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Chris Moore
U.S. Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, DC 20004

Submitted via the Federal eRulemaking Portal: http://www.regulations.gov

***RE: NACWA Comments on EPA's Proposed Information Collection Request; Comment Request; Estimating Benefits of Surface Water Quality Improvements* (EPA-HQ-OA-2019-0292)**

Dear Dr. Moore:

The National Association of Clean Water Agencies (NACWA) appreciates the opportunity to submit comments on the U.S. Environmental Protection Agency's (EPA) recent Proposed Information Collection Request (ICR) and request for input on implementing a public survey to gather additional data to help Estimate the Benefits of Surface Water Quality Improvements (EPA-HQ-OA-2019-0292).[1]

NACWA represents the interests of more than 340 public clean water utilities of all sizes across the country that everyday provide an essential service of managing billions of gallons of the nation's wastewater and stormwater in a manner that ensures the continued protection of public health and the environment. NACWA's members are environmental stewards that invest billions of dollars in their infrastructure and treatment capabilities each year to meet specific water quality regulations and improve overall surface water quality for their communities.

NACWA and its members strongly support efforts to improve water quality—our utilities are engaged in this work each and every day—and also support collecting information from the public on the value of water quality improvements. However, we have specific concerns on EPA's proposed ICR approach (i.e., a benefit transfer method), the survey itself, and its overall purpose and goals of a survey of this kind.

Surveying the public as a means to close research information and address un-tested assumption gaps is a worthy goal. We support additional research by the research community to understand the value that people place on surface water quality and address each of the research gaps identified. However, extrapolating public perception via a narrowly constructed survey on willingness to pay for improved water quality as a means to adjust current regulatory policies and priorities that may impact specific watersheds or individual communities in different ways is not—in NACWA's view—an effective or appropriate way to achieve that goal. Asking the public to respond to a general hypothetical (i.e., asking if they would be willing to pay "more" for "better" water quality anywhere) is very different than presenting individuals with a specific relatable scenario (i.e., asking about a body of water they are familiar with and whether they are willing to

[1] 86 Fed. Reg. 53,960-53,961 (Sept. 29, 2021).

pay a certain amount of money to achieve a certain water quality outcome for that individual water body or watershed). Simply put, we have serious concerns and doubts about this survey and believe that is should not move forward in its current form.

NACWA understands that this survey is intended to gather data to improve known assumptions of previously conducted studies and collect data in the most cost effective and time sensitive manner, but the Association and its members have significant problems with the limited nature this survey and how it could be used to quantify the need for more stringent water quality standards under the Clean Water Act.

EPA may have a goal of collecting data to help increase its understanding of certain water quality relationships and previous research assumptions (e.g., distance-decay, marginal rate of substitution, and value of human use), but the proposed survey collection approach could lead to significant statistical bias that then is used to demonstrate the need for increased water quality protections on point source dischargers, such as publicly owned treatment works (POTWs).

EPA's first question in the survey illustrates this conundrum specifically, "to collect information that *will be used* to help guide future environmental policy decisions" (emphasis added) where it should clarify that this information *may* or *might be* used to further policy discussions and is intended to be informational in nature and assist the Agency's research efforts or something similar. In addition, EPA's ability to "record" and use survey responses *even if answers are changed* only further muddies how the Agency could *use* the data to shape the outcome it desires.

Before the Office of Management and Budget (OMB) approves EPA's ICR, EPA must update the sample frame and sample methodology in its final Supporting Statement. Details remain unclear on how the Agency plans on *randomly selecting* participants from either an "existing internet panel" or "recruited directly via mail." It is imperative from a statistical standpoint that the survey must be completely at random and not target or recruit participants.

It appears that if the Agency chooses the internet-based delivery route, the survey will not be sent via email or via a graphical user interface (i.e., a pop-up advertisement), but would rather be delivered to an already pre-defined or curated suite of paneled participants that have known socioeconomic characteristics. It is unclear which characteristics the Agency will be selecting for and further, the fact that participants can be "tailored to match sociodemographic benchmarks to improve its representativeness" is especially troublesome if this non-market evaluation is not randomized and *targets* individual sociodemographic characteristics. Without more information or transparency on how this survey will be delivered or assurances that it will be random, it is impossible to know whether EPA can execute this ICR without any inherent participant biases.

NACWA also finds it troubling that EPA will pursue a "novel approach" for addressing participants that fail to respond to the survey. While it is unclear how EPA will deliver the survey (mail-based or internet-based), if EPA selects the more cost-effective internet panel method, it *already has* extensive data on the panel (e.g., participant household information) which could itself present a statistical conflict of preference bias if certain households do not participate in the survey.

Additionally, the Supporting Statement fails to include any information on how the Agency plans to correct for participant bias, which is fundamentally needed to achieve statistical confidence. For example, some respondents may be more inclined to pay anything for an opportunity to improve water quality. If these participants respond in greater number and over-estimate their respective percentage of the U.S. population that pay taxes, how does the Agency plan to correct for these biases? From the information shared it is unclear how the Agency plans on ensuring the survey is evenly-distributed to a random participants of all backgrounds across a variety of factors which may impact willingness to pay for water quality improvement (e.g., number of participants with a greater environmental awareness or consciousness).

NACWA suggests some control questions on background environmental knowledge be added to the survey along with participants employment history, current place of residence, and language questions.

NACWA also suggests the following:

- Survey Slide 21 – The Y-Axis, "Outdoor Water Quality" scale is unclear, as is the figure itself. The chart attempts to demonstrate *if a policy is adopted* that the water quality in the region would improve slightly and remain so in perpetuity. The figure assumes that once the target level water quality is achieved, the costs to ratepayers would end, which is misleading. The Clean Water Act does not allow for anti-backsliding or anti-degradation and therefore costs to the ratepayer would not simply go away over time.

- Survey Slide 22 – This slide attempts to make the connection that policy decisions made as a result of this survey will financially impact ratepayers, yet on its face fails to acknowledge that many Americans (and quite possibly many of the survey participants) cannot afford the rising costs of water services that are driven by aging infrastructure and greater regulatory requirements.

Lastly, NACWA strongly believes that this type of information gathering would be better housed within an academic institution or non-governmental entity, like the Water Research Foundation, rather than at EPA. The fact that participants, either internet-based panel or mail recruitment, will be compensated for their participation poses some serious questions on the validity and true utility of this survey. The possibility for this data collection to shift beyond the mere incentive of closing research gaps and spill over towards actual policy efforts and heightened water quality regulations is gravely concerning.

NACWA recommends OMB decline this ICR or request more information of EPA on the above reasons.

If you have any questions, please contact me by phone at 202/533-1839 or by email at eremmel@nacwa.org.

Sincerely,

Emily Remmel
Director, Regulatory Affairs

We thank NACWA for the comments submitted in response to the draft Information Collection Request Supporting Statement: A survey to improve economic analysis of surface water quality changes. We have revised the Supporting Statement in response to the comments and provide detailed responses to each of their comments below.

1. **Surveying the public as a means to close research information and address un-tested assumption gaps is a worthy goal. We support additional research by the research community to understand the value that people place on surface water quality and address each of the research gaps identified. However, extrapolating public perception via a narrowly constructed survey on willingness to pay for improved water quality as a means to adjust current regulatory policies and priorities that may impact specific watersheds or individual communities in different ways is not—in NACWA's view—an effective or appropriate way to achieve that goal. Asking the public to respond to a general hypothetical (i.e., asking if they would be willing to pay "more" for "better" water quality anywhere) is very different than presenting individuals with a specific relatable scenario (i.e., asking about a body of water they are familiar with and whether they are willing to pay a certain amount of money to achieve a certain water quality outcome for that individual water body or watershed). Simply put, we have serious concerns and doubts about this survey and believe that is should not move forward in its current form.**

   Rather than asking participants a general hypothetical of whether they would pay "more" for "better" water quality anywhere, our survey will ask whether participants are willing to pay a specific amount of money for a specific set of changes in water quality in a specific region of the country. The level of detail with which the commodity will be described in our survey is comparable to other prominent stated preference surveys of water quality changes (e.g., Carson and Mitchell 1993, Viscusi et al. 2008, Van Houtven et al. 2014) and must balance the desire for specificity with respondents' limited attention and cognitive capacity (Johnston et al. 2017). The bid amounts, quantity of affected waters, magnitude of quality changes, and regions of the country affected presented to each participant will be drawn from a limited set of options designated in advance according to our experimental design.

   All respondents will view at least one question referring to a policy region that includes their home, in which case the hypothetical scenario will encompass waterbodies with which the participant may be familiar. In other cases, the specified region will be elsewhere in the continental United States. The results from several previous stated preference studies of water quality suggest that many people are willing to pay for environmental resource improvements at far distances (e.g., Carson and Mitchell 1993, Hanley et al. 2003, Moore et al. 2015), but the rate at which values decay with distance from people's homes is still an active area of research (e.g., Schaafsma et al. 2013, Johnston et al. 2015). Responses to many versions of the contrasting questions in our survey from many participants across the country will facilitate inferences about the tradeoffs people are willing to make between income and water quality improvements in both nearby waterbodies and far distant waterbodies. If people care only or predominantly about the quality of surface waters near their home, then the implied distance decay rate of willingness-to-pay for water quality will be high; otherwise, the implied distance decay rate will be low.

2. **NACWA understands that this survey is intended to gather data to improve known assumptions of previously conducted studies and collect data in the most cost effective and time sensitive manner, but the Association and its members have significant problems with the limited nature this survey and how it could be used to quantify the need for more stringent water quality standards under the Clean Water Act.**

   The claim that the survey is of a "limited nature" is unclear. The survey will be administered to a national sample and present scenarios in which recreational opportunities and ecological integrity are improved in waterbodies throughout the contiguous US. Only two stated preference studies have examined water quality on a national scale and none in the past 20 years.

   Although EPA is required to conduct a benefit cost analysis by EO 12866 when setting water quality standards, or when it promulgates water quality standards for a state or authorized tribe, monetized benefits are not the determining factor in EPA's determination to approve or set criteria to achieve a state's designated use. Water quality standards are set such that state waters should have the most protective designated uses possible except where attaining those uses is infeasible [40 CFR 130.10(g)].

3. **EPA may have a goal of collecting data to help increase its understanding of certain water quality relationships and previous research assumptions (e.g., distance-decay, marginal rate of substitution, and value of human use), but the proposed survey collection approach could lead to significant statistical bias that then is used to demonstrate the need for increased water quality protections on point source dischargers, such as publicly owned treatment works (POTWs).**

   EPA recognizes that a number of different types of bias are possible when collecting information with survey methods and we have provided detailed plans to implement best practices to avoid and minimize them. We lay out our approaches to dealing with the potential biases in the ICR document Part B, subsection 2(c), part (iv) and part (v). Additional detail on our plans to account for potential biases may be found in our response to comments 7, 8, 9, and 10.

   Although EPA is required to conduct a benefit cost analysis by EO 12866 when developing national effluent guidelines for wastewater dischargers, monetized benefits are not the determining factor in EPA's development of guidelines. Guidelines are set based on the performance of the best available technology that is economically achievable for the industry in question.

4. **EPA's first question in the survey illustrates this conundrum specifically, "to collect information that *will be used* to help guide future environmental policy decisions" (emphasis added) where it should clarify that this information *may* or *might be* used to further policy**

discussions and is intended to be informational in nature and assist the Agency's research efforts or something similar.

A survey design is *incentive compatible* if participants' best response strategy is to answer truthfully, and a necessary condition for incentive compatibility is that participants perceive the survey as *consequential* (Herriges et al. 2010, Vossler et al. 2012, Carson et al. 2014, Johnston et al. 2017). This means participants should believe that their responses to the questionnaire could influence the likelihood that the posited environmental changes will occur and the additional costs to their household will be imposed. If the criteria of incentive compatibility and consequentiality are not met, respondents are more like to answer strategically which can lead to hypothetical bias in stated preference studies. To respond to the commenter's request yet still maintain the necessary conditions for consequentiality, we will modify the passage as follows: "This survey is being conducted by the US Environmental Protection Agency to collect information that may inform future policy decisions affecting water quality and your household expenses."

5. **In addition, EPA's ability to "record" and use survey responses *even if answers are changed* only further muddies how the Agency could *use* the data to shape the outcome it desires.**

   The revised draft of the survey design no longer includes this feature that would allow respondents to change their answers to the discrete choice questions. The design feature was initially included to test the effect of prenotification on ordering and framing effects. The change was made to reduce respondent burden and focus data collection efforts on the primary research questions regarding extent of market and existence value.

6. **Before the Office of Management and Budget (OMB) approves EPA's ICR, EPA must update the sample frame and sample methodology in its final Supporting Statement. Details remain unclear on how the Agency plans on *randomly selecting* participants from either an "existing internet panel" or "recruited directly via mail." It is imperative from a statistical standpoint that the survey must be completely at random and not target or recruit participants.**

   The EPA specifically solicited comments on sampling approaches and the merits of probability-based internet panels (PBIP) and mail-push-to-web (MPW). Having received none, we relied on an extensive literature review and consultations with experts to compare the advantages and disadvantages of each. The revised ICR Supporting Statement provides a detailed discussion of the advantages and disadvantages of each and the current preferred approach in the literature under contextual and application-specific constraints. We summarize our findings below.

   - Both sampling approaches rely on probability-based sampling and the USPS Computerized Delivery Sequence File as a sample frame which is the most complete sample frame available for the US.
   - There are data available on PBIP participants that were recruited to complete our survey but chose not to that allow EPA to conduct thorough non-response bias analysis. Such analysis is not possible with a MPW sample.

- PBIP are less likely to encounter self-selection bias because panel members are required to respond to a minimum number of surveys over a period of time, whereas respondents to a MPW are more likely to take particular interest in the subject matter.
- PBIP, such as KnowledgePanel, follow-up with telephone and in-person contacts for some households that do not respond to the mail contact. This would not be an option for the MPW approach.
- Dillman (2017) finds that there is some distrust of unsolicited mailings that will discourage potential participants from visiting an unfamiliar website, further lowering response rates, and contributing to non-response bias.
- PBIP will offer "off-line" households internet access and a digital device to complete surveys. Under a MPW approach, this is not an option and off-line households would need to seek out their own access to answer the survey with no assistance from the researcher (e.g., ask a neighbor, etc.).
- There are logistical advantages and cost savings associated with PBIP compared to MPW. For example, PBIP is an already established panel and all further communication can be electronic. Whereas MPW will require recruitment with physical materials and, in many cases, repeated outreach efforts using physical mailers.
- A PBIP survey will not consume any additional paper or printing resources or burn additional fossil fuels delivering recruiting materials, whereas a MPW would. The energy consumed to complete the electronic survey is equal between sampling approaches.

Based on these findings, EPA has opted to use PBIP sampling to administer the survey.

7. **It appears that if the Agency chooses the internet-based delivery route, the survey will not be sent via email or via a graphical user interface (i.e., a pop-up advertisement), but would rather be delivered to an already pre-defined or curated suite of paneled participants that have known socioeconomic characteristics.**

   There is no probability-based sample frame that includes email addresses. Many people have multiple email addresses and so it is impossible to know what the probability of selecting a household is. Samples collected using "pop-ups," recruited through social media, or other convenience recruiting methods are well known to generate non-representative samples (Dillman et al. 2014; Johnston et al. 2017). The initial sample that is selected from the PBIP will be selected randomly and not conditional on socio-demographic characteristics. If, however, the respondents to our survey underrepresent some groups (for example, minorities, women, less than high school diploma) or geographic regions, EPA may focus subsequent recruitment on underrepresented groups such that the final sample is representative of the population of the contiguous US.

8. **It is unclear which characteristics the Agency will be selecting for and further, the fact that participants can be "tailored to match sociodemographic benchmarks to improve its representativeness" is especially troublesome if this non-market evaluation is not randomized and *targets* individual sociodemographic characteristics. Without more information or transparency on how this survey will be delivered or assurances that it will be random, it is impossible to know whether EPA can execute this ICR without any inherent participant biases.**

Please refer to the response to comment 7 above and Part A Sections 4(a) and 5(b) and Part B Sections 2(b)(i) and 2(b)(iv) of the ICR Supporting Statement.

9. **NACWA also finds it troubling that EPA will pursue a "novel approach" for addressing participants that fail to respond to the survey. While it is unclear how EPA will deliver the survey (mail-based or internet-based), if EPA selects the more cost-effective internet panel method, it *already has* extensive data on the panel (e.g., participant household information) which could itself present a statistical conflict of preference bias if certain households do not participate in the survey.**

   Our use of the term "novel" referred to our reliance on a relatively recent literature as the basis for our approach, for example Montaquila and Olson (2012), Halbesleben and Whitman (2013), Johnston and Abdulrahman (2017), and Cameron and DeShazo (2013). Our approach to non-response bias is not novel in the sense that our study is the first to implement any forms of non-response analysis or statistical correction procedure. We have adjusted the ICR to clarify that our approach is an established, but less often applied, test for nonresponse bias because of the data requirements. Related to concerns of self-selection or participant bias, we refer to our reply to comment 10 regarding participant bias.

10. **Additionally, the Supporting Statement fails to include any information on how the Agency plans to correct for participant bias, which is fundamentally needed to achieve statistical confidence. For example, some respondents may be more inclined to pay anything for an opportunity to improve water quality. If these participants respond in greater number and over-estimate their respective percentage of the U.S. population that pay taxes, how does the Agency plan to correct for these biases?**

    The comment refers to participant bias, which we take to entail various types of bias such as coverage bias, survey respondent self-selection, and non-response bias. The ICR document describes our approach to deal with these forms of bias in Part B, subsection 2(c), part (iv) and part (v). In particular, we note the probability-based internet panel approach, which relies on the latest Delivery Sequence File of all US postal addresses, minimizes coverage bias. Nevertheless, we take the possibility of non-response bias seriously and have incorporated discussion in the ICR of how we plan to explicitly test for this form of bias through benchmarking and response propensity analysis. This multi-pronged approach follows recommendations in OMB's guidelines (2006), Montaquila and Olson (2012), and Halbesleben and Whitman (2013). First, benchmarking ensures that survey respondents are similar to the general population . For this analysis, we will incorporate relevant demographic statistics from the Current Population Survey. We also include questions taken from the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation to compare our samples in ways that may influence responses to the valuation questions but are not reflected in demographic data collected by Census (see Part B Subsection 2(d)). Next, response propensity analysis evaluates whether survey non-respondents are reasonably similar to survey respondents. Our approach to the response propensity analysis follows established methods of Johnston and Abdulrahman (2017) and Cameron and DeShazo (2013).

Testing for non-response bias allows us to mitigate potential bias by using appropriate weighting or other statistical adjustments, which are all based on standard practices in the literature. We have added a discussion of these weighting and statistical adjustments to the Information Collection Request in Part B, Section 2(c)(vi).

11. **From the information shared it is unclear how the Agency plans on ensuring the survey is evenly-distributed to a random participants of all backgrounds across a variety of factors which may impact willingness to pay for water quality improvement (e.g., number of participants with a greater environmental awareness or consciousness).**

    EPA has chosen a probability-based internet panel approach to survey administration. The panels are selected from the most complete sample frame available for the US, the USPS Computerized Delivery Sequence File. Initial sampling will draw randomly from the panel and subsequent waves of sampling may be conducted to improve representativeness from underrepresented demographic groups and geographic regions. Benchmarking and response propensity analysis (see Part A Section 4(b)(i) and Part B Section 2(c)(v) of the ICR Supporting Statement) will allow EPA to test for non-response bias and weight the final sample, if necessary, to achieve ex-post representativeness.

12. **NACWA suggests some control questions on background environmental knowledge be added to the survey along with participants employment history, current place of residence, and language questions.**

    We appreciate the opportunity to address the commenter's concern regarding background knowledge of the survey respondents, and we would therefore like to request clarification on the specific types of environmental knowledge that would be most relevant for this study. We would also appreciate further clarification regarding the use of this information with respect to our study.

    We note, as described in Part B Subsection 2(d) of the ICR, that we plan to include demographic questions and questions about visits to water bodies. The latter questions are based on identical questions in the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, a national survey conducted by the U.S. Fish and Wildlife Service and the U.S. Census Bureau.

    We believe these questions are sufficient to characterize similarity of our survey respondents to those of related studies with different sampling strategies, as these questions are common features of contingent valuation surveys. Other forms of environmental understanding the survey respondents might possess, while interesting, would not add to our ability to characterize the similarity of our survey respondents to those of other studies, as such questions are not frequently administered.

13. **NACWA also suggests the following:**
    Survey Slide 21 – The Y-Axis, "Outdoor Water Quality" scale is unclear, as is the figure itself. The chart attempts to demonstrate if a policy is adopted that the water quality in the region would improve slightly and remain so in perpetuity. The figure assumes that once the target

level water quality is achieved, the costs to ratepayers would end, which is misleading. The Clean Water Act does not allow for anti-backsliding or anti-degradation and therefore costs to the ratepayer would not simply go away over time.

We thank the reviewer for their feedback regarding anti-backsliding and anti-degradation measures in the Clean Water Act. We would first like to note that many water quality improvement measures can be accomplished with short-term investments that do not require perpetual payments, as likely may be necessary for wastewater treatment dischargers. For example, preservation of riparian zones and wetlands, stormwater retention infrastructure, and soil conservation practices could be implemented with shorter-term payments.

Next, as described in Section 4(b) of the ICR, we selected a payment vehicle in the form of annual payments for a term of five years. We selected a five-year payment term for two reasons. First, focus group interviews suggested that respondents considered indefinite payments to be unrealistic given political cycles and evolving policy priorities. A shorter term of 5 or 10 years was viewed as more realistic by several focus group participants who commented on this feature of the survey. Second, the seminal paper on payment vehicles in stated preference studies, Egan et al. (2015), found very similar annual willingness-to-pay (WTP) estimates for perpetual payment terms and those of 10-years. In the study, estimated annual WTP was $18 for perpetual payment terms and $24 for payments of a 10-year term, with overlapping confidence intervals. Moreover, the total discounted willingness to pay was equivalent in both scenarios over the range of discount rates found by studies using actual behavior or experiments to estimate them (e.g., Hausman, 1979). We therefore believe the selection of a shorter payment term is unlikely to affect estimated discounted WTP or the results of our survey.

14. **Survey Slide 22 – This slide attempts to make the connection that policy decisions made as a result of this survey will financially impact ratepayers, yet on its face fails to acknowledge that many Americans (and quite possibly many of the survey participants) cannot afford the rising costs of water services that are driven by aging infrastructure and greater regulatory requirements.**

The survey suggests policy decisions may financially impact ratepayers to ensure that survey respondents feel a sense of consequentiality in their responses. This consequentiality leads to more accurate replies because respondents have less incentive to over-state their valuation, as discussed in our reply to comment 4. That said, this survey has not been designed with any policy objectives in mind nor intention to impact utility rates for any purpose. Rather, EPA considers water affordability a pressing concern, and has consistently worked to help wastewater utilities better serve communities with financial hardship. The 2021 updated Financial Capability Assessment, for example, improves EPA's methods for determining affordability of Clean Water Act projects and programs. EPA also provides a variety of resources to water systems through the dedicated Water Infrastructure and Resiliency Finance Center. Water systems facing financial hardship may also find assistance through EPA's Water Finance Clearinghouse. Lastly, we note that the recent Bipartisan Infrastructure Law devotes over $50 billion to water infrastructure programs, of which no less than 40% is dedicated to disadvantaged communities as part of the Justice40 initiative.

Given the importance of water affordability to EPA, we appreciate NACWA's comment as an opportunity to clarify that concerns about water affordability are in fact one of the underlying rationales for this study. Our survey gives the public a chance to weigh in on water quality valuation. Such valuation, which incorporates real-world budget constraints, will help to accurately estimate use and non-use values for surface water quality changes. If individuals, including survey respondents, are unable to afford rising costs of water services, these budget constraints should be captured in our survey responses and would result in lower willingness-to-pay for surface water quality changes.

15. **Lastly, NACWA strongly believes that this type of information gathering would be better housed within an academic institution or non-governmental entity, like the Water Research Foundation, rather than at EPA.**

There is no shortage of academic research on the topic of water quality valuation including the use of stated preference surveys. However, the reason our primary research questions remain unanswered is because academic researchers lack the incentives to address such questions or design surveys that would allow them to do so. Our questions regarding extent of market and distance decay require sampling large, multi-state geographic areas whereas the overwhelming majority of academic studies occur within the states of the academic institutions housing the research. Further, academic researchers that specialize in nonmarket valuation research tend to be concentrated in departments in the eastern, upper midwest, and northwestern US, leaving large regions of the US unstudied. It is necessary for EPA to conduct this study to answer important research questions and sample geographic areas of the US that have not been studied in the past.

The EPA has partnered with several academic research teams and researchers from nonprofits to develop our survey and study design. The EPA solicited comments from a panel of academic researchers and subject matter experts (see Part A Section 3(c) of the ICR Supporting Statement). EPA has also worked closely with grantees of a 2015 Science to Achieve Results (STAR) to coordinate our efforts and allow cross-study validation (see Part A Section 3(c) of the ICR Supporting Statement).

Further, in their text *Internet, Mail, and Mixed Mode Surveys: The Tailored Design Method,* Dillman, Smyth, and Christian note several advantages of government sponsored surveys. Some of which are a direct result of the ICR process. "OMB concern about data quality for sample surveys is broad based. There are 20 published standards that focus on multiple aspects of survey design, from development of concepts, design, data collection to data analysis and dissemination of results… The practical effect of OMB requirements on government surveys is to encourage strenuous efforts to obtain high response rates," (p. 383). "A government survey often has greater legitimacy than a survey done by someone in the private sector, a nonprofit group, or a university context," (p. 389).

EPA is confident the expert research team developing this study along with collaboration with academic researchers and subject matter experts outside of government will produce a scientifically sound and unbiased study.

16. **The fact that participants, either internet-based panel or mail recruitment, will be compensated for their participation poses some serious questions on the validity and true utility of this survey.**

    The use of prepaid token financial incentives is a well-established and widely accepted way to increase response rates, mitigate sampling bias, and improve data quality (see for example, James et al., 1990; Church, 1993; Dillman et al., 2010). Such "small tokens of appreciation" are not compensation, as the commenter suggests, but rather a way to establish trust with potential respondents (Dillman et al. 2014, p.28).

17. **The possibility for this data collection to shift beyond the mere incentive of closing research gaps and spill over towards actual policy efforts and heightened water quality regulations is gravely concerning.**

    As previously detailed in response to Comments 2 and 3, benefits are not the primary consideration when setting water quality standards or effluent guidelines.

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