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## Outreach Materials: Creating Solutions to Storm Water Pollution

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**Activity Overview:** Students write and develop outreach materials such as a brochure, fact sheet, article or poster identifying a storm water problem in their community and suggesting a solution for community members to address the problem.

**Objectives:** Students will:

- ➔ Identify storm water problems and explain why they need to be repaired
- ➔ Learn how to develop effective outreach materials
- ➔ Practice presentation skills
- ➔ Participate in a service-learning project

**Subjects Covered:** language arts, science, environmental science, social studies

**Grades:** 4 -12

**Activity Time:** In class: 10 minutes introduction, 50 student presentations

**Season:** Any

**Materials:** Class statistics from Storm Water Inventory, access to information about storm water problems and solutions, card stock, poster board, access to a computer and printer, and other design materials, markers, pens and pencils, clip art, pictures, scrap booking materials, etc.

**State Standards:** Language Arts: A.4.2., A.4.3., A.4.4., A.8.2., A.8.3., A.8.4., A.12.2., A.12.3., A.12.4., B.4.1., B.4.2., B.4.3., B.8.1., B.8.2., B.8.3., B.12.1., B.12.2., B.12.3., C.4.1., C.4.2., C.4.3., C.8.1., C.8.2., C.8.3., C.12.1., C.12.2., C.12.3., E.4.1., E.4.3., E.4.5., E.8.1., E.8.3., E.8.5., E.12.1., E.12.3., E.12.5., F.4.1., F.8.1., F.12.1. Science: A.4.1., A.4.2., A.4.3., A.4.4., A.4.5., A.8.1., A.8.3., A.8.6., A.8.7., A.12.1., C.4.1., C.4.2., C.4.4., C.4.5., C.4.6., C.4.7., C.4.8., C.8.3., C.8.4., C.8.6., C.12.3., C.12.4., E.4.8., E.8.1., F.8.8., F.12.8. Social Studies: A.4.1., A.4.4., A.4.6., A.4.8., A.8.5., A.8.6., A.8.8., A.8.11., A.12.4., A.12.6., A.12.12., E.4.1. E.8.1., E.8.4., E.12.4.

**Note:** See Governor’s Council on Model Academic Standards. (1998). *Wisconsin’s Model Academic Standards*. Madison, WI: Wisconsin Department of Public Instruction for detailed descriptions.

**Background:** Sometimes visual observations such as green, murky lakes will point out water-related challenges in a local watershed. Observations combined with statistical data can be a powerful tool for identifying specific problems, such as the overuse of fertilizer, which often causes pea soup-colored lakes. The Earth Partnership for Schools “Water” You Doing with Hydrology? (A Water Inventory) may bring some of the local watershed problems to the forefront. This data can be used in public outreach to help the community understand their local watershed issues along with offering practical solutions such as how to properly apply fertilizers. See Background Section of the *Storm Water Curriculum and Teaching Guide*, which discusses many of the impacts and answers about storm water and unsustainable water usage.

Improvement through change happens when the community becomes aware of and understands the issues, and acquires knowledge to take helpful action. Developing educational outreach materials can be a powerful way to inform and advise local citizens. Outreach efforts do produce change. A prime example is the widespread practice of recycling. Outreach concerning water can have the same success.

What types of solutions are possible to share with the community through outreach materials? Suggesting Best Management Practices (BMPs) and water conservation measures is a good place to start. (BMPs are methods and techniques designed to reduce or eliminate sources of water pollution.) Implementing BMPs and water conservation at homes and businesses will address many of the identified impacts. Often BMPs are feasible and don't require significant behavior changes. Each citizen of all ages can implement Best Management Practices and water conservation best suited to their own circumstances. The cumulative effect of each citizen's action is the key.

BMP's are described in the Background Section of the *Storm Water Curriculum and Teaching Guide*, and available resources are listed in Student Resources.

Resources about creating outreach materials are listed in the resource section of this activity.



Brochure created by Dane County  
Lakes and Watershed Commission

### **Activity Directions:**

Directions begin on the following page. If preferred, use the directions as a student handout.

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Your assignment is to create an attractive and persuasive outreach product that will inform the community about possible common and/or troublesome storm water impacts or water conservation issues in the local watershed and to offer realistic solutions. Your project will help the community to learn how to become good stewards in the watershed. Your efforts will make a difference in helping to promote a healthy place to live for you, your family, your friends and the plants and animals living in your watershed. Follow the four steps below to develop successful a outreach product.

### 1. Form teams and select and research storm water issues and solutions.

You identified common or troublesome storm water impacts in your community through the Water Inventory. Now you will develop outreach materials to share with the community about what you learned and how the community can get involved to help solve storm water related problems. You or your team will choose and research information about a specific impact and solution that community members can implement. Review your class notes, complete research on the internet or in the library, and use other classroom resources such as the materials listed in the Student Resource section of this storm water unit for more information.

### 2. Develop outreach materials.

After you've completed your research, decide what format you will use to present or display this information. There are several options including making a brochure or informational pamphlet, creating a poster board display, writing an article for the school or community newspaper or newsletter, developing a Web page on the school web site, doing a radio or television news broadcast, or making a video. Next, decide how you will distribute or present your outreach material to the community. Things to consider when deciding on an outreach approach include your time frame, the audience(s) you want to reach, the message you intend to send, and financial resources available (if any).

While creating your outreach materials, you may find the following guidelines helpful.

- Decide who your target audience is and how best to get them engaged.
  - Questions to think about include:
    - Who is my audience? – homeowners, businesses, students, pet owners, gardeners...
    - What does my audience already know about the issue, if anything?
    - Why should my audience care, or how does it affect them?
    - What information will be interesting or useful to my audience?
    - What solutions are feasible to implement for my target audience?
- Have a clear plan of what you want the outreach material to look like before you begin. Consider availability of time and materials, organization, and aesthetics. Materials will be different for a display at a community library compared to a door hanger at an individual home or materials developed for a community or PTO/PTA meeting.
- Make it user-friendly. The material should be easy to read and follow, as well as neat, eye-catching and informational.

- Make sure your message is clear and direct.
- Pay attention to correct grammar and punctuation.
- Ensure the information you provide is accurate and based on sound data and educational sources.

Next check your information to make sure it includes these key components –

- a description of the problem
- how it affects the community with examples that relate to your target audience
- how you recognized this was a problem (i.e., the Water Inventory)
- what is or is not currently being done about the problem
- and what your audience can do to solve the problem

You may also list resources that your audience can use to seek further information. This information should be organized logically and interestingly for the audience.

**3. Present and distribute outreach materials.**

After your outreach materials are developed, present your project to the class. The presenters and peers may use the following rubric to constructively critique the presentations and outreach materials designed. This is good practice if you will be presenting to a larger audience at a later date. Constructive feedback can also improve the quality of the final product.

Share your information with the community using your chosen strategy for outreach. Good work! You have made a difference helping to keep your watershed and community healthy.

**Rubric for an Outreach Product (for individual or team)**

	<b>Not so hot</b>	<b>Getting warmer</b>	<b>Hot!</b>
<b>Audience</b>	It is not clear who my/our audience is or what they are asked to do.	My/our audience is identified; but the information is not useful to my/our audience.	My/our audience is identified and the information applies directly to their situation.
<b>User-friendly</b>	My/our materials are messy and difficult to read.	My/our materials help explain the issue and solution but include too many points.	My/our materials are eye-catching and help make my issue and solution clear to the audience.
<b>Message</b>	The message is long, wordy and confusing.	The message is clear but not written in an active voice.	The message is clear and direct.
<b>Grammar and Punctuation</b>	Words are misspelled, and punctuation is sloppy.	A few careless mistakes and typos are missed.	Grammar and punctuation is correct.

**Rubric for Classroom Presentation (for individual or team)**

	<b>Not so hot</b>	<b>Getting warmer</b>	<b>Hot!</b>
<b>Introduction</b>	People may be unclear about my/our topic because the introduction is weak.	My/our introduction is to the point, but it doesn't flow into the rest of the presentation.	My/our introduction grabs the audience's attention and gives a good idea of what the talk is about.
<b>Issue Addressed</b>	My/our storm water problem is vague and unclear. I/we still don't understand the topic.	I/we show a good understanding of the storm water issue, but some information is incomplete.	I/we obviously researched the storm water problem and have a full understanding of the topic.
<b>Relevance</b>	I/we present the problem but don't explain why it should matter to anyone.	I/we make a connection between the problem and the real world.	It is obvious to others why the storm water problem matters.
<b>Organization</b>	My/our presentation lacks a natural flow.	My/our work has a beginning, middle, and an end.	My/our presentation has an interesting opening, an informative middle, and a convincing conclusion
<b>Word Choices</b>	I/we use some of the same words over and over. Some words may be too confusing for others.	The words I/we use are bland or sound as if trying too hard to impress. I/we have a few noticeable pauses.	The words that I/we use are natural, yet distinct. I/we use similes or metaphors to describe my/our work.
<b>Voice/Tone</b>	My/our presentation is too formal or informal. I/we use a monotone voice as if not interested in the topic.	My/our tone is okay, but the presentation doesn't sound personal. I/we need to include personal thoughts.	I/we sound excited about the research. I/we tell how I/we think and feel about it.
<b>Visual Aid</b>	My/our visuals are difficult to read. I'm/we're reading directly from the visual.	My/our visuals help explain the issue and solution, but include too many points. They need to be less flashy.	My/our visuals help make the issue and solution clear to the audience. I/we maintain eye contact with the listeners.
<b>Conclusion</b>	Listeners weren't sure when presentation was done. I/we didn't give a summary statement.	The ending of the presentation was clear. The general statement ties it all together.	The summary used is unique and pulls all the parts together. I/we leave the audience with a final thought.

**Assessment:**

- Identify an audience, and explain how you would develop effective information for that audience.
- Identify an audience, and explain how you would develop information for that audience that is completely off target.
- Explain why it is important to implement Best Management Practices (BMPs) at homes and businesses for a healthy watershed. (BMPs are methods and techniques designed to reduce or eliminate sources of water pollution).

**Extensions:**

Brainstorm other ways to help promote a healthy watershed such as storm drain stenciling, planting a demonstration rain garden or building rain barrels. Other ideas are listed in the Background Section of the *Storm Water Curriculum and Teaching Guide*.

**Resources:**

2003. *Getting in Step: A Guide for Conducting Watershed Outreach Campaigns*. United States Environmental Protection Agency. Washington, D.C. (EPA 841-B-03-002)  
[www.epa.gov/nps/outreach.html](http://www.epa.gov/nps/outreach.html)

NPS Outreach Digital Toolbox. US Environmental Protection Agency. Washington, D.C.  
[http://www.bae.ncsu.edu/programs/extension/wqg/nmp\\_conf/presentations/john.pdf](http://www.bae.ncsu.edu/programs/extension/wqg/nmp_conf/presentations/john.pdf)

University of Wisconsin Extension, Environmental Resources Center.  
<http://wateroutreach.uwex.edu/>