

Michigan Municipal Separate Storm Sewer System (MS4) Jurisdictional General Permit Public Education Program Requirements

This compliance assistance document is intended to assist permittees in fulfilling the Public Education Program (PEP) requirements of the Jurisdictional General Permit.

Public is defined to include all persons who potentially could affect the authorized storm water discharges, including, but not limited to, residents, visitors to the area, public employees, businesses, industries, construction contractors and developers.

Permittees may elect to meet the PEP requirements by working collaboratively with other municipalities to develop, submit, and implement a PEP. A collaborative PEP shall demonstrate that the audiences of all permittees will be targeted. The PEP shall be submitted to the Department of Natural Resources and Environment (Department) as part of the Storm Water Management Plan (SWMP), on or before the date specified in the Certificate of Coverage (COC).

Existing approved PEP formats may be acceptable as long as the PEP contents meet the requirements of the in-effect Jurisdictional General Permit (including adequately evaluating the effectiveness of the overall PEP).

The PEP is to be implemented throughout the regulated areas for which the permittee has coverage, as indicated on their COC. Note: Additional information on the regulated area can be found in the *Scope of the Storm Water Pollution Prevention Initiative and Storm Water Management Plan* compliance assistance document, available online at www.michigan.gov/deqstormwater under Municipal Program/MS4 Permit Compliance assistance.

PEP Content Requirements

The Jurisdictional General Permit sets the following requirements for PEPs:

- The PEP shall promote, publicize, and facilitate watershed education for the purpose of encouraging the public to reduce or prevent the discharge of pollutants in storm water to the maximum extent practicable. Jurisdictional General Permit, Part I.A.5, page 6.
- At a minimum, conduct public education on the following topics, as appropriate based on the potential impact on the receiving waters: Jurisdictional General Permit, Part I.A.5.a, page 7.
 1. Hazards associated with illicit discharges and improper disposal of waste. Encourage public reporting of the presence of illicit discharges or improper disposal of materials into the permittee's MS4, and develop and publicize a hotline for public reporting. Common illicit discharges are construction site wastes and sediment, carpet cleaner wastes, household wastes and motor vehicle fluids from home owners, septic and other commercially transported wastes, and commercial power washing (except residual street washing water discharges that are allowable under Jurisdictional General Permit, Part I.A.7, page 8).



2. The water body that would be potentially impacted by improper actions at or near a person's home.
 3. The availability, location, and requirements of facilities for collection and/or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes, and motor vehicle fluids. Acceptable application and disposal of pesticides, herbicides, and fertilizers including the use of phosphorus-free fertilizer alternatives as appropriate.
 4. Preferred car cleaning agents and procedures for non-commercial car washing.
 5. For property owners with a septic system, proper septic system maintenance, and how to recognize system failure.
 6. For permittees with riparian land owners, management of riparian lands to protect water quality.
 7. Public responsibilities and stewardship in their watershed.
 8. The benefits of using native vegetation instead of non-native vegetation.
 9. Educate commercial, industrial and institutional entities likely to have significant storm water impacts. At minimum, commercial food services, primarily restaurants shall be educated to prevent grease and litter discharges to MS4s.
- For all applicable topics, the PEP shall identify: Jurisdictional General Permit, Part I.A.5.b, page 7:
 1. Target audiences.
 2. Key messages.
 3. Delivery mechanisms/ Best Management Practice (BMP)/Action/Activity.
 4. Timetable.
 5. Responsible party (or parties).
 - Describe a method for determining the effectiveness of the implemented PEP. Jurisdictional General Permit, Part I.A.5.c, page 7.

Combining or coordinating existing PEPs for public stewardship of water resources is encouraged. Jurisdictional General Permit, Part I.A.5, page 6.

The following pages provide requirements and recommendations on how the permittee may fulfill the ten PEP topics listed above. Each PEP action shall identify the suggested target audiences, messages, delivery mechanisms, timetable, responsible party (or parties) for assembling and delivering the message, as required by the permit. This compliance assistance document is designed to provide detail on the necessary actions to meet the nine topics.

Both consistency and repetition are important in increasing awareness and bringing a desired behavior change. Because of this, the Department and, in some cases, regional and local entities have developed educational materials that could be used by permittees to ensure

consistent messages and repeated usage. The Department recommends that permittees evaluate these state and local materials in implementing their PEPs. There are examples of successful education programs available at:

- [Nonpoint Source Program](#) under “Be Stormwater Savvy”
- [Southeast Michigan Council of Governments \(SEMCOG\)](#)
- [U.S. Environmental Protection Agency \(U.S. EPA\) Water Web site](#)
- [Center for Watershed Protection](#)
- [U.S. EPA Stormwater Discharges From Municipal Separate Storm Sewer Systems \(MS4s\)](#)

For information and examples on how to create a public education plan, it may be helpful to refer to Chapter 9 - Informing and Involving the Public in the Department Handbook [Developing a Watershed Management Plan for Water Quality – An Introductory Guide](#). This document is available online at www.michigan.gov/deqnp, under Developing an Approvable Watershed Management Plan.

The following information is a mix of requirements and/or recommendations to be included for each BMP. If not designated as recommended, it is required under the permit.

Elements of the PEP

The PEPs shall be designed to include the information in the following table (except where identified as recommended). In addition, it is recommended that this format be repeated for each of the ten PEP topics.

Permit Topic	List the permit-specified public education topic.
Target Audiences Jurisdictional General Permit, Part I.A.5.b.1., Pg. 7	The Department recognizes that all target audiences do not apply to all permitted entities (e.g., school districts, road commissions, counties). Therefore, it is necessary to list the sectors of the “public” chosen as the target audiences for each topic that will be addressed.
Key Messages Jurisdictional General Permit, Part I.A.5.b.2., Pg. 7	List the key messages that will be delivered to the targeted audiences to adequately address this category. Examples of key messages for each category have been given in this compliance assistance document.

<p>Delivery Mechanisms – (BMPs/Activities/ Actions) Jurisdictional General Permit, Part I.A.5.b.3., Pg. 7</p>	<p>List the activities that will be implemented over the course of the permit term to meet this category.</p> <ul style="list-style-type: none"> • Measurable Goal: A plan should have a standard to evaluate the effectiveness of the activities. It is difficult to determine effectiveness without having a standard. <ul style="list-style-type: none"> - Milestones for achieving these standards (<u>recommended</u>) • Mechanism-specific audiences: Audiences should be topic-specific and consider gender, age, occupation, education-level, and other demographic groups. (<u>recommended</u>) • Mechanism-specific messages (<u>recommended</u>) • Follow-up/supplemental actions if necessary to ensure effectiveness of message. (<u>recommended</u>) • Timetable or timeline: Provide a detailed implementation schedule, identifying the years and frequency, if applicable, that the permittee will implement the actions to which they have committed. Jurisdictional General Permit, Part I.A.5.b.4., page 7. All actions shall be implemented (i.e., put into action, operation, service, or practice) over the term of this permit, unless the permittee has a shortened permit term and the Department agrees to another schedule. Jurisdictional General Permit, Part I.A.3.b.3., page 5. <ul style="list-style-type: none"> - Development (as applicable) - Implementation (include how message will be repeated/sustained) • Responsible party (parties or organizations) for implementation: A written commitment from the implementing entity is recommended if relying on another permittee, agency or organization to complete this activity. A written commitment from a non-permitted agency or organization does not relieve the permittee from the responsibility to comply with a permit requirement. Jurisdictional General Permit, Part I.A.5.b.5., page 7. • Costs: Preparing a budget (estimate of costs) and list of resources is not required but it is helpful for determining what can be accomplished. The intent is to assure that the PEP accounts for the funds and resources needed to implement the activities listed in the PEP. (<u>recommended</u>)
<p>Evaluation Methods</p>	<p>The SWMP shall include a description of the measureable goals for each listed BMP. Jurisdictional General Permit, Part I.B.1.a.2., page 17. The progress report shall describe the progress made towards achieving the identified measurable goals for each of the BMPs. Jurisdictional General Permit, Part I.B.1.b.1., page 18. The report shall also provide a summary of the evaluation of the PEP's overall effectiveness, using the evaluation methods prescribed in the PEP. Jurisdictional General Permit, Part I.B.1.b.1.a., page 18.</p>

PEP Topics (1-10)

The ten required PEP topics are listed below. Each topic has a target audience and a list of potential delivery mechanisms/BMPs/activities that may be used to address each topic. Keep in mind that each delivery mechanism/BMP/activity will have a specific-target audience

(mechanism-specific specific audience). For example, a radio advertisement will only reach those listening to that radio station and program in that time slot. Therefore for each topic there should be individual delivery mechanisms/BMPs/activities. For each activity there should be a specific-target audience listed and the specific message that will be delivered to that audience.

<p>1. Public reporting of illicit discharges</p> <p>Permit language: Hazards associated with illicit discharges and improper disposal of waste. Encourage public reporting of the presence of illicit discharges or improper disposal of materials into the permittee's MS4, and develop and publicize a hotline for public reporting. Common illicit discharges are construction site wastes and sediment, carpet cleaner wastes, household wastes and motor vehicle fluids from home owners, septic and other commercially transported wastes, and commercial power washing (except residual street washing water discharges that are allowable under Jurisdictional General Permit, Part I.A.7, page 8) - Jurisdictional General Permit, Part I.A.5.a.1, page 7.</p>	
Target Audiences	Recommended to include, but not be limited to, residents, visitors to the area, public employees, businesses, industries, construction contractors and developers.
Key Messages	<ul style="list-style-type: none"> • Illicit Discharge - what it is and what to look for. • Promotion of illicit discharge reporting system and how to report an illicit discharge. • Water quality impacts associated with illicit discharges and improper waste disposal. • Identification of failing on-site sewage disposal systems - physical symptoms to watch for. • Consequences/penalties associated with illicit discharges and improper waste disposal.
Example Delivery Mechanisms/BMPs/Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Community newsletters • Articles to be published in local newspapers • Phone numbers and e-mail addresses for the reporting of illicit discharges should be provided in all educational materials • Article on Web site • Billboards with message • Refrigerator magnets • Workshops • Displays at events or buildings • River day or river/lake festivals • River clean-up • Volunteer monitoring programs

2. Ultimate storm water discharge location and potential impacts

Permit language: The water body that would be potentially impacted by improper actions at or near a person's home. Jurisdictional Permit Part I.A.5.2 (page 7)

Target Audiences	Recommended to include, but not limited to residents (may also include owners and employees of local businesses and industries), schools, boy/girl scouts, volunteer groups.
Key Messages	<ul style="list-style-type: none"> • Storm drains discharge to water bodies. • Storm water discharged from separate storm sewer systems does not receive treatment prior to discharge. • Impacts of storm water pollutants in the watershed. • Knowledge of separate storm water drainage system in a person's neighborhood and the water body to which the storm water is discharged.
Example Delivery Mechanisms/BMPs/ Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Catch basin stenciling program that includes door-to-door delivery of brochures • Persons delivering the brochures should be trained to present the message • Attractive, well-designed signs at intersections and entrances to subdivisions • Educational materials for school use, private associations, or public interest groups. This activity should include a method for distribution • Informational boards at beaches, parks, boat docks, etc. • Web site maps - consider offering contests that will motivate people to view the Web site and maps • Workshops • Displays at events or buildings • River day or river/lake festivals • River clean-up • Volunteer monitoring programs

3. Waste management assistance

Permit language: The availability, location, and requirements of facilities for collection, and/or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes, and motor vehicle fluids. Jurisdictional General Permit, Part I.A.5.a.3, page 7.

Target Audiences	Recommended to include, but not be limited to, residents, visitors to the area, public employees, businesses, industries, institutions, construction contractors and developers.
Key Messages	<ul style="list-style-type: none"> • Identification of household hazardous wastes and available alternatives. • Disposal locations, requirements, and availability for household hazardous wastes and other chemicals: <ul style="list-style-type: none"> ○ Motor vehicle fluids ○ Travel trailer sanitary wastes ○ Recreational boating sanitary wastes (recommended for inclusion in PEP) ○ Yard wastes
Example Delivery Mechanisms/ BMPs/Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Informational materials including posters on chemicals, household hazardous wastes, motor vehicle fluids, and yard wastes, to be distributed at: <ul style="list-style-type: none"> ○ Hardware stores ○ Home building material suppliers ○ Large multi-purpose stores ○ Auto parts suppliers ○ Local health department ○ Waste authorities ○ River day ○ River clean-up • Informational materials on travel trailer and boat sanitary wastes to be distributed at: <ul style="list-style-type: none"> ○ Recreation vehicle dealerships ○ Boat dealerships ○ Boat and recreational vehicle shows ○ Marinas and boat launches ○ Parks and campgrounds ○ Rest areas ○ Direct mailings • Articles for publication in local newspapers and community newsletters • Waste management information for the Web site • Informational materials for use in classrooms • Workshops • Volunteer monitoring programs • Displays at events or buildings • Cinema advertisements • Radio spots

4. Acceptable application and disposal of chemicals

Permit language: The acceptable application and disposal of pesticides, herbicides, and fertilizers, including the use of phosphorus-free fertilizer alternatives, as appropriate. Jurisdictional General Permit, Part I.A.5.a.4, page 7.

Target Audiences	Recommended to include, but not be limited to, residents, public employees, lawn care companies, and businesses.
Key Messages	<ul style="list-style-type: none"> • BMPs for each of the following actions: <ul style="list-style-type: none"> ○ Pesticide use, fertilizer use, and their disposal. ○ Residential de-icer use (recommended for inclusion in the PEP). • Proper disposal of pesticides and herbicides.
Example Delivery Mechanisms/BMPs/Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Posters for display at pesticide and fertilizer retailers • Articles for publication in local newspapers and community newsletters • Radio spots (targeted to the desired audience) • TV spots (gardening shows and weather reports) • Workshops • Displays at events or buildings • River day or river/lake festivals • River clean-up • Cinema advertisements • Volunteer monitoring programs • Presentations to groups such as schools, garden clubs, homeowner associations, and civic groups

5. Car washing

Permit language: Preferred car cleaning agents and procedures for noncommercial car washing. Jurisdictional General Permit, Part I.A.5.a.5, page 7.

Target Audiences	Recommended to include, but not be limited to, residents, public employees, businesses, and non-profit groups that do carwash fundraisers.
Key Messages	<ul style="list-style-type: none"> • BMPs for each of the following actions: <ul style="list-style-type: none"> ○ Car and/or power washing (preferred cleaning materials and practices – “phosphate free” is as important as “biodegradable”) ○ Effects of residential wastes on our water bodies ○ Wash vehicles on your lawn, not in your driveway or on the street, to reduce discharges to storm sewers or drains
Example Delivery Mechanisms/BMPs/Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Brochures on proper vehicle washing procedures Distribute to groups that perform community car washes Include the same information on the Web site • Information on recommended residential vehicle washing procedures and detergents • Articles for publication in local newspapers and community newsletters • Radio spots (targeted to the desired audience) • TV spots (gardening shows and weather reports) • Workshops • Displays at events or buildings • Coupons at local car washes • Cinema advertisements • Volunteer monitoring programs • Presentations to groups such as schools, garden clubs, homeowner associations, and civic groups

6. Septic System Maintenance

Permit language: For property owners with a septic system, proper septic system maintenance, and how to recognize system failure. Jurisdictional General Permit, Part I.A.5.a.6, page 7.

Target Audiences	Riparian land owners (including new home owners), owners of septic systems, municipal inspectors, septage haulers, realtors and home inspectors.
Key Messages	<ul style="list-style-type: none"> • Proper septic system care and maintenance • Identification of failing septic systems • Water quality impacts associated with failing septic systems
Example Delivery Mechanisms/BMPs/ Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Brochures to distribute to riparian land owners and septic system owners • Presentations to septic system owners • Information with water bills • Information on Web site • Articles for publication in local newspapers, community newsletters, and associated publications • Workshops • Displays at stores that supply septic system treatments

7. Management of riparian lands

Permit language: For permittees with riparian land owners, management of riparian lands to protect water quality. Jurisdictional General Permit, Part I.A.5.a.7, page 7.

<p>Target Audiences</p>	<p>Recommended to include, but not be limited to, riparian land owners, developers, contractors, engineering firms, recreational users, lawn care companies, landscapers, golf course owners, sportsmen and other stakeholders as identified in the Public Participation Process.</p>
<p>Key Messages</p>	<ul style="list-style-type: none"> • Importance of riparian corridors • BMPs for riparian lands (recommended to include): <ul style="list-style-type: none"> ○ Protection through use of conservation easements ○ Lawn maintenance for water quality (including no-mow and no-chemical application zones) ○ Landscaping for water quality ○ Shoreline stabilization techniques ○ Proper septic system maintenance ○ Proper management of grass clippings, leaf litter, animal wastes, and other wastes
<p>Example Delivery Mechanisms/BMPs/Activities</p>	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Brochures to distribute to riparian owners • Presentations to lake and stream associations, lawn care companies, and landscapers • Information on Web site • Trained personnel to distribute informational materials door-to-door • River crossing or “entering the watershed” signs • Articles for publication in local newspapers, community newsletters, and association publications • Workshops • River day or river/lake festivals • River clean-up • Volunteer monitoring programs

8. Personal watershed stewardship

Permit language: Responsibility and stewardship in their watershed. Jurisdictional General Permit, Part I.A.5.a.8, page 7.

Target Audiences	Recommended to include, but not be limited to, residents, visitors to the area, public employees, businesses, industries, construction contractors and developers. PEP should also target key stakeholder groups defined in the Public Participation Process (PPP). The Department recommends selecting audiences that may be gender, age, occupation, and/or education-level based.
Key Messages	<ul style="list-style-type: none"> • Definition of Watershed • Education on the specific watersheds the public will/can affect • Purpose for protecting the watershed • Ways that individuals can affect the watershed through their activities
Example Delivery Mechanisms/ BMPs/ Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Brochures/fact sheets (utility/tax bill inserts, door hangers, newspapers, municipal building offices) • Web sites: the address from the Web site can be easily included in all other activities and materials • News articles to be published in local news papers, community newsletters, and on the Web site • Presentations to groups such as schools, garden clubs, homeowner associations, and civic groups • Prepared instructional materials to be used by teachers in the classrooms • Computer terminals and educational materials at exhibitions and community events (boat shows, camper shows, festivals, fairs, etc...) • Billboards with brief educational messages • Workshops • Displays at events or buildings • River day or river/lake festivals • River crossing or entering the watershed signs • River clean-up • Volunteer monitoring programs • Public service announcements (preferably on popular radio stations). It may be possible to target different audiences according to radio station • Consider sporting broadcasts • Television – consider attaching spots to the weather or news reports • Cinema advertisements • Township and municipal meetings • Watershed tours • Coupon books • Ticket stub ads • Cash register receipts • Restaurant coasters or placemats • Posters • Letters to the editor • Calendars • Parade floats • Cable TV scrolls • Transit ads • Restroom advertising • Doctor/Dental office TV or radio

9. Benefits of native vegetation

Permit language: The benefits of using native vegetation instead of non-native vegetation. Jurisdictional General Permit, Part I.A.5.a.9, page 7.

Target Audiences	Landowners, road maintenance crews, parks and recreation staff, landscaping companies and hardware stores.
Key Messages	<ul style="list-style-type: none"> • Using native plants, specifically for a vegetative riparian buffer or rain garden, can significantly contribute to: <ul style="list-style-type: none"> ○ Stream health ○ Improving water quality ○ Improving wildlife habitat ○ Reducing the chance of introducing invasive aquatic nuisance species ○ Reducing the cost of mowing
Example Delivery Mechanisms/BMPs/Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Obtain or create lists of plants native to the area and distribute to target audiences. • Workshops for landowners on landscaping with native plants, emphasizing the water quality and habitat benefits of doing so by master gardeners, lake associations, and/or nonprofit groups. • Meetings with local flower, plant, and hardware shops, detailing lists of native plants to stock and sell. • Create or expand native plant gardens on municipal property (parks, office buildings, streetscapes).

10. Food, commercial, and industrial services

Permit language: Educate commercial, industrial, and institutional entities likely to have significant storm water impacts. At a minimum, commercial food services, primarily restaurants, shall be educated to prevent grease and litter discharges to MS4s. Jurisdictional General Permit, Part I.A.5.a.10, page 7.

Target Audiences	Commercial, industrial, institutions, and food service (i.e., grocery stores, cafeterias, caterers, restaurants, etc.) facilities/entities
Key Messages	<ul style="list-style-type: none"> • Chemicals (i.e., salt for deicing) need to be stored under cover and handled in a manner that reduces the exposure of the chemicals to storm water runoff. • Restaurants and food service facilities need to properly manage and dispose of kitchen waste (i.e., grease, food waste, garbage leachate, etc.) to prevent the discharge of kitchen waste to the MS4.
Example Delivery Mechanisms/BMPs/ Activities	<p>Provided is a list of activities that could be used to address the topic.</p> <ul style="list-style-type: none"> • Direct mailings of brochures or fact sheets to larger facilities that apply deicing chemicals. • Fact sheet delivered by an inspector when conducting inspections. • Volunteer monitoring program to identify facilities or operations that use excessive amounts of deicing chemicals or store the chemicals in an inappropriate manner. Publish articles in local publications • Information on Web site. • Develop and distribute education material (brochures, fliers, fact sheets, etc.) on proper kitchen waste management and disposal during inspections of restaurants and food service facilities. • Send educational material regarding proper kitchen waste management and disposal to restaurant associations.

Evaluation Methods and Determining Effectiveness

The permittee shall provide a summary of the evaluation of the PEPs overall effectiveness using the evaluation methods prescribed in the PEP. The Jurisdictional General Permit requires a summary of the evaluation of the PEP's overall effectiveness, using the evaluation methods prescribed in the PEP, Jurisdictional General Permit, Part I.B.1.b.1.a (page 18). As such, the PEP, as part of the SWMP, shall identify a method for determining the effectiveness of the public education activities (BMPs/delivery mechanisms/actions), Jurisdictional General Permit, Part I.A.5.c., page 7.

The evaluation of the overall effectiveness of the PEP may be an accumulation of the measure of the effectiveness of the individual actions/delivery mechanisms, a measure of the effectiveness of all of the actions through a survey, or a combination of both.

The permit encourages a collaborative PEP approach, therefore permittees may choose to meet the evaluation requirements by working collaboratively with their partners to develop and implement a watershed-wide effectiveness program.

Effectiveness can be measured by demonstrating a change in knowledge and/or behavior related to water quality by stakeholders (residents, businesses, etc.). **Measurements shall determine whether or not efforts are making progress towards increasing knowledge on the nine topics required under the permit and changing stakeholder behavior related to local water quality issues.** It is advisable to measure the effectiveness of each action so that time and financial resources are best utilized. Overall effectiveness, however, could be measured through broad tools, such as comparisons of social survey results or comparisons of public participation over a period of time.

Evaluation methods refer to how something is measured. The standard of effectiveness is something we use to measure against (a standard). For example if we are trying to determine if there is an increased knowledge of how to properly dispose of household hazardous wastes the evaluation method could be counting number of individuals dropping off hazardous wastes at a collection center. The standard of effectiveness would be a 20 % increase in use of the collection center. **The jurisdictional permit requires that each BMP have a measurable goal. The measurable goal is the standard of effectiveness.**

It may be beneficial to establish milestones to determine the progress being made to reach the measurable goal. An example of a milestone would be a 10% increase in the use of the collection center.

It is important to engage in evaluation of education efforts to ensure that tax dollars are being spent in ways that maximize the impacts of limited resources. Effectiveness may be gauged in a number of ways. The most important measure of success is shown through changes in public awareness of pollution and possible solutions, changes in environmental attitudes, behavioral changes such as an increase in resource use, and/or an increase in water quality. This may be done by utilizing a sample survey (social monitoring).

Action-Specific Evaluation

The following tables present several examples of evaluation methods and effective milestones to aid permittees in meeting their obligation to describe a method for determining the effectiveness of their public education activities. As mentioned above, one way to measure the overall PEP effectiveness is through an assessment of an accumulation of PEP activities.

These are generic examples for compliance assistance only. Individual permittees should report their actual efforts, which may differ from the examples presented in the compliance assistance document and the following tables.

Measure the usage of facilities or materials

Evaluation Method	Milestone
Count and compare the amount of materials collected or the number of visitors at household hazardous or recyclable collection centers.	Show an increase in waste and recyclable collections or number of users over a specified time period or an increase specifically after an education activity.
Count and compare the number of stores stocking low/no phosphorus.	Show an increase over a specific time period.
Have stores track the number of sales of low/no phosphorus fertilizer and then compare sales volume.	Show an increase over a specific time period.
Count and compare the number of calls to report problems or to solicit information. Analyze the data and trends. Remember to correlate with specific education activities to accurately assess changes	Show an increase in calls associated with specific education activities.
Survey to determine the number of people composting or count and compare the number of people purchasing compost bins.	Show an increase over a specific time period or an increase specifically after an education activity.
Count and compare the number of charity car washes that eliminate discharges to storm sewers.	Show an increase in the number of organizations requesting a charity car wash kit over a specific time period.
Count and compare the number recreational vehicles using travel trailer sanitary wastes disposal facilities.	Show an increase over a specific time period or an increase specifically after an education activity.
Count and compare the number of requests for educational materials.	Show an increase over a specific time period or an increase specifically after an education activity.

**MS4: PEP Jurisdictional Requirements
Compliance Assistance Document
Page 2 of 19**

Measure participation

Evaluation Method	Milestone
Track attendance at meetings, workshops, or events and compare attendance over a specific period of time.	Show increased or sustained attendance over a specific period of time.
Track the number of partners that support meetings, workshops, or events and compare the numbers over a specific period of time.	Show increased or sustained participation over a specific period of time.
Track the number of volunteers for pollution reduction projects and compare the numbers over a specific period of time.	Show increased or sustained participation over a specific period of time.
Track the number of septage haulers that accept coupons for pumpout service and compare the numbers over a specific period of time or track their change in business volume over a specific period of time.	Show increased or sustained participation over a specific period of time.
Track and compare the number of pledge cards from residents pledging to take action to protect our water resources.	Show an increase over a specific time period or an increase specifically after an education activity.
Track and compare attention given to issues by the media (e.g., editorials, articles, interviews, or public service announcements).	Show increased or sustained coverage over a specific period of time.
Track and compare the number of Web site hits. We suggest the use of embedded counters within the Web site. These can be used to economically measure if there is continued interest in education materials. However, they may not be reflective of the amount of information that is truly pushed as the same person may click on the Web site multiple times.	Show an increase over a specific time period or an increase specifically after an education activity.
Track and compare the use of down-loadable coupons from a community's Web site.	Show an increase over a specific time period or an increase specifically after an education activity.
Brochures can direct responders to surveys within the Web site. Track and compare the number of responses associated with the brochure. This can give an indication of the effectiveness of the brochure to encourage the public to find more information.	Show an increase in Web site hits associated with a brochure distribution or other education activity.

Social Surveys: Measuring changes in awareness, attitudes, and/or behavior

Surveys are a viable tool to gauge the public's current activities, awareness, core values and behavior changes that have taken place during the public education campaign. Surveys are the most effective tool for evaluation. If conducted properly, they provide documentation of program effectiveness.

A survey at the beginning of the program can serve as a benchmark for future surveys.

Surveys are best utilized at the watershed, regional, or state level. This allows the costs to be split across the communities that are covered as part of a survey. Probability sampling allows the surveyor to sample a small percentage of the population, and still have a survey that adequately characterizes the population. As an example, the cost to conduct a survey of a municipality would be similar to the cost to survey a watershed that covers multiple municipalities. Therefore, the Department suggests sampling at the watershed level, and dispersing the costs amongst the watershed member.

Surveys should be carefully developed with the help of a professional trained in the social sciences and statistics. **Assistance on surveys is available from staff in the Nonpoint Source (NPS) Program in the Department.** To contact the NPS Social Monitoring Coordinator, please visit the [NPS Program Web site](#) or call (517) 373-6265. Compliance assistance to help with the development of useful and valid surveys is available on line at www.michigan.gov/deqnps; click on Social Monitoring under Monitoring and Field Investigations. To become familiar with social surveys, the Department recommends reading through all of the compliance assistance provided, including information on Quality Assurance Project Plans. For a specific discussion on sample sizes, please visit [The Social Indicator Planning and Evaluation System \(SIPES\) for Nonpoint Source Management compliance assistance](#) document, pages 21-24.

Surveys need to engage the respondent as to why the survey is important. They need to be relevant and look professional. They also need to avoid leading questions or questions that can produce other types of invalid responses.

- A survey after a presentation or workshop can be compared to a baseline survey or to a survey given prior to the presentation or workshop.
- Mail surveys are generally the most effective way to sample a population or watershed. They should include a cover letter, provide a self-addressed stamped return envelope, look professional, and be done during a period where high rates of return can be expected (such as during the school year when people are at home). A mailed survey may cost approximately \$10,000 with staff time, printing, and postage.
- Telephone surveys can be broad or simple. Simple surveys can focus on just a few questions and assess how well people understand selected storm water or water pollution issues, but should be done by professionals with experience in survey research to ensure that all segments of the population being sampled are reached. Many homes no longer maintain a land-line telephone, which could skew survey results if sampling is not done properly. A telephone survey often costs more than a mailed survey.
- Small communities with few residents may be able to reach a significant portion of the population by door-to-door surveys. These surveys may cost less than telephone or mail surveys, especially if they are conducted by trained volunteers or interns.
- Surveys on Web sites, may be used with caution, but they are not necessarily a valid tool for characterizing an audience, because there are large segments of society that do not have regular internet access.

The Center for Environmental Study (CES) survey or a similar survey may be used as a baseline survey. Comparison of the results allows the municipality or municipalities to document changes in knowledge, awareness, and/or behavior related to water quality issues.

Water Quality Data

The Department recognizes that there are several programs under the Phase II program that contribute to improved water quality. It is often difficult, and often inappropriate to associate these water quality improvements with any one single activity, including public education. **Note, water quality data collection requires careful study design, especially if the study is intended to demonstrate a statistically significant change in pollutants or biological organisms.** Recognizing this, there are two levels of water quality data that can be used in evaluating progress: 1) general water quality in the area and 2) targeted water quality monitoring related solely to public education in small study areas.

- General Water Quality. Improvements in the water quality in the community can be due to numerous activities, including a strong public education program. This data can be used in conjunction with other evaluation methods to illustrate success of your program.
- Targeted Water Quality Monitoring. Specified monitoring can take place to evaluate progress of your public education program or provide direction for it. Examples include:
 - Outfalls where residential fertilizer education might result in reduced nutrient discharges
 - Areas where education targeted illicit dumping
 - Areas of failing septic system education programs
 - Evidence of grease deposits from commercial areas where restaurants are concentrated

Reporting Progress

The Jurisdictional General Permit, Part I.B.1.b., page 18, requires that the permittee describe the status of compliance with the PEP in the progress report. Although reporting progress is not part of the PEP document, a discussion of PEP progress reporting is included in this document to provide a more comprehensive overview of requirements related to the PEP.

Whether using an individual or collaborative PEP approach, an individual permittee shall document in its progress report the status of the public education activities targeted at audiences in its jurisdiction, as well as its participation and contribution, Jurisdictional General Permit, Part I.B.1.b.1., page 18. The report shall describe the progress made towards achieving the identified measurable goals for each BMP, Jurisdictional General Permit, Part I.B.1.a.2., page 17. It is important to assess the progress made towards achieving the measurable goal for each BMP (action/delivery mechanism) so that time and financial resources are best utilized.

Reporting the public education progress might include information like the following:

- Number of materials developed or a demonstration that materials were developed
- Numbers of pieces of informational materials distributed or a demonstration that materials were distributed
- Number of workshops or presentations held or a demonstration that they were held
- Demonstration that school curriculum was developed and used in classes
- Description of unique public education methods that might be helpful for other communities

The examples presented in this compliance assistance document are for compliance assistance only. Individual permittees should report their actual efforts, which may differ from the examples presented in this document and the associated tables.

This document was produced by the Michigan Department of Natural Resources and Environment (DNRE) and is intended for guidance only. Reliance on information from this document is not usable as a defense in any enforcement action or litigation. The DNRE will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to the Office of Human Resources, PO Box 30473, Lansing, MI 48909.