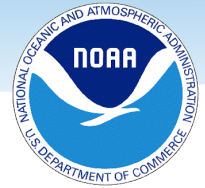


National Oceanic and Atmospheric Administration (NOAA) Bay Watershed Education and Training (B-WET) Grant Program National Evaluation System



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The NOAA Bay Watershed Education and Training (B-WET) Program promotes locally relevant environmental education opportunities for students in grades K through 12, as well as related professional development for educators. B-WET projects emphasize *meaningful watershed educational experiences (MWEEs)*: sustained, hands-on, experiential activities that are aligned with academic learning standards and respond to regional education and environmental priorities. The B-WET Program currently serves seven areas of the country: California, Chesapeake Bay, Great Lakes, Gulf of Mexico, Hawaii, New England, and the Pacific Northwest. <http://www.noaa.gov/office-education/bwet>

What is the NOAA B-WET evaluation system?

The evaluation system plan consists of several components:

- A detailed description of the B-WET program, including a cross-regional logic model,
- Evaluation questions to be answered by the data collected through this system,
- A data collection design, submitted to the federal Office of Management and Budget (OMB) for 3-year Paperwork Reduction Act (PRA) clearance, including instruments and a metrics matrix organized by evaluation question, constructs, and instrument items, and
- A 5-year timeline including resubmission to OMB in Year 3 for extended PRA clearance.

Evaluation Questions:

MWEE Implementation Questions

- To what extent do regional B-WET programs support grantees in implementing Meaningful Watershed Educational Experiences (MWEEs)?
- How are MWEEs implemented by grantees and teachers?

MWEE Outcome Questions

- To what extent do B-WET funded projects increase teachers' knowledge of watershed science concepts, their confidence in their ability to integrate MWEEs into their teaching practices, and the likelihood that they will implement high quality MWEEs?
- To what extent do B-WET funded projects increase students' knowledge of watershed concepts, attitudes toward watersheds, inquiry and stewardship skills, and aspirations towards protecting watersheds?

Instruments:

- Annual grantee survey
- Post-professional development teacher survey
- Post-student MWEE teacher survey



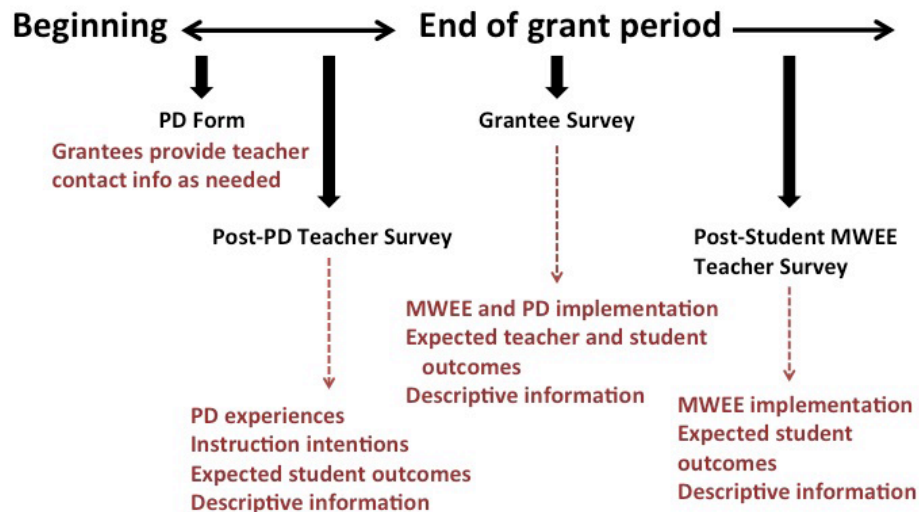
How was the evaluation system developed?

Over the course of two years, 2012-2013, the system was developed through:

- Discussions with key stakeholders to identify priorities and goals.
- An iterative process to agree on evaluation questions and clarify common program design across the 7 regions.
- Conducting a literature review of watershed education to identify watershed literacy metrics.
- Designing questionnaires and obtaining Qualtrics license.
- Obtaining OMB PRA approval.

Pilot testing began in 2014.

Data Collection and Grant Timeline



What are some design strengths of this evaluation system?

- The evaluation system focuses on common qualities across regional programs.
- Using Qualtrics, much of the data collection from grantees and teachers is automated.
- Grantees can view their projects' aggregated results as data from teachers are collected.
- In the future, data will be available to researchers upon request.

What have been some design challenges?

- Given that the evaluation system focuses on program characteristics common across regions, individual projects' evaluation questions may not be addressed by the system, also requiring the completion of project-specific evaluations.
- Online survey systems, such as Qualtrics, have inherent limitations, including respondent servers blocking incoming emails from Qualtrics. Given this limitation, it is not possible to calculate precise response rates.
- The OMB expects an 80% response rate. If this rate is not attained, a nonresponse survey is required.

How has the evaluation system been beneficial to NOAA B-WET?

- Clarifying national program and evaluation goals
- Learning about evaluation/research methods
- Resources for evaluation (literature review, questionnaires, and student item bank)
- Results to inform changes to MWEEs/B-WET program implementation
- Evidence of outcomes

How might this evaluation system benefit environmental education (researchers) in the future?

- Analyses will provide insight into environmental education best practices.
- Data collected from grantees and teachers will be available to researchers.