

# Report to White Lake Town Board October 2022

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LIMNOSCIENCES

## 1. Little Change in Lake Level for September

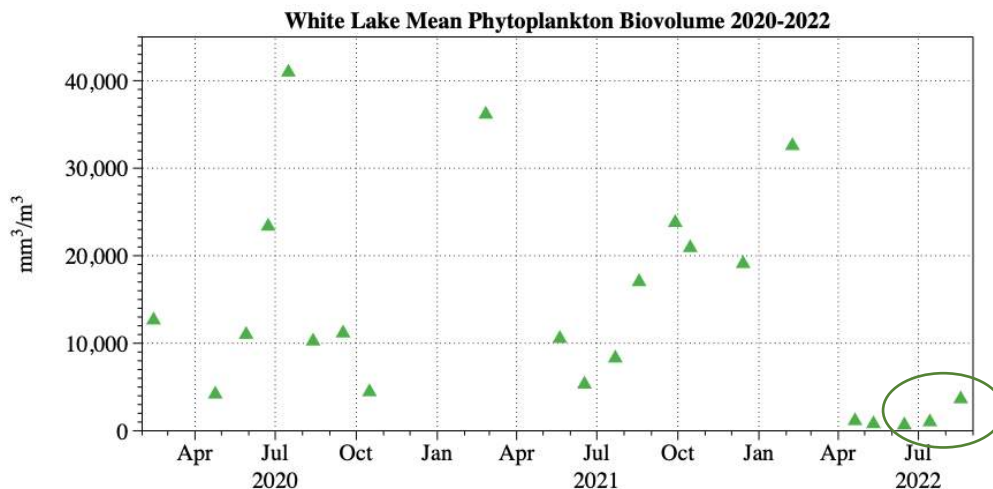
The lake level on September 30 was 64.1 feet NAVD 88, equivalent to the level at the end of August, and equal to the level at the start of the year. A total of 5 inches of rain fell as a result of Hurricane Ian, raising the lake level 3.6 inches. Total rainfall for the first three quarters of the year totals 43.85 inches, which is 89% of total average annual rainfall for the region.

**Monthly Rainfall (inches) for White Lake 2012-2022**

Month	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	Monthly Average for Region
January	5.75	8.25	4.5	2.75	4.20	7.0	3.0	2.5	2.0	1.75	2.75	3.81
February	1.0	9.2	6.7	2.25	2.00	1.5	10.7	5.5	1.5	2.5	4.0	3.44
March	2.45	2.7	3.7	3.25	3.95	3.7	1.55	4.15	ND	1.0	7.0	3.91
April	3.75	1.75	5.1	7.25	6.75	6.75	6.75	4.55	ND	1.75	2.25	3.12
May	2.2	3.0	12.25	1.20	7.70	2.7	4.5	4.20	ND	2.25	9.25	3.67
June	6.2	7.9	7.15	5.25	10.00	4.5	3.65	8.70	3.0	17.0	2.0	4.70
July	10.5	7.5	6.85	6.00	4.75	6.75	3.75	3.0	4.65	11.25	8.6	5.75
August	5.5	6.5	7.55	5.35	6.25	5.6	4.12	9.4	9.75	8.25	9.75	5.95
September	6.5	3.2	5.95	5.00	29.45	5.2	15.0	4.7	7.0	1.0	5.0	5.29
October		0.6	3.35	3.60	2.25	2.95	14.25	9.75	1.7	1.75	2.25	3.38
November		0.4	7.5	4.90	4.25	1.0	0.50	7.25	4.15	0	2.25	3.16
December		3.4	4.25	6.00	7.5	5.45	5.1	6.5	3.7	5.75	4.25	3.14
<b>Total</b>		<b>54.4</b>	<b>74.85</b>	<b>52.80</b>	<b>89.05</b>	<b>53.1</b>	<b>72.87</b>	<b>70.20</b>		<b>54.25</b>	<b>59.35</b>	<b>49.32</b>
<b>% of Lake Volume</b>		<b>71</b>	<b>97</b>	<b>69</b>	<b>116</b>	<b>69</b>	<b>95</b>	<b>91</b>		<b>70</b>	<b>77</b>	<b>64</b>

## 2. Lake Conditions—Water Column vs. Lake Bottom

Monthly sampling provides information on nutrients and water chemistry parameters such as pH and dissolved oxygen, as well as the amount and kinds of suspended algae (phytoplankton). For the summer of 2022 there was less phytoplankton than the previous two summers.



This summer there has been a buildup of bottom algae in the deeper portion of the lake. White Lake's bottom algae has typically been filamentous mats which can be stirred up by boating activity and strong winds. This year the bottom algae has been globs which contain algal cells, and these globs have tended to coagulate and float to the water surface.

The strong winds out of the north during Hurricane Ian have served to "sweep up" the bottom algae and push it to the southern shoreline. Once that material washes up on the beaches, it can be removed, and the shallow areas are clear. This has been done numerous times in the past, with the town helping with removal and disposal of the material.

Why does bottom algae (and vegetation) grow in White Lake? Because there is enough nutrients and sunlight at the lake bottom. Shallow lakes tend to be very productive for these basic reasons. Has the excessive amount of bottom disturbance this summer promoted more growth of this material? It is possible, certainly, but all algae and submerged vegetation tend to vary in abundance from year to year for a number of reasons, including the amount of nutrients entering the lake, and variability in weather (temperature, rainfall, storms).

