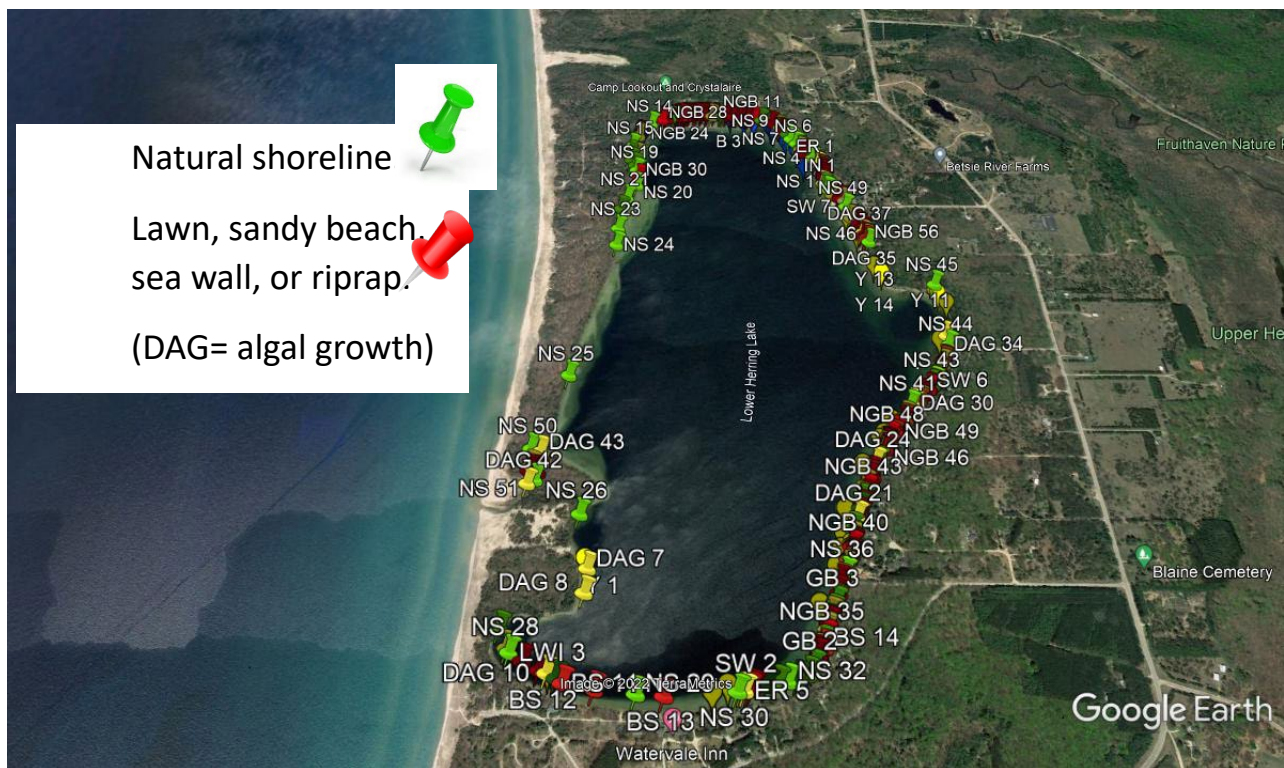


We all use and appreciate our beautiful lake shoreline.

- Some processes disturb the shoreline: Erosion, high water flooding, and nutrient loading are 3 such problems. The high water of 2019-2020 is one example.
- Disturbance of the lake's edge can lead to loss of natural benefits such as shore stability, fish habitat, water quality, and other natural benefits.
- Applying good practices for shoreline management is key to reducing these problems long-term.

One purpose of the Lower Herring Lake Association LHLA is to maintain the natural benefits of Lower Herring Lake.

- In 2020, LHLA commissioned an aerial drone survey of the shoreline, to establish a baseline of information. The survey was carried out by Dennis Wiand (Zero Gravity), and also included Herring Creek inlet and the Outlet.
- In 2022, the drone video was analyzed by Ron Reimink's group (Freshwater Solutions LLC).
- In the map of the lake (below), colored pins correspond to shoreline land-use categories by individual parcels. **Green** = natural shoreline. **Red** = lawn, sandy beach, or sea wall. **Yellow** = algal growth, and/or erosion.



SUMMARY TABLE

Table 1: Category Site Numbers and Percentages of Parcels

Lower Herring Lake 2020		
Category	Sites	Percentage of properties
Natural Shoreline (NS)	51	44.0%
Greenbelt (GB)	4	3.4%
No Greenbelt (NGB)	61	52.6%
Sea Wall (SW)	9	7.8%
Beach Sanding (BS)	22	19.0%
Rip Rap (RR)	15	12.9%
Drain Pipe (DP)	0	0.0%
Lake Water Irrigation (LWI)	8	6.9%
Detectable Algal Growth (DAG)	43	37.1%
Erosion Evidence (EE)	6	5.2%
Inlet (IN)	2	1.7%
Terrestrial Invasives (TI)	0	0.0%
Total Parcels	116	
Total Placemarks	221	

Summary Table take-homes: **44% of the lake shoreline is natural, native vegetation!** Very high %, healthy. But also, **53% of the shoreline is called “no greenbelt”**: lawn, sea wall, or sandy beach.

Greenbelt is beneficial = mixed planting (trees, shrubs, native grasses, reeds, flowers) that helps stabilize shoreline-- with or without engineered support features.

Future Directions

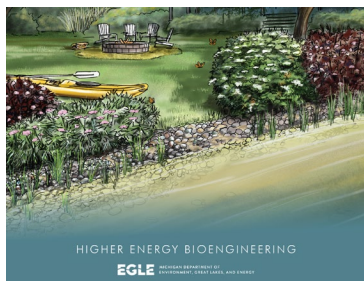
A second shoreline aerial survey would be helpful to compare with 2020 high-water conditions.

Natural shorelines provide the most stability and biological health of the lake: Protect shore (erosion, waves). 2) Natural interfaces for good-quality fisheries habitat. 3) Reduce algal overgrowth. 4) Preserve the land and lake as continuous ecosystem.

More greenbelt would be helpful to enhance the natural shoreline.

Excellent new information is available from EGLE: Best Management Practice Factsheets

<https://www.michigan.gov/egle/about/organization/water-resources/inland-lakes-and-streams/shoreline-protection>



EGLE: Turf-grass to the shoreline leads to poor lakeshore habitat. Poor biological health is 3 times more likely in lakes with poor lakeshore habitat.