Front Page

October 2007, Vol. 44, No. 8

Top Story

Graves Go Green
Environmentally Friendly Burials Catch On

The woodland grave of Sharyn Nicholson in the Blue Ridge Mountains, Sperryville, W.Va. Click on photo for larger image. Photo by Mark Harris.

We all know the worms crawl in, the worms crawl out. And apparently some ants may play pinochle on one's snout. But what else is happening underground at the nation's cemeteries? How do standard burial practices — which involve tons of steel, cement, and gallons of formaldehyde — affect our environment?

Mark Harris, a former *Los Angeles Times Syndicate* environmental columnist, has taken a hard look at today's funeral industry in his new book, *Grave Matters: A Journey Through the Modern Funeral Industry to a Natural Way of Burial*. Read more

---

Sneak Peek! **World Water Monitoring Day 2007**

World Water Monitoring Day 2007 kicked off Sept. 18. Left, students from the Melvin J. Berman Hebrew Academy (Rockville, Md.) participate in water quality monitoring tests in Alexandria, Va. Check out next month's issue of *WEF Highlights* for the complete story and more photos. Click on photo for larger image. For more information, see www.wwmd.org.

Features

- Residuals and Biosolids Committee Looks to Take Leadership Role, Seeks New Members
- 2007 Clean Water Partnership Summit: Bridging Industry Needs, EPA Technologies
- 2007 Annual WEF Awards' Winners

News & Events

©2008 Water Environment Federation. All rights reserved.

Front Page

October 2007, Vol. 44, No. 8

- WEF Specialty Conference Roundup:
  - Portland Hosts Collection Systems Specialty Conference
  - WEF Hosts Compounds of Emerging Concern Symposium, Industrial Water Quality Conference
- Women of Water Hosts Reception at WEFTEC.07
- Going to WEFTEC.07 in San Diego?
- Reviewers, Authors Sought for Preliminary Wastewater Treatment Operator Training Manual

©2008 Water Environment Federation. All rights reserved.

Features
October 2007, Vol. 44, No. 8

Features

Graves Go Green
Environmentally Friendly Burials Catch On

We all know the worms crawl in, the worms crawl out. And apparently some ants may play pinochle on one's snout. But what else is happening underground at the nation's cemeteries? How do standard burial practices — which involve tons of steel, cement, and gallons of formaldehyde — affect our environment?

The grave of Chris Nichols at Ramsey Creek Preserve in Westminster, S.C. Click on photo for a larger image. Photo by Sharon Perry.

Mark Harris, a former *Los Angeles Times Syndicate* environmental columnist, has taken a hard look at today's funeral industry in his new book, *Grave Matters: A Journey Through the Modern Funeral Industry to a Natural Way of Burial*.

"Like the contents of any landfill, the embalmed body's toxic cache escapes its host and eventually leaches into the environment, tainting surrounding soil and groundwater," Harris writes in his book.

Embalming, a practice largely unique to the United States (Canada is the only other country in the world to routinely embalm its dead, according to Harris), is the standard practice for 1.5 million dead each year. Harris opens his book by explaining just what happens to a corpse during the embalming process.

Harris believes the embalming process to be an unnatural and unnecessary one — a practice that does not prevent, but only delays, the inevitable decomposition of the body. Embalming returns the body to a "life-like state," Harris said, for public viewings. The question is then, why do people need to see a life-like dead body to process their grief, Harris wonders. "It's a uniquely American phenomenon."

Embalming first became a practice in the United States during the Civil War, Harris said, when the bodies of slain soldiers had to travel hundreds of miles to be returned home for burial.

Through embalming, the body is pumped full of formaldehyde — recognized as a "probable human carcinogen" by the U.S. Environmental Protection Agency (EPA), and classified as a "potential occupational carcinogen" by the U.S. Occupational Safety and Health Administration.

Formaldehyde, along with all other fluids, blood, and bacteria that are extracted from the body prior to viewing, eventually reach the sewer system — usually directly.

Many funeral directors area allowed to release their materials directly into the sewer system without treating it, said Harris. "I talked to a number of folks who are in charge of treatment plants around the country, and there is the sense that formaldehyde, when mixed with all of the other waste that typically flows into a treatment plant, is so diluted by time it actually reaches plant … it's not of any real substantial risk," Harris said.

Dumping directly into private septic systems, however, does raise a red flag in some communities.

©2008 Water Environment Federation. All rights reserved.

Karen D. Johnson, branch chief for the groundwater and enforcement Branch in the Philadelphia region, explained in an e-mail that like other industrial solvents, formaldehyde is considered a hazardous waste chemical, and must be treated as such.

“Formaldehyde … would be banned from being disposed of into an on-lot septic system, because it could endanger nearby drinking water wells by disposing of the hazardous waste above or into an underground source of drinking water,” Johnson wrote. Solvents from other industries, such as benzene or toluene, she said, must go through the same procedure.

In other regions, funeral homes are required to pretreat their waste before releasing it into the public sewer system. “There are a number of municipalities that do believe it to be something of concern,” Harris said.

In Rhode Island, the Narragansett Bay Commission (NBC; Providence), which runs two wastewater treatment plants covering the central and northern portions of the state, requires funeral homes that release fluids and waste into the sewer system to pretreat their effluent.

Tom Uva, director of planning, policy, and regulations for NBC, said that in the 1990s, EPA promulgated regulations regarding medical waste. NBC stepped up to the plate and designed its own criteria for the region regarding such waste.

“We tried to be very proactive,” Uva said. “We didn’t want funeral homes sampling the discharges themselves, but we wanted our workers downstream from the funeral homes to be protected from infectious materials.”

Uva said the commission met with members of the National Funeral Directors Association (Brookfield, Wis.) to discuss regulations from the Rhode Island Department of Environmental Management and find a reasonable solution. The two groups decided that adding chlorine to the waste itself or to the wastewater stream was sufficient. Funeral homes in NBC’s region are also required to log all embalmings that occur, and pass that information on to the wastewater plants, Uva said.

The pretreatment might involve dripping chlorine bleach from an IV bag into the drain the body waste and formaldehyde go down, or it might entail adding chlorine to the wastewater stream, Uva explained. There are other pre-treatment options funeral homes can use as well, “they just have to let us know,” he said.

Ghosts of the Civil War

Harris writes that the history of the United States’ burial process may be uncovered at some older cemeteries. Water studies conducted at Civil War-era cemeteries show signs of arsenic — an ingredient once used in preserving soldiers’ bodies for burial.

“Arsenic was a mainstay of early embalming solutions in the pre- and post-Civil War years,” Harris writes. “Druggists, surgeons, and emerging chemical companies of the period mixed anywhere from a few ounces to many pounds of arsenic into their new preservatives, but, as they’d soon discover, at great risk to the embalmers’ health,” Harris writes in the book. By 1910, arsenic was banned by the federal government for use in embalming solutions.

According to Harris, a study by a researcher at the University of Northern Iowa (Cedar Falls) found that groundwater drawn from hand-pumped wells at approximately one dozen cemeteries dating back to the Civil War era tested positive for arsenic, which is otherwise “not common to Iowa groundwaters.” Harris reports that “two samples contained arsenic at levels above the then-proposed drinking water standards.”

©2008 Water Environment Federation. All rights reserved.

Groundwater down-gradient of an 1820s cemetery located at Hamilton College (Clinton, N.Y.) also showed evidence of arsenic, Harris explains in his book. Groundwater above the cemetery revealed no arsenic, suggesting that it did indeed come from the embalmed bodies buried long ago.

Green Fields Forever

Are traditional funeral practices really having such an effect that Americans need to reconsider their ways?

Harris uses the example of a typical cemetery to show that perhaps it is time to revise the standard funeral. When the average cemetery is picked apart, Harris said it looks more like a landfill than a bucolic resting place.

He writes, “Over time, the typical 10-ac [4 ha] swatch of cemetery ground, for example, contains enough coffin wood to construct more than 40 houses, nearly 1000 tons [907 tonne] of casket steel, and another 20,000 tons [18,144 tonne] of vault concrete. Add to that a volume of toxic formalin nearly sufficient to fill a small backyard swimming pool and untold gallons of pesticide and weed killer used to keep the cemetery grounds preternaturally green.”

So what’s an ecologically-minded person to do?

There are several green options to burial that Harris writes of in his book.

One includes cremation, which does contribute some pollution, but does less overall damage to the environment than a buried, embalmed body, Harris explained. There is the unique option of the memorial reef, which entails combining one’s ashes with concrete to form a small dome that is dropped into the ocean. The dome becomes a home for fish and other sea life.

There’s the backyard burial, in which a body can be wrapped in a sheet, and buried peacefully in one’s own backyard — no chemicals, no expense. Of course, one must check with local or state regulations regarding this type of burial.

“Backyard burials tend to be banned outright in urban and suburban areas. It’s more likely to be allowed in agricultural or certain rural zones, though, again, that depends on the exact county,” Harris explained.

Another idea growing in popularity is the green cemetery, or woodland burial, where bodies are buried in cardboard or simple pine coffins, without the use of any chemicals. Graves are spread out, preserving the landscape and allowing the surrounding soil to do its natural filtering job, absorbing the bacteria and fluids that leave the body after burial. Instead of elaborate stone grave markers, natural elements of the landscape — such as shrubs or trees — mark one’s grave. There’s no irrigation, and no use of pesticides or herbicides.

Ramsey Creek Preserve, a woodland, ecological cemetery in Westminster, S.C., buries 25 to 30 bodies per acre, Harris said, and locates burial sites well above the water table and where soils can serve as a natural filter. Walking through the cemetery, one might not even realize it is a cemetery — the landscape looks untouched, Harris said.

A potential bonus of woodland burials is the opportunity to preserve land from development. By taking a parcel of land threatened by developers and it turning it into a woodland burial site, using funds from the sale of plots, one might be able to in turn save the rest of the surrounding land. “It can be self-sustaining,” Harris said.

“I think it’s going to prove to be one of the important land-saving tools of our time,” Harris said of woodland burials. “The body is invited to return to the elements.”

©2008 Water Environment Federation. All rights reserved.

Features
October 2007, Vol. 44, No. 8

To read more about green funerals, see www.gravematters.us.

— ***Meghan H. Oliver**, WEF Highlights*

Residuals and Biosolids Committee Looks to Take Leadership Role, Seeks New Members

With more than 200 members and friends, the Residuals and Biosolids Committee (RBC) of the Water Environment Federation (WEF; Alexandria, Va.) is one of the most active. Its target for the coming year is to increase the number of RBC members from core biosolids professionals employed at wastewater facilities, consulting firms, and commercial enterprises throughout the United States and Canada.

While the RBC mission is to engage in programs that provide information regarding management options, regulatory compliance, and current practices for residuals and biosolids, there are specific activities the RBC would like to pursue as well. Such activities include:

- Taking a leadership role regarding biosolids issues by providing information to the public and Member Associations;
- Providing background, policy recommendation, and positions for existing and proposed federal and state laws and regulations;
- Making recommendations regarding the technical merit of proposed legislation, regulations, and positions;
- Providing technical assistance and serving as advisors to policymakers; and
- Providing a forum for residuals and biosolids issues for WEF members through workshops, specialty conferences, and publications.

RBC currently has four subcommittees:

- Bioenergy Technology Subcommittee, chaired by Jim Welp.
- Outreach and Education Subcommittee, chaired by Rhonda Bowen.
- Agricultural and Industrial Residuals Subcommittee, chaired by Kari Fitzmorris.
- Specialty Conference Subcommittee, chaired by Greg Woodward.

Several major issues have had an impact on RBC activities since its mission and goals were last visited in 2001. These issues include sustainability, global warming, and the value of nutrients and energy as “green” assets. In the coming months RBC intends to engage the members in an alignment process of surveys and meetings to guide the incorporation of these issues into planned activities.

RBC meets formally twice a year — once at the WEF Residuals and Biosolids Specialty Conference in the spring and at WEFTEC in the fall. In addition there are workshops and events scheduled to meet the needs of members throughout North America and the world.

Get Involved
Some of the key activities that the RBC and its members have recently been engaged in include

- Formation of subcommittees and specialty groups to meet emerging needs;
- Organization of the annual specialty conference;

©2008 Water Environment Federation. All rights reserved.

- Reviews, guidance, and technical presentations and workshops for the 2008 WEFTEC® program;
- Participation in the revision of the EPA solids management manual;
- Preparation of a new RBC award for biosolids;
- Creation of an agriculture-oriented briefing packet for members to bring with them to various conferences and meetings;
- Implementation of a program that will continually improve the RBC;
- Promotion of WEF membership;
- Addition of agriculture contacts to RBC distribution lists;
- Submissions of agricultural sessions for the 2008 specialty conference;
- Participation in a leadership role for the revision of selected manuals of practice, fact sheets, and technical practice updates on topics such as incineration, dioxins, radioactivity, and microconstituents in biosolids;
- Participation in a leadership role with specialty conference volunteers to develop technical programs;
- Submission of guidance to the online encyclopedia, Wikipedia, on selected definitions;
- Investigation of software and process to position biosolids articles when performing a Google search on the Internet;
- Investigation of search frequencies and publication of biosolids related news; and
- Participation in discussions on the use of technical terminology for the general public.

Interested in becoming a member of the RBC? Contact Theresa Mixon at (703) 684-2400, ext. 7214, or tmixon@wef.org.

— ***Peter Brady***, *Incoming RBC Chair*

2007 Clean Water Partnership Summit: Bridging Industry Needs and EPA Technologies

How do you deal with infrastructure needs? Partnerships are the answer, according to Sally Gutierrez, national risk management research laboratory director for the U.S. Environmental Protection Agency (EPA), who spoke recently at the Clean Water Partnership Summit in Cincinnati in September.

Floods, droughts, failing distribution and collection systems, and security issues will continue to be some of the great leadership challenges of the 21st century. Partnerships to increase the awareness and opportunities of synergism between public and private sectors, will be essential to promote and support solutions.

Two hundred invited guests from a broad array of professions, with a common interest in partnerships and the environment, participated in the symposium managed by the Intellectual Property Management Group (Wheeling, W.V.). The 2-day event focused on the presentation of information from the private sector as facilitators and partners with EPA. Venture capitalists and investment consultants targeted the need for and availability of financing for technologies and systems that had been, or were being, developed by or with the support of EPA in four areas:

- drinking water and wastewater,
- sustainability,
- ecosystems, and
- homeland security.

©2008 Water Environment Federation. All rights reserved.

Features
October 2007, Vol. 44, No. 8

Gary Ganzi, vice president of water and wastewater product manufacturer Siemens Water Technologies Corp. (Warrendale, Penn.), and Michael Donahue of engineering design firm URS Corporation's (San Francisco) water resources and environmental services department, provided their corporate perspectives on technology needs and costs for a $500-billion market that both felt would have to continue to expand to meet national and global demands.

A recurring symposium perspective was the lamentation that, while it is becoming easier to get attention for issues related to climate change, it is becoming more difficult to obtain financial support for most all of the nation's challenges requiring long-term solutions. Ganzi listed what he felt were the major world environmental issues (droughts, the impact of climate change, and dealing with water demands). Singling out water quality as perhaps the most important, he noted that the real challenge will be adopting a global mindset that allows the use of marginal water quality for appropriate applications.

Several poster presentations detailing projects and technologies developed through collaborative efforts with EPA laboratories supplemented the symposium. The presentations served as examples of opportunities needing only a financial push — a partner — to bear fruit.

For more on the Clean Water Partnership's Summit, see www.etprogram.org/summit07.

— ***Gene DeMichele**, WEF Highlights*

2007 WEF Annual Awards Winners

Each year, the Water Environment Federation (WEF; Alexandria, Va.) presents a variety of awards that recognize excellence and achievement in the water environment profession. Awards are presented in the categories of Individual Service and Contribution, Education, Organization and Association Recognition, Operational and Design Excellence, and Published Papers. Following is a summary of award recipients.

Individual Service and Contribution Awards

Emerson Distinguished Service Medal
Pradeep Kharé

The Emerson Distinguished Service Medal commemorates the service of Charles Alvin Emerson, who was the first president of WEF, serving from 1928 to 1941, and was its first honorary member. The award is presented to an individual whose contributions to the wastewater collection and treatment industry most deserves recognition. This year's winner, Pradeep Kharé, has 30 years of public and private sector experience, a majority of which has been in the environmental field with the provincial governments of Ontario and British Columbia.

Kharé has done extensive volunteer work with WEF. He was actively involved in several committees and eventually became the president of the British Columbia Water and Waste Association. He has served on the WEF board of directors, on the WEF Executive Committee, and as WEF treasurer. He has been active in promoting water quality in

©2008 Water Environment Federation. All rights reserved.

Southeast Asia on behalf of WEF, particularly in Singapore, Malaysia, the Philippines, and India. He served as technical co-chair of the WEFTEC Asia conference in Singapore in 1998.

Engelbrecht International Achievement Award
Julian Sandino

The Engelbrecht International Achievement Award was named in memory of Richard S. Engelbrecht, who served as WEF president from 1977 to 1978. This award recognizes sustained and significant contributions to furthering and improving WEF activities in the international field. This year's winner, Julian Sandino, is a wastewater treatment fellow and assistant director of technology in the Kansas City, Mo., office of CH2M Hill (Englewood, Colo.), leading and assisting multidisciplinary teams in sanitary infrastructure and environmental projects throughout the world. His work has included process evaluations and designs of municipal and industrial wastewater treatment facilities utilizing both aerobic and anaerobic biological processes and physical–chemical processes for the stabilization of waste liquid streams and solids.

Sandino is a member of the Spanish–Portuguese Speaking Advisory Board, the International Water Association (London), Inter-American Association of Sanitary and Environmental Engineering (AIDIS; Sao Paulo, Brazil), and the Society of Hispanic Professional Engineers (Los Angeles). He has represented WEF at Latin American conferences, including AIDIS Lima 1998, AguaExpo Chile 1999, WEFTEC Latin America 1999, and AIDIS Cancun 2002. He also has served as chair of the Editorial Committee of Noticias del Agua y Medio Ambiente, vice chair of WEF's International Coordination Committee, director at large of WEF's House of Delegates, and member of the International Program Committee Task Force.

Honorary Membership
WEF honorary membership recognizes individuals who have proven their pre-eminence in the fields of activity encompassed by WEF objectives. Two individuals received the award this year.

William C. Boyle is professor emeritus of civil and environmental engineering at the University of Wisconsin (Madison), where he has taught for more than 40 years. In addition, he has been an active member of more than 50 water association committees, has authored more than 140 technical publications related to the water environment field, has received more than 20 significant honors and awards from national and regional organizations, and has served as a technical consultant to more than 35 municipal, industrial, and consulting engineering clients, as well as more than 20 government projects.

John M. Craddock is director emeritus of the Muncie (Ind.) Sanitary District Bureau of Water Quality, which he established in 1972. Craddock was the driving force behind dramatic water quality improvements to Muncie's White River, which now is a haven for a variety of aquatic organisms and other wildlife that have repopulated the area. Considered a pioneer in the area of industrial pretreatment, Craddock served in numerous leadership positions during the course of his career and has given more than 550 presentations to local, regional, national, and international groups on a variety of water quality topics.

Outstanding Young Professional
Mary Knosby
The Outstanding Young Professional Award recognizes the contributions of young water environment professionals for significant contributions to WEF and to the wastewater collection and treatment industry. This year's winner, Mary

©2008 Water Environment Federation. All rights reserved.

P. Knosby, has demonstrated commitment, dedication, and initiative to promote awareness, education, and membership in WEF and in the North Carolina Water Environment Association (NCWEA).

Knosby, a civil engineer in the Charlotte, N.C., office of Black & Veatch (Kansas City, Mo.), has been active on several WEF committees, including serving as vice chair and chair of the Students and Young Professionals Committee, as chair of the Membership Services Committee, and as a trustee on WEF's board of directors.

Knosby is establishing a WEF student chapter at the University of North Carolina–Charlotte. She also coordinates a student day — including student guides, a student luncheon, a student poster competition, and an industry–student newcomers reception — at the annual NCWEA conference.

Public Officials Award
The Public Officials Award is presented to an elected or appointed public official who has made a documented, significant contribution in the areas of clean water legislation, public policy, government service, or another area of public prominence that resulted in improvements to the water environment. The award can be presented for public service at the local, state, or federal level. This year, the award was presented to two individuals.

U.S. Sen. George Voinovich. As former mayor of Cleveland, governor of Ohio, and in his current office, Sen. Voinovich (R–Ohio) has played an active role in efforts to improve the water environment both in Ohio and nationwide. He drafted the Clean Water Infrastructure Financing Act to help bridge the enormous infrastructure funding gap, successfully worked with the U.S. Congress to rewrite the Safe Drinking Water Act in 1996, and in 2000 put together the Water Resources Development Act, which authorizes critical water resources projects for flood control navigation, shore protection, and environmental restoration. In addition, he has been actively involved in the restoration and preservation of the Great Lakes and was instrumental in the development of the Great Lakes Regional Collaboration. He also co-sponsored several bills and initiatives, including the Great Lakes Legacy Act of 2002, the Great Lakes Fish and Wildlife Restoration Act of 2006, and legislation to protect the lakes from invasive species and toxic substances.

Hon. L. Preston Bryant Jr. Prior to joining the Virginia governor's cabinet, Secretary Bryant served in the Virginia House of Delegates for 10 years, where he sponsored landmark legislation to help preserve more than 1 million acres of nontidal wetlands, streamlined the state's stormwater management programs, and created a nutrient trading program to advance upgrades to more than 100 wastewater treatment facilities that discharge into Virginia waters. His work has been recognized by both the Virginia Water Environment Association and the Virginia Association of Municipal Wastewater Agencies.

Education Awards

Canham Graduate Studies Scholarship
Linda Gaulke
This scholarship, honoring former WEF Executive Director Robert A. Canham, provides $2500 for a post-baccalaureate student in the water environment field. This year's winner, Linda Gaulke, is a Ph.D. candidate in environmental engineering at the University of Washington (Seattle) whose dissertation research project focuses on the environmental impacts of endocrine disruptors from wastewater. Through the university's Huckabay teaching fellowship program, Gaulke is co-developing a senior-level engineering course in decentralized wastewater treatment and water reuse. She has a B.S. degree in mathematics, an M.S. in environmental engineering, and an M.S. in soil science, all from the University of Washington.

Public Education Award

©2008 Water Environment Federation. All rights reserved.

WEF HIGHLIGHTS

Features

October 2007, Vol. 44, No. 8

The WEF Public Education Awards recognize WEF members for significant accomplishments in promoting awareness and understanding of water environment issues among the general public through the development and implementation of public education programs. This year, two awards were given.

Individual. *Tim Madhanagopal.*
Tim Madhanagopal is a plant manager at Orange County (Fla.) Utilities. He has served as a WEF volunteer for the exhibit at the National Boy Scouts Jamboree in 1997, 2001, and 2005. He also has served as a Stockholm Junior Water Prize state and regional science fair judge, conducted several public education seminars and workshops, and supported the research of local students and university faculty, among other contributions.

Member Association. *Nebraska Water Environment Federation.*
The Nebraska Water Environment Association (Omaha) won for the work of its Public Education Committee. Association members currently participate in three groundwater festivals and three science fairs related to the Stockholm Junior Water Prize and distribute water–wastewater pamphlets and information, among other activities.

Harry E. Schlenz Public Education Medal
Christopher Swain

Photo by Carrie Branovan

The Harry E. Schlenz Public Education Medal recognizes accomplishments of the media, journalists, and others whose profession is outside of the water environment profession field. This medal is awarded in memory of Harry E. Schlenz, who served as WEF president from 1961 to 1962. Schlenz was a distinguished leader in promoting public understanding of the need for effective water quality. Through his efforts, a special award was presented by WEF in 1967 to a writer for the Chicago Tribune for an outstanding series in that newspaper on water pollution control.

This year's winner, Christopher Swain, is a swimmer who is known internationally for his historic "length of river" swims, including the Columbia (2003), Hudson (2004), and Charles (2004) rivers. He also swam the entire length of Lake Champlain (2004). His swims are noteworthy, as he goes from the headwaters to the ocean, stressing the importance of clean water throughout the world. Throughout his swims, diaries are posted on his Web site, www.swimforcleanwater.org, one of several educational outreach mechanisms developed by Swain.

Swain is recipient of the 2003 International Earth Day Award, National Public Radio's E-Town Award, *Men's Journal* Adventure Hall of Fame, and person of the week on ABC World News Tonight with Peter Jennings.

Organization and Association Recognition

Member Association Achievement
North Carolina WEA

This award recognizes a WEF member association for outstanding achievement in one of the following areas:

©2008 Water Environment Federation. All rights reserved.

financial strength, membership retention, new membership, scholarship program, student achievement and support, technology transfer, and awards program and participation. The North Carolina Water Environment Association (NCWEA) won in the New Membership category.

The NCWEA Membership Services Committee was reformatted to address a broader range of membership needs. This committee is focused on sustained growth, and its primary responsibility is to engage new and existing members. Through a variety of marketing strategies, NCWEA was able to increase its membership, which had remained relatively flat in the past several years. NCWEA also had documented success in attracting and retaining young professionals and student members.

Outstanding Member Association
Central States WEA

This award is presented to a WEF member association with exceptional performance in multiple areas: financial strength, membership retention, new membership, scholarship program, student achievement and support, technology transfer, and awards program and participation. This year's winner is the Central States Water Environment Association (CSWEA).

To solidify the organization while still allowing its sections to operate as semiautonomous units within their respective states, CSWEA just completed a major governance change. While CSWEA and its sections have independent boards, financial resources, and state-specific committees, they also have association-level committees for areas of common interest. These include the new Public Education, Membership, and Students and Young Professionals committees, which provide coordination between, and support to, the state sections.

CSWEA and its sections have active student outreach programs, with nine current student chapters and more under development. CSWEA has successfully completed its first three student paper competitions and has strong representation in the Stockholm Junior Water Prize competition.

Operational and Design Excellence

Collection Systems Award
Roy Herwig
The Collection System Award is presented to an individual for contributions to the advancement of the state-of-the-art wastewater collection. This year's winner, Roy Herwig, is a senior engineering manager in the Atlanta office of PB Americas (New York) with more than 40 years of experience in the water quality field.

While with the U.S. Environmental Protection Agency (EPA), Herwig recognized the need for a programmatic approach to managing, operating, and maintaining wastewater collection utilities throughout the United States. He became the primary creator of EPA's Capacity, Management, Operations, and Maintenance (CMOM) program, which has become the professional standard across the country for properly managing, maintaining, and operating collection systems. He has been an active participant in WEF's Collection Systems Committee; a developer of WEF's fats, oils, and grease workshops; and an outspoken advocate for collection system operators of all levels.
©2008 Water Environment Federation. All rights reserved.

WEF HIGHLIGHTS

Features

October 2007, Vol. 44, No. 8

Innovative Technology Awards

The Innovative Technology Awards are presented annually to WEF associate members who have introduced new innovative products or services related to the construction, operation, or maintenance of treatment facilities.

Collection Systems. *Steinhardt Gmbh–Gabriel Novac & Associates* (Taunusstein, Germany) won in the collection systems category for its Hydroflush GS flush-cleaning device for medium-size main sewer channels. The device, which can be retrofitted in existing sewers, flushes continually in dry weather, keeping gravity sewer lines clean without the use of power or chemical additions.

Instrumentation. *Detection Instruments Corp.* (Phoenix) won in the instrumentation category for its Sycamore Continuous Hydrogen Sulfide Emissions Monitor. The device monitors and controls hydrogen sulfide emissions from odor-control systems. Benefits include reduced chemical and scrubber maintenance costs, and minimization of scale and sulfur buildup within odor-control systems.

Solids Handling–Disposal. *Headworks* (Houston) won in the solids handling–disposal category for the X-Tractor washer–compactor, a shaftless unit designed for higher water volume applications. The system can remove screenings from a bar screen hydraulically instead of mechanically, allowing the washer–compactor unit to be located a long distance from the channel and eliminating the need for conveyors. It provides a solution for sites with elevational challenges or changes in direction. The design facilitates a prewashing of the screenings for improved organics removal.

Morgan Operational Solutions Medal

Eric J. Wahlberg

The Morgan Operational Solutions Medal honors Philip F. Morgan, who served with distinction as professor of sanitary engineering at the State University of Iowa (Iowa City) from 1948 to 1961. A respected practical researcher, he maintained a strong interest in plant operation. This award recognizes valuable contributions to the in-facility study and solution of an operational problem. This year's winner, Eric Walberg, is a project manager in the Irvine, Calif., office of Brown and Caldwell (Walnut Creek, Calif.). He has 26 years of experience in wastewater treatment, including 7 years as a certified operator.

Walberg was recognized for the many innovative solutions he developed to solve treatment plant problems or increase plant efficiency. These include the FSS test, which has been adopted by the Water Environment Research Foundation (Alexandria, Va.) and IWA in their standard protocols; the Wahlometer, which combines several water quality tests into one; and TSSnon test, which helps quantify optimal primary clarifier performance. Each innovation increased plant or operator efficiency and solved specific problems at those facilities. Wahlberg's work has been documented through periodical publications, conference proceedings, and various presentations.

Schroepfer Innovative Facility Design Medal

Tom Sigmund, Stan Christopher, and John Reese

The Schroepfer Medal recognizes excellence in conceiving and directing the design of a project to achieve substantial cost savings or economic benefit while achieving environmental objectives. The medal is in honor of George J. Schroepfer, WEF's third president, an educator who stressed economics in the design of wastewater facilities. The award is presented to an engineering consultant, municipal engineer, or industrial engineer who is a professional engineer in responsible charge of the design of facilities for the conveyance, treatment, or disposal of wastewater and treatment residues.

Tom Sigmund, Stan Christopher, and John Reese won for their $72 million wastewater treatment plant improvement project to help the Little Blue Valley Sewer District (Independence, Mo.) cost-effectively increase wet weather flow and dry weather capacity. The team developed an innovative approach that incorporated peak flow chemical addition,

©2008 Water Environment Federation. All rights reserved.

different flow schemes depending upon peak flow rate, and a reduction in building space considering infrequent use of equipment during wet weather events. They saved the district substantial project costs, reducing anticipated rate increases from 9.7% to 3.5%.

Published Papers

Eddy Wastewater Principles or Processes Medal
Donald Gray, John M. Hake, and Sambhunath Ghosh

The Eddy Medal honors Harrison Prescott Eddy, a prominent engineer and a pioneer in the field of wastewater treatment. The medal is awarded for research that makes a vital contribution to the existing knowledge of the fundamental principles or process of wastewater treatment, as comprehensively described and published in a WEF periodical.

Donald Gray, John M. Hake, and Sambhunath Ghosh won for their article, “Influence of Staging, Mean Cell Residence Time, and Thermophilic Temperature on the Thermophilic Anaerobic Digestion Process,” which was published in the May 2006 issue of *Water Environment Research*. It introduces methods, analysis, and models used for selecting a particular thermophilic digestion process. The methods and tools described by the authors are expected to spur additional research and improvements for achieving Class A biosolids. The authors also developed an empirical model to help predict the best-performing thermophilic temperature and mean cell residence time.

Gascoigne Medal for Wastewater Treatment Plant Operational Improvement
David Phillips and Michael Fan
The Gascoigne Medal was established in recognition of George Bradley Gascoigne, a prominent consultant who exhibited a great deal of interest in the operation of wastewater treatment plants. The medal is awarded to the author(s) of an article that presents the solution of an important and complicated operational problem within a full-scale, operating wastewater treatment plant that is appropriately staffed. David Phillips and Michael Fan won for their article, “Just Right,” which appeared in the June 2006 issue of *Water Environment & Technology*. The article describes how the staff at the University of California–Davis Wastewater Treatment Plant refined a method for controlling aeration power consumption without significant capital improvements to the plant. By applying a common-sense approach to the problem, the plant staff developed various control instrumentation and procedures that worked for their particular plant. Their approach did not require significant capital investment or outside input, will prove to be economically beneficial for the plant in the long run, and could be used at other facilities to help develop plant-specific solutions for operations and maintenance cost minimization.

McKee Groundwater Protection, Restoration, or Sustainable Use Medal
Marcio Da Silva, Rebecca Daprato, Diego Gomez, Joseph Hughes, Herb Ward, and Pedro Alvarez
This medal honors Jack McKee, president of WEF from 1962 to 1963; a founder of the consulting firm of Camp, Dresser, and McKee (Cambridge, Mass.); and a long-time professor at the California Institute of Technology (Pasadena). It recognizes significant contributions to groundwater science or engineering research published in a WEF or WEF member association periodical.

Marcio Da Silva, Rebecca Daprato, Diego Gomez, Joseph Hughes, Herb Ward, and Pedro Alvarez won for their article, “Comparison of Bioaugmentation and Biostimulation for the Enhancement of Dense Nonaqueous Phase Liquid Source Zone Bioremediation,” which appeared in the December 2006 issue of *Water Environment Research*. The article focuses on an unresolved issue in biological remediation of contaminated groundwater: how to address source areas. It provides strong molecular biology and bioremediation process information that will aid development of efficient bioremediation systems for such groundwater problems.

©2008 Water Environment Federation. All rights reserved.

WEF HIGHLIGHTS

Features

October 2007, Vol. 44, No. 8

For more information on the WEF awards, see the November issue of *Water Environment & Technology* at www.wef.org/magazine or the WEF Awards Web site.

©2008 Water Environment Federation. All rights reserved.

News & Events
October 2007, Vol. 44, No. 8

News & Events

Portland Hosts WEF Collection Systems Specialty Conference

The Oregon Convention Center in Portland was the venue for the 2007 Water Environment Federation (WEF; Alexandria, Va.) Collection Systems Specialty Conference in May. A total attendance of 562 people attended the 4-day conference. Attendees represented 40 states, five Canadian provinces, the United Kingdom, and the U.S. Virgin Islands.

Above left, Pacific Northwest Clean Water Association President Dale Richwine welcomes conference attendees at the Opening General Session. Middle, Tim Keegan of Brown & Caldwell (Walnut Creek, Calif.) and a member of the WEF Collection Systems Committee (CSC) Specialty Conference Subcommittee, talks with Idaho Governor and former Secretary of the Interior Cecil Andrus, and Keith McCormack, committee chair of the WEF CSC Specialty Conference Subcommittee. Right, attendees browse the conference exhibit hall. Photos by Michael Myers. Click on each image for a larger view.

The conference was preceded by a sold-out pre-conference workshop on the Private Property Virtual Library — a new WEF initiative intended to provide a resource to members to work on such private property issues as reducing inflow and infiltration (I/I), and lateral maintenance. Speakers included Gail Chesler of the Central Contra Costa (Calif.) Sanitation District on issues facing Californians; Danny Holmberg, of architecture and engineering firm Paul B. Krebs and Associates (Birmingham, Ala.) on legal issues in Alabama; Phil Westmoreland of engineering consultants Orchard, Hiltz, and McCliment (Livonia, Mich.) on successful programs in Michigan; and Mike Anderson, of FMSM Engineers (Lexington, Ky.),on navigating the Private Property Virtual Library. The program included several opportunities for the 103 workshop attendees to network and work collaboratively. The library is available at www.wef.org/PrivateProperty.

The Opening General Session kicked off the conference, featuring Pacific Northwest Clean Water Association (Caldwell, Idaho) President Dale Richwine; WEF Specialty Conference Chair Keith McCormack; WEF Past President J. Michael Read; Dean Marriott, director of the City of Portland Bureau of Environmental Services, Jim Hanlon, director of the U.S. Environmental Protection Agency's Office of Wastewater Management; Spokane County (Wash.) Commissioner Todd Mielke; Bill Gaffi, general manager of Clean Water Services (Hillsboro, Ore.); and four–time Idaho Governor and former Secretary of the Interior Cecil Andrus. A video about Portland's efforts to clean up the Willamette River narrated by Walter Cronkite was the highlight for many attendees.

The conference's technical program included presentations on regulatory requirements, new technology and innovations, the King County (Wash.) I/I reduction program, assessment and rehabilitation, flow monitoring, Portland's Green Solutions program, design engineering, combined sewer overflow management, modeling, I/I reduction, gaining public support, and construction. There were 12 sessions featuring 60 presentations during the two-and-a-half day conference.

Attendees were able to tour the Swan Island Pump Station, which is part of Portland's $1-billion stormwater separation program. A second tour focused on Portland's "Green Streets" program, whereby neighborhoods incorporate innovative stormwater runoff management strategies.

©2008 Water Environment Federation. All rights reserved.

News & Events

October 2007, Vol. 44, No. 8

As conference chair, I would like to give a huge thank you to the WEF staff, the WEF Collection Systems Committee, and the members of the Local Planning Committee for the 2-year effort they invested to make this conference the overwhelming success that is was. Local Planning Committee members include: Claudia Zahorcak, City of Albany, N.Y. co-vice chair; Jim Peterson, HDR Engineering (Omaha, Neb.), co-vice chair; Jennifer Martinez, City of Portland, Ore.; Carrie Pak, Clean Water Services (Hillsboro, Ore.); Kelly Shepard, City of Portland; Mark Smith, HDR Engineering (Omaha, Neb.); and Mike Flanigan, Kennedy/Jenks Consultants (San Francisco).

— ***Mike Meyers****, Conference Chair*

WEF Hosts Compounds of Emerging Concern 2007 Symposium and Industrial Water Quality 2007 Conference

More than 300 people attended the Water Environment Federation's (WEF; Alexandria, Va.) co-located Compounds of Emerging Concern (CEC) 2007 Symposium and Industrial Water Quality (IWQ) 2007 Conference in Providence, R.I. The events, co-sponsored by the Pharmaceutical Research Manufacturers of America (Washington, D.C.), the New England Water Environment Association (NEWEA; Woburn, Mass.), and the Water Environment Research Foundation (Alexandria, Va.), were held July 29–Aug. 1.

Left, conference attendees gather at the networking reception. Middle, Jamal Shamas, chair of the WEF Industrial Wastes Committee, presented the inaugural Industrial Water Quality Lifetime Achievement Award to Wesley Eckenfelder Jr. Right, Kimberly Thompson spoke on "Life in the Age of Risk Management: Putting Risk in Perspective." Click on each image for a larger view. Photos by Rob Schweinfurth.

Thomas Terns of the Federal Institute of Hydrology (Koblenz, Germany) gave the keynote presentation. Terns is an international leader on analysis and fate of organic pollutants, and his presentation, "Contaminants of Emerging Concern, a Challenge for Urban Water Management," was well-received by attendees. Other highlights included two sessions in which pharmaceutical industry leaders spoke about the fate, transport, and treatment of pharmaceuticals in the environment. Key topic areas for symposium presentations included:

- Conventional and advanced treatment technologies;
- Regulatory mechanisms and solutions;
- Sources, pathways, risks, and fates of CECs (also known as microconstituents), and the implications for human and ecological health;
- Analytical methods; and
- Enhancing public understanding.

At the start of Industrial Water Quality 2007 on July 29, Michael Curtis, conference chair, and Arnie Bevins, NEWEA president, welcomed attendees. Doug Snowden, principal engineer for Hamilton Sundstrand (Windsor Locks, Conn.), gave a keynote presentation on the water system of the International Space Station, highlighting the unique challenges of treating water in space.

©2008 Water Environment Federation. All rights reserved.

News & Events

October 2007, Vol. 44, No. 8

At the conclusion of the opening general session, the WEF Industrial Wastes Committee presented its inaugural Dr. Wesley Eckenfelder Industrial Water Quality Lifetime Achievement Award to Dr. Wesley Eckenfelder Jr. Eckenfelder has been one of the foremost authorities on industrial water quality management for more than 60 years. He is currently a professor emeritus of civil and environmental engineering at Vanderbilt University (Nashville, Tenn.), and is a senior technical director for AquAeTer (Brentwood, Tenn.).

The conference continued with technical presentations on industrial wastewater treatment and treatment of challenging pharmaceutical water, energy conservation and recovery, metals removal, stormwater management, treatment of high strength wastes, industrial process water supply, wastewater reuse, and nutrient control. CEC and IWQ attendees reported exceptional networking opportunities with colleagues and speakers during breaks, luncheons, and the receptions.

WEF is considering hosting a conference on microconstituents in 2008 and another joint CEC/Industrial Water Quality conference in 2009. For information on developments of the 2008 event, contact Bonnie Bailey, project manager, at bbailey@wef.org. For information on the 2009 joint conference on CECs/Industrial Water Quality, contact Rob Schweinfurth, senior project manager, at rschweinfurth@wef.org.

— ***Rob Schweinfurth**, WEF Highlights*

Women of Water Hosts Reception at WEFTEC®.07

Come meet and mingle with your fellow colleagues in the water business. Women of Water (WOW) will host its 3rd Annual Cocktail Reception during WEFTEC.07 in San Diego. Enjoy WOW's trademark blue martinis while getting to know some of the most powerful leaders and promising young stars in a wide variety of water-related disciplines.

The event is open to all WOW members and WEFTEC participants, students, family, and friends. The reception will be held Oct. 14, 7:30–10 p.m., at the San Diego Chinese Historical Museum at 404 Third Ave., San Diego, 92101.

For tickets, contact Cyndi Valadez at cvaladez@headworksusa.com or at (713) 647-6667.

Going to WEFTEC®.07?

Operations Forum needs your help with a special WEFTEC.07 project.

We're looking for utility personnel who are attending this year's WEFTEC in San Diego and are willing to share their opinions. Time commitment will be about 30 minutes.

Interested? Send an e-mail to sspicer@wef.org to learn more.

Reviewers, Authors Sought for Preliminary Wastewater Treatment Operator Training Manual

©2008 Water Environment Federation. All rights reserved.

WEF HIGHLIGHTS

News & Events

October 2007, Vol. 44, No. 8

The Water Environment Federation (WEF; Alexandria, Va.) is developing an operator-focused training manual on preliminary wastewater treatment. WEF is seeking volunteers to review a first draft and develop a questions database for the manual.

Authors who can assist in writing or revising sections based on reviewers' comments also may be needed. The manual is currently in first draft, so authors are not needed to develop the manual from scratch. The manual currently is 30 pages, not including questions, and includes the following sections:

- Septage Receiving
- Screening
- Grinders/Comminutors
- Grit Removal
- Odor Control
- Flow Measurement
- Flow Management
- Safety

The anticipated schedule is as follows:

- December–January: Review of first draft
- February–April: Review of comments and update to final draft:
- June: Publication

Those interested in assisting with this publication should contact Senior Project Manager Rob Schweinfurth no later than Nov. 30, 2007, at rschweinfurth@wef.org, or (703) 684-2400, ext. 7750. Indicate whether you would like to review, write questions, or author sections of the manual, if needed. All reviewers and authors will be acknowledged in the completed manual.

©2008 Water Environment Federation. All rights reserved.