

## GEORGIA HIGH SCHOOL STUDENT TO REPRESENT U.S. IN INTERNATIONAL STOCKHOLM JUNIOR WATER PRIZE COMPETITION

In a ceremony held Saturday, June 7, **Heather Mispagel**, of Athens, Georgia, was named the U.S. winner of the Stockholm Junior Water Prize (SJWP). The senior from Oconee County High School was selected for her project, "Antibiotic Resistance from Sewage Oxidation Ponds", and was awarded \$2,500 and an all-expense paid trip to Stockholm, Sweden where she will represent the United States in the international competition. Mispagel traced antibiotics and genes coding for their resistance through treatment stages in sewage oxidation ponds. Her project was selected from a pool of 37 state SJWP winners who were selected by Water Environment Federation (WEF) Member Associations. The competition took place in Dallas, TX, and was hosted by the Water Environment Association of Texas.

"As a leading organization of water quality professionals, WEF recognizes its responsibility to promote and elevate youth interest in water environment science and research," remarks President **Robert McMillon**. "We are proud to be the organizer and grateful to ITT Industries and The Coca-Cola Company for their continued support of the U.S. Stockholm Junior Water Prize competition."

Mispagel documented five mobile home park sewage oxidation ponds in Clarke and Oconee counties discharging high numbers of antibiotic-resistant bacteria into the waterways of North Georgia. A survey revealed that many residents did not complete antibiotic treatments and disposed of leftover medications into the sewage system. In the pond discharges, resistance was found to more than eighteen antibiotics. To further the study Mispagel developed a bioreactor model to study oxidation pond function. Tetracycline resistant genes were detected. These genes are usually found in human intestinal bacteria and spread rapidly into the environment.

"Mispagel's study was well conceived and very well executed," explains WEF Nomination Chair Dr. **Charles Sorber**. "Her focus on removal of antibiotic resistant organisms from oxidation ponds has world wide application." Mispagel's work has resulted in the implementation of a public education program to educate residents of the mobile home community to properly dispose of antibiotics to prevent future contamination.

In addition to Mispagel, four U.S. finalists received \$500 each. They include (listed in alphabetical order by state):

- Vijay Yanamadala, Palos Verdes Estates, California, Reclaiming the Ecosystem: Eutrophication Control with calcium Carbonate (Phosphate-Binding Ion-Exchange) Filters and Denitrification in Fresh Water Lakes;
- Kiana Frank, Kailua, Hawaii, The Effect of Agricultural and Residential Runoff on the Microbiology of a Hawaiian Ahupua'a;
- Alexandra, Antonioli, Butte, Montana, An Investigation of the Remediation of Berkeley Pit Water Using Genetically Modified Extremophilic Organisms;
- Sean Raj, Sugar Land, Texas, Bottled Water: How Safe Is It?

Mispagel will compete in August against winners of 29 national competitions for the international honors. This year six new countries will enter the competition, which has grown

each year since being founded. New entrants for 2003 include China, Vietnam, Kenya, Cameroon, Russia and India. Many of these countries, most notably China and Kenya, are currently facing significant clean water shortage and access issues.

"While the global water environment remains in peril, the future depends on our ability to manage this life-sustaining resource. Today's youth are indeed tomorrow's leaders and must be encouraged to pursue water-related careers or risk further erosion of our scarce supply," said **Tom Martin**, senior vice president and director of corporate relations, ITT Industries. "The Stockholm Junior Water Prize helps meet that objective and is the reason ITT Industries has been a proud sponsor since its inception as an international competition seven years ago."

The winner of the international competition will be chosen based on the quality and relevance of the student's project. HRH Crown Princess Victoria of Sweden will bestow the prize on August 12 during a ceremony held in conjunction with the Stockholm Water Symposium. The laureate will receive a \$5,000 scholarship and a crystal sculpture.

*For more information about the Stockholm Junior Water Prize, please contact WEF Senior Manager of Public Education Lorraine Loken at [lloken@wef.org](mailto:lloken@wef.org).*