

SACRAMENTO STATE

ANNUAL REPORT

2016–2017



WATER PROGRAMS
SACRAMENTO STATE

ABOUT US

The Office of Water Programs (OWP) focuses on delivering cost-effective solutions for protecting and enhancing water resources, public health, and the environment through training, scientific research, and public education. Our commitment and contribution to water management in California and beyond show in our expanding library of training products and applied research services.



 believe the potential of our organization has no limit and is driven by our employees, our respect for each other, and our commitment to providing the best service and products in the industry.

 take pride in everything we do. From our products and services to our relationships with customers, clients, and employees—quality is our signature.

Organizational Values





TRAINING SERVICES

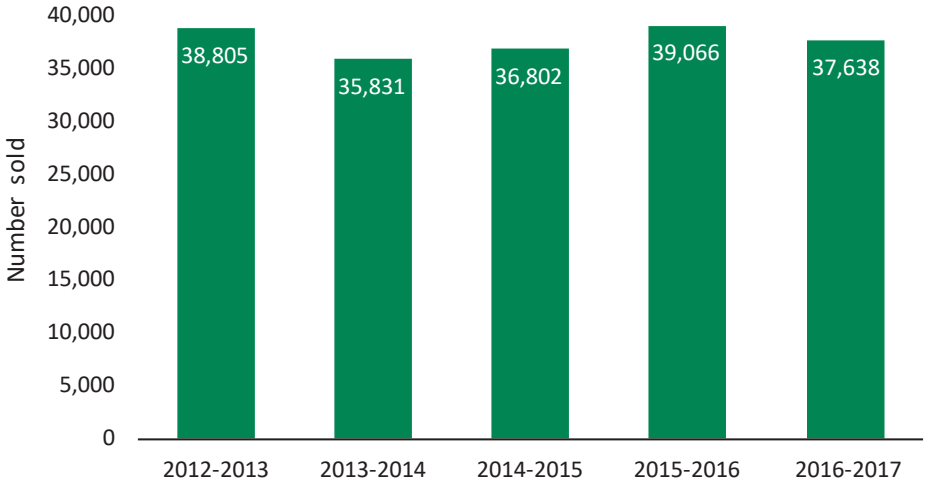
As the most recognized provider of training materials for water and wastewater industry professionals, OWP continues to update course offerings with a focus on those topics that best serve our customers. We offer nearly 50 courses via print, online, and DVD delivery, and are currently developing four new operator math courses for online delivery.

2016-2017 Highlights

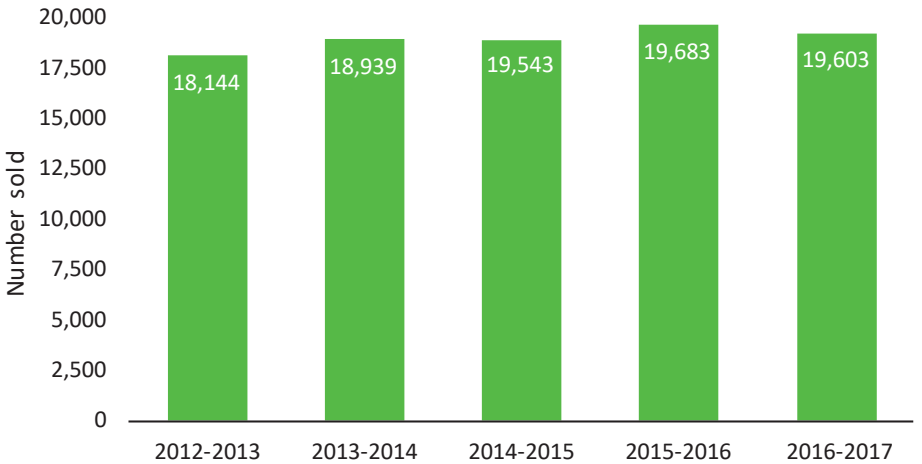
- Nearly **38,000** training manuals sold, with **82 percent** of sales outside of California
- Over **19,600** students enrolled in courses for continuing education units, contact hours, or academic credits
- With **71 percent** of US students residing outside of California, OWP continues to be a recognized national training provider
- Nearly **10 percent** of all sales take place outside the United States, with OWP reaching international customers in more than **20 countries**, including Belize and Australia



Training Manual Sales



Course Enrollment Sales





POPULAR TRAINING TITLES

Our First Full-Color Title

We publish the bestselling resources for:

- training operators, managers, and students
- meeting continuing education and contact hours requirements
- preparing for state certification exams

We are here to deliver cost-effective solutions for protecting and enhancing water resources, public health, and the environment through training, scientific research, and public education.

www.owp.csus.edu

DRINKING WATER TREATMENT PROCESS

WATER TREATMENT PLANT OPERATION

Vol 1

WATER

Volume 1, Seventh Edition

WATER TREATMENT PLANT OPERATION

WATER PROGRAMS
SACRAMENTO STATE

PEARSON HIGHER EDUCATION

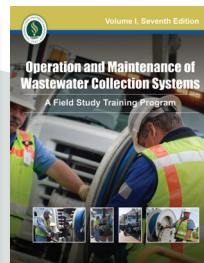
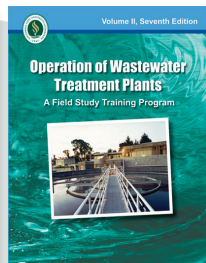
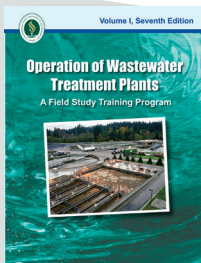
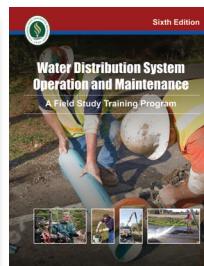
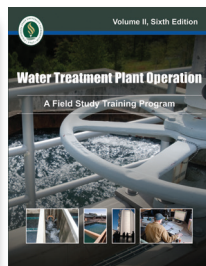
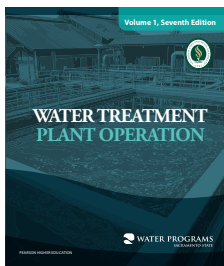
PEARSON

OWP

WATER PROGRAMS SACRAMENTO STATE

Includes eText

Top-Selling Titles



Selected Training Products

Advanced Waste Treatment (print, course enrollment)

Basic Small Water System Operations (print)

Collection Systems: Methods for Evaluating and Improving Performance
(print, course enrollment)

Industrial Waste Treatment, 2 volumes (print, course enrollment)

Manage for Success (print, course enrollment)

Membrane Bioreactors (print, course enrollment)

Operation and Maintenance of Wastewater Collection Systems, 2 volumes
(print, DVD, course enrollment)

Operation of Wastewater Treatment Plants, 2 volumes
(print, CD, course enrollment, online)

Pretreatment Facility Inspection (print, DVD, course enrollment)

Small Wastewater System Operation and Maintenance, 2 volumes
(print, course enrollment)

Small Water System Operation and Maintenance
(print, DVD, course enrollment, online)

Treatment of Metal Wastestreams (print, course enrollment)

Utility Management (print, course enrollment)

Water Distribution System Operation and Maintenance
(print, course enrollment, online)

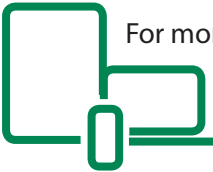
Water Systems Operation and Maintenance Video Training Series
(print, DVD, course enrollment)

Water Treatment Plant Operation, 2 volumes (print, course enrollment)

We're with Sac State

OWP has a long-term and dynamic connection with Sac State. Our commitment to this valuable relationship is demonstrated by our practice of hiring and training student assistants from a variety of disciplines, filling on-campus teaching opportunities with experienced OWP research engineers and scientists, and developing a graduate research fellowship program that offers paid experience to advanced students.

A high percentage of our student assistants go on to satisfying work in their career fields, taking with them hands-on work experience and professional references from their time at OWP. Currently, we're employing and training students from the following disciplines: business administration; civil engineering; kinesiology; communication studies; recreation, parks, and tourism administration; computer science; and graphic design.



For more information about our connection
with Sac State, visit us online at

www.owp.csus.edu/university-connection

From Drought to Floods: Three Years of Water Seminar Series

OWP has brought together the Sac State community and water professionals from around the region to educate and collaborate on water management in California. Seminar topics have included:

- California Climate and Weather
- Direct Potable Reuse
- Drought
- Water and Wastewater Emergency Response
- Flood Operation and Control
- Groundwater Management
- History of California Water
- Infrastructure Investment
- Municipal Finances



Information about upcoming and past seminars is available at www.owp.csus.edu/water-seminars



TRAINING SERVICES

Stormwater Training, Exam Services & Tools

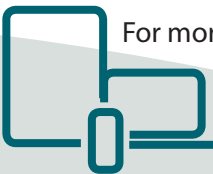
OWP develops and maintains productive client relationships, in part, by offering customizable and cost-effective technical services, including numerical modeling utilities and web-based tools for administering online exams and certificate programs.

Training and Exam Administration

Part of OWP's mission includes protecting and enhancing water resources, including protecting surface and groundwater from pollution. In partnership with the California Stormwater Quality Association and the California State Water Resources Control Board, OWP developed and continues to coordinate training and testing programs for Construction and Industrial Permit compliance. Since the program's inception in 2011, almost 9,000 professionals have become Qualified Stormwater Developers, Qualified Stormwater Practitioners, and Qualified Industrial Stormwater Practitioners.

Hydrologic Analysis Tool

The OWP Hydrologic Analysis Tool (HAT) standardizes calculations for event-based stormwater monitoring. It was created to prepare hydrographs for stormwater-related studies conducted by OWP. Starting with version 2.0, HAT is freely available to the public for NPDES permit monitoring and stormwater studies.



For more information about software tools, visit us online at

www.owp.csus.edu/research/software-tools.php

California Phase II Low Impact Development Sizing Tool

The LID Sizing Tool assists stormwater practitioners in selecting and sizing LID Best Management Practices (BMPs) that meet sizing requirements in California's National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges from small municipal separate storm sewer systems (MS4s). The Tool was developed by OWP with funding from the California State Water Resources Control Boards Proposition 84 Stormwater Grant Program.

Basin Sizer

Basin Sizer is a software program that assists users in sizing stormwater basins anywhere in California. The program calculates water quality volumes (WQVs) and water quality flows (WQFs) using a variety of methods and data from rainfall stations throughout the state. Project locations can be easily selected by zooming and panning across a map.

Struvite Tool

The Struvite Tool calculates the struvite precipitation potential for a facility based on water quality parameters input by the user. It allows the user to vary input parameters to determine "what if" scenarios when conditions are changed to control struvite precipitation. This tool is a must-have for struvite control planning.

Water Quality Planning Tool

This tool provides planners with an easy-to-use website that has watershed information needed to create and comply with stormwater permits. Users can find a watershed through interactive maps or by entering the post-mile of a project location.

Our experienced and well-trained staff of research engineers and scientists provide sought-after technical expertise and project consulting on data analysis, cost assessment, watershed planning, modeling, and water policy issues to public and private sector clients and partners. Water quality, management, and reuse are areas of primary focus.

2016-2017 Highlights

- **\$355K**, 1.5 year Prop 1 project to develop a stormwater resource plan for the American River Basin with State Water Board
- **\$6M**, 3-year stormwater technical assistance project with Caltrans
- **\$1.3M**, 1-year stormwater technical assistance contract with State Parks
- **\$54.5K** contract with SAFCA to research levee scour holes and vegetative wind-wave buffers

Funded Grants & Contracts



- SAFCA \$54.5K
- State Water Board Stormwater Resource Plan Grant \$355K
- State Water Board Campus LID Implementation Grant \$3.4M
- State Parks \$1.3M
- Caltrans (DRISI) \$273K
- Caltrans (DEA) \$6M
- State Water Board Stormwater Capture & Use \$200K
- DWR/DSOD \$500K
- CW4CB \$44K
- SRCSD \$400K
- Sacramento State Facilities Management \$7K
- EPA Environmental Finance Center \$251K
- EOA \$22K

Environmental Impact of Cured-In-Place Pipe Repairs

The California Department of Transportation (Caltrans), Division of Research, Innovation, and System Information (DRISI) contracted \$273,383 with OWP (05/29/14-12/31/16) to implement field studies to determine the environmental impact of cured-in-place pipe repairs.

Stormwater Program Technical Assistance

The California Department of Transportation (Caltrans), Division of Environmental Analysis (DEA) contracted \$6,000,000 with OWP (09/01/16-11/30/19) to provide technical assistance with stormwater research focusing on discharge characterization, source identification and control, and treatment control studies.

Capture and Use White Paper

The State Water Resources Control Board (State Water Board) contracted \$200,000 with OWP (06/09/16-03/31/18) to prepare a capture and use white paper and to perform a literature search on reasonable assurance analysis.

Stormwater Resource Plan

The State Water Resources Control Board (State Water Board) contracted \$355,463 with OWP (01/01/17-05/31/17) to develop a stormwater resources control plan.

Division of Safety of Dams Mapping Project

The California Department of Water Resources (DWR) contracted \$500,000 with OWP (01/01/13-06/30/17) to assist the Division of Safety of Dams (DSOD) with dam break flood analysis and emergency action plan development.

Environmental Compliance Support

Sacramento State Facilities Management contracted **\$7,506** with OWP to review their Spill Prevention Control and Countermeasure Plan.

Clean Watersheds for a Clean Bay (CW4CB) Project BMP Pilot Studies

Continuing a collaborative effort with the Bay Area Stormwater Management Agencies Association (BASMAA) and eight Bay Area cities/counties, Geosyntec contracted **\$44,075** with OWP (executed on 02/16/16) to assist with stormwater best management practices pilot study design, coordination, and oversight.

Levee Scour Hole and Vegetative Wind/Wave Buffer Research

Sacramento Area Flood Control Agency (SAFCA) contracted **\$54,500** with OWP to research and provide recommendations on levee scour holes and vegetative wind/wave buffers.

BASMAA Pollutant of Concern Monitoring for Source Identification and Management Action Effectiveness Project

EOA, Inc. contracted **\$22,690** with OWP (start date 02/02/17) to assist with study design, coordination, and implementation.

Wastewater Technical Expertise

The Sacramento Regional County Sanitation District (SRCSD) contracted \$400,000 with OWP (06/11/03-12/31/20) to provide technical expertise, with a focus on wastewater characterization and treatment.

Qualified SWPPP Developer and Qualified SWPPP Practitioner Testing and Certification

California Stormwater Quality Association (CASQA) contracted with OWP (executed on 01/21/11) to develop and implement an online system to administer/grade tests and issue/renew certifications for Qualified SWPPP Developers (QSD) and Qualified SWPPP Practitioners (QSP).

Qualified Industrial Stormwater Practitioners Training and Testing

California Stormwater Quality Association (CASQA) contracted with OWP (executed on 05/23/16) to develop and implement an online system to train and test Qualified Industrial Stormwater Practitioner (QISP) certificate candidates.

Environmental Finance Center (Region 9)

US Environmental Protection Agency (US EPA) contracted \$251,000 with OWP (10/16-09/18) to develop, operate, and maintain an Environmental Finance Center for Region 9.



CONFERENCES AND COMMITTEES

Conferences

September 2016

California Stormwater Quality Association (CASQA) 2016 Conference, San Diego, CA

- Campus LID Project (presenter)
- Phase II Mechanics of Implementation (presenter)
- Industrial General Permit Trainer of Record Forum (panelist)
- Industrial General Permit Qualified Industrial Stormwater Practitioner Forum (presenter and panelist)

October 2016

WEFTEC 2016 Annual Conference, New Orleans, LA (COLL committee member/participant)

November 2016

Localizing California Waters Workshop, Groveland, CA—Campus LID Project (presenter)

December 2016

State Water Resources Control Board (SWRCB) Strategy to Optimize Resource Management of Storm Water (STORMS) Workshop, Sacramento, CA (presenter)

January 2017

Association of Boards of Certification Annual Conference, Ft. Lauderdale, FL (participant)

February 2017

Sacramento State Campus LID Tour for ASCE Sacramento Branch Sustainability Group, Sacramento, CA (tour guide)

Environmental Protection Agency's Environmental Financial Advisory Board, Washington, DC (participant)

2017 California Water Environment Association's Pretreatment Pollution Prevention Stormwater (P3S) Annual Conference, Santa Rosa, CA (participant)

March 2017

Surveyors, Architects, Geologists, and Engineers (SAGE) Conference, El Dorado Hills, CA—Campus LID Project (presenter)

April 2017

Water Resources and Policy Initiatives (WRPI) Conference, San Jose, CA—Campus LID Project (presenter)

American River Basin Integrated Regional Water Management Plan (IRWMP) Meeting, Sacramento, CA—Stormwater Resources Plan (presenter)

Stormwater Finance Forum, Alhambra and Oakland, CA (participant)

California Water Environment Association 2017 Annual Conference, Palm Springs, CA (participant)

May 2017

World Environmental and Water Resources Congress, Sacramento, CA (participant)

Sacramento State Campus LID Tour for Franklin High School Students, Sacramento, CA (tour guide)

San Joaquin Valley Stormwater Quality Partnership (SJVSWQP) Workshop, Manteca, CA—LID Function and Maintenance (presenter)

Water Environment Federation Collection System Conference, Omaha, NB (participant)

June 2017

American Water Works Association ACE 2017 Conference, Philadelphia, PA (participant)



CONFERENCES AND COMMITTEES

California Water Environment Association 2017 Collection Seminar, Orange, CA (presenter)

Conference Exhibitor

September 2016

Rural Community Assistance Corporation, CalTAP 2016 Fair, Santa Cruz, CA

January 2017

Association of Boards of Certification Annual Conference, Ft. Lauderdale, FL

April 2017

California Rural Water Association EXPO, Lake Tahoe, CA

Committees and Meetings

American Basin Council of Watersheds

American Water Works Association—Wastewater Collection Systems Committee

California Stormwater Quality Association (CASQA)

- Board Seat, Board of Directors
- Construction Subcommittee
- Co-Chair, CASQA Training Subcommittee
- Policy and Permitting Subcommittee
- Phase II Subcommittee
- Phase II Non-Traditional Subcommittee
- BMP Subcommittee
- Impaired Water Subcommittee
- Monitoring Subcommittee
- Training Subcommittee
- Effectiveness Assessment Subcommittee

Delta Tributaries Mercury Council

Environmental Finance Advisory Board—2016 industry meeting participant

Lower American River Task Force—Bank Protection Working Group

Small Systems Inter-Agency Outreach Committee

State Water Resources Control Board (State Water Board)

- Industrial General Permit Training Team and Evaluation and Examination Subcommittee
- Construction General Permit Training Team and Testing and Evaluation Subcommittee
- Data Visualization Group
- Central CA ASBS Monitoring Group
- Northern CA Water Quality Monitoring Group
- Southern CA Beach Water Quality Work Group
- Wastewater Certification Advisory Committee

Transportation Research Board—Hydraulics, Hydrology, and Water Quality Subcommittee

Washington State TAPE External Board of Reviewers

Water Environmental Federation—Collection Systems Committee

WaterReuse Research Foundation (WRRF-15-05)—Developing Curriculum and Content for Direct Potable Reuse Operator Training, Newport Beach, CA (industry meeting participant)

An aerial photograph of a large-scale water treatment plant. The image shows several large, circular clarifiers arranged in a row, with a central channel or conveyor system running through them. The water in the tanks appears to be in motion, creating ripples and reflections. The overall scene is industrial and technical.

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