

MUSKEGON AREA MUNICIPAL STORM WATER COMMITTEE PUBLIC EDUCATION PLAN

I. Introduction

The purpose of this document is to outline a public education strategy for storm water education in the Muskegon area. The plan contains elements that meet the Public Education Program (PEP) requirements under the State of Michigan's National Pollutant Discharge Elimination System (NPDES) permit for the discharge of storm water to surface waters of the state from a municipal separate storm sewer system (MS4). Storm water education will be focused within the regulated urbanized areas as defined by the Michigan Department of Environmental Quality (MDEQ).

The plan will be implemented by the Muskegon Area Municipal Storm Water Committee (MAMSWC) in collaboration with the Muskegon Conservation District (MCD) and the seven permitted entities. The permitted entities are the City of Muskegon, the City of Norton Shores, the City of Roosevelt Park, the City of North Muskegon, the City of Muskegon Heights, the Muskegon County Road Commission, and the Muskegon County Drain Commission.

II. Public Participation/Involvement Program

The MS4 permit requires a mechanism for inviting public participation in the review of the Storm Water Management Program (SWMP). The seven permitted entities within the MAMSWC will make their SWMPs available to the public by posting them on their websites and allowing for comments or questions to be submitted electronically or in writing to their offices. All seven SWMPs will also be posted on the cleanwatermuskegon.org website with invitation for public comment with instructions on how to submit comments or ask questions. Local media outlets will be provided with a public notice inviting the public to review the SWMPs and submit comments.

III. Public Education Program

Storm Water Education Topic Prioritization Procedure

A. Procedure

MAMSWC members conducted a tabletop exercise in May of 2016 to prioritize the 10 storm water topics listed in the FY2017 MS4 permit application. The Committee is comprised of representatives from the seven Muskegon County MS4 permitted entities. Participants were provided with a list of the 10 topics and asked to review them and determine whether they were high, medium or low priority within the MS4 municipalities. The list of topics were also distributed as an online survey to stakeholders who were unable to attend the May meeting.

B. Prioritization Results

Three topics were ranked by more than 50% of participants as high priority (B, C, J), and four were ranked by more than 50% of participants as medium (A, E, F, I). Two topics received similar rankings for high and

medium (D) or low and medium (G) and will be considered as medium priority. One topic (H) was ranked as low priority by more than 50% of participants.

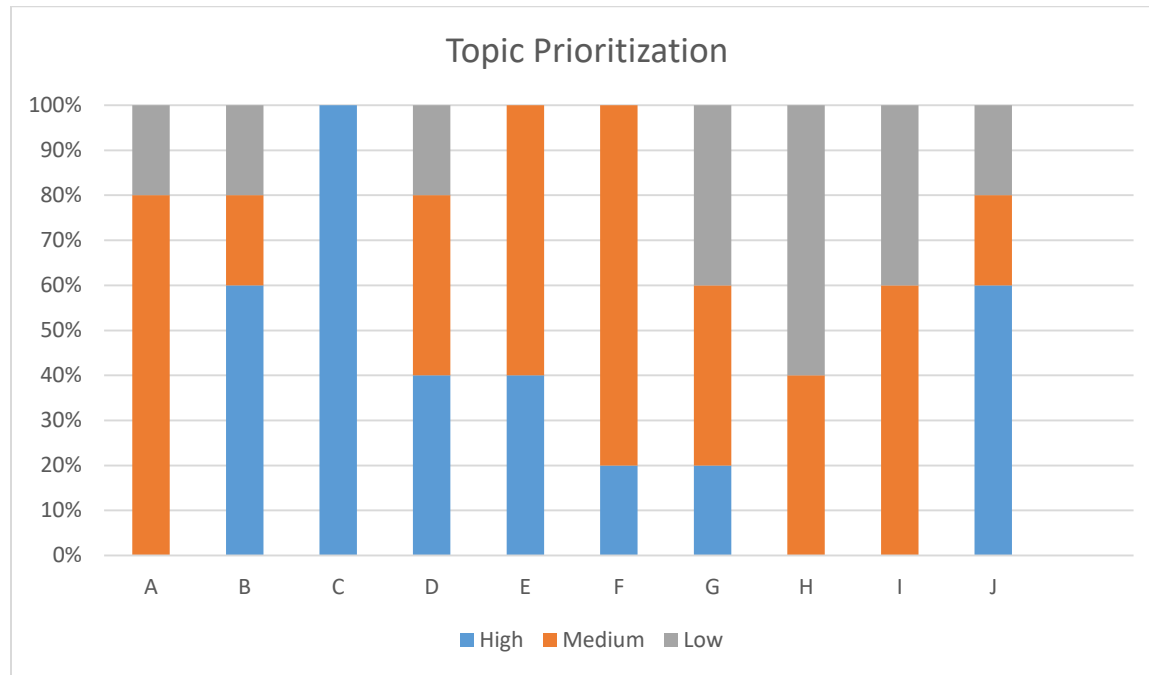


Figure 1. Results of public education prioritization exercise. The x-axis indicates the public education topics as defined in Section Bii.5 of the FY2017 Storm Water Discharge Permit Application

Table 1. Final prioritization of public education topics

Topic	High	Med.	Low	Final Prioritization
A. Promote public responsibility and stewardship in the applicant’s watersheds.	0%	80%	20%	Medium
B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.	60%	20%	20%	High
C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.	100%	0%	0%	High
D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.	40%	40%	20%	Medium
E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.	40%	60%	0%	Medium
F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.	20%	80%	0%	Medium
G. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, and motor vehicle fluids.	20%	40%	40%	Medium
H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.	0%	40%	60%	Low
I. Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.	0%	60%	40%	Medium

J. Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to storm water runoff.	60%	20%	20%	High
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C. Prioritization Results and the PEP

Topics rated as high priority will be addressed earlier in the permit cycle, and more frequently. Educational materials will be developed for those topics in the first year of the cycle, and outreach efforts will address those topics at least once a year. Educational materials for topics rated as medium priority will be developed in the second year of the cycle, and outreach efforts will address the topics at least every other year. The topic rated as low priority will be addressed at least once every five years.

IV. Permit Cycle Storm Water Education Implementation Plan

The 2010 Information and Education Strategy for storm water (Appendix A) has been modified to reflect the changes in topics in the FY2017 Storm Water Discharge Permit Application. The modified strategy to be implemented in the first year of the permit cycle is shown in Table 2. The strategy will be carried out collaboratively between the Muskegon Conservation District and the seven MS4 permitted entities.

A. General Delivery Mechanisms

The following list of delivery mechanisms are currently used to convey educational messages to the public. These mechanisms will continue to play an important role in the new public education plan. They include:

- Distribution of handouts
- MCD Newsletter articles
- Community presentations
- Cleanwatermuskegon.com website
- Storm drain marking
- Classroom enviroscape presentations
- Volunteer service projects

In addition, new mechanisms will be included to reach larger audiences and increase awareness and community engagement in storm water management. The new mechanisms that will be explored and developed as part of this plan include:

- Development of a biannual storm water newsletter to be distributed via the MCD email list and social media accounts of all permittees.
- Distribution of informational flyers target to reach commercial and industrial entities.

B. Evaluation

Implementation of proposed activities will be tracked and an annual report will be created to document progress of the below actions. Evaluation methods are listed in Table 2 and additional methods plus justification for those methods are provided below.

- Maintain or increase storm water newsletter distribution annually
- Number of newsletter subscribers maintained or increased. Individuals who choose to continue receiving the newsletter or whom sign up to receive it are indicating interest in the information provided.

- Number of hits on website increases annually. This will indicate increased interest from residents in the information provided because they must take action to go to the website.
- Track number of illicit discharge reports received by municipalities. An increase in reports could either indicate increased awareness of illicit discharges and knowledge of how to report them, or it could indicate an increase in the number of illicit discharges and the need for more education.
- Increasing participation at County Household Hazardous Waste (HHW) collection events or increasing amounts of HHW being brought to collection sites will indicate an increased level of awareness about the potential for improper disposal of HHW to cause environmental contamination and a willingness to take action.
- Increased number of requests for information following a community event or newsletter release. This represents a growing interest in the topic that prompted the individual to take action to learn more or change their behavior. MCD will maintain a log of phone calls or emails requesting information.
- Increased number of people who display a level of knowledge about the watershed, storm water, or related issues. Online surveys will be conducted during the 2nd and 4th year of the permit cycle to measure awareness, knowledge, behavior and adoption of watershed best management practices. The surveys will also serve as a tool to measure the effectiveness of new delivery mechanisms. The surveys will be distributed to residents by the permitted entities. MCD will analyze and report on the results of the surveys. Survey questions will be designed to measure knowledge, determine current behavior, or assess willingness to take action or change behavior.

C. Relationship to other Watershed Public Education Efforts

The Muskegon Conservation District and MAMSWC members have collaborated on projects with many area groups that promote watershed stewardship, including the Muskegon River Watershed Assembly (MRWA), the Mona Lake Watershed Council, the West Michigan Great Lakes Stewardship Initiative, the Duck Creek Watershed Assembly, the White Lake Environmental Council, and the West Michigan Shoreline Regional Development Commission, and the Muskegon Lake Watershed Partnership. They will continue to look for opportunities to partner with these and other organizations to increase community awareness about watershed issues.

Table 2: Revised Storm Water Education and Information Strategy

Topic	Messages	Target Audience	Specific Activities and Delivery Mechanisms	Measurable Goals	Year	Frequency	Responsible Party	Evaluation
1. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters. (B)	Rain water runs over impervious surfaces, enters storm drains, and is delivered to local rivers and lakes untreated. Anything rain water washes off the land surface has the potential to become water pollution.	Home Owners Business Owners Schools	1. Enviroscene and groundwater model classroom programs 2. Storm Drain Labeling 3. Web Site 4. Newsletter 5. Public presentations	1. 10 classes 2. One volunteer group/year 3. # of hits 4. 1 article 5. 1 per year	1. Each Year 2. Each Year 3. Each Year 4. Each Year 5. Each Year	Annual	1. MCD 2. MCD 3. DC 4. MCD 5. MCD	An increasing number of people who express awareness and behavior related to the subject when surveyed. Web site traffic and number of newsletter subscribers maintained or increased.
2. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4. (C)	Only rain down the drain. Nothing else should enter storm drains either by running off the surface or by direct connection or dumping. Spills and dumping should be reported immediately.	Home Owners Business Owners Schools	1. Newsletter 2. Website	1. 1 article 2. # of hits	1. Each Year 2. Each Year	Annual	1. MCD, Permittees 2. DC	An increasing number of people who express understanding of how to report illicit discharges, and willingness to do so when surveyed. Track number of illicit discharge reports to MS4 permittees. Web site traffic and number of newsletter subscribers maintained or increased.
3. Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to storm water runoff. (J)	Pollution prevention and good housekeeping: Parking lot sweeping, vehicle maintenance, dumpster storage, chemical storage and containment etc.	Commercial and industrial business owners	1. Distribute Good Housekeeping Flyer	1. 20 per year	1. Each Year	Annual	MCD	Track number of requests for information from commercial and industrial businesses.
4. Inform and educate the public on proper application and disposal of pesticides, herbicides and fertilizers. (E)	Use pesticides, herbicides and fertilizers sparingly and always read and follow label directions These chemicals are hazardous and need to be disposed of as hazardous waste. Encourage soil tests.	Home Owners Business Owners	1. Newsletter 2. Website	1. One article 2. # of hits	1. 2 nd , 4 th year 2. Each year	Biennial Continuous	MCD, Permittees DC	An increasing percentage of people who express awareness of the topic and/or willingness to use best management practices when surveyed. Web site traffic and number of newsletter subscribers maintained or increased.

1-3 = high priority, 4-9 = medium priority, 10 = low priority

MCD (Muskegon Conservation District) DC (Drain Commissioner) MRWA (Muskegon River Watershed Assembly) RC (Muskegon County Road Commission)

Table 2: Revised Storm Water Education and Information Strategy

Topic	Messages	Target Audience	Specific Activities and Delivery Mechanisms	Measurable Goals	Year	Frequency	Responsible Party	Evaluation
5. Promote personal responsibility and stewardship (A)	We all live in a watershed. General education about personal responsibilities as watershed residents. The actions of individuals impact the health of the watershed.	Home Owners Business Owners Schools	1. Participate in local community events. 2. Host volunteer stewardship events 3. Newsletter 4. Storm Water Display	1. One event 2. One event 3. One article 4. Display in 2 locations	1. Each Year 2. 2 nd , 4 th year 3. 1 st , 3 rd , 5 th 4. 2 nd , 4 th year	Annual Biennial Biennial Biennial	MCD MCD MCD, Permittees MCD, Permittees	Maintain or increase participation in stewardship events. Increasing number of people who express awareness and understanding of the topic when surveyed.
6. Promote preferred cleaning materials for car, pavement, and power washing. (D)	Waste water from washing activities should be diverted away from storm drains. If soap is necessary, use eco-friendly, biodegradable products.	Home Owners Business Owners Churches Schools	1. Flyer distributed to schools and churches. 2. Website 3. Newsletter	1. 20 flyers distributed 2. # of hits 3. One article	1. 1 st , 3 rd , 5 th 2. Each year 3. 2 nd , 4 th	Biennial Continuous Biennial	MCD DC MCD, Permittees	An increasing percentage of people who express awareness of the topic and/or willingness to use best management practices when surveyed. Web site traffic and number of newsletter subscribers maintained or increased.
7. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4 (F)	Rain can wash anything left on the land into storm drains. Keep grass clippings and leaf litter away from storm drains. Pick up pet waste and dispose of it properly.	Home Owners Business Owners Schools Lawn Care Companies	1. Newsletter 2. Website	1. One article 2. # of hits	1. 2 nd , 4 th 2. Each year	Biennial Continuous	MCD, Permittees DC	An increasing percentage of people who express awareness of the topic and/or willingness to use best management practices when surveyed. Web site traffic and number of newsletter subscribers maintained or increased.
8. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous waste, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids. (G)	HHW should be disposed of properly to avoid any potential environmental contamination. Provide information on local options for proper disposal.	Home owners Business owners	1. Website 2. Social Media 3. Newsletter	1. # of hits 2. One post 3. One article	1. Each Year 2. Each year 3. 1 st , 3 rd , 5 th	Continuous Annual Biennial	DC MCD, Permittees MCD, Permittees	An increasing number of people attending the county HHW collection events or an increase in the amount of HHW collected. An increasing percentage of people who express awareness of the topic and/or willingness to use best management practices when surveyed. Web site traffic and number of newsletter subscribers maintained or increased

Table 2: Revised Storm Water Education and Information Strategy

Topic	Messages	Target Audience	Specific Activities and Delivery Mechanisms	Measurable Goals	Year	Frequency	Responsible Party	Evaluation
9. Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.	Green infrastructure and LID can be used to slow down or treat storm water before it enters surface water, or to encourage storm water to soak into the ground.	Home owners Business owners Elected officials	1. Public workshops 2. Outreach to planning committees 3. Newsletter	1. One workshop held 2. Attend one planning commission meeting 3. One article	1. 2 nd , 4 th 2. 2 nd , 4 th 3. 2 nd , 4 th	Biennial Biennial Biennial	MCD DC MCD, Permittees	Workshop participation maintained or increased. Increased request for information on LID and GI.
10. Inform and educate the public on proper septic system care and maintenance and how to recognize system failure. (H)	Septic systems must be inspected and maintained for proper function to ensure that untreated waste does not contaminate surface water or drinking water sources.	Homeowners	1. Website 2. Newsletter article	1. # of hits 2. One article	1. Each year 2. 3 rd year	Continuous Once	DC MCD, Permittees	An increasing percentage of people who express awareness of the topic and/or willingness to use best management practices when surveyed. Web site traffic and number of newsletter subscribers maintained or increased.

Table 3: Storm Water Public Education Activity Schedule, Year 1-5

Year	Activity	Topic (as numbered in Table 2)
1st	Classroom watershed/groundwater programs	1
	Storm drain labeling	1
	Information posted on website	1,2,4,5,6,7,8,10
	Newsletter article	1,2,5,8
	Public presentation	1
	IDEP training for DPW	2
	Develop/Distribute Good Housekeeping flyer for businesses	3
	Participate in local community event	5
	Develop car wash flyer/distribute to schools & churches	6
	Social media posts about HHW collection events	8
2 nd	Classroom watershed/groundwater programs	1
	Storm drain labeling	1
	Information posted on website	1,2,4,5,6,7,8,10
	Newsletter article	1,2,4,6,7,9,
	Public presentation	1
	IDEP training for DPW	2
	Distribute Good Housekeeping flyer for businesses	3
	Participate in local community event	5
	Host volunteer stewardship event	5
	Print storm water display/display in 2 locations	5
	Social media posts about HHW collection events	8
	Public LID workshop	9
	Attend planning commission meeting	9
	Distribute survey	1-10
	3 rd	Classroom watershed/groundwater programs
Storm drain labeling		1
Information posted on website		1,2,4,5,6,7,8,10
Newsletter article		1,2,5,8,10
Public presentation		1
IDEP training for DPW		2
Distribute Good Housekeeping flyer for businesses		3
Participate in local community event		5
Car wash flyer distributed to schools and churches		6
Social media posts about HHW collection events	8	
4 th	Classroom watershed/groundwater programs	1
	Storm drain labeling	1
	Information posted on website	1,2,4,5,6,7,8,10
	Newsletter article	1,2,4,6,7,9
	Public presentation	1
	IDEP training for DPW	2
	Distribute Good Housekeeping flyer for businesses	3
	Participate in local community event	5

	Host volunteer stewardship event	5
	Storm water display in two locations	5
	Social media posts about HHW collection events	8
	Public LID workshop	9
	Attend planning commission meeting	9
	Distribute survey	1-10
5 th	Classroom watershed/groundwater programs	1
	Storm drain labeling	1
	Information posted on website	1,2,4,5,6,7,8,10
	Newsletter article	1,2,5,8,
	Public presentation	1
	IDEP training for DPW	2
	Distribute Good Housekeeping flyer for businesses	3
	Participate in local community event	5
	Car wash flyer distributed to schools and churches	6
	Social media posts about HHW collection events	8

Attachment A: 2010-2012 Public Education Implementation Strategy

Public Education Plan - 2010 - 2012 Implementation Strategy

The Public Education Plan (PEP) is designed to provide county wide stormwater education and to meet the Phase II permit requirements for the municipalities required to participate. Muskegon Heights, Muskegon, Norton Shores, Roosevelt Park, Muskegon County Road Commission, and Muskegon County Drain Commission have joined together to form the Muskegon Area Municipal Stormwater Committee to comply with a Watershed General Permit.

The following pages outline awareness, education, and action activities proposed for 2010, 2011, 2012.

The Muskegon Conservation District is using the MI Storm Water Savvy Campaign Took Kit throughout the process, as well as utilizing the expertise and ongoing activities of local organizations. The District intends to partner with each permitted municipality, all townships and other local units of government, and the following organizations and programs to achieve PEP objective goals: Michigan Agricultural Environmental Assurance Program, Michigan Water Stewardship Program, Michigan State University Extension, Mona Lake Watershed Council, Muskegon River Watershed Assembly, Muskegon County Environmental Coordinating Council, Muskegon Area Intermediate School District, Muskegon Lake Watershed Partnership, and Muskegon County Health Department, Grand Valley State University Annis Water Resources Institute, Duck Creek Watershed Assembly, White River Watershed Partnership, Lower Grand River Organization of Watersheds, .

OBJECTIVE ONE - Personal Watershed Stewardship

Responsibility and stewardship in their watershed. (Watershed General Permit MIG610000, Part I.A.4.b.2.a.1, page 11)				2010	2011	2012	Notes / Narrative
Component	Item	Distribution Method					
Awareness	Brochure: Muskegon River Watershed	Presentations, Display Events, Municipal and Library Lobbies	X	X	X	Explanation of the organization and their mission, with additional information about the watershed and ways to become involved.	
	Brochure: White River Watershed	Presentations, Display Events, Municipal and Library Lobbies	X	X	X	Explanation of the organization and their mission, with additional information about the watershed and ways to become involved.	
	Brochure: Duck Creek Watershed	Presentations, Display Events, Municipal and Library Lobbies	X	X	X	Explanation of the organization and their mission, with additional information about the watershed and ways to become involved.	
	Newsletters: Mona Lake Watershed Council, White River Watershed Partnership, Lower Grand River Watershed, Alliance for the Great Lakes, Muskegon County Environmental Coordinating Council, Annis Water Resources Institute, Muskegon River Watershed Assembly, Muskegon Lake Watershed Partnership	Watershed / Organization Mailing lists	X	X	X	General education about personal responsibilities as watershed residents and the accomplishments and offerings from the organizations. Also highlights stewardship activities available and includes general environmental educational articles.	
	Public TV Videos and Documentaries	submit to all local public television stations		X	X	Submit 14 minute "Water Quality, it's in our Hands" from Washtenaw County and two other videos or documentaries to local public television stations.	
	Public Radio Announcements	submit to at least 3 local radio stations	X			Submit 4 "water spots" or other radio advertisements to at least 3 local radio stations.	
	Stormwater Webpages: On MCD Website	Linked to all other environmental organization and municipality websites	X	X	X	Webpages located on MCD's website linked to all partner organization and permitted municipal websites. Overall stormwater message, action steps for clean water, links to publications and resources.	
	Educational Giveaway: Tote bags	Give away at display events and presentations		X	X	Reusable shopping bags will be created and ordered. The bags will be printed with MAMSWC logo, list of action steps for clean water and will advertise the MAMSWC stormwater webpages.	
	Websites: muskegonlake.org, moecc.org, monalakewatershed.org, mrwa.org, muskegoncd.org	muskegonlake.org, monalakewatershed.org, moecc.org, mrwa.org, muskegoncd.org	X	X	X	Postings on these websites consist of general education of environmental issues, involvement in community projects, and upcoming environmental programs.	
Education	Display: Stormwater	Events, Municipal Lobbies, Libraries	X	X	X	Display placed in public spaces and at events providing general stormwater pollution prevention tips, highlighting best management practices for homeowners and businesses. Publications accompany the display. 2010 locations Aloca Make an Impact, WMGLSI Youth Symposium, ... Upcoming locations - Musk. Lib, Roos. Park Lib, Musk. Heights Lib/City Hall, City of Musk. City Hall	
	Student Presentations: Watershed Responsibility Presentations	MAISD, MRWA, MLWC, and MCD contacts	X	X	X	Presentations administered by MCD staff and watershed organizations sending an overview message of watershed awareness and best management practices.	
	Environmental Awards: MCECC Environmental Excellence Awards, MCD Environmental Awards	Event advertised Newspapers, MCECC & MCD mailing lists; Held at Chamber of Commerce Early Bird Breakfast & MCD Annual Meeting Event	X	X	X	Awards given annually for those making significant contributions and a long standing commitment to a better environment and to encourage progress in Muskegon County. Awards presented at Chamber of Commerce Breakfast and MCD Annual Meeting event.	
	Teacher Workshops: Great Lakes Stewardship Initiative, MRWA workshops	MAISD, MCD, MRWA contacts	X	X	X	Professional development and workshops for teachers to incorporate watershed ecology studies and hands-on environmental projects into their curriculum. Connects teachers/students with local environmental organizations.	
	Watershed Banners / Urban	Banners placed along major roadways in urban areas, tax bill inserts about banners			X	Watershed banners hung on main municipal roadways. Tax bill inserts included in summer tax mailings focusing on action steps for clean water.	
	Watershed Signs / Rural	Place along major roadways in rural areas			X	"Entering ... Watershed" signs placed along major roadways throughout Muskegon County.	
Action	YES! Grant Program (Youth and Environmental Stewardship)	MCD and MAISD contacts	X	X	X	Grant funding and partnering opportunities for local youth to be involved in implementing environmental stewardship projects with community organizations.	
	Community Volunteer Events	MCD, MLWP, MLWC contacts - advertised via e-news, newsletters, newspaper	X	X	X	Volunteer events such as river and shoreline clean-ups, planting projects, and volunteer monitoring programs. 6 per year.	
	Student Stewardship Projects	MAISD, MCD, MRWA contacts	X	X	X	Students participating in education and stewardship activities focusing on stormwater impacts within the watershed. Activities to include (but not limited to): Trash clean-up, stream water testing, stormwater education, macroinvertebrate collections, storm drain staking, riparian native plant restorations, invasive plant education and removal.	

OBJECTIVE TWO - Ultimate Storm Water Discharge Location and Potential Impacts				2010	2011	2012	Notes / Narrative
Component	Item	Distribution	2010	2011	2012		
The connection of MS4 catch basins, storm drains, and ditches to area waterways, and the potential impacts these could have on the surface waters of the state. Watershed General Permit MIG610000, Part I.A.4.b.2.a.2, page 11)							
Awareness	Brochure: Understanding Non-point source pollution	Presentations, Display Events	X	X	X	Informational sheet created by the White Lake Public Advisory Council explaining non-point source pollution, its effects, and action steps for homeowners to reduce potential pollution. Repose?	
	Brochure: After the Storm	Presentations, Display Events, Municipal and Library Lobbies	X	X	X	EPA publication explains stormwater, its effects, and provides simple action steps for citizens to reduce stormwater pollution	
Education	Student Presentations: Stormwater	Advertise through MAISD	X	X	X	Presentations to students using the EnviroScape Stormwater model	
	Newspaper Article Series: Actions for Clean Water, Turf Tips for Water Quality	Newspapers	X			Focusing on low impact design such as raingardens, use of rainbarrels, and reduction of impervious surfaces	
	Workshops: Raingardens, Low Impact Design	MCD, MLWC Contacts	X	X	X	General education about stormwater discharge and landscaping with rain gardens and other LID to help reduce the amount of stormwater run-off. On-site installation demonstration when applicable. One per year	
Action	Storm Drain Stenciling	Advertise through MAISD mailings, implemented by students within their communities; advertised to neighborhood associations	X	X	X	Storm drain markers with the message "No Dumping, Drains to Lake" educational door hangers, and complete application kits are available for groups to utilize to carry out stormwater education campaigns about stormwater and to discourage dumping down storm drains.	
	Implementation: Raingardens, Swales, and other LID retrofits	MCD, MAISD, and Watershed group contacts	X	X	X	Retrofit projects of impervious surfaces currently draining into a storm drainage system; at least 3 per year; 2010 - Fruitport Middle School, Mastertag, Alcoa, Whitehall Middle school; 2011 & 2012 sites to be identified	
	Water Monitoring: Student Water Monitoring Program	MAISD	X	X	X	Routine monitoring at select sites throughout Muskegon County	
OBJECTIVE THREE - Public Reporting of Illicit Discharges				2010	2011	2012	Notes / Narrative
Component	Item	Distribution	2010	2011	2012		
Public reporting of illicit discharges or improper disposal of materials into MS4s. (Watershed General Permit MIG610000, Part I.A.4.b.2.a.3, page 11)							
Awareness	Brochure: Together.... Better Roads, Better Streams	municipal lobbies and display events	X	X	X	MDOT brochure with helpful hints on how to prevent storm water pollution from impervious surface run-off. Contains information on how to report illicit discharges.	
Education	Magnets: Illicit Discharge Reporting Information	Municipal lobbies, Libraries, display events		X	X	Magnets with local illicit discharge phone number	
	Webpage: Illicit Discharge Reporting	Link to all municipal websites and other community organization websites		X	X	Illicit Discharge phone # and link to educational page on all municipal pages	
	Tax Bill Insert: Illicit Discharges	Distributed to municipalities		X		tax bill insert focusing on recognizing and reporting illicit discharges (brochure from MDOT)	
Action	Article : Reporting Illicit Discharges	Submit to newspapers, municipalities, and other organizations for print in newsletters,		X		Article focusing on illicit discharges and local contact information to report these discharges	
	Refine / Establish Illicit discharge reporting process	MCD & MLWC & MAMSWC		X	X	Establish an effective process for public reporting of illicit discharges	

OBJECTIVE FOUR - Personal Actions That Can Impact the Watershed			2010	2011	2012	Notes / Narrative
Component	Item	Distribution				
<p>The effects and need to minimize the amount of residential or non-commercial wastes discharged into MS4s, including: --Preferred cleaning materials and procedures for car, pavement, and power washing --Acceptable application and disposal of pesticides, herbicides, and fertilizers --Proper disposal practices for grass clippings, leaf litter, and animal wastes that get flushed into MS4s and the surface waters of the state. (Watershed General Permit MIG10000, Part I.A.4.b.2.a.4, page 11)</p>						
Awareness	Bookmark: Clean Water, Everybody's Business	Libraries, Student Groups, Events, Presentations	X	X	X	EPA Bookzook lists 10 simple actions individuals can do to prevent stormwater runoff pollution.
	Bookmark: Eco-Friendly Neighbor	Municipal Lobbies, Events, Presentations, Students Events	X	X	X	Bookmark with tips for an ecofriendly home and yard and explaining MCD's Eco-Friendly Neighbor Program
	Handout: Brown Weeds, Green Water	Municipal Lobbies, Events, Presentations, Students Events	X	X	X	Get or Print More MDEQ publication explaining the effects of nutrient and sediment overloading in a waterways.
	Brochure: Make your Home the Solution To Storm Water Pollution	Presentations, Display Events, Municipal and Library Lobbies	X	X	X	EPA publication outlining simple steps for homeowners to reduce stormwater pollution from leaving their property
	Brochure: Rain Gardens	Presentations, Display Events, Municipal and Library Lobbies	X	X	X	Make and print 2010 Brochure explaining the basics of building a small scale rain garden
	Brochure: Stop, Read me First	MCD events, Public events, Municipal Lobbies, Presentations	X	X	X	Brochure about 3 main points to consider before buying and applying fertilizers or pesticides.
	Brochure: Greenscaping.	Presentations, Display Events, Municipal and Library Lobbies	X	X	X	EPA 16 page document that describes easy steps to a "greener" healthier yard.
	Brochure: Check Before You Choose a Pesticide	Presentations	X	X	X	To educate about making safe decisions for controlling pests including information on integrated pest management
	Worksheet Packet: MSU - E Turf Tips Packet	Presentations	X	X	X	Packet of handouts concerning in depth information on all aspects of proper lawn care management. Fact Sheets include the following topics
	Brochure: Check Before You Choose a Fertilizer	Presentations	X	X	X	To educate about making safe decisions for the purchase, usage, and storage of lawn fertilizers
	Newspaper Article Series: Actions for Clean Water	Printed in Newspapers	X	X		Series of articles submitted to local newspapers concerning general stormwater information and actions that can be implemented to reduce stormwater pollution, Muskegon Chronicle is on board
	Newspaper Article Series: Actions for Clean Water, Boat and Auto Care	Newspapers	X			Focusing on vehicle maintenance and proper disposal of fluids
	Newspaper Article Series: Actions for Clean Water, Turf Tips for Water Quality	Newspapers	X			Focusing on proper watering, mowing, mulching, composting yard waste, and use of fertilizers and pesticides.
	E-Newsletter: Muskegon Conservation District	MCD personal contacts	X	X	X	Provides monthly information about upcoming events and highlights of Muskegon Conservation District programs.
Education	Community Presentations: Best Management Practices	MCD, MLWP, MLWC contacts	X	X	X	Presentations to community groups outlining BMP's; could include composting, native plantings, lawn and garden care, etc...
	Individual Assessments: Home'A'Syst and Lake'A'Syst and Lawn'A'Syst (Eco-friendly neighbor program)	Contacts from advertising in articles and at display events	X	X	X	Assessment programs for homeowners to review their everyday actions and create action plans for making simple changes that will have a lasting impact on the environment
	Webpage: Action Step for Clean Water, Boat and Auto Care	MCD Stormwater Webpages. Linked to all municipal and partner organization websites	X	X	X	Webpage focusing on responsible boat and vehicle care such as; washing, fluid recycling, general maintenance, and disposal of waste materials
	Webpage: Action Step for Clean Water, Responsible Lawn Care	MCD Stormwater Webpages. Linked to all municipal and partner organization websites	X	X	X	Webpage focusing on responsible lawn care practices related to pesticides, fertilizers, irrigation, mowing, and mulching yard waste.
	Articles: past MAMSWC articles posted on MCD stormwater webpages	MCD Webpages	X	X	X	For use in neighborhood and organization newsletters and linked to township/municipal websites. Past articles include: Car Care for Clean Water, Choosing a Lawn-care Service, Rainbarrels and Compost Bins, Spring Lawn Care, Landscaping with Native Plants.
	Agricultural Presentations: Farm'A'Syst and MAEAP Verification	MGSP and MCD contacts	X	X	X	MGSP Program which provides agricultural producers with educational, technical, and financial assistance to identify and reduce ground and surface water contamination risks related to farming practices.
Action	Agricultural Assessments/Verifications: Farm'A'Syst & MAEAP Verification	MGSP and MCD contacts	X	X	X	
	Rain Barrel & Compost Bin Sales	MCD contacts	X	X	X	MCD office sales and advertising of products on websites, in e-news, and mailings
	Educational Signs: Pet Waste signs and baggies	MCD		X	X	Signs and baggie stations educating dog owners about proper disposal of pet wastes placed at public parks throughout Muskegon County
	Green Fundraising Car Wash Program	Advertised through MAISD contacts		X	X	Car wash program: education of students implementing the fundraising event, handout supplied for vehicle owners about responsible car care practices; students supplied with biodegradable auto soap; encourage washing on a lawn or other surface not draining into stormwater systems
Classes / Workshops	Advertised in Newspapers, MCD Contacts	X	X	X	Composter, Creating Backyard Habitat, Urban Forestry, Lawn Care, Native Landscaping, Green Cleaning, etc... two workshops per year	

OBJECTIVE FIVE - Waste Management Assistance			2010	2011	2012	Notes / Narrative
Component	Item	Distribution				
<i>The availability, location and requirements of facilities for disposal or drop-off of household hazardous wastes, travel trailer sanitary wastes chemicals, yard wastes, and motor vehicle fluids. (Watershed General Permit MIG610000, Part I.A.4.b.2.a.5, page 11)</i>						
Awareness	Monthly social media updates: Common HHW, proper disposal, and viable green solutions	Monthly Facebook and Twitter, MCECC	X	X		Monthly facebook and Twitter updates concerning information and resources on common household hazardous products, proper disposal, and viable green solutions
Education	Brochure: Muskegon County Household Hazardous Waste	Municipal and Library Lobbies, Presentations, Display Events	X	X	X	MCD Brochure outlining proper Household Hazardous Waste care and disposal, specific to Muskegon County
	Webpage: Action Step for Clean Water, HHW disposal	Linked to MCD stormwater webpages, MCECC		X	X	Webpage listing of accurate and easy to understand information and resources on common household hazardous products, proper disposal, and viable green solutions
	Letters of Support: HHW collection program	Letters of program encouragement, MCECC		X		Encourage Muskegon County and local governments to support and improve the County Wide Household Hazardous Waste collection program by sending letters of program encouragement, and appearing at county / municipal commission meetings
	Newspaper Article Series: Actions for Clean Water, Household Hazardous Wastes	Printed in Newspapers	X	X		focusing on reducing HHW, proper storage, and local disposal options
	Stickers: Boat and travel trailer waste dropoff location stickers				X	Stickers Identifying local septic waste disposal locations or advertising rdumps.com
	Brochure and Insert: Proper oil disposal and local drop-off information	municipal buildings, libraries, local hardware stores, display events	X	X	X	EPA brochure on proper oil disposal brochure and insert including local drop-off information
Action	Municipal Yard Waste Collection	Municipal Websites and Newsletters	X	X	X	Education about proper local yard waste disposal and locations
	Collection Events: HHW, Unused Medical Waste, Batteries, Electronics	Advertised in local newspapers, held in cooperation with other events	X	X	X	One Day Collection Events - Mayfest, Alcoa Event, County program, Medical Waste Collection, Health Department Collections, MCD Battery Collection
	Municipal Battery Recycling	Advertised to municipalities, disposal receptacles placed in municipal buildings		X	X	Battery recycling program administered by MCD for interested municipalities, in cooperation with US A-1 Battery
	Article & Presentations: HHW, proper disposal, and viable green solutions	MCECC contacts, newsletters, presentations		X		Information presented on common household hazardous products, proper disposal, and viable green solutions
OBJECTIVE SIX - Septic System Maintenance						
<i>For property owners with septic systems, the proper septic system care and maintenance, and how the recognize system failure (Watershed General Permit MIG610000, Part I.A.4.b.2.a.6, page 11)</i>						
Component	Item	Distribution	2010	2011	2012	Notes / Narrative
Awareness	Brochure: A Homeowners Guide Septic System Care	Municipal Lobbies, Events, Presentations				An EPA brochure guide to proper septic system care.
Education	Tax Bill Insert: Flush Responsibly Septic and Sewer Education Card	Tax Bill Inserts for all townships and municipalities	X	X		EPA Flush Responsibly card outlining proper care of a septic system and recommended practices for those on sanitary sewer systems, 2010 Montague City - 1500, Fruitland Township - 1700
	Webpage: Action Step for Clean Water, Septic system maintenance & signs of a failing septic system	Linked to all municipal websites and other community organizations	X	X	X	Focusing on proper septic system care and maintenance and signs of a failing septic system
	Newspaper Article Series: Action Steps for Clean Water, Septic System Care and Maintenance	Prepare for Newspapers	X			Article focusing on proper septic system care and maintenance
Action	Coupon: Septic System Pumping	Municipal Websites, Newspaper Article	X			a coupon for \$10 off will be advertised to county residents. Residents will send in their bill from a licensed pumper dated between Oct 2010 and Oct 2011 and request reimbursement for \$10. First 30 requests will be honored.

OBJECTIVE SEVEN - Benefits of Native Vegetation

The benefits of using native vegetation instead of non-native vegetation. (Watershed General Permit MIG610000, Part I.A.4.b.2.a.7, page 11)

Component	Item	Distribution	2010	2011	2012	Notes / Narrative
Awareness	Brochure: Landscaping with Native Plants	Municipal Lobbies, Events, Presentations		X	X	Update and reprint. Brochure focusing on the use of Native plants and list of suggested natives for backyard landscaping
	Display Event: Native landscaping	Set up at Events	X	X	X	At least 2 displays per year focusing on native landscaping
	Webpage: Action Step for Clean Water, Landscaping with Native Plants	MCD Website,	X	X	X	focusing on landscaping with MI natives
Education	Native Plant Book Sales	Office sales	X	X	X	MCD office sales and advertising of products on websites, in e-news, and mailings
	Newspaper Article Series: Action Steps for Clean Water, Natural Landscaping	Newspapers	X			focusing on use of native plants, reduction of lawn, landscaping for wildlife
	Workshop / Presentations: Native Landscaping	MCD contacts, advertised via e-news and in newspapers	X	X	X	Workshop focusing on creating native backyard landscaping
Action	Native Plant Sale	Advertise via e-news, mailings, and newspapers	X	X	X	Plant sale held in the spring of each year
	Implementation Projects	MCD	X	X	X	Native landscaping projects, tree plantings
	Greenhouse Native Plant Information	MCD		X	X	Work with greenhouses and plant suppliers to increase the availability of native plants offered for sale and the education of the public about the benefits of planting with natives
	Master Naturalist Program	MCD Contacts	X			2010 - 30 students, 6 sessions, 30 hours of volunteer time per student
	Native Tree & Shrub Seedling Sale	Advertise via e-news, mailings, and newspapers	X	X	X	MCD sale held in spring and fall each year

OBJECTIVE EIGHT - Management of Riparian Lands

For permittees with riparian land owners, methods for managing riparian lands to protect water quality (Watershed Permit MIG610000, Part I.A.4.b.2.a.8, page 11)

Component	Item	Distribution	2010	2011	2012	Notes / Narrative
Awareness	Brochure: Protect Our Waters	Municipal Lobbies, Events, Presentations	X	X	X	Brochure containing information about preventing the spread of aquatic invasive species.
	Brochure: Shoreline Alterations: Natural Buffers and Lakescaping	Events, Presentations	X	X	X	Overview for homeowners wanting to create a more natural shoreline.
	Brochure: A fresh look at shoreland restoration	Events, Presentations	X	X	X	Guide to the practice of restoring traditional shoreline landscaping to a more healthy transition between land and water.
	Brochure: Protecting Your Waterfront Investment: 10 simple shoreland stewardship practices	Realty Offices, Libraries	X	X	X	10 simple shoreland stewardship practices – a 20 page guide to shoreland stewardship practices for people who live on developed waterfront lots to protect monetary property investments.
Education	Brochure: Plants for Shoreline Landscaping	MCD Events, Presentations		X	X	Reactive specific to MI 8. Prior in depth guide to native shoreline plants, the function of shoreline buffer systems, and planting guidelines.
	Booklet: Landscaping for water quality	MCD Events, Presentations, Municipal Lobbies	X	X	X	booklet by CES; provides descriptive explanation of landscaping for water quality, garden designs, a detailed native plant list, and maintenance tips for native landscaping.
	Workshops: Shoreline Landscaping	MCD	X	X	X	focusing on landscaping with natives and replacing hard shorelines with soft engineering, One per year
	Audio Powerpoint: Shoreline ecosystems	To teachers through MAISD	X	X	X	Minn DNR 20 minute audio powerpoint describing shoreline ecosystems and the importance of native vegetation
Action	Newspaper Article Series: Action Steps for Clean Water, Shoreline Property Owners	Newspapers	X			focusing on proper shoreline maintenance, vegetative buffers, use of native plants, etc...
	Invasive Species Control	MCD contacts	X	X	X	education, removal and management of invasive species surrounding local waterways
	Webpage: Action Steps for Clean Water, Managing Shoreline Property	MCD Webpages	X			focusing on shoreline management, native landscaping, vegetative buffers
	Newspaper Article Series: Action Steps for Clean Water, Managing Shoreline Property	Newspapers	X			focusing on shoreline management, native landscaping, vegetative buffers
	Implementation Projects: Shoreline Restorations	MCD contacts	X	X	X	Implementing natural shoreline restorations and landscaping, 4 per year
Shoreline Native Landscaping Program	Specific Lake			X	Lake specific program encouraging shoreline homeowners to remove turf grass and replace with native shoreline plants, educating homeowners and providing free native plants and design assistance	

OBJECTIVE NINE - Entity Specific Pollutants

Additional pollutants unique to commercial, industrial, and institutional entities as the need is identified. (Watershed General Permit MIG610000, Part I.A.4.b.2.a.9, page 11)

Component	Item	Distribution	2010	2011	2012	Notes / Narrative
Lawn Care	Landscapers and Lawn Care Businesses	Workshop, Direct Mailings;			X	Focusing on pesticide and fertilizer application, soil testing, watering recommendations, and planting with natives.
Marina	County Marinas	Signage creation, informational handouts and individual marina assistance	X			boat care practices, oil absorbent pillows, fluid recycling, proper septic disposal facility locations, recycling receptacles and garbage facilities
Retailer	Hardware and Garden Stores	Posters and Brochures		X		2 posters (pest/fert & HHV), educational brochures about pesticide usage, fertilizer usage, household hazardous wastes, oil recycling, car/boat wash soaps, and general actions for clean water