

TARGET AUDIENCE ANALYSIS WORKSHEET

(Release Date: March 2016)

Note: This Worksheet is referenced in the Coalition SWMP, see BMP 1-1

Name of Municipality: _____

Part I. WATERSHED (SUB-WATERSHED) and RECEIVING WATERS AWARENESS

Study Maps 1, 2, 3, and 4 which show watershed and sub-watershed delineations across multiple counties and municipal/MS4 jurisdictions, along with aerial imagery, and other local receiving waters. In the boxes below, check off which watersheds and sub-watersheds are located within your municipal/MS4 jurisdiction. For some jurisdictions, there is direct drainage to a large waterbody (Mohawk or Hudson) and no associated smaller watershed. If so, check off direct drainage to Mohawk or Hudson. If your MS4 owns and operates facilities located outside the municipal boundary, check off the watershed/receiving water where the facility resides, then next to the watershed/receiving water, write in the name of the facility. For Albany County and UAlbany-SUNY, refer to Map 4 which displays County roads and facilities; UAlbany-SUNY boundary, watershed boundaries, and the MS4 urbanized area (2010 census).

DRAINS TO MOHAWK		DRAINS TO HUDSON			
<input type="checkbox"/> Lisha Kill Watershed	<input type="checkbox"/> Small Trib Watersheds	<input type="checkbox"/> Normanskill Watershed	<input type="checkbox"/> Dry River Watershed	<input type="checkbox"/> Patroon Creek Watershed	<input type="checkbox"/> Small Trib Watersheds
<input type="checkbox"/> Shaker Creek Watershed	<input type="checkbox"/> Vly Road	<input type="checkbox"/> Black Creek (Sub-Watershed)	<input type="checkbox"/> Gas House Creek (Sub-watershed)	<input type="checkbox"/> Cherry Creek (Sub-Watershed)	<input type="checkbox"/> Barent Winne Road
<input type="checkbox"/> Farm Brook (Sub-watershed)	<input type="checkbox"/> Blaines Bay	<input type="checkbox"/> Bozen Kill (Sub-Watershed)	<input type="checkbox"/> Hackett Watershed	<input type="checkbox"/> Red Creek (Sub-Watershed)	<input type="checkbox"/> Binnen Kill
<input type="checkbox"/> Ann Lee Pond (Sub-watershed)	<input type="checkbox"/> New Loudon	<input type="checkbox"/> Delmar (Sub-Watershed)	<input type="checkbox"/> McCaffer Watershed	<input type="checkbox"/> Sand Creek (Sub-Watershed)	<input type="checkbox"/> Frothingham Lake
<input type="checkbox"/> Delphus Kill Watershed	<input type="checkbox"/> Unnamed (Not Delineated)	<input type="checkbox"/> Glenmont (Sub-Watershed)	<input type="checkbox"/> Hannacrois Creek Watershed	<input type="checkbox"/> Salt Kill Watershed	<input type="checkbox"/> River Road
<input type="checkbox"/> Cohoes-Crescent Bush Kill Watershed	<input type="checkbox"/> Direct drainage to Mohawk	<input type="checkbox"/> Hunger Kill (Sub-Watershed)	<input type="checkbox"/> Kromma Kill Watershed	<input type="checkbox"/> Vloman Kill Watershed	<input type="checkbox"/> River Road Next To Coeymans
<input type="checkbox"/> Stony Creek Watershed		<input type="checkbox"/> Krumkill (Sub-Watershed)	<input type="checkbox"/> Cemetery Creek (Sub-Watershed)	<input type="checkbox"/> Dowers Kill (Sub-Watershed)	<input type="checkbox"/> Unnamed (Not delineated)
<input type="checkbox"/> Schoharie Creek Watershed		<input type="checkbox"/> Slingerlands (Sub-Watershed)	<input type="checkbox"/> Onesquethaw-Coeymans Watershed	<input type="checkbox"/> Phillipin Kill (Sub-Watershed)	<input type="checkbox"/> Direct drainage to Hudson River
<input type="checkbox"/> Fox Creek (Sub-watershed)		<input type="checkbox"/> Vly Creek (Sub-Watershed)	<input type="checkbox"/> Clipp Road (Sub-Watershed)	<input type="checkbox"/> Western Ave-Cohoes Watershed	
<input type="checkbox"/> Unnamed (Not Delineated)		<input type="checkbox"/> Catskill Creek Watershed	<input type="checkbox"/> Feuri Spruyt (Sub-Watershed)		
			<input type="checkbox"/> Upper Coeymans (Sub-Watershed)		

Part II. WATERBODY CLASSIFICATION and DEGREE of IMPAIRMENT

Step 1 Waterbodies in New York State are classified based on their "Best Use". To find out the "Best Use" of waterbodies in your MS4, study Map 5. Then, in the space below, check off all "Best Use" types found in your MS4. For Albany County, identify "Best Use" types within those watersheds which contain County facilities/roads.

Step 2 For each "Best Use" type, write down which watersheds within your municipality/MS4/facilities include waterbodies with that type of classification. If there is no named watershed and instead direct drainage to the Mohawk or Hudson, write down Mohawk or Hudson. If both watersheds and direct drainage are present, write both. If a sub-watershed has been delineated, note the watershed and sub watershed using (). (Ex. Normanskill (Krumkill)).

Step 3 Once classified, using water quality data, New York State evaluates how well existing water quality matches the designated "Best Use". For each listed watershed/receiving water, study the water inventory/priority waterbody list (WI/PWL) designations found on Map 6. Then, below each watershed (sub-watershed)/receiving water, within the parenthesis, note the designation. Specifically, is the watershed segment/receiving water considered impaired, with minor impacts, threatened, threat (possible), needs verification, no known impact, or un-assessed.

Step 1 Best Use	Step 1 Best Use	Step 1 Best Use	Step 1 Best Use	Step 1 Best Use	Step 1 Best Use	Step 1 Best Use	Step 1 Best Use	Step 1 Best Use
<input type="checkbox"/> A - Drinking	<input type="checkbox"/> A(T) - Drinking Trout Habitat	<input type="checkbox"/> A(TS) - Drinking/Trout Spawning Habitat	<input type="checkbox"/> B - Contact Recreation (Swimming)	<input type="checkbox"/> B(T) - Contact Recreation/ Trout Habitat	<input type="checkbox"/> C - Non Contact Recreation (Fishing)	<input type="checkbox"/> C(T) - Non Contact Recreation/ Trout Habitat	<input type="checkbox"/> C(TS) - Non Contact Recreation/ Trout Spawning Habitat	<input type="checkbox"/> D Lowest Classification
Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class A segments. WI/PWL & TMDL status.	Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class A (T) segments. WI/PWL & TMDL status.	Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class A (TS) segments. WI/PWL & TMDL status.	Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class B segments. WI/PWL & TMDL status.	Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class B(T) segments. WI/PWL & TMDL status.	Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class C segments. WI/PWL & TMDL status.	Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class C (T) segments. WI/PWL & TMDL status.	Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class C (TS) segments. WI/PWL & TMDL status.	Steps 2, 3, 4 W'sheds (Sub W'sheds) w/ Class D segments. WI/PWL & TMDL status.
1. _____ (WI/PWL _____)	1. _____ (WI/PWL _____)	1. _____ (WI/PWL _____)	1. _____ (WI/PWL _____)	1. _____ (WI/PWL _____)	1. _____ (WI/PWL _____)	1. _____ (WI/PWL _____)	1. _____ (WI/PWL _____)	1. _____ (WI/PWL _____)
2. _____ (WI/PWL _____)	2. _____ (WI/PWL _____)	2. _____ (WI/PWL _____)	2. _____ (WI/PWL _____)	2. _____ (WI/PWL _____)	2. _____ (WI/PWL _____)	2. _____ (WI/PWL _____)	2. _____ (WI/PWL _____)	2. _____ (WI/PWL _____)
3. _____ (WI/PWL _____)	3. _____ (WI/PWL _____)	3. _____ (WI/PWL _____)	3. _____ (WI/PWL _____)	3. _____ (WI/PWL _____)	3. _____ (WI/PWL _____)	3. _____ (WI/PWL _____)	3. _____ (WI/PWL _____)	3. _____ (WI/PWL _____)
4. _____ (WI/PWL _____)	4. _____ (WI/PWL _____)	4. _____ (WI/PWL _____)	4. _____ (WI/PWL _____)	4. _____ (WI/PWL _____)	4. _____ (WI/PWL _____)	4. _____ (WI/PWL _____)	4. _____ (WI/PWL _____)	4. _____ (WI/PWL _____)
5. _____ (WI/PWL _____)	5. _____ (WI/PWL _____)	5. _____ (WI/PWL _____)	5. _____ (WI/PWL _____)	5. _____ (WI/PWL _____)	5. _____ (WI/PWL _____)	5. _____ (WI/PWL _____)	5. _____ (WI/PWL _____)	5. _____ (WI/PWL _____)

Pg. 1.

Date:

Name(s)/Job Title:

Name of Municipality:

THE LAND USE APPROACH EXPLAINED and SELECTING AN ANALYSIS FRAMEWORK (Watershed or Municipality/MS4): As discussed in the CWP IDDE Manual (Chapter 5), water quality is influenced by many factors, with land use often a likely predictor of what kind of stormwater pollution will be occurring where and by whom. Typically, a desktop GIS analysis of land use within a particular watershed, when combined with ORI data and local knowledge, helps to identify which geographic areas are likely to generate what kind of pollution. This information can then be used to develop a more targeted, educational program; the purpose of which is to pro-actively guide the behavior of individuals and institutions potentially responsible for causing the pollution. For example, residential areas may have many dog owners and pet waste might be a source of bacteria which drains to local waterways. A pet waste clean up brochure distributed to homeowners would be a targeted educational program. While watershed boundaries define the area draining pollutants to waterbodies (streams, lakes, etc.) and is often the starting point for educational programs, some MS4s may have under ground storm system infrastructure or direct drainage to a large waterbody, thus no discernable watersheds within their boundaries. Therefore, rather than use watershed boundaries to guide educational programs, use municipality/MS4 boundaries. For this worksheet, select which boundaries you will use; either approach is acceptable. If you are taking a watershed based approach, go to Part III. If you are using the municipality/MS4 boundary, go to Part VI.

Part III. WATERSHED BASED ANALYSIS

Directions: Step 1. Review the list of watersheds (sub-watersheds) located in your municipality/MS4 (see Part I and II of worksheet) and select a watershed (sub-watershed) to analyze. Watersheds within the MS4 urbanized area with segments that are impaired or with minor impacts should be a priority, followed by watersheds (sub-watershed) segments needing verification. Write down the name of the watershed below.
Step 2. For each watershed, study the close up map of the watershed (from map set...either a Getting To Know The Stream Next Door map or aerial imagery map). Use a marker to trace over roadways in the watershed, then estimate the % imperviousness surfaces (paths only) in the entire watershed. Record this information. Then estimate how much of that % is in your MS4 and record this information. In the space provided, check that the category has been completed, then move on to the next category. For Residential-Large lot, circle all residential areas which fit the description; estimate the % of that land use type for the whole watershed, and then of that, what is in your MS4. Continue through the list of categories. **Step 3.** For each type of land use, study the Pollutant of Concern (POC) table and note likely pollutants. Use the abbreviations provided and record Possible POCs in the in the space provided. Consider the prompt questions when making your determination. **Step 4.** For each land use type, study where that land use occurs, then write down who would be the target audience for an educational effort related to that land use at that particular location. **NOTE: rough estimates/guesses are fine...this is an exploratory exercise.**

Name of Watershed (Sub Watershed)				
Built Areas	Whole	Your MS4	Possible POCs (w/in MS4)	Target Audience
	Watershed			
___ Impervious (Paths only: Roads, Sidewalks, Parking Lots, Driveways, Bike Paths etc...)	_____ %	_____ %	_____	_____
___ Residential (Large lots/1 single family per 1 to 5 acres)	_____ %	_____ %	_____	_____
___ Residential (Small lots/ 1 single family/duplex per 1/8 to 1 acre)	_____ %	_____ %	_____	_____
___ Residential (Apts/Multi-Fam 1 bldg. per 1/8 to 1 acre)	_____ %	_____ %	_____	_____
___ Retail and/or Mixed Use	_____ %	_____ %	_____	_____
___ Industrial	_____ %	_____ %	_____	_____
___ Office Professional/Office Space/Schools/Universities	_____ %	_____ %	_____	_____
Green Areas				
Man-made:				
___ Lawns/Turf	_____ %	_____ %	_____	_____
___ Golf Courses/Parks	_____ %	_____ %	_____	_____
___ Urban Tree Canopy	_____ %	_____ %	_____	_____
___ Agriculture, Livestock Nurseries, Tree Farms	_____ %	_____ %	_____	_____
___ Stormwater Mgmt	_____ %	_____ %	_____	_____
Natural:				
___ Forest	_____ %	_____ %	_____	_____
___ Grassland	_____ %	_____ %	_____	_____
___ Wetlands	_____ %	_____ %	_____	_____
___ Water - Lakes, Ponds, Streams	_____ %	_____ %	_____	_____

Part IV. EDUCATIONAL OPTIONS for this Watershed (Sub-Watershed)

Study your mark-ups of the watershed (sub-watershed) map and the Built Area/Green Area percentages; Possible POC's; and Target Audience observations.

Based on your own experience, what kind of educational program, event, activities, or material might help to guide the current behavior of the target audience(s) you've identified? How would you measure this change over time? Consider what is clearly possible to implement and what may be too difficult. Record your notes, ideas, and observations below.

Educational Options 1. (Area, POCs, Approach, Effectiveness Metrics)

Educational Options 2. (Area, POCs, Approach, Effectiveness Metrics)

Part V. MEASUREABLE GOALS for this Watershed (Sub-Watershed)

A general idea of how you might want to educate a target audience, for the purposes of the SWMP, needs to be crafted as a Measurable Goal, which is specific, attainable, and measurable. Below is a suggested format for converting your rough description of "Educational Options" into a Measurable Goal. Suggested format: To address the problem of _____ (name pollutant of concern), by _____ (due date MM/DD/YYYY), the _____ Town/City/Village/University /County (responsible party), will _____ (describe what you will do and name a numeric goal...for example: conduct 5 educational programs for ___; distribute 30 restaurant brochures to ___; distribute 30 doorhangers to ___; stencil 8 catch basins, etc.), the target audience of which is /are _____ (name the target audience...for example: residents in single family homes; restaurant owners; apartment dwellers; students living in Dutch Quad, County employees at the nursing home), located in _____ (name the geographic area of concern by watershed and local address...for example: the Krumkill sub-watershed, near the No. Bethlehem Town Park, at the intersection of street X and Street Y). In the space provided, write down your measurable goal(s). Next, include these goals in your most current SWMP document and Annual Report. These goals may apply to multiple MCMs and related BMPs listed in the Table of Contents of the most current SWMP.

Measurable Goal #1 _____

Measurable Goal #2 _____

Table: POLLUTANTS OF CONCERN (POCs)

Pollutant	Description	Prompt Questions	Land Use Category
Bacteria and Viruses (BV)	Bacteria and viruses are pathogens present in fecal matter which get into stormwater runoff as pet waste, wildlife scat, leaky septic systems, runoff from agriculture, broken sanitary sewers, and cross connections where sanitary lines tie into stormwater lines.	Septic systems present? Aging infrastructure? High concentration of pet waste or goose droppings?	Residential; Lawns/Turf; Golf Courses; Livestock
Gross Solids (GS)	Gross pollutants include trash, cigarette butts and floatables as well as organic matter such as leaf litter and grass clippings. They can cause blockages in stormwater lines as well as other negative impacts.	Any restaurants or stores producing trash? High concentration of poorly maintained dumpsters? Known area for sloppy pick up of trash?	Retail
Nutrients (N)	Nutrients added to an aquatic environment can cause excessive algae growth and as the algae die the rate of decomposition increases causing oxygen to dramatically decrease. This is known as eutrophication and is harmful to fish other aquatic organisms.	Are there lawns or golf courses using extra fertilizers? Pet waste? Goose droppings?	Lawns/Turf; Golf Courses; Agriculture; Office Professional/Office Space/Schools
Organics (O)	Organics are chemical compounds that are used in the manufacturing of a large variety of products and even at low concentrations they can have serious health implications.	Any businesses producing or using paint thinner, solvents, cleaners etc...	Industrial
Sediment (S)	Sediments commonly enter stormwater as particles washed off from impervious surfaces (rooftops, pavements) or as erosion from stream banks or construction sites. Excessive sedimentation can change the light penetration of water, clog the gills of fish and negatively impact the breeding and feeding of fish.	Any active construction sites? Parking lots collecting sediments? Catch basins loaded with sediment?	Impervious Pathways; Residential;
Pools and Fountains (PF)	Water from the maintenance of pools, spas and fountains can pose a major risk for stormwater through erosion, increase in sediments and the addition of pollutants such as chlorine and acid wash.	High concentration of swimming pools or fountains?	Residential; Parks; Retail (Motels?)
Vectors (V)	Improperly designed and/or maintained stormwater infrastructure offers several preferred habitat requirements for rodents, small animals, and other disease vectors.	Any stormwater infrastructure with standing water in need of cleaning/maintenance?	Stormwater Mgmt
Thermal Stress (TS)	When warmer water from stormwater runoff enters a coldwater system it can negatively impact coldwater dependant species. This is called thermal stress.	Are there exposed parking lots or roads near trout streams?	Impervious; Residential; Retail; Industrial
Metals (M)	Common metals found in stormwater are copper, lead, cadmium, zinc, and nickel. Metals are a concern because of their potential toxicity and ability to bioaccumulate.	Any junk/scrap yards or car shops nnear waterbodies?	Retail; Industrial; Office Professional/Office Space; Residential; Impervious
Pesticides and Herbicides (PH)	Pesticides can include anything from fungicides to insecticides, rodenticides, and herbicides. They get into stormwater by direct application as runoff.	High concentration of property owners using lawn care services? Particularly well kept lawns and turf?	Office Professional/Office Space; Residential; Lawns/Turf; Golf Courses; Agriculture
Oil and Grease (OG)	The effects of oil and grease in stormwater include toxicity; the coating of plants and the gills of fish which can prevent the exchange of gases; and unpleasant harmful conditions for swimmers at recreational sites.	High concentration of car repair shops? Food service business or restaurants dumping cooking oil?	Residential; Retail; Impervious

