United States Environmental Protection Agency

June 2018

# Freshwater HABs Newsletter

## MORE USEFUL RESOURCES FOR THE HABs SEASON

- Harmful Algal Bloom Online Resources
- Harmful Algal Bloom Social Media Library
- Cyanobacteria Monitoring Collaborative
- California Guidelines for Cyanobacteria in Recreational Inland Waters
- Idaho DEQ Information for PWS Webpage
- Minnesota DH Blue-green Algal Bloom Webpage
- New York DOH HAB Outreach Materials
- Ohio DOH Public Health Guidance in Specific Settings During Drinking Water Advisories
- North Dakota Game and Fish Department HABs Webpage
- Virginia DH Q HABs Webpage
- Wisconsin Department of Health Services Case Study

## Temporary Rules for Cyanotoxin Monitoring at Public Drinking Water Systems

Oregon Health Authority has developed temporary rules that will require drinking water systems in the state using certain surface water sources, such as those prone to HABs, to routinely test for cyanotoxins that these blooms produce, and notify the public about the test results. These rules are effective July 1, 2018 and will remain in effect until permanent rules can be established later this year following a thorough, public rulemaking process. For more information, visit http://healthoregon.org/hab/

## NOAA's Average sized dead zone forecast for Gulf of Mexico

NOAA scientists are forecasting that this summer's Gulf of Mexico hypoxic zone or 'dead zone' – an area of low to no oxygen that can kill fish and other marine life – will be approximately 5,780 square miles, approximately the size of Connecticut. The Gulf's hypoxic zone is caused by excess nutrient pollution, primarily from human activities in the watershed, such as urbanization and agriculture. The excess nutrients stimulate an overgrowth of algae, which then sinks and decomposes in the water. The resulting low oxygen levels near the bottom are insufficient to support most marine life. For the complete article go here.

## UPCOMING EVENTS

**Conferences**

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

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

**2018 Joint Oregon Lakes Association/Washington State Lakes Protection Association Conference**
September 26-28, 2018
Portland, Oregon

**Workshops**

**Ecology of Algae Blooms**
Iowa Lakeside Laboratory
June 25 to July 6, 2018

**CyanoSED: A Workshop on Benthic Cyanobacteria and Cyanotoxins**
August 6-7, 2018
Cincinnati, Ohio

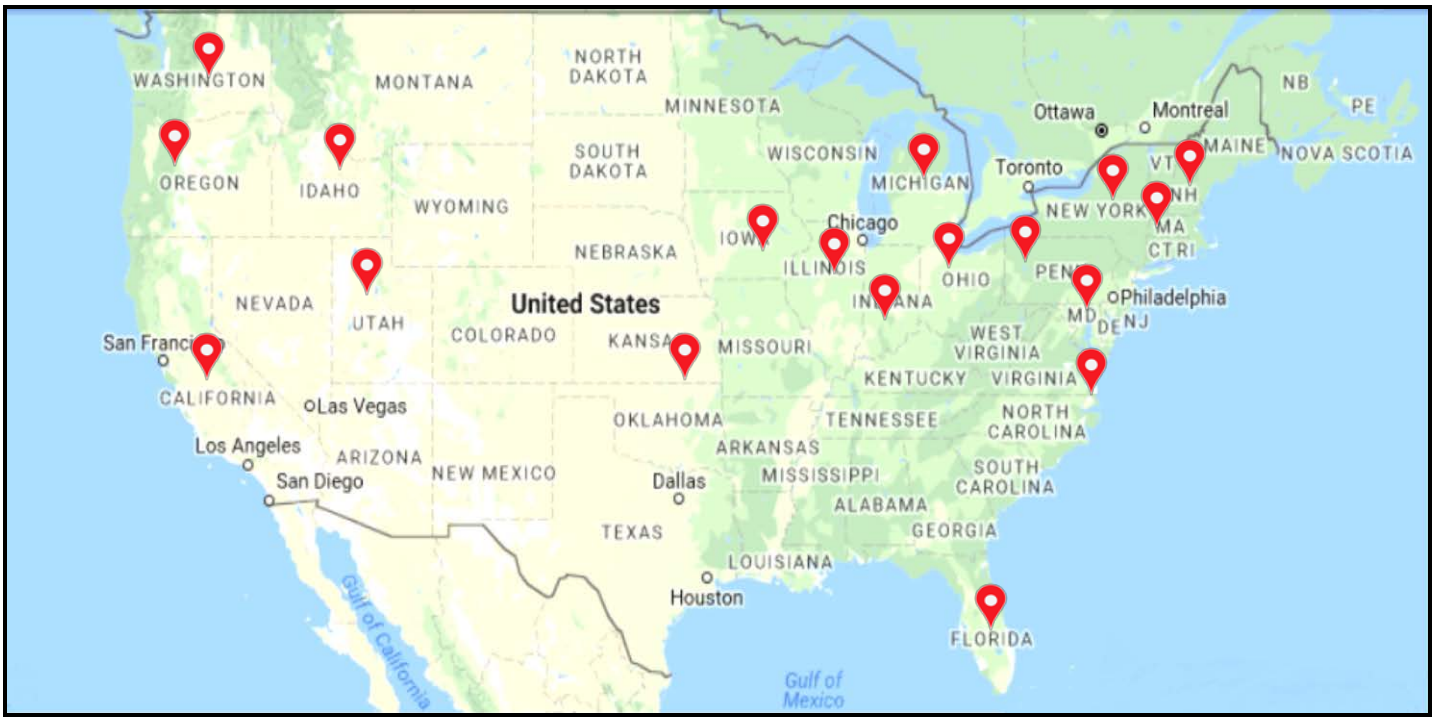
**Freshwater Algae Identification Workshop**
The Ohio State University
Stone Laboratory
Gibralter Island, Ohio
August 6-7, 2018

**Dealing with Cyanobacteria, Algal Toxins, and Taste & Odor Compounds**
The Ohio State University
Stone Laboratory
Gibralter Island, Ohio
August 8-9, 2018

**To sign up please email epacyanohabs@epa.gov**

# BLOOMS, BEACH CLOSURES and HEALTH ADVISORIES, June 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 (18):** Horseshow Lake, Iron Gate Reservoir at Camp Creek, Lake Almaden, Lake Anza, Pyramid Lake, Arcade Lake, Big Break Regional Shoreline, Clear Lake, Old River, Lake Almanor, Lake Isabella, Lake Oroville, Middle River, Lake Oroville, Pine Flat Lake, Spring Valley Lake, Diamond Valley Lake, Upper Blue Lakes (UBL)
- **Idaho (1):** Little Camas Reservoir
- **Illinois**: **(1)**: Illinois River
- **Indiana (3)**: Cecil M. Lardin Lake, Brookville Lake, Whitewater Lake
- **Iowa (1)**: Clear Lake (14.993 MCs)
- **Kansas (4)**: Carbondale West Lake (Osage County), Clarion Woods Park Lake (Shawnee County), Webster Lake (Rooks County) – Warnings, Melvern Lake
- **Florida (3)**: Swimming Pen Creek, Lake Okeechobee, Caloosahatchee River, Red Tide (Sarasota County, Charlotte County, Lee County, and Collier County)
- **Maryland (4)**: Chincoteague Bay, Saint Martin River, Patapsco River, Potomac River (HAB presents below bloom thresholds)
- **Massachusetts (1):** Tully Lake Athol, Royalston
- **Michigan (1)**: Haviland Beach Drive, Lobdell Lake
- **New Hampshire (5):** Chase Beach, Jericho Mountain State Park Beach, Pelham Town Beach, Silver Lake State Park Beach, Weirs Channel, Laconia
- **New York (36)**: Agawam Lake, Avon Marsh Dam Pond, Beaver Dam Lake, Big Bowman Lake, Bowne Pond, Chautauqua Lake, Eagle Pond, Evens Lake, Indian Lake, Indian Pond, Jamesville Reservoir, Kinderhook Lake, Kissena Lake, Lake Carmel, Lake Casse, Lake Lacoma, Lake Mahopac, Lake Mohegan, Lake Neatahwanta, Lake Ronkonkoma, Lake Waccabuc, Laurel Lake, Mill Pond (Watermill), Morningside Pond, Oneida Lake, Prospect Park Lake, Putnam Lake, Roaring Brook Lake, Roth Pond, Smith Pond, Song Lake, The Lake in Central Park, Turtle Pond, Washington Park Pond, Whitney Point Reservoir
- **Ohio (2):** Buckeye Lake, Grand Lake St. Marys
- **Oregon (5):** South Umpqua River, Detroit Lake (City of Salem and DW Recreational Advisories), Dorena Reservoir, Upper Klamath Lake, Lake Billy Chinook
- **Pennsylvania**: Dog Swimming Advisories Presque Isle State Park, Erie Pennsylvania
- **Utah (4)**: Utah Lake, Jordan River, Mantua Reservoir, Rockport Reservoir
- **Virginia (1)**: Chris Greene Lake
- **Washington (3):** Lone Lake, Anderson Lake, Rufus Woods Lake

## RECENTLY PUBLISHED ARTICLES

**Cyanobacteria and cyanotoxins at the river-estuarine transition**
Paul A. Bukaveckas, Rima Franklin, Spencer Tassone, Brendan Trache, Todd Egerton, Harmful Algae, Volume 76, 2018, Pages 11-21.

**Detection of cyanotoxins (microcystins/nodularins) in livers from estuarine and coastal bottlenose dolphins (Tursiops truncatus) from Northeast Florida**
Amber Brown, Amanda Foss, Melissa A. Miller, Quincy Gibson, Harmful Algae, Vol. 76, 2018, Pages 22-34.

**A closely-related clade of globally distributed bloom-forming cyanobacteria within the Nostocales**
Connor B. Driscoll, Kevin A. Meyer, Sigitas Šulčius, Nathan M. Brown, Gregory J. Dick, Huansheng Cao, Giedrius Gasiūnas, Albertas Timinskas, Yanbin Yin, Zachary C. Landry, Timothy G. Otten, Timothy W. Davis, Susan B. Watson, Theo W. Dreher, Harmful Algae, Volume 77, 2018, Pages 93-107.

**Optimization of extraction methods for quantification of microcystin-LR and microcystin-RR in fish, vegetable, and soil matrices using UPLC–MS/MS**
Manjunath Manubolu, Jiyoung Lee, Kenneth M. Riedl, Zi Xun Kua, Lindsay P. Collart, Stuart A. Ludsin, Harmful Algae, Volume 76, 2018, Pages 47-57.

**Bioaccumulation of microcystin congeners in soil-plant system and human health risk assessment: A field study from Lake Taihu region of China**
Qing Cao, Alan D. Steinman, Xiang Wan, Liqiang Xie, Environmental Pollution, Vol. 240, 2018, Pages 44-50.

**Effect of irrigation with microcystins-contaminated water on growth and fruit quality of Cucumis sativus L. and the health risk**
Jiuzheng Zhu, Xiaoqian Ren, Hongyue Liu, Chanjuan Liang, Agricultural Water Management, Volume 204, 2018, Pages 91-99.

**Multiple uses of small reservoirs in crop-livestock agro-ecosystems of Volta basin: Implications for livestock management**
Augustine A. Ayantunde, Olufunke. Cofie, Jennie Barron, Agricultural Water Management, Volume 204, 2018, Pages 81-90.

**Survival of cyanobacteria in rivers following their release in water from large headwater reservoirs**
Nicholas Williamson, Tsuyoshi Kobayashi, David Outhet, Lee C. Bowling, Harmful Algae, Volume 75, 2018, Pages 1-15.

**Toolboxes for cyanobacteria: Recent advances and future direction**
Tao Sun, Shubin Li, Xinyu Song, Jinjin Diao, Lei Chen, Weiwen Zhang, Biotechnology Advances, Volume 36, Issue 4, 2018, Pages 1293-1307.

**Nitrogen limitation, toxin synthesis potential, and toxicity of cyanobacterial populations in Lake Okeechobee and the St. Lucie River Estuary, Florida, during the 2016 state of emergency event**
Kramer BJ, Davis TW, Meyer KA, Rosen BH, Goleski JA, Dick GJ, et al. 2018. PLoS ONE 13(5): e0196278

**This newsletter was created by Dr. Lesley V. D'Anglada, 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.**

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