Evaluation of NOAA Bay Watershed Education and Training (B-WET) Programs
Supporting Statement

OMB Control Number: 0648-0530 Expires: 02/28//2009

INTRODUCTION

On June 28, 2000, the members of the Chesapeake Executive Council, including the governors of Maryland, Pennsylvania, Virginia and the mayor of Washington, DC, renewed their commitment to improving the health of the Chesapeake Bay by signing the *Chesapeake 2000* agreement (see Attachment 38). These signatories committed to goals to restore fisheries, protect habitat, improve water quality, develop sound land use practices, and empower the watershed's citizenry through education and outreach. One significant goal for Education and Outreach is:

> Beginning with the class of 2005, provide a meaningful Bay or stream outdoor experience for every school student in the watershed before graduation from high school. (*Chesapeake 2000 Agreement*)

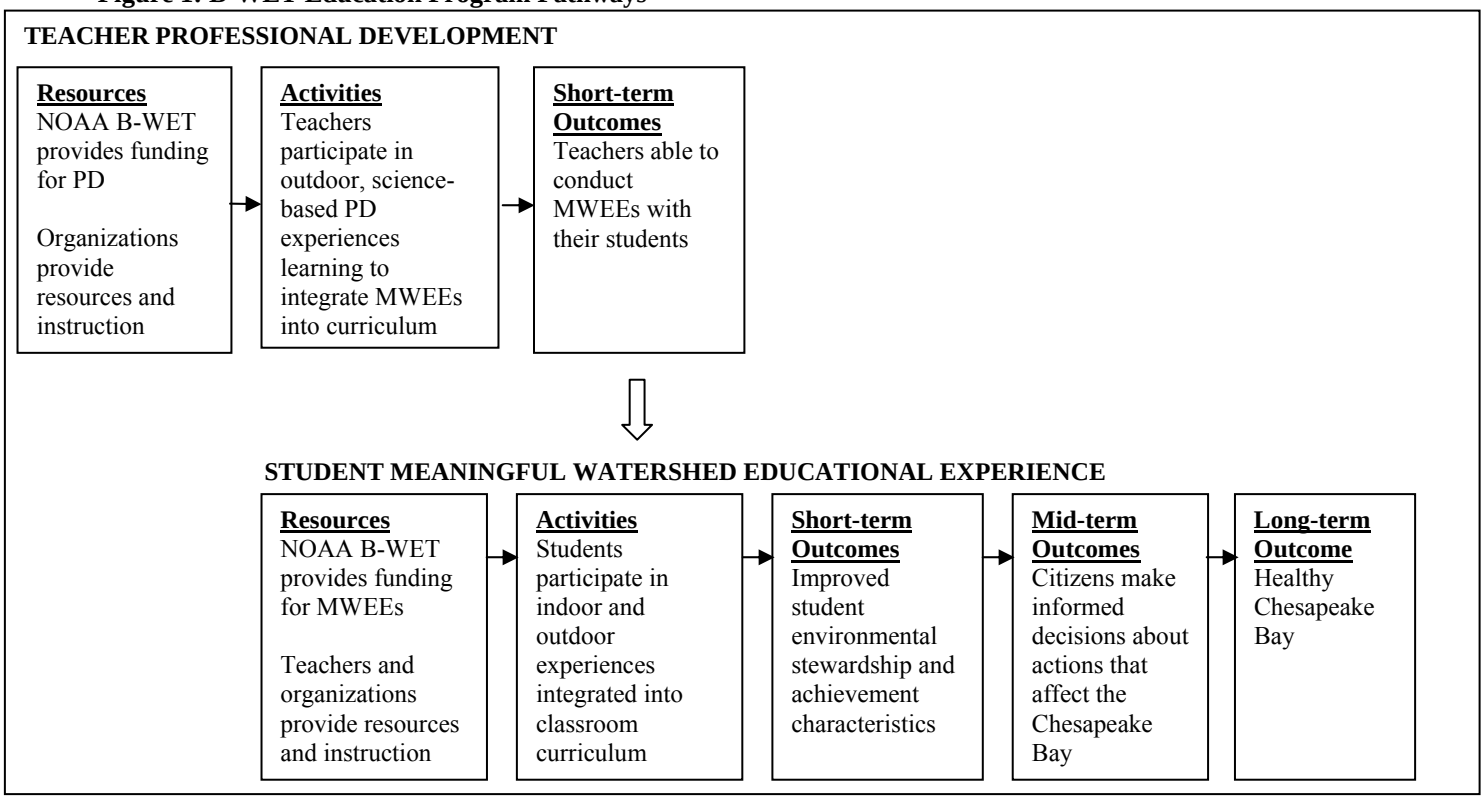
To bolster the watershed-wide effort to attain this goal, in 2002 the National Oceanic and Atmospheric Administration (NOAA) began administering the Bay Watershed Education and Training (B-WET) program to offer competitive grants to support existing environmental education programs, foster the growth of new programs, and encourage the development of partnerships among environmental education programs throughout the Chesapeake Bay watershed. The funding, over $2 million per year, assists school jurisdictions in providing "Meaningful Watershed Educational Experiences" (MWEEs) to all students before they graduate from high school. B-WET funding is awarded to organizations that provide MWEEs directly to students and to organizations that provide professional development to teachers, training them to conduct MWEEs with their students. For FY2005, 32 organizations, including nonprofits, school districts, state agencies, and universities, are funded to provide MWEEs to over 27,000 students and professional development to over 2,000 teachers.

A MWEE integrates field experiences in the Chesapeake Bay watershed with multi-disciplinary classroom activities and instruction. Students then share their discoveries about the watershed with local schools and communities, both orally and in written form. MWEEs:

Are investigative or project-oriented,
Are integrated within the instructional program,
Involve preparation, action, and reflection,
Reveal the watershed as a system, and
Are integrated into a significant amount of instructional time, ideally a school year.

By directly providing students with MWEEs and training teachers to conduct their own MWEEs, the B-WET program strives to encourage the Bay watershed citizenry, now and in the future, to improve and protect the health of the Chesapeake Bay and its watershed (Figure 1).

Figure 1: B-WET Education Program Pathways



A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary.

NOAA needs to learn about the ways B-WET-funded programs implement MWEEs and what outcomes are being achieved. In particular, NOAA seeks to ascertain whether B-WET-funded MWEE programs are improving students' stewardship and academic achievement, as well as teachers' confidence in implementing MWEEs with their students. NOAA, with additional funding from the Chesapeake Bay Trust and the Keith Campbell Foundation, has contracted with an external team of evaluators (Anita Kraemer, eeEvaluations; Dr. Jeff Kirwan, Virginia Tech; and Dr. Michaela Zint, University of Michigan) to conduct an initial, exploratory evaluation to collect baseline data on the MWEE and professional development (PD) programs. In collaboration with NOAA and a steering committee of MWEE and PD leaders and providers, the evaluators developed the following evaluation questions:

Student Programs

1. Do the student MWEE programs increase students' characteristics associated with environmental stewardship (e.g., knowledge of watershed issues, intention to protect/restore the watershed)?
2. Do the student MWEE programs increase students' characteristics associated with academic achievement (e.g., engagement in learning)?
3. Do student MWEE programs increase students' academic achievement in science as measured by end-of-year standardized tests?

4. What components of the MWEE student programs contribute to increases in students' environmental stewardship and academic achievement?
5. What tangible benefits to the Bay and its watershed result from the student MWEE programs?
6. Are the student programs meeting the MWEE criteria (i.e., integral part of instructional program, hands-on and investigative, sustained activity, involve sharing and communication, and demonstrate partnerships)?

Teacher Professional Development

7. Are the teacher professional development programs increasing the number of MWEEs conducted by teachers?
    a. Do the professional development programs increase teachers' intentions to conduct MWEEs?
    b. Do the professional development programs enhance teachers' perceived ability to conduct MWEEs?
    c. Do teachers trained during prior years use MWEEs in the classroom? What enables or hinders teacher use of MWEEs in the classroom?
8. What components of the teacher professional development programs contribute to teachers feeling prepared to use MWEEs with their students?

Overall

9. Is the B-WET funding advancing the implementation and effectiveness of MWEEs?

This initial B-WET evaluation will provide baseline data and set the stage for future monitoring of the effectiveness of the B-WET programs in achieving meaningful stewardship and learning outcomes. As a result of this evaluation, NOAA will learn about how the programs are being implemented and what benefits they are having for participants. The evaluation's results will be used by B-WET managers to document the effects of currently-funded programs, to inform future decisions on what programs to fund, and to share critical "lessons learned" with national education communities. The instruments developed as part of this initial evaluation will also be made available to B-WET program providers for their use in monitoring their individual programs' effectiveness.

2. Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines.

The instruments and sources of measures that will be used to collect data for answering the research questions are summarized in Table 1. To ensure the validity and reliability of the scales used in this evaluation, measures from past, peer-reviewed, published studies were selected as originally-designed or minimally-altered to increase relevance to the B-WET programs.

Student Program Instruments

***Student Pre- and Post-Questionnaires*:** Pre- and post-questionnaires have been developed to answer the following research questions:

- *Do the student MWEE programs increase students' characteristics associated with environmental stewardship (e.g., knowledge of watershed issues, intention to protect/restore the watershed)?*
- *Do the student MWEE programs increase students' characteristics associated with academic achievement (e.g., engagement in learning)?*
- *What components of the MWEE student programs contribute to increases in students' environmental stewardship and academic achievement?*

MWEE and comparison students will be given a pre-questionnaire (Attachments 1-4) immediately before the MWEE program begins and a post-questionnaire (Attachment 5-8) on the last day of the MWEE during the 2005-06 school year. Teacher introductory letters and instructions for administering the questionnaires will be included with the questionnaires (Attachments 12-19).

Parental permission forms will be used to obtain parental for their child's participation in the B-WET evaluation (Attachments 20 and 21). The students for whom parental consent has been obtained will be given paper questionnaires and will mark their answers on a scannable sheet. It will take students less than 30 minutes to complete each questionnaire. The student questionnaires elicit responses concerning students' stewardship and achievement characteristics.

Environmental stewardship: Most students will participate in stewardship actions as part of their MWEE. Through student and teacher reports, the evaluators will document how many students participated in stewardship activities during their MWEE, what types of activities they were involved in (e.g., restoration, monitoring), and what physical changes they made to the watershed (e.g., number of wetland plants planted).

To evaluate the likelihood of students' engagement in future stewardship behaviors to protect/restore the watershed, the evaluators will measure students' characteristics that have been shown to be connected to environmental stewardship behavior (Hungerford & Volk 1990). These characteristics include: environmental sensitivity, knowledge of ecology, knowledge of environmental issues, sense of personal responsibility, knowledge of environmental action strategies, locus of control, and intention to protect/restore the watershed. The evaluators have used valid and reliable measures based on the Hungerford and Volk (1990) model in past evaluations of environmental education programs (Ajzen & Fishbein 1980, Kraemer et. al. 2002, Nowak et. al., 1995, Zint et. al. 2002).

For purposes of triangulation, the evaluators will also collect teachers' perceptions of increases in students' stewardship and associated characteristics based on MWEEs.

Academic achievement: As a proxy measure for student achievement, the evaluators will measure MWEE students' engagement in learning. Past studies have found student engagement to be closely associated with academic achievement (Connell, Spencer, & Aber 1994, Marks 2000, Skinner, Wellborn &Connell 1990, Connell &Wellborn 1991, as reported in Fredericks, Blumenfeld & Paris 2004). Based on the valid and reliable scales used by these studies, students

will be asked about their class participation, preparation, and effort (Fredricks et. al. 2003, Institute for Research and Reform in Education, Inc. 1998, Marks 2000, U.S. Department of Education 1992).

The evaluators will also collect quantitative and qualitative data from 2005 B-WET program providers (via interviews) and MWEE teachers (via questionnaires). These providers and teachers will be asked to report on, as a whole, students' academic achievement and engagement in learning. By collecting student achievement data from multiple respondent groups, the evaluators will increase the validity of the evaluation's findings concerning this important outcome.

To investigate the answer to the following research question, the evaluators will examine end-of-year science test scores of participating students.

- *Do student MWEE programs increase students' academic achievement in science as measured by end-of-year standardized tests?*

Science scores will be examined given that science standards are the focus of all MWEEs. These scores are only available in Virginia at this time, so the evaluators will review the spring 2004 VA science test scores when the data are available (fall 2005) for those students who participated in MWEEs during the 2004-05 school year. Teachers of the those 2004-05 students will receive a questionnaire to describe the MWEE program their students experienced.

***MWEE teachers post-program questionnaire*:** Teachers of the MWEE students will complete questionnaires describing the MWEE in which their students participated and what influence they observed the MWEE having on students' stewardship and achievement characteristics (Attachment 9 and 10). It is particularly critical to collect implementation data to be able to help make the causal link between MWEEs and changes in students' stewardship and achievement characteristics. The data on perceived changes in students will be used for triangulation purposes.

In addition, the teacher-reports on the students' MWEE experiences will provide information to answer the following research question:

- *Are the student programs meeting the MWEE criteria (e.g., integral part of instructional program, aligned with scope and sequence, hands-on and investigative, sustained activity, involve sharing and communication, and demonstrate partnerships)?*

***MWEE providers post-program phone interview*:** The MWEE provider organizations will be interviewed by phone to collect detailed information about their programs and their role in the students' MWEE (Attachment 11). Again, data about implementation will be collected for causal purposes and data on perceived changes for triangulation purposes. The information collected during the phone interviews will also provide information to answer the following research questions:

- *What tangible benefits to the Bay and its watershed result from the student MWEE programs?*

- *Are the student programs meeting the MWEE criteria (i.e., integral part of instructional program, hands-on and investigative, sustained activity, involve sharing and communication, and demonstrate partnerships)?*
- *Is the B-WET funding advancing the implementation and effectiveness of MWEEs?*

Professional Development Instruments

Teacher-participants post-program questionnaire: To assess the influence of B-WET-funded professional development programs on teachers' confidence to conduct MWEEs with students, the teachers will complete an online questionnaire after their PD workshop (Attachment 22). The questionnaire measures have been adapted from valid and reliable measures used in past studies (Guskey 2000, Kirkpatrick 1998, Monroe 1994, Zint et. al. 2002). The data collected from the post-program questionnaire will help answer the following research questions:

- *Do the professional development programs increase teachers' intentions to conduct MWEEs?*
- *Do the professional development programs enhance teachers' perceived ability to conduct MWEEs?*
- *What components of the teacher professional development programs contribute to teachers feeling prepared to use MWEEs with their students?*

***PD provider post-program phone interview*:** The PD providers will be interviewed by phone to collect detailed information about workshop resources, activities, and perceived outcomes (Attachment 23). The information collected will also help to answer the following research question:

- *Is the B-WET funding advancing the implementation and effectiveness of MWEEs?*

***Prior-year PD teacher-participants questionnaire*:** The purpose of the PD programs is to provide resources, information, and encouragement for teachers to conduct MWEEs with their students. At the end of the school year, a message including a web link to an online questionnaire will be emailed to teachers who participated in B-WET-funded PD during the past few years (Attachment 24). In addition to the above questions regarding the PD programs, contacting prior-year participants will enable the evaluators to answer the following research question:

- *Do teachers trained during prior years use MWEEs in the classroom? What enables or hinders teacher use of MWEEs in the classroom?*

Teachers will be asked if they conducted MWEEs with their students and if so, to describe them. If they did not conduct a MWEE, they will be asked to explain why not. The former will provide important implementation data and data for triangulation purposes. The latter will provide insight into needs to increase the likelihood that teachers will conduct MWEEs, which will provide NOAA with guidance on what PD or other support will be most appropriate to fund.

Table 1: Student program measures

Research questions	Instrument	Measures	Sources for measures	Use of information
Do the student MWEE programs increase students' characteristics associated with environmental stewardship (e.g., knowledge of watershed issues, intention to act)? Do the student MWEE programs increase students' characteristics associated with academic achievement in science (e.g., engagement in learning, attitudes toward science learning)?	Student pre- and post-questionnaire	Past behavior (pre only) Environmental sensitivity Knowledge of ecology Knowledge of issues Personal responsibility Knowledge of action strategies Locus of control Intention to act	Zint et. al. 2002 Marcinkowski & Rehrig 1995	Building blocks for environmental stewardship
		Behavioral engagement in learning	Fredricks et. al. 2003, Institute for Research and Reform in Education, Inc. 1998, Marks 2000, U.S. Department of Education 1992	High correlation with academic achievement
		Background information (pre-test only): Sex, Grade, Ethnic background, Past achievement (grades)	Ethnic/race question from OMB Federal Register Notice, October 30, 1997	Control for student characteristics that can influence outcomes
	Current MWEE teachers and prior-year-PD teachers' questionnaires	Reports of student changes in stewardship and achievement characteristics		Multiple methods/respondents strengthens validity of findings (i.e., triangulation)
Do student MWEE programs increase students' academic achievement in science as measured by end-of-year standardized tests?	End-of-year standardized test scores in Virginia (SOLs) from B-WET students and controls	Results collected from schools involved in FY 2004 MWEEs	Virginia Department of Education 2004	Direct evidences of student achievement

What components of the MWEE student programs contribute to increases in students' environmental stewardship and academic achievement? Are the student programs meeting the MWEE criteria (e.g., integral part of instructional program, aligned with scope and sequence, hands-on and investigative, sustained activity, involve sharing and communication, and demonstrate partnerships)?	MWEE teacher questionnaire, student post-test, and provider interview	Teacher reports of MWEE components Student reports of MWEE experience Provider reports of MWEE components	Created from criteria in Chesapeake Bay Program Education Workgroup 2001	Data identifying program components and characteristics will serve as independent and control variables for evaluation analyses
What tangible benefits to the Bay and its watershed result from the student MWEE programs?	MWEE provider phone interview	Questions about resources, activities, audience, outputs, outcomes		Provide physical evidence for improvements to Bay watershed health
Do the teacher professional development programs improve teachers' perceived ability to conduct MWEEs? What components of the teacher professional development programs contribute to teachers feeling prepared to use MWEEs with their students?	Current PD teacher post-questionnaire and PD prior-year-participant questionnaire	Teacher past PD experience Teacher intention to conduct MWEE in future Teacher confidence in ability to conduct MWEE Teacher perceived barriers to conducting MWEEs in future Impressions of PD experience and components	Guskey 2000, Kirkpatrick 1998, Monroe 1994, Zint et. al. 2002	Provide evidence of effectiveness of PD programs
Do teachers trained during prior years use MWEEs in the classroom? What enables or hinders teacher use of MWEEs in the classroom?	PD prior-year participant questionnaire	Teacher past PD experiences Did teachers conduct MWEE If so, describe MWEE If not, why not Confidence in ability and intention to conduct MWEE in future Teacher perceived barriers to conducting MWEEs in future	Guskey 2000, Kirkpatrick 1998, Monroe 1994, Zint et. al. 2002	Identify what contributes to teachers' decisions to conduct MWEE with students
Is the B-WET funding advancing the implementation and effectiveness of MWEEs?	MWEE and PD provider interviews	Questions about program resources, activities, audience, outputs, outcomes Quality of the B-WET program		Determine influence of B-WET funding on MWEE implementation

Instrument Distribution Timeline

The instruments for this evaluation will be distributed during the summer of 2005 and the following school year, as appropriate (Table 2). The data will be compiled and analyzed during the summer of 2006. A final report will be distributed by December 2006.

Table 2: B-WET Evaluation Timeline

	Summer 2005	Fall 2005	Spring 2006	Summer 2006	Fall 2006
PD teacher post-questionnaire distributed	X	X	X		
PD provider interviews conducted		X			
2004-05 SOL test results obtained and analyzed		X			
Student pre-test distributed		X	X		
Student post-test distributed		X	X		
MWEE provider interviews conducted			X		
Prior-year PD teacher questionnaire distributed			X		
Data analyzed				X	
Report writing				X	X
Final report distribution					X

Reports

The information collected by the evaluation of the B-WET programs will be summarized and presented in a full, technical document as well as in a condensed executive summary. Both products will be available to the general public. The B-WET program manager will distribute the executive summary to B-WET program providers, school and school district administrators, state education agency officials, and the national environmental education community. This distribution will occur when the reports are completed in late fall 2006. In addition, the evaluation results will be presented at local and national education annual conferences such as the National Marine Educators Association, the Maryland Association for Environmental and Outdoor Education, the National Association for Research on Science Teaching, and the North American Association for Environmental Education.

The information in the report will be used by NOAA to refine its B-WET grant reward process. B-WET providers and other environmental and science education organizations in the Bay watershed will use the information to improve the quality of their programs. Other funders of Bay education programs may use the report information for refining their criteria for awarding funding to education programs.

Future Evaluations

The instruments developed by the external evaluation team will be made available, through the B-WET web site, to the Bay education community for ongoing future use. The instruments can be used as designed or adapted to meet the unique needs of education programs. B-WET providers will be encouraged to evaluate their programs to document the effects on student engagement, achievement, and stewardship. Based on these evaluations, programs will be able to improve the design of their programs.

It is anticipated that the information collected in this evaluation will be disseminated to the public or used to support publicly disseminated information. As explained in the preceding

paragraphs, the information has utility. NOAA will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. See response #10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.

The data collection plan reflects sensitivity to issues of respondent burden, accuracy, and efficiency. To minimize cost and unnecessary use of paper and other resources and to facilitate distribution of questionnaires, web-based versions of the instruments will be used when feasible. Most B-WET providers of student programs have indicated that students will not all be able to complete an online questionnaire. Therefore, students will complete paper versions of the questionnaire using a pencil and a scannable answer sheet. These sheets will be read using a university scanner. The data will be compiled in an Excel spreadsheet which then will be imported into SPSS and SAS for analysis.

For professional development programs, teachers will be asked to complete a questionnaire at the end of the last day of their workshop. The evaluators will email teacher-participants on the last day of their program, providing them with a link to a web-based, post-program questionnaire. In addition, PD providers will distribute the link information during the workshop and encourage teachers to respond promptly. Paper questionnaires will be made available to teachers who do not have Internet access. At the end of the 2005-06 school year, all teachers who have had B-WET-funded professional development since the beginning of the program, and for whom the evaluators have email addresses, will receive a web link to a follow-up questionnaire. All data entered online will be downloaded into an Excel spreadsheet and then imported into SPSS and SAS for statistical analysis.

In the future, providers of student and teacher programs will be able to access the professional development and MWEE instruments online and use them for their own program evaluations. They will be able to use the questionnaires online or print the instruments from the web site and conduct their own collection and analysis of program data.

The reports containing the results of the B-WET evaluation will be available on the NOAA web site.

4. Describe efforts to identify duplication.

No other NOAA programs are surveying teachers and students in the Chesapeake Bay watershed.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

The instruments are designed to be completed in as little time as possible while maintaining the quality of the data collected. Providers will be assisted in identification of respondents, distribution of questionnaires, and will be given postage-paid envelopes for returning the questionnaires. The evaluators will minimize the burden on organizations participating in the evaluation to ensure maximum participation and satisfaction with the evaluation.

6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently.

This evaluation will ensure that federal funding is used in an effective and efficient manner to increase students' academic achievement and knowledge about and abilities to protect/restore the Chesapeake Bay. NOAA will be able to determine the effectiveness of the programs implementing MWEEs and professional development with B-WET funding. The results of this study will provide insight into how to design improved education programs throughout the Chesapeake Bay watershed.

Because program providers change from funding year to funding year, it is important for NOAA to ask for evaluations from providers on an annual basis. This proposed external evaluation will be a one-time event, but its instruments will be available for future providers' use in evaluating their individual programs.

7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

The collection will be conducted in a manner consistent with OMB guidelines.

8. Provide a copy of the PRA Federal Register notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

Public comment was solicited via a PRA Federal Register notice (Attachment 39). No comments were received. During the development of the B-WET evaluation, public and expert stakeholder comments were solicited through other means. First, the evaluation team convened a stakeholder group to advise the design of the data collection. Members of the stakeholder group included representatives from state departments of education and B-WET provider organizations. Second, the evaluation team presented the evaluation design to the Chesapeake Bay Program Education Workgroup for their feedback. Lastly, the evaluation team interviewed 8 MWEE providers to ascertain the appropriateness of the evaluation content to their programs.

Note that the proposed methods for data collection are supported by education literature. The instruments are adapted from those shown to be reliable and valid in past studies. The methods

used for collection, instructions, recordkeeping, and reporting have been used by the evaluation team to conduct two past evaluations of Chesapeake Bay education programs (Zint et. al. 2002).

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

Respondents will not receive payments or gifts for their participation.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.

There will be no promise of confidentiality regarding the information collected; to allow matching of individual pre- and post-test results for purposes of statistical analysis individual surveys will be differentiated only by the month and day of birth and a class number, entered by the respondent. In addition, this differentiating information will be removed from the data once pre- and post-test data are matched. All reports resulting from analysis of the survey response data will present data in aggregate form only.

Parents of student respondents will be given an active consent form: (1) designating NOAA as the program funder, (2) explaining the purpose of the survey, and (3) stating the anonymity of the survey responses; they will select one of two checkboxes for consent or dissent to their child's participation, and sign.

Although not directly identifiable, all responses will be maintained in a secured database. Paper surveys will be temporarily stored in a lockable metal file cabinet, with only the NOAA program data analyst having access while she is scanning the data into the secured database. Once the data from the paper surveys has been entered, the paper will be shredded. The analyst will be the sole person with access to the database, via password-protected access. After removal of the identifier, data will be stored anonymously in NOAA archives.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

No questions of a sensitive nature will be asked.

12. Provide an estimate in hours of the burden of the collection of information.

The total respondent burden in hours and dollars is summarized in Table 3. Students will complete their questionnaires in no more than 30 minutes and teachers in no more than 20 minutes. The providers' interviews will last about 45 minutes with an additional 15 minutes allowed for them to look up program statistics (i.e., how many students/teachers participated).

Table 3: Estimate of Burden Hours for Information Collection

Informant	Number of respondents[a]	Response frequency	Average time per response (hours)	Total respondent time (hours)	Estimated hourly wage (dollars)	Estimated labor cost burden to respondents (dollars)
MWEE students	2758[b]	2	0.5	2758	0	0
MWEE teachers	92	1	0.33	30.36	33.27[c]	1010
MWEE providers	14	1	1.0	14	39.91[d]	559
PD providers	14	1	1.0	14	39.91[d]	559
PD current-year teachers	650	2	0.33	429	33.27[c]	14273
PD prior-year-year teachers	3000	1	0.33	990	33.27[c]	32937
TOTALS	**6528**			**4235**		**49338**

[a] Assumes number of respondents given response rates in Table 8: Expected Response Rates

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[b] Includes MWEE and comparison students; sample size suggested by power analysis (Table 7).

[c] U. S. Department of Labor (2004). *Washington-Baltimore DC-MD-VA-WV National Compensation Survey, April 2004*. Table 2-2. Mean hourly earnings for full-time "Teachers, except college and university".

[d] U. S. Department of Labor (2004). *Washington-Baltimore DC-MD-VA-WV National Compensation Survey, April 2004*. Table 2-2. Mean hourly earnings for full-time "Administrators, education and related fields".

13. Provide an estimate of the total annual cost burden to the respondents or record-keepers resulting from the collection (excluding the value of the burden hours in #12 above).

There are no direct costs to participants. The only costs are the opportunity costs of respondents' time required to provide information as explained in item 12 above. No capital equipment, start-up, or record maintenance requirements are placed on respondents.

14. Provide estimates of annualized cost to the Federal government.

The estimated cost to the federal government of conducting the Evaluation of the Meaningful Watershed Experience is based on the government's contracted cost of the data collection and related study activities along with personnel cost of government employees involved in oversight and/or analysis. For the data collection activities for which OMB approval is currently being requested, the overall cost to the government is $81,000 over a three year period. This includes

- $25,000 annually for contracted activities including data collection, analysis, and report writing
- $2,000 annually for government personnel costs in overseeing the evaluation activity

Thus, the total costs to the government for the first year of data collection will be $27,000. It is anticipated that this level of effort will be required annually to accurately establish a baseline for

future evaluations of this kind. This estimate is based on the evaluation contractor's previous experience managing other research and data collection activities of this type.

15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB 83-I.

The number of current-year professional development teacher respondents is expected to be about 650 (Table 3) rather than the 1,551 previously estimated.

16. For collections whose results will be published, outline the plans for tabulation and publication.

The results of the NOAA B-WET evaluation will be published as a technical report with summaries appropriate for stakeholders such as school systems, B-WET providers, and others interested in environmental and science education. The reports will summarize the answers to the research questions posed in Item 1 of this Supporting Statement. The evaluators may also seek to publish results in a peer-reviewed journal.

The evaluators will use SAS PROC MIXED (Littell et. al. 1996) to statistically analyze the data collected. SAS PROC MIXED is designed for multilevel analysis (i.e., individuals within groups, such as classes or workshops, whose responses are not independent) and it adjusts the dependent variable's (e.g., post-test or after-program) mean for fixed-factor effects (e.g., pre-test or before-program, type of treatment, demographic characteristics). The evaluators will examine results of the test of fixed effects to determine whether fixed factors were significantly related to post-test or after-program characteristics. When there are significant relations, the evaluators will identify pair-wise significant differences in adjusted post-test or after-program characteristic means based on the Bonferroni adjustment for multiple comparisons (Sahai & Ageel 2000). To test for other significant differences when it is not possible to account for random or fixed effects, the evaluators will use paired-t and Chi-square tests. The evaluators will interpret results as statistically significant at $\alpha = 0.05$. Results will be summarized in tables such as Table 4 which has been used and published by past studies (Zint et. al. 2002).

Table 4: Example Data Tabulation

Post-test characteristics	*Range of values*	*Pre-test mean*	*Test of fixed effects for type of treatment*			*Post-test mean adjusted for significant fixed effects*				
			F	*df*	*p*	*MWEE Program 1*	*MWEE Program 2*	*MWEE Program 3*	*MWEE Program 4*	*comp-arison*
Environmental sensitivity										
Knowledge of ecology										
Knowledge of issues										
Personal responsibility										
Knowledge of actions										
Skill in actions										
Locus of control Group locus of control Individual locus of control										
Intention to act										
Engagement in learning										

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

The expiration date for OMB approval will be displayed on all collection instruments.

18. Explain each exception to the certification statement identified in Item 19 of the OMB 83-I.

This data collection meets the criteria of the certification statement in Item 19 of the OMB 83-I.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g. establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.

Professional Development Respondents

According to the proposals of the FY2005 grant recipients, over 2,300 teachers will participate in B-WET-funded professional development offered by 17 organizations (Table 5). The professional development programs will serve teachers from Delaware, Maryland, Pennsylvania, Virginia, and Washington, D.C.

Table 5: 2005-06 Professional Development Participants

PD Organization	Location	Estimated number of teachers	Number of teachers provided as of 10/10/05
Anacostia Watershed Society	DC	40	7
Alice Ferguson Foundation	DC, MD	80	35
Chesapeake Bay Foundation (CBF)	DC, MD, VA	175	175
University of Delaware	DE	60	12
Environmental Concern Inc.	DE, VA	240	65
Arlington Echo Outdoor Education Center	MD	25	39
Maryland Association for Environmental & Outdoor Educ.	MD	50	38
Thorpe Foundation	MD	9	6
University of Maryland Center of Environmental Science	MD	16	UM approval process too cumbersome
University of Maryland Center of Environmental Science	MD	12	12
Pennsylvania Department of Education	PA	1000	Have not provided a teacher list
Chesterfield County Public Schools	VA	36	To be provided in spring
Commonwealth of Virginia	VA	80	30
Earth Force, Inc.	VA	40	To be provided in November
Fairfax County Public Schools	VA	150	To be provided in November and beyond
Mary Baldwin College	VA	100	12 included with CBF
Virginia Polytechnic Institute and State University	VA	23	To be provided in October
Virginia Resource Use Education Council	VA	250	44
TOTAL		**2386**	**456**

October 2005 Update

Most organizations have been extremely cooperative in sharing their lists of teacher participants in B-WET-funded professional development programs (Table 5). Most of the lists provided so far are from PD programs held in summer 2005. Several providers are holding PD programs

during the 2005-06 school year. Teacher contact lists will be obtained for those programs as appropriate.

Given current information acquired about PD programs, it is assumed that about 1,000 teachers will be contacted and asked to complete the post-program questionnaire. A previous estimate of over 2,300 teachers was drawn from a cursory review of PD providers' proposals to NOAA B-WET. It appears that not all PD providers are offering courses for the total number of proposed participants during the time period of this evaluation.

***MWEE student participants*:** According to the proposals of the FY2005 grant recipients, over 27,000 students will participate in B-WET-funded MWEEs during the 2005-06 school year (Table 6). Seventeen organizations will provide the MWEE programs. The students' schools are located in Maryland, Pennsylvania, Virginia, and Washington, D.C.

Table 6: 2005-06 MWEE Student Participants

MWEE Organization	Location	Number students	Grade level
District of Columbia	DC	1000	elem, middle, high
National Environmental Education and Training Foundation	DC	95	high
National Audubon Society	DC, MD	2550	high, elem
Smithsonian Institution	DC, MD, VA	80	high
Alice Ferguson Foundation	MD	1000	elem, middle
Arlington Echo Outdoor Education Center	MD	5000	elem, middle, high
Living Classrooms Foundation	MD	1600	elem, middle
Maryland Department of Natural Resources	MD	4000	middle
Montgomery County Public Schools	MD	750	high
National Aquarium in Baltimore	MD	200	middle, high
Wildfowl Trust of North America, Inc	MD	8000	elem, middle, high
Benton Area School District	PA	160	elem, high
Keystone Central School District	PA	350	high
Boxerwood Education Association	VA	650	elem, middle
Rivanna Conversation Society	VA	600	middle
Virginia Aquarium & Marine Science Center Foundation, Inc.	VA	1000	elem
The Mountain Institute	WV	300	middle
Totals		**27335**	

Sampling

Professional development teacher participants: A complete census of the 2005-06 teachers will be conducted rather than a sample. To ensure that teachers have sufficient time and a non-stressful environment for completing a post-program questionnaire, the PD program providers will give the teachers a web link to the questionnaire on the last day of their program. In addition, the evaluators will email the web link to the teachers on the last day of their program.

The teachers will be asked to complete the questionnaire within 3 days following the end of their professional development. Paper questionnaires will be made available to any teachers who do not have access to the Internet.

Professional development program providers: All seventeen 2005-06 program providers will be called for a phone interview following completion of their professional development program (census).

Professional development prior-year participants: About 7,000 teachers have participated in B-WET-funded professional development since 2002. The evaluators will contact all of the teachers for whom email addresses are available, assuming that will be about 6,000 teachers (convenience sample).

***MWEE student participants*:**
Because a census of the 27,000 student participants is not possible for logistical and financial reasons, a stratified random sample will be used to select student participants. Although a randomized control trial is a powerful evaluation design, random assignment of students to treatment and control groups is impossible in this case. MWEE providers have previously determined what schools they will engage (based on teacher interest and/or provider recruitment), therefore the students cannot be randomly assigned to treatment and control groups. Instead, the student assessment will be based on a quasi-experimental design. The evaluators will select the teachers who will participate in the evaluation, and those teachers will recruit non-participating teachers and their students at the B-WET students' school for comparisons.

The sample sizes were estimated based on Cohen (1992) and Erdfelder et. al.'s GPOWER software (1996). A power of 80% and an alpha of 0.05 were used. Effect size was set to 0.1 based on results of previous, similar studies (Kraemer et. al. 2002) indicating that the effect size was likely to be "small" (Cohen 1992). For the ANOVAs with two groups (i.e., MWEE vs. No MWEE), the necessary group size was estimated to be 788 students (Table 7). Half of the students in the group are treatment and half are comparison.

Because students participate in MWEEs as a class, we will sample students by teachers' classes. Teachers have an obvious, powerful influence on the students' MWEE experiences, thus the data analysis will take class membership into effect (as a random variable).

The number of classes included in the sample is directly related to the research questions that will be answered. To determine whether MWEEs in general improve students' environmental stewardship and academic achievement (measured as engagement in learning) requires samples of MWEE participants compared to non-MWEE participants (Table 7). For the MWEE/No MWEE analysis, students will be grouped by grade level (elementary, middle, high). Additional analysis will be conducted to determine what *types* of MWEE programs have greater effects on students' environmental stewardship and engagement in learning. To do this, middle school students will be oversampled (Table 7) and comparisons will be made of variables such as whether teachers had PD or not and in what type of action project the students participated.

Table 7: Sample Sizes

	MWEE compared to No MWEE (per grade level)	Additional middle school students for comparison of program types	Total
Sample suggested by power analysis* (students)	788	394	2758
Oversampling given estimated 65% response rate (students)	1212	606	4242
Minimum number of classes sent questionnaires (classes)	40	20	**140**

* Based on Cohen (1992) and Erdfelder et. al.'s (1996) GPOWER software.

***MWEE teachers*:** The 70 MWEE teachers will be asked to complete a post-program questionnaire.

***MWEE providers*:** All seventeen 2005-06 program providers will be called for a phone interview following completion of their MWEE programs (census).

Expected Response Rates

Previous, similar studies had response rates for students in classes ranging from 48-75% when no financial incentive was offered (Zint et. al. 2002) and 75-92% when a financial incentive was offered (Kraemer et. al. 2002). When the Tailored Design Method (which includes a financial incentive) was used in other surveys, response rates averaged 77% (Dillman 2000). Although financial incentives are not available for this study, the evaluators will keep in frequent contact to encourage the teachers to administer and return the evaluation materials. After mailing the evaluation materials, the evaluator will contact the teacher to be sure the package arrived and to see if the teacher has any questions about administering the questionnaires. A week after the scheduled pre- or post-test, the evaluator will again contact the teacher to see if the completed materials have been put in the mail. If the completed materials are not received by two weeks after the scheduled pre- or post-test, the evaluator will contact the teacher again. With this extra effort, the MWEE students' and teachers' response rates are estimated to be 75% (Table 8). Although the evaluators expect a 75% response rate, the oversampling estimates in Table 7 are based on a conservative rate of 65% to ensure an adequate sample size.

Based on the evaluators' prior experience of high rates of cooperation in program-related phone calls with 2005-06 MWEE and PD providers, who are highly invested in the program's success and have received much support in their efforts, we expect a response rate, once each telephone contact is successful, of approximately 85%.

Response rates for the web surveys for current year PD teachers is estimated to be 65%, lower than Dillman's 77% average for mailed surveys due to lack of financial incentive and potential reduction in response due to use of the Internet. Based on Dillman (2000), the teachers will receive at least four personal appeals to complete their questionnaires with encouragement from the PD providers.

Response rates for web surveys for prior-year PD teachers is estimated to be lower than current year teachers based on prior experience with surveys mailed to prior-year teachers (Zint et. al. 2002) where the response rate was 33%. Response rates are expected to be 50% because the B-

WET teachers participated in PD more recently (within the past four years) than those in the prior study (within the past twenty years).

Table 8: Expected Response Rates

Group sampled	Expected response rate %
MWEE students	75
MWEE teachers	75
MWEE providers	85
PD providers	85
PD current-year teachers	65
PD prior-year-year teachers	50

October 2005 Update

As of October 10, 2005, preliminary response rate information is available for the PD current-year teachers only. Teachers from 10 organizations' professional development programs have completed post-program questionnaires. For the web survey, the evaluators contacted teachers three times by email. Due to the timing of the emergency approval for this project, the evaluators were unable to send pre-program notices to the teachers. After the third email from the evaluators, the PD provider organizations sent a final reminder to their teachers. At the completion of these requests, the overall response rate for the web questionnaire is 66% (Table 9). On average, it took the teachers 11 minutes to complete the questionnaire. A nonresponse analysis has begun, but no preliminary data is available.

One organization had teachers complete paper copies of the questionnaires at the end of a PD workshop (Table 9). The PD provider mailed the answer sheets back to the evaluator in a postage-paid mailer. Using this method, 100% of the 6 teachers completed and returned the questionnaire. It may be that although this method of data collection is more expensive, it will prove to have the highest response rates. The overall response rate for both the web and paper versions of the questionnaire is 67%.

The evaluator has faced some challenges in collecting data using the web-based questionnaire. Some of the email addresses provided by the organizations were no longer current. In some instances, the online program SurveyMonkey did not provide notification of this, or of response (the evaluator is researching these program errors). It remains unclear, even after conferring with the PD provider, why one subgroup of teachers had only a 6% response rate. One teacher in another subgroup reported that the survey email was classified as SPAM and not properly delivered. It is unknown how many nonrespondents fall into this SPAM-filtered category.

In general, however, the evaluator is pleased with the web survey method. It allows for inexpensive data collection for a virtually unlimited number of respondents. The data is automatically transferred into a database rather than having to scan paper answer sheets. SurveyMonkey keeps track of respondents so that when email reminders (and the nonresponse analysis questionnaire) are sent out, they go only to nonrespondents.

No feedback about the evaluation process was collected from the PD teachers. The response rate is the best measure we have of teachers' willingness to participate in the study.

Table 9: Professional Development Response Rates as of October 10, 2005 for Web Questionnaire

	Email received	Responded	Response rate (%)
Alice Ferguson Fnd	35	22	63
Arlington Echo	39	21	54
Chesapeake Bay Fnd	161	112	70
Commonwealth of VA	8	4	50
Enviro. Concern	41	19	46
MAEOE	38	21	55
Thorpe Fnd	6	5	83
U Delaware	12	7	58
UMCES	12	12	100
VRUEC	39	36	92
Sub-total	**391**	**259**	**66**
	Paper received	**Responded**	**Response Rate (%)**
Enviro. Concern	6	6	100
Total	**397**	**265**	**67**

2. Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.

Only for the MWEE student classes will we use a statistical method to determine sample size, as described in detail in Section B Question 1. There are no unusual problems that require specialized sampling procedures, only the usual challenges of social science sampling.

The MWEE providers will provide complete lists of teachers who will be participating in B-WET-funded MWEEs during the 2005-06 school year (with contact information). This will provide the population for this study. B-WET is interested in a sample that is representative of the diversity of MWEE programs being funded by NOAA. We have decided to select a stratified random sample to ensure that we will be able to make comparisons based on these strata (Cochran 1977). Strata will be grade levels (elementary, middle, high school). From these strata, the evaluators will create a randomized list of teachers. Starting at the top of the list, the evaluators will contact the teachers and ask for their participation in the evaluation. If the teacher says “yes”, he/she will be added to the study. If the teacher says “no”, the next teacher will be called until the desired number of teachers is in the sample (70 MWEE teachers). It is our assumption that teachers will not decline to participate for reasons associated with the program and we will verify this by asking them. Given this selection method, not all teachers have exactly the same probability of being selected, but the difference is insignificant.

Only one class per teacher will be included in the sample to reduce the overall effect of the

teacher. To ensure a random selection, teachers will be asked to select the first MWEE class they teach during the school day.

MWEE students and PD current-year participants will be sampled twice during the 2005-06 school year (pre/post-tested and post/retention-tested respectively). All other respondents will be contacted one time. Repeated data collection is necessary given the research questions asked about the B-WET programs.

October 2005 Update

In late August, MWEE providers were asked to report how many teachers they expected to work with during the 2005-06 school year. If they didn't have a precise number, they were asked to give their best guess. Using these numbers (or actual names, if available), a long list of teachers from all programs (alphabetized by program name) was generated, then randomized. Thirteen of the 17 MWEE providers supplied lists of teachers. One of the providers that conducts its own pre- and post-assessments decided not to participate in this evaluation due to their concern for overburdening the students. Two providers were unable to provide full lists of teachers because they have rolling recruitment to their programs during the school year. One MWEE provider works with individual students rather than classrooms of students.

As of October 10th, 21 MWEE teachers have agreed to include their students in the B-WET evaluation (Table 10). The evaluator is waiting to hear from 7 teachers and, as planned, if the teachers says "no", the evaluator will contact the next teacher on the randomized list. Three of the providers' programs are spring-only, therefore teachers will be contacted in mid-winter or early spring as appropriate. In general, the teachers have been pleasant and willing to help NOAA conduct the study. The 9 "no" responses have been for a variety of reasons including: 2 teachers did not respond after multiple contact attempts, 1 teacher no longer teaches at the school, 1 teacher switched to teaching kindergarten, 1 teacher was too busy, 3 teachers were not participating in a MWEE this year, and 1 person was an assistant principal rather than a teacher.

Table 10: Response from MWEE Teachers

As of October 10, 2005	Elementary	Middle	High
Number of teachers who have agreed to participate	13	7	1
Teachers contacted who have not yet replied	3	3	1
Teachers names not yet provided by MWEE provider	0	0	5
Number of teachers to be called in winter/spring	4	20	13
Total number of teachers to receive questionnaires	20	30	20
Number of teachers who have declined	4	4	1

Identifying comparison groups has been more of a challenge than anticipated. Several of the MWEE programs are conducted for all students in a grade level, thus no students in that grade can serve as nonparticipating comparisons. The evaluators are attempting to identify schools in

the participating school's district that can act as a comparison school.

3. Describe the methods used to maximize response rates and to deal with nonresponse. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses. For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied.

Effort will be made to minimize nonresponse error which results when people who respond to a survey are different in a meaningful way from those who did not respond. Multiple contacts have been shown to be more effective than any other technique for increasing response to surveys by mail. Recent research confirms that this is also true for surveys by e-mail (Dillman 2000). Dillman (2000) recommends the following "Five Needed Elements for Achieving High Response Rates":

1. A respondent-friendly questionnaire (clear and easy to understand and complete),
2. Up to five contacts with the questionnaire recipients (send a prenotice letter, questionnaire, thank you, replacement questionnaire, final contact),
3. Inclusion of stamped return envelopes,
4. Personalized correspondence, and
5. A token of financial incentive is included with questionnaire.

All participants in this evaluation will receive user-friendly questionnaires with clear instructions on how to complete and return them. The participants will be addressed by name whenever possible. The participants will not be offered a financial incentive. Below are the strategies that will be used to contact specific groups of participants.

MWEE Teachers

MWEE teachers will be contacted by email and/or fax to request inclusion of their students in the study (Attachment 25). If they do not respond to the request, the evaluators will call them by telephone. Once the teacher agrees to participate, the following two packets will be mailed to the teacher: (1) a class set of MWEE student questionnaires and a MWEE teacher questionnaire and (2) a class set of comparison student questionnaires. The packets will include a stamped, addressed return envelope. The MWEE teachers will be called on the phone if they do not return the questionnaires in a timely manner.

PD Teachers

Teachers will receive an email (if email addresses are available) prior to their PD program alerting them to the evaluation and an initial request for their participation (Attachment 26). The evaluators will mail a reminder note card to the providers for distribution on the last day of the PD program (Attachment 27). The evaluators will ask professional development providers to have their teachers complete a paper/pencil version of the questionnaire on the last day of the PD program (when teachers are a "captive audience") when possible. For the PD programs that cannot accommodate a last-day questionnaire, the evaluators will send an email on the last day of the PD program asking teachers to complete the online questionnaire (Attachment 28). Finally, two reminder emails will be sent to nonrespondent teachers 7 days and 14 days after the initial request (Attachments 29 and 30).

Prior-year PD Teachers

Teachers who participated in B-WET PD programs prior to FY2005 will be sent an email

requesting their participation in the B-WET program evaluation (Attachment 31). Reminders will be sent out one week and two weeks later to nonrespondents (Attachments 32 and 33).

MWEE and PD Providers
The organizations that provide MWEE and PD programs will be called to set up appointments to discuss their programs. The evaluators will try three times to schedule an appointment.

Nonresponse Analysis for Current-year and Prior-year-year Professional Development Teachers
Often researchers use existing databases of survey recipients' personal information (e.g., demographics) to compare respondents with nonrespondents. In this case, the evaluators have no demographic or other information (other than email addresses) about the teachers who participated in B-WET-funded professional development. To obtain data on the nonrespondent PD teachers, all nonrespondents will be sent a web link to an abbreviated version of the appropriate professional development questionnaire (Attachments 34 - 37). If phone numbers are available, calls will be made to nonrespondents to encourage completion of the abbreviated questionnaire. Responses collected from these questionnaires will be compared to those given by respondents to the initial questionnaire.

If the respondent and nonrespondent populations are determined not to be significantly different, no further analysis of nonrespondents will occur. If it is determined that the nonrespondent population is significantly different from the respondent population, the evaluators will conduct an analysis with weighted adjustments for nonresponse using a method such as those described in Part IV of *Survey Nonresponse* (Groves et. al. 2002).

4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval.

The measures and procedures used for this B-WET evaluation have been tested in previous studies and have been shown to produce valid and reliable data (Dillman 2000, Zint et. al. 2002). The procedures, therefore, will not be tested again prior to implementation for this B-WET evaluation.

5. Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

Individuals Consulted on Statistical Design
Eric Smith, Ph. D., Professor, Department of Statistics, Virginia Polytechnic and State University, Blacksburg, VA: 540-231-7929

Michaela Zint, Ph. D., Associate Professor, School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI: 734-763-6961

Individual Who Will Conduct Data Collection and Analysis
Anita Kraemer, M.S., NOAA Contractor, eeEvaluations, Blacksburg, VA: 540-552-7722

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ATTACHMENTS

MWEE Questionnaires

1. Pre Elementary Student
2. Pre Elementary Student – comparison
3. Pre Secondary Student
4. Pre Secondary Student – comparison
5. Post Elementary Student
6. Post Elementary Student – comparison
7. Post Secondary Student
8. Post Secondary Student – comparison
9. Pre MWEE Teacher
10. Post MWEE Teacher
11. Post MWEE Provider – phone interview

MWEE and Comparison Teacher Instructions and Letters

12. Pre Teacher Instructions
13. Pre Teacher Instructions – comparison
14. Post Teacher Instructions
15. Post Teacher Instructions – comparison
16. Pre Teacher Letter
17. Pre Teacher Letter – comparison
18. Post Teacher Letter
19. Post Teacher Letter – comparison

MWEE Parental Consent Forms

20. Parental Consent Form
21. Parental Consent Form – comparison

PD Questionnaires

22. PD Teacher – web survey
23. PD Provider – phone interview
24. Prior-year PD Teacher – web survey

Requests and Reminders

25. MWEE Teacher Participation Request – email
26. PD Teacher Pre-Program Request – email
27. PD Teacher Last Day of Program – note card
28. PD Teacher Last Day of Program – email
29. PD Teacher 1-Week Reminder – email
30. PD Teacher 2-Week Reminder – email
31. Prior-year PD Teacher Request – email
32. Prior-year PD Teacher 1-Week Reminder – email
33. Prior-year PD Teacher 2-Week Reminder – email

Nonresponse Analysis for PD

34. PD Teacher Nonrespondent Analysis – email
35. PD Teacher Nonresponse Analysis – web survey

36. Prior-year PD Teacher Nonrespondent Analysis – email
37. Prior-year PD Teacher Nonresponse Analysis – web survey

Legal Documents
38. Chesapeake 2000 Agreement
39. PRA Federal Register Notice