

# Mille Lacs Lake's Future: Understanding a Changing Lake

## Introduction:

Fishing in Minnesota is a past time for many. Weekends in the summer are spent at ones cabin or a resort on a lake, flooded with people. Mille Lacs Lake is one of these popular destinations for those vacationing, and a wide variety of anglers. In the past this lake supported one of the best walleye fisheries in the upper mid-west for anglers to pursue the treasured state fish, the walleye. This has not been the case recently, as the fish has not reacted well to angling pressure paired with a changing lake ecology. In working to form a solution, it seems that the odds are stacked against the Walleye and those that are invested in the fish economically, culturally, and emotionally. Will efforts put forth by the DNR, state officials, and locals be enough to restore the culturally important fish's population? Is it possible that eventually the ecology of the lake will no longer be able to support what is expected of the Walleye socially and politically and economically?



Figure 1. This map displays Mille Lacs Lake in relationship to the Metro area as well as its location compared to Minnesota's other two largest Walleye fishing Lakes.

## Methods:

- Conduct a literature review that provides background information on the Mille Lacs Lake Walleye fishery and the rise of conflict there. This will also define what the problem is, and disclose solutions that are currently being implemented.
- Create three case studies with past resource conflicts that can then be drawn from to form a solution to the Mille Lacs Lake Conflict.

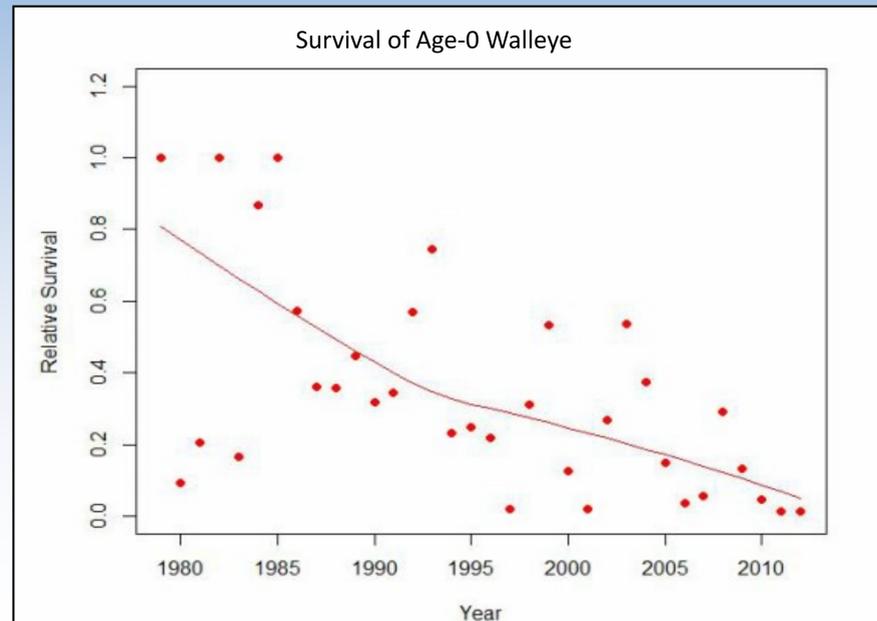


Figure 2. Displays the downward trend in the survival of Age-0 walleye, or walleye that make it to their second fall in Lake Mille Lacs. This is a problem because the young Walleye are the being removed by anglers, but not being replaced through spawning



Figure 3. An example of a Walleye from Lake Mille Lacs with the distinctive white tipped tail and gold scales.

## Case Studies:

### Applied concepts to Mille Lacs Crisis

#### Lac Du Flambeau

This case study provides examples of what a lack of cooperation can lead to, involving a resource conflict. Tribal members and non-tribal Wisconsinites refuse to work together, and the goal of protecting the walleye fishery is difficult to accomplish. Concepts from this conflict to be applied to Mille Lacs Lake are based on cooperation socially and politically between group leaders. Without this cooperation a biological solution cannot be implemented effectively.

#### Red Lake

Social and Political aspects of resolving the Red Lake conflict are being applied directly to Lake Mille Lacs. A technical committee that increases all parties understanding and equalizes the power structure among parties is the most critical. Biological differences between the lakes do not allow for a cross-applicable solution to be applied to Mille Lacs with successful results.

#### Lake Erie

Similar biological processes are in place, on a larger scale in this case study. Lake Erie has Zebra mussels present, but has seen an increase in Walleye angling success in the recent decade. If the lake's waters continue to clear due to the zebra mussel and less pollution, the suitability for Walleye habitat may decrease. This case study provides questions to apply to Mille Lacs that takes into consideration the larger picture and what is ecologi-

## Conclusion:

Addressing the conflict at Lake Mille Lacs is best addressed by splitting the problem into the multiple areas that the problem included. This includes social, political and biological classifications. Examining of the case studies and the conflict at Mille Lacs itself leads to a biological conclusion that may not be acceptable socially or politically. After examining the case studies, the future of Mille Lacs may not hold the future that is expected of it. Comparing Mille Lacs with the case studies, Mille Lacs is changing significantly due to climate trends and invasive species. These changes are altering the carrying capacity of the lake and making it difficult to for it to support the walleye population it once did. Efforts to rehabilitate the walleye populations socially and politically are being done in correlation with successful solutions of the past, but considering the biological changes of Mille Lacs Lake, the future may not be so bright. As the lake ecology changes, it begins to favor other fish species survival. Instead of coming home with a limit of Walleye, anglers may have to become accustomed to harvesting a mixed bag of fish if Mille Lacs Lake is going to support what is economically expected of it.

## Sources:

Figure 1: Map of Minnesota, Google Maps. <https://www.google.com/maps/@47.0577101,-95.7667441,6z>  
Mille Lacs Lake. <http://northstarmillelacs.com/Old%20Resort/map.htm>  
Figure 2: Alisha Hallam, "Mille Lacs Lake Creel Survey Report," Minnesota Department of Natural Resources. 2014. Pg 53, Figure 10.  
Figure 3: Doug Smith, "Mille Lacs walleye quota for 2014 will be lowest ever." *Startribune*. February 2nd, 2014. Web. Accessed November 9th, 2015. <http://www.startribune.com/mille-lacs-walleye-quota-for-2014-will-be-lowest-ever/243033321/>