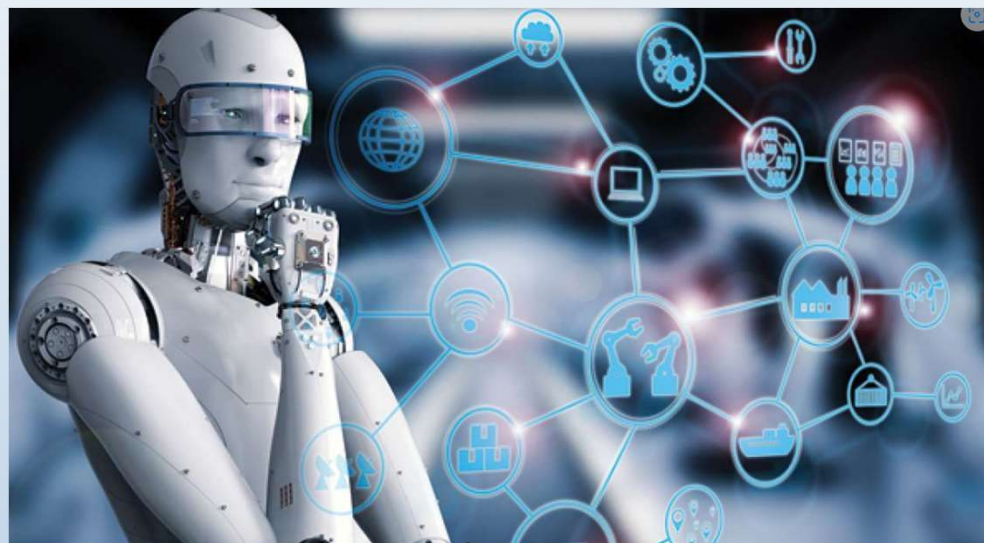
Strategic Workforce Plan

- Goal to develop long-term strategies for acquiring, developing and retaining staff to achieve program goals
- Recommended planning for 3-5 years in the future
- Example elements include:
 - Positions
 - Skills
 - Budgets including overtime
 - Opportunities for collaboration
 - Addressing “skill gaps”
 - Workforce of the future



Workplace of the future

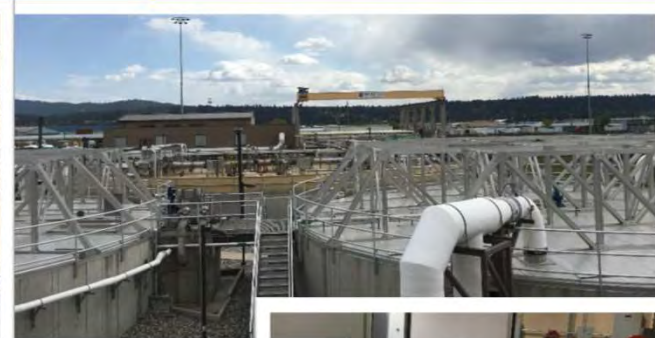
- More woman
- More culturally diverse
- Multiple generations
- Demographic changes
- Aging (workforce & infrastructure)
- Refashion policies and practices to fit the values of younger workers
- Technology changes



Promoting Wastewater Industry

- Education through outreach
- Internships
- Fellowships
- And citizen science





Recruiting

- Compensation
- Professionalism
- Paying for certification & CEUs
- Advertisements
- What's in it for me?
- Level of Service



Summary

- Across the state we're dealing with a wastewater operator shortage
- Data shows:
 - Education & experience decreases away from urban centers
 - total number of certifications is decreasing
- SCWQ developed two strategies
 - Strategic Workforce Plan

Resources

- [Evergreen Rural Water of Washington](#)
- [Rural Community Assistance Corporation](#)
- [Green River Community College](#)
- [Spokane Community College](#)
- [Washington State Department of Ecology Wastewater Operator Certification Program](#)
- EPA (2019, September). *Water Operation Hiring and Contracting Guide*. https://www.epa.gov/sites/default/files/2020-03/documents/water_operator_hiring_and_contracting_guide_final_508.pdf
- GAO (2018, January). *Water and Wastewater Workforce; Recruiting Approaches Helped Industry Hire Operators, but Additional EPA Guidance Could Help Identify Future Needs*. <https://www.gao.gov/assets/gao-18-102.pdf>
- Smith, Carl (2021, April 4) *Wastewater Has the Best Green Jobs Workers Don't Know About*. <https://www.governing.com/work/wastewater-has-the-best-green-jobs-workers-dont-know-about.html#:~:text=Wastewater%20may%20not%20be%20front,of%20life%20has%20elemental%20importance>.
- Limmer et al. (2005) *Emergency Care* (10th ed). Pearson
- [Journal AWWA](#)
- [U.S. Bureau of Labor Statistics](#)
- [U.S. Department of Labor](#)

Questions?

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