

Report to Board, Town of White Lake January 2025

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LIMNOSCIENCES**

Another new year is here, and it is time to look back—I do that when I summarize data about the lake, such as rainfall and lake level information (which is attached here), and when I look at the recommendations that I have been making over the past five years regarding town actions to protect the lake.

The town's responsibilities include land use planning and stormwater quality and quantity mitigation, and sewer system upgrades to prevent spills and groundwater contamination and reduce inflow and infiltration of groundwater which then flows into the wastewater treatment system. The town has made substantial progress with the completion of Phase 2 wastewater system work, but much more remains to be done. There has been no progress with stormwater mitigation of problem areas, but another study is underway.

The rainfall and lake level monitoring in 2024 demonstrated the need to acquire an easement for the Turtle Cove outlet so that the town can maintain it, and floodwaters have a well-functioning release valve.

The town could also work to reduce boating impacts to White Lake. White Lake Marine is putting big boats into the lake daily to test them, and this has a visible impact on lake as muddy bottom sediments are stirred up. It would be possible to build a test tank for these boats so that they could be checked out without putting them in the lake, and grant funding may be sought for this pilot project, supporting a business while protecting this important natural resource. Windy conditions from storms can also stir the bottom up as the lake is very, very shallow, but reducing boating actions that we know are harmful lessens overall impacts on water clarity and lakeshore aesthetics.

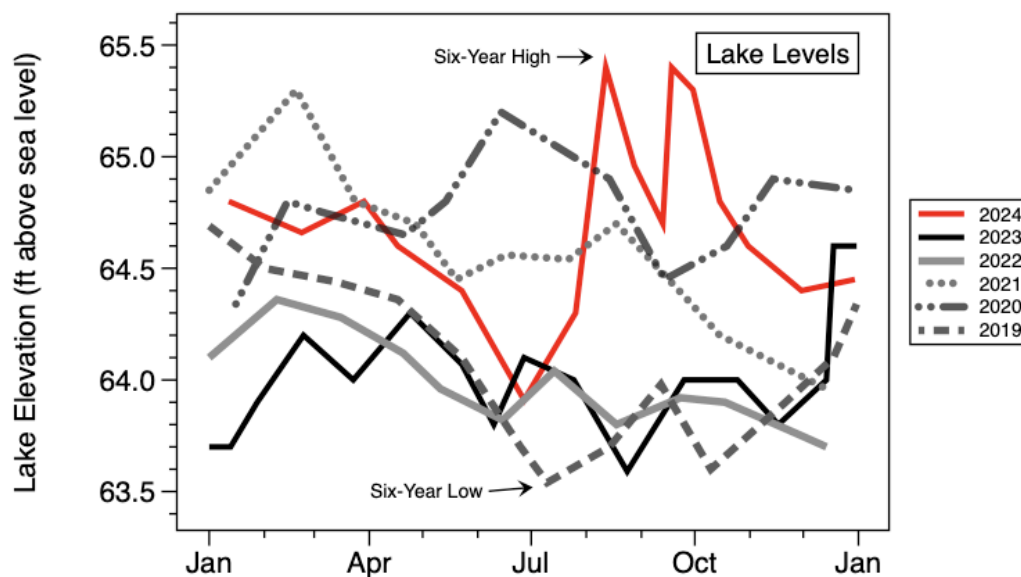
What will be accomplished this year? Proposals for additional geohydrological work, and treatment of the lake were provided last year, and I reviewed them. Neither proposal includes work that would help the lake in any way, so if there is interest in spending more public dollars, it would be wise to choose actions from the above list (e.g., cash fund small sewer projects).

White Lake 2024 Rainfall: 3 Big Storms (2 in September)

Monthly Rainfall (inches) for White Lake 2012-2024

Month	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2013	2012	Monthly Average for Region
January	2.75	4.3	5.75	8.25	4.5	2.75	4.20	7.0	3.0	2.5	1.75	2.75	3.81
February	2.5	3.6	1.0	9.2	6.7	2.25	2.00	1.5	10.7	5.5	2.5	4.0	3.44
March	5.0	2.5	2.45	2.7	3.7	3.25	3.95	3.7	1.55	4.15	1.0	7.0	3.91
April	1.75	8.5	3.75	1.75	5.1	7.25	6.75	6.75	6.75	4.55	1.75	2.25	3.12
May	2.3	1.5	2.2	3.0	12.25	1.20	7.70	2.7	4.5	4.20	2.25	9.25	3.67
June	1.5	6.3	6.2	7.9	7.15	5.25	10.00	4.5	3.65	8.70	17.0	2.0	4.70
July	9.5	3.8	10.5	7.5	6.85	6.00	4.75	6.75	3.75	3.0	11.25	8.6	5.75
August	21.6	7.5	5.5	6.5	7.55	5.35	6.25	5.6	4.12	9.4	8.25	9.75	5.95
September	15.4	3.05	6.5	3.2	5.95	5.00	29.45	5.2	15.0	4.7	1.0	5.0	5.29
October	0.0	1.75	0.6	0.6	3.35	3.60	2.25	2.95	14.25	9.75	1.75	2.25	3.38
November	1.0	3.25	1.55	0.4	7.5	4.90	4.25	1.0	0.50	7.25	0	2.25	3.16
December	2.3	8.5	1.2	3.4	4.25	6.00	7.5	5.45	5.1	6.5	5.75	4.25	3.14
Total	65.6	54.55	47.2	54.4	74.85	52.80	89.05	53.1	72.87	70.20	54.25	59.35	49.32
% of Lake Volume	85.9	71.4	61.8	71	97	69	116	69	95	91	70	77	64

White Lake: 2019-2024 Lake Levels



Tropical Storm Idalia 8/29-30/2023, 7" rain, +6" lake level

Nor'easter storm 12/17/2023, 7" rain, +7.2" lake level

Tropical Storm Debby 8/7-8/2024, 9.8" rain

(19" over 10-day period in August, +14.4" lake level)

"Potential Tropical Cyclone 8" 9/14-16/2024,

Hurricane Helene 9/26-27/2024 (15" over 13 days, +6" lake level)

Annual Lake Elevations, High and Low

2019 High (January 25): 64.6 Ft NAVD 88

2020 High (June 16): 65.2 Ft

2021 High (February 19): 65.3 Ft

2022 High (January 17): 64.3 Ft

2023 High (December 18): 64.6 Ft

2024 High (Aug. 12, Sep. 18): 65.4 Ft

2019 Low (July 9): 63.5 Ft NAVD 88

2020 Low (January 1): 64.3 Ft

2021 Low (November 29): 63.9 Ft

2022 Low (May, Oct-Dec.): 63.7 Ft

2023 Low (August 28): 63.6 Ft

2024 Low (July 5): 63.7 Ft

Six-Year Mean (Average) High-Water Level: 64.9 Feet NAVD 88

2019 Lake Level Variation (High to Low): 12.7 Inches

2020 Lake Level Variation (High to Low): 10.3 Inches

2021 Lake Level Variation (High to Low): 16.8 Inches

2022 Lake Level Variation (High to Low): 7.2 Inches

2023 Lake Level Variation (High to Low): 12.0 Inches

2024 Lake Level Variation between

July 5 (Low) and Aug. 12 (High): 20.4 Inches

Variation (Highest-Lowest) Over the Six-Year Period 2019-2024: 22.8 Inches

