

Guidance for the Watershed Permit - General Permit No. MIG619000

This guidance is intended to assist permittees in fulfilling the Public Education Plan (PEP) requirements of the Watershed Permit.

The Watershed Permit sets 5 requirements for PEPs:

- 1) The PEP shall promote, publicize, and facilitate watershed education for the purpose of encouraging the public to reduce the discharge of pollutants in storm water to the maximum extent practicable.
- 2) Pollution prevention shall be encouraged.
- 3) The PEP shall describe a method for determining the effectiveness of the various public education activities.
- 4) "Public" shall be defined to include all persons who potentially could affect the quality of storm water discharges, including, but not limited to, residents, visitors to the area, businesses, commercial operations, and construction activities.
- 5) The PEP shall be designed to accomplish, at a minimum, the following categories as appropriate based on the potential impact on the watershed:

- 1) education of the public about their responsibility and stewardship in their watershed;
- 2) education of the public on the location of residential separate storm water drainage system catch basins, the waters of the state where the system discharges, and potential impacts from pollutants from the separate storm water drainage system;
- 3) encouragement of public reporting of the presence of illicit discharges or improper disposal of materials into the applicant's separate storm water drainage system;
- 4) education of the public on the need to minimize the amount of residential, or non-commercial, wastes washed into nearby catch basins (this should include the preferred cleaning materials and procedures for car, pavement, or power washing; the acceptable application and disposal of pesticides and fertilizers; and the effects caused by grass clippings, leaf litter, and animal wastes that get flushed into the waterway);
- 5) education of the public on 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; and
- 6) education of the public concerning management of riparian lands to protect water quality.

The following pages provide recommendations on how the permittee may fulfill the PEP categories listed above. The guidance is organized by the six PEP permit categories. Listed for each permit category are suggested target audiences and messages for those audiences.

An adequate PEP will implement a sufficient amount of educational activities to ensure that the targeted audiences are reached with the appropriate message(s) for each category. The PEP may involve combining with or coordinating existing programs for public stewardship of water resources. Existing approved PEP formats will continue to be acceptable as long as the PEP meets the requirements of the Watershed Permit. The PEP is to

be implemented throughout the watershed area(s) for which the permittee has coverage, as indicated on their Certificate of Coverage.

Both consistency and repetition are important in increasing awareness and bringing a desired behavior change. Because of this, DEQ 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. DEQ recommends that permittees evaluate these state and local materials in implementing their PEP's. Examples of successful programs may be found at www.michigan.gov/deq. Click on Water, then Surface Water, then Storm Water, and finally on Municipal Program/MS4 Permit Guidance (**links may be under construction**).

ELEMENTS OF THE PEP

The DEQ recommends that PEPs be designed to include the following information:

Permit Category

List the permit category

Overall Target Audience:

DEQ 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 category. Public is defined to include all persons who potentially could affect the quality of storm water discharges, including, but not limited to, residents, visitors to the area, businesses, commercial operations, and construction activities.

Overall Content of Message:

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 guidance.)

Activity

List the activities that will be implemented over the course of the permit term to meet this category. The following information is recommended to be included for each activity:

- Target audience
- On-going activity or new initiative
- Content of message
- Delivery mechanism(s)
- Follow-up/supplemental action(s) if necessary to ensure effectiveness of message

-Timetable

- Development (recommended)
- Implementation (include how message will be repeated/sustained)
- Evaluation of effectiveness (recommended)

-Responsible party for implementation:

-A written commitment from the implementing entity is necessary 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).

-Evaluation mechanism(s):

-Should include measurable goals (methods for determining effectiveness). The permittee may evaluate activities separately, or may evaluate the effectiveness of a group of activities implemented to achieve a common outcome.

Note: 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 plan accounts for the funds and resources needed to implement the activities listed in the PEP.

PEP CATEGORIES (1-6)

1. Personal watershed stewardship

Education of the public about their responsibility and stewardship in their watershed.

(Watershed Permit MIG619000, Part I.A.3.b.1)

Overall Target Audience:

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).

Overall Content of Message:

- Definition of Watershed
- Education on the specific watershed(s) the public will/can affect

-Purpose for protecting the watershed

-Ways that individuals can affect the watershed through their activities

Examples of activities:

-Brochures

-Websites - the address from the website can be easily included in all other activities and materials

-News articles to be published in local news papers, community newsletters, and on the website

-Presentations to groups such as schools, garden clubs, homeowner associations, and civic groups

-Prepared instructional materials to be used by teachers in their 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 the radio station.

-Consider sporting broadcasts

-Television spot announcements - consider attaching spots to the weather or news reports

-Cinema advertisements

2. Ultimate storm water discharge location and potential impacts

Education of the public on the location of residential separate storm water drainage system catch basins, the waters of the state where the system discharges, and potential impacts from pollutants from the separate storm water drainage system. (Watershed Permit MIG619000, Part I.A.3.b.2)

Overall Target Audience:

Recommended to include, but not limited to residents (may also include owners and employees of local businesses and industries)

Overall Content of Message:

- 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

Examples of Activities:

-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...

-Website maps - consider offering contests that will motivate people to view the website and maps

-Workshops

-Displays at events or buildings

- River Day or river/lake festivals
- River clean-up
- Volunteer monitoring programs

3. Public reporting of illicit discharges

Encouragement of public reporting of the presence of illicit discharges or improper disposal of materials into the applicant's separate storm water drainage system.
(Watershed Permit MIG619000, Part I.A.3.b.3)

Overall Target Audience:

Recommended to include, but not be limited to, residents, visitors to the area, public employees, businesses, industries, construction contractors and developers

Overall Content of Message:

- 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

Examples of Activities:

- 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 website
- Billboards with message
- Refrigerator magnets
- Workshops

- Displays at events or buildings
- River Day or river/lake festivals
- River clean-up
- Volunteer monitoring programs

4. Personal actions that can impact the watershed

Education of the public on the need to minimize the amount of residential, or non-commercial, wastes washed into nearby catch basins (this should include the preferred cleaning materials and procedures for car, pavement, or power washing; the acceptable application and disposal of pesticides and fertilizers; and the effects caused by grass clippings, leaf litter, and animal wastes that get flushed into the waterway). (Watershed Permit MIG619000, Part I.A.3.b.4)

Overall Target Audience:

Recommended to include, but not be limited to, residents, public employees, businesses, and non-profit groups that do carwash fundraisers

Overall Content of Message:

- Best management practices (BMPs) for each of the following actions:
 - Car, pavement, and/or power washing (preferred cleaning materials and practices – “phosphate free” is as important as “biodegradable”)
 - Pesticide use, fertilizer use, and their disposal
 - Proper management of grass clippings, leaf litter, and animal wastes
 - Residential de-icer use (recommended for inclusion in the PEP)
 - Native vegetation on residential properties as an alternative to turf grass (recommended for inclusion in the PEP)
- Effects of residential wastes on our water bodies

Examples of Activities:

- Brochures on proper vehicle washing procedures. Distribute to groups that perform community car washes. Include the same information on the website.
- Information on recommended residential vehicle washing procedures and detergents
- 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. Waste management assistance

Education of the public on 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 Permit MIG619000, Part I.A.3.b.5)

Overall Target Audience:

Recommended to include, but not be limited to, residents, visitors to the area, public employees, businesses, industries, institutions, construction contractors and developers

Overall Content of Message:

- Identification of household hazardous wastes and available alternatives
- Disposal locations, requirements, and availability for household hazardous wastes & other chemicals.
 - Motor vehicle fluids
 - Travel trailer sanitary wastes
 - Recreational boating sanitary wastes (recommended for inclusion in PEP)
 - Yard wastes

Examples of Activities:

- Informational materials including posters on chemicals, household hazardous wastes, motor vehicle fluids, and yard wastes, to be distributed at:
 - Hardware stores
 - Home building material suppliers
 - Large multipurpose 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:
 - 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

6. Management of riparian lands

Education of the public concerning management of riparian lands to protect water quality.
(Watershed Permit MIG619000, Part I.A.3.b.6)

Overall Target Audiences:

Recommended to include, but not be limited to, riparian land owners, developers, contractors, engineering firms, recreational users, lawn care companies, landscapers, and other stakeholders as identified in the Public Participation Process

Overall Content of Message:

-Importance of riparian corridors

-BMPs for riparian lands (recommended to include)

- 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

Examples of Activities:

- Brochure(s) 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

EVALUATION MECHANISMS:

The permit requires a method to determine the effectiveness of educational efforts. Again, effectiveness may be gauged in a number of ways. Examples include changes in public awareness of pollution and possible solutions, changes in environmental attitudes, behavioral changes, or water quality changes. Following are several examples of evaluation mechanisms to aid permittees in meeting their obligation to describe a method for determining the effectiveness of their public education activities.

Measure the usage of facilities or materials:

Consider amounts and numbers of:

- Materials collected or visitors at household hazardous waste or recyclable collection centers
- Calls to report problems or to solicit information
- People buying or using low phosphorous fertilizers
- People composting or purchasing compost bins
- Charity car washes that eliminate discharges
- People using travel trailer sanitary waste disposal facilities
- Requests for educational materials

Participation:

- Increased or sustained attendance at meetings, workshops, or events
- Increased or sustained number of partners that support meetings, workshops, or events
- Increased or sustained number of volunteers for pollution reduction projects
- Increased or sustained number of septage haulers that accept coupons for pumpout service, and track their change in business volume

- Pledge cards from residents pledging to take action to protect our water resources
- Attention given to the issue by the media (e.g editorials, articles, interviews, PSAs)

Websites:

These can be used to economically measure the effectiveness of an education program.

- Website hits. We suggest the use of embedded counters within the website. These can be used to measure changes in the interest levels of general public.
- Brochures can direct responders to surveys within the website. This can give an indication the effectiveness of the brochure to encourage the public to find more information.

Surveys to measure changes in awareness, attitudes, or behavior:

Surveys should be carefully developed to avoid leading questions or questions that can produce other types of invalid responses. Guidance to help with the development of useful and valid surveys is available on line at www.michigan.gov/deqnonpointsourcepollution; click on Social Surveys under Information/Education. To become familiar with social surveys, the DEQ recommends reading through all of the guidance provided, including information on Quality Assurance Project Plans.

- A survey after a presentation or workshop can be compared to a baseline or to a survey given prior to the presentation or workshop
- General informational surveys: These surveys are a viable tool to gauge the public's current activities and behavior changes that have taken place during the public education campaign. A survey at the beginning of the program can serve as a benchmark for future surveys. These surveys can take place at the community, watershed, regional, or state level. Examples of existing surveys may be found at www.michigan.gov/DEQ Click on Water, then Surface Water, then Storm Water, and finally on Municipal Program/MS4 Permit Guidance (**links may be under construction**).

-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.

-Small communities with few residents may be able to reach a significant portion of the population by door-to-door surveys

-Surveys on websites

Water Quality Data:

DEQ 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. 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 mechanisms 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 were education targeted illicit dumping
- Areas of failing septic system education programs
- Evidence of grease deposits from commercial areas where restaurants are concentrated

*Note, water quality data collection often requires careful study design, especially if the study is intended to demonstrate a statistically significant change in pollutants or biological organisms.

Reporting Effort:

The Watershed Permit requires documentation of the public education effort and a summary of the evaluation of it's effectiveness. The evaluation of effectiveness is addressed in the Evaluation Mechanisms section above. Reporting the public education effort might include information like the following:

- Number of materials developed

- Numbers of pieces of informational materials distributed

- Number of workshops or presentations held

- Number of households where materials were distributed

- Demonstration that school curriculum was developed and used in classes

- Description of unique public education methods that might be helpful for other communities

These are generic examples for guidance only. Individual permittees should report their actual efforts, which may differ from the examples above.

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