
WATERSHED AUDIT GUIDANCE

POINT SOURCE DISCHARGES

This factsheet offers guidance for determining if a point source of pollution is having a significant impact on an aquatic resource. Advice is also offered for resolving impacts.



A point source discharge is any pollution release at a specific point, as opposed to nonpoint sources where pollution enters waters from diffuse locations such as stormwater runoff from farms. Examples of point source discharges include sewage-wastewater treatment plants, industrial-manufacturing operations, mines, landfills, concentrated animal feeding operations (CAFO), etc. In the context of this factsheet a point source discharge is any facility with an individual [NPDES \(National Pollutant Discharge Elimination System\)](#) permit.

Point Source Discharges in Your Watershed

The [USEPA ECHO \(Environmental & Compliance History Online\)](#) website is the best place to find the point sources discharges in your area. As the name implies, the ECHO website also allows you to compare compliance monitoring data with effluent (discharge) limits set forth in [NPDES individual permit](#). The limits are set at levels to protect the receiving waters. ECHO tutorials are at: <https://echo.epa.gov/help/tutorials>.

Limits of ECHO Data

Much of the ECHO data comes from Discharge Monitoring Reports (DMRs) which are submitted by the permittees every three months. The DMR data comes from samples collected and analyzed by those who own-operate the facility.

Regulatory agencies are required to periodically inspect each facility and gather their own effluent samples. However, inspection frequency can be quite low. For example, in 2017 only [22% of the 6,823 municipal-industrial NPDES facilities in Maryland](#) were inspected. In other words, the typical facility was inspected once every four or five years, which means excessive pollution releases could go unnoticed for a long time. To learn more about inspections see the [NPDES Compliance Inspection Manual](#).

On-The-Ground Point Source Audit Methods

We'll focus on simple audit methods to detect gross aquatic resource impacts which may occur between inspections. More sophisticated methods can be found at the USEPA [Monitoring and Assessing Water Quality](#) webpage along with links to local volunteer groups familiar with these methods.

Most discharges are to nontidal streams. When this is the case use the macroinvertebrate (insects-crustaceans) method described on the other side of this factsheet to assess stream health impacts. While wearing rubber gloves, several stones are examined from riffles (shallow, swift flowing areas) located upstream and downstream of the discharge point. If pollution-sensitive organisms, like caddisflies, are present upstream, but not downstream then there's a good chance the discharge is degrading water quality. A dramatic difference in water clarity or odor may also indicate a problem.

In lakes, tidal waters, or slower moving stream waters use the visual indicators in the [CEDS Quality of Neighborhood Waters Checklist](#) to detect negative effects. Also, there's testing meters as inexpensive as \$12 can be used to analyze water for Total Dissolved Solids (TDS), Conductivity (EC), pH, and temperature. Generally, as pollutant concentrations increase so does TDS and EC. If you find that TDS or EC is much higher downstream of a discharge then this may indicate a problem.

Resolving Point Source Impacts

If you believe a point source discharge is damaging a waterway then contact your state agency regulating permitted discharges. To identify this agency go to the USEPA [NPDES Permits Around the Nation](#) website. See Chapter 38: Working with Regulatory Staff, in the CEDS book [How To Win Land Development Issues](#), for advice about working with the agency to resolve your concerns. If you're dissatisfied with agency response then consult other How To Win chapters or the CEDS webpages [Equitable Solutions](#), [Politically Oriented Advocacy](#) and [Smart Legal Strategies](#). And you can always contact CEDS at Help@ceds.org or (410) 654-3021.

While wearing rubber gloves pick up several large rocks from shallow, swift-flowing riffle areas upstream and down of the discharge.



If caddisflies or other pollution-sensitive organisms are present upstream of the discharge, but not downstream then the effluent is probably degrading receiving water quality. Report this to your state pollution control agency.

Closely examine the surface of each rock for caddisfly cases like that pictured here and for larvae crawling on the surface. Also look for the other pollution-sensitive macroinvertebrates pictured to the right.



Point of Discharge

OTHER POLLUTION SENSITIVE STREAM INSECTS-CRUSTACEANS

