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Army Corps, City, Local Students Team Up to Analyze Water Quality in Makiki, Ala Wai Watersheds

By Dino W. Buchanan, Honolulu District Public Affairs

(FORT SHAFTER, HI NR21-10) Honolulu District engineers and staff teamed up with the City and County of Honolulu Storm Water Quality Branch, the Hawaii Water Environment Association (HWEA), Punahou School Mamiya Science Center and Washington Middle School students today for the first part of Oahu's annual World Water Monitoring Day activities in the Makiki and Ala Wai watersheds.

This morning nearly 120 students rotated through four stations where they were taught how to use the test materials by technical experts from the Corps of Engineers and the City and County of Honolulu at the upper section of the Makiki Stream near the Makiki Pumping Station on Makiki Heights Drive. The students later transferred to the lower end of the Makiki Stream at Magic Island to test the water samples, compile data and compare results from the two bodies of water.

“The Corps of Engineers has an educational outreach mission – and part of that mission on Oahu is educating the public – and students - on how the Ala Wai watershed works,” said Mike Wong, from the Corps civil works department. “For World Water Monitoring Day we encourage students to learn the basics about the watershed, allow them to test and analyze stream water using holistic methods.”

The technical experts collected and measured water samples, answered questions about water quality and the City's storm drain system, conducted a stream survey and a trail walk. Simple tests conducted included those for dissolved oxygen, pH, turbidity (clarity), temperature, phosphates and nitrates.

Park Ranger Angela Jones from the U. S. Army Corps of Engineers Pacific Regional Visitor Center at Fort DeRussy assisted students in testing nitrate and phosphate levels in the water.

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“This event is a great way for students to get a hands-on understanding about the watershed and I think the students really enjoy testing the water samples and analyzing the scientific data,” said Jones.

Following today’s water testing students uploaded their data to a special section of the World Water Monitoring Day website, which is then added to data collected worldwide. Students can view the results of their work online and compare their findings with other students.

Gail Peiterson, a science teacher at Punahou School who provided instruction today at Makiki Stream on the evolution of the Ala Wai watershed, said she tries to have students equate what they already know about the world they live in to understanding the sciences of the watershed.

“It’s important that students understand the connection between the upstream and downstream watershed,” Peiterson said. “If students have a hard time understanding the concept, I tell them to use examples that they may already know – like cold and hot soda. Cold soda generally has oxygen and generates air bubbles. Fish and plants can live in stream water that has or generates oxygen. Hot soda has no oxygen and obviously hot stream water doesn’t promote life or growth. It’s a simple, yet valid correlation students can relate to.”

While regulatory stream monitoring is conducted throughout the year by the City’s Storm Water Quality Branch, World Water Monitoring Day is a vital way for the U.S. Army Corps of Engineers and community members to understand the importance of water quality. In 2009, over 120,000 people in 81 countries monitored their local waterways.

The City and County of Honolulu, State of Hawaii Department of Health and the U.S. Army Corps of Engineers have co-sponsored World Water Monitoring Day with Washington Middle School since 2003, said Wong.

World Water Monitoring Day is an initiative organized by the Water Environment Federation and the International Water Association, designed to promote education and personal stewardship regarding water ecosystems and resources. The City and County of Honolulu and U.S. Army Corps of Engineers are spearheading this effort, along with thousands of volunteers worldwide, by sampling water quality and reporting findings. Local schools like Washington Middle School use this event to help satisfy eighth-grade earth science standards.

World Water Monitoring Day activities in the Makiki and Ala Wai watersheds continue again on Thursday Sept. 23 with an additional 120 Washington Middle School students participating in a repeat of today’s activities.

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