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WEF HIGHLIGHTS

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News for Members of the Water Environment Federation

Indian Environmental Organization Wins 2005 Stockholm Water Prize

The Centre for Science and Environment (CSE; New Delhi), an Indian non-governmental organization led by **Sunita Narain**, an advocate for water, environment, human rights, democracy and health, has been awarded the 2005 Stockholm Water Prize.

The award has been given to CSE for its efforts to build a new paradigm of water management, which uses rainwater harvesting and advocates the role of communities in managing their local water systems. In its citation, the Nominating Committee lauded CSE, under the leadership of Narain, "For a successful recovery of old and generation of new knowledge on water management, a community-based sustainable integrated resource management under gender equity, a courageous stand against undemocratic, top-down bureaucratic resource control, an efficient use of a free press, and an independent judiciary to meet these goals."

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Sunita Narain of New Delhi, India is the 2005 Stockholm Water Prize winner.

Municipal Wastewater Experts Brief Hill Staff on Blending

On March 16, a panel of experts from the municipal wastewater treatment community spoke at a briefing at Capitol Hill's Rayburn Building to educate congressional staff and other stakeholders on blending at wastewater treatment plants and the draft blending policy issued by the U.S. Environmental Protection Agency (EPA).

Bob Matthews addresses the audience at Capitol Hill.

Blending is the practice of diverting a part of the excess flow received at wastewater treatment plants during peak wet-weather events around biological treatment units and then re-combining the flow with effluent from all processes before discharge from a permitted outfall. When EPA issued the draft policy clarifying conditions under which blending could be implemented, the agency received thousands of public comments and sparked a controversial debate over the practice. In late February, a bipartisan coalition of 135 members of the House of Representatives expressed their opposition to the draft policy in a letter to acting EPA Administrator Stephen Johnson.

The Water Environment Federation (WEF; Alexandria, Va.) participated in the briefing to explain blending and the importance of a nationally consistent approach to permitting of wet-weather flows. Panelists discussed the progress of wet-weather treatment since the

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Water Environment Federation®
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From the

EXECUTIVE DIRECTOR

The Power of Partnerships

About a year ago, the Water Environment Federation (WEF; Alexandria, Va.) adopted a policy to pursue our mission to protect the global water environment through strategic partnerships with like-minded organizations worldwide. As part of this pursuit, we have met with the United Nations Environmental Program (UNEP) Commission on Sustainable Development (CSD), and recently were invited by the U.S. State Department to a CSD meeting in Marrakech, Morocco. So, **Bill Bertera**, WEF's executive director; **Ken Maynard**, WEF's director of international programs; and I went because it is important to meet potential partners face to face.

Because of flight delays, I missed Bill and Ken at the Paris and Casablanca airports and caught the last flight to Marrakech alone. I was very curious and a little apprehensive about entering Morocco, having never been in Africa or an Islamic country before. Moroccans speak French and Arabic; I speak English and about 45 badly pronounced French words. So, I felt a sense of accomplishment when the cab driver dropped me at my hotel and the porter led me past orange trees and honeysuckle to a room with a little balcony and a flush toilet with a seat.

While in Marrakech, I had dinner and breakfast with the Moroccan Minister of Environment, other government ministers, ambassadors, and the heads of other non-governmental organizations (NGOs). I learned that Morocco has potable water systems in the cities of Riyad, Marrakech, and Casablanca, and the poorer areas at the outskirts of town may be served by neighborhood taps and latrines. People in the cities pay for water services (unless they can get away with not doing so), but the government expects

to subsidize its poor residents on the outskirts. Two of the challenges for Morocco's private utility management company are remaining solvent and keeping the pipes watertight.

More than 400 diplomatic, NGO, and ranking ministerial representatives attended the Marrakech meeting, representing the United States, several European nations, Japan, and a host of African and Middle Eastern nations. The overall goal of the meeting was to develop three-way partnerships among businesses, governments, and NGOs. The expectation is that these partnerships will help nations establish sustainable economic and environmental policies to achieve the Millennium Development Goals of bringing clean water and sanitation to half of the people who currently lack them.

Business-government partnerships can involve privatized water and wastewater utilities, economic development, new jobs, and/or sustainable water use in manufacturing. The challenges for these partnerships are that corruption can erode project budgets, and businesses are unwilling to invest in countries with weak or unstable governments or where profit is considered "dirty." While in Morocco, I took a bus out to a village and a three-room farm and saw how people are signing up with Temasol for a solar panel that will power up to four lights and four outlets. People there are willing to pay 15% of their income for television, electric lights, and cell-phone chargers.

As Bill, Ken, and I learned firsthand during back-to-back sessions and side meetings in Marrakech, government-NGO partnerships can involve education, public relations, and volunteer support. Educational organizations like WEF can provide training and access to the latest technology. Humanitarian NGOs can help fund drinking water and sanitation systems for the poorest

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WEF HIGHLIGHTS

News for Members of the Water Environment Federation

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WEF Members Tap into Water

The first phase of Tap into Water, the Water Environment Federation's (WEF; Alexandria, Va.) public awareness initiative on water infrastructure is underway, with orientation presentations at WEFMAX, and Member Association annual meetings, and the development of a new Web site, www.tapintowater.com.

With a new logo and program identity, members of the Infrastructure Task Force are now traveling the country to show members of the water quality community how they can bring the message of infrastructure sustainability to their communities.

John Salo, Brown & Caldwell; **Robert McMillon**, WEF Past President; and **Al DeCarvalho**, WEF managing director of external relations and public education, have delivered presentations in Massachusetts, Texas, New York, Florida, and Colorado, with plans to visit six other U.S. cities by mid-2005.

To further support the campaign, WEF plans to officially launch www.tapintowater.com in spring 2005. Still in development, the Web site is designed to be the most comprehensive resource for telling "the story of water." It features the latest news articles and information about water infrastructure, an up-to-date campaign calendar, and a list of campaign activities and media toolkit.

Currently available for viewing, the toolkit contains a Powerpoint overview of the campaign, message matrix, talking points and templates for letters to the editor, opinion editorials, magazine articles and articles for utility and MA newsletters.

For more information about the initiative or the task force's activities and to find out how to arrange an orientation presentation for Tap into Water, contact DeCarvalho at adecarvalho@wef.org.

NWEA Honors Soldier for Environmental Excellence

The Nebraska Water Environment Association (NWEA; Omaha) honored **Spc. Kelly Kinzer**, the state's 2004 Stockholm Junior Water Prize winner, with a plaque and surprise ceremony Feb. 22. Kinzer was home on leave from her post in Camp Arafijan, Kuwait with the U.S. Army (1075th Trucking Unit, Columbus, Ga.).

Winning prizes for environmental projects isn't really a new thing for Kinzer. In 2001, she won Nebraska's State Stockholm Winner for her project, "Analysis of Aquatic Plants and Pollution Removal." She used three kinds of native plants to determine which one consumed nitrates from the water after adding potassium nitrate.

In 2002, in the second phase of her project , she used algae and native plants to determine which one consumed the most copper from the water. NWEA named Kelly as the overall state winner. This allowed her to represent Nebraska at the national competition, held in Dallas.

Then in 2003, Kinzer won the regional competition with her project, "Analysis of Glass Polishing Wastewater." She used glass plates and rods to remove copper ions from the water. NWEA again named Kelly the overall state winner. However, she was unable to compete in the nation competition because she had orders to report to Fort Jackson, S.C. for her U.S. Army National Guard basic training. Another student repre-

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Spc. Kelly Kinzer addresses students at her surprise award ceremony hosted by the Nebraska Water Environment Association

BASF Donates Nitrogen Removal Patent to WERF

BASF, an international chemical company, has donated the patent for an innovative wastewater treatment technology to the Water Environment Research Foundation (WERF; Alexandria, Va.). The patent, issued to BASF Corp. (Florham Park, N.J.) by the U.S. Patent and Trademark Office under U.S. patent number 6,426,004 in 2002, employs what is commonly referred to as Timeswitch technology to conduct nitrification and denitrification of wastewater in a single treatment tank.

Typically, nitrogen removal is accomplished in aerobic and anoxic tanks, vessels, or compartments of a wastewater treatment system. Since aerobic and anoxic treatments are incompatible, two tanks were thought to be the minimum number of vessels needed to operate both aerobic and anoxic processes. With the Timeswitch method, nitrates can be removed from water at municipal and industrial wastewater plants in a way that eliminates the need to invest capital in constructing an additional tank. With only a few new controls and mixers, both aerobic and anoxic treatment can be accomplished in one tank.

Key to the reactor system is a "Timeswitch" concept for controlling the oxygen in the mixed liquor. The Timeswitch concept comprises turning on and off the oxygen source to create aerobic and anoxic cycles in the basin.

Key to the reactor system is a "Timeswitch" concept for controlling the oxygen in the mixed liquor. The Timeswitch concept comprises turning on and off the oxygen source to create aerobic and anoxic cycles in the basin. In addition, the timeswitch concept involved timing the addition of supplemental carbon to a short period of time at the beginning of an anoxic cycle to aid in removal of nitrates by the heterotrophic bacteria. Because the system is completely mixed, when the oxygen conditions are changed, the system rapidly equilibrates to a new oxygen level. Time periods for introduction of oxygen range from 15 to 120 minutes; time periods for stopping the oxygen also range from 15 to 120 minutes. This time will vary based on influent characteristics, treatment system configuration and desired effluent. The initial settings for the time cycles can be determined using computer simulations. Following implementation, these settings can be further refined using actual operating results.

The Timeswitch method was discovered during BASF's efforts to reduce the amount of nitrate compounds in the discharge from its Freeport, Texas, manufacturing site. Engineers at the site had been looking for ways to modify the wastewater treatment plant on the site. Wastewater experts from BASF's Freeport site, as well as from other BASF locations in the United States and Germany, jointly developed the Timeswitch technology using computer simulations and pilot plant testing. BASF did not implement the process, but has retained rights to practice the technology under the donation agreement with WERF.

Potential users of the Timeswitch treatment technology include municipal wastewater treatment plants, industrial wastewater treatment plants, and concentrated animal feeding operations. For many facilities, use of the Timeswitch invention would allow nitrogen removal with minimal changes, compared to the usual add-on approach, resulting in capital and operating cost savings.

Technical Professionals and Managers Wanted for Disability Forum

Michael E. Davis, an engineer with the U.S. Environmental Protection Agency, Region 5 in Chicago, is seeking people to share their experiences about how being disabled has affected them.

Davis, who uses a wheelchair, plans to write articles for the Water Environment Federation® (Alexandria, Va.) on disabled professionals in the water and wastewater treatment industry, and other related industries. He would like to collect information from a diverse pool of disabled professionals about the issues and situations they have encountered in their work.

Furthermore, he is also seeking input from upper-level supervisors and managers regarding their experiences on this issue, so he can reflect both the employers' and employees' point of view and help to advance the careers of disabled professionals.

His contact information is:

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- membrane technologies
- facility operations and treatment
- regulations, including: legislative update on federal policy and U.S. EPA regulatory update
- research, including: BNR, MBR, and getting the lead out
- residuals and biosolids
- water reuse/recycling
- stormwater management, including: NPDES, CSO long term planning, and urban stormwater
- surface water quality and watershed management, including: TMDLs, endocrine disruptors, and "A Conversation with DC-based Environmental Interest Organizations"
- sustainable water resources management
- and more, including: "Lessons Learned from the Asian Tsunami Disaster" and "Rebuilding the Water & Wastewater Infrastructure in Iraq."

The WEFTEC Exhibition is twice as big as any other water exhibition in North America. There are currently 675 companies in the show – with 7 months until WEFTEC! This is 100+ more than what we've seen in previous years this far in advance. There is 190,000 ft^2 net of space assigned, which is close to the final space used at WEFTEC.03 in Los Angeles. If things keep going the way they have been, this could shatter previous records!

Networking Opportunities

Thousands of attendees from around the world choose WEFTEC as the event to learn the latest in water quality, exchange ideas, and form quality business relationships.

Join us at WEFTEC.05 in Washington DC and become a part of the most powerful water quality event of the year! Visit us online at www.weftec.org. Exhibitor registration will open in mid-May.

The 2005 Paul L. Busch Award

The WERF Endowment for Innovation in Applied Water Quality Research is accepting applications for the Paul L. Busch Award, which carries with it a $100,000 research grant. The award is presented each year to an individual or team in the fields of science and engineering who is making significant contributions to water quality research and its practical use.

Now Accepting Applications!

Applications must be received by June 1, 2005. For more information, including guidelines and application information, visit www.werf.org.

Environmental Engineers Rank First in Hot Career Predictions

In the March 21, 2005 issue of *Fortune* magazine, an article appeared highlighting the top 20 fastest growing professional jobs. Yes, the old standards were there: network systems and datacom analysts, software engineers, and database administrators. But, a dark horse led the pack this year: environmental engineers.

According to the U.S. Department of Labor (DOL), environmental engineers held about 47,000 jobs in 2002. Almost half worked in professional, scientific, and technical services and about 15,000 were employed by federal, state, and local government agencies. Most of the rest worked in various manufacturing industries.

The *Fortune* article estimates that job opportunities for environmental engineers will increase 54.3% through 2012. *Fortune* experts cite this boom as being a reaction to an increasingly health-conscious public eager to find environmental engineers who can prevent problems rather that simply reacting to those that already exist.

DOL experts agree. According to their Web site, employment of environmental engineers is expected to increase much faster than the average for all other engineering occupations through 2012. Much of the expected growth will be due to the emergence of this occupation as a widely recognized engineering specialty rather than as an interest area for other engineering specialties. Also, more environmental engineers will be needed to comply with environmental regulations and develop methods to clean up existing hazards.

However, just like a change in tide, the job outlook for the environmental sector is strongly influenced by politics. DOL says that political factors affect the job outlook for environmental engineers more than for other types of engineers. Looser environmental regulations would reduce job opportunities, while stricter regulations would enhance opportunities.

For those spurred on by the *Fortune* prediction of a job market bonanza for environmental engineers, the top three picks for environmental engineering schools, according to *U.S. News and World Report*, are

1) Stanford University (Calif.),
2) Massachusetts Institute of Technology (Cambridge.), and
3) the University of Michigan (Ann Arbor).

So, start saving those pennies for the future environmental engineers currently playing in mud puddles across America.

Volunteers Needed for WEF's Operations/Utility Management Manual

Water and wastewater treatment professionals are needed to review and and contribute to *Operations Training/Utility Management*, a new manual under development for the Water Environment Federation (WEF; Alexandria, Va.). The target audience for *Operations Training/Utility Management* is operations professionals who aspire to advance to management/leadership functions within their organizations.

The manual will provide comprehensive coverage of the fundamentals of managing the operation of today's water or wastewater utility. The manual will be used for self-study or as the course text for instructor-led professional development training. It is envisioned that the manual will be approximately 150-200 pages in length and will include quizzes at the end of each chapter and a glossary of management terms.

The first draft of the manual is now ready for review and review comments are due in early June. Reviewers will receive acknowledgement in the published manual.

WEF is also seeking contributors to provide visuals, study questions and brief case studies on a variety of topics and to work closely with staff in developing content. Contributors will receive acknowledgement in the published manual.

This is an opportunity to help address the looming shortage of experienced managers in the water and wastewater industries. It will also allow members to become more involved with WEF, and, for those just starting their careers, it provides an opportunity to become established as an expert in the field. If you are interested in either reviewing the manual or contributing to it, contact **Tara Willey** at kwilley@wef.org or (703) 684-2400, ext. 7737.

Indian Environmental Organization Wins *continued from page 1*

It is clear that the management of water, and not scarcity of water, is the problem in many parts of the world. CSE's work on rainwater harvesting has shown the many ingenious ways in which people learned to live with water scarcity. The solution practiced diversely in different regions, lies in capturing rain in millions of storage systems – in tanks, ponds, stepwells and even rooftops -- and to use it to recharge groundwater reserves for irrigation and drinking water needs.

CSE will receive the $150,000 Prize from **His Majesty King Carl XVI Gustaf** of Sweden in August. The Stockholm Water Prize is awarded annually to individuals and institutions for their outstanding contributions to the world of water. This year's prize to CSE acknowledges the growing crisis of water management in many regions and the need for new approaches that provide local food and water security to communities. CSE's work has helped create new thinking on how traditional systems of water management, once rejuvenated, could become the starting point for the removal of rural poverty in many part of the world.

Municipal Wastewater Experts *continued from page 1*

1970s, described how a wastewater treatment facility works, explained what happens during peak wet-weather events, and outlined the need for and benefits of a national policy.

The briefing was organized jointly by WEF, the Association of Metropolitan Sewerage Agencies (AMSA; Washington, D.C.), and the Water Environment Research Foundation (WERF; Alexandria, Va.). Panelists included **Gordon Garner**, CH2M Hill (Louisville, KY.), and retired executive director, Louisville & Jefferson County Metropolitan Sewer District, (Ky.); **Bob Matthews**, senior vice-president, CMD Inc. (Fort Meyers, Fla.); **Nancy Wheatley**, Water Resources Strategies; (Siasconset, Mass.); **David Williams**, director of wastewater, East Bay Municipal Utility District, (Calif.); **Dan Woltering**, director of research, WERF; and **Bill Elmore**, senior vice-president and chief operating officer, Knoxville Utilities Board (Tenn.).

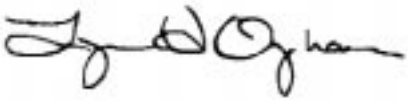
Attendees listen as presenters cover the many aspects of blending.

The Power of Partnerships *continued from page 2*

citizens. Policy and conservation NGOs can promote governments that serve their citizens well. The U.S. State Department talked with us specifically about how WEF might get involved in environmental law, trade, agriculture, and volunteer work — all of which matter in our mission to protect the global water environment.

NGO-business partnerships can involve public outreach, and support of economic development and education. For example, one partnership has developed and facilitated the distribution of packets of Procter & Gamble's PUR® that are provided to women in rural or remote areas of the world so they can coagulate and disinfect the household's water one jug at a time.

The 4 intense days in Marrakech taught us that governments, businesses, and NGOs can accomplish a lot when they work together. These partnerships are what global leaders are counting on to protect people's health and achieve a more sustainable use of the world's natural resources. On a smaller scale, these partnerships are exactly what we seek in watershed management in our own communities.



Lynn Orphan
2004-2005 WEF President

NWEA Honors Soldier *continued from page 3*

sented the state in the competition.

In 2004, Kinzer was declared the Nebraska state winner with her project "Analysis of Glass Polishing Wastewater Phase II." She used crushed borosilicate glass to remove copper ions from the water. She participated in the national competition in Denver, in which she placed in the top 10.

Fred Scarpello, NWEA president, says Kinzer is truly an exceptional individual and that her dedicated work has made her a leading example to others as to what can be accomplished.

"This gives me and the Nebraska Water Environment Association great pleasure to present this plaque to Kelly as the 2004 Stockholm Junior Water Prize State Winner for her courage and strengths in helping the world protect life and health with her water quality projects and her loyalty to the United States for participating in the war on terrorism in Iraq," Scarpello said at the ceremony.

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