

## Why is Upper Straits Lake so low?

Regarding concern about the low lake level, several actions were taken and are under consideration by the Oakland County Water Resources Commission regarding the situation:

- First, the dam was checked and confirmed to be functioning as designed. On Aug 13th the USL water level was ~6" below legal levels represented by the top of the dam, while the water level on the Middle Straits Lake side was only 2" low. Middle Straits Lake is higher because of an augmentation pump pulling water from the Huron River. Over the previous decade, the two levels were essentially the same because the dam had failed allowing water to backflow into our lake.
- Under consideration is raising the legal level 2.5". If such were the case this year, lake levels currently would be 2.5" higher because more water would have been held back during the peak levels earlier this year rather than flowing over the dam to Middle Straits Lake. Unfortunately, raising the legal level causes serious flooding issues on the USL homes nearest the dam as shown on a topographical map provided by the Oakland County Water Resources Commission. On that map, the 931' outer redline shows the extent of the flooding that would occur. Those residents would have to be solicited to add fill to their property plus West Bloomfield Wetlands Commission and the State of Michigan would both have to approve such action. Costs would likely have to be borne by the USCLA.
- The third potential action is to add an augmentation pump to USL. The OCWRC has indicated 2/3rds of the Special Assessment District (SAD) members would have to sign a petition of support. The estimated cost is \$300,000-400,000, or about 1/3-1/2 the cost of the new dam, so SAD assessments per parcel would be proportional. An appropriate site also has to be found for the well, and preliminarily, Orchard Lake Country Club has indicated their pump station parcel used to draw water from Upper Straits Lake to irrigate the golf course, could be utilized for the well since it already has power alleviating some of the costs. A test well several hundred feet deep would have to be drilled to confirm the aquifer is sufficient to supplement the lake.
- Precipitation from July 1st to Aug 23rd at the Orchard Lake station (MI-OK-46) was 3.68" this year versus 5.77 in 2019 as posted on this website:

<https://www.cocorahs.org/ViewData/StationPrecipSummary.aspx>

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For further information and weekly lake level readings published by the Oakland County Water Resources Commission, please refer to this website:

<https://www.oakgov.com/water/stormwater/lakes-watersheds/Pages/lake-level-reports.aspx>

The data shows our lake dropped below legal level (930.8') on June 26th for the first time all season. For reference the peak level was 931.0' on Jun. 8th. The most recent reading on 8/14 was 930.3', 6" below legal level and 8.4" below peak.

Over the past 30 years, there have been a number of times when lake levels were this low or lower. Over that period, when the dam was functioning properly, Middle Straits and Lower Straits Lake levels would be higher than Upper Straits because of the augmentation pump feeding water from the Huron River. However, once the dam failed about 10-12 years ago, back flow from MSL/LSL kept USL at a higher level than would occur naturally if the dam had not failed.

The option of not replacing the dam was explored by the OCWRC, but a petition with 2/3rds support from all three lakes would have been required since USL would have legally been benefiting from the MSL/LSL augmentation pump. Unfortunately that pump does not have the capacity to support all three lakes, so a supplemental augmentation well would have been required anyway. That fact is proven this year with MSL/LSL also below legal level, although not by as much -- even given their augmentation pump.

A priority agenda item relating to lake level control is on the agenda for the Upper Straits Clean Lake Assn fall board meeting.