
TRACING MUDDY WATERS TO SEDIMENT POLLUTION SOURCES

Muddy water is rarely natural and almost always indicates an upstream pollution source. We assume you're reading this factsheet because your favorite waterway gets very muddy after each major storm. In this factsheet we'll present some very simple procedures for tracing muddy streams, lakes or tidal waters back to a source(s). These sources could be construction, mining or logging sites as well as various industrial operations such as sand and gravel processing or even farms. Fortunately, our clean water programs provide the technical guidance owners need to correct sources on their land. And our clean water laws provide the legal authority that *should* ensure prompt correction. Unfortunately, lack of public support has resulted in poor enforcement in some areas, which is why we say *should*. By reporting muddy water sources you can help provide this critical support.

Good Maps & Aerial Photos Essential

Tracing muddy water to a source will be easier if you obtain a good map and aerial photos of the watershed. The map should show all the tributaries along with road crossings. US Geological Survey topographic maps are great and free (store.usgs.gov). Download the most recent aerial photo you can find from sites like Google Earth, Bing, etc. State or local GIS websites frequently contain good maps-photos too.

When To Trace Muddy Water To A Source

The best time to look for muddy water is when enough rain has fallen to produce runoff from areas of exposed soil but not from most areas covered by grass, shrubs, or trees. For much of the Chesapeake Bay watershed this is about an inch of rain in 24 hours, which occurs about once a month. So keep an eye on weather forecasts. When a half-inch of rain or more is predicted for the next day plan on carrying out the search. But don't set out as soon as rain starts. Instead, wait until enough rain has fallen to get runoff flowing down your street.

How To Trace Muddy Water To A Source

As shown in the example of the other side of this factsheet, begin the search by driving to the most downstream access point - usually a road crossing - on the main tributary to the waterway of concern to you.

Note the muddiness of the tributary at this first point and take a digital photo. Drive to the next access point upstream. If the muddiness appears the same then continue working upstream. If you reach a point where muddiness decreases noticeably then a sediment pollution source is likely located somewhere between this point and the last one you checked downstream (*see B-C on other side*). If the distance between these two points is a couple of hundred feet then you can probably see the source. In most cases though the last access was a mile or two downstream. Since we want to avoid trespassing onto private property, try driving the roads that come closest to paralleling the tributary along both sides. During a major storm stream beds which are usually dry will carry water. These *ephemeral* streams will not show up on your map. So as you drive the roads between the two access points stop at each low-point where water may be flowing. If the muddiness equals or exceeds that which you found downstream then that ephemeral stream likely drains the pollution source. Take a close look at any aerial photos you have to see if you can deduce the sediment source - some large area of exposed soil. Or just continue driving roads within the area that drains to the ephemeral stream. This should lead to an obvious source. If not then contact CEDS at 410-654-3021 or Help@ceds.org for further assistance in pin-pointing the source.

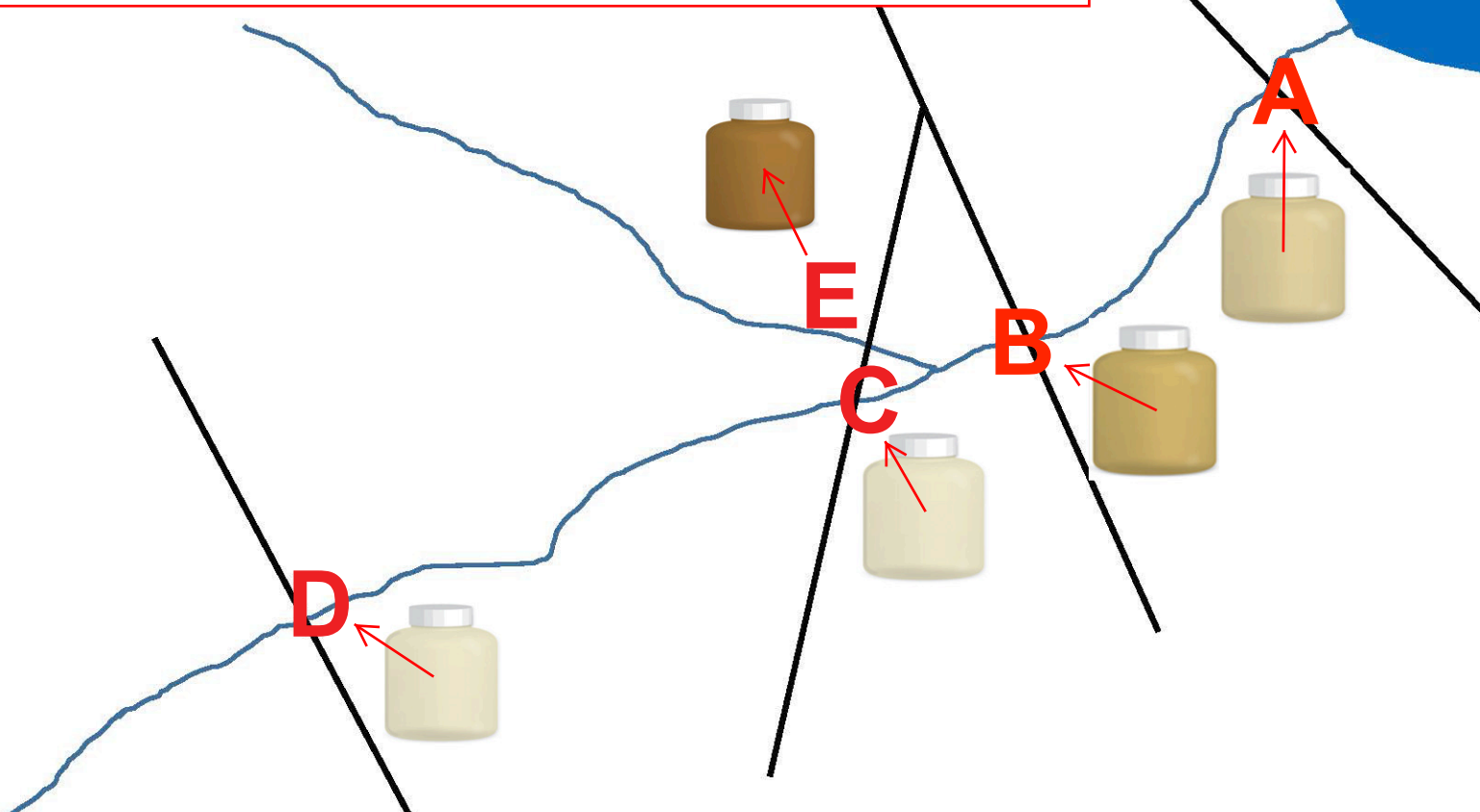
Getting Pollution Sources Corrected

If you pin-point a source releasing large quantities of very muddy water then you should contact your state pollution control agency. Chesapeake Bay watershed state-district hotline are listed below:

Delaware	800-662-8802
Maryland	866-633-4686
New York	800-847-7332
Pennsylvania	866-825-0208
Virginia	800-468-8892
Washington, D.C.	202-535-2600
West Virginia	800-642-3074

If you are dissatisfied with the response then visit: ceds.org/esp for further advice. You can also contact CEDS at 410-654-3021 or Help@ceds.org for further assistance in correcting the problem.

An Example of How to Trace Muddy Stream Flow to a Source



At the most downstream access point A the stream is moderately muddy. At B, the next crossing upstream, the muddiness is stronger. But at C the stream is clear indicating the source is somewhere between B and C. Tributary E is much muddier than at B, making this the source. Working upstream from E you find a large, steep recently cleared hillside. Spring water is flowing from halfway up the hill onto the exposed soil creating a considerable amount of muddy water by the time the flow reaches the stream at the bottom of the hill. You report this to your state pollution control agency. Continue working upstream from C to ensure you haven't missed any other pollution source.