

Public Comments on Federal Register Notices and Response

A. First Round of Public Comments to 77 FR 43822

1) *Utility Water Act Group*
Response

2) *Coalition of 18 Interest Groups*
Response

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Response

B. Second Round of Public Comments to 78 FR 9045

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Response

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Response

C. Third Round of Public Comments to 78 FR 38713

6) *Coalition of 20 Interest Groups*
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Response

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Response

D. References

A.

First Round of Public Comments to 77 FR 43822

Open May 24, 2012

Closed July 23, 2012

Extended

Open July 26, 2012

Closed Aug 27, 2012

Comments:

1) Utility Water Act Group

2) Coalition of 18 Interest Groups

3) Food and Water Watch



HUNTON & WILLIAMS LLP
RIVERFRONT PLAZA, EAST TOWER
951 EAST BYRD STREET
RICHMOND, VIRGINIA 23219-4074

TEL 804 • 788 • 8200
FAX 804 • 788 • 8218

BROOKS M. SMITH
DIRECT DIAL: 804-787-8086
EMAIL: bsmith@hunton.com

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Washington, DC 20460

Comments of the Utility Water Act Group on EPA's Proposed Information Collection Request; Comment Request; Valuing Improved Water Quality in the Chesapeake Bay Using Stated Preference Methods (New)
77 Fed. Reg. 43822

Dear Sir:

Attached are the comments of the Utility Water Act Group on the proposed information collection request on valuing improved water quality in the Chesapeake Bay using stated preference methods.

Please call me if you have any questions.

Sincerely,

Brooks M. Smith

Attachments



**COMMENTS OF
THE UTILITY WATER ACT GROUP
ON EPA'S PROPOSED INFORMATION COLLECTION REQUEST;
COMMENT REQUEST; VALUING IMPROVED WATER QUALITY IN THE
CHESAPEAKE BAY USING STATED PREFERENCE METHODS (NEW)
77 FED. REG. 43822**

**Submitted to United States Environmental Protection Agency
Docket No. EPA-HQ-OA-2012-0033**

August 27, 2012

**COMMENTS OF THE UTILITY WATER ACT GROUP ON EPA'S PROPOSED
INFORMATION COLLECTION REQUEST; COMMENT REQUEST; VALUING
IMPROVED WATER QUALITY IN THE CHESAPEAKE BAY USING STATED
PREFERENCE METHODS (NEW)**

1-1 The Utility Water Act Group (UWAG)¹ welcomes the opportunity to comment on the Environmental Protection Agency's (EPA) proposed Information Collection Request (ICR) on valuing improved water quality in the Chesapeake Bay using stated preference methods. For the reasons described below, we do not believe that the proposed stated preference methods survey is necessary or appropriate.

1-2 At the outset, we note that EPA first issued notice of this proposed ICR on January 27, 2012. However, EPA failed to provide any of the relevant supporting materials before the close of the first comment deadline on March 27, 2012. UWAG submitted comments to this effect on March 20. EPA ultimately issued a second notice of the proposed ICR on May 24, 2012, and provided the 60-day comment period required by the Paperwork Reduction Act, 44 U.S.C. § 3506(c)(2)(A). Unfortunately, EPA's second effort suffered from the same procedural defect as the first – the supporting record was incomplete. UWAG submitted comments to this effect on July 18. EPA issued a third notice of the proposed ICR on July 26, 2012, setting a new 30-day comment period. Still, however, the supporting record remains incomplete because the Agency has failed to provide much of the documentation underlying the development of its proposed survey. For example, EPA says it conducted at least eight

¹ UWAG is a voluntary, *ad hoc*, non-profit, unincorporated group of 183 individual energy companies and three national trade associations of energy companies: the Edison Electric Institute, the National Rural Electric Cooperative Association, and the American Public Power Association. The individual energy companies operate power plants and other facilities that generate, transmit, and distribute electricity to residential, commercial, industrial, and institutional customers. The Edison Electric Institute is the association of U.S. shareholder-owned energy companies, international affiliates, and industry associates. The National Rural Electric Cooperative Association is the association of nonprofit energy cooperatives supplying central station service through generation, transmission, and distribution of electricity to rural areas of the United States. The American Public Power Association is the national trade association that represents publicly-owned (units of state and local government) energy utilities in 49 states representing 16 percent of the market.

focus groups and twenty-six protocol or “cognitive” interviews in developing the survey, but the Agency provides no transcripts or other information regarding the results of those efforts. *See* Supporting Statement for the Information Collection Request for Willingness to Pay Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-test, and Implementation, Part A (“Part A”), p. 10 and Part B (“Part B”), p. 3. The Agency also says the survey instrument was peer reviewed by three scholars (Part A, p. 12), but none of their comments have been included in the record. And EPA says it worked closely with modelers from the National Oceanic and Atmospheric Administration (NOAA) to examine “the ecological impacts of reducing nutrient and sediment loads to the Bay of the ecosystem-based fishery models [sic]” (Part A, p. 12), but EPA has not made available any of the information resulting from that collaboration, or any of the other “useful background” EPA says NOAA provided for the survey. It is important for EPA to provide all of this information to the public, in order to ensure a full and fair chance to evaluate the validity of the survey instrument and the proposed analytical framework for any survey results. Needless to say, a public comment process cannot be meaningful where an agency withholds the supporting record for its proposed action. It is fundamentally unfair to start the clock on the comment process before all of the supporting materials have been revealed. In this proceeding, these three procedural missteps alone make it inappropriate for the Agency to proceed with this ICR.

More fundamentally, we question whether the proposed ICR is necessary. The closest EPA comes to explaining the necessity of the proposed collection effort is as follows: “EPA has begun a new study to estimate the costs of compliance with the TMDL. It is important to put cost estimates in perspective by estimating corresponding benefits.” Part A, p. 3.

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Apparently, this “new study” arises out of the FY2012 Action Plan for President Obama’s Executive Order 13508. This Action Plan, which was prepared by the Federal Leadership Committee for the Chesapeake Bay, makes vague reference to supporting a study of the “true costs” of water quality improvements and the role that nutrient trading can play in reducing these costs (FY2012 Action Plan, pp. 9, 28). However, there is nothing in the Action Plan about a corresponding study on benefits, and there is nothing in the proposed ICR that directly correlates with the Action Plan, Executive Order 13508, or any other regulatory driver that would make the proposed collection “necessary for the proper performance of the functions of the Agency” and have “practical utility.” 44 U.S.C. § 3508. Elsewhere, in EPA’s ICR Part B (p. 1), the Agency states that, “The overall goal of this survey is to examine public values (including non-use values) for improvements in water quality in the Chesapeake Bay and its watershed.” Again, this does not provide any legitimate regulatory impetus for the ICR.

As EPA well knows, the regulatory proceeding that is most directly relevant to the proposed ICR has already occurred – EPA established a final total maximum daily load (TMDL) for nutrients and sediments in the Chesapeake Bay back in December 2010. At best, it appears that the ICR is intended to serve as a *post hoc* rationalization for the TMDL. At worst, it will impose significant burden and costs (e.g., 13,801 hours and over \$1.2 million in costs). Part A, p. 27.

Even assuming that the proposed ICR were properly supported and necessary (which we dispute above), it would involve a “stated preference” survey approach that is not generally accepted and that is prone to substantial bias and other limitations. As the Agency recently acknowledged, “The main disadvantage of stated preference methods is that they may be subject to systematic biases that are difficult to test for and correct.” National Center

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for Environmental Economics, EPA Office of Policy, "Guidelines for Preparing Economic Analyses" of December 17, 2010 ("Guidelines"), p. 7-35. Examples of these biases include hypothetical bias, which occurs when respondents are asked about situations that are systematically different from what individuals would actually face if policies were implemented; non-response bias, occurring when non-respondents would have answered questions in a fashion systematically different from those who did answer; and "yea-saying," which refers to respondents overstating their true willingness to pay to show support for a situation described in the survey questions. *Id.* at pp. 7-40, 7-42 to 7-43.

For these reasons, UWAG believes (and the literature suggests) that stated preference or "willingness to pay" surveys should be used only where the information is needed in order to inform important policy decisions, and other, more reliable sources of information are unavailable. Here, EPA has already made its decision and steps towards implementation are already well underway at the federal and state level. And other, far more reliable sources of information are available for estimating direct and indirect use values. Thus, EPA's only reason for pursuing this survey approach is to estimate so-called "non-use" values (*i.e.*, purely subjective values that individuals place on knowing that a resource is protected, even if they do not use it or even see it), which EPA claims are likely to be appreciable. But the only evidence supporting that claim is provided by a single paper by Boekstael et al. (1989), cited in Cropper and Isaac (2011), which suggests that non-use values associated with improving the quality of the Chesapeake Bay for swimming would be less than one-third of the use values associated with such improvements. Furthermore, use of a stated preference survey to measure "non-use" benefits is particularly inappropriate where, as here, the Agency has not shown indicator resources (*e.g.*, water clarity and aquatic grasses) to be unique or limited and

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the impacts to be substantial or irreversible. “Comments on EPA’s Notice of Data Availability for §316(b) Stated Preference Survey,” prepared by NERA Economic Consulting for UWAG (“NERA Report”), July 2012, p. 7 (a copy of which is attached). Thus, there is little evidence that non-use values are likely to be great enough to warrant a survey of this type or an appropriate means of studying the selected indicators.

Given the lack of information made available by the Agency regarding the proposed methodology for the survey, it is difficult to assess the magnitude of survey limitations as specifically applied to the proposed collection. However, based on the limited information that has been provided, we have a number of concerns, as summarized below.

First, it is not clear that the benefits respondents are asked to value bear any relationship to the benefits likely to occur as a result of loading limitations for nitrogen, phosphorous, and sediments imposed by the Chesapeake Bay TMDL. The validity of a stated preference survey depends on the accuracy of the “options” respondents are offered. For example, EPA’s proposed survey options look at various input (*i.e.*, dissolved oxygen, water clarity, aquatic grasses, lake condition, and change in cost of living) and endpoint (*i.e.*, water clarity, blue crab abundance, oyster abundance, lake condition, and cost of living) benefit variables. EPA’s analysis of the connection between these variables and compliance with the Bay TMDL is not apparent from the record currently available, however. EPA appears to have selected these options as “indicators of ecosystem improvements” based on state and federal agency use of such indicators to “develop Bay water quality goals.” Part A, p. 17. Evidence that compliance with the Bay TMDL will likely result in the range of improvements in EPA’s chosen indicators is not provided. Rather the EPA states that the Agency selected indicators “assumed” to represent ecological and water quality conditions in the Chesapeake

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Bay watershed. Part A, p. 14. Demonstrating a correlation between the biological indicators and Bay TMDL is particularly important given the wide range of natural and man-made variables, not all affected by the Bay TMDL, with potential to impact such indicators such as blue crab and oyster abundance. Furthermore, (a) there is insufficient explanation in the record to determine how EPA arrived at the cost of living indicators it proposes to use and whether those indicators take into account sufficient cost variables to be representative of those associated with the Bay TMDL; (b) the survey fails to provide respondents with information on other potential trade-offs, such as employment impacts, that are not easily reduced to household income; and (c) we question whether the metrics chosen for the Bay (both as to type and range of specific impacts) are relevant to waters outside the Bay itself, as well as, in turn, EPA's proposal to apply the survey to states outside the Chesapeake Bay.

Second, the Agency has not provided sufficient support in the record that the policy effects described in the proposed survey sufficiently enable respondents to "comprehend the potential implications of their hypothetical choices" as required for effective stated preference surveys. See 77 Fed. Reg. 39,930, col. 1. EPA's proposed survey asks respondents to choose how they would vote if presented with two regulatory options or a status quo option. The options were characterized by five environmental impacts (e.g., percent of Bay area meeting dissolved oxygen goals and feet of visibility in Bay). Again, however, there is nothing in the record to show that these hypothetical policy options provide respondents with sufficiently representative policy context to enable the Agency to obtain meaningful data using the proposed survey. Additionally, the validity of the "status quo" baseline option is questionable because it does not appear to factor in potential improvements to environmental conditions

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(e.g., those that might result from efforts by watershed states to improve Bay conditions prior to the Bay TMDL).

Third, even if the Agency were to demonstrate that survey indicators and policy effects (currently identified or later revised) are correlated with Bay TMDL benefits, we question whether meaningful data can be obtained due to cognitive shortcuts taken by respondents faced with complex survey subject matter. It is likely that, in order to provide sufficient policy-relevant information to demonstrate the correlation between survey options and the Bay TMDL, EPA would need to present respondents with complex and detailed information on various potential biological benefits, as well as explain and acknowledge the enormous uncertainties involved in developing such information. The vast majority of respondents would have no prior knowledge of these biological issues or experience comprehending such information and the related uncertainties. Academic literature on the cognitive processes involved in survey responses indicates that when the information provided to respondents is inadequate and/or the burden on respondents to determine a reasoned response is high, respondents tend to take shortcuts in answering the survey questions. NERA Report, p. E-5. These shortcuts – such as substituting an easier heuristic question or providing an apparently satisfactory answer (“satisficing”) instead – do not reflect true willingness-to-pay for environmental gains. *Id.* This suggests that EPA’s proposed survey is not likely to develop valid benefits information that reflects actual willingness-to-pay.

Fourth, there is more to a stated preference survey than the survey instrument. Such a survey also involves survey implementation and econometrics analysis procedures. EPA does not appear to have sufficiently developed these stages of the proposed survey to allow for

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1-11 meaningful opportunity for comment at this time. For example, while the survey instrument apparently has been peer reviewed (Part A, p. 12), EPA does not yet appear to have submitted the proposed survey implementation and econometrics analysis approaches for peer review in accordance with Agency guidance (e.g., EPA's Peer Review Handbook, 3rd Ed.). Thus, any revisions from peer review of these procedures cannot be considered and commented on at this time. EPA may not have submitted these survey procedures for peer review yet because these stages of the survey appear relatively preliminary and subject to change. For example, EPA proposes an "experimental design *framework*" but then states that the "experimental design *will be developed* by Abt Associates Inc." (Part B, p. 23) and that the Agency "anticipates that four attributes will be incorporated in the vector of variables describing attributes of the pollution reduction programs..." (Part B, p. 21). We encourage the Agency to make available, as further developed, these other aspects of the proposed survey, along with any results from the proposed subsequent pilot study (Part B, p. 14), to allow an opportunity for meaningful comment on the full proposed ICR. Without such additional information, it is not yet possible to assess to what extent the inherent weaknesses associated with stated preference surveys mentioned above, such as hypothetical bias, might influence the results of the proposed survey.

1-12 Fifth, the "Information Quality Act" requires EPA to issue guidelines for ensuring and maximizing the "quality, objectivity, utility, and integrity" of information (including statistical information) it disseminates. Pub. Law 106-554 § 1(a)(3) [515]. EPA's Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity for Information Disseminated by the Environmental Protection Agency (EPA/260R-02-008 December 2002) are the Agency's attempt to meet this requirement; see also EPA Quality Manual for

Environmental Programs (5360 A1 (May 5, 2000)). The point of the Information Quality Act and applicable guidance is to ensure that the agencies do not move forward in cases where the information on which they will rely is too inadequate or unreliable for the task at hand. With its stated preference survey, EPA is attempting to measure people's attitudes with a survey instrument method that is – at best – controversial due to, as discussed above, the procedural flaws associated with the proposed survey and systematic biases associated with the proposed stated preferences survey approach. We believe that any data obtained through the proposed survey would be contrary to the purpose of the Information Quality Act to ensure and maximize the “quality, objectivity, utility, and integrity” of information disseminated by federal agencies. See 44 U.S.C. § 3516.

Finally, there are multiple errors in the draft survey instrument. For example, on p. 16 of the Endpoint/Constant Baseline Version (May 22, 2012), the Agency presents an example hypothetical choice between no further regulatory action and an alternative regulatory program, “Program B.” EPA describes the “no further action” scenario as not changing the average Bay water quality of 3 feet visibility. EPA then describes Program B as improving Bay water quality by 67% but also resulting in 3 feet visibility. Either the 67% increase or 3 feet visibility description must be inaccurate. Similarly, on p. 17 of the Input/Constant Baseline Version (May 22, 2012), EPA describes 3 feet of visibility as a 67% increase in water clarity as compared to the 3 feet of visibility associated with the no further action scenario. In the same chart on p. 17 of the Input/Constant Baseline Version (May 22, 2012), 150,000 acres is inaccurately described as a 50% increase in comparison with the 80,000 acre no further action baseline scenario. In yet another example, on p. 22 of that same survey version, 80,000 acres of aquatic grasses is mistakenly described as a 50% increase in

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comparison with the 80,000 acres of aquatic grasses associated with the no further action baseline scenario, and 130,000 acres of aquatic grasses is mistakenly described as a 25% increase in comparison with the same 80,000 acres baseline.

We urge the Agency to abandon the proposed ICR because it is unnecessary, burdensome, and unlikely to provide meaningful data.

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RESPONSES TO COMMENT SET 1: Utility Water Act Group

- 1-1 Thank you for the detailed comments.
- 1-2 EPA extended the comment period by 30 days in order to accommodate review of supporting materials.
- 1-3 See Section 2a of Part A this ICR for a discussion of the purpose of the study.
- 1-4 Again, see Section 2a of Part A of this ICR for a detailed discussion of the purpose of the study. ‘
- 1-5 EPA recognizes that hypothetical bias is a potential concern in stated preference (SP) surveys and takes this concern seriously. In general, SP methods have “been tested and validated through years of research and are widely accepted by federal, state, and local government agencies and the U.S. courts as reliable techniques for estimating nonmarket values” (Bergstrom and Ready 2009, p. 26). A recent meta-analysis of the stated preference literature also concludes that hypothetical bias may not always be a significant concern (Murphy, et al. 2005).

To reduce the potential for hypothetical bias in this survey EPA has consulted with experts and drawn from peer reviewed literature to address it in the survey design. For example, the survey explicitly incorporates elements that allow mitigation of hypothetical bias, such as the use of reminders about budget constraints (akin to the cheap talk language in Cummings and Taylor 1999; List 2001). These features of survey design are shown to minimize hypothetical bias in experimental settings. The text used in this survey has undergone thorough testing with participants in focus group and one-on-one interviews. EPA believes that the steps taken during survey development and testing have largely mitigated the potential for hypothetical bias. See Section 2d of Part B of this ICR for more information on how we address hypothetical bias.

Similarly, EPA recognizes the potential for households to exhibit yea-saying and to overstate or understate their true WTP in order to influence decisions informed by survey data. Survey and study design choices can mitigate yea-saying. The use of mail survey rather than face-to-face interview has been shown to decrease the social pressure that may influence a respondent to provide a response deemed desirable (Dillman 2000). This survey also employs a conjoint choice framework, where respondents must consider the trade-offs between a status quo and two policy options. Respondents are asked to make a discrete choice among three unranked options rather than a simple yes or no. These options vary in terms of the levels of five environmental attributes (plus cost). In this choice experiment framework it has been shown that the likelihood for yea-saying and strategic responses is less prominent (Blamey and Bennett 2001, Collins and Vossler 2009).

In addition, in order to identify such respondents EPA includes debriefing questions at the end of the survey to identify respondents who might believe that protecting the environment is important no matter the cost. Sensitivity analysis will be used to examine if and how responses to these debriefing questions influence responses. Again, Section 5(b) of Part B of this ICR provides a detailed response.

EPA also recognizes the potential for non-response bias and the impacts it could have on the data analysis. First, EPA is taking steps to obtain the highest possible response rate, thereby mitigating non-response bias. Specifically, EPA is also following the Dillman tailored design method (Dillman 2008) for

mail surveys which includes an introduction letter preceding the survey, a reminder post card, and second mailing of the survey, and a reminder letter following the second survey.

EPA will also administer a non-response bias study survey (Attachment 11) in both the pre-test and full survey in order to examine whether or not respondents are systematically different from non-respondents (see OMB 2006). In the non-response bias survey, households that do not return the survey will be randomly sampled to receive a short questionnaire by mail. The questionnaire will elicit basic demographic information as well as a few short questions regarding awareness and the reasons they did not complete the survey. Responses to these questions will be used to examine whether respondents are systematically different from non-respondents. See Section 2(c) of Part B of the ICR for a description of the non-response bias study.

- 1-6 It is impossible to know the magnitude of nonuse values prior to conducting this study. While information is available in Bockstael, McConnell and Strand (1989) on the potential value of water quality improvements in the Watershed, the study is based on a small sample of Bay-area residents, and provides limited information on a broader set of benefits attributable to water quality improvements.
- 1-7 Standard survey development protocols have been used to develop the survey. See Section 3(c) of Part A for a discussion of background information.
- 1-8 In response to peer review comments from academic experts in stated preference methods, EPA is now only modeling willingness to pay for improvements in bay water clarity, striped bass, blue crab, oyster populations, and the quality of lakes in the watershed. This was previously referred to as the “endpoint” version of the survey. These attributes were chosen based on extensive focus groups and interviews as the environmental features that are most salient to the general public. Furthermore, EPA and NOAA models predict that these features will be impacted by the TMDL. The stated preference survey outlined in the ICR does *not* estimate the benefits of the TMDL directly; rather this survey is designed to value generic status quo and policy options that result in changes in the environmental attributes. As part of the experimental design, respondents are presented with hypothetical changes in these attributes and cost. In other words, the hypothetical levels associated with each of the attributes and costs in the survey vary across respondents (see Section 2(d) of Part B). This allows us to identify the parameters and estimate a range of values associated with different scenarios. The variation in costs across programs is not intended to reflect the costs of the TMDL, but rather the likely range of values respondents hold for the options, as found in extensive focus groups and interviews. The parameters estimated from respondents’ choices to these hypothetical scenarios will then be used to estimate the benefits of the TMDL incremental to the baseline.
- 1-9 The survey does remind respondents to consider other things they may spend their money on, like food, clothing, etc., so that they fully consider their budget constraint before making choices. However, respondents are also reminded several times that all other factors (including employment) are held constant across options. In other words, the survey only assesses the value people hold for the attributes specified in the choice experiments. EPA believes that focusing on this subset of factors will lead to a conservative but more reliable estimate of total benefits. EPA proposes to administer three versions of the survey - an increasing baseline, decreasing baseline and constant baseline - in order to estimate benefits of environmental improvements relative to a range of baseline scenarios.
- 1-10 EPA conducted 10 focus groups and 59 one-on-one interviews with individuals within and outside the Watershed in order to test their level of understanding of the materials included in the survey (OMB

Attachment 16
Public Comments and Response

Control Number 2090-0028). We used this standard survey design protocol to identify the most salient environmental endpoints that will be affected by the TMDL.

- 1-11 See Sections 2(b) and 5(b) of Part B of the ICR for the survey implementation and econometric analysis approach to be used in the survey project.
- 1-12 Again, the EPA disputes the idea that the stated preference method does not have the ability to collect information with, “quality, objectivity, utility, integrity” on the foundation that these methods are largely accepted as a valuable tool among those seeking to understand the benefits of changes to nonmarket goods. The use and nonuse willingness-to-pay estimates generated from this research will provide a more well-rounded evaluation of future pollution reduction programs in the Chesapeake Bay, contributing to the quality, objectivity, and integrity of information the EPA will disseminate.
- 1-13 We appreciate the attention to these details addressed by UWAG and can assure them that any errors within the experimental design have been rectified.
- 1-14 EPA believes this study will allow public values and opinions to be included in the decision-making process for the Chesapeake Bay. Using current econometric methods, this study will provide unique, policy relevant information about what, if any, further actions are called for in the Chesapeake Bay.

Attachment 16
Public Comments and Response

July 23, 2012

Office of Environmental Information
Environmental Protection Agency
Mailcode 28221T
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460
(filed online using <http://www.regulations.gov>)

Re: **Docket ID No. EPA-HQ-OA-2012-0033**

The undersigned organizations are pleased to file comments on the Environmental Protection Agency's (EPA's) proposed Information Collection Request (ICR) for a survey on "Valuing Improved Water Quality in the Chesapeake Bay Using Stated Preference Methods."

2-1 The undersigned organizations represent the nation's business, construction, manufacturing, housing, agriculture, forestry and energy sectors, all of which are vital to a thriving national economy, including providing much-needed jobs.. All of these important economic interests operate within the 64,000 square mile Chesapeake Bay watershed. These sectors and their employees and customers will be greatly impacted by the Total Maximum Daily Load issued by EPA in December 2010 for the Chesapeake Bay. However, the scope of these impacts are not fully known because EPA has not conducted an analysis of the costs that the TMDL. According to the Federal Register notice seeking comment on this ICR, "EPA has begun a new study to estimate costs of compliance with the TMDLs." 77 Fed. Reg. 31006, 31008 (May 24, 2012).

2-2 According to EPA: "It is important to put cost estimates in perspective by estimating corresponding benefits." *Id.* Therefore, the purpose of this ICR is to provide "benefits analysis of improvements in Bay water quality under the TMDLs, as well as of ancillary benefits that might arise from terrestrial measure taken to improve water quality." *Id.* The undersigned do not believe that the proposed ICR can meet this objective.

2-3 As the Agency knows, the Paperwork Reduction Act sets forth certain standards that EPA must satisfy in order to obtain ICR approval from OMB. *See* 44 U.S.C. 3506(c)(3)(A) (Agency certification) and 44 U.S.C. 3508 (OMB determination). Among other things, EPA must demonstrate that any proposed ICR:

- Is of "practical utility;"
- Is written in plain, coherent and unambiguous terminology, and is understandable to those who are to respond; and
- Sets forth an effective and efficient statistical survey methodology appropriate to the purpose for which the information is to be collected.

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2-4 As discussed below, the four surveys that EPA is proposing do not meet these criteria.¹ First, a stated preference survey cannot provide rigorous, reliable information that accurately reflects the benefits of the Bay TMDL in a meaningful way. As EPA knows, a stated preference survey relies on data drawn from people's responses to hypothetical questions. As such, this method of estimating benefits is subject to systematic biases, which are difficult to test for and correct.² See EPA, National Center for Environmental Economics, Guidelines for Preparing Economic Analyses, Dec. 17, 2010, at 7-35. These biases include "hypothetical bias" resulting from the fact that people are not actually asked to make the investments they claim to be willing to make. These surveys also suffer from non-response biases, where persons who have little or no interest in the subject matter simply fail to respond, while persons with a higher willingness to pay are more willing to respond to a survey. Finally, it is difficult to draft a valid survey that accurately captures the concept being evaluated. See generally *id.*, section 7.3.2. For these reasons, "a non-trivial fraction of economists are skeptical of the results elicited from stated preference surveys." *Id.* at 7-36.

2-5 No stated preference survey can overcome these fundamental methodological faults. Even if a hypothetical survey could do so, the survey that EPA is proposing to use to estimate the benefits of the Bay TMDL fall far short of the level of confidence that would meet the requirement of the Paperwork Reduction Act that a survey have practical utility. The proposed survey also falls far short of the requirements of OMB's information quality guidelines for utility, integrity and objectivity. In fact, we do not believe EPA can demonstrate that the proposed surveys will "result in information that will be collected, maintained and used in a way consistent with the OMB and agency information quality guidelines." See "Questions and Answers When Designing Surveys for Information Collection," OMB, Jan. 2006, at 9. As noted by OMB: "A stated preference study may be the only way to obtain quantitative information about non-use values, though a number based on a poor quality study is not necessarily superior to no number at all." OMB 2006, at 75.

In support of our conclusion that EPA's proposed surveys are of no practical utility, are ambiguous, and are not based on an appropriate statistical methodology, we offer the following specific comments:

1. The scope of the benefits to be evaluated by the surveys exceeds the scope of the TMDL.

2-6 According to EPA, "[t]he findings from this study will be used by EPA to estimate the total value of economic benefits of the nutrient and sediment TMDLs designed to meet the requirements of Executive Order 13508." Supporting Statement for Information Collection Request for Willingness to Pay for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-Test, and Implementation,

¹ The four surveys proposed by EPA are as follows: (1) a survey that asks questions based on a willingness to pay for reduced inputs to the Bay, such as dissolved oxygen levels, water clarity and acres of aquatic grasses, with a constant baseline that assumes no change in the Bay by 2025 if additional action is not taken, (2) the same "input" survey but with a declining baseline that assumes that the Bay gets worse by 2025 if additional action is not taken, (3) a survey that asks questions based on a willingness to pay for reduced outputs in the Bay, such as tons of blue crabs or oysters with a constant baseline that assumes no change if additional action is not taken, and (4) the same "output" survey but with a declining baseline that assumes that the Bay gets worse if additional action is not taken,

² Indeed, this methodology is the same as the contingent valuation methodology that has been roundly criticized in the context of monetizing damages to natural resources under the Superfund statute.

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Part A, at 5. However, the proposed surveys cannot be used for such a purpose because they fail to identify what actions are attributable to the Bay TMDL. Thus, even if the survey results provide some information on how persons value water quality, the survey results cannot be used to estimate the use and nonuse benefits of the Bay TMDL.

a. The surveys fail to identify the baseline of reductions that would occur without the TMDL.

When conducting an economic evaluation of an action, it is important to first identify the baseline that would occur absent the action. For example, when the Army Corps of Engineers evaluates the benefits of a water resources project, it first identifies the “without project condition.” Only benefits that would not accrue absent the project can be attributable to the project.

2-7

In the context of its proposed benefits study, EPA has not identified the “without project condition” or even what actions will occur as a result of the Bay TMDL. Instead, EPA proposes to simply ask respondents to state their willingness to pay for generic improvements in water quality, expressed as inputs or outputs. The surveys do not differentiate between water quality improvements that would occur absent the Bay TMDL from water quality improvements that would occur as a result of it. In fact, the baselines are identified as conditions that would occur “if no further action is taken to reduce nutrients and sediment.” *See, e.g., Chesapeake Bay Stated Preference Survey, Input Version, Constant Baseline, May 22, 2012, at 10.*³ That is very different from a baseline that would occur if the Bay TMDL was not implemented.

For example, the generic water quality improvements described in the surveys could occur due to reductions in the deposition of nitrogen resulting from planned Clean Air Act regulations⁴, from reductions in nutrients resulting from controls on combined sewer overflows, from reductions in nutrients as a result of prolonged drought in the crop and pasture production areas of the region, from pre-existing agreements to upgrade wastewater treatment plants, or from pre-existing programs to address non-point source pollution.

2-8

Most significantly, EPA’s surveys do not acknowledge the reductions that were already planned by watershed states as part of their Chesapeake Bay Tributary Strategies. In 2003, each state in the Chesapeake Bay Watershed agreed to nitrogen, phosphorus and sediment caps and, between 2004 and 2006, developed specific strategies to reduce loadings to achieve those caps.

2-9

All of these previously planned reductions in nitrogen, phosphorus and sediment must be considered part of the “without project” or baseline conditions, that would occur without the TMDL. An

2-10

³ Other than the differences in whether the assumed benefits are based on inputs or outputs and the different future baselines discussed in footnote 1, the surveys are almost identical so the issues identified in these comments apply to all 4 surveys.

⁴ The TMDL acknowledges that nitrogen loading to the Bay will be reduced as a result of the Clean Air Interstate Rule and the Clean Air Mercury Rule, the Regional Haze Rule and guidelines for Best Available Retrofit Technology, the On-Road Light Duty Tier 2 Rule; the Clean Heavy Duty Truck and Bus Rule, the Clean Air Non-Road Diesel Tier 4 Rule, the Locomotive and Marine Diesel Rule, the Non-road Large and Small Spark-Ignition Engines Programs, and the Hospital/Medical Waste Incinerator Regulations. *See Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus, and Sediment, Dec. 29, 2010, at 6-28.* These reductions are the result of the Clean Air Act, not the TMDL.

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analysis of the benefits of the TMDL should be based only on any further reductions beyond this baseline.

- b. The surveys inappropriately include benefits associated with hypothetical lake improvements that cannot be attributed to the TMDL.

Another significant example of benefits unrelated to the Bay TMDL is EPA's proposal to ask respondents to include improvements to lake conditions, as well as improvements to the Chesapeake Bay and its tidal waters when considering their willingness to pay.

The Chesapeake Bay TMDL allocates total loadings of nitrogen, phosphorus, and sediment that reach the Chesapeake Bay to upstream sources based by subdividing loads reaching the Bay into the loads coming from the major rivers that feed the Bay. Those loads are then further divided into sub-basins, associated with smaller tributaries. The plans for implementing those allocations are based on modeled loadings of nitrogen, phosphorus, and sediment from rivers and streams with at least 100 cubic feet per second (cfs) mean annual flow (or 50 cfs if the subwatershed is gauged). *See* Feb. 20, 2008, Scientific and Technical Advisory Committee, Chesapeake Bay Watershed Model Phase V Review, at 2. Thus, the implementation plans are designed to reduce the amount nitrogen, phosphorus, and sediment that reach the rivers and streams that feed the Bay. Unless a lake is part of the tributary system of the Chesapeake Bay, nothing in the TMDL or in the TMDL implementation plans address nitrogen, phosphorus or sediment loadings to that lake.

This means that hypothetical benefits to lakes do not belong in a survey of hypothetical benefits of the Chesapeake Bay TMDL unless those benefits are limited to lakes that are part of the tributary system of the Bay. However, the proposed surveys fail to make that distinction. In fact, the survey questions do not even distinguish between lakes in the watershed and lakes outside of it.

The narrative part of the surveys (before the questions are asked) inform the respondents that the Chesapeake Bay Watershed includes thousands of lakes. Further, the surveys inform respondents that "[m]eeting the goals for water quality in the Chesapeake Bay would also affect freshwater bodies of the watershed." *See, e.g.,* Chesapeake Bay Stated Preference Survey, Input Version, Constant Baseline, May 22, 2012, at 12. In addition, each survey states: "[r]educing the amount of nutrients entering lakes will improve the appearance of the water and change the ecological conditions," and a table in each survey "shows the current condition and conditions in 2025 that scientists predict for lakes in the part of the watershed in your state if no further actions are taken to reduce nutrient and sediment pollution." *Id.* These statements imply that there is a relationship between the conditions of all lakes in the watershed and the TMDL, but that is a false assumption. EPA cannot count a person's willingness to pay for lake improvements as benefits resulting from the TMDL unless the survey questions clearly limit lake benefits to the very small subset of lakes that are part of the Bay's tributary system.⁵

⁵ EPA reference the "Northeast Lakes Model" developed by the EPA Office of Research and Development (ORD) as the basis for assumptions about lake conditions. However, no citation or link is provided and we were unable to find what lakes are included in that model. We do note, however, that the October 2011 report issued by ORD on "An Optimization Approach to Evaluate the Role of Ecosystem Services in Chesapeake Restoration Strategies,"

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2. The surveys fail to distinguish between respondents who live in the Chesapeake Bay Watershed and respondents who live outside of it.

2-12 EPA proposes to send the survey to a random sample of persons living in states that directly border the Chesapeake Bay, states that include portions of the Chesapeake Bay Watershed and other East Coast States. However, neither the surveys nor the proposed letters in attachments 6-12 of Part B of the Supporting Statement inform respondents whether or not they are residents of the watershed. This failure will introduce significant bias into the surveys. Direct costs associated with increased utility rates and storm water fees will be borne by persons living in the watershed. To reduce the "hypothetical bias" the surveys should inform people if these costs will actually fall on them.

3. The policy scenarios posed by EPA are misleading and unrealistic.

2-13 EPA states that its surveys "were designed by EPA based on the goal of illustrating realistic policy scenarios." Part B of the Supporting Statement, at 23. However, EPA's surveys are both misleading and unrealistic.

First, in the background information of all the survey versions, EPA fails to inform respondents that air deposition from power plants and automobiles are additional sources of nutrients in the Chesapeake Bay, but are not addressed by the Bay TMDL. EPA fails to inform respondents that sediments already in streams are a significant source of both sediment and nutrients to the bay, but are not addressed by the Bay TMDL. Finally, EPA fails to inform respondents that factors such as hurricanes and ocean currents also will greatly affect water quality in the Chesapeake Bay, irrespective of the Bay TMDL. *See, e.g., Chesapeake Bay Stated Preference Survey, Input Version, Constant Baseline, May 22, 2012, at 6-7.*

2-14 In all survey versions, EPA also tells the respondents that: "All forecasts for the year 2025 are based on monitoring data from the Chesapeake Bay Watershed and Estuary Models Developed by the Chesapeake Bay Program Office of the EPA in conjunction with state and federal partners." *See, e.g., id.* at 10. This statement may have some validity for current conditions, but cannot apply to future conditions in 2025. First, as EPA well knows, 2025 is the target date for full Bay TMDL implementation, but EPA's models cannot estimate the water quality at that time because the sequence of implementation actions is not known. Second, this statement is contradicted by the surveys themselves, which propose different outcomes in 2025 in the constant baseline and declining baseline surveys. It cannot be a true statement that both sets of outcomes are predicted by EPA's models. EPA should replace this assertion with the admission that EPA does not, in reality, know what the water quality outcomes of the Bay TMDL will be, and should the agency let respondents know that improvements will be realized only over the long term.

2-15 It is particularly important to inform respondents of the potential length of time before water quality improvements will be realized. Failure to do so will increase the hypothetical bias in the surveys. EPA is aware of this issue. Question 16 (or 17, depending on the version) of the survey includes a response: "The changes offered by the programs happen too far in the future for me to really care

(EPA/600/R-11/001) does not even mention lakes and no ecosystem services provided by lakes are considered to be services provided by Chesapeake Bay restoration. Thus, the draft surveys also appear to be inconsistent with ORD's view of the scope of TMDL benefits.

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about.” If respondents knew that changes will take decades, more respondents may agree with that statement.

2-16

Finally, EPA’s hypothetical costs have no basis in reality. As EPA admits, it has not developed an estimate of the costs of implementing the Bay TMDL. However, the costs are likely to be very high. High costs are relevant to the survey answers. Question 16 (or 17) of the surveys includes an answer: “I am concerned that the programs would hurt the economy.” That concern would be increased and could affect survey responses if the full costs of the Bay TMDL were known.

2-17

4. EPA should include a survey with an increasing baseline.

As EPA knows, water quality improvements would continue under a variety of programs absent the Bay TMDL. Given this fact, the surveys also should include a version with a baseline that shows water quality improvements absent the Bay TMDL.

2-18

5. EPA cannot double-count benefits.

EPA acknowledges that its proposed surveys are designed to capture both use (economic) and non-use values. In fact, EPA proposes to send more surveys to persons who live in the Chesapeake Bay Watershed to capture use value, and to send the surveys to some persons who live outside of the watershed in an attempt to capture non-use values. Part B of the Supporting Statement, at 4. EPA cannot add any benefits resulting from these flawed surveys to benefits derived from economic studies to come up with a total value of the benefits of the Bay TMDL. To do so would double count use benefits because the same use benefits could be captured by both the surveys and by economic studies.

2-19

6. The questions contain errors.

The “conditions in 2025” in several of the questions contain errors regarding whether the change to the input or output is an increase or no change.

2-20

7. EPA does not adequately explain its sampling methodology.

EPA fails to explain which surveys it plans to use and whether a statistically relevant sample of households will receive each survey.

Conclusion

2-21

For all of the foregoing reasons, EPA’s request for approval of an ICR for a survey on “Valuing Improved Water Quality in the Chesapeake Bay Using Stated Preference Methods” should be abandoned. The flaws in the survey design are too significant to correct. The data from such a survey will have no practical utility and will not meet the requirements of OMB’s information quality guidelines for utility, integrity and objectivity. This is a case where “a number based on a poor quality study is not necessarily superior to no number at all.”

Sincerely,

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American Forest & Paper Association

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Associated General Contractors of America
Delaware Maryland Agribusiness Association
The Fertilizer Institute
International Council of Shopping Centers
National Association of Home Builders
National Cattlemen's Beef Association
National Chicken Council
National Council of Farmer Cooperatives
National Pork Producers Council
National Turkey Federation
Oregon Women In Timber
Treated Wood Council
United Egg Producers
Virginia Poultry Federation
The Western Business Roundtable
West Virginia Forestry Association

RESPONSES TO COMMENT SET 2: Coalition of 18 Interest Groups (C18)

- 2-1 A complementary study of the costs of the TMDL is being conducted by EPA's Chesapeake Bay Program Office and will be issued by EPA after a peer-review is complete.
- 2-2 No response required.
- 2-3 No response required.
- 2-4 EPA recognizes that hypothetical bias is a potential concern in stated preference (SP) surveys and takes this concern seriously. In general, SP methods have "been tested and validated through years of research and are widely accepted by federal, state, and local government agencies and the U.S. courts as reliable techniques for estimating nonmarket values" (Bergstrom and Ready 2009, p. 26). A recent meta-analysis of the stated preference literature also concludes that hypothetical bias may not always be a significant concern (Murphy, et al. 2005).

To reduce the potential for hypothetical bias in this survey EPA has consulted with experts and drawn from peer reviewed literature to address it in the survey design. For example, the survey explicitly incorporates elements that allow mitigation of hypothetical bias, such as the use of reminders about budget constraints (akin to the cheap talk language in Cummings and Taylor 1999; List 2001). These features of survey design are shown to minimize hypothetical bias in experimental settings. The text used in this survey has undergone thorough testing with participants in focus group and one-on-one interviews. EPA believes that the steps taken during survey development and testing have largely mitigated the potential for hypothetical bias. See Section 3(b) of Part A of this ICR for more information on how we address hypothetical bias.

EPA also recognizes the potential for non-response bias and the impacts it could have on the data analysis. First, EPA is taking steps to obtain the highest possible response rate, thereby mitigating non-response bias. Specifically, EPA is also following the Dillman tailored design method (Dillman 2008) for mail surveys which includes an introduction letter preceding the survey, a reminder post card, and second mailing of the survey, and a reminder letter following the second survey.

EPA will also administer a non-response bias study survey (Attachment 11) in both the pre-test and full survey in order to examine whether or not respondents are systematically different from non-respondents (see OMB 2006). In the non-response bias survey, households that do not return the survey will be randomly sampled to receive a short questionnaire by mail. The questionnaire will elicit basic demographic information as well as a few short questions regarding awareness and the reasons they did not complete the survey. Responses to these questions will be used to examine whether respondents are systematically different from non-respondents. See Section 2(c) of Part B of the ICR for a description of the non-response bias study.

EPA agrees that it is challenging to measure complex environmental commodities. Standard survey design protocols were followed in developing the survey. As such, EPA conducted 10 focus groups and 72 one-on-one interviews with individuals within and outside the Chesapeake Bay Watershed in order to test their level of understanding of the materials included in the survey (OMB Control Number 2090-0028). We used this standard protocol to identify the most salient environmental commodities that will be affected by the TMDL. Limiting the survey to those policy outcomes (i.e., water clarity, striped bass,

oysters, blue crabs, and lake water quality) is conservative but we can be confident in the benefits we do capture from the survey.

- 2-5 EPA believes the survey has practical utility, as required by the Paperwork Reduction Act. The results of the study will be made available to state and local governments which they may use to better understand the preferences of households in their jurisdictions and the benefits they can expect as a result of meeting the TMDL. Finally, stakeholders and the general public will be able to use this information to understand the social benefits of improving water quality in the Chesapeake Bay Watershed to accompany the cost information also being developed by EPA. EPA also believes that the survey meets OMB's information quality guidelines. We agree that a number based on a poor quality survey is inferior to no number at all. Therefore, EPA is using standard survey design protocols in the design and implementation of the survey, including extensive focus group and interview testing, a pre-test, and a non-response bias follow-up analysis.
- 2-6 The attributes on the survey (i.e., water clarity, striped bass, oysters, blue crabs, and watershed lake conditions) were chosen because water quality and ecological modeling show that they will be affected by the nutrient and sediment reduction targets in the TMDL. EPA's National Center for Environmental Economics has been working closely with water quality modelers in the EPA Chesapeake Bay Program Office and the Office of Research and Development to quantify the impact of the TMDL on the chosen attributes.

EPA has also been working closely with ecosystem modelers in NOAA's Chesapeake Bay Office and National Marine Fisheries Service's Office of Habitat Conservation. Specifically, NOAA's modelers have provided assistance with the eco-system based fishery models "Ecopath with Ecosim" and "Atlantis." These consultations have been instrumental in examining the ecological impacts of reducing nutrient and sediment loads to the Bay of the ecosystem-based fishery models and will allow EPA to more accurately translate the values people place on the various attributes of the Chesapeake Bay highlighted in the survey to benefits estimates associated with the TMDLs.

- 2-7 The survey is indeed framed in a way to elicit "willingness to pay for generic improvements in water quality." This allows EPA to estimate the parameters for a range of policy outcomes, which will then be used to estimate a "benefits curve." To allow for a range in outcomes, EPA describes conditions in 2025 with the current programs in place and have developed three survey versions with different hypothetical future baseline conditions (i.e., with no additional programs), where environmental quality is increasing, decreasing, or constant, as described in Section 5(b) of Part B of this ICR. The benefits curve will be used to estimate the incremental benefits of the TMDL relative to the most accurate baseline as predicted by the water quality and ecological models developed by EPA and NOAA. Sensitivity analyses will be conducted on the results of the survey to examine the effect of uncertainty in future levels of the environmental conditions, under both the baseline (i.e., without the TMDL) and TMDL scenarios.

Flexibility in the baseline and policy outcomes are important in this case because the Chesapeake Bay TMDL allows for adaptive management and additional offsets if the required nutrient reductions are not being met. So as population in the watershed grows over the future and land use patterns change, these survey data will still be useful in estimating the benefits of nutrient and sediment reductions in the Chesapeake Bay.

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Public Comments and Response

- 2-8 The EPA recognizes that there are other programs and activities that will affect water quality in the Watershed. For this reason we have included an increasing baseline version of the survey to reflect the fact that absent new programs it is plausible that conditions will improve in the Watershed under these existing programs.
- 2-9 Again, the improving baseline version of the survey captures this scenario.
- 2-10 See 2-9.
- 2-11 EPA agrees that improvements to lakes that are not in the Watershed should not be included in the survey. We have made several modifications to the survey instrument to make it clear that only lakes in the Watershed should be considered. First, we have enhanced the map at the beginning of the survey to identify major cities within and outside the Watershed and added the Finger Lakes to the map (which are clearly marked as being outside the watershed). This helps orient respondents who are considering whether or not they “use” (i.e., engage in recreation activities) the Watershed. Second, we clearly describe the Watershed as including lakes and state that water bodies outside of the Watershed will not be affected by the programs. Finally, we include a follow-up question designed to test their level of understanding that conditions in lakes outside the watershed will not be affected by the programs described by the survey.
- 2-12 In addition to providing an enhanced map of the Watershed we identify which sampled households are in the Watershed and which are not. Respondents will be told in the cover letter of the survey if their home address is inside or outside the watershed. See Attachments 5 and 6 for examples of the cover letters.
- 2-13 The survey scenarios were designed based on the goal of illustrating hypothetical but realistic policy scenarios that “span the range over which we expect respondents to have preferences, and/or are practically achievable” (Bateman et al. 2002, p. 259). In the survey these scenarios are framed as generic policies in order to estimate the range of benefits for water quality improvements. These benefit estimates will then be used to estimate the incremental benefits of the TMDL relative to the baseline (see response 2-7).
- The survey provides examples of sources of nutrients, including fertilizers, livestock manure, and household wastewater. The list is not intended to be comprehensive. As stated above, different versions of the survey have different baseline assumptions, which will be used in the statistical analysis to reflect the fact that future conditions in the Bay, absent new programs, are uncertain. EPA agrees that this baseline uncertainty stems, at least partially, from the fact that the TMDL does not impact other sources of nutrients and sediments, including air disposition from outside the watershed, sediments, and hurricanes and ocean currents.
- 2-14 While the sequence of implementation is unknown the experimental design allows EPA to estimate benefits for a range of outcomes.
- 2-15 We have added information on page 11 of the survey to inform respondents that programs will be implemented over time, with full implementation occurring in 2025.

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Public Comments and Response

- 2-16 A separate analysis of the costs of implementing the TMDLs is being developed by EPA's Chesapeake Bay Program Office and will be available upon the completion of peer review.
- 2-17 EPA agrees and a version of the survey with an increasing baseline is now included in the Information Collection Request.
- 2-18 EPA agrees and does not intend to add the total monetized benefit results from this study with results from other studies, such as those that use revealed preference methods. The results from this study can be used to isolate nonuse values or used alone as a measure of total monetized benefits.
- 2-19 EPA carefully reviewed the survey instrument and has corrected typos.
- 2-20 Please see Section 2(b) of Part B of the ICR for the sampling methodology.
- 2-21 EPA is using state-of-the-science methods to assess the benefits of the TMDL for the Chesapeake Bay. As such EPA believes that the results will provide useful information to the public and decision makers on how society values improvements in environmental conditions in the Chesapeake Bay.

Attachment 16
Public Comments and Response

 Food & Water Watch • 1616 P St. NW, Suite 300 • Washington, DC 20036
T +202.683.2500 • F +202.683.2501 • www.foodandwaterwatch.org



Dr. Natalie Simon
National Center for Environmental Economics
Office of Policy (1809T)
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460

Electronically to: oei.docket@epa.gov

Re: Valuing Improved Water Quality in the Chesapeake Bay Using Stated Preference Methods

August 24, 2012

Dear Dr. Simon:

3-1

The non-profit consumer advocacy organization Food & Water Watch respectfully submits the following comments to the U.S. Environmental Protection Agency on the new proposal to collect information on Willingness to Pay (WTP) for Chesapeake Bay Total Maximum Daily Load (TMDL) implementation. Food & Water Watch opposes the proposed survey on WTP. We believe that WTP surveys are inherently problematic in environmental rulemaking, that collective decisions, as embodied in rulemaking, are incompatible with individual, independent valuations. Most important, since the Bay TMDL includes a Water Quality Trading component, the entire cleanup plan is so flawed that moving forward with this undergirding document is a misplaced and mistimed priority.

3-2

WTP surveys attempt to put a price on a hypothetical. In this case, the hypothetical product is a cleaner Chesapeake Bay. The proposed study would try to assess WTP from three different populations: one-third each from states and the District of Columbia lying on the Chesapeake Bay, states in the watershed, and additional East Coast states not in the Bay watershed.¹ Using survey responses, the Agency proposes to calculate WTP from the survey responses.²

3-3

Unfortunately, these calculations are subject to significant doubt. Asking about WTPs for complex items, such as environmental and public goods usually seen by respondents as free, is challenging, and can lead to misestimating WTP.³

3-4

Indeed, the very idea of a WTP determination via survey is problematic. In one survey, the WTP was the same no matter the size of the environmental problem being investigated. This suggests that, rather than measuring the willingness to pay, the survey was measuring primarily the “warm glow” effect of declaring support for an environmental goal.⁴

3-5

There are many examples of the absurdity of WTP. One paper estimated that, on average, households were willing to pay up to \$70 annually for protection of the spotted owl in 1993.⁵ In constant dollars, this amount represents almost \$109 in 2011.⁶ There are approximately 100 million U.S. households, which would imply a total U.S. willingness to pay of over \$10 billion just to protect the spotted owl. Given that the total FY 2012 budget

request of the EPA was only \$8.973 billion,⁷ which is to protect all environmental interests in the U.S., it's clear the results of WTP surveys don't actually represent what they claim to represent, and that the proposed survey will not measure what it claims to measure.

3-6

Moreover, WTP analyzes the goal of clean water from the wrong perspective. Clean water is a societal goal that has some personal impacts. It is qualitatively different from other purchasing decisions we might make. As Nobel Prize winning economist Amartya Sen points out, a consumer's decision on purchasing a brand of toothpaste has no bearing on what everyone else does, nor is it effected by everyone else's purchasing decision.⁸ In contrast, societal spending decisions, as on environmental policy, is inextricably bound with every other person's spending. One person's willingness to spend is contingent on everyone else spending that same amount, since it's unreasonable to think that one person could clean up the Chesapeake.⁹ Yet the WTP survey supposes that it's reasonable to make environmental policy from this skewed perspective.

3-7

Finally, the WTP survey is part of a plan to implement a water quality trading scheme for the Chesapeake Bay.¹⁰ It is the position of Food & Water Watch that this scheme is both bad policy and legally incompatible with the Clean Water Act (CWA). The CWA set a strong and simple standard that polluting is illegal, and that the national goal is *zero* discharge of pollution into our public waterways.¹¹ A water quality trading scheme, which trades pollution "rights," is incompatible with this national goal.

3-8

Moreover, nothing in the CWA allows this kind of trading. All discharges under the CWA must be authorized by a permit.¹² Water quality trading schemes undermine these permits. A WTP survey that is used to advance an illegal trading regime is a poor use of the resources of the EPA.

3-9

The Chesapeake Bay is the largest estuary in the United States.¹³ Its common value is immense. Clean water is a goal of the nation, not a commodity to be priced and sold according to the vicissitudes of a market survey.

3-10

Food & Water Watch commends the EPA for its focus on clean water for all, but requests that the focus remain on the steps that have already come so far in reducing pollution in the Bay: vigorous enforcement of existing Clean Water Act regulations and strengthening those regulations.

Sincerely,



Wenonah Hauter
Executive Director
Food & Water Watch

¹ “Supporting Statement for Information Collection Request for Willingness to Pay Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-Test and Implementation: Part A.” Document number EPA-HQ-OA-2012-0033-0006. June 8, 2012, at 14.

² “Supporting Statement for Information Collection Request for Willingness to Pay Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-Test and Implementation: Part B.” Document number EPA-HQ-OA-2012-0033-0009 June 22, 2012, at 16-18.

³ Brown, Thomas C. et al. “Which Response Format Reveals the Truth about Donations to a Public Good?” *Land Economics*. May, 1996, 72 (2) at 164.

⁴ Diamond, Peter A. and Jerry A. Hausman. “Contingent Valuation: Is some number better than no number?” *Journal of Economic Perspectives*. Vol 8, Number 4, Fall 1994, at 51.

⁵ Loomis, John B. and Douglas S. White. “Economic benefits of rare and endangered species: summary and meta-analysis.” *Ecological Economics*. Volume 18 (1996), at 199.

⁶ Food & Water Watch Calculation using US BLS - Bureau of Labor Statistics, Consumer Price Index, All Urban Consumers - 1913-2010, 1982-84=100.

⁷ United States Environmental Protection Agency. “FY 2012 EPA Budget in Brief.” Publication Number EPA-190-S-11-001. February 2011, at 1.

⁸ Sen, Amartya. “The discipline of cost-benefit analysis.” *Journal of Legal Studies*. Volume XXIX, June 2000, at 949.

⁹ Sen, Amartya. “The discipline of cost-benefit analysis.” *Journal of Legal Studies*. Volume XXIX, June 2000, at 950.

¹⁰ “Supporting Statement for Information Collection Request for Willingness to Pay Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-Test and Implementation: Part A.” Document number EPA-HQ-OA-2012-0033-0006. June 8, 2012, at 3.

¹¹ Federal Water Pollution Control Act. (33 U.S.C. 1251 et seq., [As Amended Through P.L. 107-303, November 27, 2002]) Title I, Section 101 (a).

¹² See, e.g., Federal Water Pollution Control Act. (2002), Section 402, which lists acceptable permitting options for point source discharges.

¹³ Bratton, John F. et al. “Birth of the Modern Chesapeake Bay Estuary Between 7.4 and 8.2 Ka and Implications for Global Sea-Level Rise.” *USGS Staff -- Published Research*. Paper 285. January 1, 2003, at 1.

RESPONSES TO COMMENT SET 3: Food and Water Watch

- 3-1 Thank you very much for the detailed comments. Stated preference surveys (or surveys to measure WTP) have been used by a variety of federal agencies to assess the benefits of regulations and federal activities (see, for example, NOAA 2002; USEPA 2008, 2009a; U.S. Bureau of Reclamation 2012). The use of stated preferences studies (i.e., WTP studies) is consistent with EPA's peer-reviewed *Guidelines for Preparing Economic Analyses* (USEPA 2010) and OMB Guidelines, Circular A-4 (OMB 2003). The use of a choice experiment design is consistent with standard practice in the peer-reviewed literature for valuing environmental resources (see Freeman 2003; Bennett and Blamey 2001; Louviere et al. 2000). The individual choices reflected in each household survey response are aggregated with other household responses to estimate a total value for the resource. The stated preference survey is not part of a water quality trading plan, nor will the results of the survey be used to develop a trading plan. The survey is designed to estimate the welfare impacts of water quality improvements and will have no bearing on how those improvements are achieved.
- 3-2 No response required.
- 3-3 We agree that the Bay is a complex resource and estimating a total value is challenging. EPA conducted 10 focus groups and 72 one-on-one interviews with individuals within and outside the Watershed. These standard protocols allowed for testing of individual's understanding of the materials included in the survey instrument. This approach was used to identify the most salient environmental resources that will be affected by the TMDL. Limiting the survey to those outcomes (i.e., water clarity, striped bass, oysters, blue crabs, and water quality of lakes in the watershed) is conservative, but means that we are more confident in the benefits we do capture from the survey.
- 3-4 The study that is referenced (i.e., a citation in Diamond and Hausman 1994 to Desvousges 1993) is almost 20 years old and uses methods that are no longer considered standard (e.g., use of convenience samples). It is standard to include debriefing questions to capture various biases that may appear in survey responses, such as "warm glow." As such we have included questions to capture respondents who may be responding in such a way.
- 3-5 The study that is referenced (i.e., Loomis and White 1996) is a meta-analysis based on older studies, many of which were unpublished or not peer-reviewed. While examples of implausible survey results exist, including appropriate debriefing questions, use of focus groups, and pre-testing reduces such occurrences. This project is based on current survey design methods reflecting careful design choices. In addition, the survey instrument will be pre-tested with a small sample to determine whether or not responses are plausible and consistent with economic theory.
- 3-6 Stated preference surveys capture individual preferences for public goods, that is environmental resources that are shared by all. The choices individuals make in the experimental setting reflect the trade-offs, or preferences, for that individual between environmental improvements and costs. By examining and aggregating individual preferences or choices using the analytical methods described in Section 5 of Part B of this ICR, the researcher (i.e., EPA) is able to discern a value from the sample of individual choices for the various environmental improvements (also called "attributes") in the survey. The survey clearly states that many households are being asked about their preferences and choices, and therefore does not imply that any one person would be solely responsible for the program choices.

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Public Comments and Response

3-7 and 3-8

The stated preference survey is not part of a water quality trading plan, nor will the results of the survey be used to develop a trading plan. The survey is designed to estimate the welfare impacts of water quality improvements and will have no bearing on how those improvements are achieved.

3-9 Stated preference surveys are routinely used in federal agencies to estimate the value of non-market goods (see, for example, U.S. EPA 2008, 2009a; U.S. Bureau of Reclamation 2012). It is not a method to determine a “price” for a good to be sold, but rather a method to reflect society’s value of the resource. There are no plans to “sell” the Chesapeake Bay.

3-10 Enforcement remains an important and relevant goal of the EPA.

B.

Second Round of Public Comments to 78 FR 9045

Open Feb 7, 2013

Closed March 11, 2013

Comments:

4) Coalition of 23 Interest Groups

5) Utility Water Act Group

March 11, 2013

**Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th Street, NW
Washington, D.C. 20503
Attention: Desk Officer for EPA**

(filed by email to oir_submission@omb.gov)

**EPA Docket Center
Environmental Protection Agency
Mailcode 28221T
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460**

(filed online via <http://www.regulations.gov>)

**Re: Information Collection Request Submitted to OMB for Review and Approval;
Comment Request; Willingness To Pay Survey for Chesapeake Bay Total
Maximum Daily Load: Instrument, Pre-Test, and Implementation
Docket ID No. EPA-HQ-OA-2012-0033**

Dear Sir or Madam:

The undersigned organizations are pleased to file comments on the above-referenced Information Collection Request (ICR).

Many of the undersigned organizations submitted comments on July 23, 2012, on an earlier version of this ICR. Those comments are incorporated herein by reference. This letter focuses on EPA's response (or failure to respond) to those comments.

First, we fundamentally disagree that EPA's proposed ICR meets the requirements of the Paperwork Reduction Act. In particular, EPA cannot claim that surveys that include questions on a "willingness to pay" for generic environmental benefits are needed to estimate the value of benefits associated with the December 2010 Chesapeake Bay TMDLs when EPA has provided no record evidence that the TMDLs will result in such benefits.

Second, EPA cannot issue a survey that makes statements that are demonstrably false or unsupported by anything in EPA's record.

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1. Need for and Use of the Information Collection is not related to the Chesapeake Bay TMDLs.

In its supporting statement for this ICR, EPA claims that the use of this ICR is “to estimate the total values of benefits of the nutrient and sediment TMDLs designed to meet the requirements of Executive Order 13508.” Supporting Statement, at 5.

EPA plans to use the results of this stated preference survey to estimate the net welfare impacts of the Chesapeake Bay TMDLs. Specifically EPA will use the survey results to estimate values for improvements in Bay and for reduced algae in watershed lakes *under measures taken to meet the TMDLs*.

4-1a

Supporting Statement, at 6 (emphasis added). EPA claims the ICR is needed because there are “no studies *specifically addressing the environmental improvements predicted under the TMDLs*.” *Id.* (emphasis added).

However, in response to our July 23, 2012, comments, EPA admits that surveys are designed to elicit a willingness to pay for *generic improvements in water quality*. Responses to Comment Set 2, comment 2-6 (emphasis added); Supporting Statement, at 13. The surveys are not designed to address environmental improvements from measures taken under the Chesapeake Bay TMDLs.

This issue is particularly acute due to the fact that the surveys combine hypothetical benefits associated with lakes in the Chesapeake Bay watershed with hypothetical benefits to the Bay itself. In our July 23, 2012, comments, we pointed out that EPA’s TMDL models do not predict any benefits associated with watershed lakes. In response, EPA claims that “EPA and NOAA models predict that these features will be affected by the TMDLs.” Supporting Statement, at 14. However, there is no information in the record for either the Chesapeake Bay TMDLs or the proposed ICR that support this statement. EPA’s TMDL models predict water quality outcomes in the 92 segments of the Bay. NOAA has no jurisdiction over and does not address freshwater lakes. The surveys themselves cite a “Northeast Lakes Model developed by EPA’s Office of Research and Development” as the source of the forecast for year 2025. As noted in footnote 5 of our July 23, 2012, comments, EPA has not made this model available and ORD itself has not attempted to assign TMDL benefits to lakes in its own study of ecosystem services provided by Chesapeake Bay restoration activities.

4-1b

For these reasons, the surveys proposed do not address EPA’s stated need and cannot be used for the purposes identified in EPA’s Supporting Statement. Thus, EPA cannot demonstrate that the surveys have practical utility.

2. We appreciate the fact that EPA has included an “increasing baseline” survey.

4-2

In our July 23, 2012, comments we noted that current pollution reduction programs are already leading to improvements in water quality in the Chesapeake Bay and that these programs are unrelated to the Chesapeake Bay TMDL. EPA has now included an “increasing baseline” survey.

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We appreciate the inclusion of this survey, which more accurately reflects what is happening in the Chesapeake Bay watershed.

3. In the draft surveys EPA is proposing to disseminate information on current and future conditions in the Chesapeake Bay and watershed lakes that is not accurate or not supported.

a. Current conditions.

4-3a | EPA's cover letter states that the survey describes current conditions. This claim is repeated in each of the survey instruments on page 3. However, the numbers in the survey instrument are not accurate. For example, the survey lists the blue crab population at 250 million crabs. According to EPA's Chesapeake Bay Program Office, in 2012, the Bay's blue crab population was 764 million.

4-3b | The surveys also provide no context for their description of current conditions of the Bay fisheries. For example, while the surveys do not characterize the levels of striped bass or blue crabs as high or low, the surveys also do not inform the respondent that current populations of striped bass and blue crabs exceed targets established by fishery managers. At page three, the surveys say that the oyster population today is "low." However, no context is provided for that subjective statement, such as the impact of high rainfall in 2012 on the salinity of the Bay, a condition that is unrelated to nutrient and sediment pollution. In fact, at page 3, the respondents are given the false impression that conditions in the Chesapeake Bay are entirely related to nutrient and sediment pollution.

4-3c | The same issue arises in the survey description of lake conditions. EPA provides no information to support its claim that 2,900 out of 4,200 lakes in the watershed have low algae levels.

b. Conditions in 2025.

4-3d | All three surveys include on page 3 a footnote that: "Forecasts for the year 2025 are based on monitoring data from the Chesapeake Bay Watershed and Estuary Models developed by the EPA and state and federal partners." In response to our comment on this issue at page 5 of our 2012 comments, EPA stated that it is merely estimating "benefits from a range of outcomes." However, a recipient of the survey would be misled into thinking that the statement of conditions in 2025 was an actual EPA estimate. The same issue arises with the predicted number of lakes with low algae levels in 2025. That statement includes a footnote on page 4 that states: "Forecasts for the year 2025 are based on measures from the Northeast Lakes Model developed by EPA's Office of Research and Development." These footnotes must be removed and the survey must be revised to inform respondents that the conditions described in 2025 are hypothetical, not actual. Without that explanation, EPA will be knowingly disseminating inaccurate information to the public. At a minimum, that action would violate EPA's Information Quality Guidelines.

4-3e | In addition, EPA must include in the docket for this ICR all models that it purports to rely upon to support statements in the surveys. It is unclear what Chesapeake Bay Watershed and Estuary

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models are the alleged basis for EPA's forecast for Bay conditions.¹ Further, as noted in footnote 5 of our 2012 comments, the Northeast Lakes Model is not publicly available.

4. The survey authors do not appear to understand what “full implementation” of the TMDL means.

At page 5 of our 2012 comments we noted that it was important for respondents to understand the length of time before water quality improvements will be realized. It appears that it also is important for the drafters of the survey to understand this. In response to this comment, EPA states that: “We added information to the survey to inform respondents that programs will be implemented over time, with full implementation occurring in 2025.” Responses to Comment Set 2, comment 2-15. Full implementation of the TMDL merely means that measures to achieve reductions will be in place. It does not mean that water quality benefits will be achieved. In fact, it takes decades to even measure water quality benefits from measures such as nonpoint source controls and factors such as existing in-stream sediment loads can make such controls irrelevant.

This fact makes EPA's hypothetical “conditions in 2025” statements even more unrealistic. This fact also undermines the utility of the survey for the purpose of evaluating a willingness to pay for water quality benefits. If the public was aware that the benefits ascribed in the surveys would not be realized for decades beyond 2025, their willingness to pay could be affected.

5. If EPA does not remove watershed lakes from the survey then any “complementary” cost analysis must estimate the cost of implementing controls throughout the entire 64,000 square mile watershed.

In response to a comment that the costs assumed in the surveys do not reflect actual costs of the Chesapeake Bay TMDLs, EPA states: “A complementary study of the costs of the TMDL is being conducted by EPA's Chesapeake Bay Program Office and will be issued by EPA after a peer-review is complete.” Supporting Statement, at 14. If EPA proceeds with stated preference surveys that combine hypothetical benefits associated with lakes in the Chesapeake Bay watershed with hypothetical benefits to the Bay itself, then any “complementary” study of the costs of the TMDLs must be equally expansive. Such a cost study must include the costs of implementing nutrient and sediment controls on every municipal stormwater system, every discharger to every lake, and every acre of land in the watershed, if the benefits described in the proposed ICR are going to be ascribed to the Chesapeake Bay TMDLs.

¹ EPA plans to revise the models used to develop the Bay TMDL and admits that they are not accurate. For example, at the May 2012 North Carolina Forum on Nutrient Over-Enrichment, Rich Batiuk (EPA, Chesapeake Bay Program) said that: “Stream and shoreline erosion, we blame our farmers still in our modeling systems, etcetera, for a lot of that shoreline -- that dirt that comes down there. It's actually in our floodplains already.” <http://portal.ncdenr.org/web/wq/ps/csu/nutoverenrichmentforum> . This inaccuracy means that the TMDL may be targeting the wrong sources and modeled benefits may not be realized.

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Conclusion

For all of the foregoing reasons, OMB should deny EPA's request for approval of the above-referenced ICR. The surveys will have no practical utility and will not meet the requirements of OMB's information quality guidelines for utility, integrity and objectivity. OMB should not allow EPA to impose a total burden of more than 7,800 hours and incur a federal cost of nearly \$1 million for such an ICR.

Sincerely,

American Farm Bureau Federation
American Forest & Paper Association
Agricultural Retailers Association
CropLife America
Delaware Maryland Agribusiness Association
Empire State Forest Products Association
The Fertilizer Institute
National Alliance of Forest Owners
National Association of Home Builders
National Cattlemen's Beef Association
National Council of Farmer Cooperatives
National Pork Producers Council
National Turkey Federation
Pennsylvania Forest Products Association
Southern Crop Production Association
U.S. Cattlemen's Association
US Poultry & Egg Association
Virginia Agribusiness Council
Virginia Farm Bureau Federation
Virginia Forestry Association
Virginia Poultry Federation
Western Business Roundtable
Wyoming Ag-Business Association

cc: Jim Laity, OMB
Al McGartland, EPA

RESPONSES TO COMMENTS SET 4: Coalition of 23 Interest Groups (C23)

- 4-1a. The purpose of the survey is to value water quality improvements of the type that are expected to result from the Chesapeake Bay TMDL. While the survey does not refer to Executive Order 13508 or the Chesapeake Bay TMDLs by name, the range of improvements on the survey cover the improvements predicted by the Chesapeake Bay Watershed models under the TMDLs. Describing the policy behind the water quality improvements introduces unnecessary “policy jargon” and would require several more pages of text in the information section of the survey. In order to maximize response rates we are keeping the burden placed on the respondent as low as possible by limiting the information sections of the survey to what respondents need to know to answer the choice questions. So, while the survey does not discuss the Chesapeake Bay TMDLs by name it is well suited to estimate benefits from the resulting water quality improvements.
- 4-1b. The Northeast Lakes model was designed specifically to model changes in the eutrophication of freshwater lakes as the result of management practices aimed at improving the water quality of coastal estuaries. Combining data from the National Lakes Assessment and results from the Spatially Referenced Regressions On Watershed Attributes (SPARROW) nutrient models, the Northeast Lakes model uses nutrient loads to watershed streams and rivers to forecast eutrophication of lakes in the watershed. The Northeast Lakes Model places every lake in the Chesapeake Bay watershed into one of four eutrophication categories. The “low algae growth” lakes on the survey refer to the lower three categories. The Northeast lakes model is described in more detail in Moore et al. (2011) and Booth et al. (2011).
- 4-2. No response needed.
- 4-3a. The discrepancy between the 764 million number quoted in the comment and the 250 million number used on the survey is due to the inclusion of juvenile crabs in the larger number. EPA chose to use the adult spawning population for three reasons. (1) It is more stable from year to year than the total population because of the vulnerability of juvenile crabs to a variety of environmental factors including temperature. (2) The adult population is considered to be the harvestable stock and will support the recreational fishery. (3) The adult population, particularly the females, is related to the number of young crabs that can be produced each year and is an important indicator of the health of the stock. (Maryland DNR, <http://dnr.maryland.gov/fisheries/crab/dredge.asp>) Page 3 of the survey been revised to clarify that the population refers to adult crabs.
- 4-3b. Describing the relevant context for the current conditions and providing respondents references to target levels set by fishery managers is very important. This language was tested in focus groups and commented on by the external peer reviewers. The survey was revised in response to feedback from respondents about the levels and targets, what they mean, and how they were determined. External peer reviewers reinforced the idea that policy benchmarks do not necessarily help respondents better understand attribute levels. Conditions in the recent past, which respondents can understand and relate to recent experiences, provide a more objective and grounded reference point for respondents to decide what choices are best for them and their household. Therefore on page 3 of the survey, information is provided on conditions in the early 1990s, with current conditions provided in relation to this marker. In addition, the early 1990s is the time at which data started being collected at regular intervals on all the choice question attributes.

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Public Comments and Response

- 4-3c. The current number of lakes with low algae levels is based on the results of the Northeast Lakes Model (see response 1b) which uses EPA's National Lakes Assessment (http://water.epa.gov/type/lakes/lakesurvey_index.cfm) to characterize eutrophication levels and algae growth in freshwater lakes.
- 4-3d. Focus group testing of the survey showed that documenting the source of the predictions for policy and baseline scenarios improved the credibility and consequentiality of the choice questions. Focus group participants wanted to know the source of the information on the survey. Removing the documentation for these predictions and replacing it with a description of those predictions as "hypothetical" would undermine the credibility of the survey instrument, the consequentiality of the choice questions and produce less reliable results. However, to reinforce the point that the estimates are not certain we have revised the survey to refer to these estimates as "predictions," a term more commonly used for modeled outcomes than "forecast."
- 4-3e. We have added Attachment 14 to the docket that describes how attributes in the choice questions were modeled and includes documentation for all models used to predict attribute levels under baseline and policy conditions.
- 4-4 EPA is aware that some management practices specified in the Watershed Implementation Plans will not reach their full effectiveness for many years after implementation and EPA will be explicit about those time lags in the benefit analysis. How to address such time lags is an important and often-encountered challenge in stated preference study design and an active area of research.

It is generally accepted practice in the stated preference literature to provide stylized information on the timing of the benefits, estimate WTP for a certain outcome, and then perform ex-post discounting and sensitivity analysis to account for longer time lags and uncertainty in the environmental outcomes (e.g., Alberini et al. 2004, Banzhaf et al. 2006, Cameron and DeShazo 2013). In part, this reflects a choice to reduce outcome uncertainty that will be implicit, but not separately observable, in survey responses. Uncertainty in outcomes and differences in timing can then be reflected explicitly in the application of the results.

Such adjustments are, for example, the standard approach to valuing reduced mortality risks at EPA and elsewhere. Estimates of the value of statistical life (VSL) from the economics literature whether from stated preference or revealed preference studies typically focus on immediate risk reductions, but for many policies there is a lag between changes in exposure and changes in risk. Consistent with guidance from OMB and EPA, these existing VSL estimates are discounted appropriately to account for the differences in timing between the study and the policy scenarios.

Still, there are reasons to favor describing a longer time frame for the realization of benefits associated with policy actions in the survey instrument for this case. First, using a shorter time frame requires strong assumptions regarding respondents' discount rates and their perception of the transition of the survey attributes to long term levels. In addition, using a shorter timeframe for environmental improvements would be changing aspects of the policy that may be welfare relevant and could therefore affect willingness to pay.

In light of these factors and to ensure the most rigorous analysis possible, EPA will employ a split sample design. Consistent with TMDL requirements, all surveys will make clear that practices are put in place by

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2025, but the year for which improvements are characterized, the “reference year,” will vary. Half of the sample will receive the original version of the survey in which 2025 is the reference year for the attribute levels. The other half of the sample will receive a survey that uses 2040 as the reference year. EPA will discount WTP estimates from the 2025 version of the survey to make them comparable to 2040 estimates and provide a range generated by two valid but different approaches to stated preference study design.

We will include debriefing questions on all surveys to test for scenario rejection of the type we encountered in focus groups. If the pretest results show that a disproportionate number of respondents reacted negatively to either reference year we will reconsider the split sample design for the full survey.

- 4-5. The complementary cost analysis that EPA is conducting is taking into account all management practices that are incremental to the Chesapeake Bay TMDL, including those in the greater watershed.



HUNTON & WILLIAMS LLP
RIVERFRONT PLAZA, EAST TOWER
951 EAST BYRD STREET
RICHMOND, VIRGINIA 23219-4074

TEL 804 • 788 • 8200
FAX 804 • 788 • 8218

MIRANDA R. YOST
DIRECT DIAL: 804 • 788 • 8572
EMAIL: myost@hunton.com

FILE NO: 29142.070006

March 11, 2013

Via Federal eRulemaking Portal
(<http://www.regulations.gov>)

EPA Docket Center
Environmental Protection Agency
Mail Code: 28221T
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Attention Docket ID No. HQ-OA-2012-0033

Ladies and Gentlemen:

Enclosed are the comments of the Utility Water Act Group on EPA's "Information Collection Request Submitted to OMB for Review and Approval; Comment Request; Willingness to Pay Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-test, and Implementation," at 78 Fed. Reg. 9,045 (February 7, 2013). We appreciate the opportunity to comment and hope these comments prove helpful to EPA.

Very truly yours,

Miranda R. Yost

Enclosure

cc: Office of Management & Budget (via email)



**COMMENTS OF THE UTILITY WATER ACT GROUP
ON EPA'S INFORMATION COLLECTION REQUEST
SUBMITTED TO OMB FOR REVIEW AND APPROVAL;
COMMENT REQUEST; WILLINGNESS TO PAY SURVEY
FOR CHESAPEAKE BAY TOTAL MAXIMUM DAILY LOAD:
INSTRUMENT, PRE-TEST, AND IMPLEMENTATION
78 FED. REG. 9045**

**Submitted to United States Environmental Protection Agency
Docket No. EPA-HQ-OA-2012-0033**

March 11, 2013

The Utility Water Act Group (UWAG)¹ welcomes the opportunity to comment on the Environmental Protection Agency's (EPA's) Information Collection Request on valuing improved water quality in the Chesapeake Bay using stated preference methods (Bay ICR). To begin with, we are concerned that EPA is (i) inviting these comments while simultaneously seeking Office of Management and Budget (OMB) review and approval, without first providing the public with a complete record, (ii) taking comments on the Bay ICR in light of that record, and (iii) considering and responding to those comments before deciding whether to submit the ICR to OMB, and if so, in what form and with what qualifications.² Furthermore, for the reasons described below, we continue to believe that the stated preference survey proposed in the Bay ICR is not necessary or appropriate.

The Bay ICR Suffers Basic Procedural Problems

The untimely submittal of the Bay ICR to OMB for approval, without first providing an adequate record, inviting comments in light of that record, and responding to the

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¹ UWAG is a voluntary, *ad hoc*, non-profit, unincorporated group of 195 individual energy companies and three national trade associations of energy companies: the Edison Electric Institute, the National Rural Electric Cooperative Association, and the American Public Power Association. The individual energy companies operate power plants and other facilities that generate, transmit, and distribute electricity to residential, commercial, industrial, and institutional customers. The Edison Electric Institute is the association of U.S. shareholder-owned energy companies, international affiliates, and industry associates. The National Rural Electric Cooperative Association is the association of nonprofit energy cooperatives supplying central station service through generation, transmission, and distribution of electricity to rural areas of the United States. The American Public Power Association is the national trade association that represents publicly-owned (units of state and local government) energy utilities in 49 states representing 16 percent of the market.

² Without such improvements, EPA and OMB review of the Bay ICR will remain fundamentally flawed and inconsistent with the open, deliberative rulemaking requirements of Executive Order 13563, at 76 Fed. Reg. 3821 (Jan. 21, 2011) and ICR requirements of the Paperwork Reduction Act, at 44 USC 3506(c)(2)(A) and 3507(b).

comments, is just the latest in a series of procedural defects associated with this Bay ICR. The Bay ICR proceeding has been flawed from the outset. EPA first issued notice of the Bay ICR on January 27, 2012. However, EPA failed to provide any of the relevant supporting materials before the close of the first comment deadline on March 27, 2012. UWAG submitted comments to this effect on March 20. EPA ultimately issued a second and third notice of the proposed Bay ICR on May 24, 2012 and July 26, 2012, respectively.

Unfortunately, EPA's second and third efforts suffered from the same procedural defect as the first – the supporting record was incomplete. UWAG submitted comments to this effect on July 18 and August 27, respectively. Now, EPA is moving forward with seeking OMB approval of the Bay ICR. Still, however, the supporting record remains incomplete because the Agency has failed to provide much of the documentation underlying the development of its proposed survey. For example, EPA says it conducted ten focus groups and seventy-two protocol or “cognitive” interviews in developing the survey, but the Agency provides no transcripts or other documentation of results from those efforts. *See* Supporting Statement for the Information Collection Request for Willingness to Pay Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-test, and Implementation, Part A (Part A), p. 20, and Part B (Part B), pp. 49, 56.

The Agency also says the survey instrument was peer reviewed by three scholars (Part A, p. 16), but none of their comments is in the record. And EPA says it worked with modelers from the National Oceanic and Atmospheric Administration (NOAA) to examine “the ecological impacts of reducing nutrient and sediment loads to the Bay” (Part A, p. 16), but EPA has not made available any of the information resulting from that collaboration, or any of the other “useful background” EPA says NOAA provided for the survey. It is

important for EPA to provide all of this information to the public, in order to ensure a full and fair chance to evaluate the validity of the survey instrument and the proposed analytical framework for any survey results.

In response to UWAG's August 2012 comments regarding the various support documents not provided, EPA responded that the Agency "extended the comment period by 30 days in order to accommodate review of supporting materials." But the extension is meaningless without access to the underlying record, which remained incomplete throughout the extended comment period. EPA Response to Comments (RTC) Attachment 13 at 1-2. We find it troubling that even EPA's RTC Attachment 13 (the Response to Comment document itself), was unavailable for public review at the start of the current comment process, and, despite our repeated docket reviews and an email to an Agency contact, we were not able to obtain it until mid-way through the comment period on February 22nd.

Needless to say, a public comment process cannot be meaningful where an agency withholds the supporting record for its proposed action. It is fundamentally unfair to start the clock on the comment process before all of the supporting materials have been revealed. *See e.g., Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 393 (1973) ("It is not consonant with the purpose of a rule-making proceeding to promulgate rules on the basis of inadequate data, or on data that, [to a] critical degree, is known only to the agency"). Moreover, it is wholly inappropriate for EPA to move forward with requesting OMB approval of the Bay ICR while all supporting materials are not yet available and EPA has not had an opportunity to consider all comments it might receive in response to those materials and the latest Bay ICR Notice. *See e.g., Conn. Light & Power Co. v. Nuclear Regulatory Comm'n*, 673 F.2d 525 (D.C. Cir. 1982) (An agency must "reveal portions of the technical basis for a proposed rule

in time to allow for *meaningful commentary*” (emphasis added) so that “a genuine interchange” occurs rather than “allow[ing] an agency to play hunt the peanut with technical information, hiding or disguising the information that it employs”). In this proceeding, the series of procedural missteps alone make it inappropriate for EPA to proceed with the Bay ICR.

The Bay ICR is Neither Necessary nor Appropriate

More fundamentally, EPA has not demonstrated that the Bay ICR is necessary or appropriate. In the earlier proceedings, EPA referenced the FY2012 Action Plan (Action Plan) for President Obama’s Executive Order 13508 (Order) as a basis for the ICR. For whatever reason, EPA no longer cites the Action Plan, instead referencing (1) an unspecified Clean Water Act (CWA) mandate that “directs EPA to coordinate Federal and State efforts to improve water quality in the Chesapeake Bay” (78 Fed. Reg. at 9046), (2) an otherwise unsupported claim that policy-makers need to know how their constituents will benefit from already-committed-to nutrient and sediment controls designed to meet the Order (Part A, p. 5), and (3) CWA section 104 authorization of Agency research into methods of analyzing the costs and benefits of programs carried out under the CWA (Part A, p. 6). However, none of these newly minted sources provides any legitimate statutory or regulatory impetus for the Bay ICR.

As EPA well knows, the regulatory proceeding that is most directly relevant to the proposed Bay ICR has already occurred – EPA established a final total maximum daily load (TMDL) for nutrients and sediments in the Chesapeake Bay back in December 2010. Thus, there is no demonstrated need for the Bay ICR. At best, it appears that the Bay ICR is

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intended to serve as a *post hoc* rationalization for the TMDL. At worst, it will impose significant burdens and costs (*e.g.*, 6,967 hours and almost \$1 million in costs for the Agency, not including additional survey respondent burdens and costs) without corresponding benefits to the rulemaking process. Part A, pp. 32-33.

Furthermore, UWAG continues to believe (and literature suggests) that stated preference or “willingness to pay” surveys should be used only where the information is needed in order to inform important policy decisions, and other, more reliable sources of information are unavailable. Here, EPA has already made the underlying TMDL decision, and steps towards implementation are already well underway at the federal and state level. And other, far more reliable sources of information are available for estimating direct and indirect use values. Thus, EPA’s only reason for pursuing this survey approach is to estimate so-called “non-use” values (*i.e.*, purely subjective values that individuals place on knowing that a resource is protected, even if they do not use it or even see it).

However, a previous study by Boekstael et al. (1989), cited in Cropper and Isaac (2011), suggests that non-use values associated with improving the quality of the Chesapeake Bay may not be significant. Furthermore, use of a stated preference survey to measure “non-use” benefits is particularly inappropriate where, as here, the Agency has not shown indicator resources (*e.g.*, water clarity and blue crab) to be unique or limited and the impacts to be substantial or irreversible. *See* attached “Comments on EPA’s Notice of Data Availability for §316(b) Stated Preference Survey,” prepared by NERA Economic Consulting for UWAG (NERA Report), July 2012, pp. E-10, 7 (citing Freeman, A. Myrick III. 2003. *The Measurement of Environmental and Resource Values: Theory and Methods*. 2nd ed. Washington, DC: Resources for the Future). Yet, in response to similar previous comments in

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this proceeding, EPA has failed to demonstrate the unique nature of the selected environmental indicators for the Bay TMDL ICR. *See* RTC 1-6.³ Moreover, EPA has specifically acknowledged a lack of direct connection between the ICR's environmental "attributes" and actual TMDL benefits. RTC 1-8. Thus, there continues to be little or no evidence that use of a stated preference survey here is appropriate, that non-use values are likely to be great enough to warrant a survey of this type, or that the proposed survey is an appropriate means of studying the selected indicators.

The Survey Instrument Itself Has Not Been Demonstrated to Be Accurate

Even assuming that the proposed Bay ICR were properly supported and necessary (which we have disputed above), it would involve a "stated preference" survey approach that is not widely accepted and is prone to substantial bias and other limitations. UWAG appreciates EPA's acknowledgment of certain biases associated with stated preference surveys, including hypothetical bias, yea-saying, and non-response bias. RTC 1-5; *see also* the Guidelines at pp. 7-35 (As the Agency recently acknowledged, "The main disadvantage of stated preference methods is that they may be subject to systematic biases that are difficult to test for and correct"). We also appreciate the Agency's efforts to minimize such bias in the Bay ICR. *Id.* However, UWAG questions whether these Agency efforts (or any others) can overcome the significant biases and limitations inherent to this type of survey.

As an initial matter, until EPA makes available all of the relevant ICR support materials, commenters will be deprived of the opportunity to review and assess certain key

³ In response to comments regarding the impetus for the ICR, EPA mentioned the unique character of the Chesapeake Bay Watershed, as a water source, and the goods and services it provides. RTC 1-3 and 1-4 (referencing Part A pp. 9-10). This general statement does not demonstrate the unique nature of the selected environmental indicators for the Bay TMDL ICR, and raises additional questions regarding appropriateness of study, through the ICR, of the Chesapeake Bay *Watershed* as compared to the Bay itself.

5-5 Agency statements. For example, in support of a revised selection of attributes in the ICR, EPA references focus group and interview results, as well as NOAA modeling. RTC 1-8. As explained above, these materials continue to be excluded from the rulemaking record, despite repeated commenter requests that the Agency make them available. Similarly, EPA references EPA and NOAA models that predict that selected environmental attributes will be impacted, but these models have not been made available. These models are highly

5-6 significant because the validity of a stated preference survey depends on the accuracy of the “options” respondents are offered. Further understanding of the Agency’s rationale for the selected attributes is needed, particularly given EPA’s acknowledgement of the lack of direct

5-7 connection between the ICR and TMDL benefits, as referenced above (RTC 1-8) – prima facie evidence that the Bay ICR is inappropriate – as well as what appears to be inaccurate (or perhaps partial) reference to Part A 3(c) for explanation of survey development protocols background (RTC 1-7).

5-8 Additionally, there is more to a stated preference survey than the survey instrument. Such a survey also involves survey implementation and econometrics analysis procedures. EPA has provided some additional information regarding these stages of the survey, but still does not appear to have sufficiently developed them to support seeking OMB approval, or even meaningful opportunity for comment, at this time. For example, while the survey instrument apparently has been peer reviewed (Part A, p. 16), EPA does not yet appear to have submitted the proposed survey implementation and econometrics analysis approaches for requisite peer review.

EPA is issuing the Bay Survey pursuant to a master OMB approval of generic EPA ICRs related to survey development for economics projects. Supporting Statement for Focus

5-9

Groups as Used by EPA for Economics Projects (EPA ICR No. 2205.01). In seeking this original ICR approval, EPA committed to developing a peer review plan, which was to be more extensive for more influential projects. For example, EPA committed to an external peer review panel for “highly influential projects.” *Id.* at 14. EPA stated that the “panel review could take one of two forms: periodic consultations with experts in the field throughout the survey development process or a panel review of the survey development process in advance of submitting an ICR to OMB should the project advance to that stage.” *Id.* EPA states that it has obtained peer review of the survey instrument (though documentation of the peer reviewers’ full comments is not available in the docket), but does not appear to have a plan for peer review of later stages of Bay Survey development (*e.g.*, implementation and econometrics analysis). In any case, EPA appears to have proceeded prematurely with submittal of the Bay Survey to the OMB without first undertaking peer review of the full Bay Survey, including later stages of development. At a minimum, EPA has not made the necessary determination of whether the Agency considers the Bay Survey a “highly influential project.”

Further, any revisions from subsequent peer review of these procedures cannot be incorporated prior to OMB review, nor considered and commented on at this time. Without such additional information, it is not yet possible to assess to what extent the inherent weaknesses associated with stated preference surveys mentioned above, such as hypothetical bias, might influence the results of the proposed survey.

Finally, the “Information Quality Act” requires EPA to issue guidelines for ensuring and maximizing the “quality, objectivity, utility, and integrity” of information (including statistical information) it disseminates. Pub. Law 106-554 § 1(a)(3) [515]. EPA’s Guidelines

5-10

for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity for Information Disseminated by the Environmental Protection Agency (EPA/260R-02-008 December 2002) are the Agency's attempt to meet this requirement; *see also* EPA Quality Manual for Environmental Programs (CIO 2150-P-01-0 A1 (May 5, 2000)). The point of the Information Quality Act and applicable guidance is to ensure that the agencies do not move forward in cases where the information on which they will rely is too inadequate or unreliable for the task at hand. With its stated preference survey, EPA is attempting to measure people's attitudes with a survey instrument method that is – at best – controversial due to, as discussed above, the procedural flaws associated with the proposed survey and systematic biases associated with the proposed stated preferences survey approach. We continue to believe that any data obtained through the proposed survey would be contrary to the purpose of the Information Quality Act to ensure and maximize the “quality, objectivity, utility, and integrity” of information disseminated by federal agencies. *See* 44 U.S.C. § 3516.

In conclusion, we urge the Agency to abandon the proposed ICR because it is not well founded, unnecessary, inappropriate, burdensome, and unlikely to provide meaningful data.

RESPONSES TO COMMENTS SET 5: Utility Water Act Group (UWAG)

5-1 In accordance with the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), EPA published a notice in the Federal Register on May 24, 2012, announcing EPA's intent to submit this application for a new Information Collection Request (ICR) to the Office of Management and Budget (OMB), and soliciting comments on aspects of the information collection request (See Attachment 7 for a copy of the Federal Register notice, 77 FR 31006). Because certain supporting documents were not available in the docket for public review during the first 30 days of the comment period, EPA re-opened the comment period for an additional 30 days beginning on July 26 (77 FR 43822; Attachment 7). Also see docket # EPA-HQ-OA-2012-0033.

The commenter notes that Attachment 13, the response to comments from the first public comment period, was not posted to the docket when the second public comment period began. However, the supporting statement includes a lengthy summary of the comments and EPA's responses to those comments received. Attachment 13 was made available within 3 days of the submission of the request to docket customer service.

The Agency is required to provide notice in the FR and solicit comment in part to: evaluate whether the collection is necessary for the proper performance of the functions of the Agency; evaluate the accuracy of the Agency's burden estimate; and enhance the quality, utility, and clarity of the information to be collected. The PRA does not require access to the additional underlying documents requested and therefore, the Agency has met its obligations under the PRA.

However, at the request of OMB EPA is posting additional materials to the docket to supplement the public record. Reports on focus groups and cognitive interviews conducted during the survey development phase and a report from peer review of earlier drafts of the survey instrument have been posted to the docket.

5-2 EPA again refers the commenters to section 2(a) and 2(b) in Part A of the ICR for a discussion of the purpose of the ICR. In particular as stated in this section, states and their congressional representatives have expressed a desire to know how practices that reduce nutrients and sediment will benefit their constituents (see, for example, page 55 of US Congress 2011).

5-3 EPA would like to reiterate that the estimates from this stated preference study will be used in conjunction with a broader benefit-cost analysis that utilizes several of the other non-market valuation approaches referred to by UWAG, including recreational demand and hedonic property value methods. However, as stated in the ICR Part A Section 2(a) and in the literature¹, only stated preference methods can capture non-use values.

It is impossible to know the magnitude of nonuse values prior to conducting this study, hence the need for the stated preference study proposed in this ICR. While information is available in Bockstael, McConnell and Strand (1989) on the potential value of water quality improvements in the Watershed,

¹ For example, we refer the reader to A. Myrick Freeman's book referenced by UWAG in their comments: Freeman, A. Myrick III. 2003. *The Measurement of Environmental Resource Values: Theory and Methods*. 2nd ed. Washington, DC: Resources for the Future.

the study is based on a small sample of Bay-area residents, and provides limited information on a broader set of benefits attributable to water quality improvements.

EPA believes that a stated preference study to measure non-use benefits is particularly appropriate in the context of the Chesapeake Bay. Similar to the Grand Canyon (as referenced in UWAG's attached "Comments on EPA's Notice of Data Availability of 316(b) Stated Preference Survey), the Chesapeake Bay is an extremely unique resource. For example, it is the largest estuary in North America.² Although water clarity and blue crab in general are not necessarily unique resources, water clarity in the Chesapeake Bay, and blue crab populations in the Chesapeake Bay, are unique.

Finally, UWAG's claim that "EPA has specifically acknowledged a lack of direct connection between the ICR's environmental attributes and actual TMDL benefits," is misplaced and stems from a fundamental misunderstanding of the referred to response 1-8, and to conjoint choice methods more generally. EPA again refers the commenters to the previous response 1-8. To reiterate, the basic purpose of the stated preference survey is to estimate a range of values associated with different scenarios. Using respondents' choices in the stated preference survey, EPA can then use the estimated parameters to estimate the benefits of the TMDL incremental to the baseline. This conjoint choice experimental design allows flexibility, compared to a more conventional contingent valuation approach, for example, because the benefit estimates can be adjusted to fit a range of assumptions about the policy and baseline scenarios. These scenarios will be well documented in the final Cost-Benefit Analysis report, to which the stated preference study proposed in this ICR is one of several inputs.

- 5-4 EPA recognizes the potential for bias in stated preference surveys and has undertaken efforts to minimize these biases, as documented in our previous response to comments (Please see comment 1-5) and as described in of Part A Section 3(b) the ICR. We believe that these measures are sufficient to identify and overcome significant biases. In general, SP methods have "been tested and validated through years of research and are widely accepted by federal, state, and local government agencies and the U.S. courts as reliable techniques for estimating nonmarket values" (Bergstrom and Ready 2009, p. 26).
- 5-5 See 5-1
- 5-6 As described above in 5-3, and in prior responses to comments (Please see comment 1-8), the stated preference study described in the ICR does not estimate the benefits of the TMDL directly, but estimates a range of values associated with different scenarios. The parameters estimated from respondents' choices to these hypothetical scenarios will then be used to estimate the benefits of the TMDL incremental to the baseline. The accuracy of the final benefits analysis does depend upon the accuracy of modeled outcomes. The applicability of the survey for a specific set of modeled changes is determined by this range of outcomes, but its validity is not. The EPA survey uses a range of plausible outcomes to estimate WTP.
- 5-7 See 5-3
- 5-8 Econometric analysis of data for choice experiments is well-developed and EPA will use established econometric techniques, as described in the ICR Part B Section 5(b). The statistical methods, including

² Chesapeake Bay Program, <http://www.chesapeakebay.net/discover/bay101/facts>, accessed May 14, 2013.

econometric methods for data analysis and the application of the results to the TMDL will be subject to peer review.

- 5-9 This project is not designated as a highly influential scientific assessment (HISA). EPA has designated this project as being “influential scientific information” (ISI) and it is included in the Agency’s Science Inventory.³ Although the survey is not designated HISA, to ensure that the survey was of high quality EPA did conduct “periodic consultations with experts in the field throughout the survey development process,” as stated in ICR (2205.01). EPA also obtained peer review of the survey instrument. Additional peer review of the statistical methods, including econometric methods will be conducted. The peer review plan is included in EPA’s Science Inventory database.
- 5-10 As stated in the prior response to this comment (Please see comment 1-12), EPA disputes the idea that the stated preference method does not have the ability to collect information with, “quality, objectivity, utility, integrity” on the foundation that these methods are largely accepted as a valuable tool among those seeking to understand the benefits of changes to nonmarket goods. The use and nonuse willingness-to-pay estimates generated from this research will provide a more well-rounded evaluation of future pollution reduction programs in the Chesapeake Bay, contributing to the quality, objectivity, and integrity of information the EPA will disseminate.

³ http://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=239164 accessed on 5/15/13.

C.

Third Round of Public Comments to 78 FR 38713

Open June 27, 2013

Closed July 29, 2013

Comments:

6) Coalition of 20 Interest Groups

7) Utility Water Act Group

8) Natural Resources Defense Council

July 29, 2013

**Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th Street, NW
Washington, D.C. 20503
Attention: Desk Officer for EPA**

(filed by email to oir_submission@omb.gov)

**EPA Docket Center
Environmental Protection Agency
Mailcode 28221T
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460**

(filed online via <http://www.regulations.gov>)

**Re: Additional Documents Available for Public Review Related to Willingness To Pay
Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-Test,
and Implementation; Comment Request
Docket ID No. EPA-HQ-OA-2012-0033**

Dear Sir or Madam:

Thank you for the opportunity to comment on the additional documents made available for public review related to the Willingness To Pay Survey for the Chesapeake Bay Total Maximum Daily Load (TMDL).

Many of the undersigned organizations submitted comments on July 23, 2012, and on March 11, 2013, on earlier versions of this information collection request (ICR). Those comments are incorporated herein by reference. This letter focuses three issues.

First, thank you for adding a survey that asks respondents for their willingness to pay for environmental outcomes in 2040 (as opposed to 2025).

Second, EPA has failed to adequately respond to our comment that the survey continues to be misleading at best, and arguably a deliberate dissemination of false information, because the future conditions described by surveys are not supported by the record and cannot be ascribed to the Chesapeake Bay TMDL.

Third, the focus group information now provided in the docket fails to address the concern over the use of a stated preference survey to estimate benefits associated with the Chesapeake Bay TMDL.

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Page 2

1. Addition of a survey based on willingness to pay for conditions predicted for 2040.

6-1

EPA has responded to our comments on the lag time associated with measures taken to improve Bay water quality by adding a survey asking respondents about their willingness to pay for conditions predicted for 2040. We appreciate your willingness to recognize that such lag times will exist and are likely to affect a person's "willingness to pay."

2. The benefits predicted in the surveys are not supported by the record.

6-2

a. Predicted conditions in the Chesapeake Bay.

In our earlier comments we expressed the concern that the survey was misleading because it discussed hypothetical conditions. EPA responded by adding the word "predicted" when describing conditions. As revised, all three surveys now include on page 3 a footnote that: "Predictions for the year 2025 [or 2040] are based on monitoring data from the Chesapeake Bay Watershed and Estuary Models developed by the EPA and state and federal partners." This is not a true statement, as is made clear in a new document that EPA has placed in the docket "Attachment 17 – Description of models used to choose attribute levels." EPA Document Number EPA-HQ-OA-2012-0033-0028.

6-3

Attachment 17 lists the "Chesapeake Bay Watershed Model" and "Estuary Model." The descriptions of these models in the attachment are from the Chesapeake Bay Program website. Significantly, neither model predicts changes in striped bass, blue crab, and oyster populations and therefore cannot be a source for the predictions cited in the surveys.

6-4

Attachment 17 also references a NOAA model, the Chesapeake Bay Ecosystem Fisheries Model. According to Attachment 17 "CBFEM forecasts changes in relative biomass that can be used with current populations to forecast populations in the future." According to a presentation by NOAA and EPA scientists, this model was intended to be the source of the fishery predictions in the surveys. However, there is nothing in the presentation or in the docket that suggests that the numbers in the surveys are the result of this model (as opposed to being hypothetical numbers). See *Estimating the fisheries economic benefits of the Chesapeake Bay TMDL using a fisheries-based ecosystem model*, Howard Townsend, Ph.D. and Tom Ihde, Ph.D., NOAA Fisheries and Steve Newbold, Ph.D. and Matt Massey, Ph.D. EPA, National Center for Environmental Economics (Oct. 3, 2012) (available at http://www.chesapeakebay.net/channel_files/18740/townsend_est_fish_bene_eco_model_msc_2012.pdf) (attached).

In fact, the NOAA and EPA scientists stated in their presentation that: "*Initial model exploration ... using habitat and mediation functions to explore Chesapeake Bay tidal water designated uses for living resources showed little effect of TMDLs as compared to no TMDL action.*" The presentation also states that the modelers used "forcing and mediation functions" to connect water quality to fish, while admitting that this is less realistic than other models. In addition, according to the presentation the various scenarios modeled show virtually no difference between results under the pre-TMDL Tributary Strategies and the Chesapeake Bay

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TMDL. One scenario modeled indicated that fish populations would increase under the no action scenario. This result is logical because the biomass of fisheries in estuaries increases when nutrient levels increase.¹

Other information in the docket further undermines the credibility of the fishery population predictions in the surveys. We note that in April 2013 you sought the advice of experts regarding the lag time issue discussed above (resulting in a survey using the 2040 date) and included these consultations in the docket. EPA Document Number EPA-HQ-OA-2012-0033-0029.

The survey asks respondents about their willingness to pay for increases in striped bass, blue crabs and oyster populations. With respect to the impact of the Chesapeake Bay TMDL on striped bass populations, Edward Houde, Professor, Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science told EPA that: *"I don't think it is reasonable to expect any clear effects of TMDL goal achievement and associated habitat changes."* With respect to blue crab populations, Professor Houde stated that *"if there is any detectable response" "it would be modest."* Professor Houde did express the opinion that *"there potentially could be a notable response" in oyster populations that "could occur on a decadal timeframe."*

6-5

This information is highly relevant to the survey and the "Conditions in 2025" or "Conditions in 2040" that respondents are asked to "vote" for.

Professor Houde's expert opinion underscores our concern that the future conditions described in the survey are completely hypothetical. If EPA chooses to proceed with this survey, at a minimum it must make respondents aware that both models and experts have indicated that the TMDL may have no effect at all on striped bass and blue crab populations.

b. Predicted conditions in Lakes.

All three surveys include on page 4 a footnote that states: "Predictions for the year 2025 [or 2040] are based on measures from the Northeast Lakes Model developed by EPA's Office of Research and Development." In prior comments we noted that the Northeast Lakes Model is not in the docket. In response to our comments, EPA states as follows:

The Northeast Lakes model was designed specifically to model changes in the eutrophication of freshwater lakes as the result of management practices aimed at improving the water quality of coastal estuaries. Combining data from the National Lakes Assessment and results from the Spatially Referenced Regressions On Watershed Attributes (SPARROW) nutrient models, the Northeast Lakes model uses nutrient loads to watershed streams and rivers to forecast eutrophication of lakes in the watershed. The Northeast Lakes Model places every lake in the Chesapeake Bay watershed into one of

6-6

¹ Nutrient enrichment and fisheries exploitation: interactive effects on estuarine living resources and their management, D. L. Breitburg, et al, *Hydrobiologia* (2009) 629:31–47 (Apr. 2009).

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four eutrophication categories. The “low algae growth” lakes on the survey refer to the lower three categories. The Northeast lakes model is described in more detail in Moore et al. (2011) and Booth et al. (2011).

This statement does not address the fact that this model is not available for public review. Moreover, neither the “Northeast Lakes Model” nor any estimates of lake algae levels are described in the two papers cited. Finally, the models described in the papers are not models developed by EPA’s Office of Research and Development (ORD).

Moore et al (2011)² is a paper authored by three U.S. Geological Survey (USGS) employees and one EPA ORD employee from Narragansett, Rhode Island. This paper describes the use of the USGS-developed SPARROW model to look at the source and delivery of nitrogen from rivers to estuaries and the source and delivery of phosphorus from rivers and streams to lakes and reservoirs. The paper does not describe any predictions of algae levels in lakes or reservoirs. The model appears to be able predict phosphorus levels in large reservoirs impounding the Susquehanna River (three of the 10 “lakes” examined). However, less than 1% of phosphorus is predicted to remain in these lakes/reservoirs so any management practices adopted under the Chesapeake Bay TMDL will have no impact on these lakes/reservoirs. For smaller lakes, the model applies only to lakes that are steam-fed because the SPARROW model predicts delivery of nutrients from tributaries. In addition, when compared to EPA’s National Lakes Assessment, there is a variance of 46% between observed data and model predictions. Finally, the authors note that the model can only be used at the regional scale *and is not applicable to local scale models*. That is, it cannot be used to predict changes in local lake conditions, which is exactly the prediction that is made by the survey. Thus, it appears that Moore, et al. (2011) cannot be cited as a source of lakes information disseminated on page four of the survey.

6-7

Booth et al. (2011)³ is a paper authored by five USGS employees. Like Moore et al. (2011), this paper does not describe any predicted changes in algae levels and is entirely a description of a decision support system applicable to the transport of pollutant loadings by rivers and streams using the SPARROW model. This paper cannot be cited a source of lakes information in the survey.

6-8

Finally, there is no information in the docket that suggests that actions taken to implement the Chesapeake Bay TMDL will reduce algae levels in freshwater lakes in the watershed. Even if a lake is really a reservoir and is part of the tributary system of the Chesapeake Bay, nutrients are not expected to be retained in the reservoir so efforts to reduce nutrients will not affect algae levels in such “lakes.” In summary, EPA has provided no information to support its assertion

6-9

² Moore, R. B., C. M. Johnston, R. A. Smith and B. Milstead (2011). "Source and Delivery of Nutrients to Receiving Waters in the Northeastern and Mid-Atlantic Regions of the United States." *Journal of the American Water Resources Association* 47(5): 965-990.

³ Booth, N. L., E. J. Everman, I. L. Kuo, L. Murphy and L. Sprague (2011). "A Web-Based Decision Support System for Assessing Regional Water-Quality Conditions and Management Actions." *J. Am. Water Resour. Assoc. Journal of the American Water Resources Association* 47(5): 1136-1150.

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that the Chesapeake Bay TMDL will provide benefits to freshwater lakes and questions about a willingness to pay for reductions in algal levels of lakes should be removed from the survey.

c. The source and accuracy of the predictions will affect survey responses.

In our earlier comments we noted that disseminating inaccurate information violates EPA's Information Quality Guidelines. This issue also will affect the survey responses, as demonstrated by EPA's focus group participants. In response to our earlier comments about the truthfulness of the survey statements, EPA responded as follows:

Focus group testing of the survey showed that documenting the source of the predictions for policy and baseline scenarios improved the credibility and consequentiality of the choice questions. Focus group participants wanted to know the source of the information on the survey. Removing the documentation for these predictions and replacing it with a description of those predictions as "hypothetical" would undermine the credibility of the survey instrument, the consequentiality of the choice questions and produce less reliable results. However, to reinforce the point that the estimates are not certain we have revised the survey to refer to these estimates as "predictions," a term more commonly used for modeled outcomes than "forecast."

This response supports the point we are making. The focus group demonstrates that respondents care whether or not the information provided in the survey is truthful. It appears that it would be highly relevant to respondents to know that the information provided in the survey on future conditions does not have a source, and is not predicted by the models cited. Again, we ask EPA to modify the survey to state that the future conditions described are hypothetical or to abandon this survey effort because the claims made in the survey remain unsupported.

3. EPA's use of focus groups to refine the survey does not alleviate the fundamental concerns over the efficacy of stated preference surveys.

In response to comments on the limitations of stated preference surveys generally, EPA states that it has refined the surveys based on feedback from focus groups. However, a review of the focus group interviews demonstrates that participants were often confused by the surveys. Further, the focus groups could not resolve the fundamental concern that stated preference surveys are not reliable.⁴ In fact, leading economists believe that such surveys have utility only when a resource is unique or limited and impacts are substantial or irreversible.⁵ That is not the case with respect to the Chesapeake Bay or watershed lakes. Thus, EPA still has not demonstrated that the survey will have practical utility under the Paperwork Reduction Act.

⁴ See Jerry Hausman, *Contingent Valuation: From Dubious to Hopeless*, 26(4) J. Econ. Perspectives 43 (2012).

⁵ See A. Myrick Freeman, et al., *The Measurement of Environmental and Resource Values: Theory and Methods* 156-57 (Resources for the Future) (2d ed. 2003).

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6-11

6-12

6-13

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Conclusion

For all of the foregoing reasons, OMB should deny EPA's request for approval of the above-referenced ICR.

Sincerely,

American Farm Bureau Federation
CropLife America
Delaware Maryland Agribusiness Association
Empire State Forest Products Association
National Alliance of Forest Owners
National Association of Home Builders
National Cattlemen's Beef Association
National Chicken Council
National Council of Farmer Cooperatives
National Pork Producers Council
National Turkey Federation
Pennsylvania Forest Products Association
The Fertilizer Institute
Treated Wood Council
US Poultry & Egg Association
Virginia Agribusiness Council
Virginia Farm Bureau
Virginia Forestry Association
Virginia Poultry Federation
West Virginia Forestry Association

cc: Jim Laity, OMB
Al McGartland, EPA

Attachment

RESPONSES TO COMMENTS SET 6: Coalition of 20 Interest Groups (C20)

- 6-1 Thank you again for raising that point. We are pleased you are satisfied with these revisions.
- 6-2 The purpose of the survey is to collect data that will enable EPA to value a variety of water quality improvements relative to a range of baseline scenarios. The claim that the “benefits predicted in the surveys are not supported by the record” is not applicable in the context of this survey. The survey instrument itself and predicted levels of environmental attributes therein are never ascribed to the TMDLs. In order to estimate economic benefits of the Chesapeake Bay TMDLs the experimental design of the survey must include attribute levels for baseline predictions and policy scenarios that cover the range relevant to the TMDLs, *but need not be limited to that range*. EPA’s choice to value changes in environmental outcomes and a range of attribute levels relative to multiple baselines provides the flexibility to estimate benefits as expectations of water quality in the Chesapeake Bay evolve. This Information Collection Request (ICR) and request for public comment pertain to the survey instrument and stated preference methodology described therein. The data collected from this survey will be combined with information from numerous other scientific models and studies to estimate the benefits of the TMDLs. EPA will submit a report of the results for public comment and peer review which will include predictions of conditions under baseline and policy scenarios with descriptions of our modeling approach.
- 6-3 We thank the commenters for pointing out this omission in the footnote on page 3 of the survey. The referenced Chesapeake Bay Fisheries Ecosystem Model uses output from the Chesapeake Bay Watershed Models to project a range of attribute levels for striped bass, blue crabs, and oysters. The footnote on the survey has been revised accordingly. In addition, Attachment 17 has been revised to clarify how the various models inform the range of attribute levels that will appear in the choice experiment questions.
- 6-4 The referenced presentation is noted as “in progress” and the results as “preliminary.” As stated above, the purpose of the survey is to collect data that will enable EPA to value a variety of water quality improvements relative to a range of baseline scenarios. In order to estimate economic benefits of the Chesapeake Bay TMDLs the experimental design of the survey must include attribute levels for baseline predictions and policy scenarios that cover the range relevant to the TMDLs, *but need not be limited to that range*. EPA’s choice to value changes in environmental outcomes and a range of attribute levels relative to multiple baselines provides the flexibility to estimate benefits as expectations of water quality in the Chesapeake Bay evolve. This ICR and request for public comment pertain to the survey instrument and stated preference methodology described therein.

After the survey is implemented, the collected data will be combined with information from numerous other scientific models and studies to estimate the incremental benefits of the TMDLs relative to a range of alternative baseline assumptions; this may include scenarios in which only modest changes are ascribed to the TMDLs. EPA will submit a separate report of the stated preference study results for public comment and peer review which will include predictions of conditions under baseline and policy scenarios with descriptions of our modeling approach.

6-5 Dr. Houde was only one of four experts from the aforementioned consultation (see Attachment 18). The other three experts stated that striped bass, blue crab, and oyster populations will respond to nutrient and sediment reductions under the TMDLs in the range of less than 5 to more than 15 years. Additionally, Dr. Houde's statement is in regard to the TMDLs. EPA emphasizes that the future outcomes in the survey are never ascribed to the TMDLs. Since the survey itself is not specifically in the context of the TMDLs, it does not make sense to tell respondents that the TMDLs may have no effect on striped bass and blue crab populations.

Finally, this stated preference study includes multiple survey versions with a range of attribute levels for different baseline conditions and policy outcomes in order to provide flexibility in estimating the benefits of the TMDLs as our knowledge and understanding of changes in the Chesapeake Bay evolves. As stated earlier, the purpose of the survey is to collect data that will enable EPA to value a variety of water quality improvements relative to a range of baseline scenarios. In order to estimate economic benefits of the Chesapeake Bay TMDLs the experimental design of the survey must include attribute levels for baseline predictions and policy scenarios that cover the range relevant to the TMDLs, *but need not be limited to that range*. EPA's choice to value changes in environmental outcomes and a range of attribute levels relative to multiple baselines provides the flexibility to estimate benefits as expectations of water quality in the Chesapeake Bay evolve. This Information Collection Request (ICR) and request for public comment pertain to the survey instrument and stated preference methodology described therein. The data collected from this survey will be combined with information from numerous other scientific models and studies to estimate the benefits of the TMDL. EPA will submit a separate report of the stated preference study results for public comment and peer review which will include predictions of conditions under baseline and policy scenarios with descriptions of our modeling approach.

6-6 The "Northeast Lakes Model" is a particular application of the Northeast United States Spatially Referenced Regressions on Watershed attributes (NE US SPARROW) model in which predictions of total phosphorus from the SPARROW model are converted to trophic states for lakes in the Northeast. The SPARROW model is a well established hydrological nutrient delivery model that has been used by government agencies and academic researchers since 1997 to analyze the source and effect of nutrient loading to water bodies and is available for public review. The specifics of the NE US SPARROW model and its application to freshwater lakes are described in Moore et al (2011). Converting total phosphorous to trophic states and algae levels is a common practice (e.g. Carlson and Simpson, 1996; Schindler and Vallentyne, 2008). The particular conversion used for the stated preference survey is described in USEPA (2009b) and is also available for public review. We have modified Attachment 17 to clarify the information used to generate a range attribute levels for lakes in the survey.

6-7 Moore, et al. (2011) states, three of the lakes "have virtually reached their nutrient storage capacity" and as a result less than 1% of the phosphorous that enters those lakes is predicted to remain in them. That is not to say that reducing phosphorous loadings to those lakes will not have an impact; only that further increases in loadings are unlikely to increase concentrations above current levels. The paper goes on to say that the rest of the lakes in the analysis have lower predicted phosphorous concentrations and will thus retain more of the loadings.

6-8 The conditions shown on the survey are watershed-wide percentages of lakes in the highest eutrophication category. The watershed covers 64,000 square miles and is large enough by far to be considered a regional application of the model.

- 6-9 The Booth et al (2011) paper is included as an additional reference for the NE US SPARROW model.
- 6-10 The purpose of the survey is to collect data, and not to disseminate information. The survey instrument and specified changes in the environmental attributes are never claimed to be a result of the TMDLs. The collected data will enable EPA to value a variety of water quality improvements in the Chesapeake Bay and Chesapeake Bay Watershed relative to a range of baseline scenarios. After the survey is implemented and data on household preferences is collected, these data will be combined with information from numerous other scientific models and studies to estimate the benefits of the TMDLs. This ICR and request for public comment pertain specifically to the survey instrument and stated preference study design described therein. EPA will submit a separate report of the stated preference study results for public comment and peer review which will include predictions of conditions under baseline and policy scenarios with descriptions of our modeling approach.
- 6-11 The objective of the focus groups and cognitive interviews was to identify areas of confusion in the survey instrument in order to develop the clearest and simplest survey. EPA points to the last sets of cognitive interviews where a near complete survey was tested. In these interviews respondents largely understood the survey text and questions.
- 6-12 As documented in the focus group and cognitive interview report, many of the fundamental concerns with stated preference studies have been thoroughly explored and addressed (e.g., hypothetical bias, consequentiality, protest responses). Additionally, the survey pre-test will help EPA further ensure that such issues have been resolved (see Part B, Section 3 of this ICR).

In general, stated preference surveys have produced reliable results for many types of non-market scenarios in the past under the judgment of federal, state and local government as well as U.S. courts. For a greater discussion on the recognition of SP methods in policy and economics, EPA again refers the commenters to Part A Section 3(b).

- 6-13 While stated preference surveys may be particularly valuable when a resource is unique and impacts are substantial or irreversible; their utility is not limited to these conditions. In any case the Chesapeake Bay truly is a unique and iconic resource. Executive Order 13508 describes this estuarine ecosystem as a national treasure and notes that it is the largest and one of the most biologically productive estuaries in the nation. EPA refers the commenters to our previous response to comments (Attachment 16, pg 56):

EPA believes that a stated preference study to measure non-use benefits is particularly appropriate in the context of the Chesapeake Bay. Similar to the Grand Canyon (as referenced in UWAG's attached "Comments on EPA's Notice of Data Availability of 316(b) Stated Preference Survey), the Chesapeake Bay is an extremely unique resource. For example, it is the largest estuary in North America.⁴ Although water clarity and blue crab in general are not necessarily unique resources, water clarity in the Chesapeake Bay, and blue crab populations in the Chesapeake Bay, are unique.

⁴ Chesapeake Bay Program, <http://www.chesapeakebay.net/discover/bay101/facts>, accessed May 14, 2013.



HUNTON & WILLIAMS LLP
RIVERFRONT PLAZA, EAST TOWER
951 EAST BYRD STREET
RICHMOND, VIRGINIA 23219-4074

TEL 804 • 788 • 8200
FAX 804 • 788 • 8218

MIRANDA R. YOST
DIRECT DIAL: 804 • 788 • 8572
EMAIL: myost@hunton.com

FILE NO: 29142.070006

July 29, 2013

Via Federal eRulemaking Portal
(<http://www.regulations.gov>)

EPA Docket Center
Environmental Protection Agency
Mail Code: 28221T
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Attention Docket ID Number EPA-HQ-OA-2012-0033

Ladies and Gentlemen:

On behalf of the Utility Water Act Group (UWAG), I am writing in response to EPA's notice that the Agency has made available for public review a revised Supporting Statement and additional documentation related to its recent information collection request (ICR) submission to OMB entitled "Willingness to Pay Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-test, and Implementation" (EPA ICR No. 2456.01, OMB Control No. 2010-NEW). 78 Fed. Reg. 38,713 (June 27, 2013). While appreciating EPA's on-going efforts to make available documentation related to its Chesapeake Bay ICR, UWAG continues to question the sufficiency of the materials provided to inform meaningful public review and comment.

For example, understanding the modeling assumptions underlying forecasted attribute levels for different baseline and policy scenarios is vital to assessing EPA's proposed Chesapeake Bay ICR. EPA now has provided a 3-page summary that initially acknowledges attribute modeling "requires combining the results of different hydrological, biochemical and ecosystem models and represents a significant multiagency effort" and provides minimalistic description, in most cases a paltry sentence or two, of different modeling sources and where more background information might be found. At no point does EPA explain with specificity the Agency's methodology for, e.g., selecting the models, selecting usable data from the models, or combining selected data from the various models for purposes of developing the

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attribute levels specific to the Chesapeake Bay ICR. It also provides none of the raw data used in the modeling effort. Without such information, the public remains handicapped in its ability to review and substantively comment on the Chesapeake Bay ICR. Similarly, EPA has provided an anticipated experimental statistical design, but with the caveat that the design is preliminary and subject to subsequent refinements. Such refinements seem likely, particularly given additional peer review of statistical methods is planned and considering the significant peer review critiques received to-date on the proposed ICR approach. Thus, in addition to providing insufficient detail for the public to comment, it appears the information that is provided potentially is subject to drastic changes.

UWAG continues to believe that the Chesapeake Bay ICR is not appropriate or necessary given the persistent absence of sufficient information to meaningfully assess the Chesapeake Bay ICR, and for the many other reasons detailed in our prior comments of March 20, 2012, July 18, 2012, August 27, 2012, and March 11, 2013.

Please feel free to contact me to discuss further or if you have any questions.

Very truly yours,

A handwritten signature in black ink that reads "Miranda R. Yost".

Miranda R. Yost

cc: Office of Management & Budget (via email)

RESPONSES TO COMMENT SET 7: Utility Water Act Group (UWAG)

- 7-1 The commenter questions the sufficiency of materials to inform meaningful public review, yet every example of insufficient material deals with aspects of the benefit analysis outside the stated preference survey. Most recently, the commenter argues that more information is needed about modeling water quality and fish population changes that will result from the TMDLs. This information is needed to apply the *results* of the stated preference survey to the TMDLs, but is not necessary to conduct the survey.

The purpose of the survey is to collect data that will enable EPA to value a variety of water quality improvements relative to a range of baseline scenarios. In order to estimate economic benefits of the Chesapeake Bay TMDLs the experimental design of the survey must include attribute levels for baseline predictions and policy scenarios that cover the range relevant to the TMDLs, *but need not be limited to that range*. EPA's choice to value changes in environmental outcomes using a range of attribute levels relative to multiple baselines provides the flexibility to estimate benefits as expectations of water quality in the Chesapeake Bay evolve. This Information Collection Request (ICR) and request for public comment pertain to the survey instrument and stated preference methodology described therein. The data collected from this survey will be combined with information from numerous other scientific models and studies to estimate the benefits of the TMDLs. EPA will submit a separate report of the stated preference results for public comment and peer review which will include predictions of conditions under baseline and policy scenarios.

Nonetheless, the models referenced in Attachment 17 represent the state of the science and in most cases are, to the best of our knowledge, the only models available to predict the levels of the attributes that focus group and cognitive interview participants deemed most important. Attachment 17 has been revised to provide more detail on the models used to develop the ranges for the choice attributes used on the survey.

- 7-2 The survey will be administered in two phases: a pretest and the main survey. The purpose of the pretest is to evaluate the survey instrument and experimental design and make necessary adjustments to improve the utility, efficiency, and cost effectiveness of the study design. While this is standard practice in survey administration, we do not expect "drastic changes" to the experimental design following the pretest.

July 29, 2013

National Center for Environmental Economics
Office of Policy (1809T)
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460

Re: Willingness to Pay Survey for Chesapeake Bay Total Maximum Daily Load: Instrument, Pre-test, and Implementation". Docket ID Number EPA-HQ-OA-2012-0033

The environmental non-profit advocacy organization Natural Resources Defense Council (NRDC) submits the following comment to the U.S. Environmental Protection Agency on undertaking a stated preference project to improve estimates of benefits associated with Chesapeake Bay water quality changes under the TMDL. The use of Choice Experiments, where individuals are asked to choose their preferred alternative from a choice set made up of different attributes, including cost is a versatile and a powerful methodology for estimating the monetary value of environmental changes (Hanley et al. 2002).

8-1

There are several valuation studies that have demonstrated the need for including these non-use values in order to capture the total economic value of environmental goods. For Example, Carson (1995) noted some 2000 papers or studies where empirical estimates of non-use values have been made. Concentrating only on on-site users of resources, Chesapeake Bay waters in this case, the benefit estimates will largely reflect only the values of the users and consist of mostly direct use values. Consequently, potentially large values held by the remainder of the population, i.e., the non-users and their values are not captured. It is well known that non-use values can only be measured using stated preference methods. Hence, the research is an important step toward providing a comprehensive estimate of the benefits of water quality improvement in the study region.

8-2

Limburg et al. (2002) notes that the complex nature of the water ecosystem often invokes denying any valuation of the ecosystem services through subjective preferences. However, the use of endpoint survey, i.e., using ecological endpoints that are characterized as concrete, tangible, and measurable (Boyd 2007) is an important step toward using science to evaluate policy. Moreover, the choice experiment approach also helps address the issue of marginality, where small changes in the attributes lead to changes in economic value. Such knowledge of the marginal values of the attributes is useful to link ecosystem research with policy-making (Fisher et al. 2008).

NRDC commends the EPA for its use of economic tools to value environmental goods and encourages applying such principles to policy design.

Sincerely,

Naveen Adusumilli
Science Fellow, Economist
Natural Resources Defense Council

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RESPONSES TO COMMENT SET 8: Natural Resources Defense Council

- 8-1 EPA agrees that nonuse values should be included in the quantification of benefits of environmental regulation and we appreciate your comment.
- 8-2 EPA also agrees that the complexity of ecosystem responses to changing water conditions presents a challenge to economists quantifying the benefits of improved water quality.

Using environmental endpoints as the attributes in the choice experiment questions limits the number of environmental outcomes the respondents will consider when choosing their willingness to pay. As a result this approach is more likely to generate a conservative estimate of total economic value compared with a survey that uses environmental inputs as attributes and allows the respondents to form their own expectations for a larger number of environmental outcomes. Using endpoints as attributes is also more likely to generate more reliable responses, however, because respondents are considering concrete, tangible, and measurable outcomes that are directly connected to their well-being when answering the choice questions.

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Attachment 16
Public Comments and Response

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