

Rocky River Watershed 319 Planning Grant

Road-Stream Crossing Inventory



What are 319's

- 319 Planning Grants are funded through monies designated by Section 319 of the Federal Clean Water Act from the US Environmental Protection Agency Administered through the Michigan Department of Environmental Quality
- These grants are designed to address nonpoint source pollution issues within a watershed through the development of a comprehensive watershed management plan

Tasks



- Inventory of the Watershed
- Identification of Pollutants
- Solicitation of Public Input
- Information and Education
- Others

Inventories

- Road-Stream
- Kayak
- Windshield
- Aerial Photo Comparisons



Road-Stream Crossing Survey

- Goal is to inventory 80% of the road-stream crossings in the watershed
- Qualitative two page form
- Provides good overview of river conditions that are viewable from road crossings
- Depending on how many crossings, you may see the majority of the river during the inventory

MDEQ Road Stream Crossing Inventory Form

- Access point observation sheet which records the following: Water color, stream width, stream depth, flow, physical appearance, substrate, instream cover, river morphology, stream corridor, road crossing information, and potential sources of pollutants

Watershed Survey Data Sheet

Date: _____ County: _____ State: _____
 Location: _____ Township: _____ Sec: _____ T: _____ R: _____ S: _____
 Investigator: _____ Lat: _____ Long: _____
 Coordinate Determination Method (check the one that applies):
 GPS _____ LPS or BBR _____ Digital mapping software _____ Topographic map _____ Other (describe _____)
 Map Scale (if known: _____)

PHYSICAL HABITAT														
BACKGROUND INFORMATION - pg. 18					PHYSICAL APPEARANCE - pg. 20									
					LUS		DUS							
					[Check all that apply]		[Check all that apply]							
Field Conditions noted at site	None	Light	Medium	Heavy	Aspen	Present	Abundant	Present	Abundant					
Pool: Depth (ft)	0-1	1-2	2-3	3-4	Shrub	Present	Abundant	Present	Abundant					
Water Temp. (°C/F)					Flowering	Present	Abundant	Present	Abundant					
Water Color	Clear	Slight	Opaque	Black	Algae	Present	Abundant	Present	Abundant					
Streambed Type(s)	Sand	Gravel	Small	Washed	Barren	Present	Abundant	Present	Abundant					
Streambed Type(s)	Sand	Gravel	Small	Washed	Grass	Present	Abundant	Present	Abundant					
Stream Width (ft)	<10	10-25	25-50	>50	Forb	Present	Abundant	Present	Abundant					
Stream Depth (ft)	<1	1-2	>2	Unknown	Tree	Present	Abundant	Present	Abundant					
Water Velocity (ft/sec)	0	0.1	0.2	0.3										
Stream Flow Type	RT	Intermittent	I	M	II									
SUBSTRATE (used to 100%) - pg. 22					INSTREAM COVER - pg. 23									
Boulder - 10 to 20 in. diam.					LUS (%)					DUS (%)				
Cobble/Gravel - 1/2 to 10 in. diam.														
Sand - coarse grade														
Silt/clay/mud - fine grade/organic matter														
Artificial - man-made														
Unknown														
RIVER MORPHOLOGY - pg. 23					STREAM CORRIDOR - pg. 25									
					LUS		DUS			LUS		DUS		
					[Check all that apply]		[Check all that apply]			[Check all that apply]		[Check all that apply]		
Bank	Present	Abundant	Present	Abundant	Shrub	Present	Abundant	Present	Abundant	Shrub	Present	Abundant	Present	Abundant
Channel	None	Minor	Major	Severe	Grass	Present	Abundant	Present	Abundant	Grass	Present	Abundant	Present	Abundant
Deposited Material	A	N	N	T	N					Grass	Present	Abundant	Present	Abundant
Highway Water	1	2	3	4	5					Grass	Present	Abundant	Present	Abundant
Stream Cross Section					Adjacent Land Use									
					Woods					Agriculture				
					Open Field					Residential				
					Pasture					Commercial				
					Crop Land					Industrial				
					Other					Other				

Why Do We Inventory Road-Stream Crossings

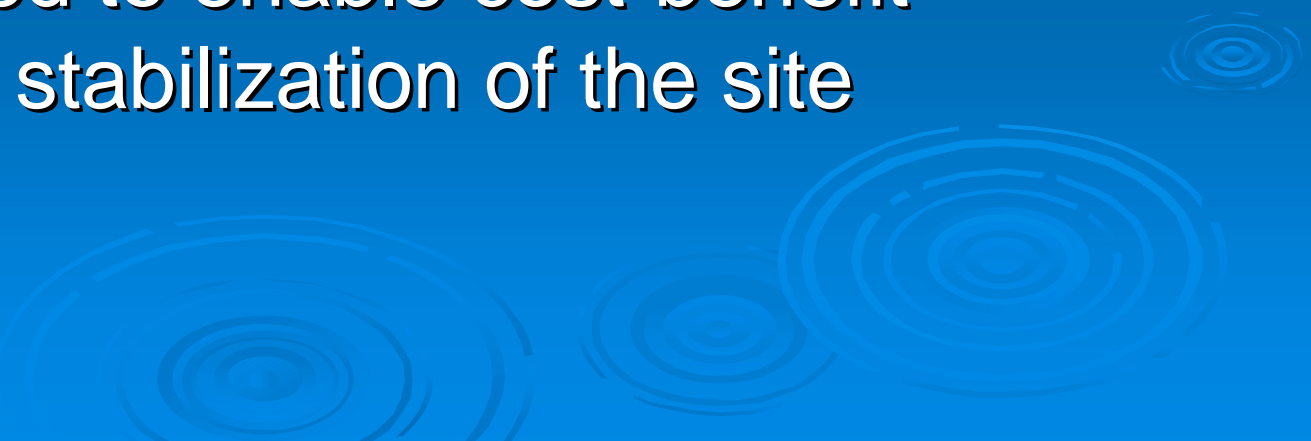
- May gather useful information for other agencies
- Gives a good overview of river conditions
- Identifies and locates potential pollution problems
- It's mandatory for 319 planning projects

Drawbacks to the DEQ Form



- Only evaluates river stretches visible from road
- Lacks quantifiable erosion information
- Difficult to sort through all the information
- Future application is limited

Quantitative Erosion Field Road-Stream Crossing Survey Form

- Prototype form for calculating erosion
 - Can be used as a stand alone form or as an add-on to existing forms
 - Provides estimate of soil loss to better facilitate prioritization of site
 - Can be used to enable cost-benefit analysis of stabilization of the site
- 

Simple Prototype Form

- Soil Texture
- Height of Erosion Site
- Length of Erosion Site
- Erosion Severity
- Use the charts and formula to estimate Volume and Weight of Annual Soil Loss

How Much Erosion?



.7 tons/yr

Ranked Fair with moderate follow up

How Much Erosion?

6.1 tons/yr

Not Ranked on MDEQ form



.6 tons/yr

Ranked fair with
moderate follow up



New requirements for 319 grants require us to quantify the pollution reduction that is obtained by implementing Best Management Practices. The MDEQ form does not ask the surveyor to obtain information about erosion sites that will enable this to be accomplished.



What normally happens to
a road-stream crossing
survey when it's finished?





We Want To Have a Product That Is Relevant And Usable For Our Partners

I think that this new form adds
those qualities to road-stream
crossing projects



Why Use This New Form?

- It can be used in a variety of locations
- It tells a better story
- It gives a basis for comparison
- Information it obtains can be better used by partners
- It's fast
- It can fit the forms you already use
- It can prioritize improvement sites