

SUMMARY OF HENDERSON HARBOR WATER QUALITY

1. Preliminary Engineering Report (PER) September 23, 2023 prepared by GYMO (PE Stamped)

- January 16, 1979 document: NYS Department of Health – *“The majority of the existing structures could not comply with Health Department regulations for on site sewage disposal systems since they are too close to the lake, have insufficient soil cover over rock and the lot sizes are too small to accommodate an adequately sized leach field.”*

Copy located in Appendix C of PER

-In 1993, the NYSDEC conducted a study and have documented illegal wastewater discharges into the Harbor

In 1993, the NYS Department of Environmental (NYS DEC) conducted onsite testing of 38 properties located along Henderson Harbor. The testing consisted of dye testing kitchen sinks and toilets. The performed testing confirmed that at 12 testing locations dye was found to reach Stony Creek and Henderson Harbor in a short time frame, thus short circuiting the treatment process of the existing leach fields.

The on-site testing conducted by the NYS DEC included a cover letter containing the following quote, “Assuming that the Town makes satisfactory progress in implementation of a recommended solution, we will not initiate legal action. If progress is not satisfactory, we will initiate legal action against individual violators both residential and commercial.”

- With abundant bedrock and postage sized lots, coupled with Lake Ontario waters exceeding 100 year flood levels in 2017 and 500-year flood levels in 2019, there is inadequate space requirements and inadequate or no percolation for existing subsurface sewage disposal systems and replacement of existing systems. These same design constraints hold true within the Hamlet. Many homes are on postage size lots with inadequate separation distances from neighboring properties. Stony Creek meanders through the Hamlet and during the spring thaw and runoff, the creek’s water levels saturate properties on Water Street, Mill Street and Adams Road

- Henderson Bay is currently listed as a Priority Water designated by the NYS DEC. The impaired waterbody inventory list for Henderson Bay also reinforces the need for waste water treatment improvements within the Harbor. The waterbody information for Henderson Bay, segment 0303-0022 most recently revised in April of 2007 shows stressed and impaired waters for the Harbor. Water supply, public bathing, and recreation are being described as “stressed” and fish consumption being “impaired”, all with known documentation. One of the documented sources are on-site septic systems from the sanitary surveys conducted by the NYS DEC in 1993. This waterbody

information indicates that household discharges contribute to water quality issues. It states, "These discharges contribute pathogens as well as nutrients that result in excessive aquatic weed and algal growth, increased oxygen demand and a general decrease in water quality and aesthetics." The Henderson Bay waterbody is classified as "Class A" waters, which by DEC definition identifies the best use as being a sources of water supply for drinking with secondary use as contact recreation and fishing.

2/17/2025 data.ny.gov updated 4/24/2024 shows "impaired" for segment 0303-0022
Update 4/12/2007

Extapps.dec.ny.gov 2020-2022 final 303(d) list shows 0303-0022 for dioxin, mirex, PCBs resulting in IMPAIRED severity designation for Fish Consumption.

Segment 0303-0022 (Henderson Bay) list uses impacted of as STRESSED severity designation for Water Supply, Public Bathing, and Recreation as a result of inadequately treated sewage discharges from the Hamlet of Henderson Harbor and failing and/or inadequate on-site septic systems serving cottage communities and seasonal homes along the bay.

2. Additional Testing performed 2023: (Fact Sheet distributed by GYMO)

- Well water testing in Harbor waterfront properties yielded 12/20 positive for Total Coliform and 4/6 positive for E. Coli and Fecal Coliform.
- Dye testing of septic systems in Harbor waterfront properties indicated 5/7 positive for dye detection into waterways.

3. Potential Future Impacts (Michigan Sea Grant)

-Harmful Algae Blooms (HAB)

-Blue-green algae thrive in conditions with excess phosphorus and nitrogen which can come from malfunctioning septic systems

-HAB thrive in shallow, warm, still bodies of water

-EPA.gov "Climate Change Indicators: Great Lakes Water Levels and Temperatures" provides discussion of rising surface water temperatures since 1995 for Lake Ontario.