

WHITE LAKE

PROPERTY OWNERS ASSOCIATION
ENVIRONMENT VOLUNTEERS



White Lake Checkups

2024

Conrad Grégoire, PhD and David Overholt, BA



Conrad Grégoire taking water sample for analysis; photo by D. Overholt

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Every two weeks from mid-May to mid-October we sample White Lake. Nine sites are monitored covering all parts of the lake. After each of these 'sampling runs' a White Lake Checkup is issued. Checkups are short and concise summaries of the condition of White Lake on the sampling date. Information is usually also provided for similar readings done a year earlier for comparison purposes. White Lake Checkups are generally published on the White Lake Property Owners Association [Facebook](#) page, as well as other local Facebook pages covering all four municipalities sharing parts of White Lake. Checkup compilations for this and other years can be downloaded from the [Special Report Page](#) on the [White Lake Science](#) website.

Below is a compilation of the White Lake Checkups issued during 2024.



White Lake Checkup: May 10, 2024

It was a cool and partly overcast morning as we (Conrad Grégoire and David Overholt) completed our first sampling excursion of the year. During our time on the lake, we did not see any other watercraft so we had the lake to ourselves. We collected three samples at each of our monitoring sites. Two were duplicate samples for total phosphorus and the third sample was collected for the measurement of calcium and chloride levels. All of the samples are analyzed by the Ministry of the Environment's laboratories in Dorset Ontario under the auspices of the Lake Partner Program. In addition to these samples, we also make temperature and water clarity measurements and collect plankton samples using a specialized net. These samples are analyzed later using an optical microscope.

Water Temperature: The water temperature in the deeper parts of the lake was 14.5°C. The temperature last year at about this time (May 8) was 12.8°C. The hot spot on the lake was Hayes Bay and the village Basin with a water temperature of 16.0°C.

Water Clarity: Water clarity as expressed as a Secchi depth was 5.6 metres; 1.6 metres more clear than last year.

Water Depth: The depth of the lake as measured at the gauge at the dam was 162 cm as compared to the target depth of 155 cm. This is 7 centimetres higher than called for in the water depth plan for the lake.

There were (on Facebook) early concerns that the depth of the lake would be low because of the minimal amount of snow we received last winter. However, there has been lots of rain in recent weeks which served to raise the lake to relatively high levels.

Cormorants: We observed two cormorants on our 50 km run on White Lake. One was fishing near The Canal and the other was perched on a tree looking a bit cold. It was seen on the western side of the main body of the lake.

White Lake Checkup: May 30, 2024

The lake was calm when we (Conrad Grégoire and David Overholt) set out for our second water sampling run of the year. As the morning progressed a stiff wind came up resulting in whitecaps on some parts of the lake. We collected plankton samples at each of our 9 sampling sites as well as measured water clarity (Secchi Depth) and temperature. These plankton samples were analyzed later using an optical microscope.

Water Temperature: The water temperature in the deeper parts of the lake was 18.7°C. The temperature last year at this time was a much warmer 21.7°C. In 2021 the temperature was an even cooler 17.8°C. Clearly, lake water temperatures are linked to atmospheric temperatures and do vary from year to year.

Water Clarity: Water clarity as expressed as the Secchi Depth was 3.8 metres in Three Mile Bay. Water clarity increased to 5.0 metres at other sites on the lake. Last year at this time, water clarity was an average of 4.4 metres. The low water clarity measured in Three Mile Bay on May 30th may reflect the abundance of nutrients available for plankton growth at that location.

Water Depth: The depth of the lake as measured at the gauge at the dam was 154 cm as compared to the target depth of 149 cm. This is 5 centimetres higher than called for in the water depth plan for the lake. The abundant rain we have received recently is likely responsible for the higher lake level.

Cormorants: We observed 12 cormorants on our 50 km run on White Lake. They were located at two sites. One was a treed location on the Western shore of the lake and the other the rocks in the narrows leading up to the White Lake Village Basin.

White Lake Checkup: June 14, 2024

June 14 was our third sampling outing of 2024. It was a cool at about 15C with winds of from 5 to 10 km/h. We visited nine sampling sites (using GPS) and measured water temperatures, water clarity and water depth at the Waba Creek dam. Water samples were also taken for analysis of phosphorus, calcium, and chloride. These samples were mailed to the Ministry of the Environment Labs for processing. Also collected were plankton samples using a specialized net. These samples were analyzed later using an optical microscope.

Water Temperature: The water temperature in the deeper parts of the lake was 19.5°C exactly the same it was at this time last year. In the shallower parts, the temperature was marginally higher at 19.9°C.

Please note that we measure water temperatures away from shorelines and at a depth corresponding to the Secchi depth which is about 4 metres. Water temperatures at the shoreline can be many degrees higher especially if there is no wind to help mix lake waters.

Water Clarity: Water clarity as expressed as a Secchi depth was 4.2 metres; only 0.4 metres more (clear) than last year. Secchi depth ranged from 3.8 metres in Three Mile Bay and increased to 4.6 metres half way up the lake. This may be indicative of higher amounts of nutrients being released into the lake from the most populated part of White Lake; Three Mile Bay.

Rain: According to Environment Canada, the amount of rain we received in April of this year was the same as in 2023: 108 mm. May, however, was quite wet with over 98 mm of rain falling as compared to only 54 mm in 2023.

Water Depth: The depth of the lake as measured at the gauge at the dam was 151.8 cm as compared to the target depth of 146.3 cm.

Cormorant Count: Eight cormorants were observed on the lake. Two weeks ago, there were 12 cormorants. These numbers are in keeping with observations during previous years. The number of cormorants can change from week to week depending on the number of cormorants using the lake and who may be nesting kilometres away. We have not as yet found any nesting sites on White Lake.

White Lake Checkup: June 27, 2024

It did not feel like summer the morning of June 27 as we set out for our fourth water sampling session of the season. It was 16°C with winds of from 10 to 25 km/hr. We visited the nine sampling sites (using GPS) we monitor and measured water temperatures, water clarity and water depth at the Waba Creek dam.

Water Temperature: The water temperature in the deeper parts of the lake was 21.9°C which was a bit lower than the 22.7°C it was at this time last year. In the shallower parts, the temperature was about the same at 21.8°C.

Please note that we measure water temperatures away from shorelines and at a depth corresponding to the Secchi depth which is about 4 metres. Water temperatures at the shoreline can be many degrees higher especially if there is no wind to help mix lake waters.

Water Clarity: Water clarity as expressed as a Secchi depth was 4.1 metres; 0.6 metres more (clear) than last year.

Rain: Since our last White Lake Checkup (June 14) at least 60 mm of rain has fallen. This may partially account for the greater water clarity today when compared to this time last year.

Water Depth: The depth of the lake measured at the gauge at the dam was 153 cm as compared to the target depth of 143 cm. This means that the lake was 10 cm higher than planned.

Cormorant Count: Seven cormorants were observed on the lake. Two weeks ago, there were 8 cormorants. These numbers are in keeping with observations during previous years. The number of cormorants can change from week to week depending on the number of cormorants using the lake and who may be nesting kilometres away. We have not as yet found any nesting sites on White Lake.

White Lake Checkup: July 15, 2024

The morning of July 15 was hot with clear skies. What better time to complete our 5th water sampling session of the year. We visited nine sampling sites (using GPS) and measured water temperatures, water clarity and water depth at the Waba Creek dam. Water samples were also taken for analysis for phosphorus, calcium, and chloride. These samples were mailed to the Ministry of the Environment Labs for processing. Also collected were plankton samples using a specialized net. These samples were analyzed later using an optical microscope.

Water Temperature: The water temperature in the deeper parts of the lake was 25.1°C, about 2 degrees warmer than last year. In the shallower parts, the temperature was about one degree higher at 26.2°C. The highest temperature was recorded in Hayes Bay at 26.6°C.

Please note that we measure water temperatures away from shorelines and at a depth corresponding to the Secchi depth which is about 4 metres. Water temperatures at the shoreline can be several degrees higher especially if there is no wind to help mix lake waters.

Water Clarity: Water clarity as expressed as the Secchi depth was 5.2 metres which was 0.8 metres more (clear) than last year. Water clarity ranged from 4.7 to 5.9 in the deeper sampling sites.

Rain: According to Environment Canada, the amount of rain we received in June of this year was 149 mm as compared to only 82 mm received last year.

Water Depth: The depth of the lake as measured at the gauge at the dam was 150.0 cm as compared to the target depth of 140.2 cm; ten cm higher. Since our last checkup two weeks ago, over 5 cm of rain has fallen on White Lake.

Cormorant Count: Six cormorants were observed on the lake. Two weeks ago, there were 8 cormorants. These numbers are in keeping with observations during previous years. The number of cormorants can change from week to week depending on the number of cormorants using the lake and who may be nesting kilometres away. We have not as yet found any nesting sites on White Lake.

White Lake Checkup: July 30, 2024

We visited nine sampling sites on White Lake (using GPS) on July 31st and measured water temperatures, water clarity and water depth at the Waba Creek dam. We also collected plankton using a specialized net. These samples are to be analyzed using a microscope in order to identify the algae in lake water. The weather was hot and clear.

Water Temperature: The average water temperature in the deeper parts of the lake was 24.8°C. Last year on this date, the water temperature was a bit lower at 23.2°C. In the shallow parts of the lake, the water temperature was 25.7°C; slightly higher than the rest of the lake.

Water Clarity: Water clarity as expressed as a Secchi depth was 4.3 metres. In 2023, the water clarity was 1.3 metres lower (less clear water). The clearer water may indicate a healthy population of zebra mussels. Each zebra mussel filters about 1 litre of water per day. There may be as many as a billion of these creatures in the lake which means that they could filter the entire volume of the lake in just under three months!

Water Depth: The depth of the lake as measured at the gauge at the dam was 144 cm as compared to the target depth of 137 cm. We have been experiencing higher than normal water levels for most of this year.

Cormorants: Nine cormorants were spotted on the lake. We saw one juvenile perched on a tree along with several adults. Since the beginning of June, we have counted between 6 and 9 cormorants during each sampling run (every two weeks).

White Lake Checkup: August 15, 2024

August 15 marked the 7th water sampling session of the year. We visited nine sampling sites (using GPS) and measured water temperatures, water clarity and water depth at the Waba Creek dam. Water samples were also taken for analysis of phosphorus, calcium, and chloride. These samples were mailed to the Ministry of the Environment Labs for processing. Also collected were plankton samples using a specialized net. These samples were analyzed later using an optical microscope.

Water Temperature: The water temperature in the deeper parts of the lake was 23.6°C, about 2 degrees warmer than last year at this time. In the shallower parts, the temperature was about one degree higher at 23.5°C or about the same.

Please note that we measure water temperatures away from shorelines and at a depth corresponding to the Secchi depth which is about 4 metres. Water temperatures at the shoreline can be several degrees higher especially if there is no wind to help mix lake waters.

Water Clarity: Water clarity as expressed as the Secchi depth was 4.0 metres which was 0.5 metres less (clear) than last year. Water clarity ranged from 3.2 to 4.8 at the deeper sampling sites. This indicates that biological activity varied considerably in different parts of the lake.

Water Depth: The depth of the lake as measured at the gauge at the dam was 145.5 cm as compared to the target depth of 131.1 cm; 14.5 cm deeper than the planned depth of the lake.

Cormorant Count: Twelve cormorants were observed on the lake. Among them were to juveniles learning how to fish. These numbers are in keeping with observations during previous years. The number of cormorants can change from week to week depending on the number of cormorants using the lake and who may be nesting kilometres away. We have not as yet found any nesting sites on White Lake.

Tape Grass: During this time of year, large mats of tape grass, also known as eel grass, can be found floating on the lake. This occurs every year and is most noticeable when lake levels begin to drop. To find out more about tape grass and how it forms floating mats, please read the Environment Bulletin entitled "Tape Grass":

https://wlpp.ca/linked/tape_grass_env_bulletin.pdf

White Lake Checkup: August 29, 2024

The morning of August 29th was beautiful on White Lake. The lake was calm when we (Conrad Grégoire and David Overholt) set out for our 8th water sampling run of the year (three more to go!). We collected plankton samples at each of our 9 sampling sites as well as measured water clarity (Secchi Depth) and temperature. Plankton samples were analyzed later using an optical microscope.

Water Temperature: The water temperature in the deeper parts of the lake was 20.7°C. The temperature last year at this time was a warmer 22.9°C. Clearly, lake water temperatures are linked to atmospheric temperatures and do vary from year to year. The water temperature in the shallower parts of the lake was 21.2°C indicating a cooling trend.....Fall is coming!

Water Clarity: Water clarity as expressed as the Secchi Depth ranged from 4.9 to 5.5 m in different parts of the lake and averaged 5.3 metres. Last year at this time, water clarity was an average of 4.3 metres.

Water Depth: The depth of the lake as measured at the gauge at the dam was 141 cm as compared to the target depth of 128 cm. This is 13 centimetres higher than called for in the water depth plan for the lake. The abundant rain we have received recently is likely responsible for the higher lake level.

Cormorants: We observed 4 cormorants on our 50 km run on White Lake. Three of the four were juveniles so it is possible that the cormorants left one adult to babysit while the rest enjoyed fish for dinner elsewhere. At this time last year there were 11 cormorants observed on the lake.

White Lake Checkup: September 13, 2024

The morning of August 29th was beautiful on White Lake. The lake was calm when we (Conrad Grégoire and David Overholt) set out for our 9th water sampling run of the year (three more to go!). We collected plankton samples at each of our 9 sampling sites as well as measured water clarity (Secchi Depth) and temperature. Plankton samples were analyzed later using an optical microscope.

Water Temperature: The water temperature in the deeper parts of the lake was 20.7°C. The temperature last year at this time was a warmer 22.9°C. Clearly, lake water temperatures are linked to atmospheric temperatures and do vary from year to year. The water temperature in the shallower parts of the lake was 21.2°C indicating a cooling trend.....Fall is coming!

Water Clarity: Water clarity as expressed as the Secchi Depth ranged from 4.9 to 5.5 m in different parts of the lake and averaged 5.3 metres. Last year at this time, water clarity was an average of 4.3 metres.

Water Depth: The depth of the lake as measured at the gauge at the dam was 141 cm as compared to the target depth of 128 cm. This is 13 centimetres higher than called for in the water depth plan for the lake. The abundant rain we have received recently is likely responsible for the higher lake level.

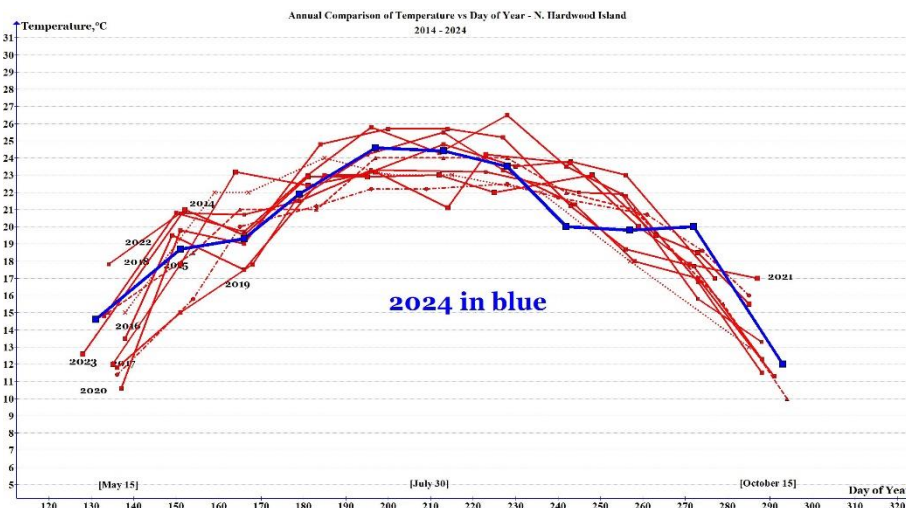
Cormorants: We observed 4 cormorants on our 50 km run on White Lake. Three of the four were juveniles so it is possible that the cormorants left one adult to babysit while the rest enjoyed fish for dinner elsewhere. At this time last year there were 11 cormorants observed on the lake.

White Lake Checkup: September 28, 2024

For our 10th sampling run of the year we were favoured with a beautiful sunny morning. One more sampling expedition to go in mid-October! This time we collected plankton samples and took temperature and water clarity measurements.

Water Temperature: The average water temperature in the deeper parts of the lake was 19.9°C as compared to a temperature of 18.5 °C recorded on the same date in 2023. The temperature taken in the shallow parts of the lake was 19.0°C. Water temperatures are highly dependent on local weather. The slightly lower water temperature in the shallow parts of the lake indicates a cooling trend since shallow areas react more quickly to changes in atmospheric temperatures.

Some people like to look at graphs, I know I do! The attached graph shows water temperatures at one deep water site over the past 10 years. The bold blue line is data for 2024. For most of the summer, water temperatures were middle-of-the-road as compared



to historical data. During the last month, temperatures have been tracking higher than normal. So far this year, we have not experienced a blue-green algal bloom as we have almost every year for the past ten years. The warmer water temperatures may have an impact on these algal blooms....time will tell.

Water Clarity: Water clarity as expressed as the Secchi depth was 7.6 metres, up from 6.6 metres in 2023, 5.3 metres in 2022 and 4.5 metres in 2021. This trend may indicate a healthy and growing zebra mussel population in the lake.

Water Depth: The depth of the lake as measured at the gauge on the Waba Creek dam was 126 cm as compared to the target depth of 116 cm. which is 10 cm higher than the planned depth. This time last year, the depth was 11 cm above the target depth. The depths cited in these Checkups are in centimetres and correspond to the water level above the sill of the dam structure.

Cormorants: Four cormorants were spotted on the lake. This time last year, only five were spotted. Three of the cormorants were at one location; the Rocky Isles at the narrows leading to the White Lake Village basin.

White Lake Checkup: October 19, 2024

October 19 marked our last and 11th water sampling outing for 2024. For the first 10 years, the mid-October sampling was done on an expectedly cold day. We normally packed hot tea and biscuits to warm up after we collected the last sample of the year...in the middle of the White Lake Village Basin. This year was different. It was warm and sunny with no wind. What a beautiful day to be on White Lake.....shared with only three other boats spotted on the lake,

In total, during 2024, we collected 221 water samples to be analyzed by the Ministry of the Environment's Lake Partner Program, 50 plankton samples and over two hundred temperature and water clarity measurements. We also kept track and documented water levels and counted both loon and cormorant populations.

Water Temperature: The average water temperature in the deeper parts of the lake was 12.6°C as compared to a temperature of 15.6 °C recorded on the same date in 2023. The average temperature of the shallower parts of the lake was 10.3°C indicating a cooling trend.

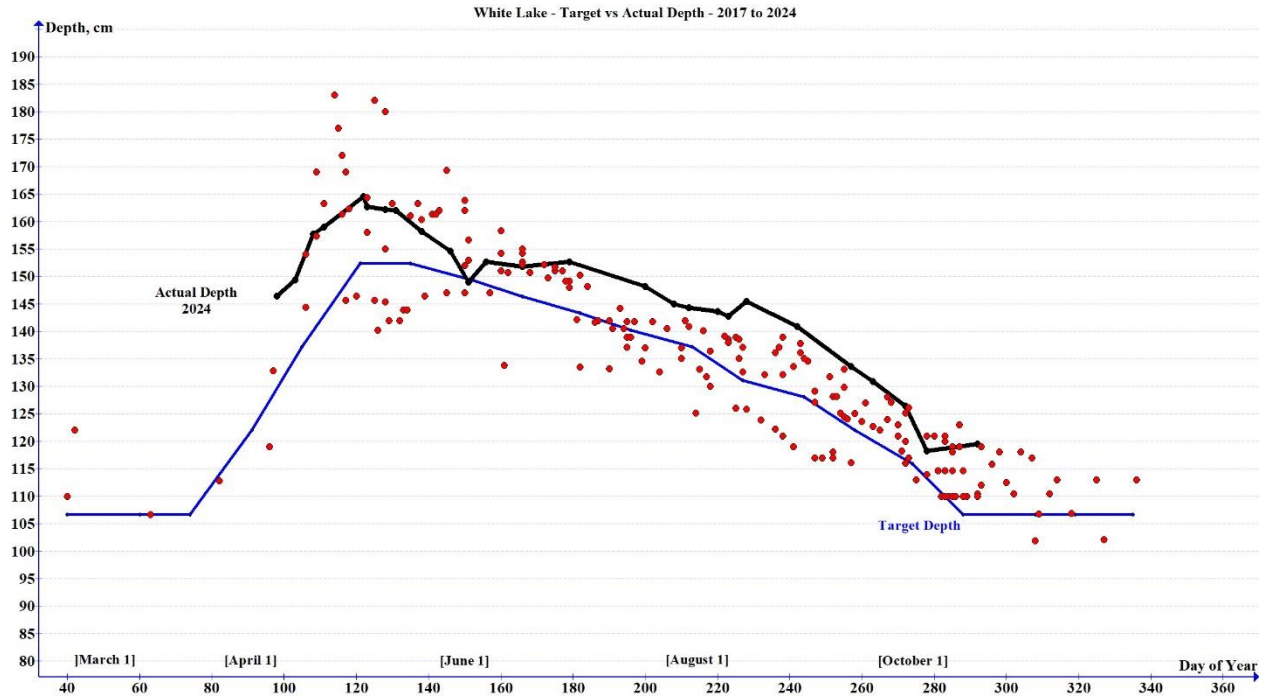
Water Clarity: Water clarity as expressed as the Secchi depth was 6.3 metres, down from 7.5 metres in 2023. Note that a Secchi depth could only be read at two sites in the deepest part of the lake. The rest of the sites were clear to the bottom of the lake.

Water Depth: The depth of the lake as measured at the gauge on the Waba Creek dam was 119.5 cm as compared to the target depth of 106.7 cm. The lake depth will continue to be lowered until 106.7 cm is reached, where it will stay throughout the winter months. The depths cited in these Checkups are in centimetres and correspond to the water level above the sill of the dam structure.

Attached is a graph showing water depths measurement taken from 2017 to 2024. The blue line shows the target depths that the Ministry of the Environment, Forestry try to

achieve. The black line indicates depths measured in 2024. The red dots are measurements made from 2017 to 2023.

The graph shows that historically for the most part, water levels were higher in the spring and were close to the planned depth during the summer months and into the fall. The 2024 data shows that for this year, water depths were consistently higher than planned.



Cormorants: An then there were none!.....no cormorants were seen during this sampling run.