

## **Invasive Species Treatment and Concerns for the Walleye Fishery in Portage Lake**

There have been many concerns about the walleye fishery in Portage Lake this past summer (2009). All reports by fishermen and by creel census indicated that fishing success for walleyes was definitely down this year. However fish surveys done by the DNR and by the LRBOI indicated that there was some recruitment (natural reproduction) of walleyes this year and last year which suggests that some adult walleyes were present. Although there is no positive answer for the decline this year I suggest two likely explanations. One is that there were no walleyes stocked in 2007 due to VHS disease concerns in the state. This would mean that the 3-year old year class would be missing this year and would result in a reduced catch. Secondly, Portage Lake has been invaded by Eurasian Water Milfoil (EWM), a highly invasive species of aquatic plant that can completely destroy a lake and crowd out most native species of plants, drastically upsetting the natural ecology of the ecosystem. This invasive species became significantly abundant in much of the shallow water zone of the lake, out to a depth of about 25 ft., the zone most occupied by walleyes. This made it very difficult to fish due to the massive weed growth and gave the fish excessive shelter and abundant forage fish for food.

The Invasive Species Committee of the Portage Lake Watershed and appointed by the Onekama Township Board has been actively studying the EWM invasion of Portage Lake for more than a year. During this time we have done intensive survey of many other lakes with EWM in Michigan and the Midwest, many that had been seriously taken over by EWM, to determine the best way to deal with this problem. At the same time we spent a tremendous amount of time talking to many different agencies, research groups and treatment applicators. We hired a professional lake manager to do an extensive study of the plant population and water chemistry of Portage Lake. After thorough study of the lake and survey of all information we concluded that herbicide treatment was the best management practice for Portage Lake. We then sought the most successful applicator possible and did the initial treatment for control of EWM this September.

The intent of herbicide treatment for EWM in Portage Lake is not to wipe out the plant community or destroy the fisheries but to restore the natural plant community and the fishery that was being lost by this invasive plant species. The herbicides that are being used are very selective, targeting primarily EWM – being a dicot while most native aquatic plants are monocots (two entirely different groups of plants). With control of EWM the desirable native plant species will recover and should establish a natural balanced ecosystem once again. This type of treatment and recovery has been demonstrated successfully many times in other similar lakes and many with much worse problem than ours. Just a few examples of lakes that were treated for EWM and that had much improved fisheries following treatment are: Bear Lake, West Lake (near Kalamazoo), Round Lake (Mason County), and Houghton Lake. We were fortunate to catch this invasive species early so that a whole lake treatment was not necessary but only spot treatment where EWM was plotted by GPS. The herbicides being used, besides being highly selective, also have affect only on plants, acting uniquely like plant hormones (very different from animal hormones). So there should be no effect on animal life, including humans. These herbicides have been used in our environment for many years and reregistered several times suggesting their safety.

Once an exotic invasive species like EWM becomes established it can never be eradicated and has to be continually managed to keep it under control. This has become the situation for many if not most of our lakes in Michigan and the Midwest. So this will be an on-going management concern for Portage Lake but an essential best management practice to restore and protect our lake and fishery. In addition, we will be taking a proactive preventive approach to slow down the introduction of exotic species into Portage Lake.

One thing we know for sure is that the herbicide treatment has not been the cause of the walleye fishing decline. That fishery was bad all year and the treatment was not until this Fall (September 15). We should begin to see improvement starting next year.

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