Marine
Debris Tracker
Citizen Science Field Guide

Mississippi River Plastic Pollution Initiative

About the Mississippi River Plastic Pollution Initiative

In September 2018, state legislators and mayors of cities and towns along the Mississippi River made a commitment to reduce plastic waste in the Mississippi River Valley. Under the leadership of the Mississippi River Cities and Towns Initiative (MRCTI), mayors invited public and private entities to reduce their plastic use or waste stream by 20% by 2020. To support this goal, a new initiative has been launched to generate a snapshot of plastic pollution along the river, in partnership with the United Nations Environment Programme and the University of Georgia. The Mississippi River Plastic Pollution Initiative enlists the help of 'citizen scientists' in America's heartland to collect data on the state of plastic pollution along the river. To date, over 100,000 plastic litter items have been catalogued through the project. The data gathered is helping to create the first-ever plastic pollution 'map' along the river, which can be used by cities and towns to take action. Though this data reveals critical information on the source, type, and concentration of plastic litter along the river - there is still a lot more work to be done. In an effort to paint the most comprehensive picture of the state of plastic pollution, the initiative is continuing to expand, and will be collecting data in Rosedale And Greenville, Mississippi during June 2022.

We need you to make this initiative a success! Join us by using the Debris Tracker app to collect data on litter in your community and along the river and contribute to valuable datasets that can inform local solutions. Your efforts will help ensure a clean river, and clean seas for all.

In this guide, you will find:

- Why data collection along the Mississippi River is important

- How citizen science can help

- How to collect data with Debris Tracker for litter on land or floating in the river

- Safety guidelines

It's only a matter of time until litter on land reaches the ocean.

Upstream Data, Upstream Solutions: Why We Need Data on Plastic Pollution along the Mississippi River

The Mississippi River flows over 2,000 miles through the heartland of America, with its basin covering 32 states as the river travels from its headwaters in Minnesota to the Gulf of Mexico. It's one of America's most essential inland waterways, providing hundreds of billions of gallons of water each day to key industries, as well as drinking water to 20 million people in 50 cities in 10 states. The ecology of the river is rich in diversity, supporting the livelihoods of people living along the river as well as a wide range of plant and animal species.

But we're impacting the mighty Mississippi with our everyday actions. Things we use - from disposable coffee cups, to masks, to plastic bags – can end up in the environment, making their way to our rivers.

Plastic pollution impacts more than the river valley. Up to 80% of marine plastic originates from land-based sources, and rivers can be a major pathway to transport of plastic litter from inland communities to the sea. It is estimated that the Mississippi River drains 40% of the continental United States, creating a conduit for our litter to reach the Gulf of Mexico.

Learn More

[What is Plastic Pollution? >](#)

[Plastic Pollution in the U.S. >](#)

Power in Numbers: How Community Science Can Help

Whether you're at the beach, at a city park, or even just on a walk, plastic pollution is usually not hard to find when you're looking. The amount of plastic pollution far exceeds the capacity of researchers to collect data on what is ending up in the environment, which is critical for informing both science and solutions. That's where community science comes in. Involving local communities in gathering data on what kinds of litter in their communities helps us create a bigger picture of the global plastic pollution problem - one piece of plastic at a time.

Debris Tracker is a free app used by citizen scientists around the world to record geospatial data on litter. To date, Debris Tracker volunteers have submitted data on over 5 million items around the globe to an open access database, which can be used by community scientists, researchers, policymakers, and other decision makers to explore global or local data on plastic pollution. However, data along the Mississippi River is still limited. While we know the plastic pollution problem doesn't start where the river meets the Gulf of Mexico, we don't know the what, why, or how of litter entering the river from our communities. We need community scientists to help us find the missing piece of the puzzle.

Download the free app, view your data, and explore data from other citizen scientists around the world at **debristracker.org.**
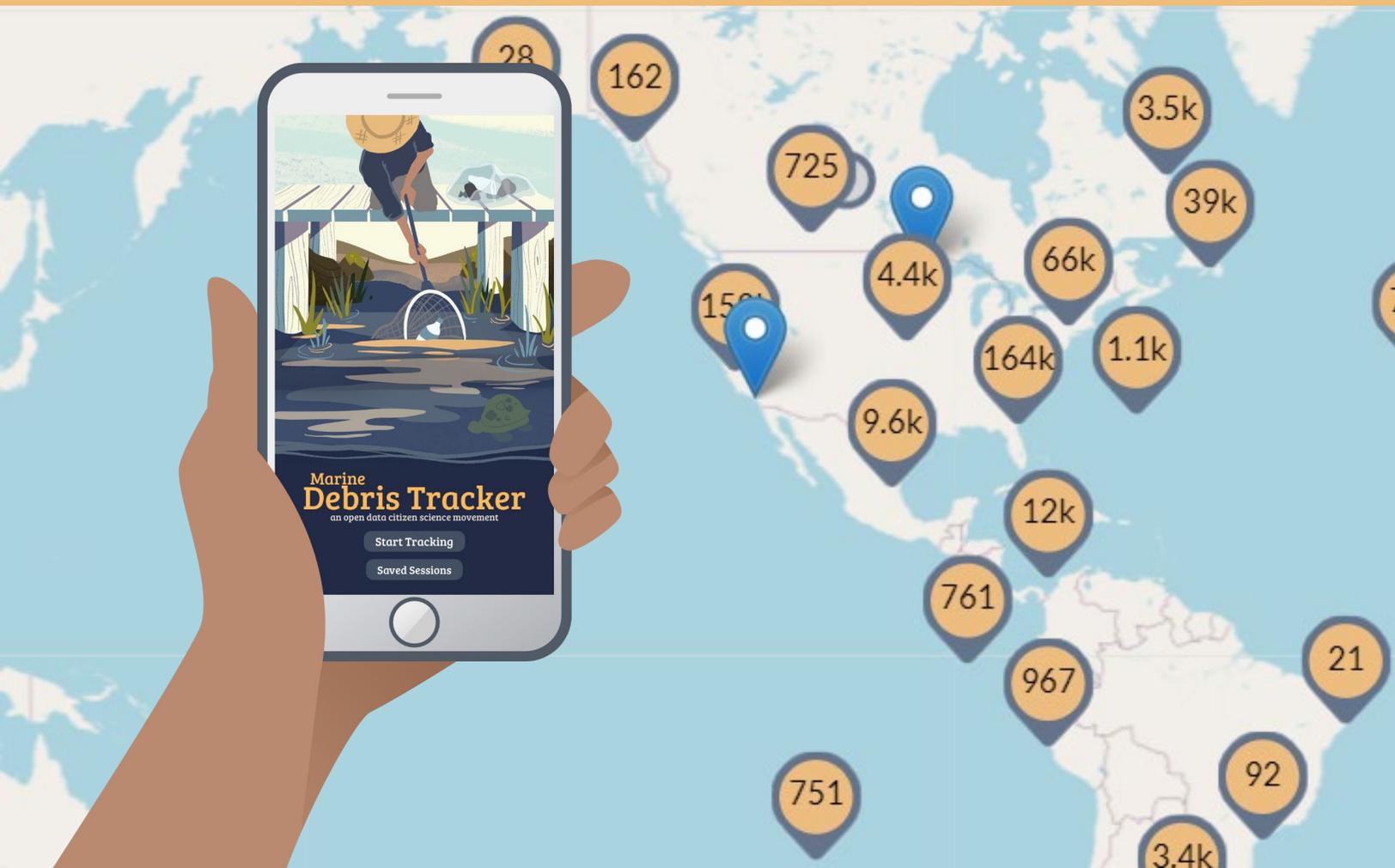
In the Field: Collecting Data with Debris Tracker

1 Get started by downloading the free Debris Tracker app on Android or iOS. Open the app and allow it to access your location, so we can collect geospatial data on where you're tracking and where you're finding litter.

2 Log in or create an account. Select "Start Tracking" and search for Mississippi. Select the Mississippi River Plastic Pollution / MRCTI list and continue.

3 Once you've selected the list, you're ready to start tracking litter that you see. Scroll through the categories to see litter items. You can also search for specific litter items with the search bar at the top of the screen.

4 Record the number of items you find of each litter type by tapping the "Add" button. You can use the +/- buttons to change the number or click directly on the number to type in the amount. Once you tap "Add" you'll see the count increase on "Manage Items." This will display the total number of items logged in your session.

Tip: Hold down the "Add" button to pin an item to the top of the list in your custom Favorites for easy access.

5 To add a brand or description, click the item icon to open the description box.

6 Click Manage Items to see a map of what you've tracked so far. Here, you can also delete items you added something accidentally.

7 When you're done tracking, click "Continue." Answer a few survey questions. Then save your survey.

8 You'll see a summary of what you've collected. You can also add photos to your log by clicking "Select Images". When you're ready, click "Upload Session".

9 Wait for your data to upload. You'll see a checkmark when it's complete. You're all done! Thank you for tracking! You can access your data and data from other volunteers on our website
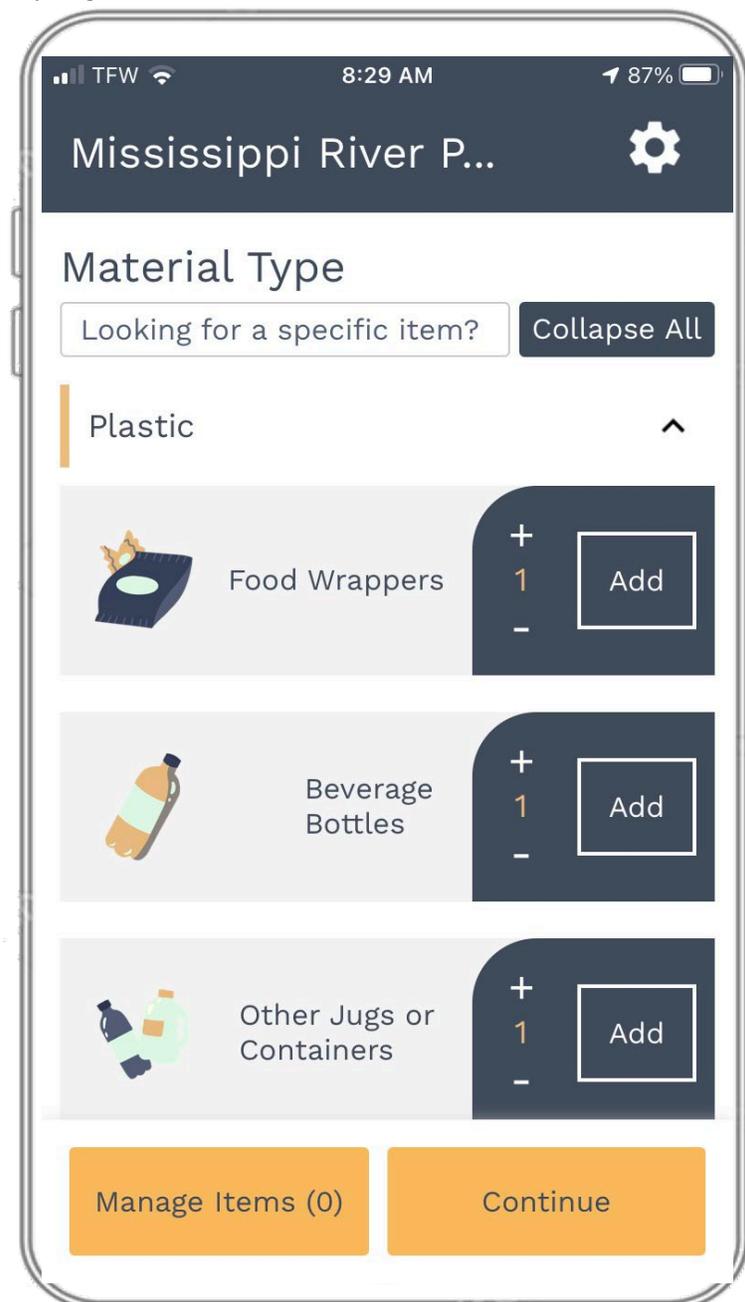
Guidelines for Tracking Litter

- Record items that are over 2.5 cm (or 1 in) in diameter.

- If the item is fragmented but you can tell what it originally was, log it as the original item. This will help us identify what products are sources of litter. For example, log a piece of a chip or crisp wrapper as a plastic food wrapper rather than a fragment.

- If the brand of the item is identifiable, use the description box to add in the brand name.

- If you come across an item you're not familiar with, use the "Other" item and add a description of the item.

- If you see an area with lots of litter, log it as an accumulation area to record its geospatial coordinates ; estimate its length and width in feet in the description box.

- When you're done tracking, continue to the mobile survey to answer a few short questions about the type of sampling event, time spent collecting, and the number of volunteers. You can also add photos to your log and share on social media to encourage others to get involved. Don't forget to tag @DebrisTracker!
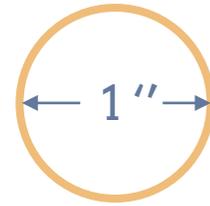
Litter on Land

Where: See regularly updated map of data needs in Rosedale and Greenville

When: Data collection begins on June 11th; track for a minimum of 20-minutes; track longer if you'd like!

How:
Select a 200 x 200 m (or about 650 x 650 ft) square shown in orange on the map. Once you arrive at your selected square, find a safe place where you can collect data along a roadside, sidewalk, or other walkable area where litter often accumulates. For example, this might be a pathway on the side of a road, between a roadway and sidewalk, or along a walkway in the park. If there's not a safe space within the orange square, move to a nearby area to collect data.
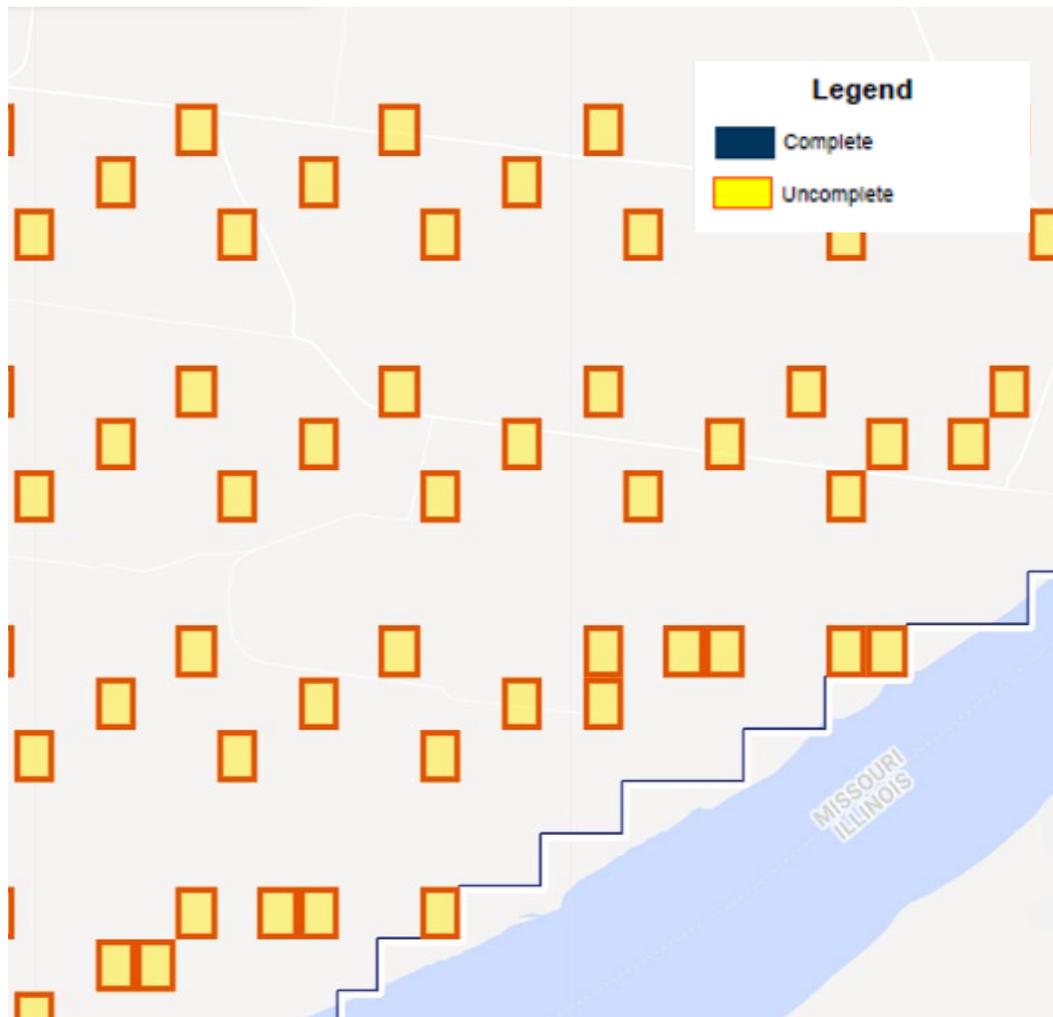
Within the square, you can select your starting point on location based on ease of access or safety. If multiple options exist, flip a coin to pick which area you'd like to survey. Follow the pathway generally - you don't have to travel in a straight line. If the path turns, you turn.

From the edge of the pathway, visually estimate 1 m (about 3 ft) in width covering the area where litter accumulates. This is about the length from the center of your chest to the fingertips of your outstretched arm. Use Debris Tracker to record all litter items present in your 1 m wide transect. Track data for a minimum of 20 minutes in your selected location.

Survey areas in the community have been determined based on areas of interest in the community near the river based on input from local partners. We're asking volunteers to collect data in the identified urban areas - rather than just on the riverbank - so we can capture upstream, active litter input. This will provide us a comprehensive look at what kinds of items are ending up on the ground from societal activities close to the source.
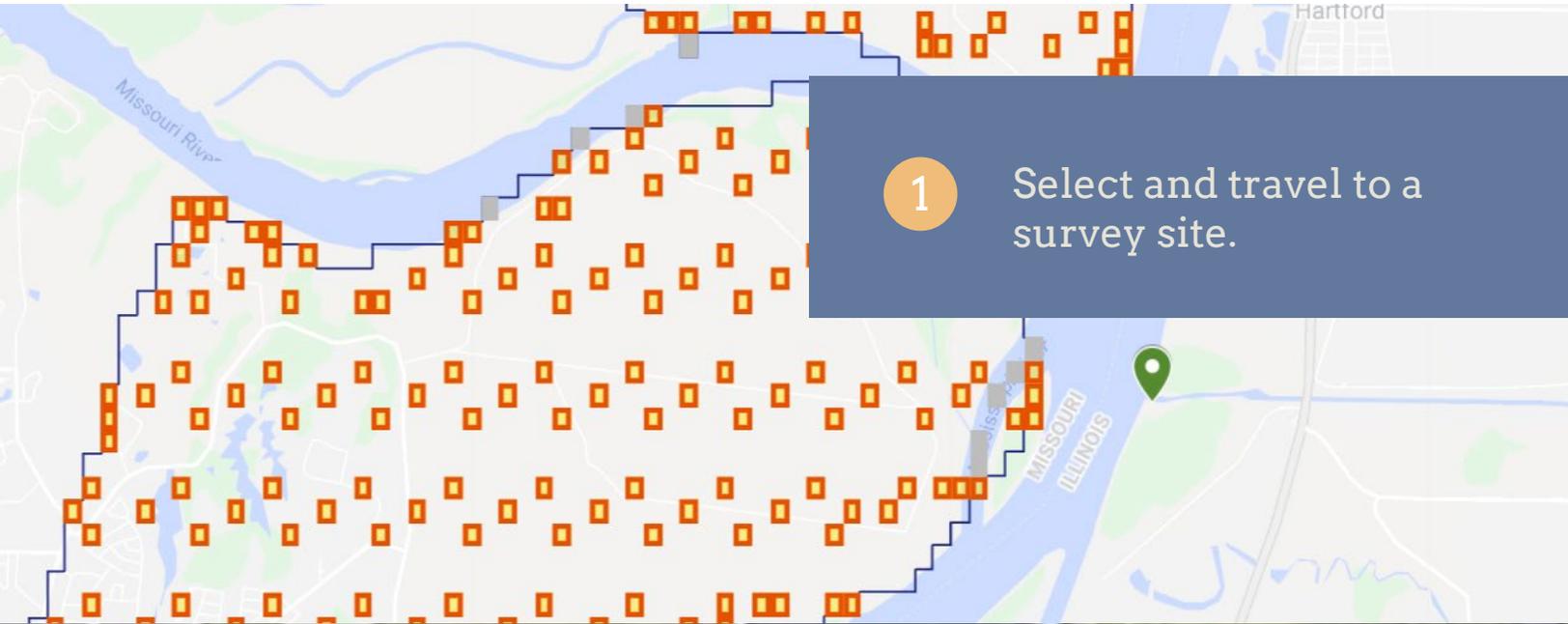
1. Select and travel to a survey site.
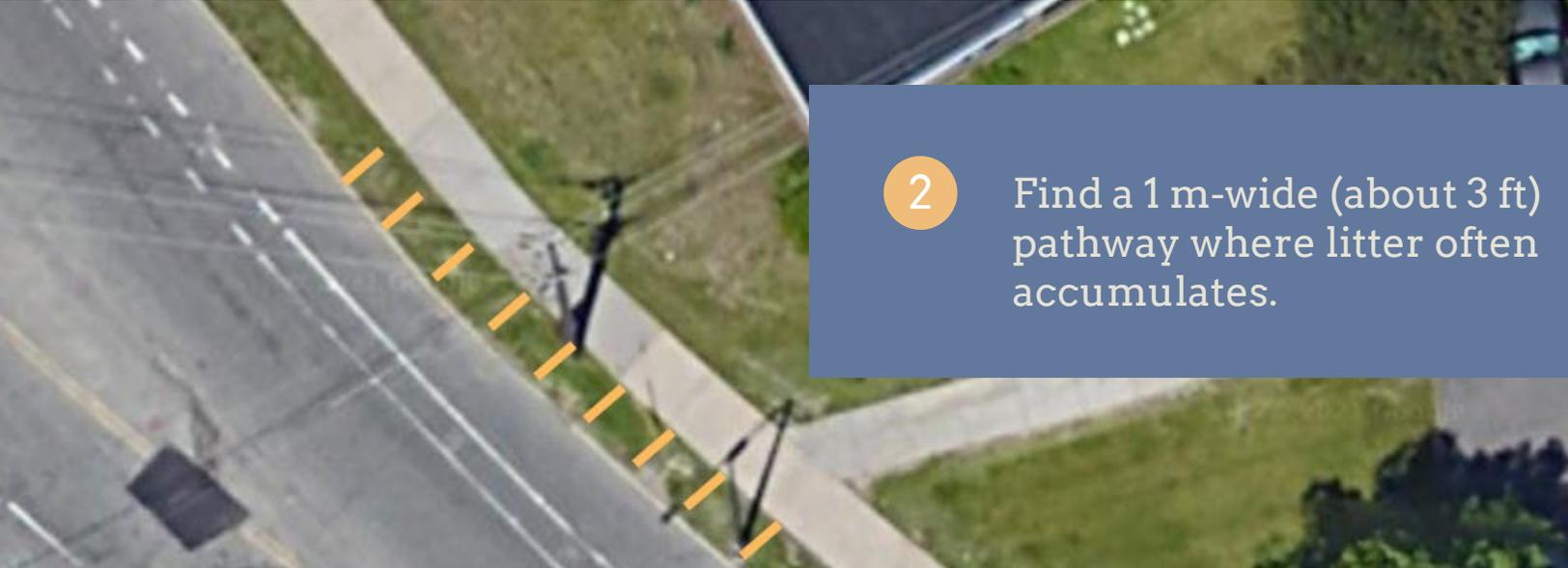
2. Find a 1 m-wide (about 3 ft) pathway where litter often accumulates.
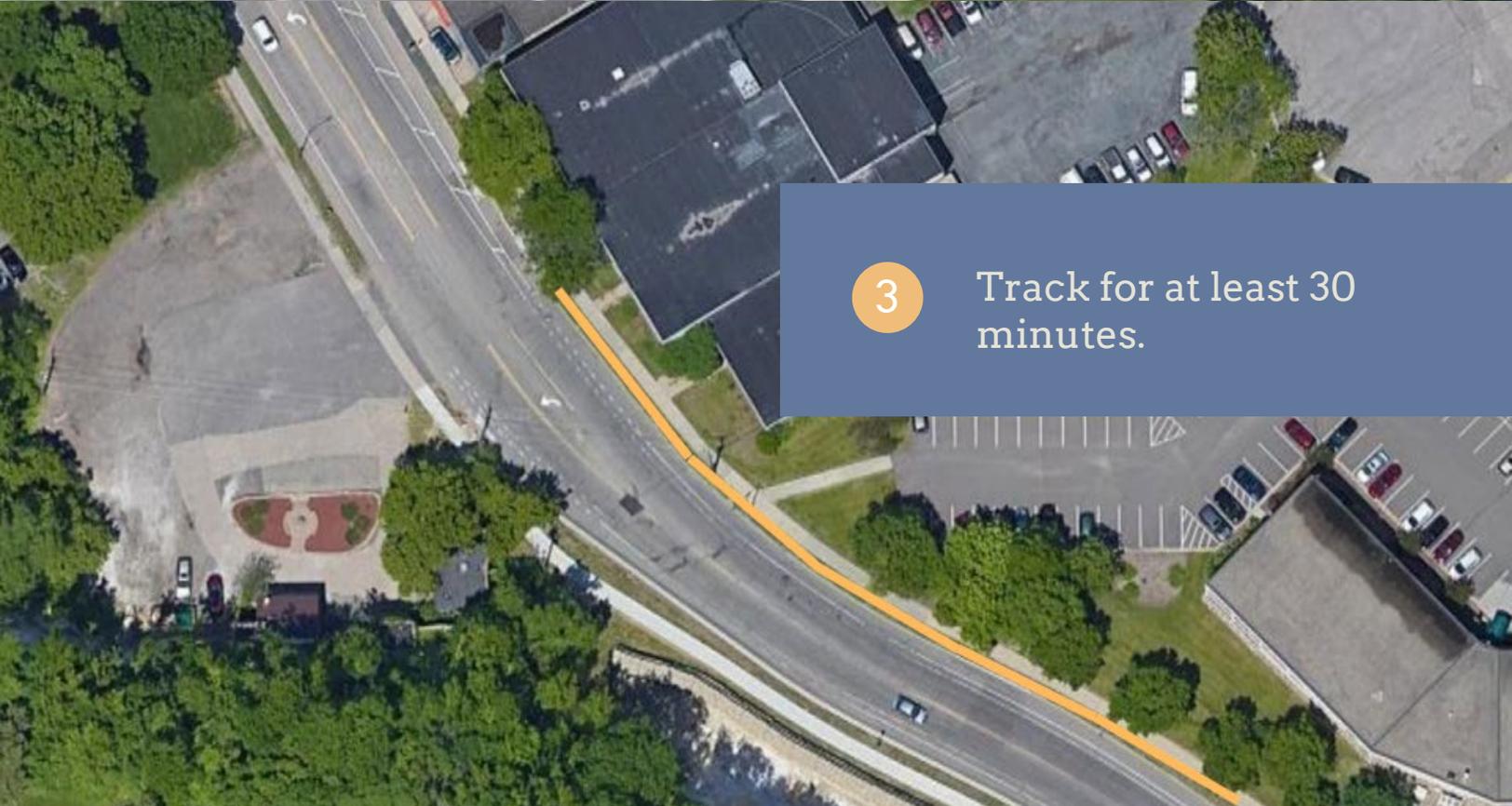
3. Track for at least 30 minutes.

Floating Debris in the River

Where: Find a spot where you have a clear view of the Mississippi River or a tributary

When: 15-minute minimum; track longer if you'd like! Log during daylight hours when you can see clearly.

How: Select a floating debris observation point along the riverfront based on the maps. Once in your spot, use Debris Tracker to record all visible debris for a minimum of 15 minutes. Record everything you see within about 100 m (or about 325 ft) from the shoreline. If there are floating items you cannot identify, log them as other. You do not need to log natural floating debris, like sticks or logs.

Follow the Guidelines for Tracking Litter. Make sure you check "floating debris survey" as the type of data collection.

What if I can't track in a designated survey area?

We still want your data!

Even if you can't follow these guidelines, tracking with Debris Tracker wherever you are is still valuable for expanding our understanding of plastic pollution in the Ohio River Basin.

You can track wherever you are – even if it's just out for a walk in your neighborhood.

Some organizations may have planned clean-up events in sites where large amounts of litter have built up in the environment.

If you choose to clean up while collecting data, here are options for getting organized:

1 *Clean As You Go:* Track in pairs and have one person log items in Debris Tracker while the other partner cleans up - this generates the most robust geospatial litter data!

2 *Clean First, Log Later:* Sometimes it may be easier to pick up all the litter and then sort and count what you found all at once. While this doesn't generate point-specific data on where litter is found, it can still be valuable in identifying broad patterns.

If you're in the same location where you collected the litter, you can sort and log the data in the Debris Tracker app.

If you're sorting in a different location than where you've collected litter, log in to your account on debristracker.org and select "Manually upload data." You can enter the quantity and type of items you've found - just like in the app - and then select the location where the data was collected on a map. Like data from the app, manually uploaded data is part of Debris Tracker's open database that is free and publicly accessible.

Manually upload data

Cleanups and Data Collection

It's very valuable to clean up litter in the environment. Picking up litter upstream can prevent it from traveling downriver and entering the ocean, preventing negative ecosystem impacts along the way. Collecting data on what you clean up makes your efforts more powerful by providing information that can help us understand what is ending up in the environment and inspire solutions of what we can do about it. However, your safety is a top priority. You do not have to conduct a cleanup to use Debris Tracker. If you choose to do so, here are some tips on staying safe while tracking litter.

Stay safe while tracking litter!

1. Wear utility gloves whenever you are touching trash.

2. Avoid dangerous pieces of trash like needles, broken glass, and syringes unless you have been properly trained on how to safely pick them up.

3. During your tracking session, do not touch your face. After your tracking session, wash your hands with soap and water for 20 seconds or use hand sanitizer.

4. Disinfect your phone after each tracking session. Just type "how to clean your mobile phone" into your browser for proper instructions .

5. Recommendation: Have an up to date tetanus shot. Remember, you are working with trash.

6. Follow all local health department guidelines for preventing the spread of COVID-19. Wear masks where appropriate and maintain a distance of 6 feet between volunteers.
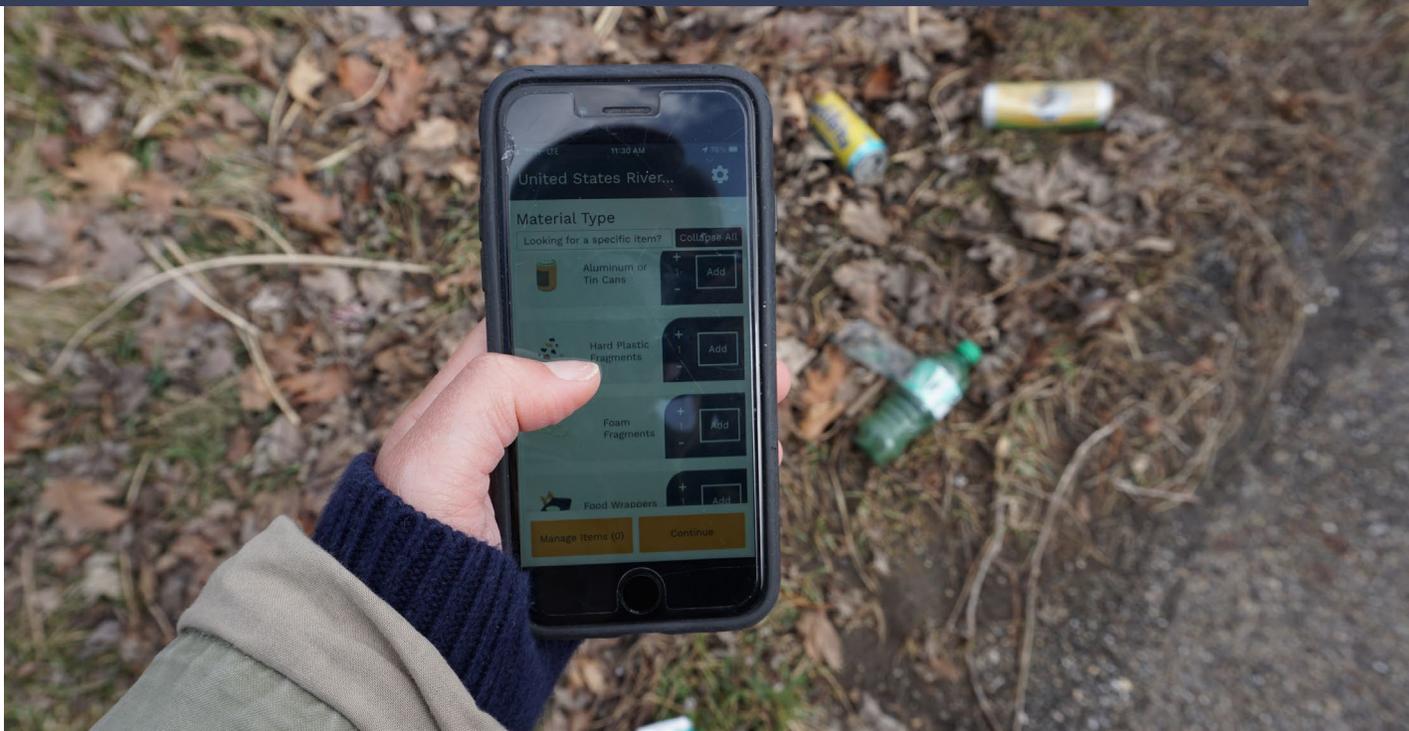
Next Steps

Download your data anytime by logging into your account on debristracker.org. On the data tab, you can view and download data from around the world; you can search by organization, category, and date. To view data from the Mississippi River Plastic Pollution Initiative, select Mississippi River Plastic Pollution / MRCTI as the organization.

The data you collect will be used to help generate a plastic pollution map, identifying hotspots along the river and informing solutions. But your journey with community science doesn't have to stop here. Debris Tracker is a free, open-access tool that can be used by anyone, anywhere to collect data on litter they see, and contribute to a growing database on plastic pollution around the world. When you collect data with Debris Tracker, whether on a neighborhood walk or along the river, you're joining a global community of educators, researchers, and people around the world just like you! You can even start your own Debris Tracker project to collect data and inspire local actions in your community.

# Resources

Mississippi River Plastic Pollution Initiative >

K-12 Education Resources from National Geographic >

Debris Tracker >

What is Debris Tracker? >

Getting Started with Debris Tracker >

Explore data from citizen scientists around the world at **debristracker.org/data.**
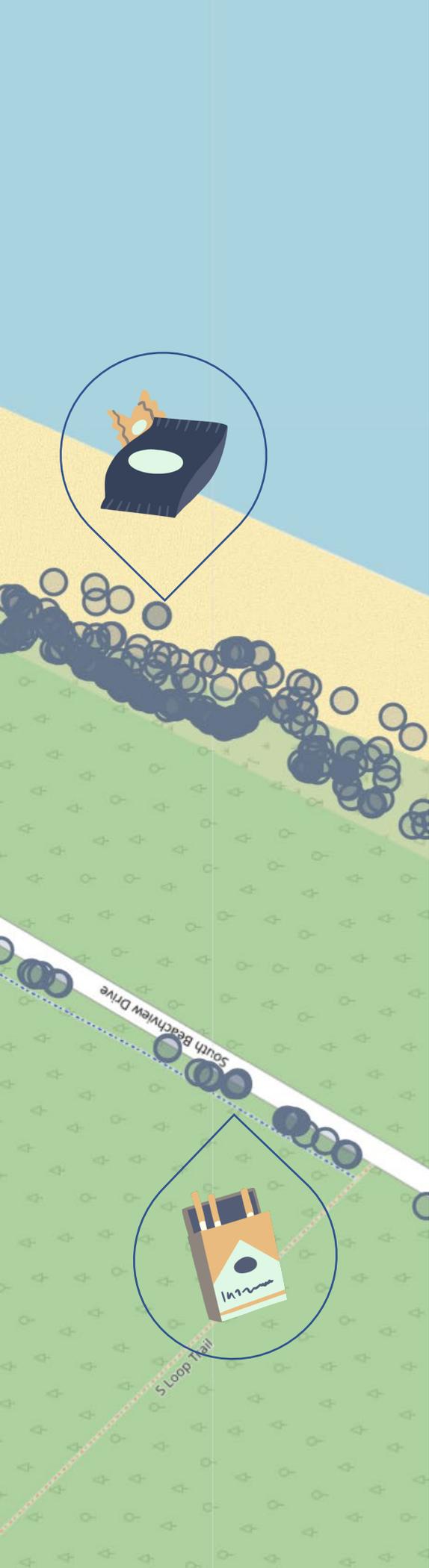
Thank you.
Your data will make a difference in understanding plastic pollution on the Mississippi River. Together, we can find solutions to create clean communities, clean rivers, and clean seas for all.

Marine
Debris Tracker
Powered by
Morgan Stanley

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MRCTI

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