Updated "Phyto" App

NOAA’s Phytoplankton Monitoring Network (PMN) has recently updated and released the “Phyto” app on Apple iTunes (free). Phyto was originally developed by PMN volunteer Sean Gano in 2010 to help identify phytoplankton and provide pronunciations. The updated version has several improvements including the addition of freshwater organisms, a shaped-based species guide to aid in identifications, and the ability to enter data directly through the app.

USGS Entry Places in Top Three in Phosphorus Removal Challenge

The U.S. Geological Survey’s new technology for the removal of phosphorus from wastewater placed third at the recent Stage 2 award event of the George Barley Water Prize contest. This is an international challenge competition for the development of technology to removal phosphorus form waste water streams. Excess inputs of phosphorus are adversely affecting sensitive water bodies world-wide, causing HABs and anoxic dead zones with severe impacts on aquatic life in those areas. The patented technology is based on the use of ochres made from mine drainage to adsorb phosphorus from wastewater. These ochres are an iron oxide byproduct from the mining industry so they are both economical and very effective at soaking up phosphorus. An additional benefit of this process is the capability to recover the phosphorus as a potentially marketable fertilizer, effectively recycling the phosphorus. Contact information: Philip L. Sibrell, USGS, psibrell@usgs.gov

Sampling Acid Mine Drainage ochre in Elk County, PA

Removal and Recovery of Phosphorus from Wastewaters Using Mine Drainage Ochres Overview

- Phosphorus can be stripped from the media, precipitated, and recycled to agricultural applications.
- The sorption media can be regenerated and reused for many cycles of sorption and regeneration, thus leading to decreased operating costs.

This newsletter was created by Dr. Lesley V. D’Anglada, Office of Science and Technology, Office of Water, U.S. EPA.

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To see previous editions of this newsletter, go to Freshwater HABs Newsletter.
States with Blooms, Advisories and/or Beach Closures Reported in October 2017

**BLOOMS, BEACH CLOSURES and/or HEALTH ADVISORIES, OCTOBER 2017**

**California:** Lake Almaden, Lake Anza, Lake Cunningham, Lake Temescal, Quarry Lakes, Scottsdale Pond, Clear Lake, San Luis Reservoir

**Florida:** New River Canal

**Idaho:** Blacks Creek Reservoir, Little Camas Reservoir, Thorn Creek Reservoir, Lake Lowell, Spicer Pond, Henrys Lake, Long Tom Reservoir, Mountain Home Reservoir, Mormon Reservoir

**Kansas:** Lake Scott State Park, Overbrook City Lake, Overbrook City Lake, Brown County State Fishing Lake, Central Park Lake, Hiawatha City Lake, Hodgeman County State Fishing Lake, Melvern Outlet River Pond, South Lake, Memorial Park

**Massachusetts:** Chauncy Lake, Keyes Pond, Riley Pond, Walkers Pond, Santuit Pond, Wampatuck Pond, Upper Mill Pond

**Nebraska:** From 09/18/17 - Big Indian Lake, Iron Horse Trail, Kirkman’s Cove Lake, Maple Crake Recreation Area Lake, Pawnee Lake, Rockford Lake, Swan Creek Lake, West Mormon Island Lake, Willow Creek Reservoir

**New York:** Agawam Lake, Barger Pond, Basic Creek Reservoir, Beaver Lake, Cannonsville Reservoir, Cayuga Lake, Chautauqua Lake, Clove Lake, Cossayuna Lake, Harlem Meer, Hiawatha Lake, Indian Lake, Kellis Pond, Lake at Victorian Gardens, Lake Huntington, Lake Neatahwanta, Lake Tiorati, Lawson Lake, Mariaville Lake, Mill Pond, Oakland Lake, Old Town Pond, Pleasure Lake, Prospect Park Lake, Roth Pond, Silver Lake, The Lake in Central Park, Tomhannock Reservoir, Turtle Pond, Washington Park Pond

**New Jersey:** Branch Brook Lake, Deal Lake, Pemberton Lake, Lake Sara, Swartswood Lake, Sunset Lake, Silver Lake, Lake Ceva, Penbryn Lake, Lincoln Oak Lake

**North Dakota:** As 09/25/17: Harvey Reservoir, Lake LaMoure, Bowman-Haley Reservoir, Long Lake, Renwick Dam, Fordville Dam, Channel A -Devils Lake, Homme Dam, Upper Des Lacs Lake, Sweet Briar Dam

**Ohio:** Maumee Bay, Lake Erie, Sandusky Bay, Buckeye Lake

**Oregon:** South Umpqua River and Lawson Bar - Permanent Advisory, Coffenbury Lake, Howard Bay, Agency Lake, Klamath Lake and Klamath River

**Utah:** Rockport Reservoir, Echo Reservoir, Deer Creek, Jordanelle Reservoir, Utah Lake

**Vermont:** Lake Carmi State Park and North Beach

**Virginia:** Prince Edward Lake, York River, Chris Greene Lake

**Washington:** Spanaway Lake, Steilacoom Lake, Kitsap Lake, Ohop Lake
RECENTLY PUBLISHED ARTICLES

**Relationship of chlorophyll to phosphorus and nitrogen in nutrient-rich lakes**

**Cyanobacteria of the 2016 Lake Okeechobee and Okeechobee Waterway harmful algal bloom**

**Assessment of synergistic interactions between environmental factors on Microcystis aeruginosa growth and microcystin production**

**Microcystin in Lake Erie fish: Risk to human health and relationship to cyanobacterial blooms**

**Solving Lake Erie’s harmful algal blooms by restoring the Great Black Swamp in Ohio**

**Using stable isotope labeling to study the nitrogen metabolism in Anabaena flos-aquae growth and anatoxin biosynthesis**

**The roles of cyanobacterial bloom in nitrogen removal**

**Bloom dynamics and chemical defenses of benthic cyanobacteria in the Indian River Lagoon, Florida**

**Associations between county-level land cover classes and cyanobacteria blooms in the United States**

**Climate warming and cyanobacteria blooms: Looks at their relationships from a new perspective**

**Effects of different light source and media on growth and production of phycobiliprotein from freshwater cyanobacteria**

**The relative importance of water temperature and residence time in predicting cyanobacteria abundance in regulated rivers**

**Developing a two-step method for retrieving cyanobacteria abundance from inland eutrophic lakes using MERIS data**

**Identification of cyanobacteria and microalgae in aerosols of various sizes in the air over the Southern Baltic Sea**

**Hot and toxic: Temperature regulates microcystin release from cyanobacteria**

Important Links

- [Chile’s Fish Information and Services Harmful Algae Study Centre](http://newsreportinenglish.com) (news report in English)
- [Weed Science Society of America (WSSA) Harmful Algal Bloom Fact Sheet](http://wssahab.org)

To sign up for the newsletter please send an email to epacyanohabs@epa.gov. For more information, please visit the [USEPA’s CyanoHABs Website](http://epa.gov)