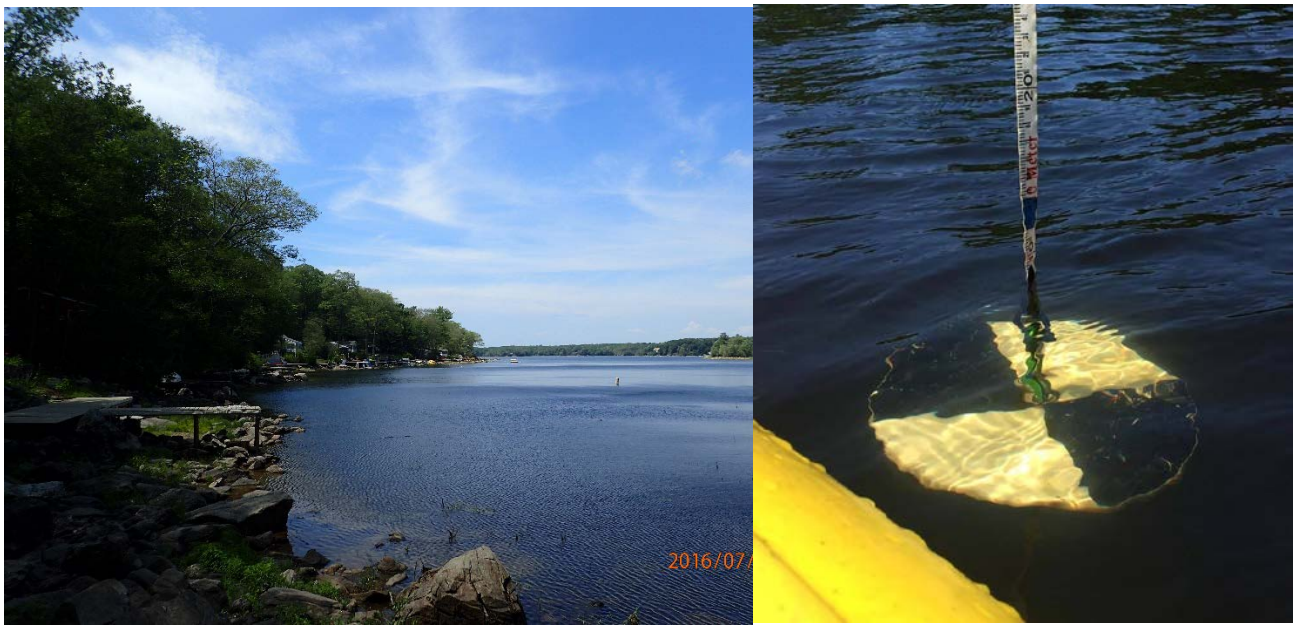
Connecticut Department of Energy & Environmental Protection
Volunteer Water Monitoring Program

CONNECTICUT LAKE WATCH

VOLUNTEER DATA ENTRY & MANAGEMENT

Lake Observer Web App Instruction Manual



Version 1.0 – DRAFT IN PROGRESS
Revision Date: June 10, 2021

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**Requested minimum monitoring data entry for CT Lake Watch project participants*

Sections Coming Soon!

Section 3: ADVANCED DATA ENTRY

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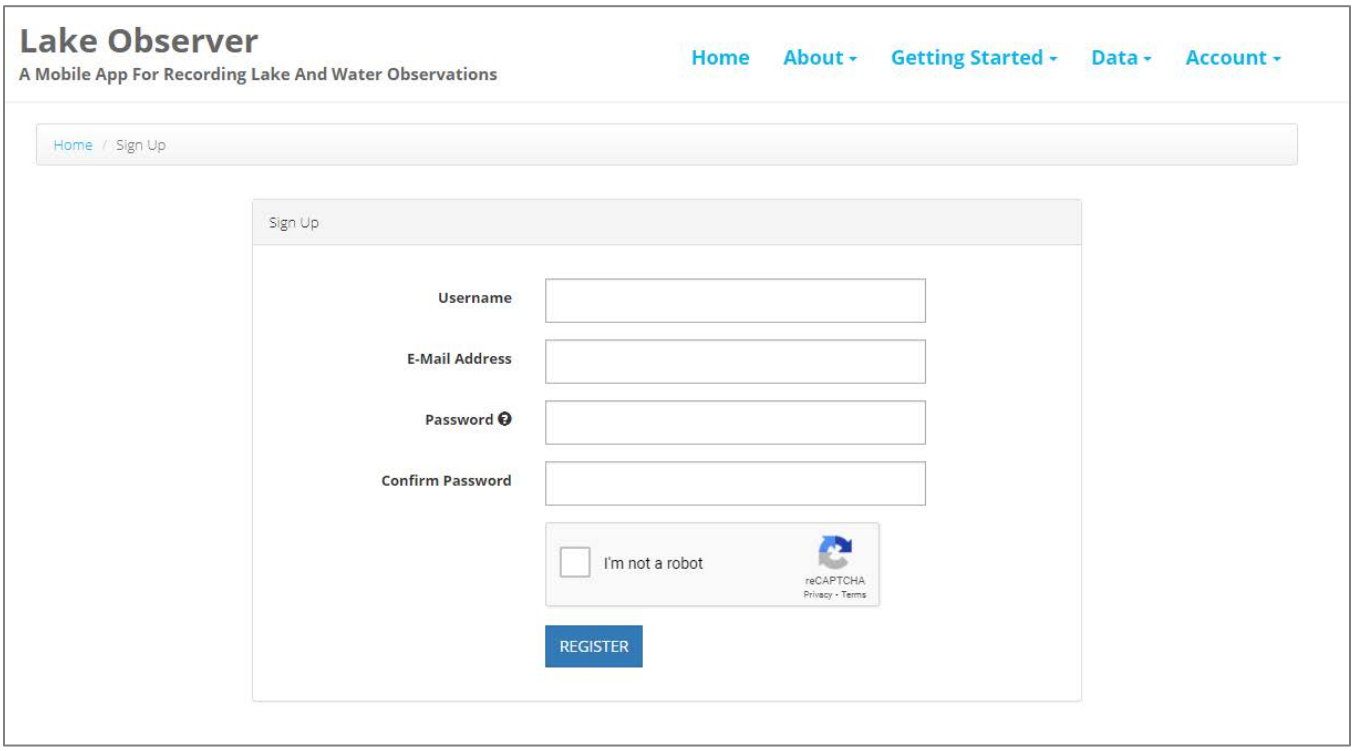
Section 1: Getting Started

Lake Observer Account Registration (Sign Up)

On a computer, go to LakeObserver.org and complete the 'sign up' form by clicking "Account" and then "Sign Up" from the menu bar at the top of the webpage. (LakeObserver.org)

Complete the Sign-Up form by entering a username, your email address, and a password. Check the "I'm not a robot" box and complete any tests that may appear. After filling in the form, click the "Register" button.

TIP: Your username will be public, so choose a name that you are comfortable with anyone seeing. We also recommend writing down your username and password somewhere!

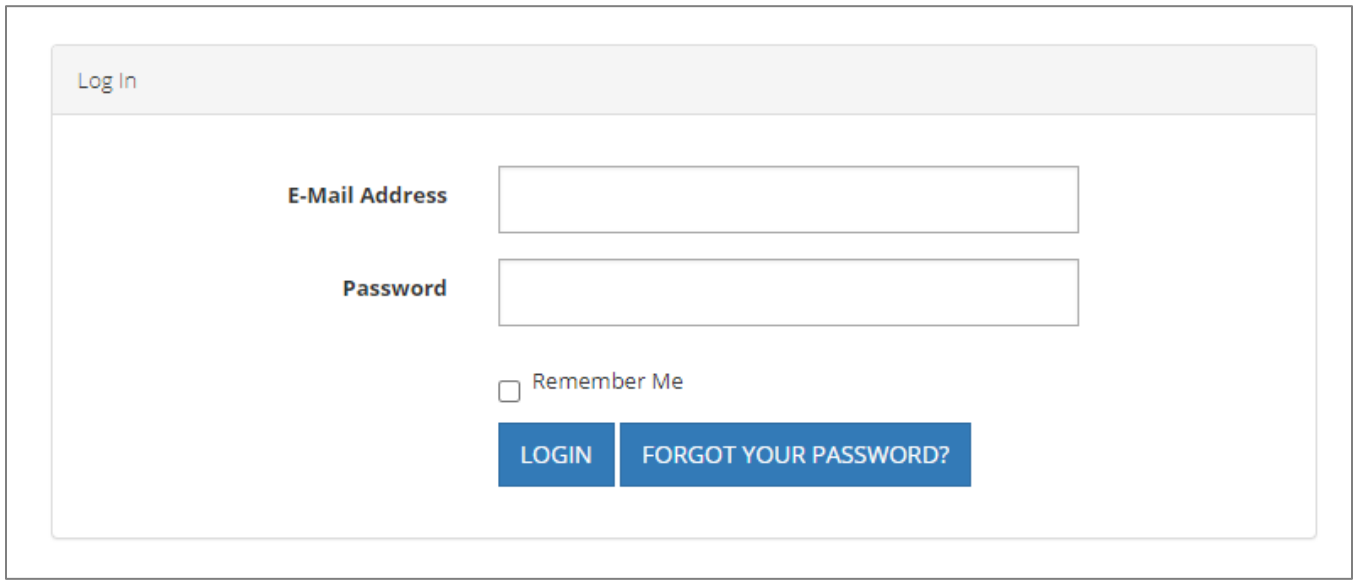


You will see a popup message instructing you to check your email for a confirmation message. Go to your email inbox to check for a message from Lake Observer (be sure to check junk mail, too) and follow the link. This step is essential for completing the user registration process

Login to the Web App

Once you have registered your account and confirmed it by clicking on the email link provided, you can log in to the web app.

Go to https://www.lakeobserver.org/user/login. (From the Lake Observer homepage, you can select "Login" from the "Account" menu option at the top of the page.)



Enter the email address and password that you used to register in the previous step. If desired, select the "remember me" option to save your log-in information for next time. (This is not recommended if you use a public computer.)

Click the blue "Login" button.

Update Your Profile

When you login you may automatically be brought to the "My Profile" section of the Lake Observer web app: https://www.lakeobserver.org/user
TIP: you can go to the Profile section by clicking "Profile" from under your username (far right) at the top of the home page.

Your profile consists of three tabs: Profile Settings, Account Settings, and Privacy Settings.

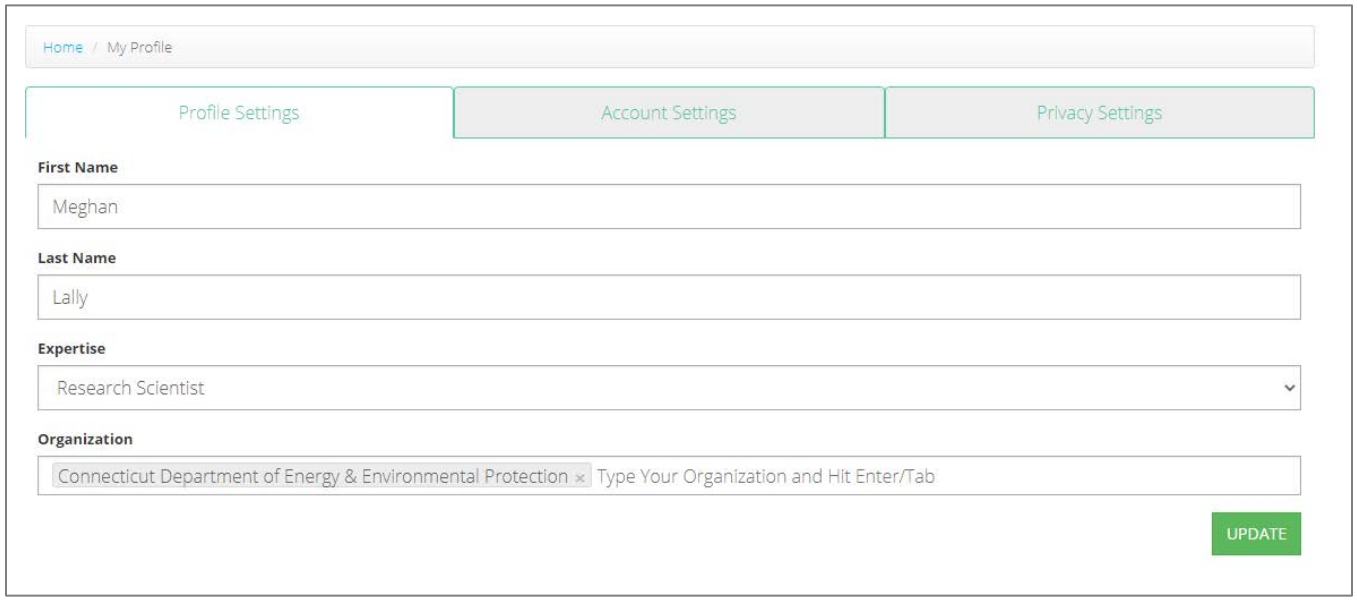
Reminder: the program coordinator will need this information to verify that the account belongs to an approved user; be sure to complete your profile!

Profile Settings

In the Profile Settings tab enter your first name and last name.

Enter your level of expertise. Any volunteer that has completed the CT Lake Watch training can enter "Citizen Scientist (Trained Volunteer)" for level of expertise. (If you are a professional, please enter "Research Scientist.")

Type the complete name of your organization(s) in the Organization box. Note: if another user has already entered your organization it may automatically appear; select it when it appears if so. You can enter more than one organization by hitting the Enter or Tab button after each.

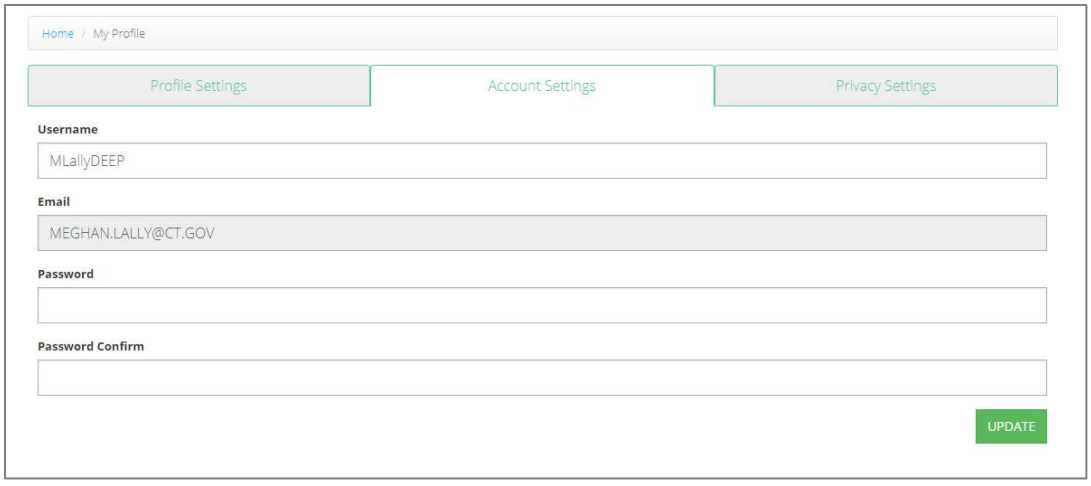


When done click 'update'. If the changes were saved the page will refresh and you will see a green "Success" banner at the top of the page.

Account Settings

In the Account Settings tab, you can change your username and/or password if desired. To do so enter a new username, or a new password.

The email that you used to sign up will also be shown in gray; this cannot be changed.



When done click ‘update’. If the changes were saved, you’ll be returned to the Profile Settings tab and see a green “Success” banner at the top of the page.

NOTE: If you made no changes you do not need to click “Update.”

Privacy Settings

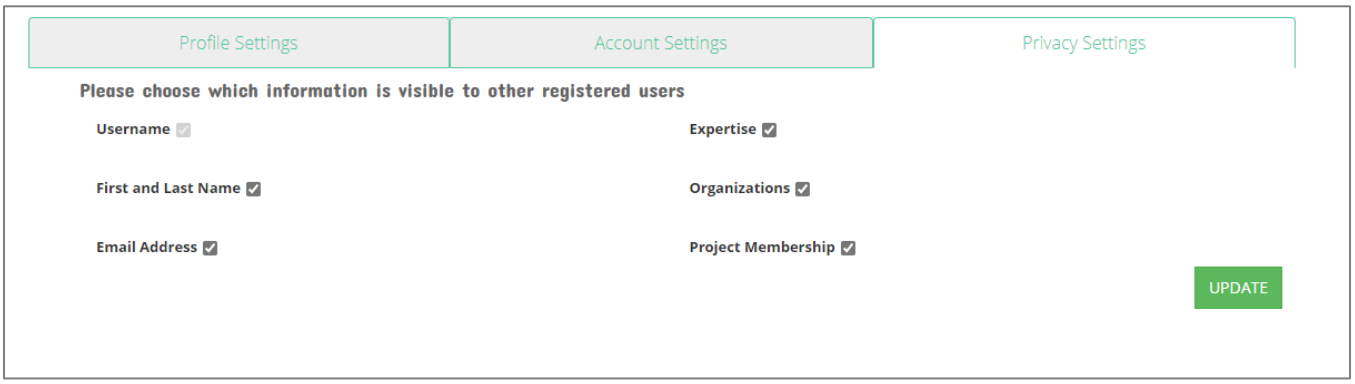
In the Privacy Settings tab, you can select what information from your Profile Settings tab is available to others.

TIP: If the box is checked it means that that field will be visible to other users.

Your Username is visible to others by default.

Check the Expertise, Organization, and Project Membership tabs to allow the CT Lake Watch Coordinator to confirm your account.

If you wish to share your name and email address you can check these options as well.

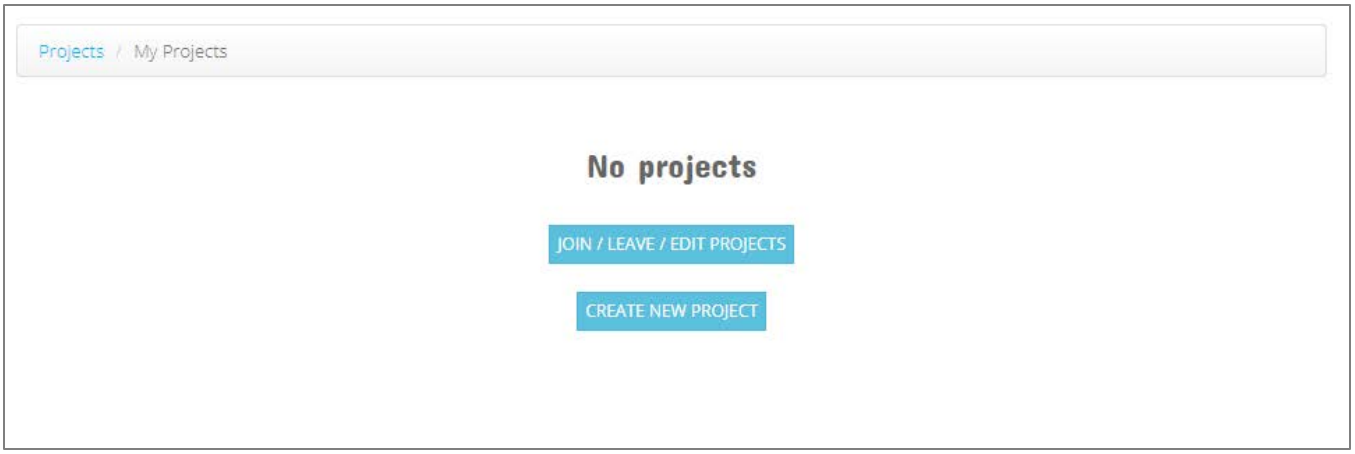


When done click ‘update’. If the changes were saved, you’ll be returned to the Profile Settings tab and see a green “Success” banner at the top of the page.

NOTE: If you made no changes you do not need to click “Update.”

Join the CT Lake Watch Project

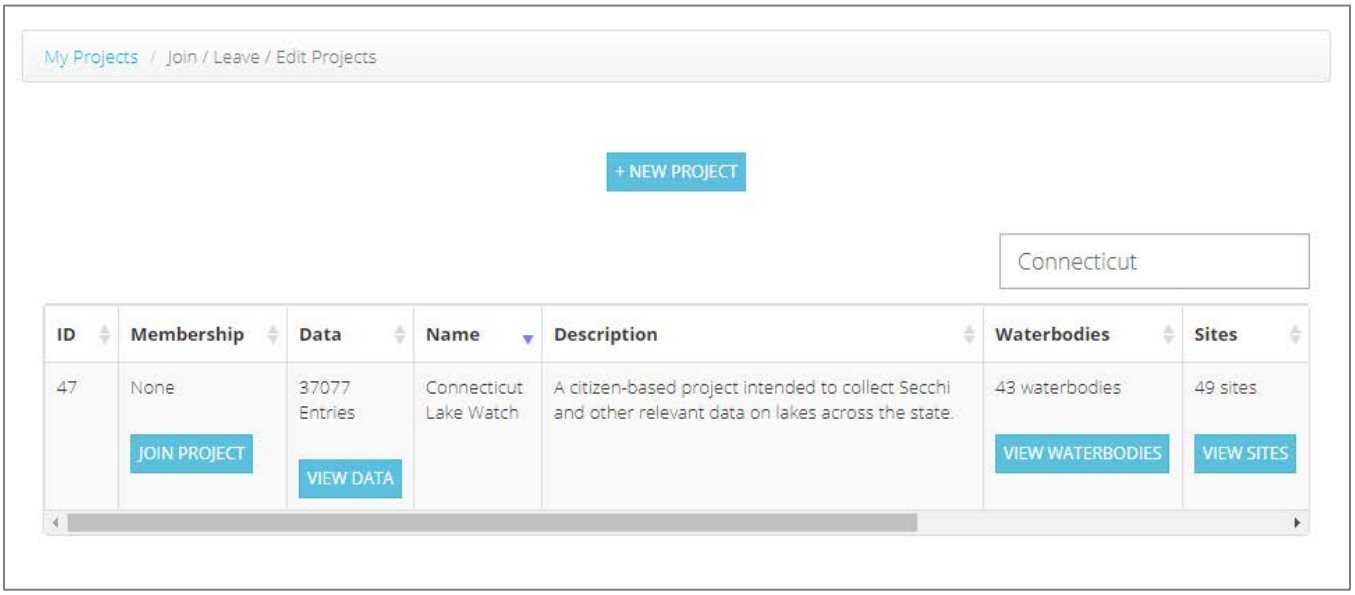
Click the drop-down list associated with your username along the top menu bar and select ‘my projects.’ https://www.lakeobserver.org/projects



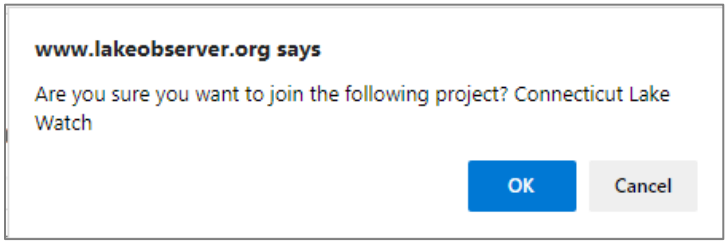
Click the 'Join/Leave/Edit Projects' button.

The list of Lake Observer projects will appear, sorted alphabetically by Name.

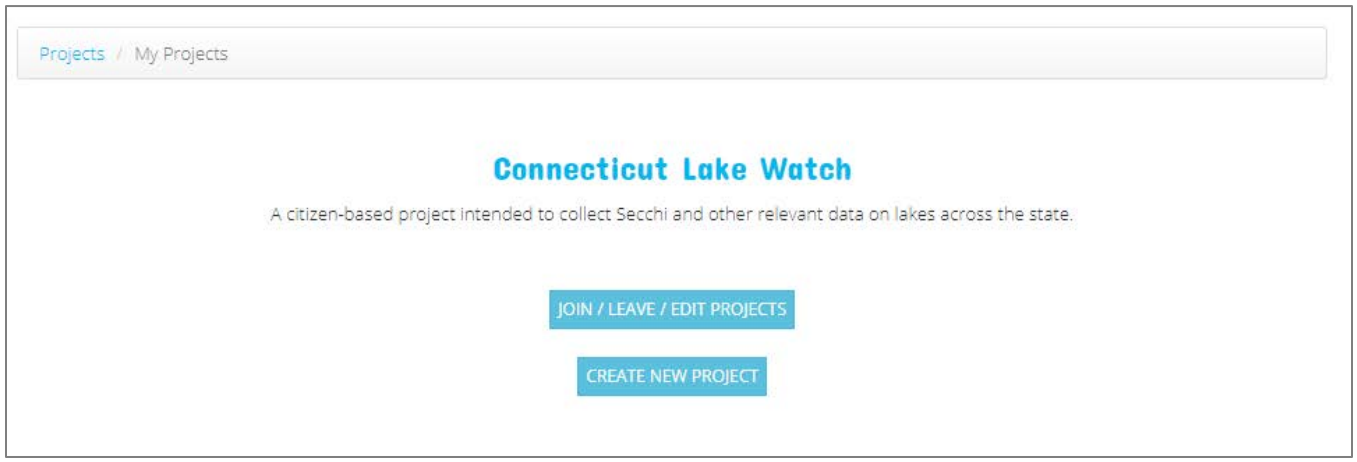
Type "Connecticut" in the Search box to filter the list. The row for Connecticut Lake Watch (ID #47) should appear. Click the 'Join Project' button in the membership column associated with that row.



You may get a 'Are you sure…?' pop-up – click "OK".



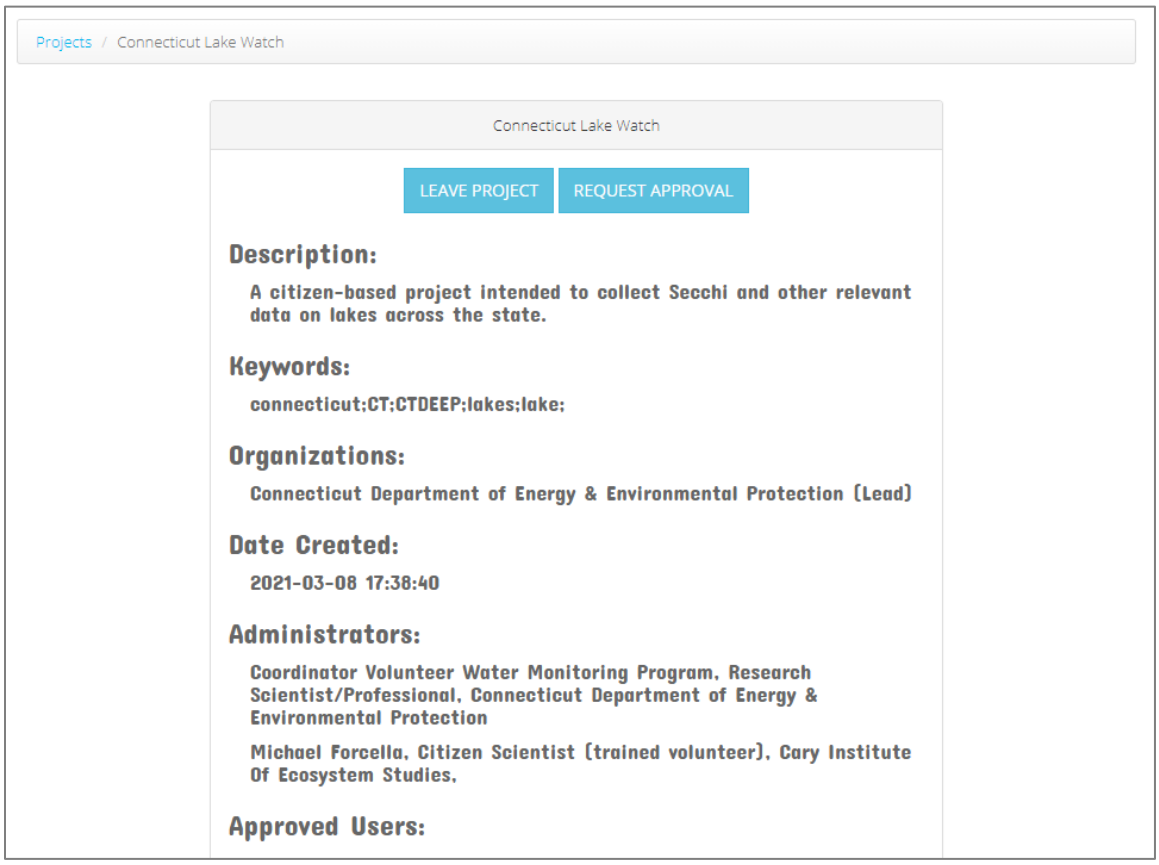
You should be returned to the My Projects page. Connecticut lake Watch should now be listed.



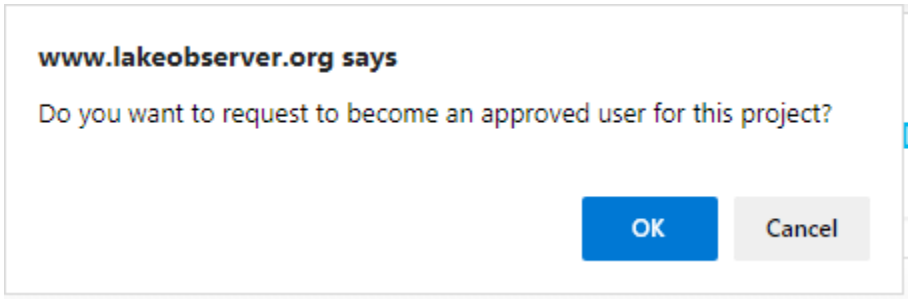
Request Approved User Status

After joining the project (previous step), you will be brought back to the 'My Projects' page and should now see Connecticut Lake Watch listed.

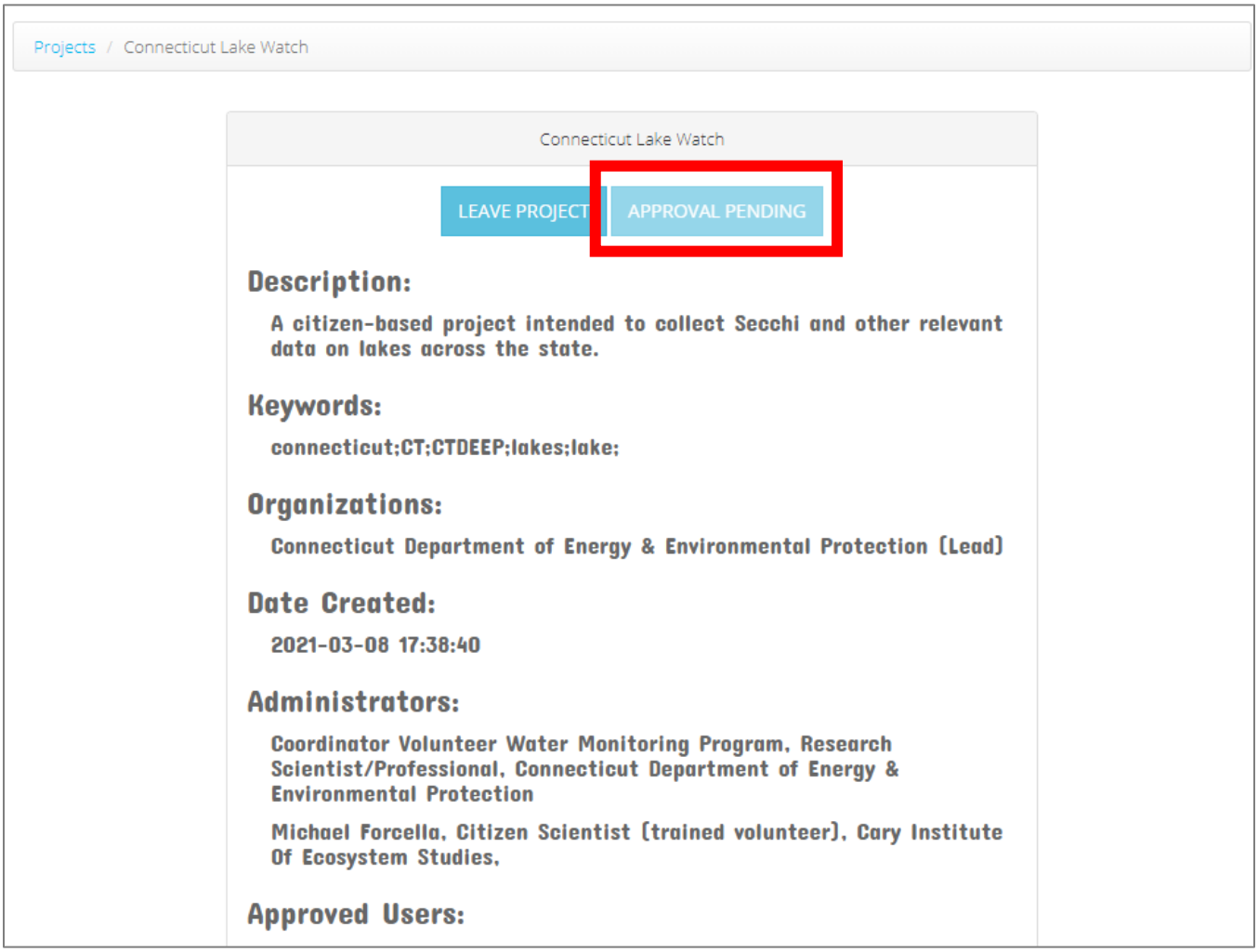
Click on "Connecticut Lake Watch" to go to the project summary page. (Or go directly to https://www.lakeobserver.org/projects/47/view.)



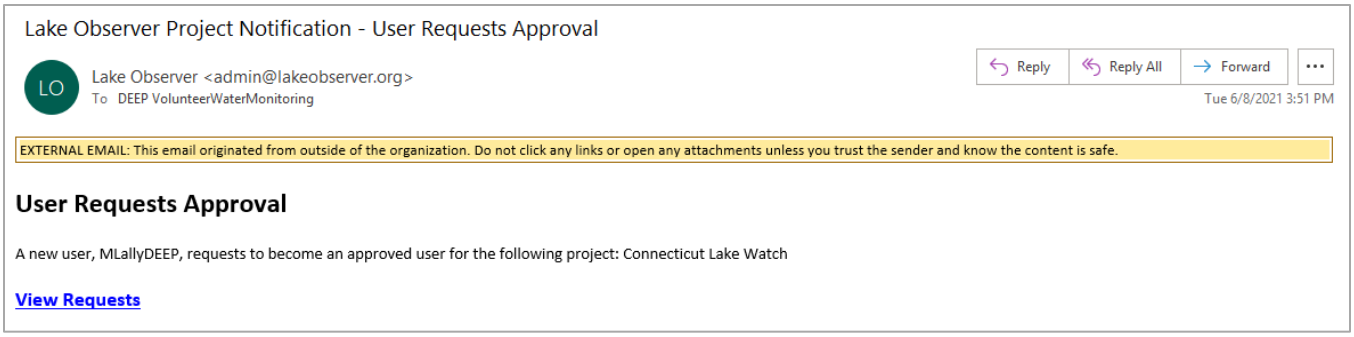
Click the “Request Approval” button. Click “OK” if you receive the below pop-up message.



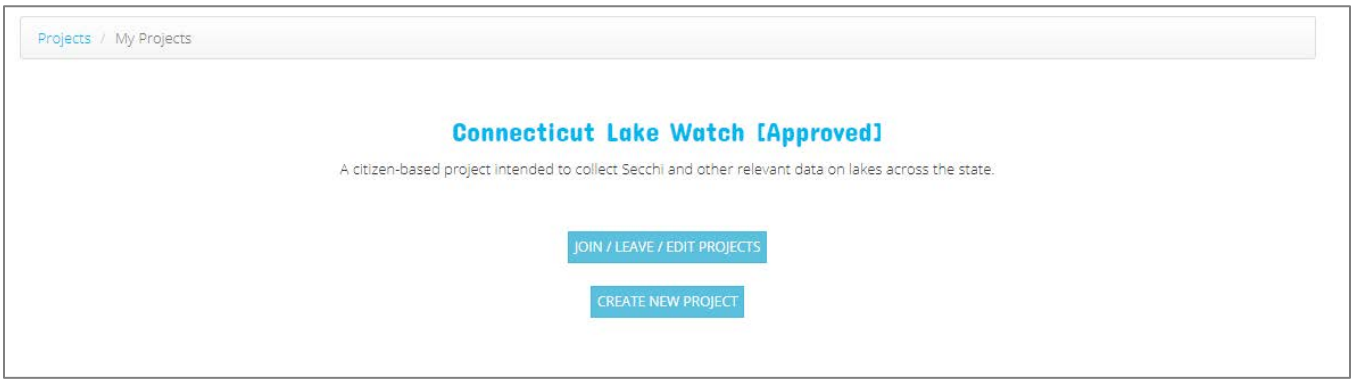
The top of the page should now say “Approval Pending” where the “Request Approval” button previously was.



The CT Lake Watch Program Coordinator will receive an email alerting them that a new user has requested to be added to the project as an ‘approved user.’



Once the Coordinator has verified your status as an 'approved' user you will see "[Approved]" after the project in the 'My Projects' list (https://www.lakeobserver.org/projects):



You can now add data to the project as an approved user. (This is significant because the Coordinator will not approve data submitted from those who have not been added as approved users. Also, when searching for data an individual can search by data only from approved users.)

Submit Your Monitoring Locations

The CT Lake Watch Program Coordinator must add a waterbody and any stations to the project before users can submit data at these locations. If you are using the mobile app, only those waterbodies and sites already added to the CT Lake Watch project will be visible for field data entry.

Once your account has been created please send an email to DEEP.VolunteerWaterMonitoring@ct.gov with the following information:

1. Your name

2. Your Lake Observer account username

3. A list of your planned **waterbodies**
   Tip: If you monitor more than one waterbody, please include all in your email and include

the main town associated with each as there could be more than one lake/pond with a given name in Connecticut.

4. A list of your planned **monitoring sites**
   Either send the actual coordinates (if known), or you can send a marked map of the sampling location(s). If you are not sure where to sample, ask the Coordinator for guidance.
   Tip: Locations are approximate, it is understood that you might be a few meters apart each time you sample; you do not need to submit a new station each time you monitor.

Once the Coordinator receives your email the requested waterbody and stations will be added to the Connecticut Lake Watch Project. Then you will be all set for submitting your data!

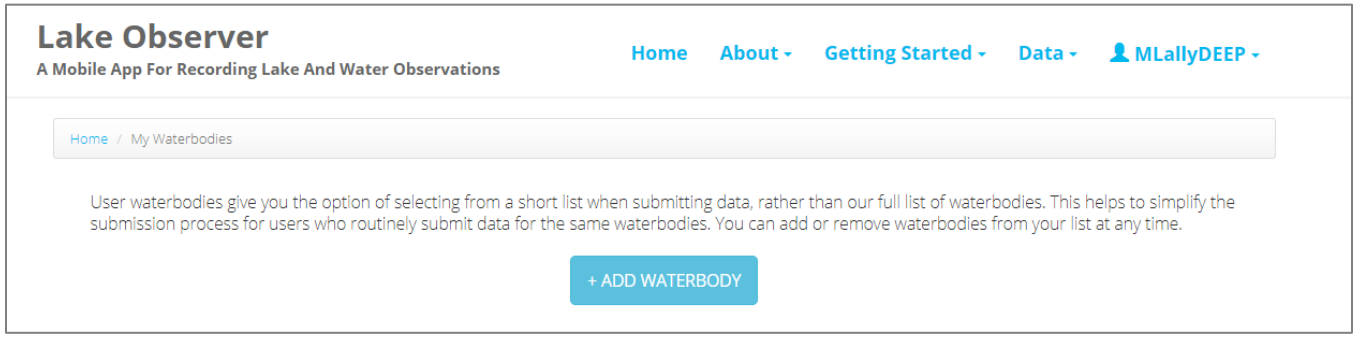
Set Your Preferred Waterbodies

NOTE: This is different from submitting your waterbodies to the Coordinator so that they can be added to the project.

You can add waterbodies to the "My Waterbodies" list associated with your profile to give you the option of selecting from a short list when submitting data, rather than our full list of waterbodies. This helps to simplify the submission process for users who routinely submit data for the same waterbodies. You can add or remove waterbodies from your list at any time.

To add a waterbody go to the My Waterbodies page (Select "My Waterbodies" from the Username menu at the top right or go to https://www.lakeobserver.org/waterbodies/my_waterbodies).

Click the blue "Add Waterbody" button.

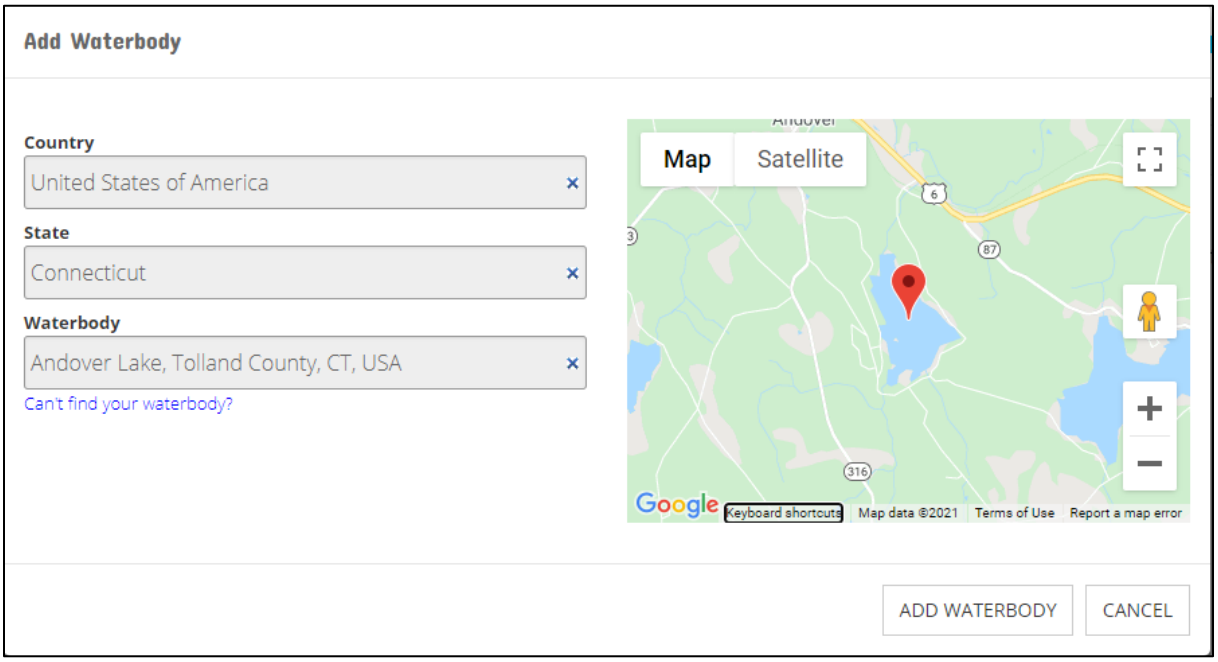


The 'Add Waterbody' pop-up window will appear. Select "United State of America" as the Country and "Connecticut" as the state.

TIP: If you type "USA" the list will auto-populate; use the down arrow to select the "United States of America::USA" option and then hit Tab to go to the State selection. Enter "CT" in the State box, select "Connecticut::CT" using the down arrow (or mouse) when it appears, and then Tab to move to the Waterbody selection box.

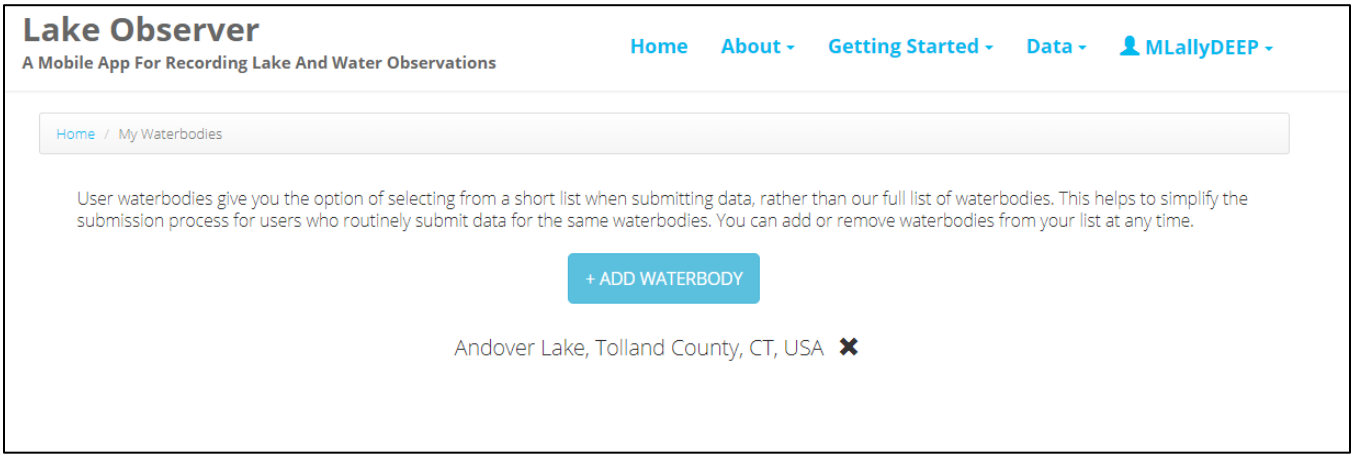
Begin to type your waterbody name in the Waterbody box. As you type the database will automatically provide you a list of available options based upon what you have typed. Use your mouse or down arrow to select the lake from the list that appears.

The map will update to show you the selected lake with a red pin on it. Use the "+" and "-" to check to make sure you have selected the correct waterbody as there are waterbodies with the same name in Connecticut. (Note: the pin is just a general location for the lake and does not represent any particular site.)



Once you have confirmed the waterbody selected is correct click the "Add Waterbody" button.

You will be returned to the "My Waterbodies" page and the selected waterbody should now appear in your list of waterbodies. Repeat this process for any additional waterbodies you wish to associate with your account.



Note: If your waterbody is not listed, please do not create a new waterbody. Instead, please contact the CT Lake Watch Coordinator for assistance at DEEP.VolunteerWaterMonitoring@ct.gov.

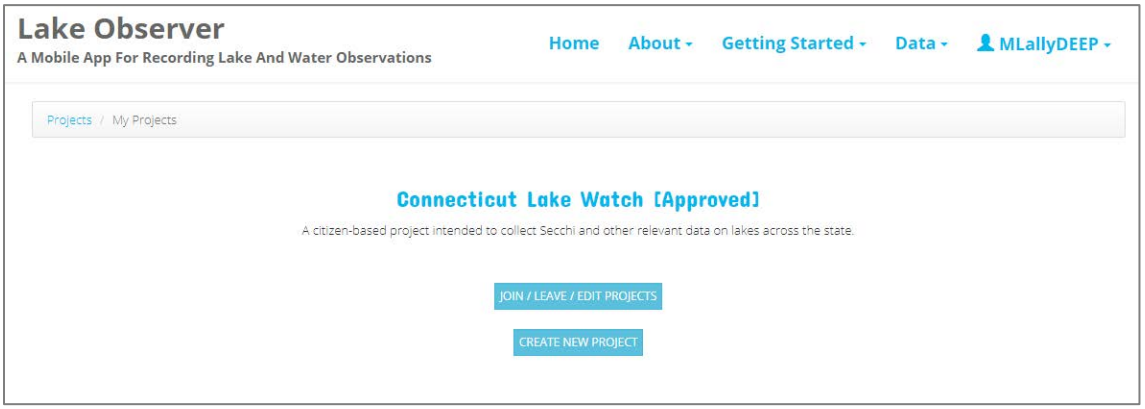
Check Your Account Status

Before proceeding with data entry, check that you have been added to the CT Lake Watch Project as an approved user and that your monitoring locations (waterbody and sites) have been added to the database.

Verify Project Membership

To check whether you have been added as an approved user to the CT Lake Watch project within the Lake Observer database go to https://www.lakeobserver.org/projects ('My Projects' from the Username menu option at the top right of the page.)

You should see Connecticut Lake Watch [Approved] in the project list:



If you click on the project name you will be brought to a summary page for the Connecticut Lake Watch project (https://www.lakeobserver.org/projects/47/view).

Scroll down and check to make sure that your name is listed in the approved users list.

Verify Waterbody Added to Project

Go to the CT Lake Watch project page (https://www.lakeobserver.org/projects/47/view) to check whether your waterbody/waterbodies have been added to the project.

Once on the page, scroll down to the "Waterbodies" section – check to see that the lake/pond that you intend to monitor is listed.

TIP: Some waterbodies have multiple names. Lake Observer uses the name that is recognized by the federal government, which may differ from local naming. If a lake has a known Native American name this is likely the name that will be listed. (For example, the lake most referred to as "Coventry Lake" by local residents is listed as "Wangumbaug Lake".)

If the lake that you wish to monitor is not listed please email the CT Lake Watch Coordinator at DEEP.VolunteerWaterMonitoring@ct.gov to request that it be added. Note that it may take several days to process your request.

Verify Sites Added to Project

Using the CT Lake Watch project page (https://www.lakeobserver.org/projects/47/view), scroll to the "Sites" section and check whether your specific monitoring site(s) have been added to the project.

Reminder: All data should be entered in association with a site as this provides the greatest data value. Please try to avoid entering data for a lake without first selecting a site.

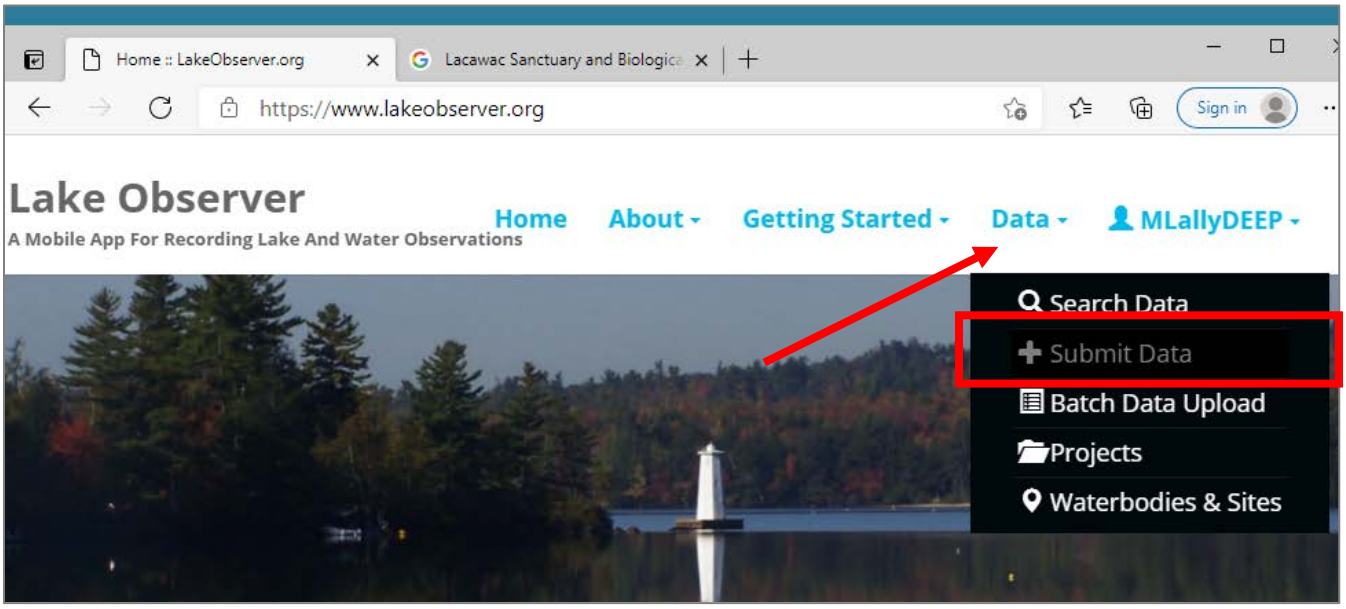
Once on the page, scroll down to the "Sites" section – check to see that the site(s) on the lake/pond that you intend to monitor is/are listed. Sites are listed by site name, which is followed by the corresponding waterbody and site coordinates, each in brackets.

If the site(s) that you wish to monitor is not listed please email the CT Lake Watch Coordinator at DEEP.VolunteerWaterMonitoring@ct.gov to request that it be added. Note that it may take several days to process your request.

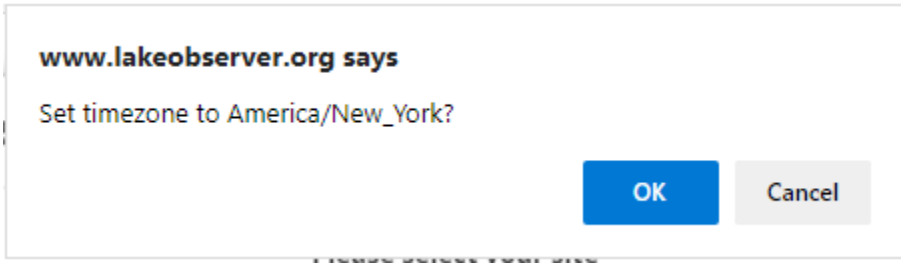
Section 2: Submit Data (Basic Data Entry)

The Submit Data entry option is best for entering data for a single date of monitoring. If you need to enter data for multiple dates or multiple sites, you may prefer to use the Batch Data Upload option described in Section 3: Advanced Data Entry.

From the Lake Observer homepage select "Submit Data" from the "Data" menu option at the top.
Or go directly to **https://www.lakeobserver.org/submissions**

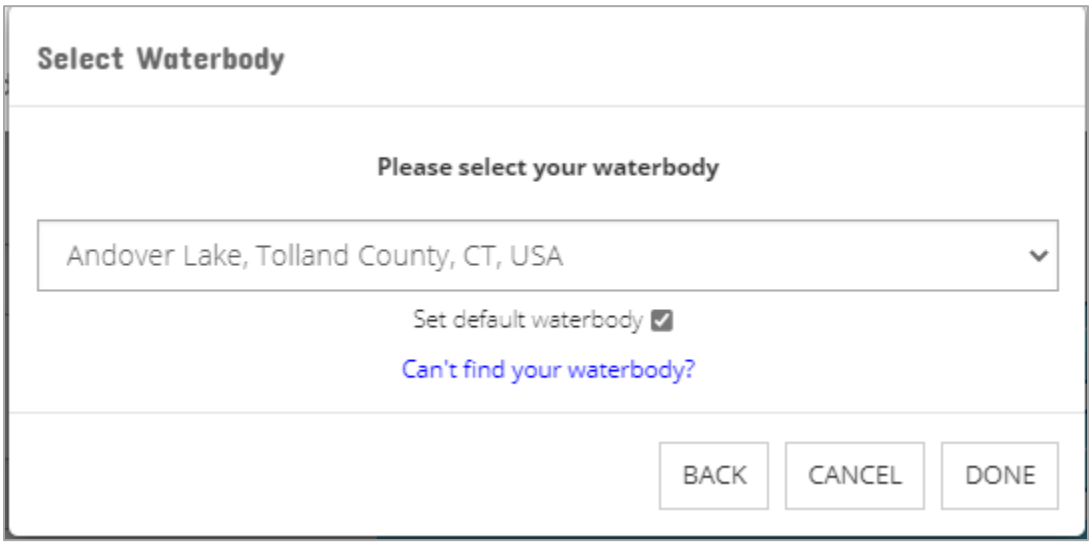


You may receive the following pop-up messages; click "OK" if any appear.

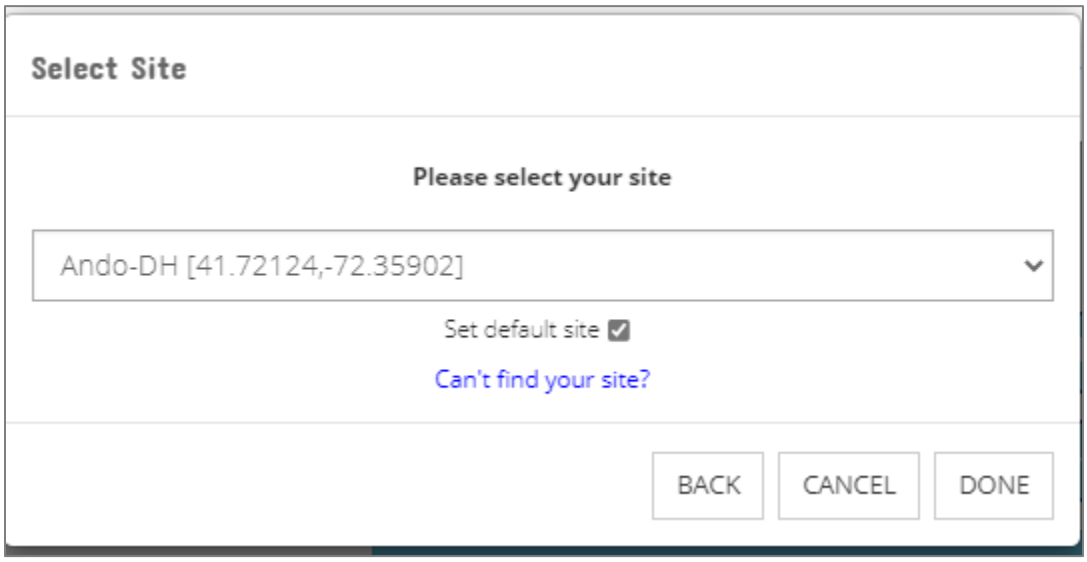


Waterbody and Site Selection

A 'Select Waterbody' pop-up will appear. Select your waterbody from the list of available waterbodies. If desired check the 'Set default waterbody' option. Click "Done."



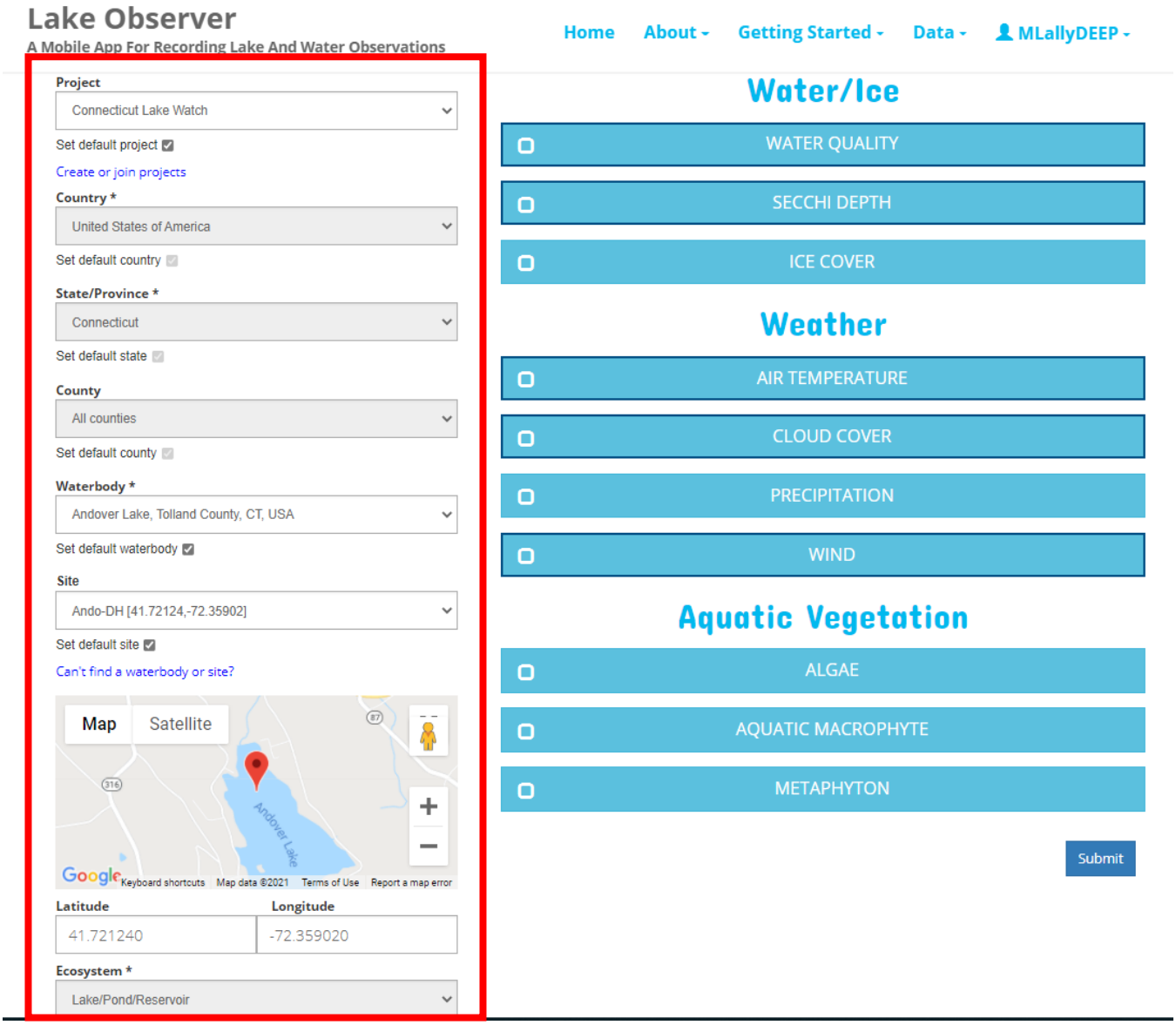
A "Select Site" pop-up will appear next. Only those sites that have been entered in association with the waterbody you just selected will be listed. Select the site that you monitored at. If desired check the "Set default site" option box. Click the "Done" button.



Reminder: Only those waterbodies and sites added by the CT Lake Watch Project Coordinator will be visible, if your waterbody and/or site is not listed contact the Coordinator before proceeding with data entry. Please do not use the options to create/add your own.

TIP: The Test Lake and TestSite1 can be used by any user to practice data entry!

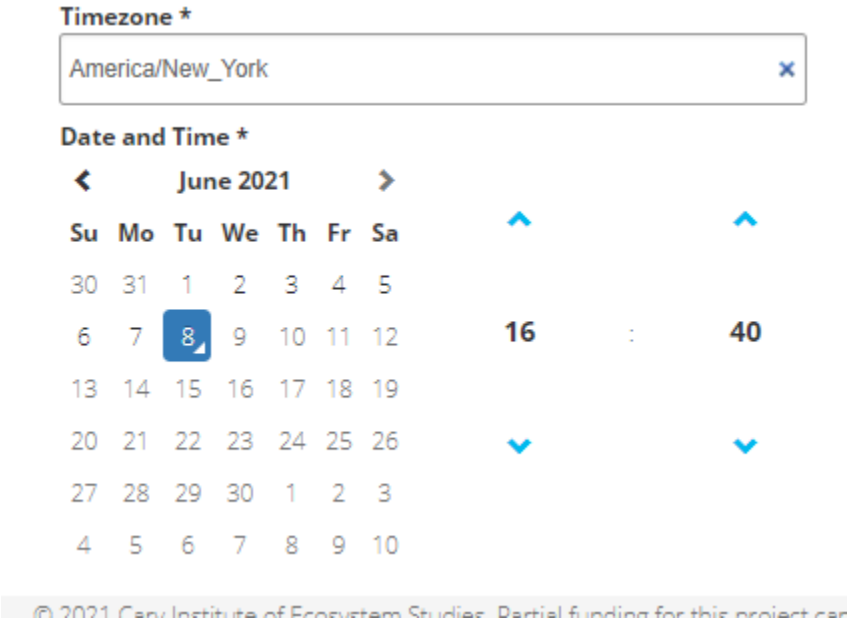
The left-side of the data entry page will now be populated with the waterbody and site information that you selected. Check this information to insure it is correct before proceeding.



TIP: You can use the “+” and “-“ arrows next to the map to zoom in and out; be careful to not click on the map or it will change the site location. If this happens, reselect the site from the drop-down list above the map to return to the original coordinates.

Monitoring Date and Time

Scroll to the bottom left of the data entry page. You should see a calendar and clock icon.



By default, the web app will set the calendar and clock feature on the bottom left to the current date and time. You will need to change these to the date and time that you monitored.

To change the calendar, click on the date that you monitored, once selected it will turn blue. To view a previous month, click the "<" arrow at the top of the calendar (to the left of the current month name).

To adjust the time, use the blue arrows. Note that time is displayed in military or 24-hour time (e.g. 4:00p 16:00 hours), please be sure to enter 12 through 23 for PM times.

Water/Ice Data Entry

Water Quality

Water Temperature, Conductivity, pH, DO, Turbidity & Chlorophyll*

CT Lake Watch volunteers are asked to record water temperature whenever taking a secchi depth reading. This information can be recorded in the Water Quality section.

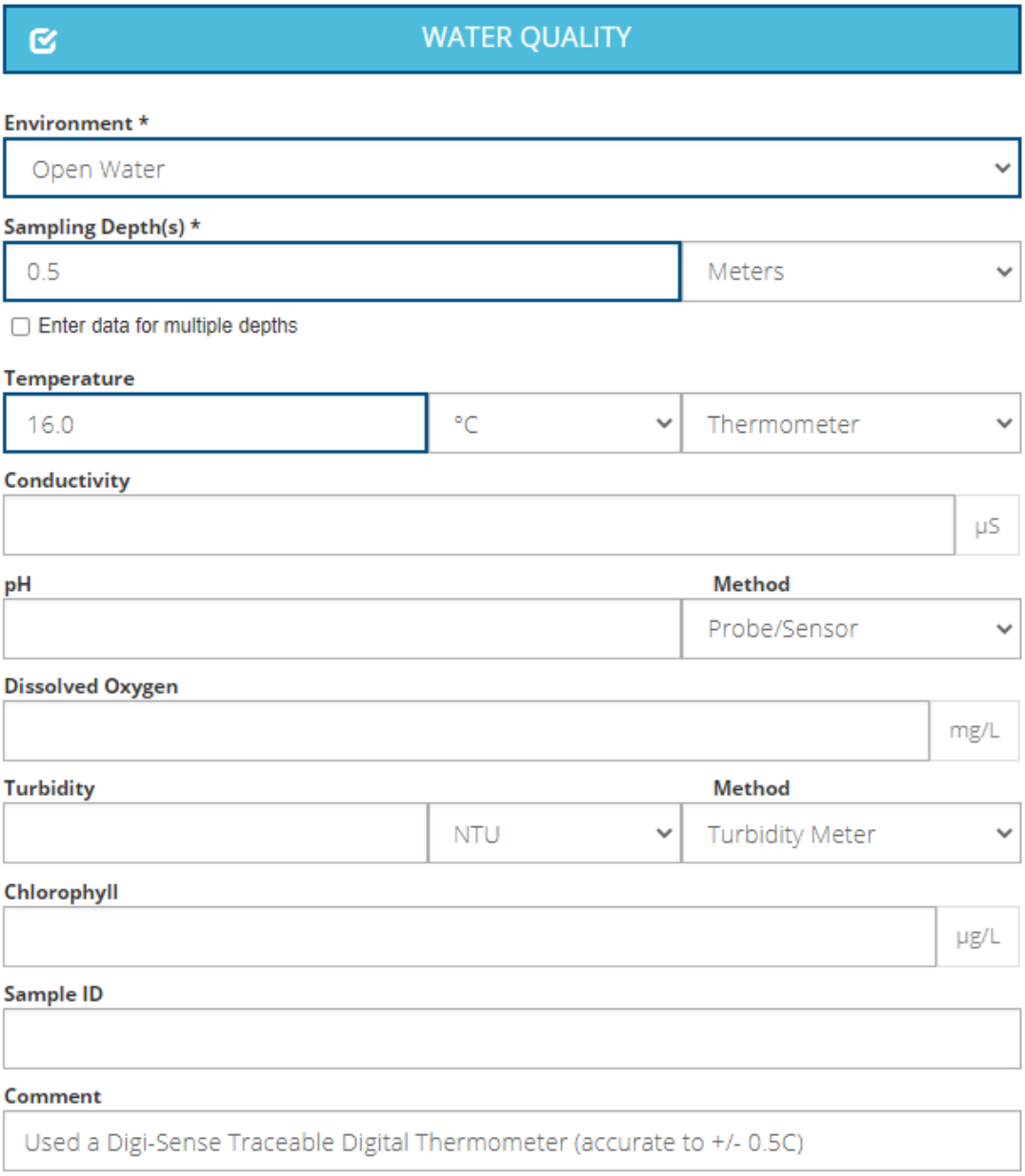
Additional water quality readings including conductivity, pH, dissolved oxygen, turbidity, and chlorophyll can be recorded here if they are part of your project-specific protocols. Note that you can enter data for multiple depths as well in this section.

1. Check the box at the left-hand side of the blue “Water Quality” button, located under “Water/Ice” along the right of the datasheet. The section will expand. Minimum requested fields are highlighted in blue.
2. Set the Environment. Select “Open Water” if sampling from a boat (CT Lake Watch protocol). If sampling for a dock or the shore, select “Near Shore”.

Record a <u>Single Temperature Reading</u> Taken with a Thermometer

1. Enter the Sampling Depth(s).
    - If taking a reading by hand with a thermometer, submerge the thermometer to approximately elbow depth and enter the depth as 0.5m.
    - The default unit is set to meters. If measuring in feet be sure to adjust the units.

2. Enter the Water Temperature, Units and measuring device.
    - In the temperature box enter the surface water temperature value observed.
    - Read and enter values to the nearest decimal point. (e.g. “16.0” rather than “16”)
    - The default unit is Celsius; if you measured in Fahrenheit be sure to change the units.
    - Select “Thermometer” as the method.
    - If known, in the comment section enter the type of thermometer used and accuracy.

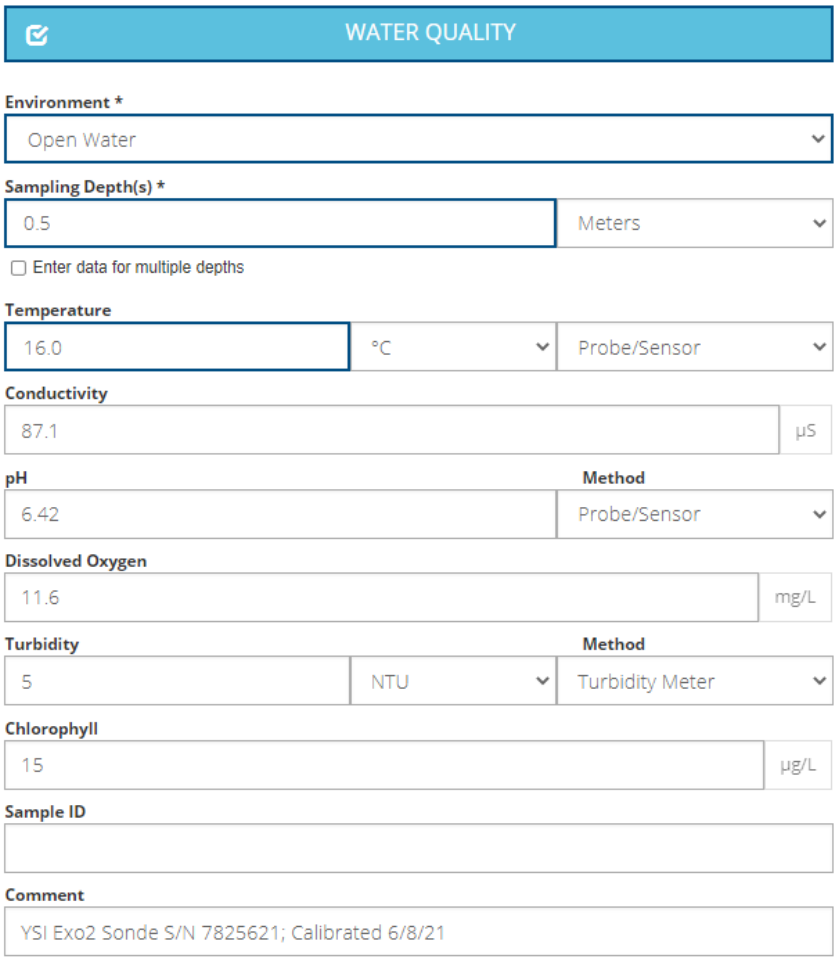


Record <u>Multiple Parameters Measured at a Single Depth</u> Using a Probe/Meter

1. Enter the Sampling Depth(s).
    - If you recorded readings at a single depth, enter the depth value in the Sampling Depth(s) field.
    - The default unit is set to meters. If measuring in feet be sure to adjust the units.
2. Enter the Water Temperature, Units and measuring device.
    - In the temperature box enter the surface water temperature value observed.
    - Read and enter values to the nearest decimal point. (e.g. “16.0” rather than “16”)
    - The default unit is Celsius; if you measured in Fahrenheit be sure to change the units.

- Select “Probe/Sensor” as the method.

3. Enter conductivity, pH, dissolved oxygen, turbidity and/or chlorophyll readings in the spaces provided.
    - Leave blank any fields that your probe does not measure
    - Where applicable measure and enter values to the nearest decimal point.
    - Be sure the correct units are selected
    - Select Probe/Sensor for the method wherever required

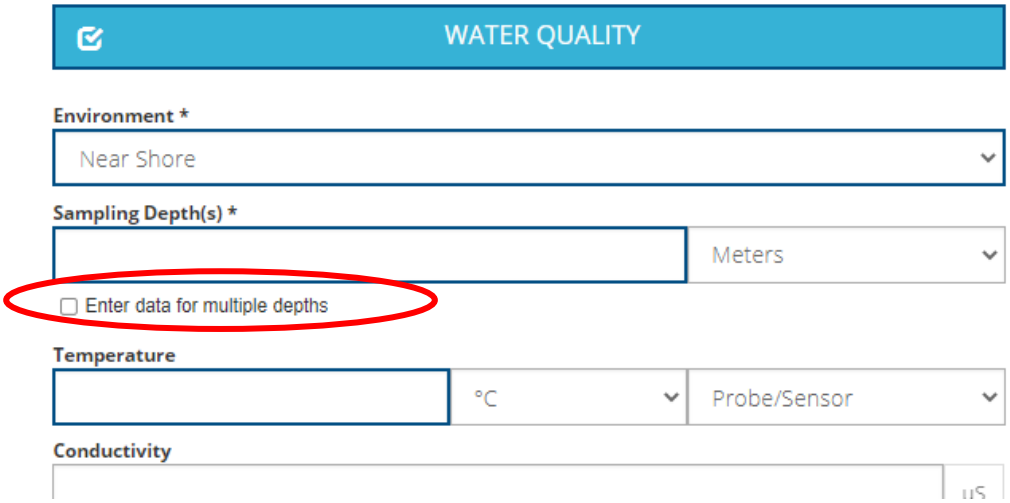


TIP: Some fields are set to allow a value only within a particular range; if you receive a popup message indicating that a value is outside of the range please double-check the value before proceeding. If the value is correct but you continue to receive an error message, contact the CT Lake Watch Coordinator for guidance.

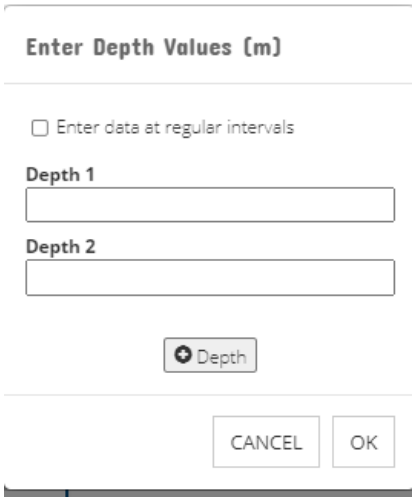
4. In the comment section at the bottom enter the type of multiparameter meter used, meter ID (e.g. serial number) and the date of last calibration, if known.

Record <u>Multiple Parameters (Multiple Depths)</u> Using a Probe/Meter

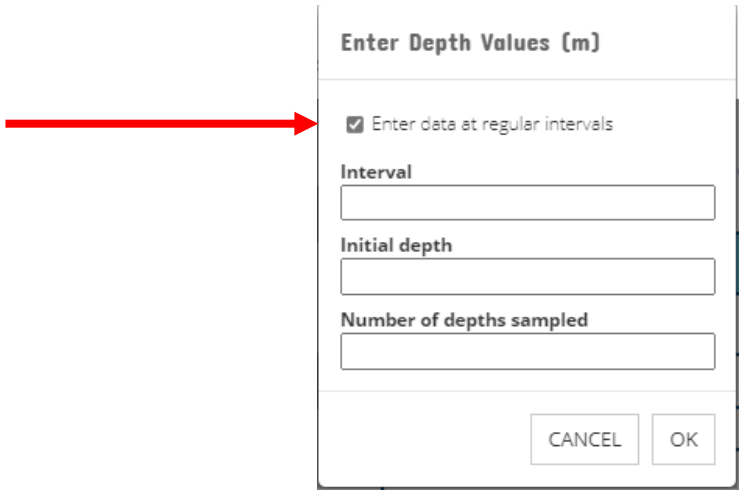
1. Enter the Sampling Depths.
    - Check the "Enter data for multiple depths" box beneath the Sampling Depth(s) field.



    - A pop-up box "Enter Depth Values (m)" will appear.
      NOTE: Depth values MUST be entered in METERS to use this feature.

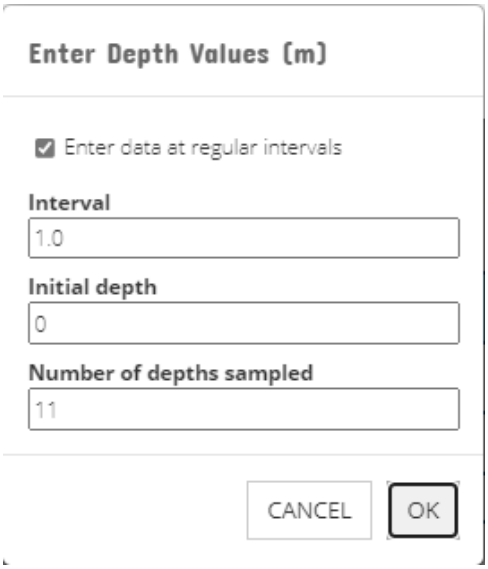


    - Enter the depths at which readings were recorded. If measurements were made at more than two depths click the "+ Depth" button to add additional rows.
      OR
      If you sampled at regular intervals (e.g. every 1 meter until bottom) check the "Enter data at regular intervals box. The pop-up will modify to show the following:

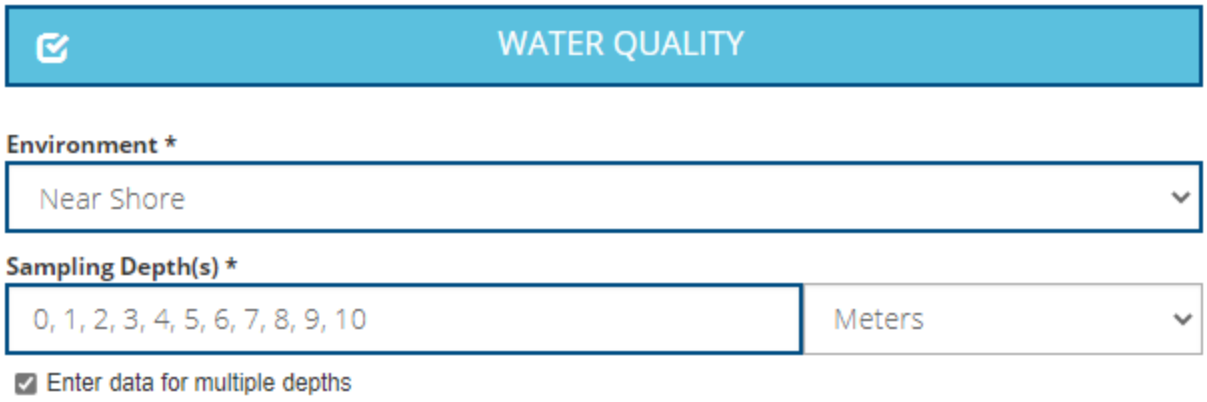


– Enter the interval value (e.g. 1.0 meter)
– Enter the depth at which the first reading was recorded in the Initial Depth field.
– Enter the total number of depths sampled at.

For example, if your first reading was taken at the surface (0m) and you sampled every 1 meter until hitting bottom at 10m you would enter:

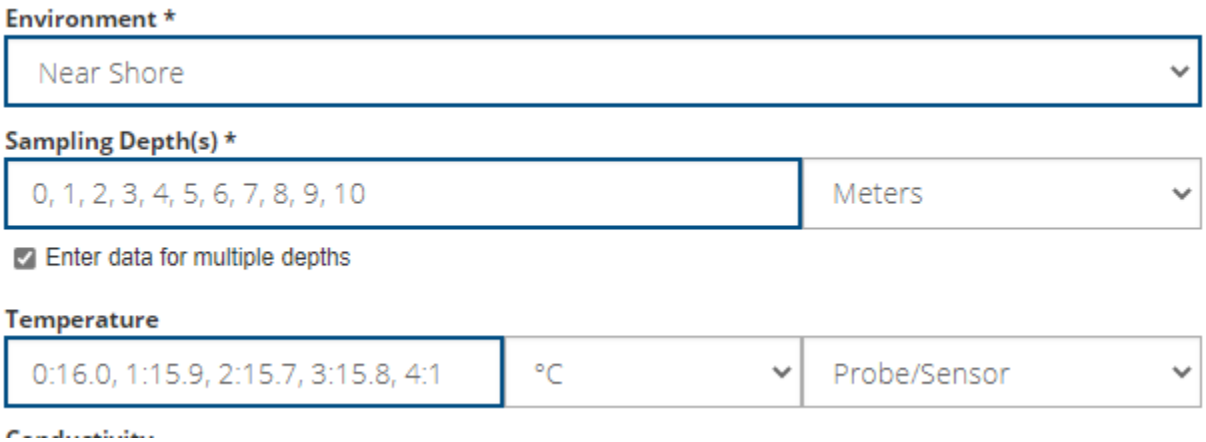


2. Click “OK”. The Sampling Depth(s) field will now be populated with values based upon the information you entered:



3. Enter Water Temperature data. Click in the Water Temperature box. A pop-up box will appear showing the sampling depths (determined by step 2) and a place to record the value for water temperature at each depth:

- Enter your temperature values and click “OK”. The Water Temperature field will now be populated with a combination of depth/temperature values. For example, if you entered a temperature of 16.0 at your first depth of 0m, the first entry you will see is “0:16.0”.



- The default unit for temperature is Celsius; if you measured in Fahrenheit be sure to adjust the units before proceeding.

4. Continue entering additional data recorded (e.g., conductivity, pH, dissolved oxygen, turbidity and/or chlorophyll readings) using the same steps as in step 4. Each time a pop-up window will appear with the depth values and a box to record your measurements for that parameter.
    - Skip/leave blank any parameters that you did not measure
    - Pay attention to decimal points. Enter values to the nearest decimal point recorded by your meter. (e.g. enter “16.00” instead of “16” if your meter recorded the values to the nearest hundredth.)
    - Be sure the correct units are selected for a parameter before proceeding to the next parameter.
    - Select Probe/Sensor for the method wherever required

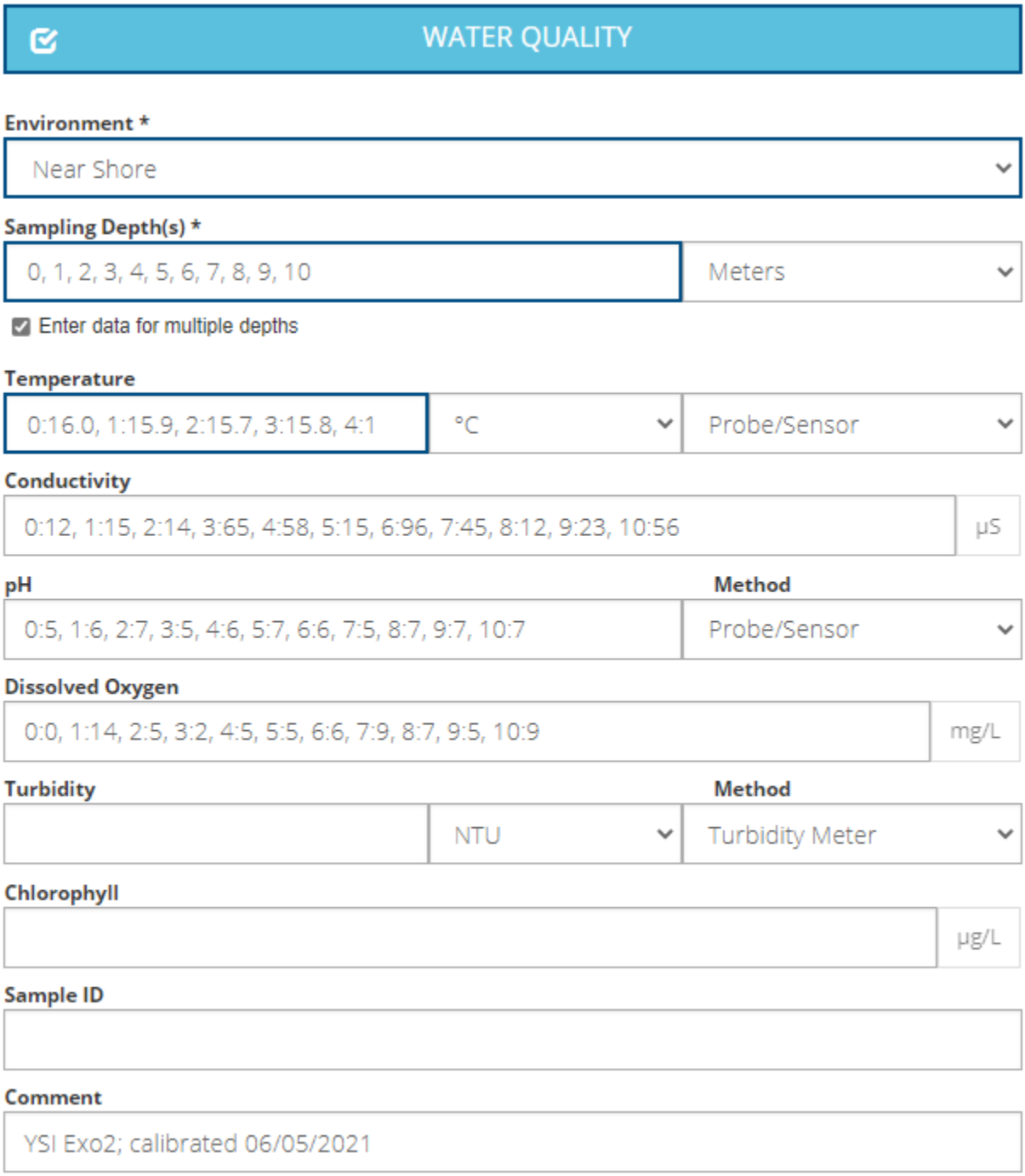
    Data Entry Tips:

    - If you enter a value outside of the allowed range a pop-up window will appear alerting you of the error.
        i. Temperature must be between -3.89 and 40 C (or 25 and 104 F)
        ii. pH must be between 0 and 14
        iii. Conductivity must be between 0 and 2000 µS
        iv. Dissolved oxygen must be between 0 and 14 mg/L
        v. Turbidity must be between 0 and 5000 NTU

vi. Chlorophyll values must be between 0 and 5000 ug/L

- A value must be entered for each depth; if you leave a box blank when entering data, you'll receive an error message "Please set all values."

5. Check your data before continuing. Below is an example of how your screen may look after completing data entry for water temperature, conductivity, pH, and dissolved oxygen at multiple depth. (Note: all values are made up and do not reflect real world measurements.)



Laboratory Sample Collection Documentation

OPTIONAL: If your group is conducting advanced monitoring and collected a sample for Laboratory Analysis, enter the sample ID(s) in the Sample ID box at the bottom of the Water Quality section.

> TIP: This will allow you to quickly link your field measurements with your laboratory results once they are returned. Separate sample IDs with a comma if needed (e.g. if a sample and a field duplicate were collected at a location).

Below is an example of an entry representing a grab sample and a field duplicate collected at the same site on 06/06/2021. Note that Sample ID format is determined by local protocol; check with your local volunteer leader to determine how samples should be labelled.

Secchi Depth*

CT Lake Watch volunteers are asked to use a black-and-white secchi disk to record water clarity and total water depth This information is recorded in the Water Quality section.

1. Check the box at the left-hand side of the blue "Secchi Depth" button, located under "Water/Ice" along the right of the datasheet. The section will expand. Minimum requested fields are highlighted in blue. (Note: most fields are requested to be completed for this section.)

   REMINDER: CT Lake Watch protocol is to record secchi and water depth without use of a viewscope. If you measured both with and without a viewscope please proceed with data entry for the measurements taken *without* a scope. Enter the secchi depth and water depth values recorded with a scope in the Comments section.

2. Secchi Depth. Enter the depth at which you could no longer see the disk in the water.
   - Enter the depth to the nearest decimal value (e.g. 3.1 m)
   - The default unit is meters, if measuring in feet be sure to adjust the units.

3. Water Depth. Enter the depth at which the secchi disk hit the bottom in the space provided. *TIP: For deeper lakes you may need to use a depth sounder or rely on a depth chart for this value.*
   - Enter the depth to the nearest decimal value (e.g. 3.1 m)
   - The default unit is meters, if measuring in feet be sure to adjust the units.

4. Sampling Platform. Select where you monitored from using the following options:
    - Boat/Canoe
    - Dock/Pier
    - Bridge
    - From Shore or Wading
    - Other

    TIP: CT Lake Watch volunteers are instructed to sample by boat, so you will likely select "Boat/Canoe."

5. Shady side of boat/platform? Select "Yes…" if you were able to take your secchi depth readings on the shady side of the bottom. If not, select "No…"
   Note: CT Lake Watch protocol is to sample on the shady side of the vessel, however this is not always possible (i.e. if the sun is directly overhead).

6. Is the Disk Resting on the Bottom? If the disk was on the bottom select "yes", otherwise select "No."
   NOTE: If you select "yes" for this field then the same value should be entered as the secchi depth and the water depth.

7. Disk Type. Select Black and White.

8. Did you use a view scope? Select whether a viewscope was used (yes or no).

    - If you select "yes" a viewscope was used, an additional field "View Scope Type" will appear. Select whether you used an open tube or a clear glass/plastic bottom scope.

      Reminder: CT Lake Watch protocols instruct volunteers not to use a viewscope so that data can be compared across all locations and across time (i.e., with historic data.) If your project-specific protocols require use of a viewscope, enter a second 'non-viewscope' reading in the comment section. (If you would like both readings to appear as distinct rows of data you can also repeat steps 1-12 above for the reading taken without the viewscope.)

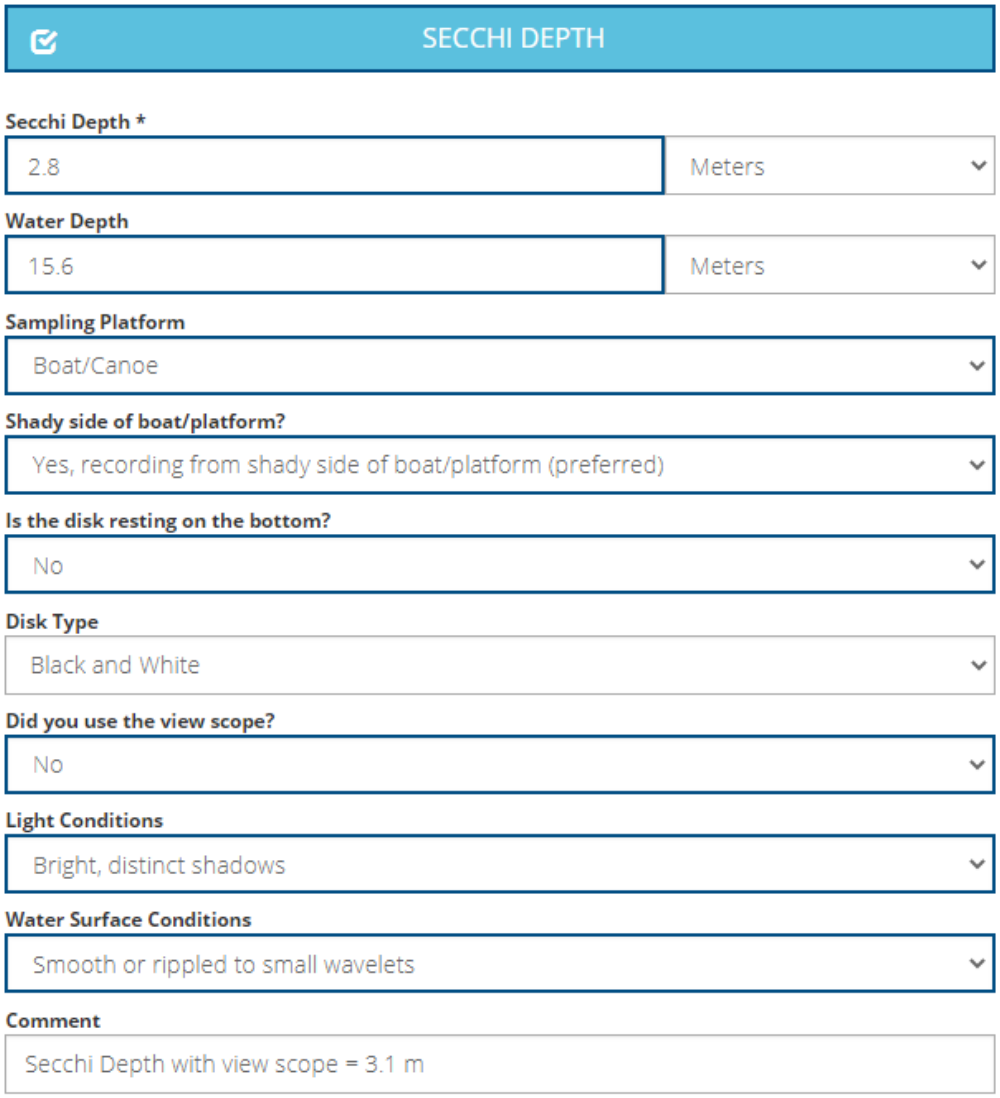
9. Light Conditions. Select the option that best describes light conditions at the time of monitoring:
    - Bright, distinct shadows
    - Cloudy-bright, no shadows
    - Heavily overcast

10. Water Surface Conditions. Select the option that best describes the lake/pond surface at the time of monitoring:
    - Completely calm

- Smooth or rippled to small wavelets
- Large wavelets, crests begin to break, few whitecaps
- Small waves, frequent whitecaps
- Moderate crested waves, many whitecaps
- Large waves, white foam crests everywhere, wind blown spray

11. Comments. Enter any additional notes that might be important for providing context for the conditions under which readings were recorded.
    - If you recorded a second reading using a viewscope you may enter that information in the comment section as well.

12. Check your form for accuracy. An example completed form is shown below.



Ice Cover

Ice Cover is an optional section that can be completed by CT Lake Watch volunteers.

1. Check the box at the left-hand side of the blue "Ice Cover" button, located under "Water/Ice" along the right of the datasheet. The section will expand.

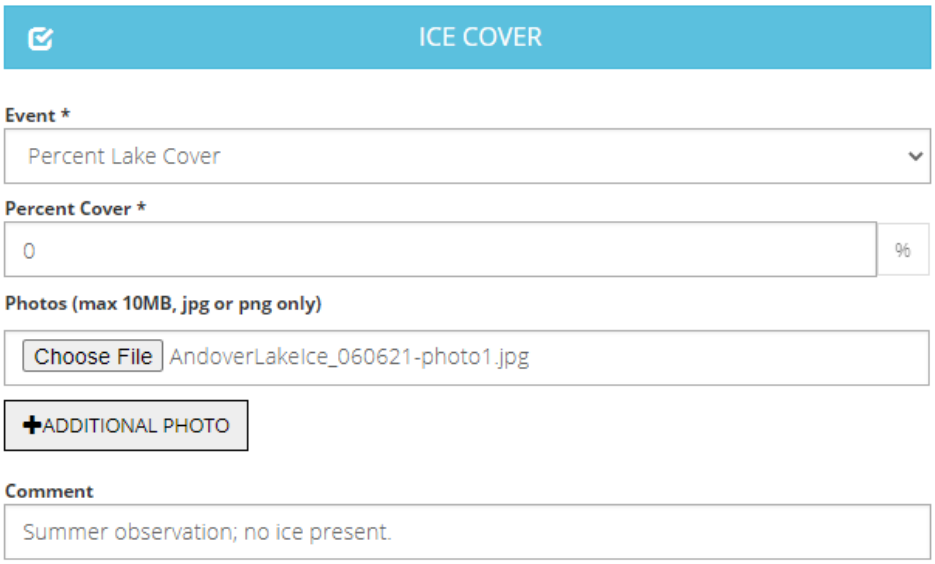
2. Event. Select the information type that you wish to record from the following choices:
    - No ice
    - Percent Lake Cover*
        i. If you select this option, you must enter the percent cover in the field that appears.
    - Ice Thickness
        i. If you select this option, the following additional fields will appear:
            1. Ice thickness – enter the value and select the correct units (cm is default)
            2. Snow thickness – enter the value and units (cm is the default unit)
            3. Ice type – Select "clear ice", "black ice", or "Other". If you select "Other" provide a description in the field that appears.
    - Ice On
    - Ice Off

*TIP: If you do not have a preferred way to record ice cover, it is recommended that you use the percent lake cover option for smaller lakes. If no ice is present enter 0%; otherwise provide an estimate of the total surface of the lake covered by ice (of any depth).

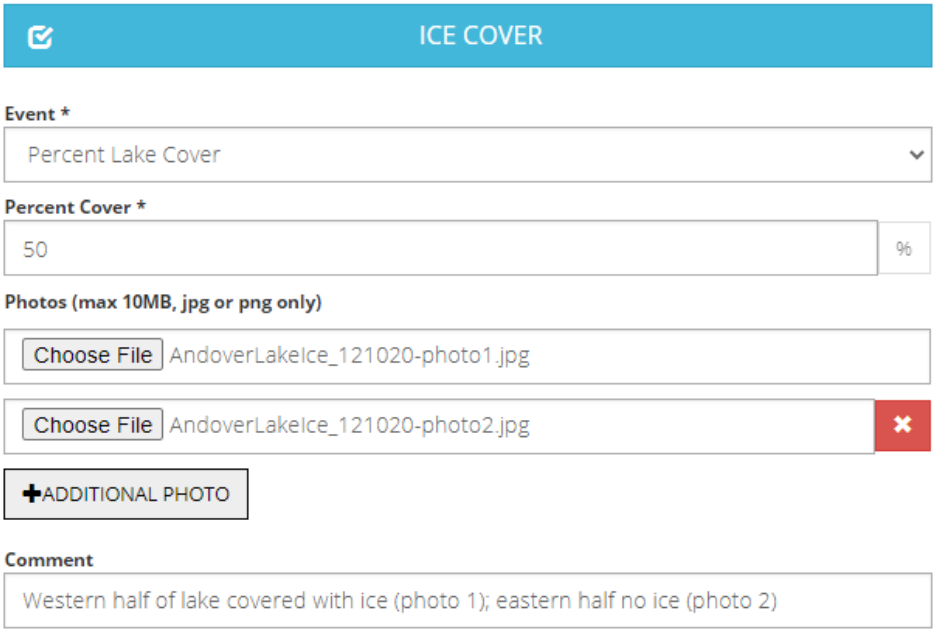
3. Upload one or more photos of ice conditions if taken.
    - Accepted formats include .jpg and .png only
    - Click the "Choose File" button. Use the file explore window that opens to locate the first photograph that you wish to upload. Click the file name to select it and then click "Open." The file name will appear in the box if successful.
    - If you wish to upload additional photos click the "Additional Photo" button. Then click the second "Choose File" button that appears. Use the file explorer to locate the second photo. Click the file name to select it and then click "Open." The file name will appear in the second box if successful.
    - Repeat the above step as needed to add additional photographs. Note: Photos cannot be more than 10 MB combined
    - Click the red "X" box to delete a file.

4. Comments. In the comment section enter any additional information about ice conditions. If photos were uploaded provide descriptions of the photos to help future users understand what they are intended to represent.

The following is an example of this section as it might have been completed by a volunteer during a summer observation using percent lake cover:



The following is an example of this section as it might have been completed by a volunteer during a winter observation using percent lake cover:



Note: both examples provided above are made up and do not represent real data.

Weather Data Entry

Air Temperature*

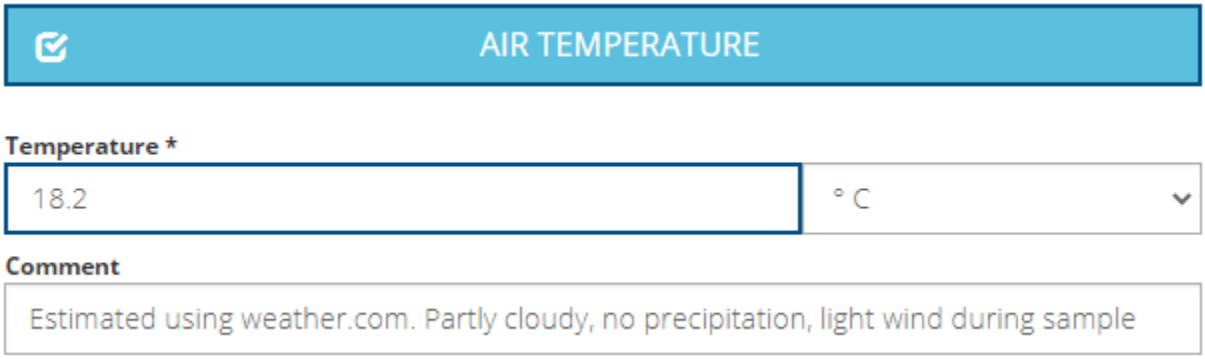
CT Lake Watch volunteers are asked to record air temperature during each field visit.

1. Check the box at the left-hand side of the blue “Air Temperature” button, located under “Weather” along the right of the datasheet. The section will expand. Note that Temperature is a required field.

2. Temperature. Enter the air temperature value recorded for the visit. Be sure to select the appropriate units (Celsius is the default).

3. Comment. Enter the source of the temperature information (e.g. field thermometer reading, weather.com, etc.)
    - Enter any additional weather observations here. (NOTE if you plan to complete the Cloud Cover, Wind and/or Precipitation sections you can skip this step.)

    Below is an example of how the section might look once completed:



Cloud Cover

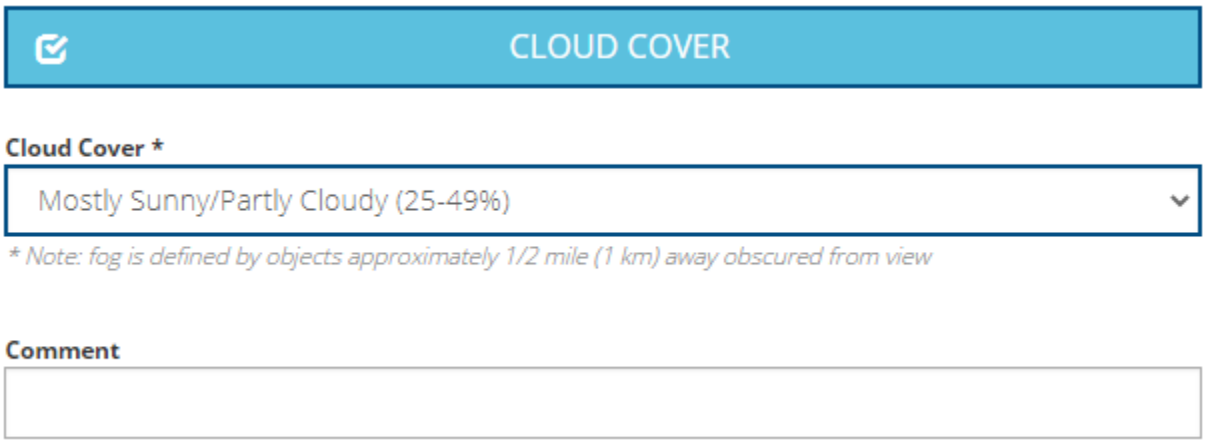
Cloud Cover is an optional section that can be completed by CT Lake Watch volunteers. (Alternatively, you can note cloud cover conditions in the comments when recording Air Temperature.)

1. Check the box at the left-hand side of the blue “Cloud Cover” button, located under “Weather” along the right of the datasheet. The section will expand. Note that Cloud Cover is a required field if completing this section.

2. Cloud Cover. Enter the approximate amount of cloud cover at the time of sampling using the options provided:
    - Clear (0-5%)
    - Mostly Clear (6-24%)
    - Mostly Sunny/Partly Cloudy (25-49%)
    - Partly Sunny/Mostly Cloudy (50-69%)
    - Mostly Cloudy (70-89%)
    - Cloudy/Overcast (90-100%)
    - Fog (*Fog is defined as objects approximately ½ mile away are obscured from view)

3. Comments. Enter any additional relevant comments here, particularly if cloud cover may have impacted data quality.

    Below is an example of how the section might look once completed:



Precipitation

Precipitation is an optional section that is only recommended for advanced monitors. (Alternatively, you can note general precipitation conditions during or prior to sampling in the comments when recording Air Temperature.)

If completing this section, please record observations for the 24 hours prior to sampling. The instructions below reflect this.

1. Check the box at the left-hand side of the blue “Precipitation” button, located under “Weather” along the right of the datasheet. The section will expand.

2. Category. Enter the type of precipitation (or none) observed within the past 24 hours from the following list:
    - Rain
    - Snow
    - Hail
    - Freezing Rain
    - Clear/No Precipitation

    Note: if various forms of precipitation were observed, select the dominant type, and enter additional comments in the Comment section.

3. Amount. Enter the amount of precipitation recorded over the past 24 hours.

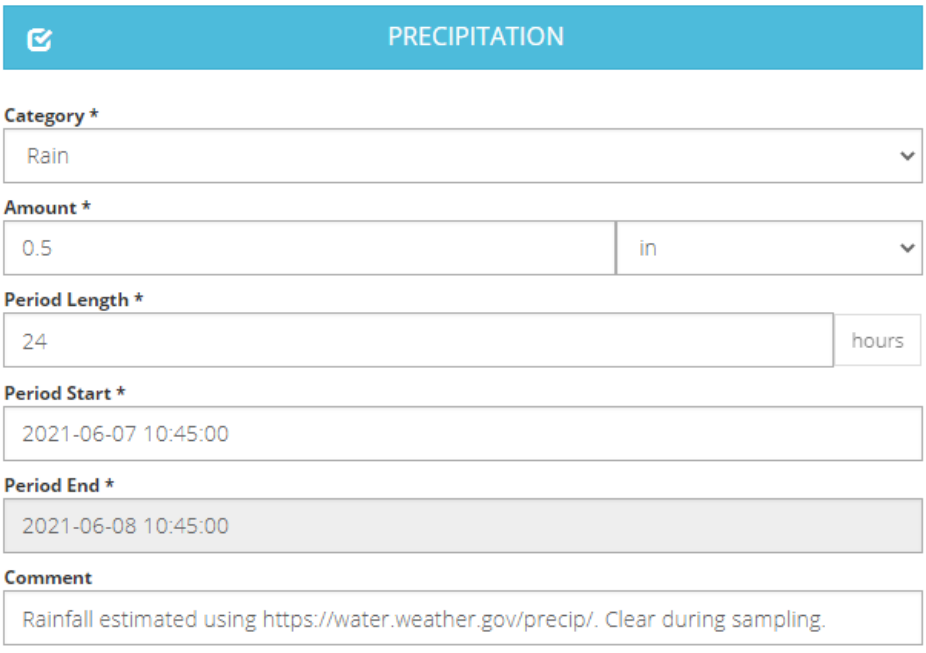
4. Period Length. Enter "24". The unit is set to hours and cannot be changed.

5. Period Start. Enter the date and time 24 hours prior to sampling.

6. Period End. Enter the date and time during which sampling occurred. (This should be the same date/time set using the calendar and clock features as the lower left.)

7. Comments. Enter any additional relevant comments here, particularly if precipitation may have impacted data quality.

Below is an example of a completed Precipitation Section:



Wind

Wind is an optional section that can be completed by CT Lake Watch volunteers. (Alternatively, you can note general wind conditions in the comments when recording Air Temperature.)

1. Check the box at the left-hand side of the blue "Wind" button, located under "Weather" along the right of the datasheet. The section will expand. Note that Wind Speed (either qualitative or quantitative) is required if completing this section.

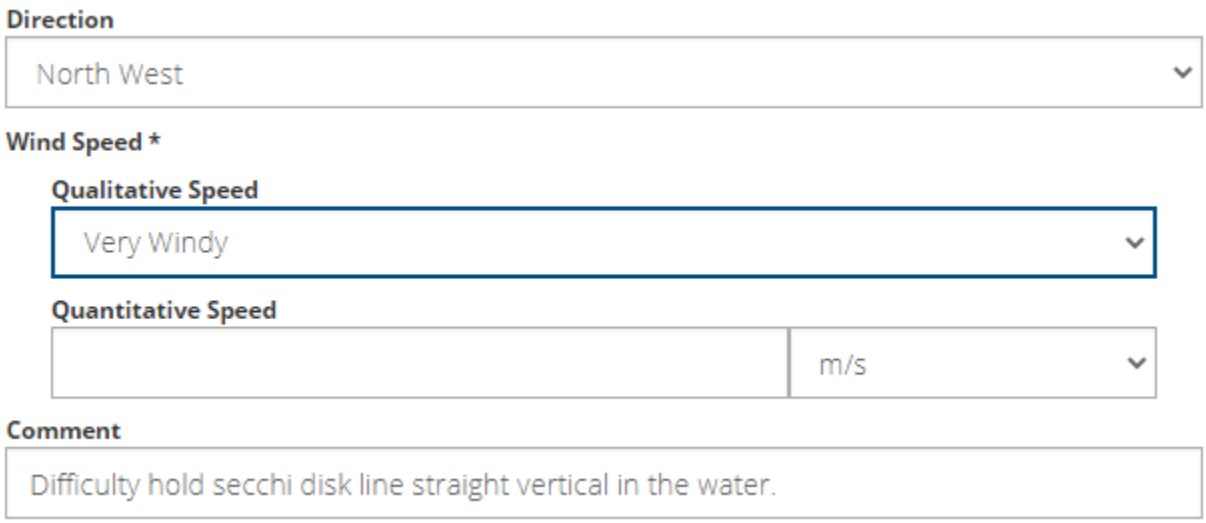
2. Direction. If known, enter the wind direction. If not known, leave blank.

3. Wind Speed.
   - If the actual wind speed is known you can enter it in the Quantitative Speed field. Be sure to note whether the units are m/s or MPH.
   - Alternatively, provide a qualitative description of speed using the following options:
     - o Calm
     - o Light
     - o Light to Breezy
     - o Breezy
     - o Windy
     - o Very Windy
     - o Strong

   TIP: The surface water conditions you entered previously should 'match' the qualitative wind speed conditions entered. For example if you noted that the surface water was calm but indicate that wind speed was strong, this will most likely cause your data to be flagged for QC check.

4. Comments. Enter any additional relevant comments here, particularly if wind may have impacted data quality.

The following is an example of a completed version of this section:



Aquatic Vegetation Data Entry

All sections within the Aquatic Vegetation section of the data submission form are optional. It is worth noting however, that if you wish to submit a site photo, you can do so using the Algae section (even if no algae are present).

Algae

Algae is an optional section that can be completed by CT Lake Watch volunteers, particularly those interested in documenting potentially harmful algal blooms (HABs).

1. Check the box at the left-hand side of the blue "Algae" button, located under "Aquatic Vegetation" along the right of the datasheet. The section will expand. Note that Environment is a required field if completing this section.

2. Environment. Select "Open Water" if sampling from a boat (CT Lake Watch protocol). If sampling for a dock or the shore, select "Near Shore".

3. Transparency. Select the range of values that includes your secchi disk reading for the site. For example, if your secchi disk depth was 0.8m you would select the option "1.5-3.0 ft (0.5-1.0 m)".

4. Description – Algae On the Surface.
    - Select the option(s) that best describes the general appearance of algae on the water surface. Note that there is an option to record that no algae is present on the surface ("Nothing"). You can select more than one option, however if you select "Nothing" this should be the only option selected.
        - Streaks
        - Dots or clumps
        - Spilled paint
        - Full scum
        - Duckweed/watermeal
        - Nothing
        - Other.

    - Enter the color of the algae observed on the surface. (This is required for all choices other than "Nothing.")

– If “Other” is selected you will be asked to also provide a description of your observation.

5. Description – Algae In the Water.
    a. Select the option that best describes the general appearance of algae <u>in the water column (i.e., underneath the surface).</u> Note that there is an option to record that no algae is present on the surface (“Nothing”).
        – Thick soup
        – Dots or clumps
        – Nothing
        – Other.
        NOTE: If “Other” is selected you will be asked to describe the color and provide a description of your observation.
    b. Enter the color of the algae observed on the surface. (This is required for all choices other than “Nothing.”)

6. Extent of Bloom. Enter the general extent of the bloom using one of the following descriptors:
    - No bloom noted
    - Localized (~ size of pontoon boat)
    - Regional (bay or cove)
    - Widespread/Lakewide
    - Other (If selected, enter a description in the box provided)

7. Sample Collected. If an algae sample was collected check the box next to “Sample Collected” and enter the Sample ID in the field provided. If no sample was collected leave this section as is (i.e. box unchecked).

8. Photo. Upload one or more photos of the algae conditions if one was taken during monitoring. NOTE: Accepted formats include .jpg and .png only. Photo size must be 10 MB or less for all photos combine.
    - Click the “Choose File” button. Use the file explore window that opens to locate the first photograph that you wish to upload. Click the file name to select it and then click “Open.” The file name will appear in the box if successful.
    - If you wish to upload additional photos click the “Additional Photo” button. Then click the second “Choose File” button that appears. Use the file explorer to locate the second photo. Click the file name to select it and then click “Open.” The file name will appear in the second box if successful.
    - Repeat the above step as needed to add additional photographs.
    - Click the red “X” box to delete a file if needed.

9. Comments. In the comment section enter any additional information about algae observations. If photos were uploaded provide descriptions of the photos to help future users understand what they are intended to represent.

10. Recreational Suitability. Select the option the best represents recreation conditions at the time of monitoring:
    - Beautiful, could not be better
    - Very minor aesthetic problems; excellent for swimming, boating
    - Swimming and aesthetic enjoyment slightly impaired because of algae levels
    - Desire to swim and level of enjoyment of the lake substantially reduced because of algae levels (but boating is ok)
    - Swimming and aesthetic enjoyment of the lake nearly impossible because of algae levels

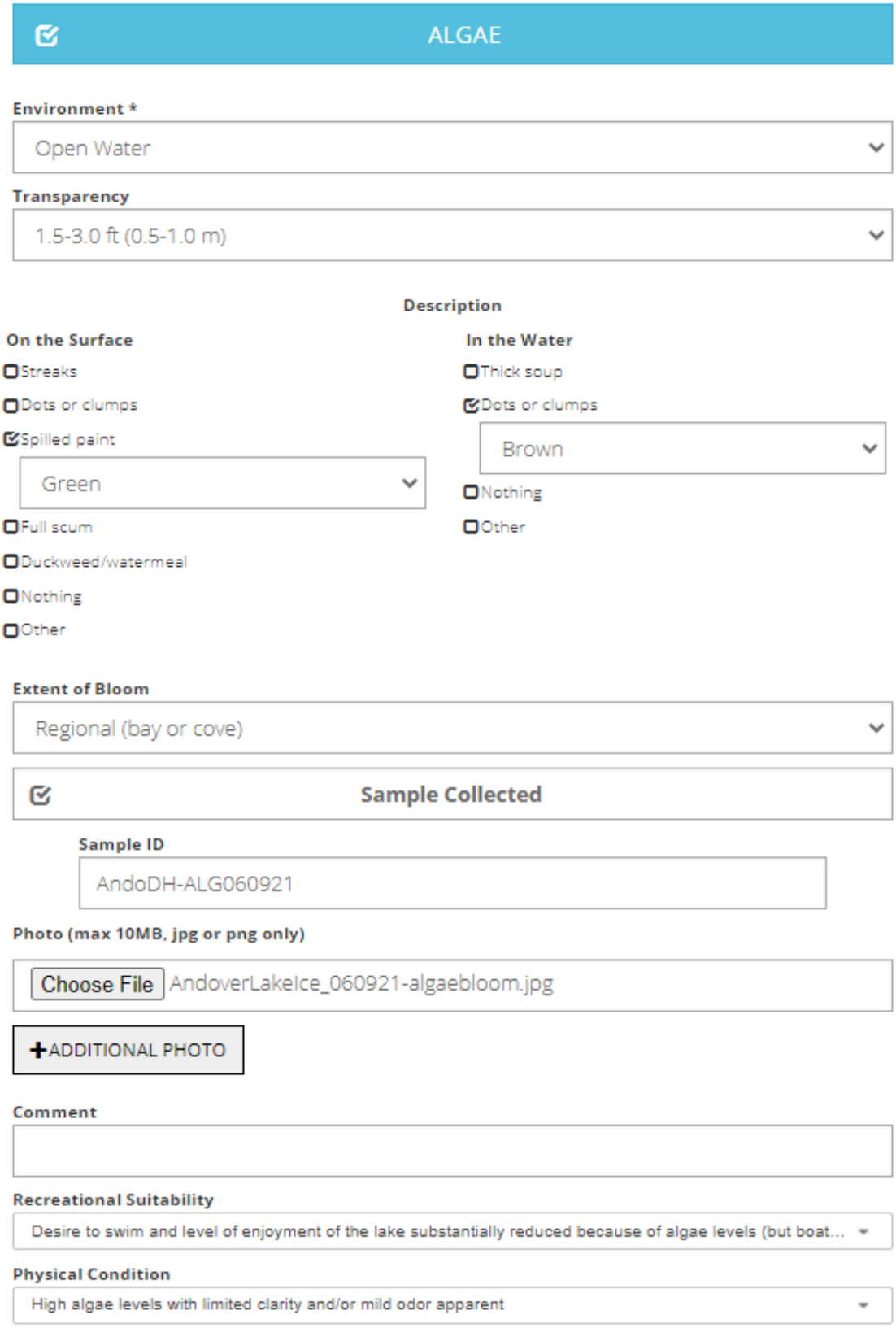
11. Physical Condition:
    - Crystal clear water
    - Not quite crystal clear – a little algae present/visible
    - Definite algae – green, yellow, or brown color apparent
    - High algae levels with limited clarity and/or mild odor apparent
    - Severely high algae levels with one or more of the following: massive floating scums on the lake or washed up on shore; strong, foul odor; fish kill*
      NOTE: If a fish is observed please note the number and types in the comment field.

      ****REMINDER: Report all fish kills to DEEP!**
      - Coastal waters, Long Island Sound: DEEP Fisheries Division (Marine Program) at 860-434-6043
      - Lakes/ponds, rivers/streams: DEEP Fisheries Division at 860-424-3474
      - All locations and nights and weekends: DEEP Law Enforcement at 860-424-3333

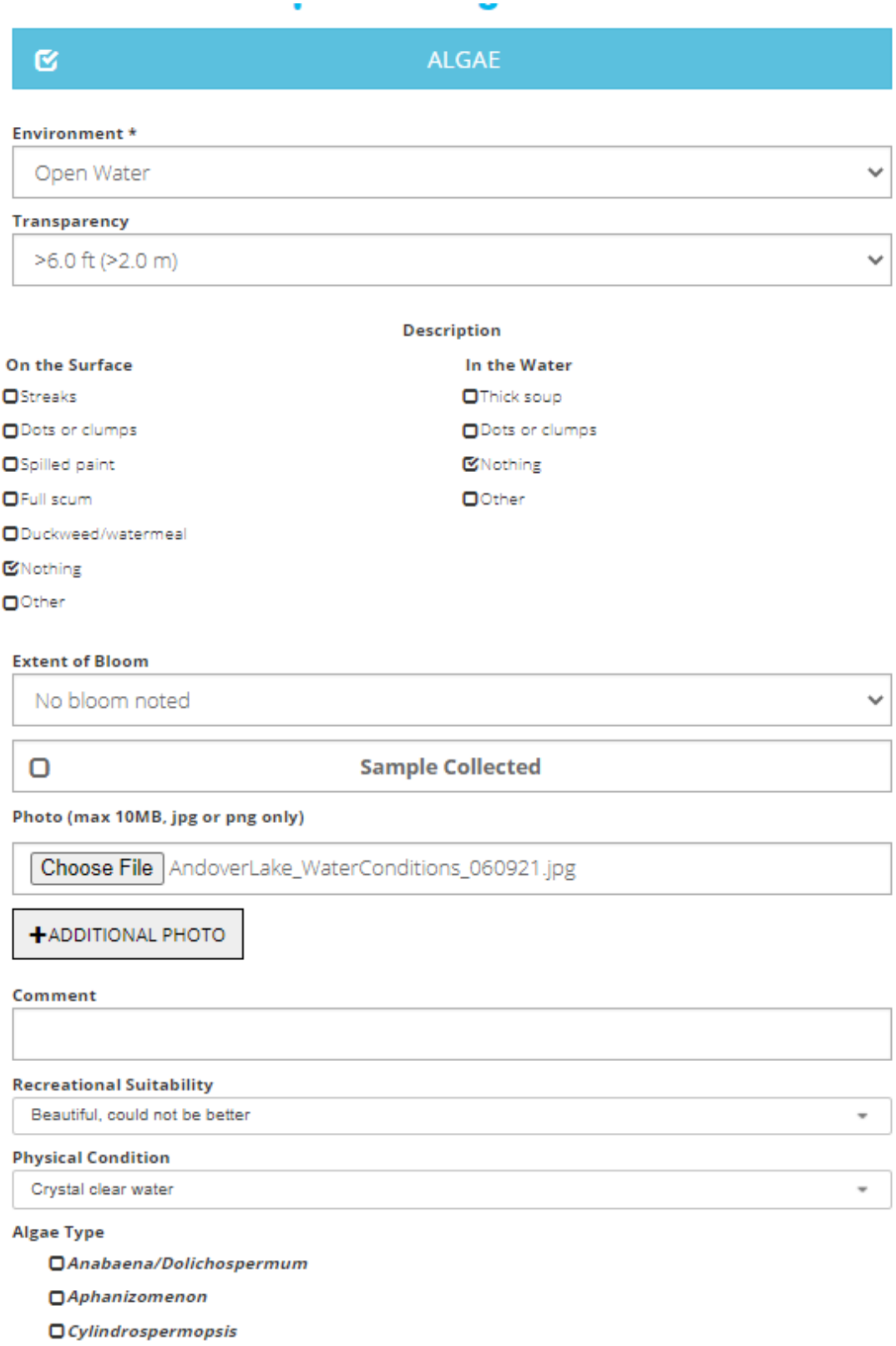
12. Algae Type. Only if you are trained in algae identification, check off the algae type(s) observed. If you select "Other" or "Unknown" please provide a description in the field provided.

    On the following page are examples of submissions for algae reporting.

Example of a submission for a site with a potential bloom observed:



Example of a submission for a site with NO bloom observed:



Aquatic Macrophytes (Aquatic Invasive Species Reporting)

Aquatic Macrophyte observation entry is an optional section that can be completed by CT Lake Watch volunteers, particularly those trained in invasive aquatic plant identification.

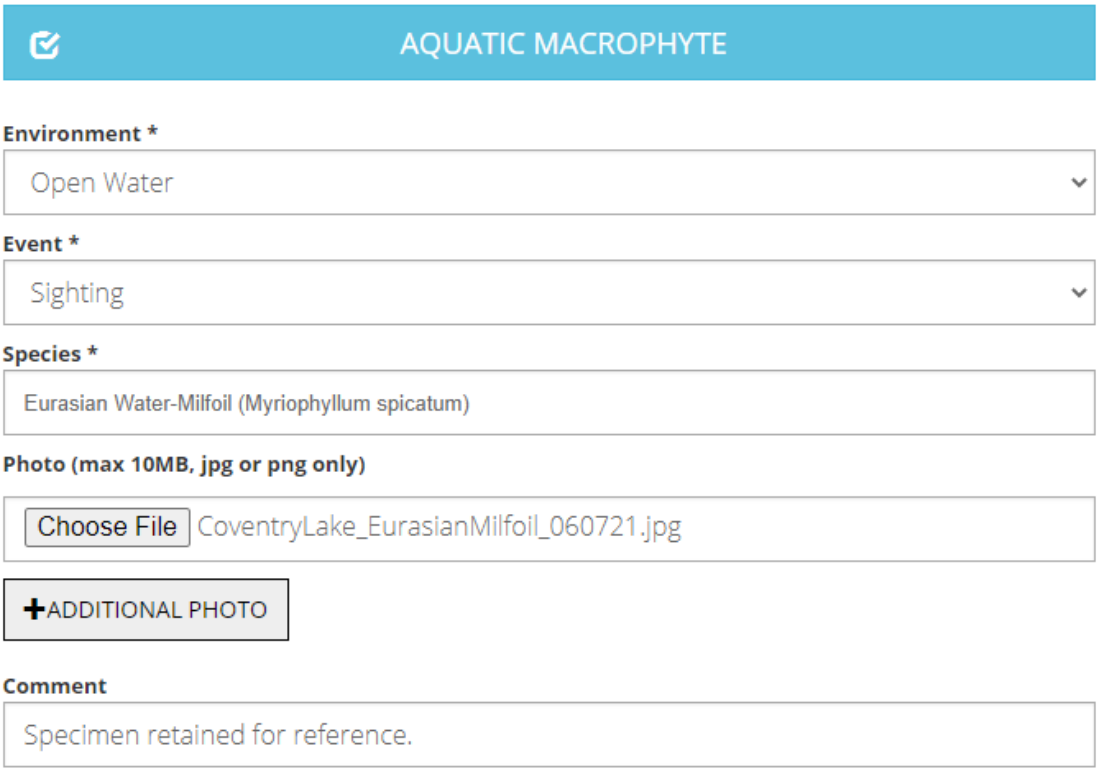
1. Check the box at the left-hand side of the blue "Aquatic Macrophyte" button, located under "Aquatic Vegetation" along the right of the datasheet. The section will expand. Note that Environment, Event, and Species are required fields if completing this section.

2. Environment. Select "Open Water" if sampling from a boat (CT Lake Watch protocol). If sampling for a dock or the shore, select "Near Shore".

3. Event. Select the event type: Sighting, Sprout or Flower. Select "Sighting" unless you are sure whether it was a sprout of flower.

4. Species. Enter the name(s) of the species observed. Species of interest in Connecticut include:
    - American Water Lotus (Nelumbo lutea)
    - Brittle Water-Nymph (Najas minor)
    - Common Reed (Phragmites australis)
    - Curly Leaf Pondweed (Potamogeton crispus)
    - Egeria ("Brazilian Elodea") (Egeria densa)
    - Eurasian Water-Milfoil (Myriophyllum spicatum)
    - Fanwort (Cabomba caroliniana)
    - Giant Salvinia (Salvinia molesta)
    - Hydrilla (Hydrilla verticillata)
    - Onerow Yellowcress (Rorippa microphylla)
    - Parrotfeather (Myriophyllum aquaticum)
    - Pond Water-starwort (Callitriche stagnalis)
    - Purple Loosetrife (Lythrum salicaria)
    - Variable-Leaf Water-Milfoil (Myriophyllum heterophyllum)
    - Water chestnut (Trapa natans)
    - Watercress (Rorippa nasturium-aquaticum)
    - Yellow Floating Heart (Nymphoides peltata)
    - Yellow Iris (Iris pseudacorus)

The following page shows an example submission reporting a sighting of the aquatic invasive plant, Eurasian milfoil. (Reminder: The examples throughout this document do not contain real data!)



Metaphyton

Aquatic Metaphyton observation entry is an optional section that should be completed only by CT Lake Watch volunteers that have been trained in metaphyton (filamentous algae) identification.

1. Check the box at the left-hand side of the blue "Metaphyton" button, located under "Aquatic Vegetation" along the right of the datasheet. The section will expand. Note that Colony Shape, Position and Color are all required fields when completing this section.

2. Colony Shape. Select the descriptor that best describes the colony shape observed:
   - Spherical
   - Oblong
   - Pillow
   - Other

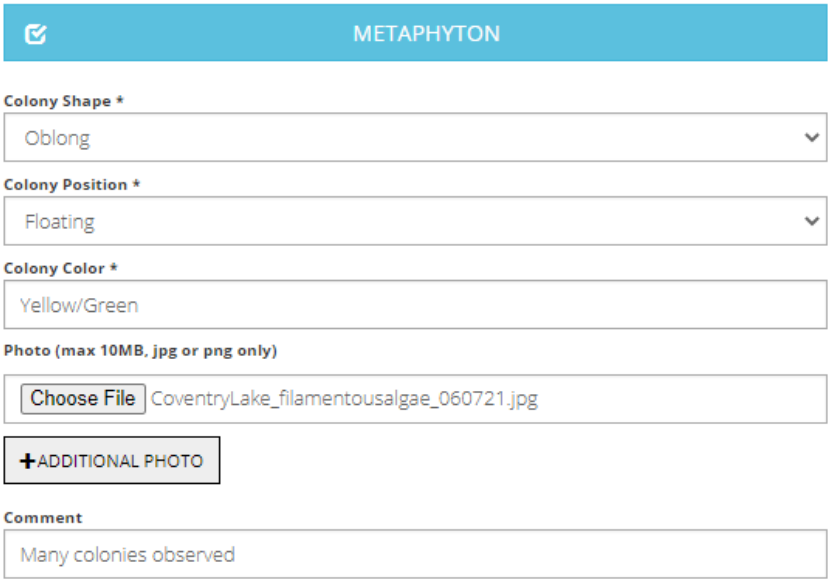
3. Colony Position. Select the descriptor that best describes where in the water column the colony was observed:
   - Attached
   - Floating
   - On Bottom

4. Colony Color. Select the color that best describes the colony observed:
    - Green
    - Yellow
    - Yellow/Green
    - Brown
    - Other (If selected, provide a description in the box that appears.)

5. Photo. Upload one or more photos of metaphyton observations. NOTE: Accepted formats include .jpg and .png only. Photo size must be 10 MB or less for all photos combine.
    - Click the "Choose File" button. Use the file explore window that opens to locate the first photograph that you wish to upload. Click the file name to select it and then click "Open." The file name will appear in the box if successful.
    - If you wish to upload additional photos click the "Additional Photo" button. Then click the second "Choose File" button that appears. Use the file explorer to locate the second photo. Click the file name to select it and then click "Open." The file name will appear in the second box if successful.
    - Repeat the above step as needed to add additional photographs.
    - Click the red "X" box to delete a file if needed.

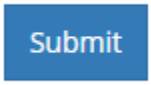
6. Comments. In the comment section enter any additional information about metaphyton observations. If photos were uploaded provide descriptions of the photos to help future users understand what they are intended to represent.

    The following is an example submission:



Submitting Your Observations

Once you have entered all of your observations using the sections described above, review your data form one last time and then click the blue “Submit” button at the bottom left of the page.



NOTE: Any sections that you have checked on the right side of the data form must have all required fields completed or you will receive an error message. The form will open to that section and you will see “This field is required” in red below the field that needs to be completed. Add any missing information or uncheck sections for which you do not intend to submit data and click “Submit” again to proceed.

Once successfully submitted you will see the following “Success” banner at the top of the data submission page:

Congratulations!

Click refresh to reload the page and add another set of monitoring observations.

REMINDER: Your data submission will be immediately visible in the “My Data” section of your account (https://www.lakeobserver.org/my_data), however *data will not be made publicly available* via the Search Data feature (https://www.lakeobserver.org/search) until it has been reviewed and approved by the CT Lake Watch project coordinator.