

LakePepin  
LegacyAlliance

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### **Umbrella question:**

Can something be done or is Lake Pepin destined inevitably to be a navigation ditch traversing mud flats?

### **Possible area of investigation:**

Has the scope of the problem been sufficiently defined that it's conceivable that a remediation plan can be conceived? How fast is change coming?

Is there a person or group who is the best mind on the subject? Who are the real players? Which governmental agencies truly have responsibility?

### **Outcome:**

Conclude that yes, something can be done or no, it's hopeless.



# Challenges

- Size of watershed (48,634 square miles)
- Two states
- Lake and River impairments combined
- Need to coordinate with upstream TMDLs related to turbidity and phosphorus
- Currently no group or voice speaking specifically for Lake Pepin
- Dealing with fragmented governmental agencies in the attempt to move from monitoring
- (Scientific) to execution phase of restoration plan



# The Facts

Lake Pepin is at the downstream endpoint of the most polluted reach of the Mississippi River in the state. It is no accident that this reach begins at the confluence with the Minnesota River. The Minnesota supplies most of the sediment that makes the Mississippi constantly muddied, and threatens to fill upper Lake Pepin with mud before the present century is past. Suspended solids from the Minnesota River make the Mississippi incapable of supporting the rich rooted vegetation that once made the river and Lake Pepin a haven for ducks and swans.

Nuisance algae blooms during hot, dry summers are another threat to water quality in Lake Pepin. Metropolitan wastewater treatment facilities have drastically reduced their phosphorus discharges, the result of a successful campaign to protect Lake Pepin following disastrous algae blooms in 1988. However, demographers expect an additional million people to settle in the Twin Cities over the next couple of decades, a trend which threatens to reverse recent progress in wastewater quality. Moreover, continuing high phosphorus loads from the Minnesota River pose an ongoing threat to Lake Pepin. Phosphorus concentrations are so high in the Mississippi, at 150 to 200 parts per billion, that a warm, calm dry spell in any summer could quickly trigger unsightly algae blooms.

The Minnesota Pollution Control Agency will soon complete a Total Maximum Daily Load (TMDL) study that will prescribe reduced loads of sediment and phosphorus from upstream sources, particularly the Minnesota River and Metropolitan Area wastewater treatment facilities. While the MPCA has regulatory authority over wastewater discharge, agriculture, the source of much phosphorus and sediment in the Minnesota River, is largely unregulated.

**Make no mistake. Unless Minnesota River sources of sediment and phosphorus are significantly reduced, no efforts by cities in the metro area or elsewhere will make much difference to the health of the Mississippi River and Lake Pepin. What is needed is political will to ensure that significant reductions are achieved - starting with better enforcement of existing land-use authorities, and development of more effective land use policies.**

# The Right Time

Many positive developments seem to be coalescing that could provide powerful energy to support a serious effort to restore Lake Pepin along with the South Metro Mississippi.

These include:

Unprecedented sums of state and federal funding are being allocated to water quality improvement. This includes the [Clean Water Legacy Act](#) of two years ago, followed by the 2008 Clean Water Amendment providing sales tax revenue for water quality for the next 3 decades; federal stimulus spending, which includes a big increase for the U.S. Army Corps of Engineers available for use on Mississippi restoration projects.

-The Lake Pepin and South Metro Mississippi Total Maximum Daily Load (TMDL) is nearing completion. While the TMDL provides a "restoration recipe" in the form of maximum allowable loads of suspended solids and phosphorus to the Mississippi, allied projects including "Mississippi Makeover" are linking the study to plans for floodplain management and river enhancements such as island-building and drawdowns, together with local investments in parks and trails in Dakota County.

-Cutting-edge geological research is being conducted in the Minnesota River basin, the main source of sediment to Lake Pepin. This research is identifying where fine sediments originate-fields, ravines, bluffs and stream banks. This research will be used to develop implementation plans to reduce sediment.

-The Minnesota Pollution Control Agency (MPCA) is embracing a watershed strategy, or "one-water" approach, that will help to coordinate implementation and assessment efforts at the major watershed scale. The Lake Pepin TMDL is one of the first projects to incorporate this approach on a large scale. This means that the research that has been conducted for the TMDL, and on sediment sources, will be utilized at the local scale for optimum targeting of implementation efforts.

-Federal and state partners are ramping up for increased funding to improve the ecology of the Upper Mississippi River. The reach from Lake Pepin on to the north is receiving particular attention, because it has been excluded from many previous projects due to its location outside the U.S. Fish and Wildlife Service Mississippi River Valley Refuge, which made funding more difficult.

-More generally, as Minnesota conducts numerous TMDL studies within the Lake Pepin watershed on pollutants such as phosphorus and sediment, plans will be rolled out at all scales aimed at similar objectives. In many cases, it will be evident that substantial reductions in rural nonpoint source pollution will be needed to achieve restoration goals. As this message gets repeated, the need for better approaches to nonpoint source pollution control will become a clamor, increasing chances that the legislature will respond by enacting more effective regulations.



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