

MONDAY, SEPTEMBER 12, 2005

## How ECOHAB-Pacific Northwest Relates to You

BY DEBORAH MCARTHUR



Portage Bay - The R/V Melville returned to Seattle this morning. Family and friends greeted the scientists and crew at the Ballard Locks as the ship rose to the level of Salmon Bay and the city’s freshwater canals and lakes. Traffic was stopped three times as the Ballard, Fremont and Roosevelt drawbridges opened to allow the ship passage. Melville crossed Lake Union to the dock at the University of Washington.

Scientists on-board packed up their workstations and equipment: microscopes, computers, drifters. Jars and vials of samples were tucked into ice chests and boxes. Cranes helped to unload incubators and fish tanks. Moving trunks will transport the equipment and samples back to labs as far away as Canada, Maine and California.

ECOHAB-PNW scientists have their work cut out for them. They will be processing samples, analyzing data, and preparing for the next cruise. As information is analyzed, scientists will write papers about their findings and publish in scientific journals to inform others about toxic marine algae. ECOHAB scientists also work with state public health officials whose decisions most directly relate to our lives.

Managers from the Washington State Department Fish and Wildlife and Department of Health make regulations and management decisions to protect our health, our seafood supply and our ocean environment. These agencies post signs warning not to eat toxic seafood and indicate where beaches are open to shellfish harvesting.

ECOHAB-PNW scientists provide State managers with early warning of blooms of *Pseudo-nitzschia*. But they are not yet able to predict if a bloom will become toxic or if winds and currents will carry the bloom to our coast. As ECOHAB scientists learn about what triggers production of domoic acid in *Pseudo-nitzschia*, they can refine complex models to demonstrate advanced blooms. Buoys with sensors able to detect

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and beach monitoring data will allow scientists to forecast HABs. Scientists and managers envision the day when toxic events will be predicted, much like meteorologists predict storms.

Next time you eat crab, sushi, clam chowder, or slurp a raw oyster, know that there are people behind the scenes, like the ECOHAB-PNW scientists, doing innovative research and coordinating with state officials to make sure there is safe food for you and me.



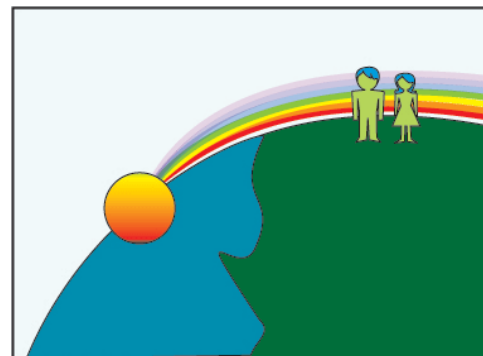
**WA Biotoxins hotline:** 1-800-562-5632

## Over in a Flash

BY DEBORAH MCARTHUR

R/V Melville bow – The “green flash” was observed several times during the three week cruise. What is this rare phenomenon?

The visible spectrum is a rainbow of colors, ROY G. BIV: Red, Orange, Yellow, Green, Blue, Indigo, Violet. Colors bend at different angles as observed by light passing through a prism. Red light bends the least; violet bends the most.



As the sun sets, a person sees the last light of the sun as a series of colors. Red disappears first, then orange, and yellow. The last colors of refracted sunlight would be blue and violet, but this light scatters as it bumps into particles in the atmosphere. On a clear night, one may see GREEN as the last color of sunlight. On very rare occasions blue and violet light will flash on the horizon.

There is also a physiological factor that influences how you see the setting sun. Staring at the sun too long can burn the red-sensitive photopigments of the retina, so the yellow stage of sunlight might appear green. But green flashes can also be seen at sunrise.

This research voyage has been a time to observe science in action, make friends and experience the joys of life at sea. Just like seeing a colorful sunset spectacle, the experience is over in a flash, but remembered forever.