

# Big Creek Advisor

A newsletter dedicated to the Big Creek Watershed Project

## Some of the best top soil in the Big Creek Lake Watershed is....in the lake!

When Big Creek Lake was constructed in 1972 the Army Corps of Engineers estimated the volume to be just under 16,000 acre feet. Over the years sedimentation has caused a significant loss in volume. In 1993 a study of Big Creek Lake showed a volume of 15,659 acre feet, a similar study in 2006 found the volume to be 14,573 acre feet. This shows the lake has lost 1,086 acres feet of volume from 1993 to 2006. That is a loss of nearly 7% of the lake volume in 13 years! Below are aerial photographs from the 1990s to 2009 that show the sediment build up where the main tributary, Big Creek, enters the lake.



A watershed assessment has shown that the average soil loss within the watershed is 4 tons per acre. This means around 7,214 tons of sediment is entering the lake each year. That is equivalent to 721 dump trucks unloading into the lake every year or 360,000 bags of soil from your local store. At \$5 per bag that equates to nearly \$2 million a year in good top soil being lost into Big Creek Lake by watershed landowners each year.

The Big Creek Lake Watershed Project and its partners will be constructing 10 sediment control structures on the most heavily eroding gullies surrounding the lake. That will reduce sediment delivery to the lake by 519 tons and phosphorus delivery by 830 pounds per year. Construction is slated to begin in the 2013 calendar year.

The structures around the lake are a good start but the overall success of the project will rely on the participation of landowners within the watershed. Keeping soil on your property via conservation practices will help keep your land productive for years to come and will also ensure future generations the benefits of Big Creek Lake and all it has to offer.

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**Contact us Today!** Even though there is snow on the ground it is still a good time to schedule a site visit or a meeting to discuss your property and any conservation practices that may be suitable.

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# Blue Green Algae—What is it? How can we help the problem?

**What are blue-green algae?** Blue-green algae, also known as cyanobacteria, are microscopic organisms that are naturally present in lakes and streams. They are usually present in low numbers. Blue-green algae can grow quickly and become very abundant in warm, shallow, nutrient rich water that receives a lot of sunlight. When this occurs, they can form blooms that discolor the water or produce floating rafts or scums on the surface of the water. These blooms usually only occur during the summer months in Iowa.

**Are blue-green algae harmful to my health?** Some blue-green algae produce toxins, (e.g. microcystins) that could pose a health risk to people and animals when they are exposed to them in large enough quantities. Health effects could occur when surface scums or water containing high levels of blue-



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green algae toxins are swallowed, come in contact with skin or when airborne droplets containing toxins are inhaled while swimming, bathing, or showering.

**What is adding to the problem?** Soil erosion from crop fields and streambanks enter streams and eventually are deposited into the lake. The soil carries with it nutrients such as phosphorus. These nutrients are what promote increased blue-green algae

growth. One pound of phosphorus can grow approximately 500 pounds of algae.

**What can we do to decrease the problem?** Once blue green algae appears in a lake there is no quick and easy steps towards fixing the problem. It will take a long time to reduce the nutrient concentrations in the water but one of the best ways to help the problem is to prevent nutrient rich sediment from reaching the lake. Conservation practices such as: terraces, waterways, water and sediment control basins, grade stabilization structures, and cover crops help keep soil and nutrients in place. If you are not a farmer you can still do your part by reducing the amount of stormwater runoff leaving your property and by using only phosphorus free fertilizer on your lawn. Over time these practices will increase water quality in the lake and decrease the amount of blue-green algae.

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**For more information visit [www.bigcreeklake.org](http://www.bigcreeklake.org)  
or contact**

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