

CEDS PRELIMINARY WATERSHED AUDIT CHECKLIST - MARYLAND

Through CEDS Watershed Audits (ceds.org/audit) activities are identified which are releasing more pollution than permitted by clean water laws. Two new approaches developed by CEDS are utilized to rapidly bring these activities into compliance: Equitable Solutions (ceds.org/eqs) and Smart Legal Strategies (ceds.org/sls).

Preliminary Watershed Audits are used to get a feel for the extent of pollution releases within a specific watershed. The preliminary assessment is used to determine if the magnitude of pollution releases and noncompliance justifies a full Watershed Audit. Following are the activities routinely assessed during a Maryland Preliminary Audit along with “starting-point” indicators. But not all activity locations within a watershed are evaluated during the preliminary audit; just a representative sampling. More thorough methods are applied to all sources if a full Watershed Audit is warranted. For other state checklists contact CEDS: Help@ceds.org or 1-800-773-4571.

WATERSHED ACTIVITY	PRELIMINARY INDICATOR OF EXCESSIVE POLLUTION RELEASES	PROBLEM INDICATED	
		YES	NO
Point NPDES Discharge Permits	<p>Does the USEPA PCS/ECHO (epa-echo.gov) database show any permitted discharges within the watershed?</p> <p>If yes, then have there been any permit violations during the past three years?</p> <p>When the activity is viewed from adjoining public areas, is there any indication of spills or other pollution releases (these releases wouldn't be noted in the online compliance data)?</p> <p>Is there a significant difference in the biological community, physical characteristics, or other indicators at points upstream and downstream of the discharge point?</p>		
Construction Sites ceds.org/esp	<p>Is there any point where runoff from exposed soil could flow from the site without passing through a trapping device? Trapping devices, such as silt fences/barriers, sediment traps and basins, straw bale dikes, etc. can reduce sediment pollution by 50%.</p> <p>Exposed Soil = Pollution: Mulch and grass seeding can cut sediment pollution by 90%.</p> <p>1. Is there any area of exposed soil along the edge of the site which is not covered with enough mulch or grass to obscure the underlying soil?</p> <p>2. Are there areas of exposed soil elsewhere on the site where heavy equipment has not operated for at least a month?</p>		
Stormwater Management (Pre-ESD)	<p>Go to the lowest point on residential, commercial, or other development sites.</p> <p>Is a stormwater pond present?</p> <p>If yes and the pond was created by placing an earth embankment across a shallow valley then are any of the following indicators of possible embankment failure present: trees growing on the embankment, embankment erosion, seepage or erosion along the outside of the pipe spillway, or low spots along an otherwise level embankment?</p> <p>If the pond was built in the last ten years, then runoff should first enter a smaller pond known as a forebay. Does the forebay appear to be more than 50% full or has sediment spilled from the forebay into the main pond?</p> <p>If sand-filters or bioretention facilities are present, then:</p> <p>a. is standing water present when more than three days have passed since the last rain?</p> <p>b. Is there an average of 12 inches of depth between the surface of the filter-bioretention bed and the first point where runoff could exit?</p>		

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Environmental Site Design (ESD) ceds.org/esd	<p>It is unlikely projects will exist which utilize ESD. So obtain the ESD Concept Plan for several of the most recently proposed development projects within the watershed.</p> <ol style="list-style-type: none"> 1. If wetlands, streams or other waters are present on or next to the site, then does the plan show buffer areas adjoining these sensitive resources? 2. Do the plans show a forest conservation easement or other areas which will remain in forest or will be planted with trees? 3. Do the plans show that all existing and proposed impervious areas will drain to one or more of the 15 ESD practices (<i>see Preliminary Review at ceds.org/esd</i>)? 		
Industrial-Commercial Areas	<p>Is there anything flowing from storm drains or other pipes besides clear, cool, odorless water?</p> <p>Are any barrels or other storage containers present near a waterway or in the floodplain?</p>		
Mining (other than coal)	<p>Does the MDE Non-Coal Surface Mine Location Maps webpage show sites within the watershed?</p> <p>If yes, then have all disturbed soils within each site been stabilized with vegetation, except those being actively mined?</p> <p>Do remaining exposed areas drain to large settling ponds?</p> <p>Are waters below the mine muddier than those above?</p> <p>Does there appear to be more unvegetated sand-gravel bars in the channel below the site than above, possibly indicating large sediment releases in the past?</p> <p>Is there a substantial difference in the volume of water flow above and below the mine, which may indicate flow depletion due to the mine?</p>		
Sewerlines & Pumping Stations	<p>Is a recent overflow indicated by the presence of toilet paper or other sewage components present around sewerline manholes or downslope of pumping stations?</p> <p>Do those living near pumping stations recall problem indicators such as audible alarms, flashing lights, sewage spills, or sudden increases in foul odors?</p>		
Forest Conservation & Buffers	<p>Note residential, commercial or other sites present in the watershed which were likely developed since the early 1990s.</p> <p>Does the <u>plat</u> for each site show a Forest Conservation Easement and/or Undisturbed Buffer?</p> <p>If yes, then do recent aerial photos show that the Easement/Buffer area remains in forest?</p>		
Cropfields <i>(Maryland law mandates control of severe farm pollution.)</i>	<p>Is there evidence of erosion (rills or gullies)? Conservation tillage practices keep lots of crop residue on the surface and greatly reduces erosion.</p> <p>Are soils exposed between harvest and spring planting? The absence of winter cover crops cause lead to excessive soil loss and nutrient-pesticide pollution.</p>		
Pastures	<p>Is there evidence of erosion (rills or gullies)? Pasture erosion frequently indicates too many head of livestock are being grazed.</p> <p>Do livestock have free access to waterways? Fencing off streams and providing alternate water sources greatly reduces pollution.</p>		
Livestock Confinement Areas	<p>Are barnyards, chicken houses, or other livestock confinement areas within 100 feet of a waterway or located in a floodplain?</p> <p>Are confinement areas under a roof or other measure to prevent rainwater and runoff from washing waste into nearby waterways?</p>		

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Manure	Is manure uncovered making it susceptible to rainwater washoff?		
	Is the vegetation between the manure and waterway something less than dense and well-established? Dense vegetation reduces the amount of manure pollution which can wash into nearby waterways.		
	Is manure stored within 100 feet of a waterway? If manure is stored too close to a waterway then even the densest vegetation may not prevent runoff pollution.		
	Is manure stored within the 100-year floodplain? On most streams and rivers the floodplain can be estimated by doubling the depth from channel bottom to bank tops.		
	Has manure been applied to frozen soil or snow where most will runoff with snow melt or the next rain?		
Logging - Timber Harvesting	Other than at waterway crossings, has harvesting or any other disturbances occurred within 50 feet of a lake, pond or stream? The 50-foot Streamside Management Zone (SMZ) is increased two feet for each 1% slope of the adjoining land. The harvest plan may allow some disturbances within the SMZ.		
	Has more than a week passed since soils within the SMZ were disturbed, yet the exposed soil has not been treated with mulching and seeding?		
	Can equipment drive through waterways rather than crossing over on a bridge?		
Water Quality	<p>Are any portions of the watershed on the impaired waters (303d) list (water.epa.gov/lawsregs/lawguidance/cwa/tmdl)?</p> <p>Does recent water quality data show a violation of water quality standards?</p> <p>Does the data show a significant difference in physical, chemical or biological characteristics between:</p> <p>a. two points on the same waterway; or</p> <p>b. tributaries with similar land use</p> <p>even though water quality standards are not exceeded.</p> <p>Is there a difference in the appearance of a waterway from one access point to another? A difference in water color, transparency, odors, surface scum, temperature, or other characteristics between one access point and another may indicate a pollution source between the two.</p> <p>Nontidal Streams: Are pollution sensitive organisms present at one access point but not the next downstream? Pollution sensitive organisms usually have six legs and live on rocks or logs in shallow, swift flowing riffle areas. The abrupt disappearance of pollution-sensitive organisms may indicate a pollution source between the two access points. Searching for these organisms provides a quick, highly-reliable means of detecting 90% of all stream or river pollution problems.</p>		
OTHER POLLUTION SOURCES OBSERVED/NOTES:			

