**Week 17- Historic Wildfires and Potential Effects on Current Lake Conditions**

**Conservation Corner**

***Conservation Corner is a regular article produced by the Forest County Land &Water Conservation Department. For more information contact Al Murray, Land&Water Resources Technician at 715-478-1387 or by e-mail at*** ***lcc@co.forest.wi.us******.***

Could historic wildfires from the cut and run logging era have created un-natural algae blooms and weed concentrations in our lakes of today?

I have just received and reviewed this interesting article about findings of increased nitrogen, phosphorus, and mercury as related to wildfires. The article can be found at: <https://e360.yale.edu/features/how-wildfires-are-polluting-rivers-and-threatening-water-supplies>

According to the article(attached) which was published by the Yale School of Forestry & Environmental studies, following a fire in the Jasper National Park in 2000 which also coincided with a study on mercury concentrations the following statement was made:

“Following the fire, the doubling of the lake’s nitrogen concentration and a quadrupling of the phosphorus concentration was not a big surprise. What was not expected was a five-fold increase of mercury in fish”

I believe there are high concentration of nitrogen, phosphorus, and mercury in the sediment in many lakes with Forest County? According to many studies in the past, most of these concentration have been blamed upon improper sewage disposal, improper farming practices, and air pollution to name a few.  Has historic fire ever been considered for these sediment concentrations?

The Forest County area had many un-natural wildfires that were fueled by the cut and run era of logging. Fires across Forest County occurred frequently and lasted decades from about 1880 until the early 1940’s. During this time the fuel for fires within Forest County comprised largely of conifers such as pine which would be similar to fuel composition of western fires today. I believe we could assume that results of current studies on the effects of wildfire could be utilized to infer results of water quality on historic wildfire.

Thinking in terms of the historic wildfires in Forest County and the amount of area contained within the watersheds that drain through Forest County Lakes I believe this unrelated study and other studies can show that historic fires may very well have caused the largest concentrations of nitrogen, phosphorus, and mercury in the sediment of our lakes. Other issues since then likely also contributed to the cause.

The reference article also makes reference to green algae growth in cold water streams that were the result of increased phosphorus and nitrogen in the streams as a result of the fires. The phosphorus, nitrogen, and mercury contents in the sediment will remain in the sediment. I think we can assume any disturbance of the sediment from wave action, boats or water shifting will bring those increased “un-natural” concentrations back into the water column and result in algae blooms and also result in “un-natural” concentrations of weed growth.

Now I ask you as a reader of this column, what could solve this polluted sediment issue? Some of the lake associations have begun the process to propose dredging as a potential solution, however state and federal regulations are large roadblocks to these proposals. Future articles will provide updates on dredging as information becomes available.

I hope this has stirred your interest in our history as well as interest in the quality of our lakes. Remember, our actions today affect the environment and water quality for those in the future!