Harmful Algal Blooms

Harmful algal blooms (HABs) have been in the news a lot in the past few years. A major HAB that affected Toledo last summer (2014) left nearly a half million people without drinking water for three days. Algal blooms tend to be more prominent during the spring thaw and the end of summer when temperatures are warmer. High amounts of rain also tend to cause algal blooms. This is because the rain washes nutrients and sediments from the land (e.g., agricultural fields, fertilized lawns, and failing home septic systems) into the surface waters. When an excess of nutrients are introduced into a water body, the result is usually algal growth.

There are a couple of types of algae that can cause an algal bloom. Green algae is unsightly, but is not known for being harmful because they do not produce toxins. The most common cause of HABs are cyanobacteria. Even though cyanobacteria are not “true algae”, they tend to be categorized as such because they are microscopic, aquatic, and capable of photosynthesis.

Cyanobacteria are known for producing chemicals that are toxic to humans and animals. These chemicals are referred to as cyanotoxins, of which there are three major types that impact human and animal health. Microcystins can cause many health issues, such as headaches, vomiting and diarrhea, pneumonia, and reduced liver function. Cylindrospermopsins can cause fevers, vomiting and diarrhea, liver inflammation, and kidney failure.

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The Anatoxin-a group tends to cause neurological damage and respiratory problems. Exposure to cyanotoxins can occur through direct contact (e.g., swimming) or through consumption.

In addition to producing toxins, cyanobacteria can also produce odorous chemicals within their cells that are released during their life or decomposition. Geosmin and MIB (2-Methylisborneol) are common chemicals that create an earthy/musty odor in water bodies containing cyanobacteria. Although not harmful to human health, MIB and Geosmin cause taste and odor problems for water treatment facilities. Water treatment facilities employ a variety of methods to try and treat taste and odor issues, including oxidation, carbon filtration, and UV light.

The Ohio EPA is closely monitoring the surface waters of the state for HABs. When an algal bloom has been sighted, the Ohio EPA takes samples of the affected water to determine if there are any toxin producing taxa present. They also measure the amount of toxins in the water, and issue the recreational and drinking water advisories if needed. Check the Ohio EPA website for recreational and drinking water advisories. If you see an algal bloom, you can notify the Ohio EPA through their website or by calling their HAB hotline.

NEFCO has been working with the Alliance Water Treatment Plant staff to study sources of HAB which causes taste and odor problems in the Walborn and Deer Creek Reservoirs. The water treatment plant uses an ultraviolet (UV) treatment system to eliminate these taste and odor problems from the finished water. A reduction in nutrient load will decrease the frequency of HABs and ultimately lower the need and cost of the UV water treatment system.

For more information on HABs, visit the Ohio EPA’s website at http://epa.ohio.gov/habalgae.aspx, and the USEPA’s website at http://www2.epa.gov/nutrient-policy-data/cyanobacteriacyanotoxins.

This article was written by NEFCO’s former Water Quality Planner, Dawn Koenig. Dawn recently left NEFCO to pursue her passion for working with algae in the private sector.
U.S. Department of Commerce, Economic Development Administration streamlines its application process

NEFCO is an Economic Development District designated since 1977 to perform economic development planning for our region. One of NEFCO’s chief functions is to provide local assistance to entities interested in applying for grants offered by the Economic Development Administration (EDA). Local governments, universities, and community development corporations may apply for a federal grant to renovate a building or to construct infrastructure needed to create or retain living wage jobs in high-tech or manufacturing sectors. The federal grants must be matched with local funds.

The EDA recently announced efforts to improve its application process. Two major changes are:

- **A new proposal form will assess the viability of potential projects** – Applicants no longer need to submit a full application to learn whether the project meets the EDA’s technical and merit requirements to receive funding. Those whose requests submitted on a new short proposal form make the cut will be asked to fill out full application for funding consideration.

- **The elimination of quarterly application deadlines** – EDA will now accept applications on a rolling basis instead of just quarterly. This change will give those seeking EDA funds the opportunity to receive feedback on their applications and will give more flexibility in site development.

NEFCO is available to assist anyone who is interested in learning more about EDA and its grant programs. You may contact Sylvia Chinn-Levy, Program Manager for Economic Development Planning or visit [www.eda.gov](http://www.eda.gov) for additional information.

Nimishillen Creek Litter Elimination, Awareness, and Prevention (LEAP) Cleanup 2015

At the annual Nimishillen Creek Litter Elimination, Awareness, and Prevention (LEAP) Cleanup on September 19, approximately 35 volunteers scoured the banks and channel of Nimishillen Creek Middle Branch between Schreiber Park and Martindale Park, removing about 1,000 lbs. of trash and debris, including 20 tires, from the creek.

The weather cooperated, the storms held off, the volunteers had a great time, and the creek is that much cleaner! Thank you to the volunteers and partners, Kent State Stark, William McKinley Library and Museum, Stark County RPC, Stark Parks, City of Canton Parks, Marathon Oil, Earth Action Partnership. NEFCO assisted with coordination, supplies/materials, and clean-up.
Summit Brownfields Revitalization Program Provides Funds for Environmental Investigations

The University of Akron isn’t the only entity involved in re-branding. NEFCO’s brownfields assessment program, which provides financial and technical assistance to individuals, businesses and local governments for the environmental investigation of suspected brownfields in Summit County. Now called the “Summit Brownfields Revitalization Program.” NEFCO’s brownfield assessment program, is managed by NEFCO on behalf of a coalition consisting of NEFCO, the Development Finance Authority of Summit County, and Summit County Public Health, seeks to jumpstart the re-use, cleanup, and redevelopment of brownfields. By definition, brownfields are usually properties that are vacant or abandoned due to known or suspected environmental contamination from past use. Brownfields exist throughout the region, and many communities don’t realize that abandoned gasoline stations are also considered brownfields. Although most of these properties are vacant, eligible parcels with active uses can also participate in the program.

NEFCO recently completed an environmental site assessment of a property currently in use. A potential end user of an Akron dry cleaning establishment hopes to purchase the facility and to use it as part of a worker training program. NEFCO’s brownfields assessment activities have ranged in scope from the removal of a 12,000-gallon underground storage tank to the investigation of a property with a long history of contamination. The latter property, located in the Village of Richfield, is in the process of obtaining a Covenant Not to Sue, also largely funded by the Summit Brownfields Revitalization Program. Funded by an award from the U.S. Environmental Protection Agency, the Summit Brownfields Revitalization Program may pay for all or most of the cost of an environmental investigation. Properties may be located in large or small communities, and can be publicly or privately-owned. It is a very flexible program; however, the owner or person seeking program funds for an assessment cannot be responsible for contamination of the property. There should also be a potential end use for the property, preferably an economic use which creates or retains jobs. Properties that will involve a cleanup and use as a trail or park will also be considered for assessment funds.

NEFCO is currently involved in outreach efforts to inform Summit County communities, business groups, lenders, and developers about the program. A recent presentation was made at the Commercial Real Estate Women (CREW) Akron Annual Forum. For more information or to request a presentation, please contact Sylvia Chinn-Levy, Program Manager for Economic Development Planning.

NEFCO FORUM

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U.S. EPA announces FY16 funding round for brownfields assessment, revolving loan fund, and cleanup grants

On October 20, the U.S. EPA issued its annual notice requesting proposals for brownfields assessment, revolving loan fund, and cleanup grants. Assessment grants provide funds to inventory, assess and conduct planning on sites with suspected contamination. Applications may be made for up to $600,000 for assessment coalitions (like NEFCO’s), up to $400,000 for community-wide, and up to $200,000 for site-specific requests. Revolving loan fund grants of up to $1 million will capitalize a revolving fund to make loans and provide subgrants for cleanup activities. Cleanup grants are limited to $200,000. The grant notice can be found at http://www2.epa.gov/brownfields/new-request-proposals-fy-2016-brownfields-assessment-revolving-loan-fund-and-cleanup. The submission deadline is December 18, 2015.