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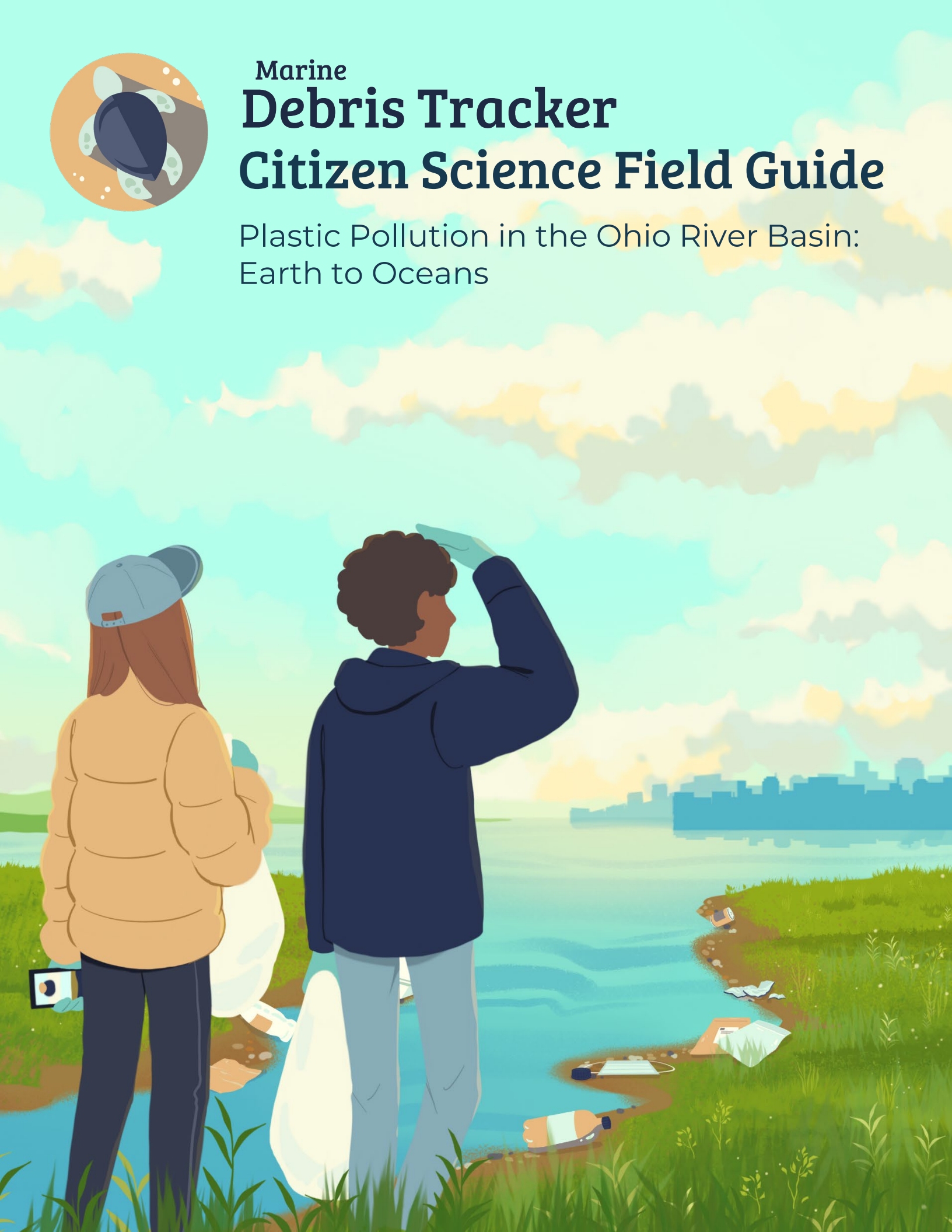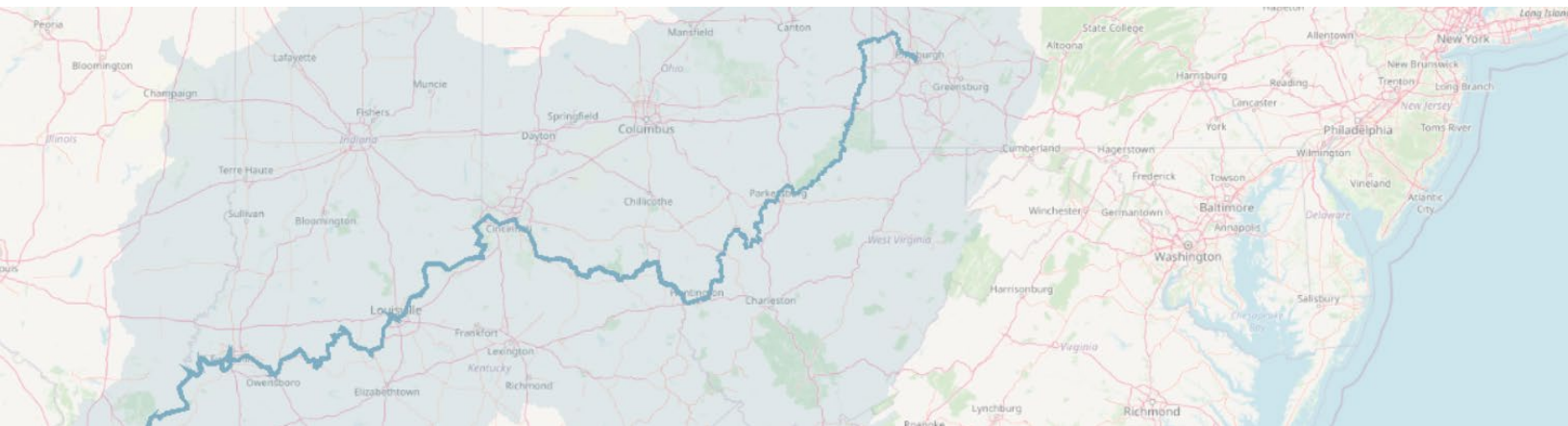# Debris Tracker
Citizen Science Field Guide

Plastic Pollution in the Ohio River Basin:
Earth to Oceans

About Ohio River: Earth to Oceans

The Ohio river flows 981 miles through six states, from Pittsburgh, Pennsylvania to Cairo, Illinois. There, the Ohio meets the Mississippi River, eventually connecting it to the Gulf of Mexico. We both rely on and impact the river. More than 25 million people live in the Ohio River Basin and over five million people use on the river as their source of drinking water. But the river is threatened by plastic pollution, when everyday items like plastic bottles and food wrappers enter the waterway from our communities. We need you help to characterize plastic pollution along the Ohio River. Debris Tracker is a free, easy-to-use mobile app that unites the power of technology and citizen science to flight plastic and other types of pollution that harm our environment. Every day, dedicated educational, non-profit, and scientific organizations and passionate citizen scientists from all around the world record data on inland and marine debris. You can join us and start tracking today!

Debris Tracker volunteers are creating a growing, open dataset on plastic pollution that would be impossible for scientists to build without your help. The data you collect in the Ohio River Basin will help us understand the state of plastic litter along the Ohio River's banks and in communities adjacent to the river, ultimately generating a plastic pollution map that will help local stakeholders including policy makers, businesses, and citizens take action.

In this guide, you will find:

- Why does citizen science data matter?

- How can you collect data with Debris Tracker?

- Where should I survey?

- Safety guidelines

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 Ohio River is still limited. While we know the plastic pollution problem doesn't at the ocean, 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**.
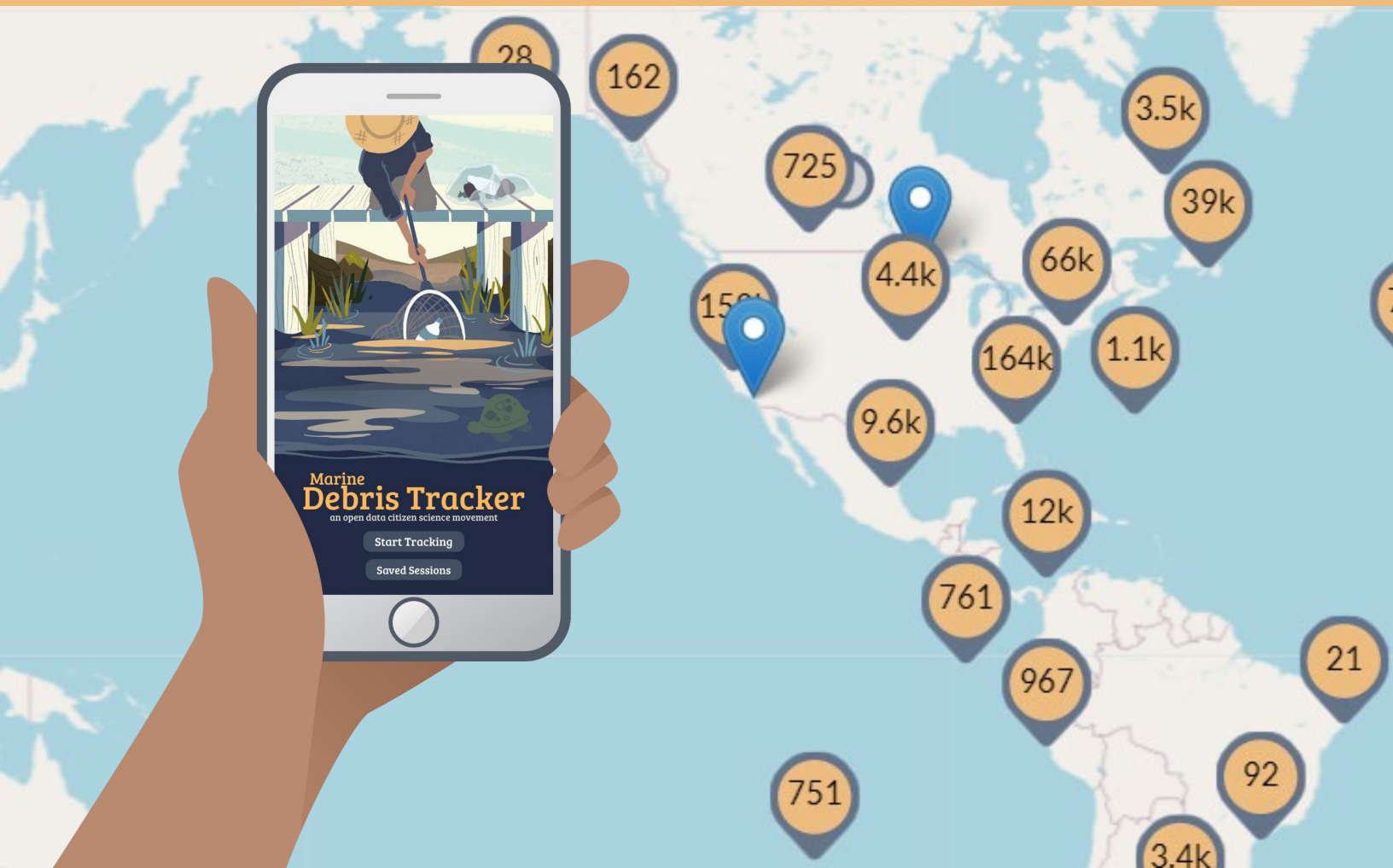
In the Field: Collecting Data with Debris Tracker

1 Get started by downloading the free Debris Tracker app on Android or iOS.

2 Open the app and allow it to access your location and photos, so we can collect geospatial data on where you're tracking and where you're finding litter. The app is a high-tech data card, designed for data collection in the field to generate the highest quality scientific data.

3 Log in or create an account. Select "Start Tracking" and search for United States Rivers under organizations. Select the "US Rivers" list and continue.

4 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.

5 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.

6 If you click Manage Items, you can see a map of what you've tracked so far. Here, you can also delete items you added 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.

You can use Debris Tracker without cell service or Wi-Fi. Open the app and load the US Rivers list prior to tracking. When you're done tracking, select "Upload Later". When you're back in service, open the app and upload the data from your cloud on the homepage.
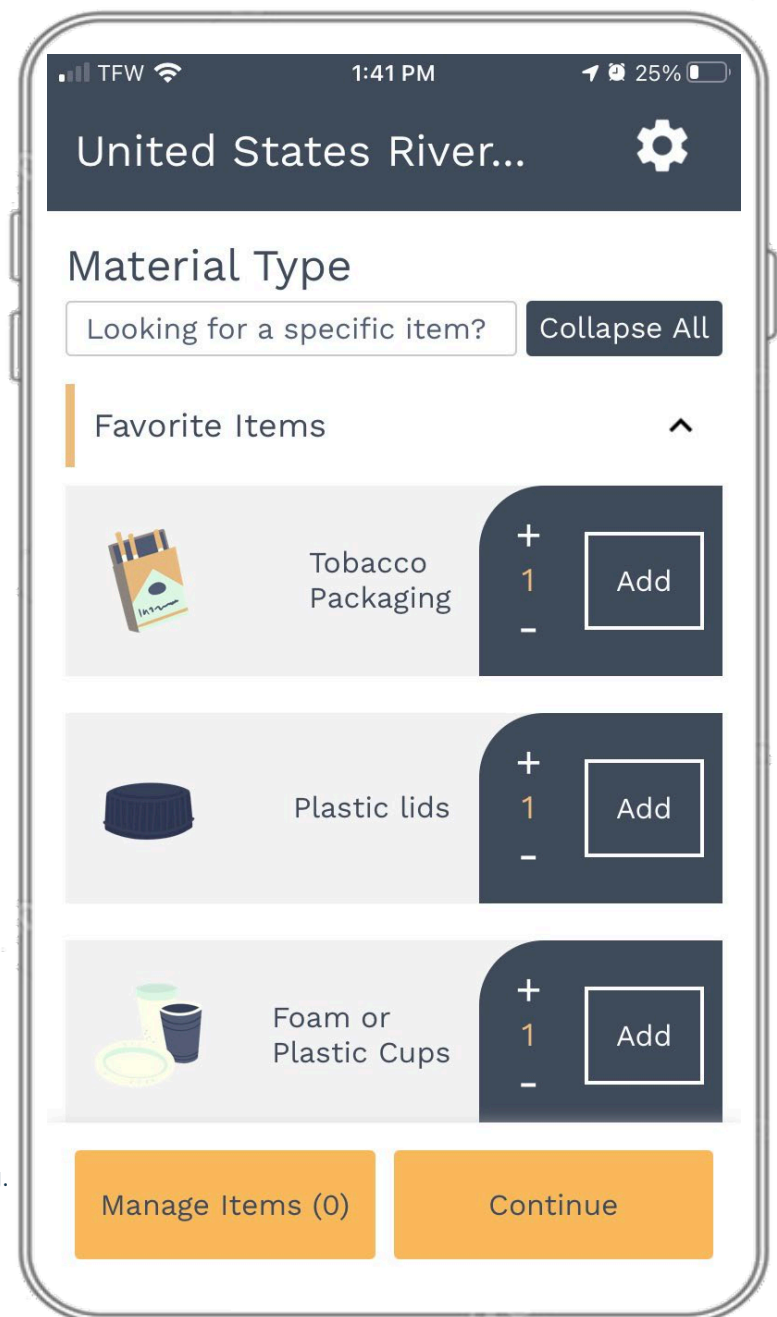
Guidelines for Tracking Litter

- 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!
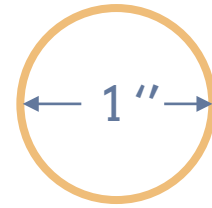
Where should I survey?

While any data collected in the Ohio River Basin is valuable, we are focusing on four communities: Stark County, OH, Cincinnati, OH, Louisville, KY, and Cairo, IL. Within these key communities, our team has stratified surveying sites based on population and income. Priority sites are shown in orange below.
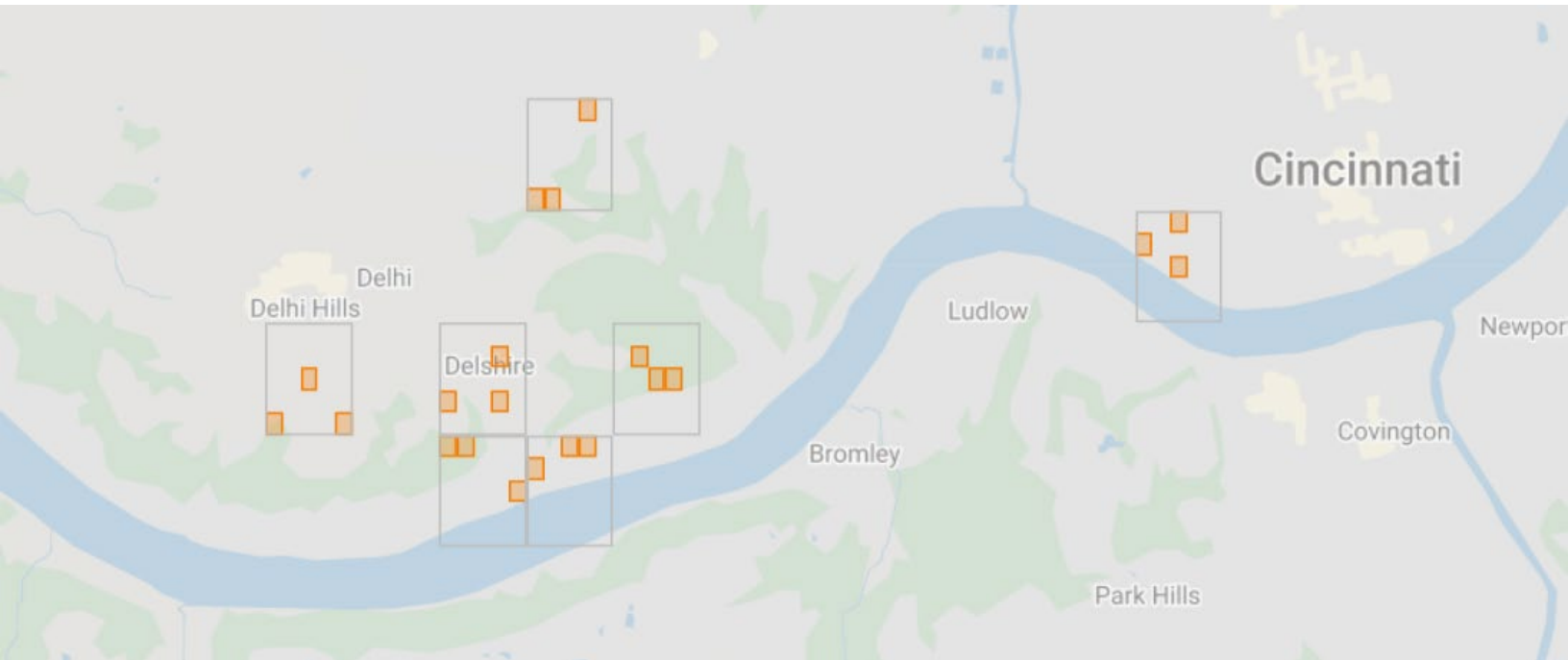
**Where**: See [Ohio River: Earth to Oceans Surveying Map](#)

When: Anytime between Earth Day on April 22nd and World Ocean's Day on June 8th; Spend at least 20-minutes tracking litter at a site; track longer if you'd like!

Why: We're asking volunteers to collect data in the identified areas - rather than only 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 activities close to the source.

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.
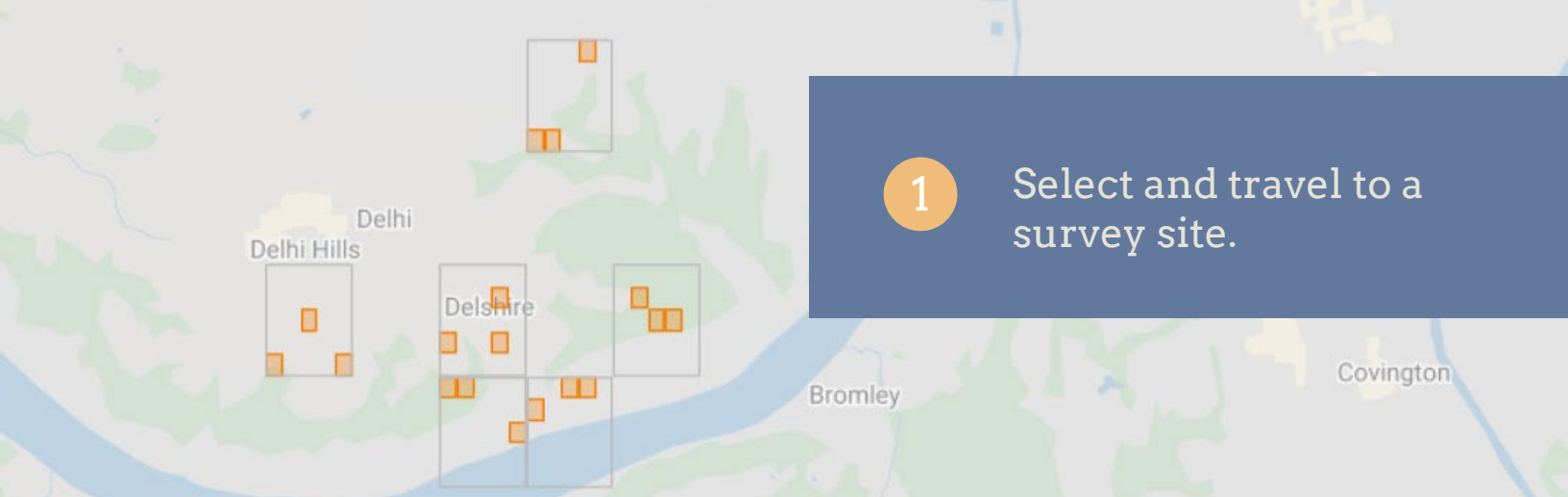
1 Select and travel to a survey site.
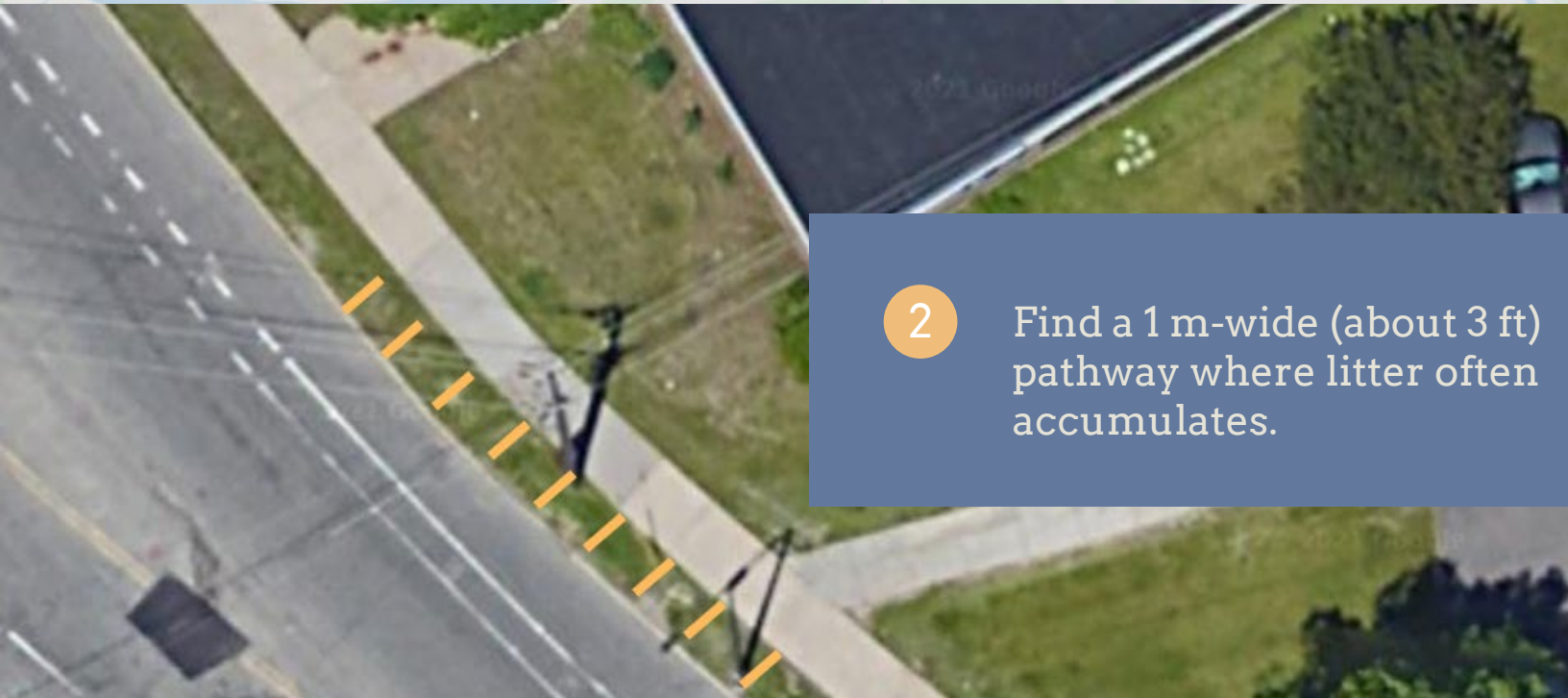
**2** Find a 1 m-wide (about 3 ft) pathway where litter often accumulates.

3 Track for at least 30 minutes.

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.
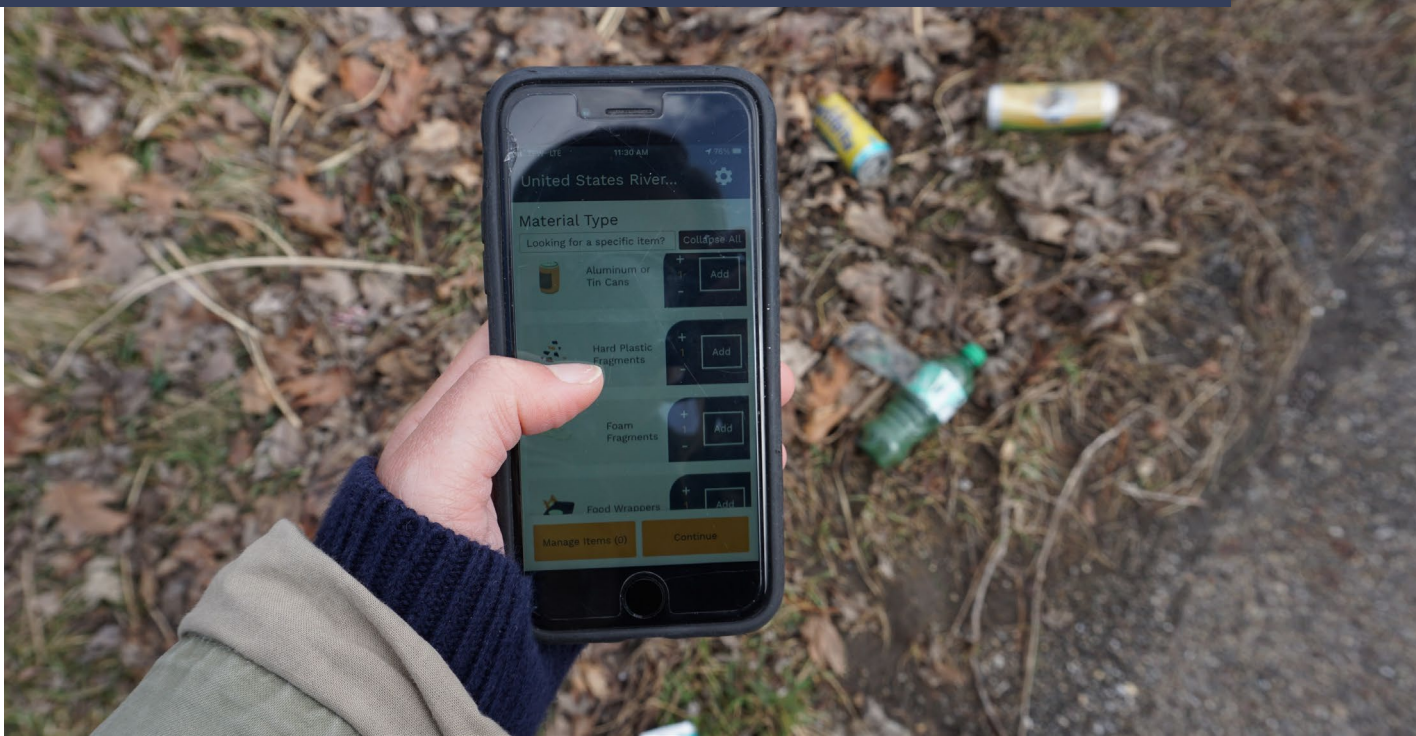
Next Steps

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 Ohio River, select United States Rivers list 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.
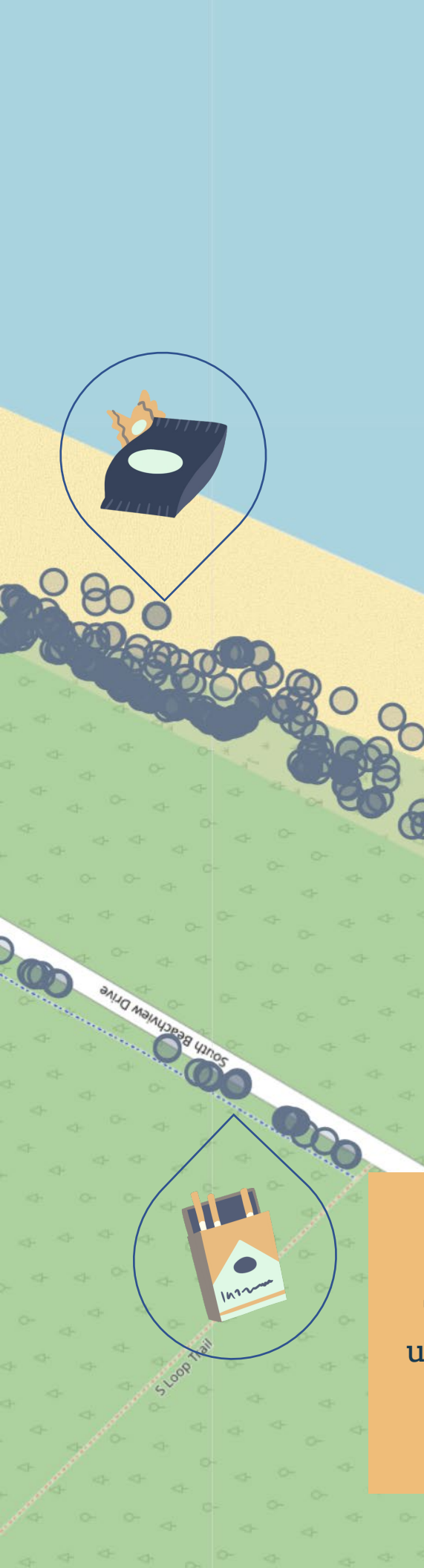
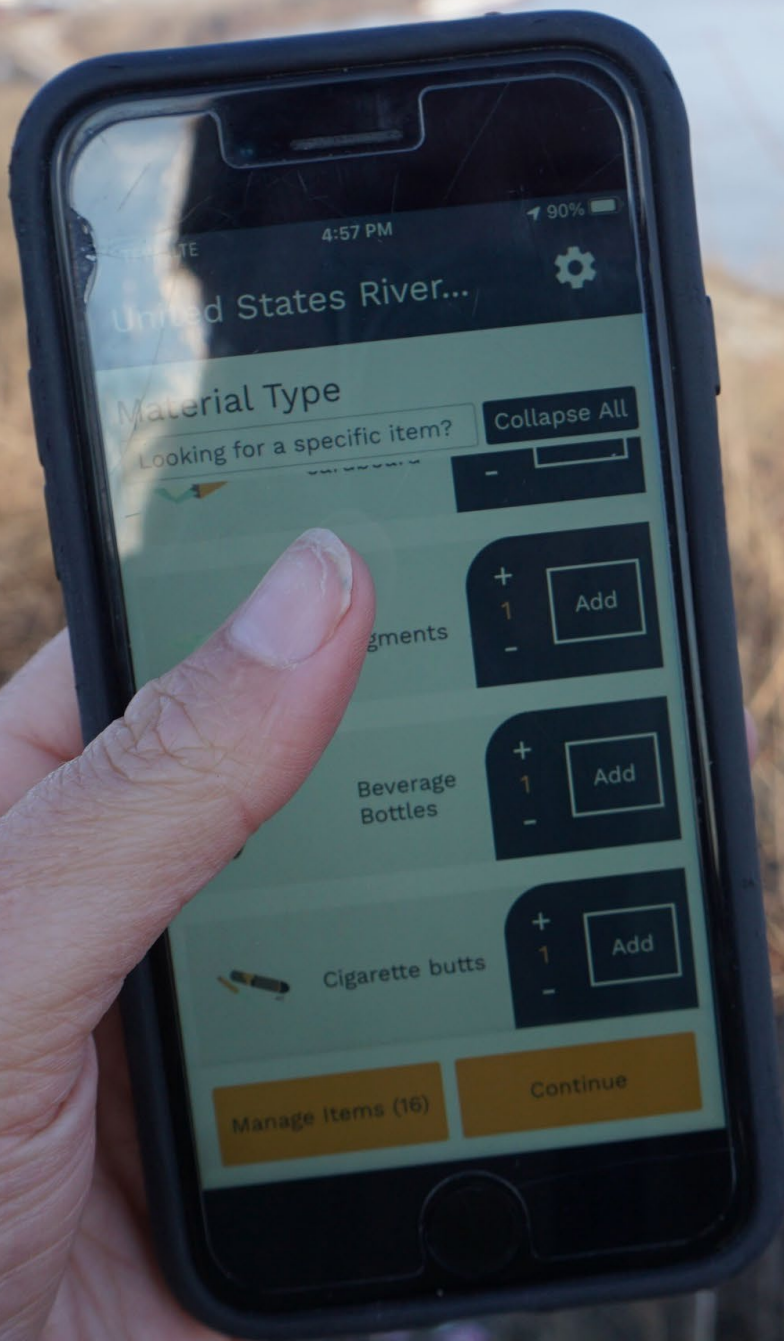## Resources

K-12 Education Resources from National Geographic >

Debris Tracker >

What is Debris Tracker? >

Getting Started with Debris Tracker >

Thank you. Your data will make a difference in understanding plastic pollution on the Ohio River.

Marine
Debris Tracker
Powered by
Morgan Stanley