

Environmental technology helps assure pure water

Most of us enjoy a refreshing glass of water without ever having to worry about its purity. Researchers at the Environmental Finance Center (EFC) housed at Boise State University are developing new technology to make sure you never have to.

Utilizing personal digital assistant (PDA) technology, the Electronic Enhanced Sanitary Survey (E₂S₂) allows technicians to more quickly and effectively compare the physical characteristics of local water systems to state and federal standards.

What used to entail a trip back to the office to complete a 40-page written report can now be done instantly in the field.

EFC director Bill Jarocki says a sanitary survey addresses several physical concerns, such as whether a system can continue to deliver water if a water line breaks, if operators are licensed and certified, if test records are accurate, and whether or not the system is producing water to standard.

The PDA program, unveiled at a national convention in March while still in its developmental stage, grew from an inspection report the Boise State EFC developed for water systems in Alaska. Boise State's EFC encompasses Region 10, which includes areas in the northwestern United States.

"I built the first electronic form in an Excel spreadsheet, which allowed officials in Alaska to collect information through their laptops," says Michael Keith, an EFC project associate. "Jarocki asked, 'Why not develop handheld versus laptop technology?' so that's where the PDA version came into play."

By inputting data into a handheld PDA while still in the field, information will have greater integrity and will be available to key decision makers in a more immediate and timely manner, Keith says.

Along with his associates and student assistants, Keith worked to develop software that would satisfy Idaho state requirements.



The result was a program that allowed technicians to enter all their data into a PDA, and then return to the office to automatically load that information into a database.

The program took a quantum leap forward when EPA asked for a national model.

"There are federal requirements that states must meet in reporting on sanitary surveys," Keith says. By incorporating national standards into the new programming, states now have the ability to link with federal databases without having to enter additional information.

The national model of the program was rolled out in New England in early October. From there, the EPA and Boise State's EFC will work with other states to provide software and training.

"We've made it flexible enough that states can meet their own requirements as well as federal requirements," Keith says. "It can be molded to fit each state's needs."

The program has benefited the EFC in two ways. First, the additional contracts have been a financial plus for both itself and Boise State. Second, the program has brought the center, and its programs, both regional and national attention.

"The new software is even more efficient and powerful than the original," Jarocki says. "The new national standard is coming out of our work."

To learn more, visit www.epa.gov/OGWDW/dwa/e-sanssurvey.html

– Kathleen Craven