Because formalized water conservation training is scarce, today’s water conservation professionals come to the drinking water industry from many disciplines. Many utility water conservation programs have been developed across the United States by able and experienced utility staffs that have been on the job for 10–20 years or more. These conservation pioneers did not have a roadmap to implement effective water conservation programs. By trial and error they have struggled to learn the best practices for designing, implementing, and evaluating drinking water conservation programs.

**INCREASED KNOWLEDGE, SKILLS REQUIRED**

The likelihood of having to cope with water supply shortages in the near future has driven some states, such as Oregon and Washington, to pass legislation demanding higher levels of accountability for water conservation programs and the reporting of program results. To make sure they can secure continued water rights, water utilities must have staff members who have the knowledge, ability, and access to regional resources for implementing and evaluating conservation programs and the reporting of program results. To make sure they can secure continued water rights, water utilities must have staff members who have the knowledge, ability, and access to regional resources for implementing and evaluating conservation programs and the reporting of program results. To make sure they can secure continued water rights, water utilities must have staff members who have the knowledge, ability, and access to regional resources for implementing and evaluating conservation programs and the reporting of program results. To make sure they can secure continued water rights, water utilities must have staff members who have the knowledge, ability, and access to regional resources for implementing and evaluating conservation programs and the reporting of program results.

Although a tremendous volume of general conservation information is available to the general public through various media, there is a conspicuous lack of formalized training and competency assessment available to currently practicing or potential water conservation professionals. More often than not, water conservation training has been informal and on the job. A myriad of half-hour technical sessions produced by colleagues at conferences, such as the Water Smart Innovations Conference and AWWA’s Annual Conference and midwinter water conservation conferences, have likely had the greatest influence on the development of conservation programs across the United States. Workshops and clinics sponsored by trade organizations in the irrigation, plumbing, industrial cooling and heating/ventilating/air-conditioning industries can provide useful information. However, they are generally brief presentations (typically accompanied by a sales pitch), usually exclude any competitive product or process, and rarely qualify for the continuing education units (CEUs) needed by water system operators. Conservation education that qualifies for drinking water CEUs is important because the individuals charged with running conservation programs are often required to be certified operators.

AWWA’s California–Nevada (CA-NV) Section has the most established water education and certification infrastructure in our association. CA-NV offers certification in six different disciplines.

The section’s Water Conservation Practitioner Certification Program, in existence since the 1990s, was recently updated. Although keeping content current in a rapidly evolving field made implementation of the revised certification program a challenge, many water conservation job postings in California now list obtaining CA-NV Conservation Practitioner certification as a qualification. The certifications are offered on three levels: Level 1 Technical, Level II Supervisory, and Level III Managerial.

The Lane Community College (LCC) Water Conservation Technician Program is the first US career-technical two-year Associate of Applied Science degree in this field. The program was developed based on LCC market research that indicated a lack of adequate training relative to the emerging demand for new water conservation professionals. Participants learn to evaluate water use patterns; develop, implement, maintain, and market conservation programs; perform public outreach; recommend water efficiency techniques; and perform systems analysis to solve problems. Active involvement in the community along with hands-on projects reinforces practical skills. A distance-learning option is supported by live interactive videoconferencing.

Surveys carried out by LCC indicate that jobs in the water field are increasing at a slow-to-moderate rate, with greater growth anticipated in the next five to 10 years. Retirements as well as increased...
population and additional regulations may stimulate growth in water conservation jobs.

**MODULAR TRAINING CAN BE ADAPTED TO OTHER AREAS**

In light of new legislation in Washington and Oregon mandating greater accountability for water conservation programs, the AWWA Pacific Northwest Section Water Conservation Committee (PNWS WCC) has developed a two-day training and exam program for water conservation professionals that is regionally specific to Oregon, Washington, and Idaho. However, the program was designed to be modular and to allow for the removal of information specific to the Pacific Northwest and for the inclusion of modules from other areas. Any organization could acquire the modules of the workshop that cover universal conservation principles and then create its own regionally specific module to cover conservation principles and techniques unique to that particular region.

It is recognized by water conservation professionals that indoor water efficiency practices and many of the commercial, industrial, and institutional water efficiency techniques are generally applicable across the United States. For this reason, an estimated 80% of the content of a water conservation certification training program and exam might be standardized nationwide, whereas portions dealing with local water law/policy and landscape water use would remain regional. The 20% of regionally specific training and testing materials would have to be developed by local or regional entities.

**CONCLUSION**

Water conservation is the most cost-effective first step of any water plan. Water providers are scrambling to replace aging infrastructure and retiring Baby Boomers while maintaining ecologic quality and integrity. These issues are compounded by water stressors such as increasing demand, climate change, population growth, and increasing pollution. Training programs that provide technicians with the skills and knowledge needed to design, implement, and evaluate water conservation programs are not yet available in higher education, even though conservation programs are often mandated. Consistent, quality training to create a higher standard for all professionals implementing these important programs is a goal of many water conservation professionals.

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