



A Guide to Using Fulcrum for Mad River Watch

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Why Fulcrum?

We are using this Fulcrum based data collection app as a way to streamline and simplify processing your field data. With this tool we have a powerful way to track, with great accuracy, your sampling time, location, photographs, and notes. By automatically compiling the data and records into one place, we are more easily able to generate reports and provide real time feedback to this community.

Read on to get step-by-step instructions for using the app in the field – and have fun out there!

How to Log In to Fulcrum

1

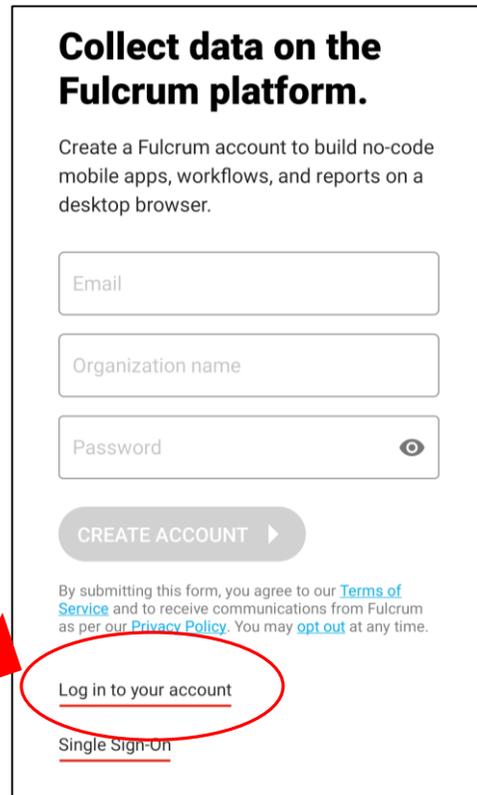
Connect to the internet

2

Open the Fulcrum App  and navigate to the correct login location
Select "Log in to your account"

3

login using the FMR Volunteer email address



Collect data on the Fulcrum platform.

Create a Fulcrum account to build no-code mobile apps, workflows, and reports on a desktop browser.

Email

Organization name

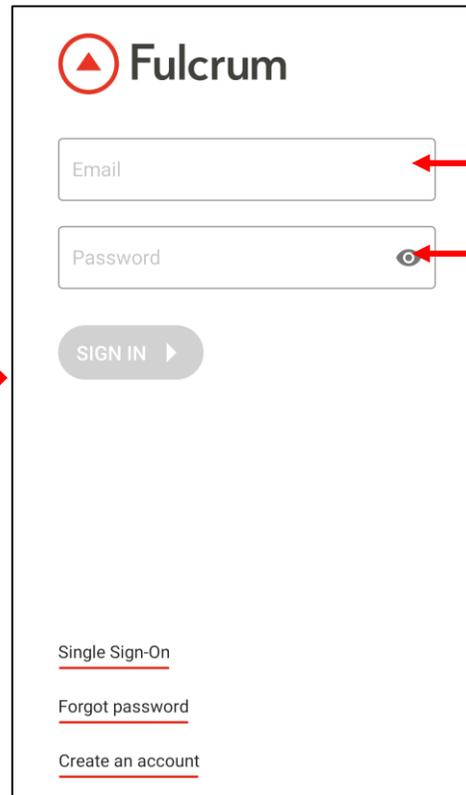
Password

CREATE ACCOUNT ▶

By submitting this form, you agree to our [Terms of Service](#) and to receive communications from Fulcrum as per our [Privacy Policy](#). You may [opt out](#) at any time.

Log in to your account

Single Sign-On



 **Fulcrum**

Email

Password

SIGN IN ▶

Single Sign-On

Forgot password

Create an account

Login: **volunteer@friendsofthemadriver.org**

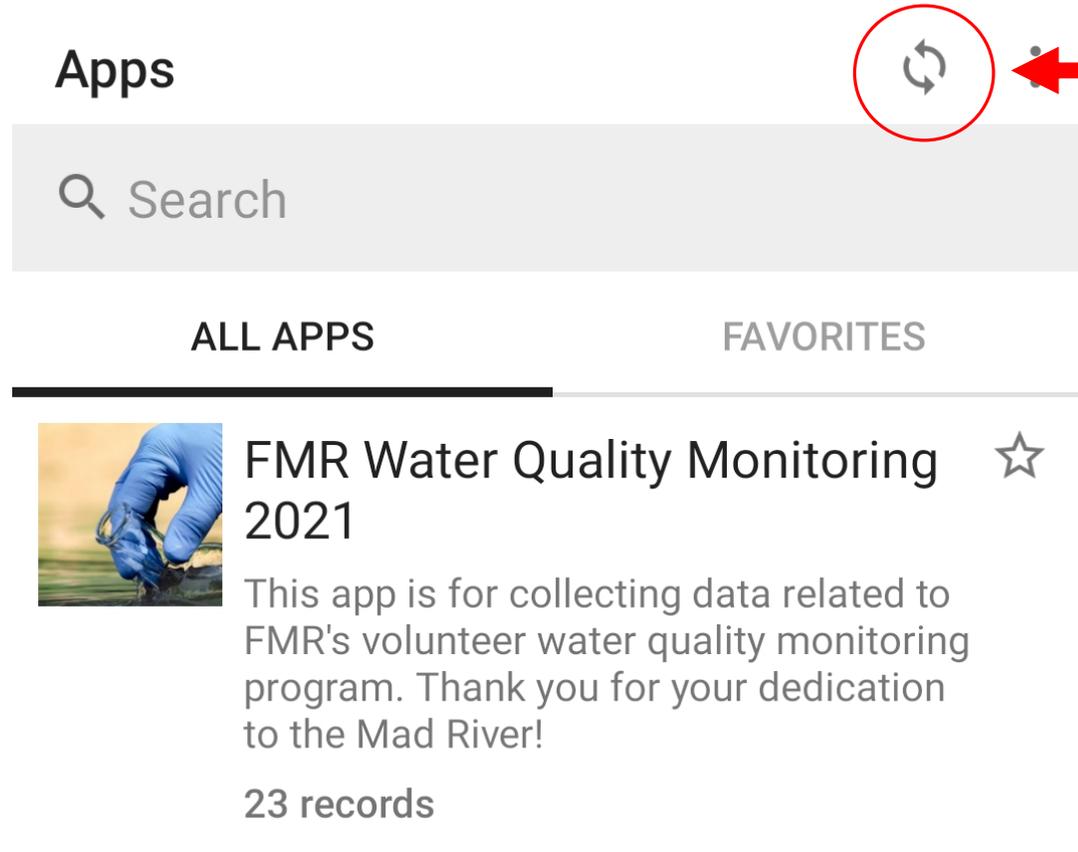
Password: **MRWatch2021!**



Re-Logging In

Once you have logged in for the first time, you should not have to log in again during the field season. If you do get logged out, follow the instructions here.

App Selection Screen



IMPORTANT NOTE

The two circling arrows here are the 'sync' button. This button should be pressed before you start each field day and at the end of each field day. Syncing allows data to flow from your phone to Friends of the Mad River. It also allows you to receive any updates to the app that have happened between field days.

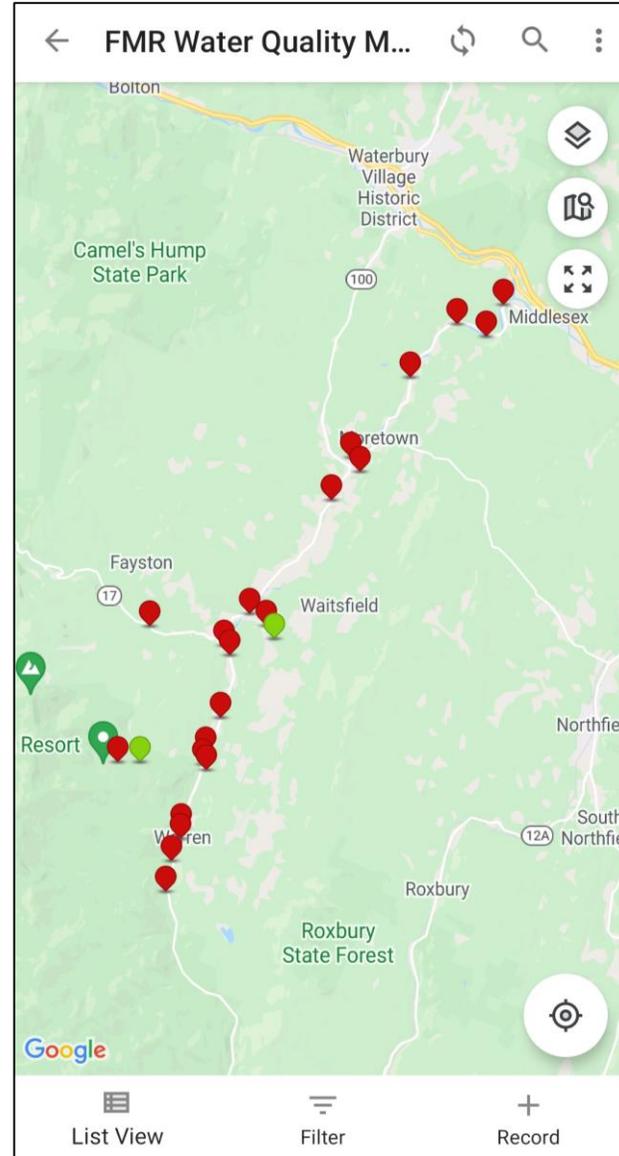
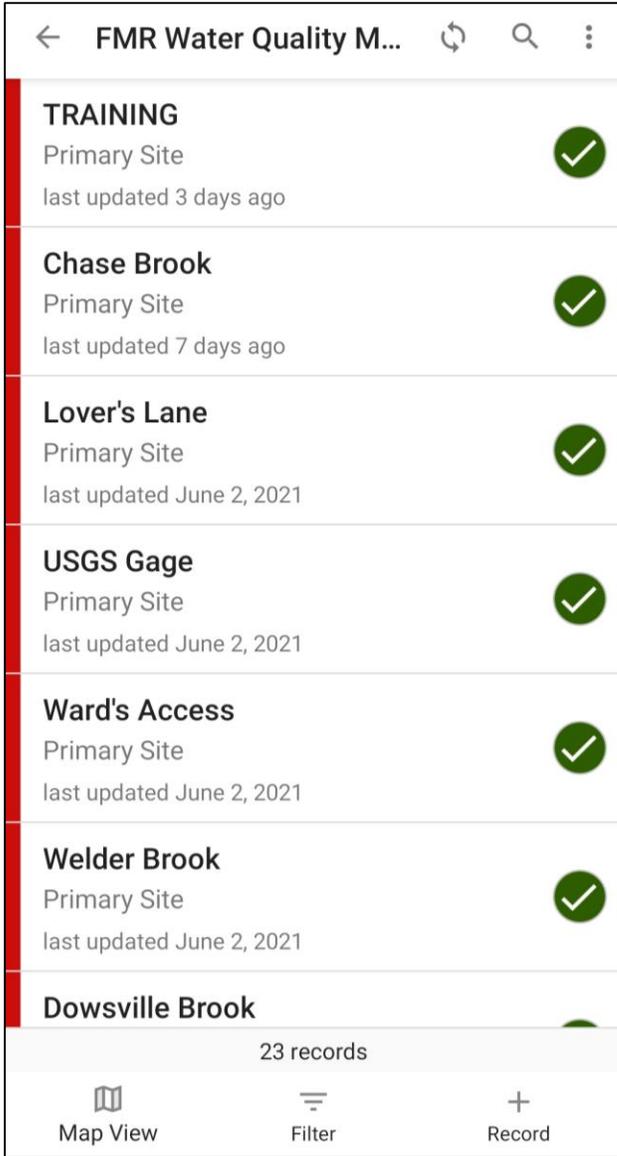
1

Sync your device

2

From this screen, select FMR Water Quality Monitoring 2021 to move on to the list of sites.

Site Selection Screen



1

You can find your field site using either list view OR map view

This screen shows primary sites in red and secondary sites in green

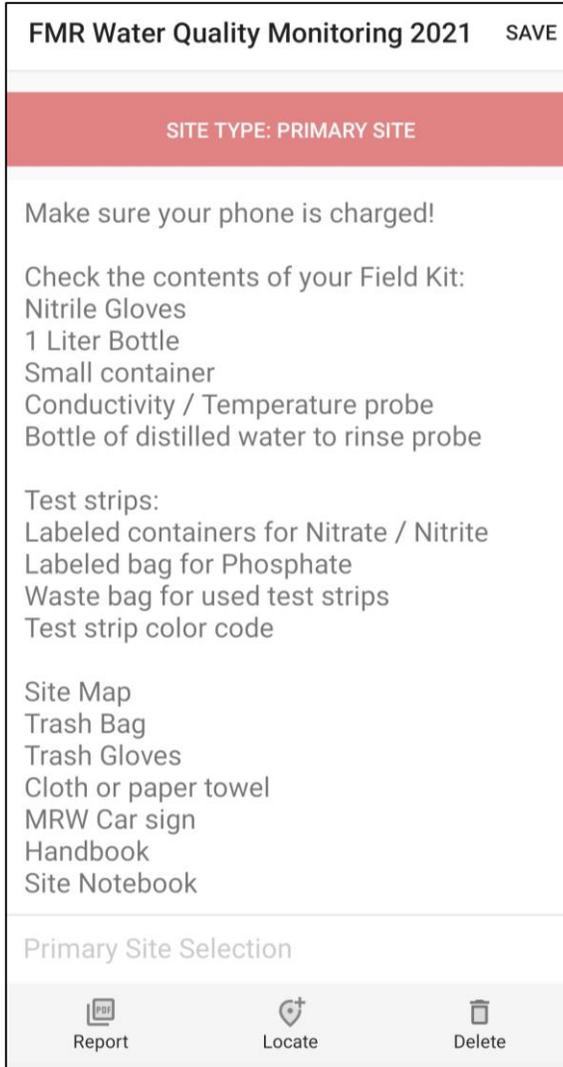
2

Selecting your field site will take you to the next screen where you will be able to create a new record for each field site visit.

NOTE

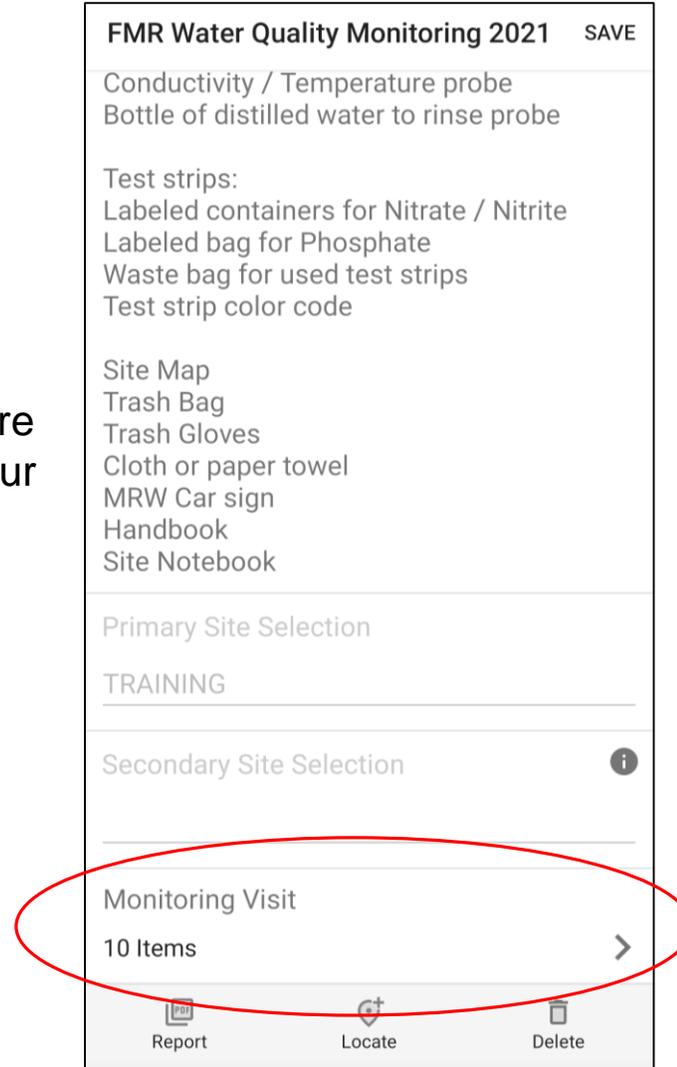
You do not create a new record on this screen.

Field Kit Review



1

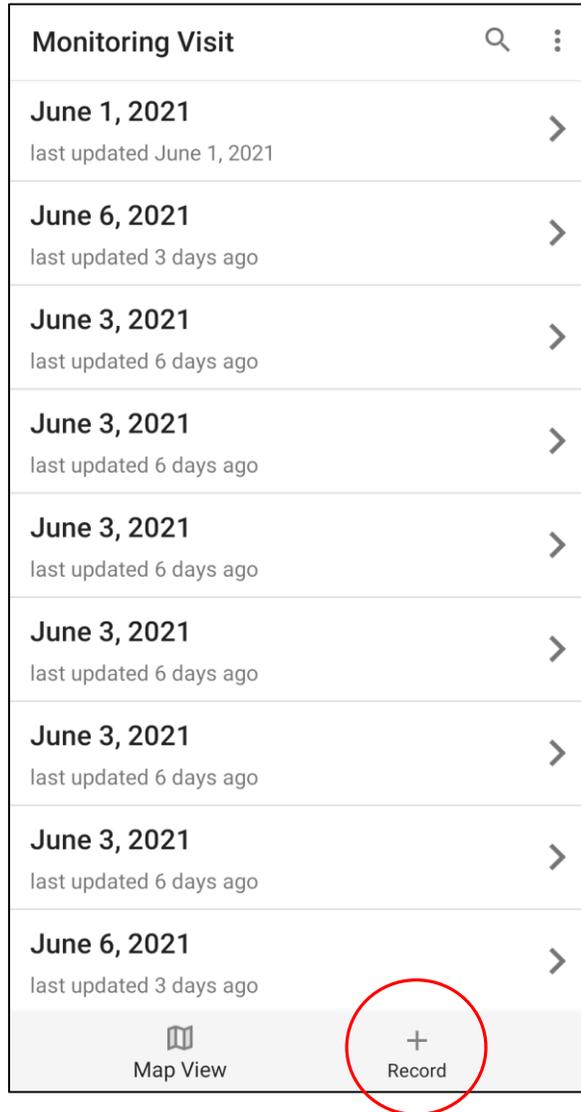
Review the contents of your field kit to make sure you are ready to visit your field site. Scroll down to see the whole page.



2

Select "Monitoring Visit" to advance to the next screen where you will be able to start a new record for each field site visit.

New Site Record Screen



1

This screen shows all of the records you have taken of your site over the course of the field season. Each new record shows up as a date.

2

Select the **+** symbol to create a new record. Do this for each new site visit.

Inside the Field Record – First Observations

Monitoring Visit SAVE

Date * ⓘ
June 9, 2021

Time * ⓘ
7:46 PM

Volunteer Name *

Observational

Today's weather conditions ⓘ

Air Temperature ⓘ

Site Photos

Upstream Photo * ⓘ

Locate

1

- The date and time will automatically be recorded when you start a new record at each visit.
- Select your name from the drop down list (or enter it using the “other” option).
- Record the weather conditions from the drop down menu.
- Record the air temperature using whatever method you have on hand (weather app, thermometer, etc)

Monitoring Visit SAVE

Site Photos

Upstream Photo * ⓘ

Downstream Photo * ⓘ

Opposite Bank Photo * ⓘ

Near Bank Photo * ⓘ

Locate

2

- Take a moment to observe your site for large changes or important context.
- Take four photos. These photos should be taken from the same location each time you visit the site:
 - Upstream
 - Downstream
 - Opposite Bank
 - Near Bank

*** IMPORTANT NOTE**
The red star symbol seen throughout the app means that this is a required field. Required fields need to be completed in order to save the record.

ⓘ Click this symbol for additional explanations in the app

Inside the Field Record – Taking Photo



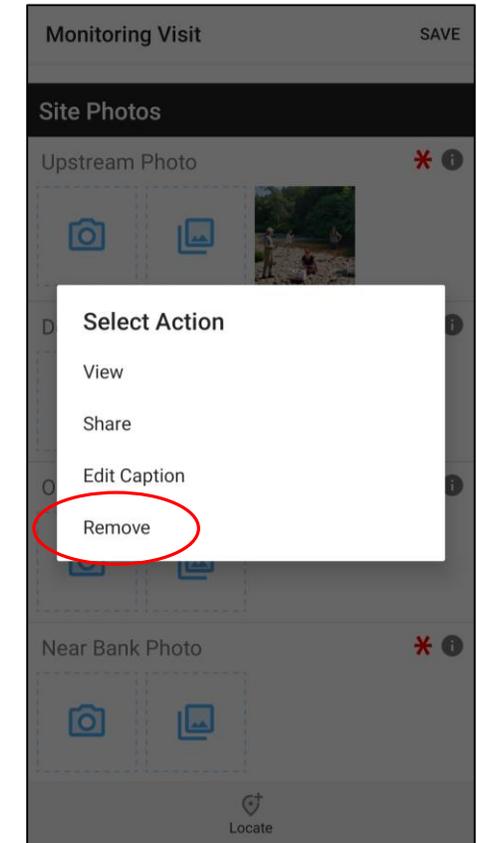
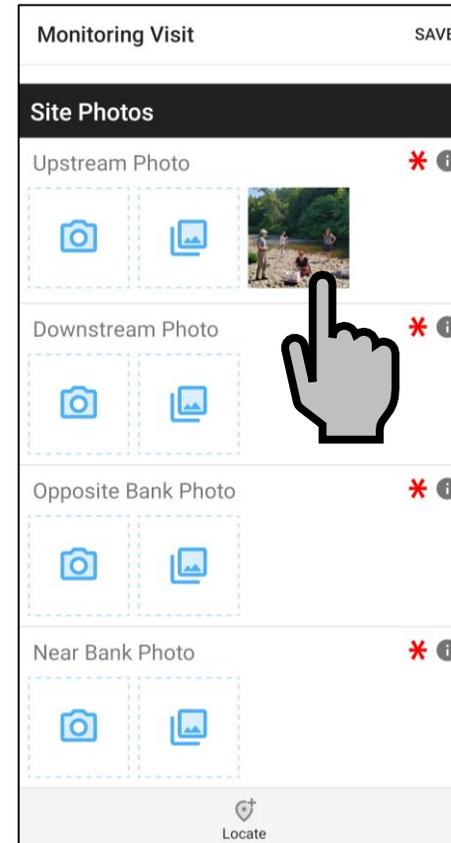
Take a photo

Selecting this symbol will open your device's camera app and allow you to take a photo that will be stored within Fulcrum. This is the preferred method.



Upload a photo

Selecting this symbol will allow you to upload photos taken outside the Fulcrum app. Use this only when necessary.



Deleting a photo

Selecting the photo after it is taken will open up a menu. Delete the photo from the app by selecting "remove".

Inside the Field Record – Water Sampling

Monitoring Visit SAVE

Site Notes i

Sampling

Always use your best judgement with the following instructions. Learn what works well for you, the site, and the conditions of the day.

1. Water should be sampled from the stream using the 1 L bottle and sampling pole (where needed).
2. Samples should be taken from the center of the stream (or as close as you can get to the center) and in a moving section that is deep so that you can fill the bottle without disturbing sediment. Take samples upstream of your location to avoid disturbance.
3. Once the sample has been retrieved, decant a small amount into your smaller container to rinse.

 Locate

1. Always use your best judgement with the following instructions. Learn what works well for you, the site, and the conditions of the day.
2. Water should be sampled from the stream using the 1 L bottle and sampling pole (where needed).
3. Samples should be taken from the center of the stream (or as close as you can get to the center) and in a moving section that is deep enough so that you can fill the bottle without disturbing sediment. Take samples upstream of your location to avoid disturbance.
4. Once the sample has been retrieved, decant a small amount into your smaller container to rinse.
5. Fill the small container and measure temperature and electrical conductivity (EC) following instructions below. This measurement may also be taken directly in the stream where you would otherwise sample water.
6. After measuring temperature and EC, use distilled water to rinse the probe. Follow instructions for sampling Nitrate/Nitrite and Phosphate.

Inside the Field Record – Temperature and Conductivity

Monitoring Visit SAVE

Conductivity/ Temperature

1. Turn the probe on. Remove black cap.

2. Place the Hanna probe into your sample (or in the stream if you are using that method). Make sure the electrodes are submerged. DO NOT submerge the whole probe.

3. EC and temperature readings will appear on the digital readout and may bounce around for 30 seconds before stabilizing.

4. EC is the top number and temp is the bottom number. The numbers may continue to change, but should do so slowly, allowing you to record a representative number.

5. You will take three readings of EC and temp. After each reading, dump out your sample and refill from the 1 L bottle (if using) and repeat the process.

Measurement #1

Conductivity #1 (uS/cm) ⓘ

Locate

Monitoring Visit SAVE

Measurement #1

Conductivity #1 (uS/cm) ⓘ

Temperature #1 (F) ⓘ

Measurement #2

Conductivity #2 (uS/cm) ⓘ

Temperature #2 (F) ⓘ

Measurement #3

Conductivity #3 (uS/cm) ⓘ

Locate

1. Turn the probe on. Wait for hourglass to stop spinning.
2. Remove black cap.
3. Place the Hanna probe into your sample (or in the stream if you are using that method). Make sure the electrodes are submerged.
***DO NOT** submerge the whole probe.
4. EC and temperature readings will appear on the digital readout and may bounce around for 30 seconds before stabilizing. Wait for hourglass to stop spinning before recording readout.
5. EC is the top number and temp is the bottom number. The numbers may continue to change, but should do so slowly, allowing you to record a representative number.
6. You will take three readings of EC and temp. After each reading, dump out your sample and refill from the 1 L bottle (if using) and repeat the process.

Note: Some sites will only measure temperature using a standard thermometer.

Inside the Field Record – Nitrate/Nitrite and Phosphate

Monitoring Visit	SAVE
Nitrate/Nitrite and Phosphate Test Strips	
Nitrate/nitrite and phosphate are measured using color test strips.	
The nitrate/nitrite test strip has two little pads on the end of it.	
1. Dip those pads into the sample for 1 second, then remove and place on your clean dry surface for 30 seconds, without shaking the water off it, while the color develops.	
The phosphate test strip has just one little pad on the end.	
2. Dip that end into your sample and keep it there for 5 seconds and then place it on a clean and dry surface (without shaking the water off) for 45 seconds while the color develops.	
3. When the time is up, compare the color on the pads to the color comparison sheets you have been given. You will need to use your best judgement on the results.	
 Locate	

1. Nitrate/nitrite and phosphate are measured using color test strips.
2. The **phosphate** test strip has just one little pad on the end.
3. Dip that end into your sample and keep it there for 5 seconds and then place it on a clean and dry surface (without shaking the water off) for 45 seconds while the color develops.
4. The **nitrate/nitrite** test strip has two little pads on the end of it.
5. Dip those pads into the sample for 1 second, then remove and place on your clean dry surface for 30 seconds, without shaking the water off it, while the color develops.
6. When the time is up, compare the color on the pads to the color comparison sheets you have been given. You will need to use your best judgement on the match. It might be tricky but it's okay to just make a best guess and you can always leave notes in the notes section to clarify your thinking.
7. Please take a photo of the test strips next to the color charts once they are developed.
8. Once read, the test strips can be disposed of by placing them in the waste bottle that has been provided.

Inside the Field Record – Nitrate/Nitrite and Phosphate

Monitoring Visit SAVE

5. Once read, the test strips can be disposed of by placing them in the waste bottle that has been provided.

Phosphate Concentration (mg/L) * i

Test Strip Photo i

Test Strip Notes i

Observational Part II

Signs of wildlife? i

YES NO

Wildlife Photos i

Locate

1

Once you enter your Phosphate measurement, the app will reveal a space to record Nitrite.

2

Once you enter your Nitrate measurement, the app will reveal a space to record Phosphate.

Monitoring Visit SAVE

4. Please take a photo of the test strips next to the color charts once they are developed.

5. Once read, the test strips can be disposed of by placing them in the waste bottle that has been provided.

Phosphate Concentration (mg/L) * i

0

Nitrite Concentration (mg/L) * i

1.0

Nitrate Concentration (mg/L) * i

5

Test Strip Photo i

Test Strip Notes i

Locate

IMPORTANT NOTE
Test strips should be photographed next to the color chart provided in your field kit. Try and take these photos at the same time that you are matching them to the color chart.

Inside the Field Record – Observations Part II

Monitoring Visit SAVE

Observational Part II

Signs of wildlife? ⓘ

YES NO

Wildlife Photos ⓘ

Wildlife Videos

Wildlife Audio

Notes on wildlife signs ⓘ

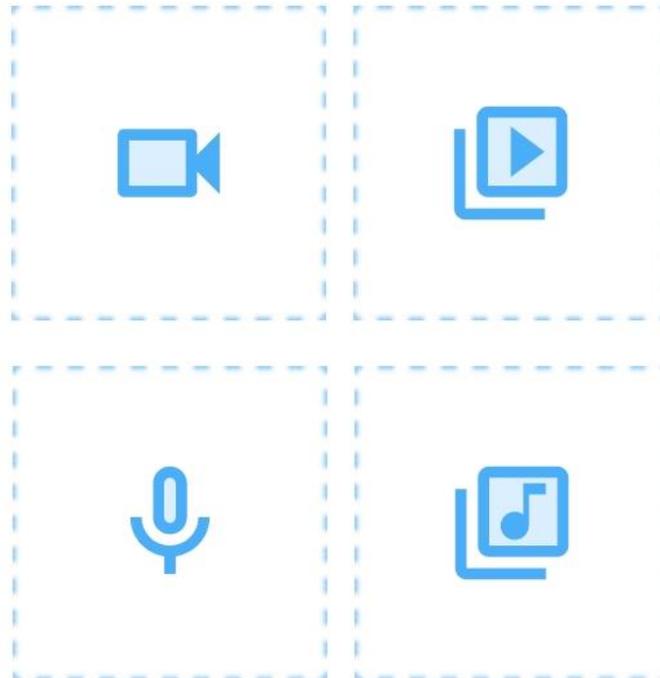
Locate

Up Close Observations

The following sections should be completed after sampling. Feel free to move around the site and get creative!

Signs of Wildlife

This section offers you an opportunity to record any wildlife or signs of wildlife that you see during your field visit.



Record / Upload Video

Selecting this symbol will open your device's video app and allow you to take a video that will be stored within Fulcrum.

Record / Upload Audio

Selecting this symbol will open your device's audio recording app and allow you to take an audio recording that will be stored within Fulcrum.

Inside the Field Record – Observations Part II

Monitoring Visit SAVE

Vegetation Photos i

Vegetation Notes i

Signs of erosion/ deposition? i

YES NO

Erosion/ Deposition Photos i

Signs of human usage? i

YES NO

+
Locate

1

Vegetation Photos / Notes

Take a photo or two of the vegetation at the site. Things to look for are aquatic plants, invasive species in the water or the banks, predation by insects or animals, condition of restoration plantings, and changes to the vegetation over time.

2

Erosion / Deposition

Are there signs of erosion or deposition at the site? Focus on stream banks and where a stream or culvert enters. Fresh soil will be evident.

3

Human Use

Are there signs of human usage such as paths, cairns, chairs, rope swings, etc. We want to know if people are using this space, so trash that has floated here or been thrown here would not count in this category as a sign of human use.

Are people at the site? If you are comfortable, take photos of the sites being used. Use your best judgment.

Inside the Field Record – Trash Pickup

The screenshot shows a mobile application interface for a 'Monitoring Visit'. At the top, there is a 'SAVE' button. Below that is a dark header for 'Trash Pick Up'. The first question is 'Trash present at the site?' with a red asterisk and an information icon. It has two buttons: 'YES' (highlighted in blue) and 'NO' (grey). The second question is 'What kind of trash is present?' with an information icon and a text input field. The third question is 'Are you removing any trash from this site?' with 'YES' (highlighted in blue) and 'NO' (grey) buttons. The fourth section is 'Trash removed photos' with an information icon and two dashed boxes containing camera and gallery icons. The fifth question is 'Is there trash present that you are not removing?' with 'YES' (grey) and 'NO' (highlighted in blue) buttons. At the bottom, there is a 'Locate' button with a location pin icon.

- 1 Indicate if you see any trash at the site.
- 2 Indicate all of the types of trash that are present. If you do not know the source of some trash, indicate that you don't know. If the source is not listed, just enter "other" and fill in the source with text.
- 3 Take a photo of the trash that you are removing from the site. Take a photo of any trash that you are not removing.
- 4 When you have completed all of the tasks in this section, and you feel comfortable, please bag the trash, remove it from the site, and dispose of it properly. If you do not feel comfortable removing the trash for any reason, that is ok. Just make a note of it so FMR is aware of the issue. Trash may be dropped off at the Wait House.

Final Steps – Important!

Monitoring Visit SAVE

reason, that is ok. Just make a note of it so FMR is aware of the issue.

Overall Notes i

FINAL STEPS
When you have completed all the data collection, remember to:

1. Click SAVE - Twice!
2. "Sync" the record (navigating to the main app screen display and clicking the icon with two circling arrows appears in the upper right. Clicking the arrows syncs the record so FMR staff can access the data.
3. Take a moment to sit at your site and reflect on what you have recorded today. Is there other information or other stories not captured that you would help the community better understand your field site? Quietly observe. What do you smell, hear, see? Feel free to get creative and draw, write, or otherwise express the feeling at the site.

 Locate

When you have completed all the data collection, remember to:

1. Click SAVE. This will take you to the "New Site Record" screen. From here, navigate to the "Field Kit Review" using the back button on your device and click SAVE again. If you have not entered all required fields, you can "save as a draft". All fields should be completed before syncing.
2. "Sync" the record (navigating to the main app screen display and clicking the icon with two circling arrows that appears in the upper right. Clicking the arrows syncs the record so FMR staff can access the data. You will need to be connected to the internet to sync successfully. You can use the Wait House wifi to connect to the internet and sync during your post-field day check in.
3. Take a moment to sit at your site and reflect on what you have recorded today. Is there other information or other stories not captured that would help the community better understand your field site? Quietly observe. What do you smell, hear, see? Feel free to get creative and draw, write, or otherwise express the feeling at the site.