150 East Gilman St. Suite 2600
Madison, WI 53703
P 608-255-1000
cleanlakesalliance.org

Yahara Lakes Water Quality Monitoring

Background

In 2013, Clean Lakes Alliance launched the Citizen Water Quality Monitoring program. Since its inception, the program's primary objective has been to track and evaluate nearshore water quality conditions on Lakes Mendota, Monona, Wingra, Waubesa and Kegonsa with the aid of trained volunteers and Clean Lakes Alliance staff. Weekly end-of-pier and public beach testing at nearly 80 sampling sites is now providing more real-time information on nearshore water quality. The importance of volunteer monitoring at nearshore areas was identified in a 2011 study by Richard Lathrop and Steve Carpenter, who emphasized the relevance of nearshore water quality conditions to the general public.

Each year, the program focuses on collecting water clarity data, temperature, and visual observations including blue-green algae presence. The data informs the public about changing water conditions and helps UW Madison researchers study the movement of harmful blue-green algal blooms. By utilizing weekly end-of-pier measurements, researchers can identify specific problem areas and even relate climate conditions, such as rainfall and wind direction, to the presence of algae and high bacteria levels. Ultimately, this information is also reported to the public through our interactive website: Lakeforecast.org. Designed for the general public, LakeForecast.org aggregates information from volunteer monitors, weather stations, and the Lake Mendota Buoy to give users a complete picture of beach conditions.

In 2016, Clean Lakes Alliance added offshore monitoring to the program to help increase sampling frequency for water clarity and dissolved oxygen and water temperature profiles at depth at the center of each lake. This program bolsters efforts by the Wisconsin Department of Natural Resources' Citizen Lake Monitoring Network and Long-Term Ecological Research Network.

2017 Goals

2017 project goals are to:

1. Maintain current number of volunteers to provide adequate spatial coverage around the Yahara Lakes
2. Deploy thermistors to test water temperature at a 3 ft. depth contour at up to 33 locations
3. Increase frequency of nearshore monitoring from once weekly to twice weekly to strengthen monitoring datasets
4. Continue collaborating with City of Madison to have lifeguards monitor at four lifeguarded beaches at least two times per week
5. Encourage increased monitoring frequency following a reported blue-green algal bloom
6. Perform weekly offshore monitoring of water clarity, temperature, and dissolved oxygen at

the deep hole on all five Yahara lakes

7. Increase the number of unique LakeForecast.org users to exceed 4,782

In partnership with government agencies, University of Wisconsin researchers, and water quality advocacy groups, Clean Lakes Alliance will train and equip volunteers and coordinate monitoring of nearshore water turbidity, temperature, and various qualitative measurements. The intent of the monitoring is to better track changing beach conditions and the formation and movement of potentially toxic blue-green algal blooms. Furthermore, continuing offshore monitoring will allow Clean Lakes Alliance and partners to compare nearshore and offshore lake conditions, and will follow a protocol consistent with the WI DNR's Citizen Lake Monitoring Network. Water clarity will be collected by use of a Secchi disk, while dissolved oxygen and temperature will be measured throughout the water column with a YSI 550A multi-probe. Additionally, HOBO Pendant temperature and light data loggers (thermistors) will be deployed at multiple citizen monitor piers to collect more continuous temperature readings throughout the summer. These thermistors will provide a more detailed temperature profile that can be used to supplement and strengthen the expanding citizen monitor dataset.

The data collected by citizen monitors and Clean Lakes Alliance staff will supplement the sampling conducted by other entities, creating a more robust dataset for all parties to draw upon. This information will be used in research on blue-green algal blooms, and provide more timely and accurate beach assessments to inform area lake users. Additional benefits of citizen monitoring include increased engagement of Dane County residents with the lakes and an increased awareness of dynamic water quality issues.

Clean Lakes Alliance has found that citizen monitoring can be a powerful tool in raising awareness and increasing public interest in water quality. This project is an opportunity to do so in a way that will meaningfully contribute to cleaning up our lakes.

Implementation

End-of-Pier Program

Regular monitoring will build awareness and educate the public about our lake ecosystems, particularly the quality of our waters. This will be accomplished through the reporting of temperature, turbidity, and qualitative observations (e.g. wave intensity, waterfowl presence, algal surface bloom presence, etc.) through a mobile-ready website at LakeForecast.org.

In 2017, all volunteers will collect quantitative and visual observations at least **twice a week**. The monitoring season will officially kick off on **Thursday, May 25th** with our annual community wide dip-in. In order to coordinate sampling times to get more accurate "snapshot" information, we are asking all volunteers to sample on **Thursday mornings between 7 a.m. and 12 p.m.**, and then pick **one additional day - either Tuesday or Saturday morning** to sample.

We are asking all volunteers to increase sampling frequency to two times per week in order to help us start making stronger correlations between observed lake conditions and the different variables we're tracking.

Additionally, the data you record will be used by the media to help calculate a Weekend Lake Report for lake users.

Many volunteers are open to starting the monitoring season earlier (i.e. late March/early April). Due to this interest and the benefits of lengthening the sample period, volunteers are invited to pick up their equipment and start monitoring in April. This additional information will strengthen datasets for researchers to analyze the changing lake conditions leading up to and during summer.

= Blue-green algal bloom observed within last 12 hours

Blue-green algal blooms can form quickly and be pushed along the shoreline by wind on our lakes. In order to better track the movement of these blooms, we're encouraging volunteers to perform more frequent monitoring during periods when they're reported. Clean Lakes Alliance staff will inform volunteers via email when multiple volunteers and/or Public Health - Madison & Dane County reports a blue-green algal bloom presence. Blue-green algal bloom reportings will be incorporated into LakeForecast.org, displaying the observations similar to the example above.

In this program, sampling will occur at end-of-pier. Volunteers will perform the following activities at their chosen sites at least once per week and as frequently as interest and availability allows from the **Thursday before Memorial Day (5/25) through Labor Day (9/4).** Volunteers will have the option to sample through the end of September as interest and time allows.

Quantitative parameters to be measured include: water turbidity (an indicator of clarity), water temperature, and air temperature. Water and air temperature will be measured using a digital thermometer (Appendix 1). Water turbidity will be determined using a 120cm turbidity tube. Complete instructions for water turbidity sampling are provided in Appendix 2. Qualitative, visual observations will be collected for: wave intensity, waterfowl presence, surface bloom presence, algal bloom type, floating plant debris abundance, bather load (or the number of people in the water), and water clarity (Appendix 3). Volunteers will record their data on provided data sheets, and enter results into the web-based data entry system (Lakeforecast.org).

Adopt-A-Beach Program

In the Adopt-A-Beach Program, Clean Lakes Alliance staff and volunteers will sample public beaches. Volunteers will perform the monitoring activities at their chosen sites during the same timeframe and with the same frequency as detailed in the End-of-Pier Program section. The staff and volunteers participating in the Adopt-a-Beach program will collect the same qualitative and quantitative parameters as described above.

City of Madison Lifeguards

In 2017, City of Madison lifeguards will collect quantitative and visual observations as described in the End-Of-Pier program at least two times per week at four public beaches. More frequent monitoring will be encouraged, especially during periods when algal blooms are present.

Offshore Monitoring

In 2017, in order to fully understand the interaction between the offshore and nearshore environment, volunteers will continue sampling the deepest point (deep hole) of all Yahara lakes. The offshore monitoring program focuses on two components: water clarity sampling and dissolved oxygen and temperature measurement. Data from the offshore monitoring program are compared to data from the nearshore program.

Volunteers will use a Secchi disk to measure water clarity, and a digital hand-held thermometer to measure air and surface water temperatures **once per week on Thursday mornings from April through September.** Secchi depth monitoring will take place at the deepest point of each lake. Clean Lakes Alliance staff will train volunteers using a Secchi depth monitoring protocol (Appendix 5). Volunteers will record results on a standard data sheet and submit those results to Clean Lakes Alliance weekly via email or phone.

Concurrent with Secchi sampling, volunteers will use a YSI 550A multi-probe meter to measure dissolved oxygen and temperature at multiple depths. In lakes, temperature can affect the life cycles and survival of organisms (including algae) and the ability of the water to hold oxygen. By building a vertical profile of temperature, we will be able to make inferences about lake mixing patterns. Dissolved oxygen, or oxygen present in the water, can also impact the type of aquatic life a water body can support. Low levels of dissolved oxygen can kill sensitive organisms and are generally undesirable as they can indicate that organic matter is decomposing in the water column (i.e. after an algal bloom dies). In the bottom of Lake Mendota, the presence or absence of dissolved oxygen determines whether phosphorus will remain bound to iron or be released into the water column.

Volunteers operating the YSI multi-probes will be trained by Clean Lakes Alliance staff, and will carry out appropriate calibrations before each measurement as outlined in Appendix 5. Results will be recorded on a standard data sheet and submitted to Clean Lakes Alliance weekly via email or phone.

Thermistor Pilot

In 2017, Clean Lakes Alliance will deploy up to 33 HOBO Pendant temperature and light data loggers (thermistors) to collect continuous temperature measurements at end of pier monitoring locations on Lakes Mendota and Monona. These thermistor style data loggers will provide temperature recordings on a more detailed timescale than is feasible utilizing individual citizen monitors. Additionally, *in-situ* thermistors offer a distinct logistical advantage: once deployed, the thermistors will require minimal maintenance throughout the summer sampling period. Therefore, the thermistor pilot aims to strengthen our citizen monitoring dataset with continuous recordings without significant additional upkeep.

The data collected by the thermistors can be utilized to examine a variety of relevant issues. Primarily, the thermistors will track variations in nearshore temperature throughout the entire monitoring season. These data will provide a more precise look at water conditions when algal blooms are reported by our citizen monitors. Instead of examining temperature as a single data point during the report of an algal bloom, we can analyze all the temperature variations during the days leading up to and days after the formation of the bloom.

Volunteer Recruitment, Training and Support

Clean Lakes Alliance Watershed Coordinator, Katie Nicholas, and Watershed Engagement Intern, Luke Wynn, will carry out most project-management responsibilities. Nicholas and Wynn will perform tasks required to recruit, train and assist volunteers with performing water quality monitoring.

Returning volunteers will have the option to attend and all new volunteers will attend a volunteer training session. Trainings will be held at the Verex Plaza (150 E. Gilman St. Level B Madison, WI 53703) during the month of May. These training sessions will combine classroom and hands-on field experience to familiarize volunteers with sampling equipment, testing/reporting protocols, and identification of blue-green algae. All volunteers will receive the necessary sampling equipment, data sheets and procedural guidance at each training session. Volunteers should see the training video at https://www.youtube.com/watch?v=lGECFKXXha4 for a refresher on the protocols used during the sampling period.

Throughout the year, Nicholas and Wynn will provide assistance and support to volunteers. This support includes obtaining and disseminating equipment and supplies (e.g. monitoring equipment and manual), troubleshooting equipment issues, and performing periodic check-ins to answer questions.

Weekend Lake Reports

In 2016, Clean Lakes Alliance began broadcasting weekly Weekend Lake Reports on YouTube and Facebook. These reports included updates on beach closures and where to spend time on the lakes based on conditions reported by monitors and weather conditions. Nearly 6,000 individuals viewed the Facebook posts in 2016. We are working to move these reports to be included, once weekly, on a Madison TV station.

Annual Project Reporting

At the end of 2017, Clean Lakes Alliance will compile and interpret both individual and aggregated sampling results. These results will be presented to volunteers via mail and in an annual report format. The information will also be shared with UW-Madison researchers in an effort to develop a predictive model for blue-green algal bloom formation. In addition, Clean Lakes Alliance will inform other water resources organizations of the data collected, and facilitate its timely distribution.

Contact Information

Katie Nicholas
Watershed Coordinator
katie@cleanlakesalliance.org
(608) 255-1000

Luke Wynn
Watershed Engagement Intern
luke.wynn@cleanlakesalliance.org
(608) 255-1000

Appendix 1

Instructions for Performing Digital Air and Water Temperature Measurements

Equipment/Materials Needed

- Digital Arrow-Shaped Thermometer (either Thermoworks or Fisher Scientific brand)
- nearshore Water Quality Monitoring Data Sheet

General Rules of Sampling

- Sample air temperature as close to lake sample collection site as possible
- Collect data by removing the probe from the chamber and allowing the temperature reading on the probe to stabilize before recording.
- Pressing the "hold" button freezes the current temperature on screen for easier recording
    - Thermoworks thermometers do not have a "hold" button
- Remember to remove the plastic sheath that covers the temperature probe when sampling.
- You can switch between °C and °F by pressing the [°C/°F] button.
    - This button is located on the back of Thermoworks thermometers

Changing Battery

- You may need to replace the battery periodically during the sample season.
- To replace to battery, remove the screw cover with a small Phillips screwdriver, carefully remove the old battery and replace it with a new battery in the same position as the old battery, and rescrew the cover back on the thermometer.
- LR44 batteries are used in the Thermoworks thermometers and CR2032 batteries are used in the Fisher Scientific thermometers. Batteries can be obtained from a hardware store.

Sampling Methods

Step 1 – Air temperature Measurement

1. Remove the temperature probe from the probe chamber.
2. Hold the thermometer so that it is shaded by your body
3. Press the [ON/OFF] button.
4. Allow the temperature to stabilize.
5. Record stabilized temperature in °F on water quality monitoring data sheet.

Step 2 – Water Temperature Measurement

1. Sample at ~3 feet total depth
2. Carefully move to the sampling location, while wading slowly in the water. If collecting samples from your pier, sample as above (3 feet total depth) but disregard the wading.
3. Remove the temperature probe from the probe chamber.
4. Press the [ON/OFF] button.
5. Insert thermometer vertically into the water, submerging the silver probe.
6. Allow the temperature to stabilize.
7. Record stabilized temperature in °F on data sheet.

Step 3 – Enter Data

1. After recording your measurements on the paper form, please enter the data into the online submission form on Lakeforecast.org (**https://lakeforecast.org/#/login**) using your username and password provided by Clean Lakes Alliance.

Appendix 2

Instructions for Performing Turbidity Measurements Using a 120cm Turbidity Tube

Turbidity is a measurement of how cloudy water appears. Turbidity is also a measure of how much light passes through water, and is caused by suspended solid particles that scatter light. These particles may be microscopic plankton, stirred up sediment or organic materials, eroded soil, clay, silt, sand, mud, industrial waste, chemical precipitates or urban runoff.

Equipment/Materials Needed

- 120cm turbidity tube
- Nearshore Water Quality Monitoring Data Sheet

General Rules of Sampling

- Do not wear sunglasses when sampling
- Record value when you can first see the white and black disk.

Cleaning the Turbidity Tube

- Although Clean Lakes Alliance cleans the tubes between seasons, you may want to periodically clean your tube if it starts collecting algae or other debris that obstructs view of the black and white Secchi disk.
- To clean your tube, it is best to use a long handled brush that can be pushed to the bottom of the tube. An attached string or broom handle is necessary for easy removal. A small amount of environmentally friendly cleaner can help remove dirt and algae. Rinse well with a garden hose or your indoor sink.

Sampling Methods

Step 1 – Sample Collection

1. Sample at ~3 feet total depth, 6 inches below the surface
2. Dip the tube into the water at your sampling site and fill to the top

Step 2 – Turbidity Measurement

1. Take your filled turbidity tube to a shaded spot. If there is no shade around, use your body to block the sun from shining on the tube
2. Look down through the tube toward the target disk on the bottom of the tube.
3. If the disk is visible, record the water level as 120 centimeters
4. If the disk is not visible, slowly release water from the release valve until the disk at the bottom of the tube becomes visible. Record the water level in centimeters (cm).
5. Record all values on water quality monitoring data sheet

Step 3 – Enter Data

1. After recording your measurements on the paper form, please enter the data into the online submission form on Lakeforecast.org (**https://lakeforecast.org/#/login**) using your username and password provided by Clean Lakes Alliance.

Appendix 3

Instructions for Collecting Qualitative Data

Equipment/Materials Needed

- Nearshore Water Quality Monitoring Data Sheet
- Computer or smartphone

Qualitative, Visual Observations

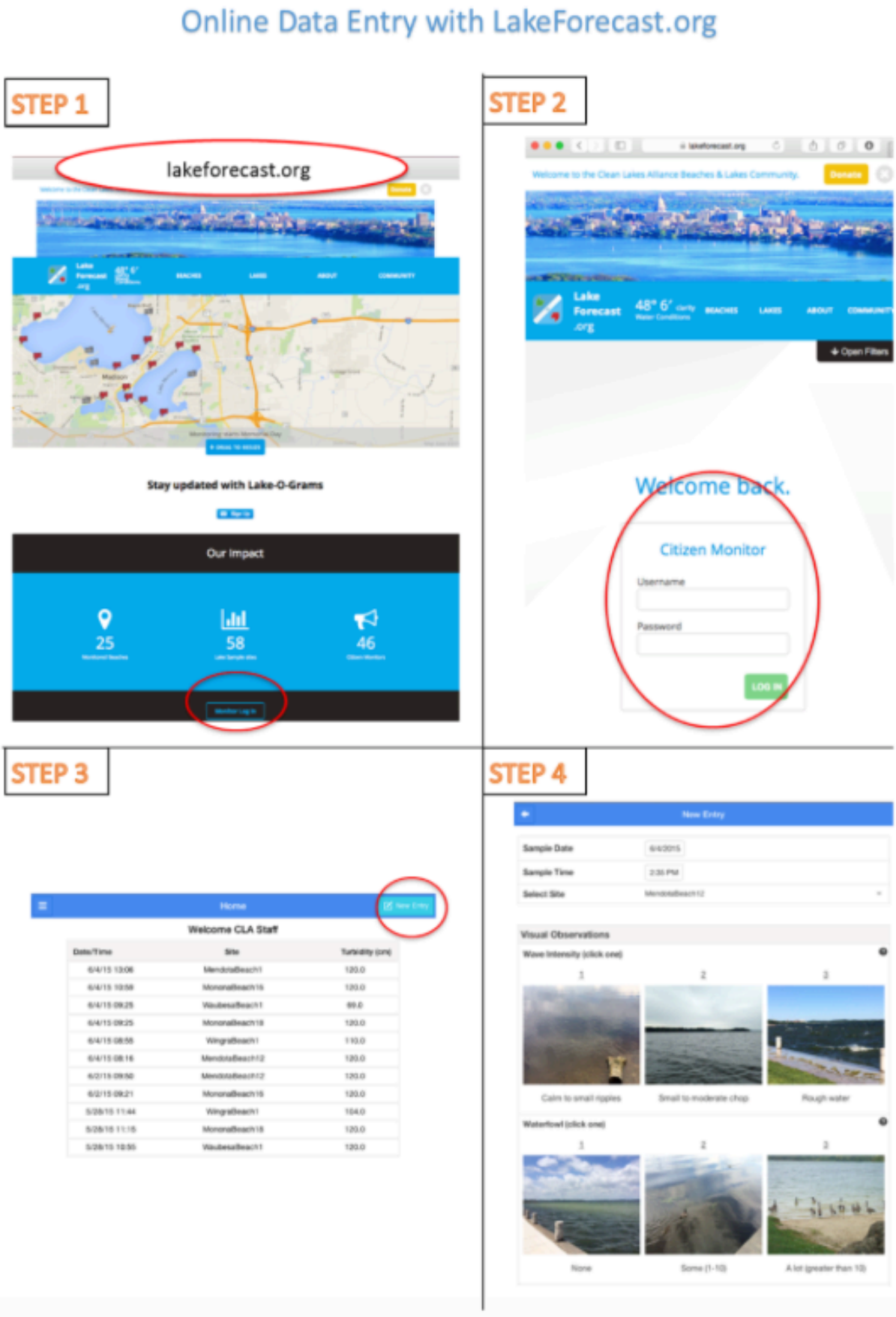
Step 1 – Collect Observations

1. Record all data on the nearshore water quality monitoring data sheet.
    a. Wave intensity on a scale of 1 - 3 (1 = calm to small ripples, 2 = small to moderate chop, 3 = rough water).
    b. Waterfowl presence in the water or at the lake edge, paying particular attention to geese/ducks (1 = none, 2 = some, 3 = a lot).
        i. "Some" signifies between 1 - 10 waterfowl are present.
        ii. "A lot" signifies greater than 10 waterfowl are present.
    c. Algal surface bloom presence (1 = none, 2 = some clear evidence, 3 = strong, extensive presence) within the general vicinity of the sampling area
    d. Algal bloom type (G = green algae, B = blue-green algae or both blue-green and green algae)
    e. Floating, uprooted plant debris abundance (1 = none, 2 = small coverage, 3 = heavy coverage)
    f. Bather load, or the number of people in the water (1 = none, 2 = some, 3 = a lot/crowded).
        i. "Some" signifies between 1 - 10 people are in the water
        ii. "A lot" signifies greater than 10 people are in the water
    g. Water clarity (Good= can see toes, fair= can barely see toes, murky= cannot see toes

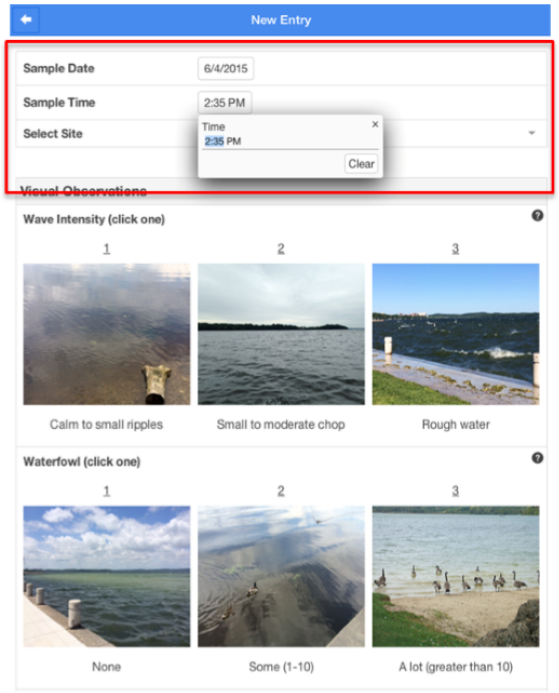
Step 2 – Enter Data

1. After recording your measurements on the paper form, please enter the data into the online submission form on Lakeforecast.org (**https://lakeforecast.org/#/login**) using your username and password provided by Clean Lakes Alliance.

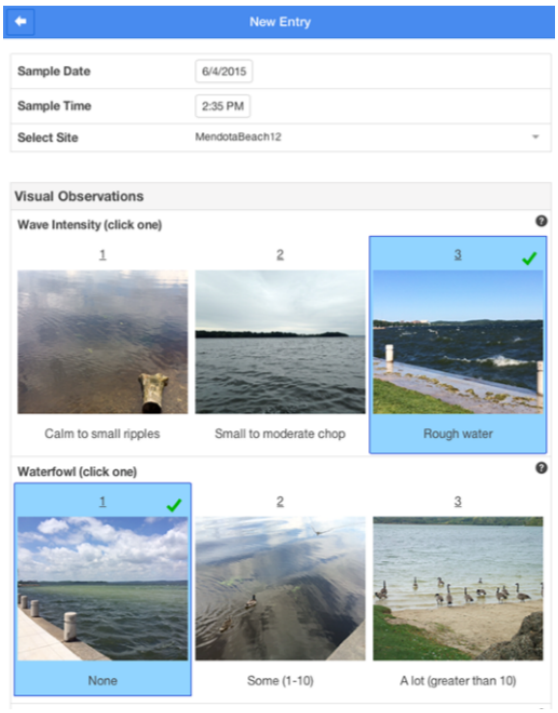
Appendix 4


Online Data Entry with LakeForecast.org
STEP 1
lakeforecast.org
Stay updated with Lake-O-Grams
Our Impact
25
58
46
STEP 2
Welcome back.
Citizen Monitor
Username
Password
LOG IN
STEP 3
Welcome CLA Staff
STEP 4
Sample Date
Sample Time
Select Site
Visual Observations
Wave Intensity (click one)
Calm to small ripples
Small to moderate chop
Rough water
Waterfowl (click one)
None
Some (1-10)
A lot (greater than 10)

STEP 5

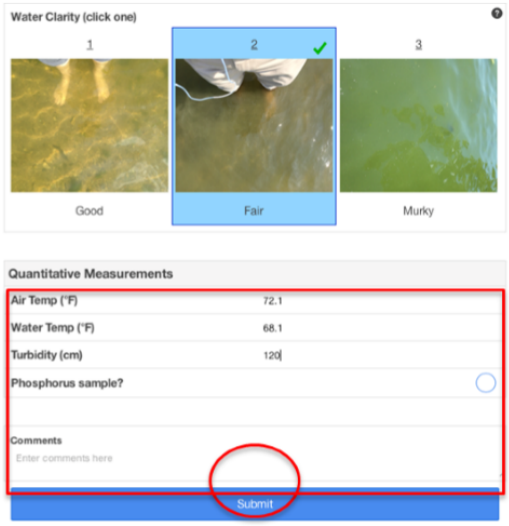


STEP 6



STEP 7

STEP 8



Appendix 5

Instructions for Sampling Secchi Depth (Water Clarity)

A Secchi disk is a black and white checkered disk that is lowered into the water column to measure water clarity. As one of the oldest formalized methods of measuring water clarity, taking Secchi depth allows us to compare water clarity today to measurements taken decades ago. It is also an inexpensive and accurate way to track changing conditions in the open waters of lakes.
This procedure has been adapted from the WI DNR Wisconsin Citizen Lake Monitoring Training Manual.

Equipment/Materials Needed

- Secchi disk
- Two clothespins
- Data recording sheet
- Pencil

General Rules of Sampling

- If waves are greater than about 5", **choose another day to monitor**. Large waves greatly reduce the accuracy of your Secchi reading.
- Similarly, readings are most accurate between 10 a.m. and 4 p.m., because of the angle of the sun. If at all possible, carry out your monitoring during those hours.
- Recording the initials of the sampler is critical, because of how eyesight varies among individuals.
- Always wear your PFD.
- Make sure to anchor your boat in the correct location.
- Take care when dropping the anchor to avoid disturbing sediment, which might then impact your Secchi depth reading.
- Remove your sunglasses before performing the monitoring.
- Sample on the shady side of the boat.
- Get as close to the surface of the water as you safely can.

Sampling Methods

1. Anchor your boat at the sampling location.
2. Fill in the "Sampler and Sample Information" portion of your data sheet.
3. Make the four visual observations found on your data sheet
    a. Cloud cover (estimate the percentage of sky covered by clouds to the nearest 25%)
    b. Wave intensity (1= calm to small ripples 2= small to moderate chop 3= rough water. If whitecaps are visible from your boat, mark a "3")
    c. Water appearance (Estimate whether the water is clearer or murkier than normal)
    d. Water color (it is easiest to judge water color against the white pattern of the Secchi disk at about 1 foot depth)
    e. Feel free to record other observations - such as presence of boaters, waterfowl, or algae blooms

4. Remove your sunglasses, lean over the shady side of the boat to get as close to the water as is safe, and slowly lower the Secchi disk into the water until the black and white pattern disappears.
5. Mark the surface of the water with a clothespin.
6. Lower the disk several more feet, then slowly reel in the rope until the disk reappears.
7. Mark the surface of the water with another clothespin.
8. Find the spot on the rope exactly between the two clothespins - this is your first Secchi reading.
9. Repeat steps 3 - 7 and average your two readings - this is the final value you will report.
10. Record the Secchi depth to the nearest quarter foot.

Data Submission

Please communicate the results of your offshore sampling to Clean Lakes Alliance on a weekly basis. You may call in your results to (608) 255-1000, email or send a picture or scan of your results to luke.wynn@cleanlakesalliance.org.

Satellite Monitoring

By taking readings at the same time as Landsat 8 is overhead, you can help improve the ability of this satellite to estimate water clarity on unmonitored lakes. The dates on which the satellite will be overhead of the Madison-area lakes are:

Dates for Orbital Path 24, Cycle Day 14:

Tuesday, May 9, 2017
Thursday, May 29, 2017
Saturday, June 10, 2017
Monday, June 26, 2017
Wednesday, July 12, 2017
Friday, July 28, 2017
Sunday, August 13, 2017
Tuesday, August 29, 2017
Thursday, September 14, 2017
Saturday, September 30, 2017

Appendix 6

Sampling Dissolved Oxygen and Temperature with a YSI Multi-probe

The YSI 550A is a handheld instrument that can continuously measure dissolved oxygen (DO) and temperature. We'll be using it to take measurements at various depths at the deepest point of the lake. This instrument requires careful calibration before each use, as well as proper care and maintenance, to measure accurately. The nature of the probe requires that the user specify the altitude and salinity of the water body before operation. The full manual may be found at https://www.ysi.com/File%20Library/Documents/Manuals/605348-YSI-550A-Operations-Manual-RevB_001.pdf.

Equipment/Materials Needed

- YSI 550A case with probe
- Bottle of clean tap water
- Data recording sheet

Membrane Maintenance

The YSI 550A uses a thin semi-permeable membrane (found inside the probe housing) to isolate the electrodes while allowing gases to pass through. It is essential that this membrane is clean and properly installed. If the membrane seems dirty, clean it gently with a lint-free cloth and rubbing alcohol. Check that there are no bubbles under the membrane cap. If you see bubbles or tears in the membrane, please contact Clean Lakes Alliance staff immediately, as the membrane must be replaced.

Calibration

1. Remove the probe from the calibration chamber on the back of the YSI, and ensure that the sponge inside the instrument's calibration chamber is moist. Put the probe back into the calibration chamber.
2. Power the instrument on and allow the readings to stabilize (values do not change significantly over ~10 seconds). This may take 5 to 15 minutes, depending on the age of the instrument and condition of the probe.
3. Press and release both the UP arrow and DOWN arrow keys at the same time to enter the calibration menu.
4. Press the MODE key until "%" is displayed on the right side of the screen for oxygen units. Press ENTER.

5. The screen will prompt you to enter the local altitude in hundreds of feet. Use the arrow keys to increase or decrease the altitude. Our Yahara Lakes are between 840 - 850 ft. above sea level, so select “8” and then press the ENTER key.
6. CAL will now display in the lower left corner of the screen, the calibration value in the lower right corner and the current DO reading (before calibration) will be the main display. Once the current DO reading is stable (it is normal for this to take several minutes), press the ENTER button.
7. The LCD will prompt you to enter the appropriate salinity of the water you are about to analyze. Since we are analyzing freshwater, select “0” and press ENTER.
8. Press the MODE key so that the unit displays the dissolved oxygen reading in mg/L.
9. Look up the expected dissolved oxygen value for your elevation and temperature using the table titled “Dissolved Oxygen Saturation (mg/L) Based on Elevation or Ambient Barometric Pressure” found in the back pocket of your monitoring binder.
10. If the reading on the YSI screen is not within 0.3 mg/L of the value found on the chart, re-calibrate the YSI.
11. **DO NOT turn the unit off** until you are done collecting data for that day.

Calibration Drift Test

After calibration, the dissolved oxygen reading displayed on the screen should not change significantly, as long as the air temperature remains stable. Switch the probe to display dissolved oxygen in % saturation, and leave the probe for about 5 minutes - if the reading changes by more than 5%, please contact Clean Lakes Alliance staff immediately, as the probe likely needs to be cleaned.

Monitoring Procedure

1. We will be taking dissolved oxygen measurements in milligrams per liter, so once the unit is calibrated, verify it is displaying dissolved oxygen in mg/L. If the unit displays % saturation, use the MODE button to switch to mg/L.
2. Place the probe in the lake.
3. Stir the probe so that it is moving at about 1/2 foot per second. This is important because the probe consumes dissolved oxygen while measuring, so if the probe is left in the same place, readings will be artificially low.
4. Allow temperature and dissolved oxygen readings to stabilize. Record.
5. Rinse the probe with clean water, shake off excess water and then store the probe in the calibration chamber. Power off the YSI.

Data Submission

Please communicate the results of your offshore sampling to Clean Lakes Alliance on a weekly basis. You may call in your results to (608) 255-1000, email or send a picture or scan of your results to luke.wynn@cleanlakesalliance.org.

Notes

1. Pressing the down arrow and the MODE buttons at the same time will switch the temperature units between Fahrenheit and Celsius.
2. Pressing the button that looks a star will turn on the backlight.