

---

## Introduction

Some time ago you participated in a Meaningful Watershed Educational Experience (MWEE) professional development (PD) funded by the National Oceanic and Atmospheric Administration's Bay Watershed Education and Training program (NOAA B-WET). We would like to get your feedback on implementing MWEEs with your students, if you did so since the PD.

For the purposes of this questionnaire, we assume that Meaningful Watershed Educational Experiences (MWEEs) are investigative, project-oriented, sustained activities that include one or more outdoor experiences, consider the watershed as a system, and are an integral part of a school instructional program. MWEEs for students are projects that provide K-12 students opportunities for these activities. MWEEs are enhanced by NOAA products, services, or personnel; support regional environmental and natural resource management priorities; and are designed to increase students' and teachers' understanding and stewardship of watersheds and related ocean, coastal and Great Lakes ecosystems.

You will be asked about a range of practices and outcomes that represent the diversity of MWEEs, some of which may not apply directly to your experience. It is acceptable to answer "not applicable" (NA) in those instances.

Your responses will be entered anonymously and will not be associated with you as an individual. THANK YOU in advance for your candor and thoughtfulness in answering the questions. Your responses will be aggregated with other teachers' responses, and will be used by NOAA B-WET and B-WET-funded organizations to improve MWEE PD and student programs.

It will take about 20-30 minutes to complete this survey, depending on the nature of your MWEE implementation experience. **You can close the survey and return to the same place as long as you use the same computer to continue completing the survey.**

Thank you.

If you have questions about this survey, please contact Bronwen Rice, NOAA B-WET National Coordinator, [Bronwen.Rice@noaa.gov](mailto:Bronwen.Rice@noaa.gov)

OMB Control Number: 0648-0658 Expires: 02/29/2016

### Paperwork Reduction Act Statement

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Bronwen Rice, NOAA Office of Education, Herbert C. Hoover Building, Room 6863, 14th and Constitution Avenue, NW Washington, DC 20230.

Responses are voluntary and collected and maintained as anonymous data. Information will be treated in accordance with the Freedom of Information Act (5 USC 552).

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control

Number.

Are you currently a PreK-12 teacher or educator?

- No  
 Yes

## Thank you

Thank you for completing this survey! Please click on the Submit button below.

## Setting

In what setting do you teach?

- Public school  
 Private school  
 Non-formal education (e.g., environmental centers, zoos, museums, interpretive programs at local or state level parks, youth organizations)  
 Home-school  
 Other

## Teacher Unique ID

To allow us to compare your past, current, and future responses, please create a unique 8-digit ID number using the 2 digits of your birth month, the 2 digits of your birth day, and the last 4 digits of most often used phone number. If you were born on March 9 and your home phone is 410.719.1234, your ID number would be 03091234.

In which region did you teach this past year? (check one)

- California  
 Chesapeake Bay  
 Great Lakes  
 Gulf of Mexico  
 Hawaii  
 New England  
 Pacific Northwest  
 Other (please describe)

In what 5-digit zip code is your school located?

## MWEE?

In the past 12 months, did you implement a Meaningful Watershed Educational Experience (MWEE) with your students?

*MWEEs are investigative, project-oriented, sustained activities that include one or more outdoor experiences, consider the watershed as a system, and are an integral part of a school instructional program.*

- No  
 Yes

## About Student MWEE

How many of your students participated in a MWEE during the most recent school year? (Please provide your best estimate, NOT a range)

About \_\_\_ students

On average, did students participate in a MWEE over the course of:

- One day   
  2-6 days   
  One week   
  2-3 weeks   
  One month   
  2-3 months   
  4-8 months   
  A full school year (about 9 months)   
  A full calendar year   
  Multiple years

On average during the last school year, about how many hours did a typical student spend involved in MWEE activities? (check one)

- None   
  1-2 hours   
  3-5 hours   
  6-9 hours   
  10-16 hours   
  17-24 hours   
  25-40 hours   
  more than 40 hours

On average during the last school year, about how many hours did a typical student spend outdoors during MWEE activities? (check one)

- None   
  1-2 hours   
  3-5 hours   
  6-9 hours   
  10-16 hours   
  17-24 hours   
  25-40 hours   
  more than 40 hours

## More MWEE

Were your typical MWEEs focused only on science concepts, or on concepts from multiple disciplines (e.g., science, math, social studies, literature, art, music)?

- Only science concepts
- Concepts from multiple disciplines, including science
- Other

To what extent was the content of your students' MWEEs aligned with:

	NA	To no extent 1	2	3	4	To a great extent 5
school district education standards	<input type="radio"/>					
state education standards	<input type="radio"/>					
national education standards	<input type="radio"/>					
regional environmental/natural resources management priorities	<input type="radio"/>					

Did students participate in any of the following activities to protect and/or restore ocean, coastal, and/or Great Lakes watersheds during their MWEE? (please indicate no or yes for each activity)

	No	Yes
Created a schoolyard or backyard habitat	<input type="radio"/>	<input type="radio"/>
Conserved water at school to protect the local watershed	<input type="radio"/>	<input type="radio"/>
Installed a rain barrel at school	<input type="radio"/>	<input type="radio"/>
Reduced litter at the school	<input type="radio"/>	<input type="radio"/>
Gave presentation(s) about the local watershed (e.g., for school, other organizations)	<input type="radio"/>	<input type="radio"/>
Participated in an event to raise awareness about the importance of watersheds	<input type="radio"/>	<input type="radio"/>
Helped clean up or take care of a local stream or beach	<input type="radio"/>	<input type="radio"/>
Participated in a restoration activity (e.g., planting trees) to benefit watersheds	<input type="radio"/>	<input type="radio"/>
Told others about ways they can protect their local watersheds	<input type="radio"/>	<input type="radio"/>

Were any NOAA resources were used as part of MWEEs for students?

- No
- Yes

Which NOAA resources were used as part of your typical student MWEE?

	Not sure	No	Yes
Information from NOAA research studies or reports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data collected by and accessible through			

NOAA, IF YES: Name the NOAA data source: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NOAA expert (e.g., scientist, educator, Sea Grant staff member, policy expert)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NOAA curricula and education programs, IF YES: Name the curricula or programs: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NOAA labs or facilities, IF YES: Name the lab or facility: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NOAA National Marine Sanctuary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NOAA National Estuarine Research Reserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What education methods were used during your students' MWEs? (select No or Yes for each method)

	No	Yes
<b>Outdoor field trip</b> (i.e., excursion to learn about natural history and ecology in the outdoors, may or may not include data collection)	<input type="radio"/>	<input type="radio"/>
<b>Field work</b> (i.e., scientific study carried out somewhere other than in a classroom/laboratory, includes data collection)	<input type="radio"/>	<input type="radio"/>
<b>Place-based education</b> (i.e., an interdisciplinary instructional strategy that uses the local environment and community as the context for teaching and learning)	<input type="radio"/>	<input type="radio"/>
<b>Scientific-inquiry-based learning</b> (i.e., an instructional strategy that gives students the opportunity to explore an idea or question. To arrive at an answer or to better understand the concept, students often collect and analyze data)	<input type="radio"/>	<input type="radio"/>
<b>Issue investigation</b> (i.e., an interdisciplinary instructional strategy that engages learners in investigating complex, real-world environmental issues and problem-solving as the context for teaching and learning)	<input type="radio"/>	<input type="radio"/>
<b>Service learning</b> (i.e., an instructional strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities)	<input type="radio"/>	<input type="radio"/>

Which of the following steps did you engage students in...

	No	Yes
Formulating scientific questions they can answer using data	<input type="radio"/>	<input type="radio"/>
Making predictions or hypotheses	<input type="radio"/>	<input type="radio"/>
Collecting data or using existing data	<input type="radio"/>	<input type="radio"/>
Analyzing and interpreting data	<input type="radio"/>	<input type="radio"/>
Making conclusions and adjusting predictions/hypotheses	<input type="radio"/>	<input type="radio"/>
Developing presentations of their findings	<input type="radio"/>	<input type="radio"/>

Did your typical MWE include any of the following learning objectives? Students will be able to:

	No	Yes
Define the term "watershed"	<input type="radio"/>	<input type="radio"/>
Identify their local watershed(s)	<input type="radio"/>	<input type="radio"/>
Identify how watersheds are connected to the ocean via streams, rivers, and human-made structures	<input type="radio"/>	<input type="radio"/>
Identify the functions that occur in a watershed (transport, store, and cycle water)	<input type="radio"/>	<input type="radio"/>

Recognize that both natural processes and human activities affect water flow and water quality in watersheds	<input type="radio"/>	<input type="radio"/>
Identify connections between human welfare and water flow and quality	<input type="radio"/>	<input type="radio"/>
Identify possible point and non-point sources of water pollution	<input type="radio"/>	<input type="radio"/>
Identify actions individuals can engage in to protect/restore water quality in watersheds	<input type="radio"/>	<input type="radio"/>

**Outcomes**

What is the most important benefit of MWEEs for your students?

As a result of participating in MWEEs, students:

	NA	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
Know more about watersheds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Express greater caring and concern for their local watershed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are more confident in their ability to protect and/or restore watersheds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are more likely to act to protect or restore watersheds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are better able to make informed decisions about how to protect or restore watersheds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are better able to conduct scientific investigations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are better able to understand the nature of scientific research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are more likely to express an interest in pursuing science careers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform better in science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform better academically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform better on state standardized tests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are more engaged in their science learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

As a result of participating in my typical MWEEs, students are more likely to \_\_\_\_\_ to protect and/or restore ocean, coastal, and/or Great Lakes watersheds.

	NA	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
Create a schoolyard or backyard habitat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conserve water at school to protect the local watershed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Install a rain barrel at school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Reduce litter at the school
- Give presentation(s) about the local watershed (e.g., for school, other organizations)
- Participate in an event to raise awareness about the importance of watersheds
- Help clean up or take care of a local stream or beach
- Participate in a restoration activity (e.g., planting trees) to benefit watersheds
  
- Tell others about ways they can protect their local watersheds
- Other (please describe)

<input type="radio"/>								
<input type="radio"/>								
<input type="radio"/>								
<input type="radio"/>								
<input type="radio"/>								
<input type="radio"/>								
<input type="radio"/>								
<input type="radio"/>								

What could be done by others to help you develop and implement improved MWEEs?

### Feedback

The questionnaire was ... (select one for each line)

Difficult to complete	<input type="radio"/>	Easy to complete						
Not informative	<input type="radio"/>	Informative						
Long	<input type="radio"/>	Short						

How can this questionnaire be improved?

Do you have any final comments you would like to share about MWEEs?

### Outdoor Component

Where did the outdoor component of your students' MWEEs occur?

	No	Yes
On school grounds	<input type="radio"/>	<input type="radio"/>
Near the school (1-5 minute walk)	<input type="radio"/>	<input type="radio"/>
Walkable from the school (more than 5 minutes)	<input type="radio"/>	<input type="radio"/>
In a location to which the students were bussed or driven	<input type="radio"/>	<input type="radio"/>

To what extent do you agree or disagree with the following:

	NA	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
Overall, what I taught my students about watersheds in the classroom was closely integrated with students' outdoor learning experience(s).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students' outdoor learning experiences were designed to help them understand what they had been introduced to during regular science class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students' outdoor learning experiences were designed to reinforce what students learned during regular science class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

BEFORE students participated in their outdoor learning experience:

	NA	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
I provided them with detailed information about what they were going to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I let students know what activities they were going to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spent a lot of time preparing students for what to expect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I introduced relevant science concepts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DURING the outdoor learning experience(s), my students:

	NA	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
Conducted a one-time data or sample collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conducted water quality monitoring over a period of time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

AFTER students participated in the outdoor learning experience(s):

	NA	Strongly disagree 1	2	3	4	5	6	Strongly agree 7
--	----	------------------------	---	---	---	---	---	---------------------

---

They discussed results based on their observations	<input type="radio"/>							
They offered explanations for what they observed	<input type="radio"/>							
They were expected to draw on what had been learned	<input type="radio"/>							
I spent a lot of time to make sure the students had integrated what they had learned	<input type="radio"/>							

Please use the following reference, if you plan to use this resource:

Zint, M. and A. Kraemer. 2012. NOAA B-WET Evaluation System Plan: Teacher MWEE Instrument. Bay Watershed Education and Training Program, National Oceanic and Atmospheric Administration, Washington, D.C.

For more information contact:

Bronwen Rice ([bronwen.rice@noaa.gov](mailto:bronwen.rice@noaa.gov)) or Michaela Zint ([zintmich@umich.edu](mailto:zintmich@umich.edu))