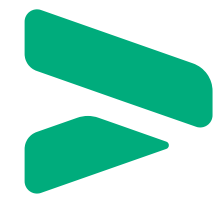




Energy, Construction, and Utilities: Water Related Careers



October 27, 2023



Housekeeping



Enable your video camera (optional)



Please stay on  unless you are called on to ask a question



Submit all questions and commentary using the chat function



This meeting will be recorded and will be provided as part of the post-meeting materials

Welcome & Introduction

Hilary Tellesen, Valley Vision
Project Leader

Liz Kilkenny, Valley Vision
Project Associate



» Thank You Planning Committee



Shinder Gill
Interim Dean of
Workforce
Development



Steve Blumenshine
Executive Director of
CSU-WATER



Jessica Charney
Employer Engagement
Specialist at
Cosumnes River College

Thank you

to all of our supporters



California
Community
Colleges



CENTERS OF EXCELLENCE
Inform Connect Advance



Golden Sierra

Agenda

1:30 PM: Welcome and Introduction

1:40 PM: Holistic Approach to Workforce

Development in the Water Sector

1:55 PM: Next Gen Career Pathways

Internships

2:10 PM: Labor Market and Trend Analysis

2:30 PM: Panel Discussion

3:30 PM: Conclusion

Holistic Approach to Workforce Development in the Water Sector

Attracting people to a sector is not enough; we must develop a system that includes education pathways, hands-on experience opportunities, and recruitment systems.

Ramzi J. Mahmood, Ph.D., P.E.
Professor and Executive Director
Office of Water Programs (OWP)
California State University, Sacramento





Holistic Approach to Workforce Development

Ramzi J. Mahmood

California State University, Sacramento
Office of Water Programs

Water Careers Advisory
Valley Vision
Folsom Lake College
October 27, 2023



**Create interest
education+outreach**



**Hands-on
experience**



Jobs\careers



**Education
training program**

**Certification
or diploma**



Next Gen Career Pathways Internships

Patrice McElroy
Deputy Administrative Officer- Human
Resources and Labor Relations for
Valley Water





Next Gen Career Pathways - Internships

AGENDA

2

- Valley Water's Next Generation Program
- Discover Water - Internships Overview
- College Internships
- Early Career Pathways
- Questions

valleywater.org

September 2021

DIVERSITY, EQUITY, AND INCLUSION TOOLKIT

Best Practices for expanding DEI effort in the water industry:

Obtain “home-grown” talent and diversity

Expand programs and outreach efforts to increase career awareness

Collaborate with partners to create alternative career pathways

Valley Water Next Gen Career Pathways Program

Outcome:

Create employment pathways for local students from underrepresented communities.

Do more to recruit diverse candidates from across the nation.



Next Generation Career Pathways Program5

Launched March 2022

WONDERS OF
WATER

*High School
Internships*

DISCOVER VALLEY
WATER

*College Internship
& Trade Programs*

WATER WORKS

*College Stipend
Program*

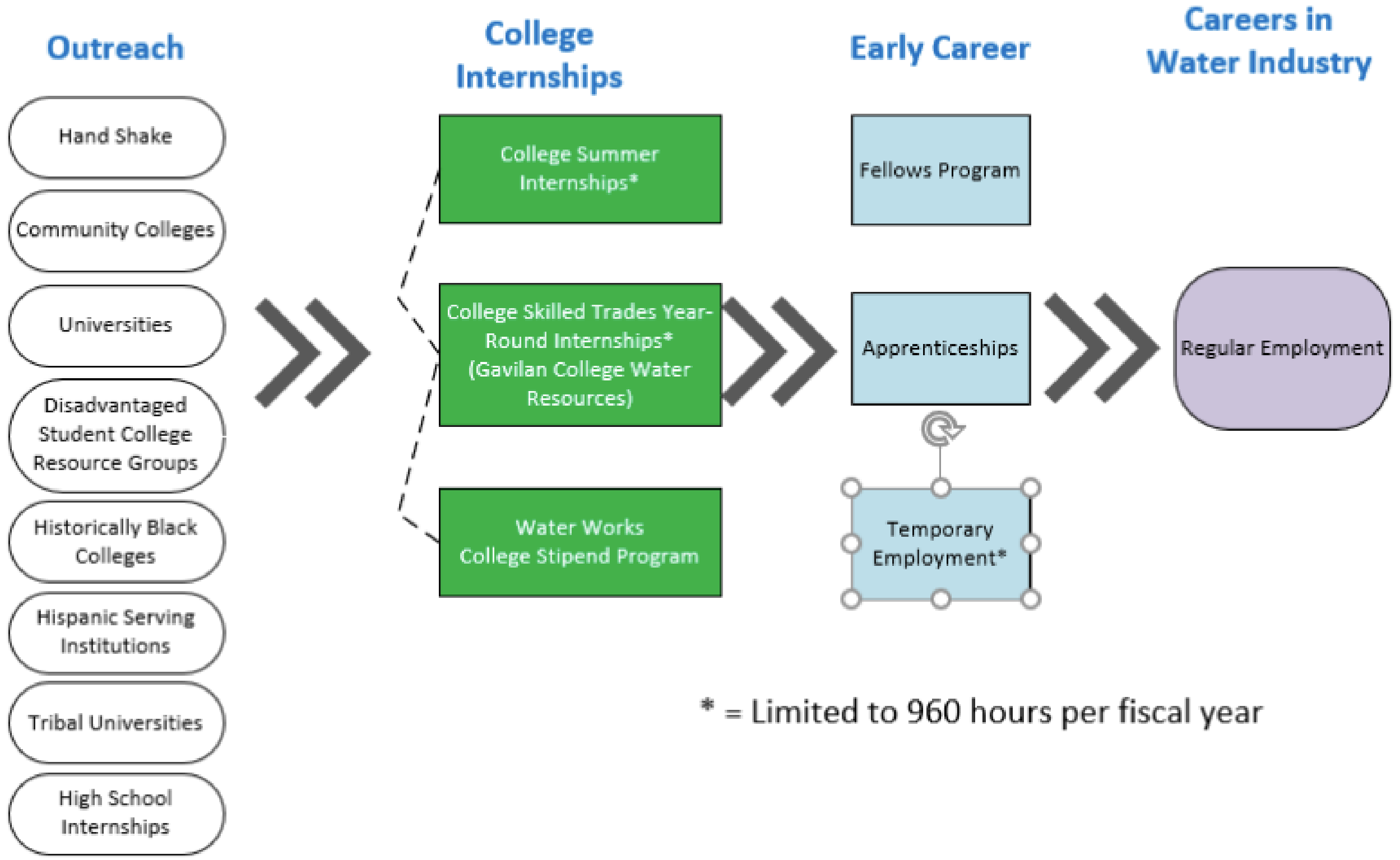
WATER
EDUCATORS

*Teacher
Externships and
Partnerships*



Next Generation Career Pathways Program
Discover Valley Water = Internships

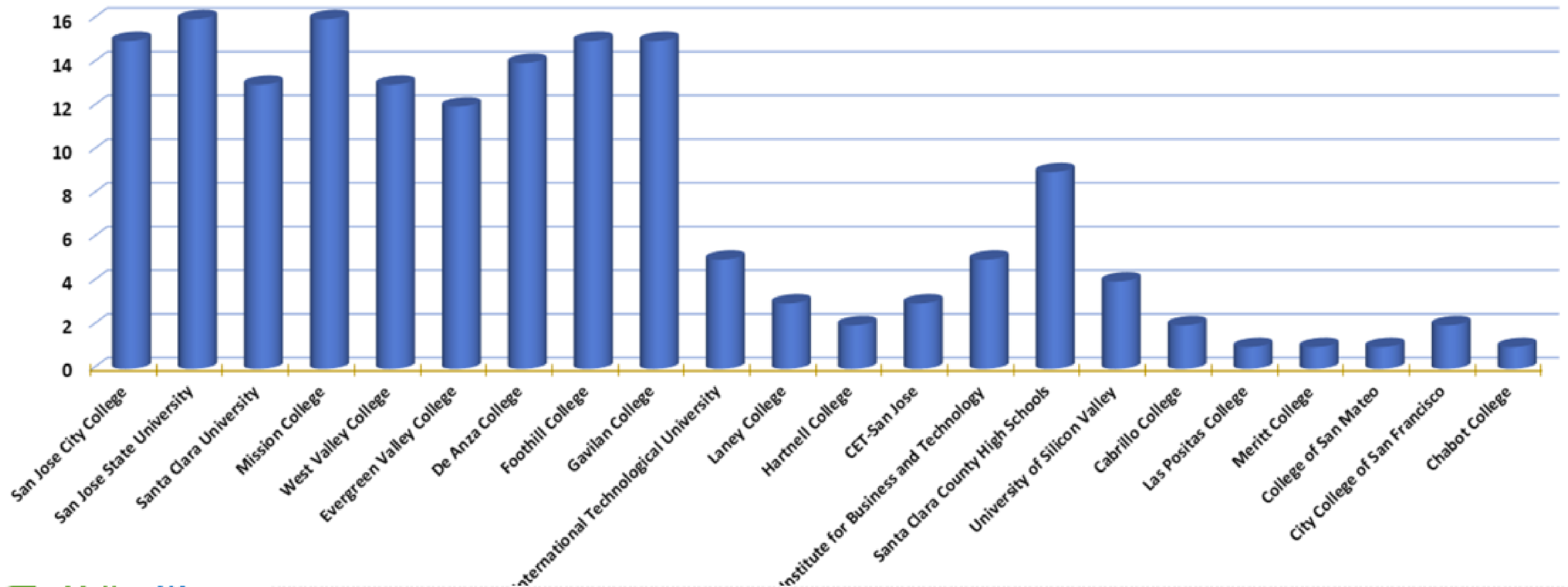
6



* = Limited to 960 hours per fiscal year

Local Colleges and Universities with Water Career Related Major

Education Programs With VW Related Majors



Discover Valley Water- College Internships

College Summer Internship: 3 Months (June-September)

- Valley Water leverages outreach to a broader audience and attract diverse candidates.

College Year-Round Internships: 6-12 Months (Rolling)

- Outreach and recruitment for the year-round intern program includes webinars, social media, LinkedIn.

College Skilled Trade Internships: 6-12 Months (Rolling)

- Participants will gain hands-on experience and training.

* Limited to 960 hours in a fiscal year



Early Career Pathways

Valley Water's Fellowship and Apprenticeship Program

- The goals of the program are to establish a pipeline of workers for hard-to-fill positions, increase diversity, and provide career pathways for Valley Water interns.

Temporary Worker: 6-12 Months (Rolling-As needed)

- Interns can convert to Temporary employees.



QUESTIONS





Labor Market & Trend Analysis

Ebony Benzing, Interim Director North (Greater Sacramento) Center of Excellence for Labor Market Research, Hosted By Los Rios Community College District





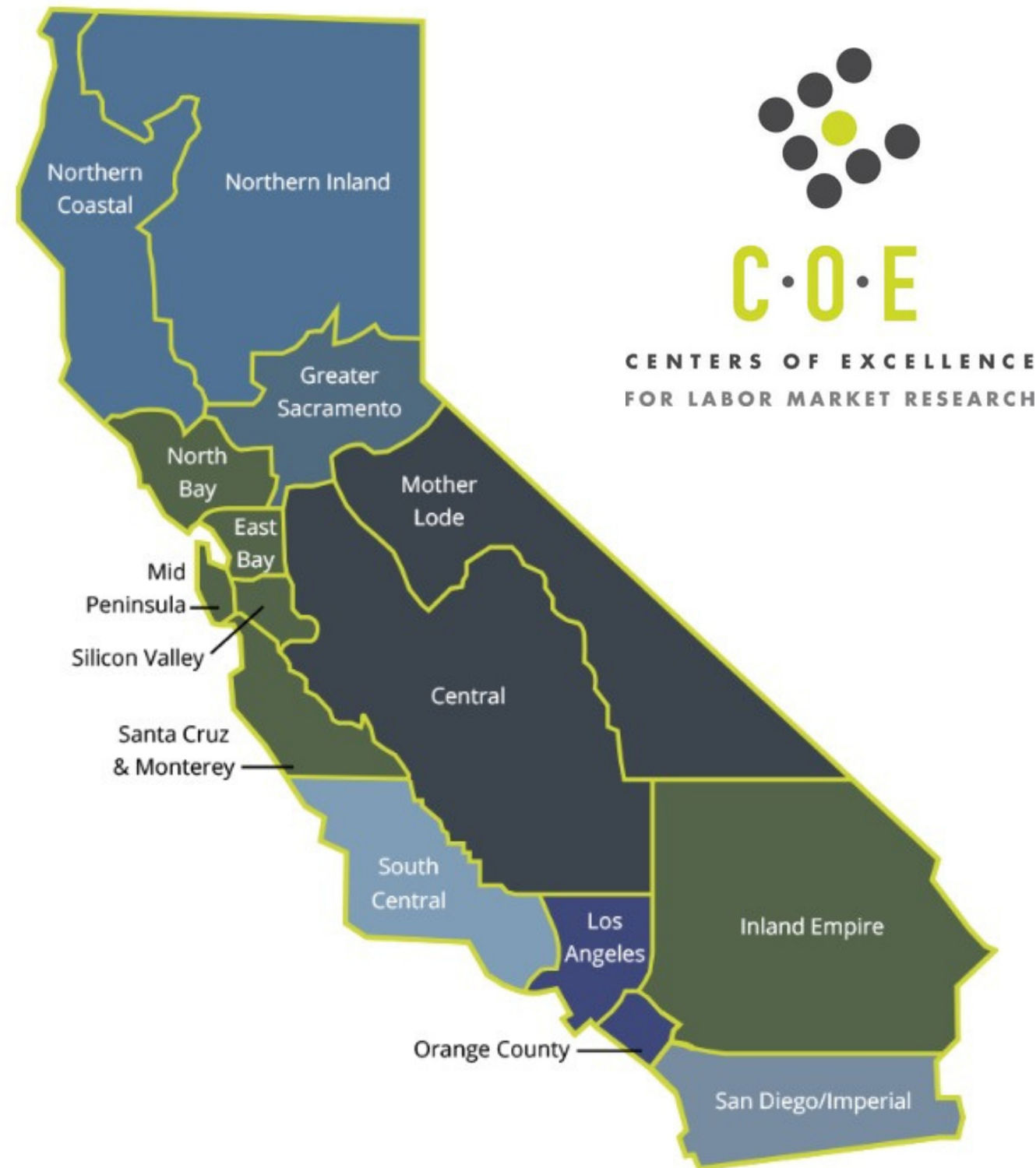
Water Careers in Greater Sacramento

Friday, October 27, 2023

Ebony J. Benzing, Interim Director

North (Greater Sacramento) Center of
Excellence for Labor Market Research

Who is the Center of Excellence?



Region	Director
North/ Far North	Ebony Benzing (North)
	Sara Phillips (Far
Bay Area	North) John Carrese
Central	Nora Seronello
South Central	Adele Hermann
Los Angeles	Luke Meyer
Orange County	Jesse Crete
Inland Empire/Desert	Michael Goss
San Diego/Imperial	Tina Ngo Bartel
Statewide	Laura Coleman

Typical COE Research Questions

Industries &
businesses

Size &
performance of
labor market

Occupations &
job titles

Wages &
earnings

Education &
training
requirements

Credentials

Skills









Emerging
trends

- What is the employment **outlook** for students?
- What **skills** and **credentials** are needed?
- What **programs** look ripe for investment?

What are Water Careers?

- California Water Environment Association (CWEA)
- Job board with 191 water-related job postings across California
- Water careers can be broad; narrowed focus to listings on job board
 - Who are the employers?
 - What roles are they hiring?
 - What seems to be high priority?

LATEST JOBS

	EXECUTIVE DIRECTOR State Water Board • Sacramento, CA, USA	Oct 22
	Water Distribution Service Worker (temp/temp-to-hire) waterTALENT • California, USA	Oct 16
	Grade OIT/I/II/III Susanville Sanitary District • Susanville, CA, USA	Sep 20
	Deputy Director, Public Works Los Angeles County Public Works • Los Angeles, CA, USA	Sep 14
	Executive Director Office of Water Programs • Sacramento, CA, USA	Sep 11
	Senior Instrument Technician City of Vallejo • Vallejo, CA, USA	Sep 11
	Water Treatment Plant Operator, Senior City of Turlock • Turlock, CA, USA	Sep 11
	Wastewater Operations and Maintenance Supervisor El Dorado Irrigation District • Cameron Park, CA, USA	Sep 07

 **CALIFORNIA**
WATER JOBS

California Agencies advertising with CWEA

Agency Category	Sacramento Specific Examples	Aligned NAICS Industry
Special Water Districts (60% of postings on CWEA)	<ul style="list-style-type: none"> Sacramento Area Flood Control Agency Sacramento Regional County Sanitation District Sacramento Suburban Water District 	<ul style="list-style-type: none"> State Government, excluding education and hospitals (903999) Local Government, excluding education and hospitals (902999) Water Supply and Irrigation Systems (221310) Sewage Treatment Facilities (221320)
City Utility/Public Works Departments (33% of postings on CWEA)	<ul style="list-style-type: none"> City of Woodland 	
Environmental Consulting Groups (6% of postings on CWEA)	<ul style="list-style-type: none"> Synagro 	
Others: <ul style="list-style-type: none"> - State Water Board - Education - WaterTALENT 	<ul style="list-style-type: none"> State Water Resources Board Sac State Office of Water Programs 	

191 postings from CWEA,
Aug 29, 2023 – Oct 22, 2023

California Jobs advertised with CWEA

Functional Category	Job Title Examples	Aligned Occupations
Operations (48)	Plant Operator I/II/III Water/Wastewater Systems Operator I-	Water and Wastewater Treatment Plant and System Operators (51-8031)
Engineering (29)	II Civil Engineer Electrical Engineer	Civil Engineers (17-2051) Electrical Engineers (17-2071)
Maintenance (18)	Utility Operations Maintenance Worker O&M Technician III – Welder/Fabricator Mechanic I or II	Maintenance and Repair Workers, General (49-9071) Industrial Machinery Mechanics (49-9041)
Electrical & Instrumentation (17)	SCADA/Instrumentation Technician Electrical Technician Electrician	Electricians (47-2111) Electrical and Electronic Engineering Technologists and Technicians (17-3023)
Others - Management - Inspection & Compliance - Environmental Specialists & Technicians - Support Services - Laboratory - IT	--	Multiple occupations align to these categories.

191 postings from CWEA,
Aug 29, 2023 – Oct 22, 2023



Water Industries in Greater Sacramento

Source: Lightcast 2023.3; QCEW Employees, Non-QCEW Employees, and Self-Employed workers

Base year 2022 with projections through 2027

Seven-county North (Greater Sacramento) subregion

Key Water Industries in Greater Sacramento

From CWEA postings

- Water Supply and Irrigation Systems (221310)
- Sewage Treatment Facilities (221320)
- COE Statewide Water-Wastewater Report:
 - Water and Sewer Line and Related Structures Construction (237110)
 - Other Heavy and Civil Engineering Construction (237990)
 - Site Preparation Contractors (238910)
- Does not include
 - State Government (903999)
 - Local Government (902999)

7,150

Jobs in 2022

8,003

Projected Jobs in
2027

+853

5-Yr Projected
Change

12%

5-Yr Projected %
Change

396

Establishments

Sources: 1) Centers of Excellence for Labor Market Research, "California Workforce Needs in the Water/Wastewater Industry," March 2023, <https://coeccc.net/california/2023/03/california-workforce-needs-in-the-water-wastewater-industry/> and 2) Lightcast 2023.3; QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Jobs includes all positions employed in the selected industries.



Demand for Water Careers

Source: Lightcast 2023.3; QCEW Employees, Non-QCEW Employees, and Self-Employed workers

Base year 2022 with projections through 2027

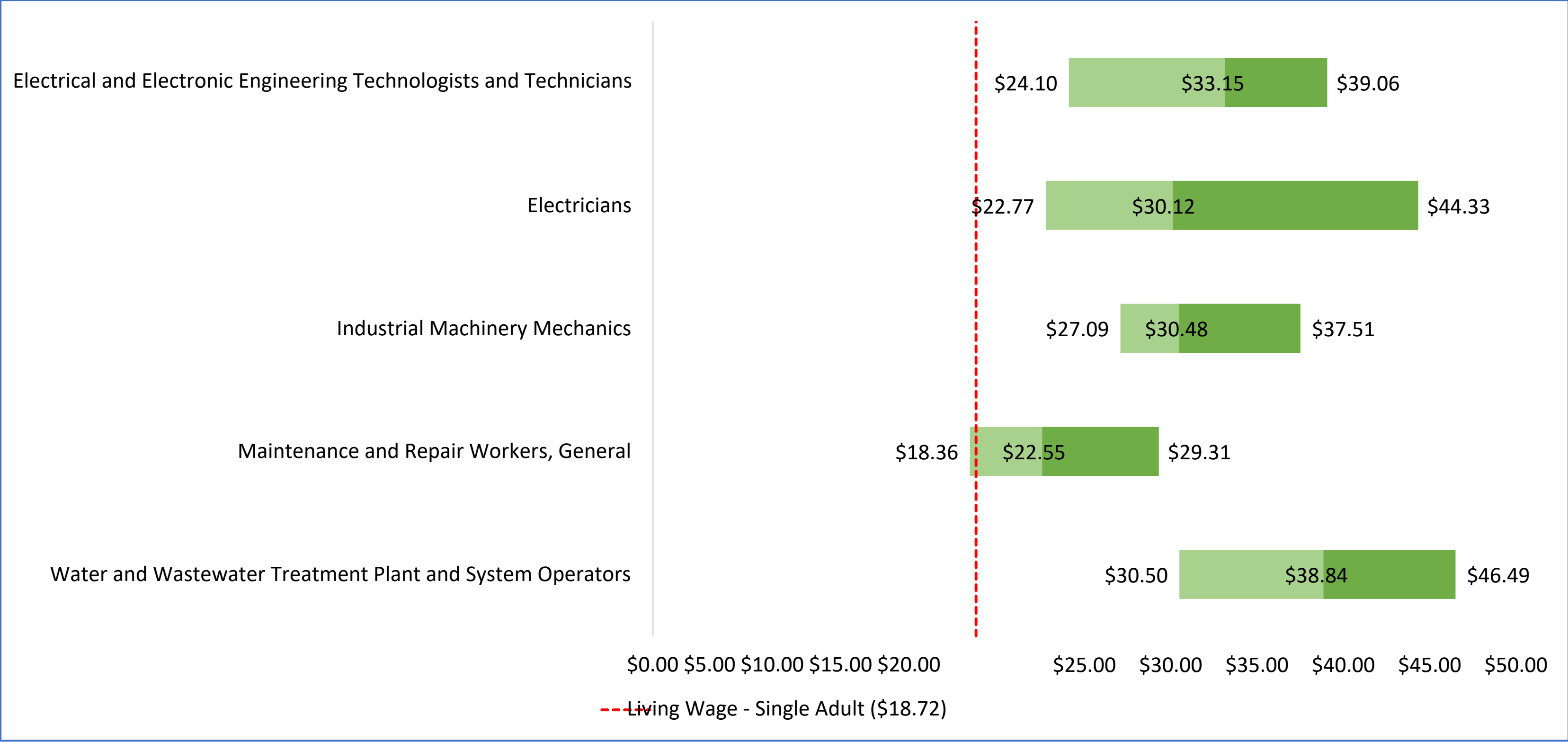
Seven-county North (Greater Sacramento) subregion

Demand for Critical Water Occupations across Greater Sacramento

Occupational Category	Occupation	2022 Jobs	2027 Avg. Annual	Projected % Change 2022 - 2027
Electrical & Instrumentation	Electrical and Electronic Engineering Technologists and Technicians	682	8%	86
	Electricians	7,305	18%	1,066
	<i>E&I Subtotals</i>	<i>7,986</i>	<i>17%</i>	<i>1,152</i>
Maintenance	Industrial Machinery Mechanics	1,314	18%	173
	Maintenance and Repair Workers, General	9,655	12%	1,213
	<i>Maintenance Subtotals</i>	<i>10,969</i>	<i>12%</i>	<i>1,386</i>
Operations	Water and Wastewater Treatment Plant and System Operators	1,059	8%	123
	<i>Operations Subtotal</i>	<i>1,059</i>	<i>8%</i>	<i>123</i>
Greater Sacramento Critical Water Occupations Grand Total		20,014	14%	2,661

Source: Lightcast 2023.3; QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Demand data counts all jobs across all industries in the seven-county Greater Sacramento subregion.

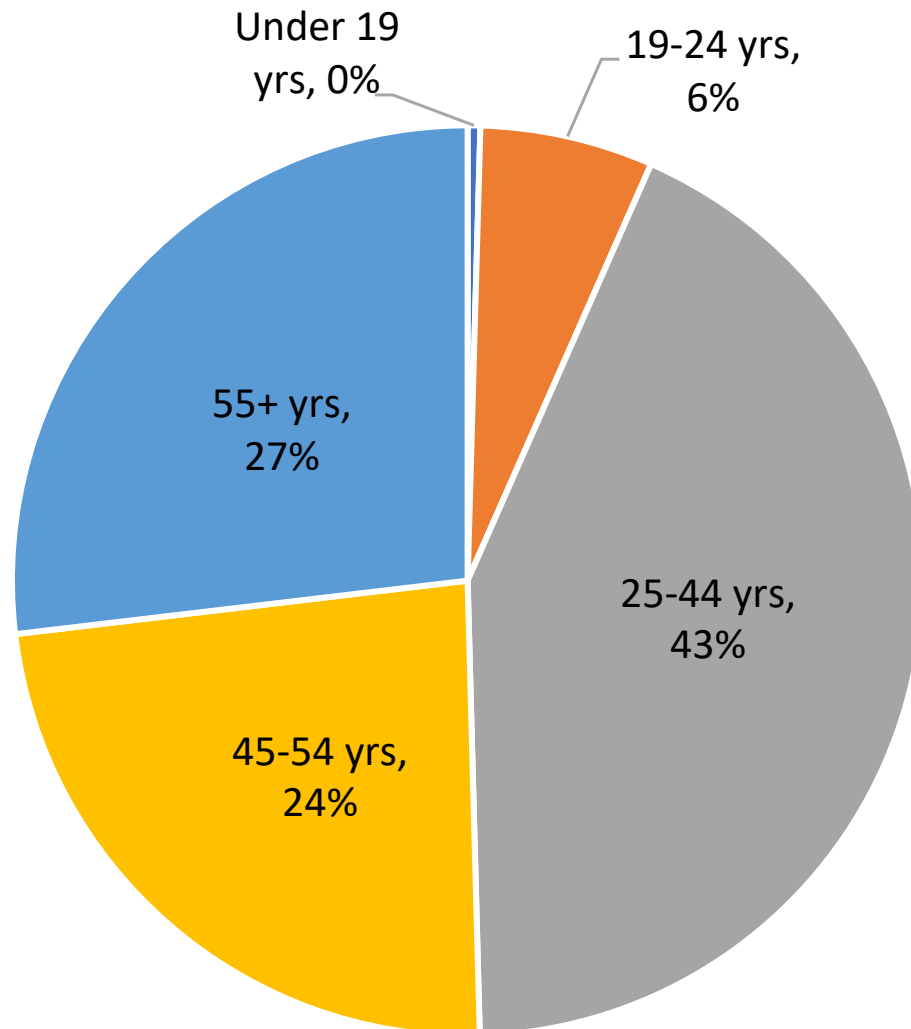
Water Career Wages



Source: Lightcast 2023.3; QCEW Employees, Non-QCEW Employees, and Self-Employed.

Water Careers Worker Demographics

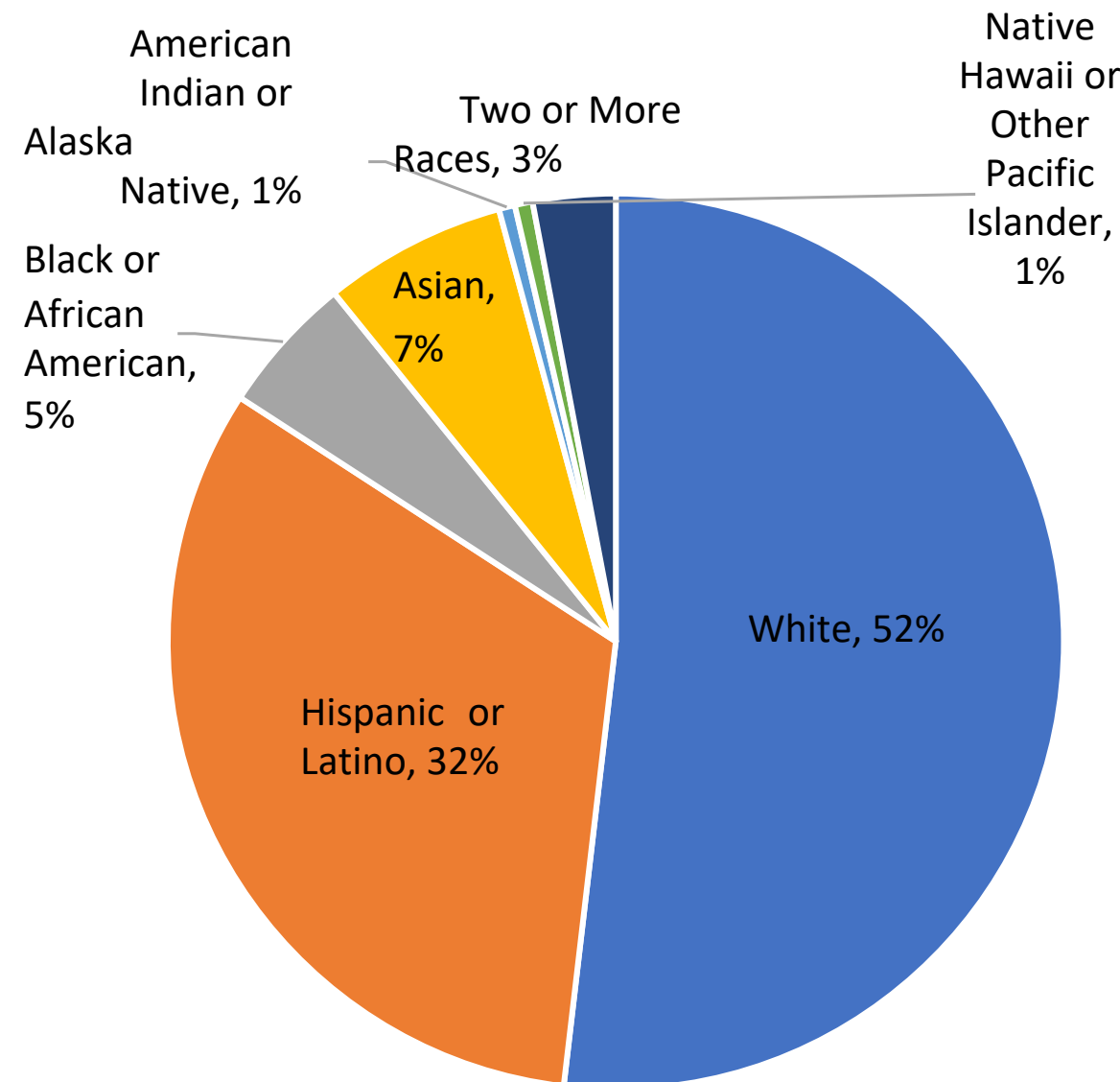
Age



Slightly Higher than Average Retirement Risk in Greater Sac Water Careers

- 27% workers aged 55 years or older
- Greater Sacramento average*: 24.4%

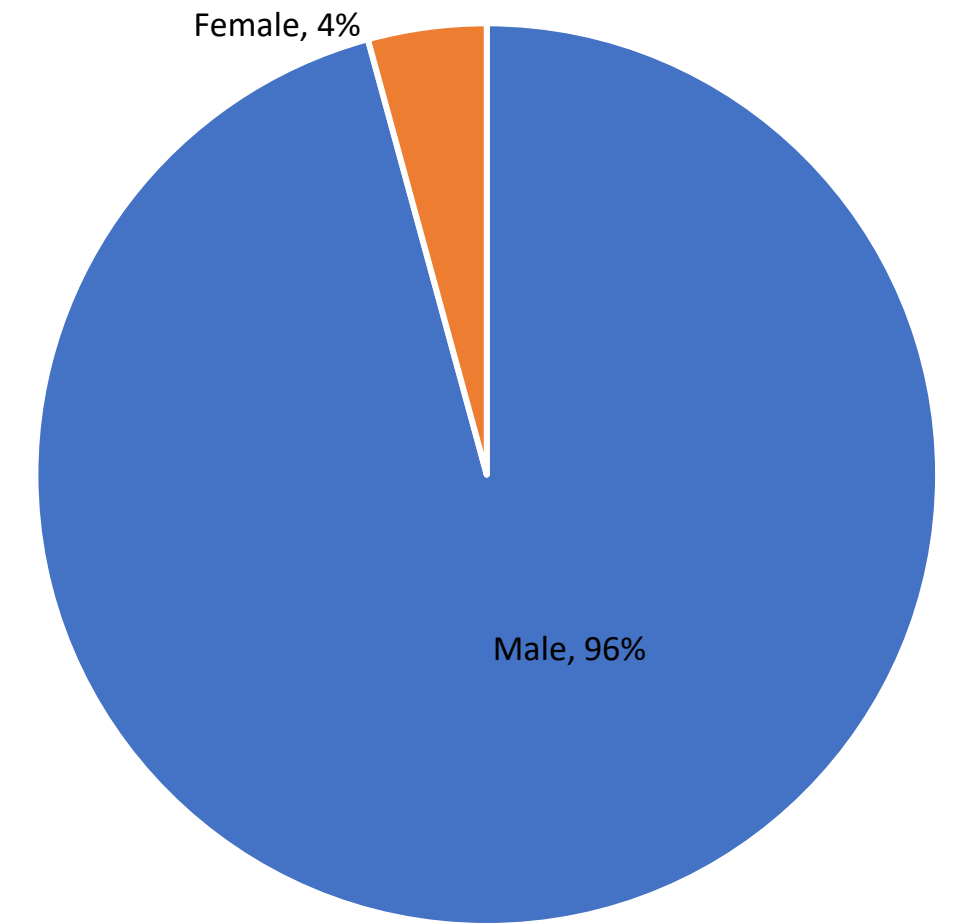
Race and Ethnicity



Lower than Average Racial Diversity in Greater Sac Water Careers

- 48% racially diverse, or non-white, workers -
- Regional average*: 53.5%

Gender



Average Gender Diversity in Greater Sac Water Careers

- 4% female identifying workers
- State average**: 4%
- Opportunity to increase female worker participation**

Source: Lightcast 2023.3; QCEW employees, Non-QCEW Employees, and Self-Employed workers.

* Across all 798 occupations employed in 7-county North (Greater Sacramento) subregion

** Across the same 5 water occupations employed across California.



Essential Skills in Water Industries

Lightcast Job Postings Analysis

Industry Skills Analysis includes Water Supply and Irrigation Systems (221310), Sewage Treatment Facilities (221320), Water and Sewer Line and Related Structures Construction (237110), Other Heavy and Civil Engineering Construction (237990), and Site Preparation Contractors (238910)

Does not include state or local government

Top Skills in Greater Sacramento by Category

Electrical & Instrumentation (n = 21 postings)

- Electrical Equipment
- High Voltage
- Electronic Systems
- Wire and Cable Pulling
- Electrical Wiring
- Electrical Systems
- Instrumentation
- Supervisory Control and Data Acquisition (SCADA)
- National Electrical Codes
- Programmable Logic Controllers

Maintenance (n = 101 postings)

- Plumbing
- Carpentry
- HVAC
- Construction
- Preventative Maintenance
- General Mathematics
- Painting
- Valves (Piping)
- Irrigation
- Power Tool Operation

Operations (W/WW) (n = 26 postings)

- Water Treatment
- Water Distribution
- Water Resources
- Irrigation
- SCADA
- Emergency Response
- Standard Operating Procedure
- Treatment Monitoring
- Pump Stations
- Distributed Computing



Community College Training Programs

Sources: CCCCCO DataMart and Chancellor's Office Curriculum
Inventory

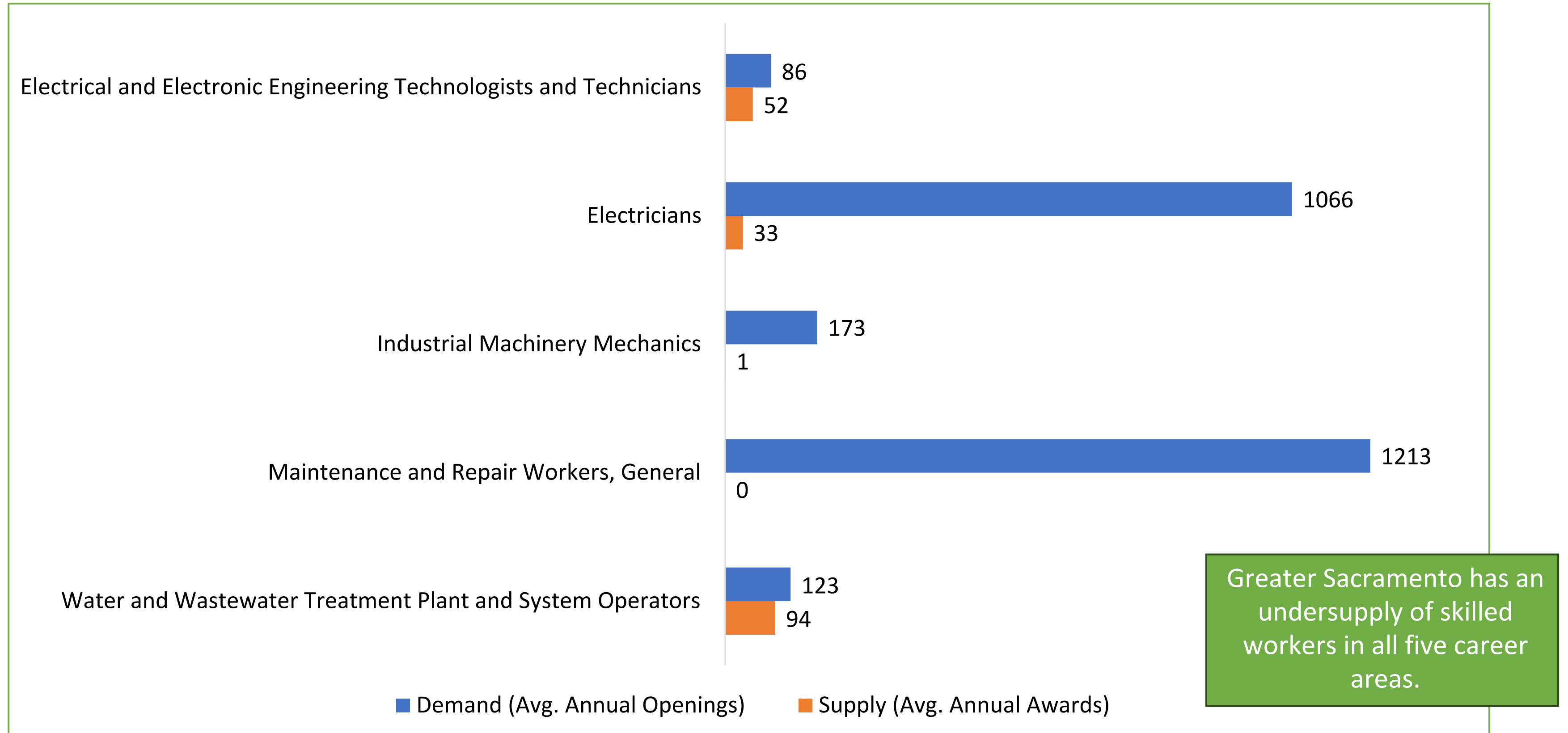
Training Pathways by Community College

Electrical and Electronic Engineering Technologists and Technicians <ul style="list-style-type: none">• <u>Electronics & Electric Technology (0934.00)</u>• American River• Sacramento City• <u>Engineering Technology (0924.00)</u>• American River• Sierra	Electricians <ul style="list-style-type: none">• <u>Electrical (0952.00)</u>• American River	Industrial Machinery Mechanics <ul style="list-style-type: none">• <u>Energy Systems Technology (0946.10)</u>• Sierra	Maintenance and Repair Workers, General <ul style="list-style-type: none">• None	Water and Wastewater Treatment Plant and System Operators <ul style="list-style-type: none">• <u>Water and Wastewater Technology (0958.00)</u>• Folsom Lake• Woodland
--	--	---	---	--

“Community Colleges account for 71% of the supply from educational institutions across the state.”

- COE Water/Wastewater Industry Report, 2023

Demand & Supply in Greater Sacramento



Source: 1) Lightcast 2023.3; QCEW employees, Non-QCEW Employees, and Self-Employed workers and 2) California Community Colleges Chancellor's Office DataMart.

Notes: Avg annual opening are projected between 2022 and 2027. Average annual awards covers certificates and degrees issued in community college programs between the 2020-21 and 2022-23 academic years.

Thank You!



Ebony J. Benzing
Interim Director

North Far North Center of Excellence

ebony.benzing@losrios.edu

916-563-3215



<https://coeccc.net/california/2023/03/california-workforce-needs-in-the-water-wastewater-industry/>

➤ Industry Panel Discussion



Samantha
Blackwood
Talent Management
Branch Manager
Department of Water
Resources



Kari D
Shively, P.E.
Senior Vice President,
Water Business Leader
for Marketing, Business
Development, and
Growth
Stantec Consulting



Nichole
Morgan, P.E.
Board Member
State Water Resources
Control Board



Michele
Chapman
Support Services Manager
City of Sacramento
Department of Utilities

➤ Upcoming Events

Register for our Livability
Summit – 2023 by
Scanning this QR Code!



➤ Thank you for joining!

For more information, please contact:

Hilary Tellesen, Project Leader, Valley Vision
hilary.tellesen@valleyvision.org

Liz Kilkenney, Project Associate, Valley Vision
liz.kilkenney@valleyvision.org



Fill out our survey and
let us know what you
think