

Freshwater HABs Newsletter

HABHRCA: An Interagency Progress and Implementation Report

On March 6, NOAA transmitted to Congress *A report on Interagency Progress and Implementation*, a report developed by the Interagency Working Group on the Harmful Algal Bloom and Hypoxia Research and Control Act (IWG-HABHRCA). This report provides details on actions and activities that the agencies involved with the IGW have undertaken since the publication of National and Great Lakes-focused research plans and action strategies.

EPA announces action plan to combat HABs in Lake Erie

On March 7, EPA released the United States' domestic action plan for reducing phosphorus, a major contributor to HABs, in Lake Erie. The plan outlines federal and state efforts to achieve the binational phosphorus reduction targets adopted by the United States and Canada in 2016 under the Great Lakes Water Quality Agreement.

Special Focus Article: Nutrient Pollution and Algal Blooms

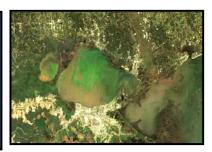
EPA's *Nonpoint Source News-Notes* - March 2018 issue - included a section on nutrient pollution and HABs with two short articles: one on Hypoxia and the Gulf of Mexico Hypoxic Zone, and one on federal resources to help protect people and wildlife from HABs. This was the final issue of the newsletter. EPA's *NPS News-Notes* newsletter described new and innovative programs, tools and resources available to help manage polluted runoff.

U.S. EPA on CYANOnews

The March and April 2018 issue of CYANOnews, features a story on EPA's efforts to address HABs impacting drinking and recreational waters. The story gives an overview of EPA's monitoring and risk assessment development activities related to HABs. CYANOnews is published by the European Unionfunded CYANOCOST Network, which seeks to share cyanobacteria science and research across Europe.

Lake Erie Open Water declared impaired by Ohio

Ohio EPA is proposing to designate declared the open waters of western Lake Erie (from the Michigan/Ohio state line to the Marblehead Lighthouse) as impaired for recreation due to harmful algae and drinking water due to occurrences of microcystin. Although details of the impairment designation are still to be worked out, it will invariably mean tighter rules for agriculture and others that release nutrients into western Lake Erie tributaries. The announcement was included the state's 2018 water quality report that is being put out for public comment.



Cyanobacteria Bloom Lake Pontchartrain, LA

UPCOMING EVENTS

2nd Interdisciplinary
Freshwater Harmful
Algal Blooms Workshop
April 16th-18th, 2018
Toronto, Canada

SETAC Europe HABs Special Session May 13–17, 2018 Rome, Italy

ASLO 2018
HABs Special Session
June 10-15, 2018
Victoria, BC, Canada

HABs Special Session
June 18-22, 2018
Toronto, Canada

UCOWR & NIWR
2018 Annual Water
Resources Conference
June 26-28, 2018
Pittsburgh, PA

18th ICHA October 21-26, 2018 Nantes, France

NALMS 2018
October 30 – Nov. 2, 2018
Cincinnati, OH

To sign up please send an email to: epacyanohabs@epa.gov

For more information, please visit <u>EPA's</u>
<u>CyanoHABs Website</u>

RECENTLY PUBLISHED ARTICLES

Exploring the potential of high-density cultivation of cyanobacteria for the production of cyanophycin

Luca Lippi, Lars Bähr, Arne Wüstenberg, Annegret Wilde, and Ralf Steuer. Algal Research, Volume 31, 2018, pages 363-366.

Rapid detection and quantification of the potentially toxic cyanobacterium Planktothrix rubescens by in-vivo fluorometry and flow cytometry

Thomas Weisse and Victoria Bergkemper. Water Research, Volume 138, 1 July 2018, pages 234-240.

The impact of wastewater characteristics, algal species selection and immobilisation on simultaneous nitrogen and phosphorus removal

Matthew Kube, Bruce Jefferson, Linhua Fan, and Felicity Roddick. Algal Research, Volume 31, 2018, pages 478-488.

Assessment of beyond-the-field nutrient management practices for agricultural crop systems with subsurface drainage

M. Kalcic, W. Crumpton, X. Liu, J. D'Ambrosio, A. Ward and J. Witter. Journal of Soil and Water Conservation January/February 2018 vol. 73 no. 1, pages 62-74.

A hand-held fluorescent sensor platform for selectively estimating green algae and cyanobacteria biomass

Young-Ho Shin, Jonathan Z. Barnett, M. Teresa Gutierrez-Wing, Kelly A. Rusch, Jin-Woo Choi. Sensors and Actuators B: Chemical, Volume 262, 1 June 2018, pages 938-946.

<u>Legacy nitrogen may prevent achievement of water quality goals in the Gulf of Mexico</u> K. J. Van Meter, P. Van Cappellen, and N. B. Basu. Science, 22 March 2018.

New solution to harmful algal blooms raises hope of economic and environmental benefits ScienceDaily. John Innes Centre. March 16, 2018

Four kinds of algal toxins found in San Francisco Bay shellfish

ScienceDaily. University of California - Santa Cruz. March 12, 2018.

Microcystins: Synthesis and structure-activity relationship studies toward PP1 and PP2A

Miriam Fontanillo and Maja Köhn. Bioorganic & Medicinal Chemistry, Volume 26, Issue 6, 2018, pages 1118-1126.

Developmental neurotoxicity of Microcystis aeruginosa in the early life stages of zebrafish

Haifeng Qian, Guangfu Liu, Tao Lu, and Liwei Sun. Ecotoxicology and Environmental Safety, Volume 151, 2018, pages 35-41.

An overview of the accumulation of microcystins in aquatic ecosystems

Thanh-Luu Pham and Motoo Utsumi. Journal of Environmental Management, Volume 213, 2018, pages 520-529.

<u>Phytotoxicity, bioaccumulation and potential risks of plant irrigations using cyanobloom-loading freshwater</u>

Yunlu Jia, Huiling Li, Yueming Qu, Wei Chen, and Lirong Song. Science of The Total Environment, Volume 624, 2018, pages 704-712.

BIOOMS, BEACH CLOSURES and HEALTH ADVISORIES*, MARCH 2018

The following map includes blooms, cautions, warnings, public health advisories, closings and detections over the State's threshold, due to the presence of algae, toxins or both. This is not a comprehensive list, and many blooms may have not been reported.



- California (3): Huichica Pond, Lake Chabot, Quarry Lakes
- Massachusetts (1): Winona Pond Water Treatment Plant, City of Peabody
- Ohio (1): Cadiz Public Water Treatment Plant Intake
- Oregon (1): South Umpqua River
- Washington (1): Kitsap Lake

Important Links

- √ Cyanobacteria: Facts and Response Actions for Idaho's Public Water System Operators
- **√** NOAA Ocean Acidification Program
- √ CDC's NORS Dashboard
- **√** Great Lakes Connection Monthly Newsletter March 2018

This newsletter was created by <u>Dr. Lesley V. D'Anglada</u>, Office of Science and Technology, Office of Water, EPA. Mention of trade names, products, or services does not convey and should not be interpreted as conveying official EPA endorsement, approval or recommendation for use.

For previous newsletters, go to Freshwater HABs Newsletter.