

SUPPORTING STATEMENT
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
Economic Analysis of Shoreline Treatment Options for Coastal New Hampshire
OMB Control No. 0648-0788

Abstract

The National Ocean Service (NOS) proposes to collect economic data to document perceived effects of weather and climate events and adaptation strategies, to assess probable public benefits that would be derived from shoreline treatment options within coastal New Hampshire, and to establish a baseline for future monitoring of NOAA's success in meeting its mandates and obligations. The final collection will support the development of a Coastal Shoreline Management Plan for New Hampshire as well as provide information to help inform local coastal zone management and planning.

This request is for a revision to modify the final survey instrument as a result of data gathered during the pretest of this collection. Upon analysis of the pre-test data and guidance from experts in survey methodology, changes were made to enhance understanding, response rate, and to minimize respondent burden. For example, some questions have been removed or modified to reduce burden and others added to improve data quality.

Justification

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

This request is for a revision to modify the final survey instrument of a new data collection to benefit the National Oceanic and Atmospheric Administration (NOAA), Office for Coastal Management (OCM), and decision-makers on the state and local level in New Hampshire. NOAA will collect socio-economic, and behavioral data pursuant to the Coastal Zone Management Act (CZMA).

NOAA is subject to and supports mandates of the CZMA (16 U.S.C. § 1452 (303)(2)(D)), which encourages the preservation, protection, development, and restoration of coastal resources. The CZMA also encourages the inclusion and participation of the public in carrying out the tenets of the act (16 U.S.C. § 1452 (303)(4)). Further, the act encourages programs that provide assistance to "sensitive preservation and restoration of historic, cultural, and esthetic coastal features" (16 U.S.C. § 1452 (303)(2)). Finally, NOAA is responding to the September 9, 2015 Executive Order, "Using Behavioral Science Insights to Better Serve the American People." This Executive Order requests federal agencies to "identify policies, programs, and operations where applying behavioral science insights may yield substantial improvements in public welfare, program outcomes, and program cost effectiveness," and "develop strategies for applying behavioral science insights to programs and, where possible, rigorously test and evaluate the impact of these insights."¹

The New Hampshire Coastal Risk and Hazards Commission (CRHC) was established by the State Legislature through RSA 483-E on July 2, 2013. The purpose of the Commission, as stated in the law, is to "recommend legislation, rules and other actions to prepare for projected sea-level rise and other coastal watershed hazards such as storms, increased river flooding and storm water runoff, and the risks such hazards pose to

¹ Executive Order for Using Behavioral Science Insights to Better Serve the American People. 9 Sept 15. Available online at: <https://www.whitehouse.gov/the-press-office/2015/09/15/executive-order-using-behavioral-science-insights-better-serve-american>.

municipalities and the state assets in New Hampshire.” Further, in carrying out this charge, the Commission is specifically directed to “review National Oceanic and Atmospheric Administration and other scientific agency projections of coastal storm inundation and flood risk to determine the appropriate information, data, and property risks” to incorporate into its recommendations.

The CRHC created a Science and Technical Advisory Panel (STAP) to review available scientific information about coastal hazards and flood risks in New Hampshire. In 2014, an externally-reviewed STAP report entitled, *Sea-level Rise, Storm Surges, and Extreme Precipitation in Coastal New*, was adopted and used to develop its recommendations to assist in planning and preparation for the changing climatic conditions in coastal areas of New Hampshire. “Some of the key scientific findings summarized in the STAP report include:

- Global and regional sea levels have been rising for decades, though not uniformly.
- Using mean sea level in 1992 as a starting point, New Hampshire sea levels are expected to rise between 0.6 and 2.0 feet by 2050 and between 1.6 and 6.6 feet by 2100.
- Today’s extreme storm surge events will have a significantly greater inundation extent and destructive impact due to higher sea levels.
- It is likely that coastal storms will be more severe as a result of warmer oceans and other changes in climate systems, but at the time of the STAP report publication, the research continues to be uncertain about whether storm frequency will change in the future.
- Annual precipitation is expected to increase by as much as 20 percent by the end of the 21st century compared to the late 20th century, and extreme precipitation events are projected to increase in frequency and in the amount of precipitation produced.”
(NHCRHC STAP, 2014)

In 2016, the CRHC recommended the development of a “comprehensive, integrated New Hampshire Coastal Shoreline Management Plan (CSMP) that presents general priorities for coastal shoreline management, as well as site-specific and place-based strategies including, where appropriate, protection, adaptation, and abandonment.” Following a New Hampshire Shoreline Management workshop organized by the Great Bay National Estuarine Research Reserve (GBNERR) in 2014, and consistent with CRHC Recommendation BL6, the New Hampshire Coastal Program (NHCP) has prioritized living shoreline assessment and implementation in its five-year strategy to enhance coastal management (309 Strategy, 2015) and set a long-term goal to develop a CSMP for New Hampshire.

Pursuant to the CZMA, NOAA will collect social, economic, and behavioral data to document perceived effects of weather and climate events and adaptation strategies, to estimate preferences for ecosystem services derived from shoreline treatment options within the coastal New Hampshire region, as defined by New Hampshire’s seventeen coastal zone communities (termed hereafter the “study region”), and to establish a baseline for future monitoring of NOAA’s success in meeting its mandates and obligations.

Residents will be randomly sampled from 1) households within the two coastal counties in New Hampshire, 2) from households within Massachusetts and bordering the Hampton-Seabrook Estuary, and 3) from Maine and bordering the Piscataqua River (see Part B Section 1.i for more information). The final collection will support the development of a CSMP for New Hampshire, as well as help inform local coastal zone management and planning, by providing information on public perceptions of coastal risks and hazards, current and anticipated adaptation practices on private property, and preferences for adaptation practices on public property. This information will help ensure the CSMP and future management and planning practices properly address these public perceptions, take private property adaptation practices into account, and incorporate the public’s preferences. This information will also help local managers develop more targeted and meaningful messaging in their communication and outreach efforts.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the

current collection.

i. How will this information be used?

The survey instrument was pretested to ensure the quality of the data and to test protocol for workflow needed in the full-scale information collection. Information from the pretest was used to make changes to the survey instrument and/or study design.

The final data collection will provide preference data to compare shoreline treatment options. Data are required to document perceptions of weather and climate events, adaptation strategies, and the preferences for ecosystem services related to shoreline treatments.

ii. Who will use this information?

NOAA OCM and decision-makers in coastal New Hampshire will use the data gathered from the final collection.

iii. How frequently will this information be used?

This is a one-time information collection. Data and derived informational products will be provided to OCM and decision-makers in coastal New Hampshire at the conclusion of the full project period. OCM and decision-makers in coastal New Hampshire will use the data and derived products on an as-needed basis.

iv. For what purpose will the information be used?

The final collection will support NHCP's and GBNERR's long-term management objectives by providing data to assess the benefits associated with shoreline treatment options, as well as providing information to help inform local coastal zone management and planning. Additionally, the information collected has potential to be used by resource managers for outreach and education purposes.

v. Summary of Survey Questions

The survey items are designed to understand the following concepts as they relate to Coastal New Hampshire:

- Preferences for ecosystem service outcomes;
- assessment of respondents' perceptions of weather and climate effects and adaptation strategies; and
- demographic information.

The non-market values related to ecosystem service attributes are operationalized through the contingent choice experiment method. Assessment of respondents' perceptions of weather and climate effects and adaptation strategies are operationalized through a series of Likert-scale questions.

Below are summaries and justifications for questions included on the survey instrument (see Appendix A for the survey).

- 1. How much of a problem do you think each of the following are in your community?**
- 2. How do you think the following will change in the next 10 years?**
- 3. Do you own or rent property on or near a body of water, such as a river, stream, wetland, pond, or ocean?**
- 4. Has your home or been damaged from the following in the past five years?**

Questions 1, 2, and 4 ask about existing and anticipated effects of weather and climate effects in coastal New Hampshire. Question 3 asks if the respondent owns or rents property on a shoreline. This information will help resource managers understand the main weather and climate concerns of local residents. Subgroup analysis will also help understand if the existing and anticipated effects vary by shoreline versus inland property owners or across different locations of shorelines. Finally, this information will provide context for other analyses. For example, those who believe these effects are a problem and/or are likely to increase may be more likely to take action to respond to weather or climate effects (Questions 5 and 6).

- 5. Have any of the following been done on your home or property in the past five years?**

6. How likely are you to do any of the following on your home or property in the next 10 years?

Questions 5 and 6 ask about existing and anticipated actions in response to weather or climate effects. This information will help resource managers understand how local residents are currently adapting to these effects and their future plans to adapt. As with previous questions, subgroup analyses will be performed to understand the differences across different populations of interest.

7. To what degree would the following factors make you more likely to install shoreline walls or riprap?

8. To what degree would the following factors make you more likely to plant, restore, or preserve the natural shoreline?

Questions 7 and 8 asks about factors that influence the decision to install shoreline walls or riprap and to plant, restore, or preserve the natural shoreline. This information will help local partners understand how their residents make decisions and how to best influence decision-making. As with previous questions, subgroup analyses will be performed to understand the differences across different populations of interest.

9. Buffer lands are naturally vegetated areas surrounding water bodies. The following is a list of potential policies or ordinances that could be implemented to better manage buffer lands in New Hampshire. How supportive would you be of each potential policy or ordinance?

Question 9 asks for the support level for various policies or ordinances to manage buffer lands. This information will help resource managers understand which potential policies or ordinances local residents would support. The policies and ordinances provided come from a synthesis of relevant policy options related to buffer management in the Great Bay watershed (Barley-Greenfield and Riley, 2017) and include state and municipal regulations, as well as a non-regulatory option. As with previous questions, subgroup analyses will be performed to understand the differences across different populations of interest.

10. How often do you use the following methods to get information on local environmental issues?

11. How credible do you consider these informational sources on local environmental issues?

Questions 9 and 11 ask about information mediums and credibility of information sources with respect to local environmental issues. Studies have shown that the television is the primary medium for current events in America, followed by the Internet and newspapers (NSF, 2012). However, many people are relatively wary of the information they find (Horrigan, 2017). Previous studies have found that people are less likely to pay attention to media they do not perceive as credible (Johnson and Kaye, 1998), but that different user groups are likely to believe some information sources are more credible than others (Flanagin and Metzger, 2000). This information will help resource managers understand how best to communicate with NH residents about local environmental issues.

12. Are you a seasonal or year-round resident of coastal New Hampshire?

13. Have you ever visited coastal New Hampshire?

Questions 12 and 13 ask about whether the respondent has had direct experience with coastal New Hampshire. “Experience goods” are goods for which consumers are uncertain about their preferences and learn about them with each consumption event (Nelson, 1970, 1974; Stigler and Becker, 1977). Direct experience with a good or service has been found to have an impact on value (Boyle et al., 1993; Adamowicz, 1994; Whitehead et al., 1995; Cameron and Englin, 1997; Hanley et al., 2009) and in value certainty (Hanley et al., 2009; Czajkowski et al., 2014).

14. Below is a list of statements about the Seacoast region of New Hampshire. Please read each statement and state your level of agreement or disagreement.

The statements in Question 14 are related to the concept of place attachment, which refers to the

positive emotional bond that individuals' develop with their local geographic context, including natural areas (Altman and Low, 1992; Williams et al., 1992; Moore and Graefe, 1994). Four place attachment dimensions are examined in this question: individual identity, place dependence, community identity, and environmental identity (Davenport and Anderson, 2005; Raymond et al., 2010; Smith et al., 2011, 2013). The order the items are presented will be randomized to exclude order effects (Lavrakas, 2008). This information will help resource managers understand how local residents are connected to Coastal NH. As with earlier questions, subgroup analyses will be performed to understand the differences across different populations of interest. Finally, this information will provide context for other analyses. For example, those with strong ecological identities may value environmental quality improvements more than those with strong economic dependence.

15. When considering options to manage coastal New Hampshire shorelines, how important to you are each of the following?

The statements in Question 15 are related to the concept of desired outcomes. Understanding what drives local needs and desires will help resource managers in their decision-making. Previous research has identified six broad categories of outcomes that are produced by nearly all managed landscapes and that can be emphasized through the actions of resource management and planning efforts. These six broad categories of outcomes are ecological, economic, lifestyle, quality of life, sense of physical space, and social solidarity (Smith et al., 2011, 2013). Research also suggests that place attachment is a key driver of desired outcomes (Vogt and Williams, 1999; Bricker and Kerstetter, 2002; Kruger and Jakes, 2003; Kyle et al., 2003; Smith et al., 2011), so those relationships will be analyzed.

16. Which policy would you prefer?

17. How certain are you that you prefer the policy option you just selected?

18. Which policy would you prefer?

19. How certain are you that you prefer the policy option you just selected?

20. Which policy would you prefer?

21. How certain are you that you prefer the policy option you just selected?

22. Which policy would you prefer?

23. How certain are you that you prefer the policy option you just selected?

Questions 16-23 are “choice experiment” or “choice modeling” questions (Adamowicz et al. 1998; Bennett and Blamey 2001) that ask respondents to choose between two multi-attribute alternatives with specific environmental quality improvements and household cost increases. Two alternatives are presented for each choice as binary-choice formats “provide the most straightforward avenue to ensure incentive compatibility” (Johnston et al., 2017).

Each potential policy is characterized by a) the amount of wetlands covered by vegetation; b) the amount of beach covered by sand dunes; c) the amount of shoreline shielded by seawalls and coastal armoring; d) the number of homes protected from flooding during a storm; e) the rate of shoreline erosion; and f) where the funds to implement the policy would come from. The levels for these factors are described in qualitative terms: “increase,” “stay the same,” and “decrease.” (Table 1). The final design can be found in Appendix B.

Following standard choice experiment methods, respondents choose the regulatory options that they prefer based on their preferences. Following standard approaches (Opaluch et al., 1993; Johnston et al., 2002a 2002b, 2002c, 2003), respondents are instructed to answer each of the three choice questions independently, and not to add up or compare programs across different pages. This is included to avoid biases associated with sequence aggregation effects (Mitchell and Carson 1989). “Cheap talk” text (e.g., Cummings and Taylor, 1999) is also included to emphasize that even though this exercise is hypothetical, respondents should consider their choices as if they were real.

Table 1. Factors and their levels

Factor	Factor levels
Wetlands (W)	
Sand dunes (S)	
Hardened shoreline (H)	Decrease/Stay the same/Increase
Flood damage (F)	
Erosion (E)	
Who pays (P)	ONLY residents of coastal New Hampshire ALL residents of New Hampshire ANYONE who resides in or visits coastal New Hampshire

One goal of the proposed study is to understand perceptions and preferences of strategies for adapting to coastal risks and hazards. Three alternate approaches were considered: a hedonic approach, a benefits transfer approach, and a factorial design approach.

The hedonic approach uses the housing market to infer the implicit price function for non-market amenities. The benefits to the hedonic approach are that it does not require a primary data collection and estimated values are based on actual choices. However, downsides to this approach include

- the estimated values are limited to measuring benefits related to housing prices only,
- it assumes that everyone has prior knowledge of the potential positive and negative externalities associated with purchasing property,
- the model assumes that, given their income, people have the opportunity to choose the combinations of attributes they prefer when, in reality, the real estimate market can also be affected by external factors such as interest rates and taxes,
- there are often issues with multicollinearity (e.g., if large properties are only available in areas with certain environmental amenities),
- the model assumes that prices in the market will automatically adjust to any changes in the attributes, and
- there is often bias due to omitted variables, such as other factors people consider when purchasing property

The benefits transfer approach transfers information available from studies already completed in one location or context to another to estimate economic values for ecosystem services. The main benefit to this approach is that it also does not require a primary data collection; however, data are sensitive to changes in the context in which they were collected and subject to various uncertainties. For example, differences between the case study sites or in the preferences of respondents from different regions could lead to errors when transferring estimates. Currently, there are only two studies that have been conducted in the New England region to estimate the non-market values of the environmental benefits of interest to the proposed study. The non-market values of natural riparian land, river ecology, recreational fishing, safe swimming, development setback, and enforcement were estimated in Maine (Johnston et al., 2015) and the non-market values of wetlands, beaches and dunes, seawalls and coastal armoring, and flood protection were estimated in Connecticut (Johnston et al., 2018).

Factorial surveys, also referred to as vignette experiments, use short, systematically varied descriptions of situations or persons (called vignettes) to elicit the beliefs, attitudes, or behaviors of respondents with respect to the presented scenarios (Atzmüller & Steiner, 2010; Auspurg & Hinz, 2015; Dülmer, 2007; Jasso, 2006; Nock & Rossi, 1978; Rossi 1979; Rossi et al., 1974; Rossi & Anderson, 1982; Sauer et al., 2011; Steiner & Atzmüller, 2006). The vignettes used in a factorial surveys are typically generated by factorially combining the levels of factors considered as relevant for the study. This approach was used

during the pre-test of this survey. However, respondents commented that they would have preferred to compare policies side-by-side as oppose to rate individual policies.

All three methods have their application. In this case, however, given the results of the pre-test, a choice experiment is the best option as we are interested in capturing non-use benefits (which cannot be done with a hedonic approach) and there are a limited number of existing non-market studies in the study region ruling out the potential to conduct a benefits transfer study that might have otherwise have allowed us to estimate non-market values.

24. Thinking about the potential management policies you just compared, how strongly do you agree or disagree with the following statements?

The statements in Question 22 ask respondents about their motivations as to why they supported or opposed certain proposed policies. These statements will help identify respondents who incorrectly interpreted the questions or did not believe the policies to be credible. In other words, the responses to these questions will be used to identify potentially invalid responses, such as: protest response (e.g., protest any government program), scenario rejection, symbolic (warm glow) responses (Mitchell and Carson, 1989; Moore et al., 2015), and hypothetical bias (e.g., Li and Mattson, 1005; Loomis and Ekstrand, 1998; Johannesson et al., 1999; Champ and Bishop, 2001; Fuji and Garling, 2003; Samnaliev et al., 2006; Lundhede et al., 2009; Bech et al., 2011; Olsen et al, 2011).

25. How important were each of the following when deciding between proposed management policies?

The statements in Question 23 also ask respondents about their motivations and will be used to identify motivations behind respondents' support levels, including altruism, option value, and bequest (Gilbert et al., 1992; Haefele et al., 1992; Lockwood et al., 1993; Moore et al., 2015; Nguyen and Robinson, 2015).

26. What is your sex?

27. In what year were you born?

28. Are you Hispanic or Latino?

29. What is your race? (select all that apply)

30. What is the highest level of education you have completed?

31. Are you currently employed?

32. What was your annual household income in 2020?

33. How long have you [lived in the Seacoast region of New Hampshire been a resident of your current county or town]?

34. How long have you been a resident of your current state?

35. Do you own or rent this residence (where this survey was mailed to)?

36. How many people, including yourself, live in your household?

37. How many of these people are at least 18 years old? _____

Questions 24 -34 collect social, demographic, and household information, which will be used to estimate the influence of these variables on responses, including values to improve the environmental quality in coastal New Hampshire. These variables will also be used to develop weights, comparing demographic and household characteristics from the sample to the target population . Population data will be obtained from the from the 2020 Census.

vi. Compliance with Information Quality Guidelines

The information collected will be disseminated to the public or used to support publicly disseminated information. NOAA National Ocean Service, National Centers for Coastal Ocean Science will retain control over information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. Final datasets will be archived following the

rules and requirements of the NOAA Public Access for Research Results (PARR) plan. See response to Question 10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g. permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.

Survey respondents will be asked to complete the survey online. Advantages of an online survey include ease of data gathering, minimal costs, and automation in data input and handling. Disadvantages include the absence of an interviewer and inability to reach challenging populations. According to the US Census Bureau, in 2016, an estimated 90.2% of the population in New Hampshire households had both a computer and internet subscription; this estimate increases to 92.0% for the population in households who are aged 18 to 64 years old (US Census Bureau, 2016). As such, the researchers believe that online administration will be a satisfactory method for surveying New Hampshire residents (see Part B, Section 3 for more information on maximizing response rates and dealing with nonresponse.)

With the assistance of a contract vendor having expertise in online survey administration, the survey administration tool will be developed to minimize burden for respondents and response bias, while maximizing response rate and data quality, based on best practices for online survey research. There will be an option available for respondents to request an alternative means for completing the survey.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Question 2

Researchers reviewed scholarship and consulted with local partners to identify any duplication of effort.

There have been several ecosystem service related projects within this region in the last five years. From 2013-2016, an ecosystem services assessment of the Great Bay Estuary was performed using a benefits transfer approach (OCM, NHCP, and ERG 2016). This study focused on recreational fishing, recreational oyster harvesting, commercial fishing, carbon sequestration, and nitrogen removal. As part of the Buffer Options for the Bay Project, an economic valuation of water quality ecosystem services in New Hampshire's Great Bay Watershed was conducted (Bauer and Johnston, 2017). This study developed a water quality benefit transfer function using meta-analysis techniques, as well as a water quality index (WQI) to relate water quality pollutant concentrations to water body suitability for human uses. In the winter of 2013/2014, Johnston et al. (2015) surveyed residents of a Maine watershed to estimate their values for natural riparian land, river ecology, recreational fishing, safe swimming, development setback, and enforcement. In the spring of 2014, Johnston et al. (2018) surveyed residents of two coastal communities in Connecticut to estimate their values for wetlands, beaches and dunes, seawalls and coastal armoring, and flood protection. In 2017, an ecosystem services conceptual model for the Great Bay National Estuarine Research reserve was developed (Mason et al., 2018). This model identified five ecosystem services of interest: water treatment, habitat persistence, commercial fishing, recreational fishing, and carbon storage. Each of these studies have been used to inform the development of the proposed survey instrument, including ecosystem service selection and scenario development.

According to our literature review and discussions with local partners, our survey is not a duplication of effort.

Specifically, only two studies (Johnston et al., 2015, 2018) have examined the ecosystem services in the proposed survey, but neither took place in New Hampshire. No previous studies have examined the value of erosion control in New England.

We have also formed partnerships with ongoing and planned research efforts so that we can leverage resources and provide complementary information about ecosystem services related to shoreline treatment options in the study region.

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

This collection involves residents. It does not involve small businesses or other small entities.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

The final collection will support the development of a CSMP for New Hampshire, as well as help inform local coastal zone management and planning, by providing information on public perceptions of coastal risks and hazards, current and anticipated adaptation practices on private property, and preferences for adaptation practices on public property. This information will help ensure the CSMP and future management and planning practices properly address these public perceptions, take private property adaptation practices into account, and incorporate the public's preferences. This information will also help local managers develop more targeted and meaningful messaging in their communication and outreach efforts.

New Hampshire does not have the technical expertise nor the budget to perform this work. Therefore, if this collection is not conducted by NOAA, relevant agencies will have reduced data and information to meet evaluative requirements set forth by the CZMA relative to the National Estuarine Research Reserve.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner inconsistent with OMB guidelines.

Data collection will be consistent with OMB guidelines.

8. If applicable, provide a copy and identify the date and page number of publications in the Federal Register of the agency's notice, required by 5 CFR 1320.8 (d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden.

A Federal Register Notice published on April 26, 2021 (86 FR 22034) solicited public comments.

i. Summary of Comments Received

No public comments were received.

ii. Consultation

As a part of project scoping and development, individuals from the following institutions were consulted for their views on the data collection in terms of priority elements, best survey practices for surveying the public, and possible duplication of research effort or collaborative opportunities: NOAA OCM, New Hampshire Fish and

Game Department, New Hampshire Department of Environmental Services (NHDES) Coastal Program, The Nature Conservancy, Piscataqua Region Estuaries Partnership (PREP), and the University of New Hampshire. Feedback was used in further scoping of the research project, study design, and survey development.

During the project scoping period, partners from the following organizations were consulted on the need for the collection as well as regarding important contextual or site considerations: New Hampshire Fish and Game Department, NHDES Coastal Program, and the University of New Hampshire. Feedback from these consultations was used to better understand public sentiment, the type of data already available on relevant topics, and data needs from the perspective of local and regional agencies. Information from these consultations was used during project scoping and development.

Finally, peer reviews on the survey and study design were obtained from individuals from the following institutions: PREP, New Hampshire Sea Grant, University of New Hampshire, Clark University, The Nature Conservancy, and NOAA OCM.

From these individuals, we received review relative to survey length, appropriate mode of survey administration, problematic survey Outcomes, Outcome order on the survey instrument, Outcome format and presentation, and opportunities to leverage this survey with previous or existing research efforts. Comments and suggestions provided from this group were used to revise and improve the study. Some examples include:

- Consolidating our Likert-type scales to reduce survey fatigue associated with numerous scaling types
- Asking about coastal versus riverine flooding to clarify the distinction, especially for inland residents
- Asking about the “credibility” of information sources rather than their “trustworthiness” to reduce perceived subjectivity of the term
- Including both increases and decreases in ecosystem services within the choice experiment design

9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.

A \$2 bill incentive will be provided with a follow-up letter for those who do not complete the survey after initial contact. A substantial literature has shown that monetary pre-incentives (as opposed to promises of money or gifts following participation) are effective at increasing overall response rates. We anticipate this incentive will increase response rates by at least 10%. A more detailed review of the literature and justification for the inclusion of the incentive is contained in Question 3 of Part B.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy. If the collection requires a systems of records notice (SORN) or privacy impact assessment (PIA), those should be cited and described here.

Information gathered from respondents will remain confidential. Access to any raw data collected will be restricted to project managers and lead analysts. In final datasets and products that are released, data provided by individual respondents will remain confidential and will be aggregated where appropriate to ensure confidentiality.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior or attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

No questions of a sensitive nature will be asked during this data collection.

12. Provide estimates of the hour burden of the collection of information.

The table below provides an estimate of burden hours by data collection phase (see Part B.1 for more details). We estimated a maximum of 540 respondents for the pre-test and 2,304 respondents for the full survey implementation and for each survey to take approximately 20 minutes, including time for reading the instructions, reviewing the questions, and completing the survey instrument. Based on the 121 responses to the pre-test, the median survey completion time was 15.45 minutes. Six respondents took more than an hour to complete the survey (most of those over 24 hours), and our interpretation is these respondents completed the survey in multiple sessions. Ignoring those respondents, the average survey completion time was 16.45 minutes. Both of these times are shorter than the anticipated 20 minutes.

Based on the results of the pre-test, we estimate a maximum of 276 respondents for the non-response follow-up survey and for each follow-up survey to take approximately five minutes. These estimates are based on the type of questions asked, length of the survey instrument, and the researchers' experience conducting similar surveys.

Information Collection	Type of Respondent (e.g., Occupational Title)	# of Respondents/year (a)	Annual # of Responses / Respondent (b)	Total # of Annual Responses (c) = (a) x (b)	Burden Hrs / Response (d)	Total Annual Burden Hrs (e) = (c) x (d)	Hourly Wage Rate (for Type of Respondent) (f)	Total Annual Wage Burden Costs (g) = (e) x (f)
Pretest	Individuals	121	1	121	16.45 min	33.2	\$27.07	\$898.72
Full Implementation	Individuals	2304	1	2304	20 min	768	\$27.07	\$20,789.76
Non-Response Follow Up	Individuals	276	1	276	5 min	23	\$27.07	\$622.61
Totals				2701		824.2		\$22,311.09

*The mean average for All Professions on the BLS 2020 National Occupational Employment and Wage Estimates was used in order to encompass the broad range of occupations in the respondent pool. https://www.bls.gov/oes/current/oes_nat.htm#00-0000

13. Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information. (Do not include the cost of any hour burden already reflected on the burden worksheet).

There are no capital costs or operating and maintenance costs associated with this information collection. No additional cost burden will be incurred by respondents beyond response time.

14. Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information.

Cost Descriptions	Grade/Step	Loaded Salary /Cost	% of Effort	Fringe (if Applicable)	Total Cost to Government
Federal Oversight					
Other Federal Positions	ZP3/2	100,000	1.2		1,200
Contractor Cost					
Survey Vendor		180,000	N/A		180,000
Contractor Positions		232,000	N/A		232,000
Travel					
Other Costs:					
TOTAL					413,200

15. Explain the reasons for any program changes or adjustments reported in ROCIS.

Upon analysis of pre-test data and guidance from experts in survey methodology, several revisions are proposed to enhance understanding, response rate, and to minimize respondent burden. Please see Appendix E for a redline version of the survey instrument.

Information Collection	Respondents		Responses		Burden Hours		Reason for change or adjustment
	Current Renewal / Revision	Previous Renewal / Revision	Current Renewal / Revision	Previous Renewal / Revision	Current Renewal / Revision	Previous Renewal / Revision	
Pre-Test and Full Implementation	2425	2844	2425	2844	801	948	The sample size for the pre-test was 540 respondents; the numbers in this submission represent the actual number of respondents (121) for the pretest.
Non-Response Follow Up	276	737	276	737	23	61	The number of respondents for the Non-Response follow up decreased based on the response rate for the non-response survey in pre-test.
Total for Collection	2701	3581	2701	3581	824	1009	

Difference	-880	-880	-185
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Information Collection	Labor Costs		Miscellaneous Costs		Reason for change or adjustment
	Current	Previous	Current	Previous	
Pre-Test and Full Implementation	\$21,688.48	Not previously calculated.	0	0	Labor costs were not previously calculated.
Non-Response Follow Up	\$622.61		0	0	
Total for Collection	\$22,311.09		0	0	
Difference	\$22,311.09		0		

16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

Data will be provided by the University of New Hampshire Survey Center and analyzed by the NOAA NCCOS research team. Findings will be presented in a variety of formats, including tables, graphs, and maps. Upon completion of the project, the research team will produce a final report that will be published as a NOAA Technical Memorandum. Research findings may be presented at professional conferences and published in peer reviewed journals.

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

The agency plans to display the expiration date for OMB approval of the information collection on all instruments.

18. Explain each exception to the certification statement identified in "Certification for Paperwork Reduction Act Submissions."

The agency certifies compliance with [5 CFR 1320.9](#) and the related provisions of [5 CFR 1320.8\(b\)\(3\)](#).