

Green Lake & Duck Lake Association Spring and Summer Water Testing Protocol for both lakes.

Spring chemical testing

1. Obtain 3 large sample bottles from the Great Lakes Water Quality Lab in Lake Ann. (275-7382) Samples should be taken as soon as the lake is ice-free and white cap waves have mixed the surface water.
2. One sample is taken at each of the three sites on the map. Mark each bottle (1, 2,&3 and the lake name).
3. Also take a Secchi disc reading at each of the three sites.
4. Take the samples to the lab that day. Monday through Thursday are best as Fridays are busy and they aren't open on weekends.
5. The three tests we need are: **Nitrite, Phosphorus, and Conductivity**
6. Tell them the samples are from (Green Lake or Duck Lake) and ask them to bill the Green Lake and Duck Lake Association. (They have the address.)
7. Ask them to send the test results to you via email as coordinator for your lake.
8. Sampler should send a copy of the Secchi disc readings form to John Hubbard on Duck Lake and Marc Alderman on Green Lake. This form will be used to report the Summer water testing results as well.

Summer Biological Sampling

The following schedule of progressive testing will give us results we need without unnecessary test costs.

1. Obtain 10 small sample bottles from the Great Lakes Water Quality Lab in Lake Ann. (275-7382) Take your samples early in the week following the 4th of July.
2. Locate your sites, number the bottles (1-10) and mark the test locations on a map of the lake. (Being able to relocate the site is important if retesting is needed.)
3. Samples should be taken close to shore (20'-25' or closer) in populated areas and in the mouth of all inlets. Outlets are not a priority.
4. Avoid sites where seagulls or ducks have been recently. Birds "unload" as they take off and false E-coli readings are likely.
5. Wash hands or wear rubber gloves when taking the sample to avoid contaminating either the bottle and or the water sample.
6. Use the numbered bottle that matches the location you put on the map and take the sample by removing the cap after the bottle is 6" below the water level and recapping it underwater after it is full.
7. Take the samples to the lab that day. Monday through Thursday are best.

8. They will culture the water sample to determine if E-coli is present in sufficient quantity to represent a hazard to humans.
9. If a location has a high reading (100 or higher) retesting of that site is needed as soon as we get the initial results.
10. A copy of the lab reports need to be kept by John Hubbard (Duck Lake water testing coordinator) and Marc Alderman (Green Lake water testing coordinator).
11. Each coordinator should send a copy of your map with final site results on it to Dave Pennington at the end of the testing to be included in both the web site and the newsletter.

First Samples:

Run “E-coli” only.

Retest locations with readings over 100. If E-coli readings are close to 300 we have a potentially hazardous situation. Multiple E-coli readings of 300+ at a site should result in warnings to the nearby residents by the tester and notification to the county health department **if they persist**. The coordinators need to inform the association President if this occurs and the President will notify the Health Department. All contact with the water should be avoided until the readings are much lower.

Second Samples:

*Requires two separate samples from each site retested. Obtain additional bottles. Re-sample and return that day to the lab. They must prepare testing media in advance so tell them you are going to run the following two tests, **NOT E-Coli.**

Run “Total Fecal Coliform” and “Fecal Strep”.

Divide the fecal coliform count by the fecal strep count. A ratio **greater than 4.0** is strong evidence that the origin is **human** waste. High readings would indicate the source is probably human (septic tank or lagoon leakage) rather than animal. High readings in these tests indicate that further investigation is needed to identify the source. Have the lab results sent via e-mail to the proper lake coordinator.

A FC/FS ratio of **less than 0.7** is strong evidence that the origin is **warm blooded animals other than humans**. For ratios between 0.7 and 4.0, the origin is mixed.