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## GRAND LAKE ST. MARYS – WATER QUALITY UPDATE June 18, 2010

### Background

Grand Lake St. Marys is Ohio's largest inland lake at 12,700 acres. It is a popular recreation lake for boating, personal watercraft, fishing and swimming. It also is the drinking water supply for the city of Celina. Over the years, the lake has become increasingly enriched by phosphorus and nitrogen from a number of man-made and natural sources. These nutrients have contributed to the decline of the lake's water quality. Various state and local partners have numerous initiatives underway to improve water quality in the lake.

State officials became aware in May 2009 that a bluegreen algae sometimes present in the lake was producing a toxin known as microcystin. Bluegreen algae are actually bacteria (cyanobacteria). There are many species of algae and most do not produce toxins. Microcystin is one type of toxin produced by some bluegreen algae. Scientists do not fully understand what causes the same species of algae to trigger toxin production during one bloom and then not produce toxin during the next. This is an emerging issue in the scientific community.

Regular water sampling was conducted throughout the summer of 2009 to check for the presence of microcystin in Grand Lake. Those analytical results are routinely posted on Ohio EPA's Web site. So far in 2010, microcystin levels have not been high enough to warrant advisories against recreational contact. Therefore, advisory signs specifically regarding microcystin have not been posted on the state park beach areas.

### Current Algae Bloom

In mid-June, an algae bloom appeared in Grand Lake with a very different appearance. Sampling has confirmed that the current algae bloom is *Aphanizomenon gracile*, a different species than the *Planktothrix* that was dominant in the summer of 2009. Cyanobacteria (blue-green algae) are capable of producing a variety of toxins. Because different algae have been identified in recent samples, Ohio EPA is conducting further analysis to determine if public health concerns exist.

As a precaution, recreational users of Grand Lake St. Marys are advised to limit contact with the water, avoid ingestion and avoid direct contact with visible surface foam, according to the Ohio Department of Natural Resources (ODNR). Public notices will be erected throughout Grand Lake St. Marys State Park, including the park's three beaches.

### Fish Consumption Advisory

Currently, there are no fish consumption thresholds for microcystin. There is no indication that microcystin toxin builds up and is stored in fish fillets at levels that would cause a health problem. The 2010 Ohio fish consumption advisory recommends consuming no more than one meal per week of most sport fish from all water bodies due to the presence of mercury. However, it is safe to eat two meals per week of largemouth bass and sunfish from Grand Lake St. Marys. Visit the Sport Fish Consumption advisory page (see link below) for more information about the fish consumption advisory for Grand Lake St. Marys or other Ohio waterways.

## **Celina Drinking Water**

Public drinking water in the area is supplied by the city of Celina. The current treatment processes used at the Celina water treatment plant are advanced and are known to be effective at removal of microcystin. These advanced treatment processes are expected to also be effective at removing other algal toxins. To verify other toxins are not present in the drinking water, samples have been collected. Ohio EPA will notify the public if a public health concern exists.

### **Additional Resources**

For more information about water quality in Grand Lake:

[www.epa.ohio.gov/pic/glsm\\_algae.aspx](http://www.epa.ohio.gov/pic/glsm_algae.aspx)

For more information about fish consumption advisories:

[www.epa.ohio.gov/dsw/fishadvisory/index.aspx](http://www.epa.ohio.gov/dsw/fishadvisory/index.aspx)

Citizens or other interested parties who would like more information should call Ohio EPA's Public Interest Center at (614) 644-2160 or send an e-mail to [darla.peelle@epa.state.oh.us](mailto:darla.peelle@epa.state.oh.us)

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