



Buzzards Bay Stormwater Collaborative

Please submit photographs of stormwater pipes through stormwater.buzzardsbay.org

The Buzzards Bay Stormwater Collaborative, a partnership between municipalities in the Buzzards Bay watershed, the Buzzards Bay Action Committee, and the Buzzards Bay National Estuary Program has begun a program to map and monitor pollution discharged from stormwater pipes and road cuts into Buzzards Bay. At many sites, stormwater discharges are the primary cause of swimming beach and shellfish bed closures.

The public can help with this effort by submitting photographs of stormwater discharge pipes. The photographs will help us identify unmapped discharges and document the condition of discharge pipes. We want pictures of pipes -- whether or not water is flowing from them. If you see a failing catchbasin (filled with sand or blocked with debris), you can submit photos of those sites too.

If you are walking along a beach, trail, or on walkway and see a discharge pipe, simply go to stormwater.buzzardsbay.org on your smart phone or wireless tablet. Click the "interactive map" link in the drop down menu, and click the refresh button to update the map to your location. The website will use the GPS in your device to estimate your location. With the web application, you will see whether the discharge pipe is already mapped and photographed. The rest of the guide explains how to use the interactive map, how to upload a photograph, and how to create shortcuts to the website on your device if you intend to submit many photographs. If you want to submit just one to a few photographs of stormwater discharges, you can also email them, with a clear description of the location or its ID number, to photos@buzzardsbayaction.org.



Stormwater pipes come in different sizes and shapes. They can be made out of fiberglass, plastic, concrete, or metal.



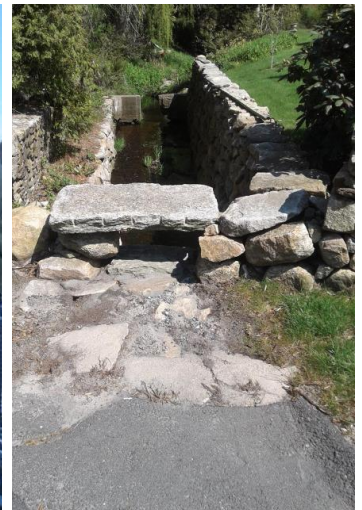
Some pipes may be buried. We want pictures of these too.



Pipes may be hidden in walls or behind bushes.



Pipes may be underwater.



Funnel-like depression of pavement along a road or parking lot directs stormwater into streams and wetlands. We call these "road cuts."



Catchbasins are grates and curb cuts that collect stormwater into underground pipes. If these become filled with sand, leaves, or litter, parking lots and streets will flood during heavy rains. We want pictures of these failing catchbasins too!

"Installing" and Using the Interactive Map on Mobile Devices

The Buzzards Bay NEP has added an interactive map to the [Stormwater Collaborative](#) website to help volunteers and Collaborative participants collect and upload photographs and information about stormwater discharge pipes and other infrastructure. While it can be used on desktop computers, the webpage is designed to work on a mobile device (phones or tablets) with the GPS activated. This web-based tool can be used with ease on Android, IOS, and Windows operating systems (more info is available at our [crowdsourcing page](#)).

Setting Up Shortcuts on a Mobile Device

To use the site, navigate to [stormwater.buzzardsbay.org](#), and click the **interactive map** link. You can also add shortcuts to the website on your mobile device as per the steps below.

Step 1: Open your browser on your mobile device, type in [stormwater.buzzardsbay.org](#), and on the menu, click the interactive map tab.

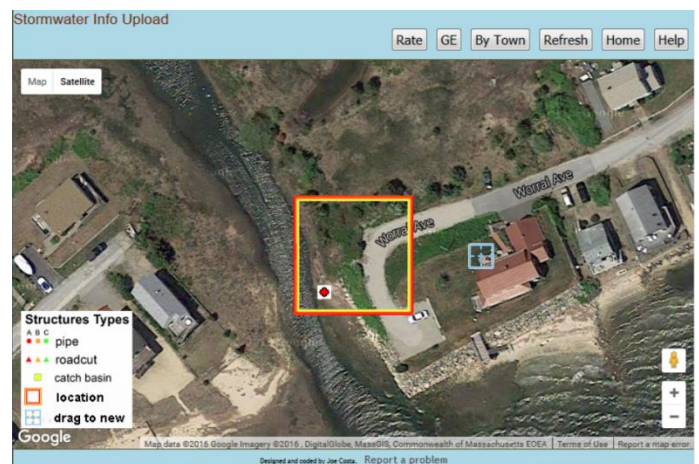
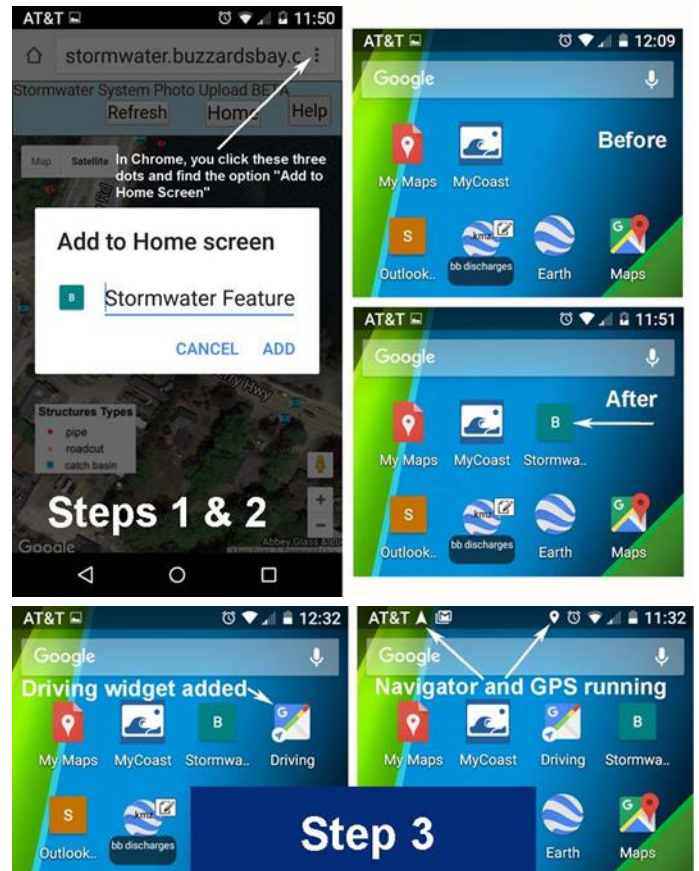
Step 2: Add this map page to your device home screen. How you do this varies with browsers. In Chrome (picture to the right) click the three dots at the top right of the screen.

Step 3: If your location pointer does not match your position well (off by more than 60 feet), the website might not be able to activate your GPS (especially true on many android platforms). To overcome this, open any GPS or navigation app that keeps the GPS icon active in the background. One that works well is the "Driving Mode" widget that is available when you install the "Google Maps" app. Add the Driving Mode widget to same screen as your stormwater map shortcut. If you do not know how to add a widget, search "adding widgets" and the name of your phone.

Uploading Photos and Information

You can upload photographs and information for existing mapped stormwater features (discharge pipes and catchbasins), or new pipes you discover. If you want to report or map catchbasins, you should use the "By Town" maps. The main map shows all discharges in 10 municipalities, but the "By Town" pages show both catchbasins discharge pipes (and soon manhole covers), but only for a single town. While walking a site, open the Stormwater map page. Make sure the phone's GPS is activated. (Look for the GPS icon, if it is not on, open a navigation app in the background. See above). Periodically click the "Refresh" button to update your location on the map. A large red and yellow outlined box will appear showing your approximate location (you will likely be somewhere in, if not near the center of the box, depending on the quality of the GPS signal), and a small blue new features crosshairs will be off to the right of the location box.

For existing stormwater features: Click on an existing stormwater feature (discharges pipes are colored circles, road cuts are triangles, catchbasins are squares) to submit a photo. An information box will pop up. In that box, click the link "Upload Photo." This link will open a new page where you can fill in information about the feature (optional), as well as



After clicking the refresh button, you will likely be located somewhere in the large red and yellow box. In this example, if you are standing at stormwater pipe, and if that pipe matches the location of the red dot above (use the features around you to judge, the top of the map always points north), then you are at an existing mapped feature. Click on the existing feature (the red dot) and a screen will pop up to allow you to upload a photo and other info. If you discover a new discharge or problem site, drag the blue crosshairs to the precise location of the feature to upload information and photo of the site.

upload a photograph. If you add your email address to this screen, you will get an email notification with the information you submitted, a link to the uploaded photograph, and even a driving directions link to the site if you want to return to it.

For new features: If you find a stormwater pipe or feature not in our database, drag the new feature crosshairs marker to the precise location of the feature, then double click the location marker (or long hold) and it will open the same upload information page as described for existing features. If you get confused on the orientation of features around you, face north, then look down at the map.

Wireless Data Management Tips

- Before you go outdoors, where you have Wi-Fi access, open the interactive map pages or pages you will use, and zoom into all the areas you will visit. Your phone or tablet will cache a large amount of data which will speed load times and reduce data use in the field.
- If you have the capability, reduce the default picture size of your camera. Most of the data use in using this site is defined by the number of pictures you upload.

Frequently Asked Questions

Question: Do I need to save the webpage as a shortcut on my device?

Answer: No; this is just a matter of convenience. From any device, just go to stormwater.buzzardsbay.org and click on the "Interactive Map" tab.

Question: When I am on a desktop computer, the map jumps to a location outside the study area, or does not show my location correctly. What am I doing wrong?

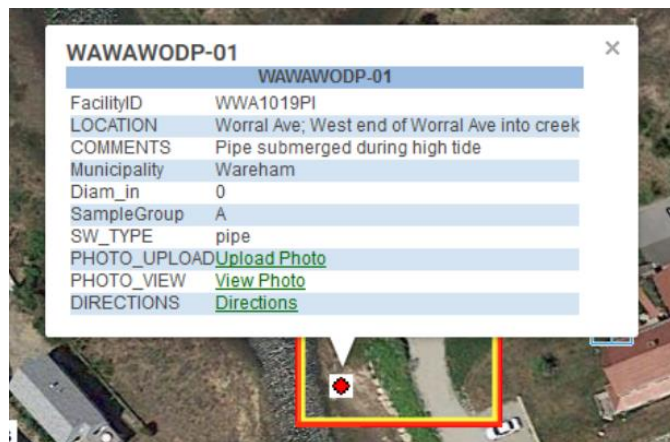
Answer: Nothing. This interactive map is designed principally to work with GPS-ready mobile devices within the study area. The website will automatically jump to your device's reported location. Desktop computers do not have GPS hardware, so they do not report accurate locations. However, your browser will report your approximate location based on your internet service providers location information, which might be only accurate to within a few miles.

Question: When I use the interactive map on my smartphone, my location is off by 100 feet. How can I correct this?

Answer: Either your phone does not have high positional accuracy turned on (see your phone settings menu), or the webpage is not able to turn on the GPS receiver on your phone (indicated by the GPS icon not staying permanently on; it might appear for a second on refresh). The solution in both cases is to run another app in the background that keeps the GPS turned on. We suggest the Google Maps "Drive Mode widget" (see previous page).

Question: Can I upload more than one photo?

Answer: You can upload as many photos as you like. They are all recorded and date stamped. The display link, however, will show only the last photo uploaded.



If you click on an existing feature (the red dot here), a screen will pop up that shows the Facility ID, information about the facility, and links to upload and view photos (if the latter exist).

If you click the "upload photo" link on the interactive map page, a new pop-up data entry screen will open. On this screen you can upload a photo and other information about the site. Don't forget to add your email address so you can get a confirmation of your submission. If you press the "upload information" button before you attach a photo, on the upload success page, press the "back to the previous page", and resubmit the information with a photo attached.

Question: I can't click an existing feature because the new features crosshair is on top, and I create a new feature instead. What should I do?

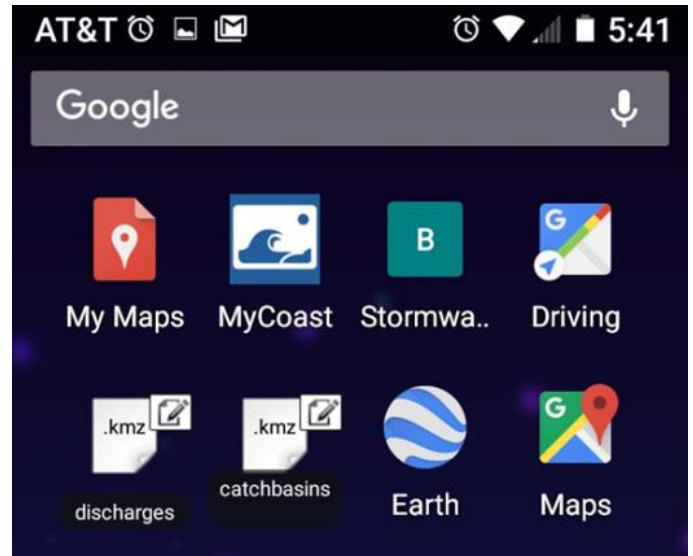
Answer: Hold down the crosshairs and drag it out of your way.

Question: I found a new pipe, but when I look at the map, I can't figure out where I am, or which building I am in front of. What do I do?

Answer: Your best strategy is to face north when looking at the map. In this way when you look at the map, features to the right on the map, are on your right, and features at the top of the screen are in front of you. Generally, if you study the roads, trees, vegetation, and buildings around you, with a little practice you should be able to place the new feature crosshairs within 10 feet of the feature you are reporting.

Question: What is the directions link for?

Answer: When you click on a point that represents a discharge pipe or other feature, the pop-up box includes a directions link. If you click this link it will open the driving app on your mobile device and offer directions to the site. This is a very handy tool to find a specific site not easily accessible from major roads.



The Google Earth App ("Earth") together with the catchbasin and discharge files (bottom row) saved to your screen. Just click on one of these kmz files, and they will automatically open in Google Earth on your device.

An Alternate Approach: Use Google Earth Instead

Instead of using the interactive map on our website to upload photographs from your phone, tablet, or desktop, you can use Google Earth instead. This approach only requires you to download our Google Earth files and install Google Earth on your device (Google Earth is a different application than Google Maps). The only disadvantage of this approach is that on smartphones, you cannot upload photographs to an unmapped feature you create (this function is available only on the desktop versions of Google Earth.) If using Google Earth on a computer, a pin is always located in the center of the map. To use Google Earth to upload photographs and information about a stormwater feature, just install Google Earth on your device then download our kmz files onto your mobile device (available at: stormwater.buzzardsbay.org/crowdsourcing). Create a shortcut to these files on your device's screen. Every time you click on it to open this file, it will automatically open the Google Earth app, and show your current location. Just like our webpage, on some devices you may need to open a navigation app (like the Google Maps Driving Widget) to turn on high position accuracy GPS on your device. We recommend the interactive webpage over Google Earth files to record new features.