

Building Public Awareness About HABs and Nutrient Pollution

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Nutrient pollution is one of America's most widespread, costly, and challenging environmental problems. The United States Environmental Protection Agency (EPA) has made progress working with the states and other federal partners on efforts to address sources of nitrogen and phosphorus, and on tailoring specific actions to reduce nitrogen and phosphorus pollution from wastewater plants, industrial facilities, and agricultural and stormwater runoff. Clearly, much is being done on the technical side to reduce nutrient pollution, yet there is recognition that the general public may not fully understand the basic association between nutrient pollution and algal blooms, nor how nutrient pollution can impact their communities and livelihoods. The U.S. EPA is working to expand partnerships in the effort to further engage and educate the public about the effects of nutrient pollution and algal blooms (Figure 1).

Partnerships play an important role in building public awareness about nutrient pollution and its association with algal blooms, the sometimes toxic and always unsightly muck that plagues our rivers and lakes. In 2013, the EPA's Office of Wetlands, Oceans, and Watersheds brought together federal and state agencies, non-government organizations, and academic and research institutions working on various aspects of harmful algal blooms (HABs) to share technical information about research and monitoring efforts underway, and to explore approaches for enhancing general communication, outreach, and education efforts to the general public. These partners agreed to collaborate through EPA's Harmful Algal Bloom Awareness Campaign. The partnership would include – among other things – developing a



Figure 1: Algal Bloom as seen from the air. Photo by Bill Yates.

social media campaign, HAB information clearinghouse, informational webinar series, public service announcements, and a public photo contest to raise awareness about algal blooms and their impact on communities.

HAB Awareness Campaign Partners include the Centers for Disease Control (CDC), North American Lake Management Society (NALMS), U.S. Geological Survey (USGS), the Association of State and Territorial Health Officials, Woods Hole Oceanographic Institution, Resource Media-Nitrogen News, World Resources Institute, the National Environmental Education Foundation, Maryland Department of Health, Kansas Department of Health, the American Kennel Club, and the Humane Society of America.

This partnership has allowed organizations to share their expertise with audiences that they didn't reach before. For example, the Humane Society of America and the American Kennel Club (AKC) facilitated communication between the EPA and pet owners about the risks of HABs to their dogs and cats. The EPA also worked with these groups to share and promote articles posted online and in magazines about HABs and pets, such as one in the AKC online magazine titled, "Summertime Algae Raise Concerns for Dog Lovers." The EPA also produced a brief video titled "When in Doubt, Stay Out: Protect your Pooch from Harmful Algal Blooms" about a pet owner who heeds a warning sign and prevents his dog from jumping in a lake in his local park. In turn, EPA hosted and promoted a series of webcasts about the

issue, letting researchers from institutions like the University of North Carolina, State partners like the Florida Department of Health, and federal partners like the USGS and NOAA, share their expert knowledge with the EPA's network of water quality professionals. NALMS kicked-off its 2013 Lakes Awareness Month as part of the HAB Awareness Webinar series (Figure 2).

This awareness campaign grows every year, with new opportunities and new ideas budding all the time. In 2014, the National Environmental Education Foundation (NEEF) and the North American Lake Management Society (NALMS) partnered with EPA on an Algal Bloom Photo Contest to bring attention to algal blooms and their association with nutrient pollution and impact on communities. Because algal blooms are a visible manifestation of nutrient pollution, they present an excellent opportunity for public education and outreach by EPA

and federal, state, and non-governmental organization partners. The more than 100 photos submitted by the public will comprise EPA's photo library for algal blooms, be used to illustrate the prevalence and impacts of algal blooms in the country, and will almost certainly generate conversation that will lead individuals to protect water quality where they live (Figure 3).

There are significant challenges that communities across the nation are facing related to HABs, algal toxins, and nutrient pollution in their waters. Helping communities' deal with this public health issue is a priority for the Agency and building public awareness is a critical part in the fight against nutrient pollution and HABs. All of the partners involved in EPA's HAB Awareness Campaigns will almost surely continue to be called upon to provide timely and factual information on HABs, their occurrence, and environmental and public health impacts,

and will continue to engage and educate the public to reduce these issues for future generations (Figure 4).

For more information on the EPA's work to reduce nutrient pollution and to engage and educate the public about harmful algal blooms, please visit www2.epa.gov/nutrientpollution or <http://www2.epa.gov/nutrientpollution/harmful-algal-blooms>.

Antonio Bravo leads national education and outreach efforts to support programs to protect and restore America's aquatic ecosystems. He has led national and international environmental outreach efforts for the past 26 years, and is currently building public awareness about nutrient pollution and coastal and wetlands protection in EPA's Office of Water. 



Figure 2: Reflecting Pool, Washington, DC. Potomac River; Chesapeake Bay watershed. USEPA photo by Eric Vance.

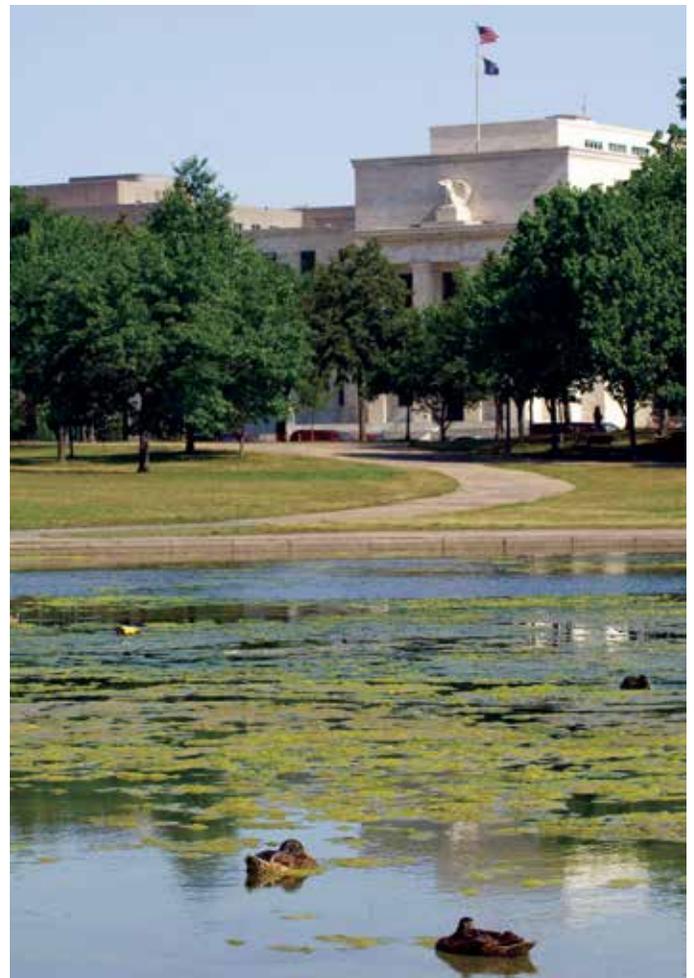


Figure 3: Reflecting Pool, Washington, DC. Potomac River; Chesapeake Bay watershed. USEPA photo by Eric Vance,



Figure 4. The American Kennel Club (AKC) facilitated communication between the EPA and pet owners about the risks of HABs to their dogs and cats through articles published online and in their magazine.

Listing of 2013/2014 Webinars and Presenters:

2013 Webinar Series

1. *Overview of Harmful Algal Blooms and their Impacts on Marine and Freshwater Ecosystems*; Jennifer Graham/USGS-NALMS, Quay Dortch/NOAA
2. *Perspectives on the Impact to Public Health of Harmful Algal Blooms*; Lorrie Backer/CDC, Andy Reich/Florida Department of Health
3. *Innovations on HAB Monitoring and Taxonomy and Citizen Science*; Don Anderson/Woods Hole Oceanographic Institute, Steve Morton/NOAA
4. *Linking Nutrient Pollution and HABS: State of the Science and EPA Actions*; Hans Paerl/UNC-Chapel Hill, Ellen Gilinsky/EPA, Mario Sengco/EPA

2014 Webinar Series

5. *The Role of Citizen Scientists in Harmful Algal Bloom Monitoring and Response*; Steve Morton/NOAA, Tom Conry/Waco Water Utilities Services
6. *Explaining and Reporting on Harmful Algal Blooms to the Public*; Cat Lazaroff/Resource Media, and Kate Golden/WisconsinWatch.org
7. *How to Protect Your Drinking Water from Harmful Algal Blooms*; Karen Sklenar/The Cadmus Group, Tom Conry/Waco Water Utilities Services
8. *When Green Goes Bad: An Interdisciplinary Approach to Better Understand Cyanobacteria, Nutrients, and Lakes*; Jeff Hollister and Betty Kreakie from EPA's Office of Research and Development, Atlantic Ecology Division at the Narragansett Laboratory in Rhode Island

Recordings for the final three are available online at: <http://www.epa.gov/watershedwebcasts>

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