

Considerations for Reducing Lake Phosphorous Levels

Four years ago the TLPOA Board, under the leadership of Board Member John Jackson, initiated a project to identify causes for the gradual degradation in water clarity in East Twin Lake. Two causes have been identified to date that are believed to be the primary culprits:

1. **Lakeshore erosion** resulting from high water levels over the past several years.
2. **High phosphorous levels** entering the lake from precipitation runoff.

Fortunately, the water clarity in East Twin this past season has been much improved due to shoreline improvements by many of our lakefront property owners and much lower than average amounts of snowfall and rainfall early in 2021. These in turn have significantly reduced erosion and precipitation runoff into the lake, the two primary factors in reduced water clarity. However, we don't expect lower than average precipitation levels to continue indefinitely, thus continued diligence in efforts to improve water clarity is still needed.

Efforts being taken to date by the TLPOA Board to improve water clarity can be summarized as follows:

- **Education** of our TLPOA membership on the value of natural shoreline management which can reduce shoreline erosion. Healthy and natural shorelines reduce the amount of soil and nutrients entering the lake, the ingredients that cause reduced water clarity.
- **Supporting Walleye Stocking** by the MI DNR that maintains a healthy lake food chain by controlling the level of microorganisms in our lakes which can affect water clarity.
- **Phosphorous reduction** in the water entering our lakes from runoff during periods of high precipitation. Note that a healthy level of phosphorous and nitrogen is beneficial for our lakes. But high levels of phosphorous promote algae growth which in turn reduce water clarity. Our lake monitoring efforts through the MI Cooperative Lakes Monitoring Program (CLMP) have shown a slight continuing increase in overall phosphorous levels in East Twin Lake.

It is encouraging to see many new natural shoreline projects being implemented by our membership which can only improve the quality of our lakes. With respect to phosphorous reduction, two new technologies presented at the August TLPOA Membership Meeting have been identified that can reduce phosphorous levels in our lakes.

- **EutroSorb:** These are bags of phosphorous absorbing material placed on the lake bottom in areas where water with high phosphorous content flows into our lakes.
- **Phoslock:** This is a material that resides on the lake bottom in areas of high phosphorous content to inactivate the phosphorous before it can increase the phosphorous levels in the larger lake area.

These technologies have been used effectively in numerous lakes in the United States including Houghton Lake and Morrison Lake in Michigan.

Your TLPOA Board is considering contracting with PLM Lake & Land Management Corp to apply EutroSorb and/or Phoslock in the following high phosphorous locations identified on our lakes:

- East Twin Lake canal
- Retention Pond overflow location along the East Twin Buttles Road road-end

- Culvert between East and West Twin near Fleming Road

Rest assured that your TLPOA Board will fully evaluate the use of these technologies to ensure they can be safely used with no detrimental impacts to our lakes and which will meet all state environmental requirements before finalizing any plans.

Additional details on these new technologies are contained in the Water Clarity Report presented by John Jackson at the August TLPOA Membership Meeting. This report can be found by clicking on the Resources-Water Clarity/EMW tab on the TLPOA Website (TLPOALEWISTONMI.COM).

If you have any concerns or questions, please feel free to contact the TLPOA Board.