

## SUPPORTING STATEMENT

### ELWHA RIVER DAM REMOVAL AND FLOODPLAIN RESTORATION ECOSYSTEM SERVICE VALUATION PILOT PROJECT

OMB CONTROL NO. 0648-xxxx

#### A. JUSTIFICATION

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

The National Oceanic and Atmospheric Administration (NOAA) is requesting approval for a new information collection in order to conduct focus groups, stakeholder meetings and one-on-one interviews to develop and test the Elwha River Dam Removal and Floodplain Restoration Ecosystem Service Valuation Survey it is developing.

NOAA has received funding from the [Estuary Restoration Act of 2000](#) (Title I, P.L. 106-457) to expand research on ecosystem services valuation. Part of NOAA's role under this Act is to develop metrics to determine the economic value and impact of restoration. The proposed Elwha River Dam Removal and Floodplain Restoration Ecosystem Service Valuation Pilot Project (the "Pilot Project") will be NOAA's first effort to develop these metrics.

The [Elwha River Ecosystem and Fisheries Restoration Act of 1992](#) (i.e., the "Elwha Act", P.L. 102-495 ) authorized the Secretary of the Interior to acquire and remove two hydroelectric dams on the Elwha River (the Elwha and Glines Canyon dams) and implement restoration actions to restore the Elwha River and its native, anadromous fisheries. The proposed Pilot Project will not be used to make agency decisions on dam removal or restoration efforts on the Elwha River. This Pilot Project is designed to capitalize on the planned dam removal and restoration efforts to allow NOAA to better understand the public's understanding about ecosystem service measures (metrics) and value of these types of restoration activities and changes in ecosystem services associated with the river habitat restoration.

The Elwha River dam removal and restoration project presents a unique opportunity for NOAA to test ecosystem service metrics in order to determine the economic value of restoration activities. Because of the extensive planning and review process for the dam removal, significant baseline ecological data are available to allow a comparison of ecological values before and after the floodplain restoration and dam removal and to investigate potential tradeoffs between ecological and human use values. The ability to link results of the Pilot Project to precise measures of ecosystem changes could be applied to future restoration sites, enabling NOAA to evaluate a broader range of ecosystem services provided by future restoration actions.

The planned removal of these dams, scheduled to begin in September 2011, will be the largest dam removal project in U.S. history. Dam removal, along with restoration actions planned for the floodplain and drained reservoir basins, will impact people in the surrounding region in numerous ways. Impacted groups include recreators who engage in river activities such as fishing and rafting, reservoir users, and members of Native American tribes for whom the river

has cultural, environmental, and economic significance. These impacted groups are likely to have associated some value with the natural resources associated with the Elwha River. Because part of their value has to do with their use of the resource, we call it a *use* value. The dam-removal and restoration actions could also provide value to people throughout the Pacific Northwest and the United States, regardless of whether they visit the Elwha River or the Olympic Peninsula. This type of value is often called a *nonuse* value. Nonuse values associated with the dam removal and habitat restoration activities may be significant because these activities will restore the river to more natural conditions, and will also restore threatened and endangered populations of salmon and other fish species. The proposed Pilot Project is designed to measure the total value (i.e., combined use and nonuse values) of alternative restoration activities. This Pilot Project will also address an important gap in research on indirect and nonuse values provided by habitat restoration and protection.

NOAA plans to develop and implement a total value, nonmarket valuation survey of portions of the U.S. public and members of the Lower Elwha Klallam Tribe. To ensure the survey questions and restoration scenarios presented in this survey are accurate, easily understood, and not burdensome, it is important to test the survey with small focus groups and in one-on-one interviews.

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

This information collection will form the basis for designing an effective total valuation survey. At the regional level, we anticipate a diversity of views about the dam removal and habitat restoration. We plan to investigate the heterogeneity of views and values through the qualitative investigation using a series of focus groups, stakeholder meetings, and one-on-one interviews.

NOAA has contracted with Stratus Consulting in Boulder, Colorado, to inform the total value survey by conducting up to 12 focus groups, 2 stakeholder meetings, and up to 24 one-on-one interviews. NOAA team members and the research team (hereinafter the Team) anticipate conducting several focus groups drawing on residents of counties located near the Elwha River in the State of Washington and, more broadly, of the population of the State of Washington. Because the Olympic National Park also includes some areas of Oregon and Idaho, we may redistribute the total number of sessions and interviews over a wider area. Information on which to base this decision will be gathered by examining visitor information collected by the National Park Service (NPS) at this park, to determine how many people from outside the Western Washington region might visit. We will also speak with some key stakeholders (e.g., NPS staff) to determine the potential need to conduct focus groups in Oregon, Eastern Washington, and Idaho.

In each of the 12 focus groups, about 10 participants will provide written responses to questions presented in a series of handouts. The use of handouts helps gather individual views on specific issues before a group discussion on a topic. The focus group moderators, Mr. David Chapman and Dr. Richard Bishop, will lead a discussion based on the handouts and ask participants to describe their responses and to provide additional clarification of key issues. During the focus

group process, the Team will (1) discover issues of potential importance that may have been overlooked in background research, (2) learn how facts and concepts can be most clearly presented, (3) explore the alternative approaches to incorporating uncertainty about specific information into the analysis, and (4) explore potential valuation approaches and payment vehicles to determine whether people understand and correctly interpret draft valuation questions. Between each round of focus groups, we will refine the survey to improve respondents' understanding and interpretation to ensure valid survey responses.

In each of the 12 focus groups, about 10 participants will provide oral and written feedback based on descriptive materials (e.g., pictures and written descriptions of the salmon and sea run trout of the Elwha River) presented to them in a series of handouts. The use of handouts helps gather individual views on specific issues before a group discussion on a topic. The focus group moderators will lead a discussion based on the orally presented materials and handouts and ask participants to describe their responses and to provide additional clarification of key issues. During the focus group process, the Team will:

- } Assess participant's knowledge of anadromous fish, dams and dam removal impacts, ecosystem restoration, and related topics.
- } Discover issues of potential importance that may have been overlooked in background research,
- } Learn how facts and concepts can be most clearly presented, both through language and graphics,
- } Explore the alternative approaches to incorporating uncertainty about specific information into the analysis, and
- } Explore potential valuation approaches and payment vehicles to determine whether people understand and correctly interpret draft valuation questions.

Between each focus group, we will refine the draft survey materials to improve respondents' understanding and interpretation to ensure valid survey responses. The focus group format and questions will evolve between focus groups since each one builds upon information learned in the previous one. For the first focus groups, we anticipate having an initial set of open-ended questions about the topics listed below. These questions will help the Team understand what existing knowledge people have of the dam removal and restoration activities and what information we need to provide. In general focus group discussion topics will include:

- } Perception of natural resource or environmental problems.
- } Knowledge of issues related to anadromous fish, dam impacts, and dam removal issues in the region.
- } Knowledge of the Elwha River and its water and fishery resources.
- } Knowledge and perceptions of the various proposed Elwha River restoration activities.

} Relative preference for alternative proposed restoration actions.

Some of the specific types of questions that may be used to assess participant's background knowledge of the dam removal include:

} Please write down anything that you have heard or read about the removal of the Elwha and Glines Canyon dams.

} Please write down anything you have heard or read about proposed restoration activities around the Elwha River.

Once we collect information on participants' baseline knowledge in the initial focus groups, we can begin to craft descriptive language about the dam removal and restoration activities to present to participants in the next focus groups. At this stage we will begin to explore how participants react to the specific words we use in the focus group handouts and the overall presentation of information. We would make sure that all participants interpret descriptive materials and questions in the same way when we discuss the details of the restoration options. There are a lot of technical terms that we will likely have to simplify for participants. For example, we have found in the past that people may have a difficult time defining a floodplain. We may have to use words other than floodplain to convey the same concept or meaning. Examples of questions the moderators might ask in an open-ended format are below.

} In your own words, how would you define the word floodplain?

} When you hear the word floodplain, what do you think of?

} (After some discussion) Can you describe what I am talking about in your own words?

During this stage, we will also explore the best way to present information, particularly the science, to participants. Some people prefer to see information summarized in tables; others prefer a graph. We will experiment with different types of presentations to see which one fits best for this particular topic.

A further refinement to the survey language involves clearly incorporating scientific uncertainty into the descriptions of ecological endpoints. For example, scientists expect salmon to return to the Elwha River after the dams are removed, but there is uncertainty regarding both how soon this will occur and how big the population will be. This information must be communicated in the policy scenarios in order to ensure the survey is scientifically valid. We anticipate exploring the most effective way to communicate the concepts of ranges, probabilities, and averages by presenting the same information using different language, and asking follow-up questions to determine how well participants understood the information. Examples of questions the moderators might ask are below:

} In your own words, how soon do scientists expect salmon to return to the Elwha River?

} How many salmon do scientists expect will return to the Elwha River?

} Is this a sure thing, or might the results be different than the prediction from scientists?

Finally, the survey will ask respondents to choose between alternative potential restoration scenarios that cost different amounts of money. We will use the focus groups to determine the most appropriate way to present the cost the restoration activities. We will present these choices using different payment methods, such as higher taxes or higher electricity prices, to determine the most appropriate method for this project. The moderators would then follow up with questions such as:

- } Is there anything that concerns you regarding how these activities would be paid for?
- } Would you be more or less willing to pay for these activities if it were paid for in a different way?

As with the earliest, more general questions, these will be refined as the focus groups progress, based on previous participants' responses during this phase of the research.

The qualitative research phase also involves 24 one-on-one interviews (also called cognitive interviews), which generally occur after the focus groups. The purpose of these interviews is to further refine and improve the survey instrument outside the group setting and to determine whether participants fully understand the information presented to them and whether they interpret the valuation questions in a way that is consistent with the research objectives .

The focus groups and interviews will be conducted in hotel settings using paper handouts, with respondents participating in the discussion in a conference room at the facility. Stakeholder meetings will either occur in a similar hotel setting or at a Tribal meeting location, depending on the stakeholder group involved, and also include the use of paper handouts.

## **How information disseminated to the public complies with NOAA Information Quality Guidelines**

### ***Utility***

The overall study goals will be refined through the qualitative research phase of this project and through meetings with key stakeholder groups, including federal and state resource managers and the Team. These initial meetings will allow us to identify key information needs. At critical points throughout the study, we plan to update the key stakeholders on the status of the study. This will ensure that all information developed from this project will be transparent to all members of the public. Any information that is ultimately disseminated to the public will provide detailed analysis on the value associated with improving ecosystem services, which is a key issue associated with many environmental policy decisions.

### ***Objectivity***

The survey instrument will contain scientific facts/information and potential scenarios that will be presented to respondents. The information will allow them to make tradeoffs and state preferences for different ecosystem services and ecological outputs (eg changes in fish biomass). These ecological outputs as presented will need to be vetted by subject matter experts such as fish biologists for their validity. The goal is to present balanced and factual information to the respondent. We will also conduct internal peer reviews on all work products. External reviewers

will also have an opportunity to comment on factual details presented in the survey and work products throughout the qualitative research process. Peer review will ensure that the information collected is accurate, reliable, and unbiased and that the information reported to the public is accurate, clear, complete, and unbiased.

### ***Integrity***

During all focus group sessions, stakeholder meetings and interviews, participants will be reminded that their participation is voluntary, that their responses will be protected, and that any material identifying them will not be provided to anyone.

NOAA will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. See response 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 techniques or other forms of information technology.**

We do not plan to use any automated, electronic, mechanical, or other technological techniques or other forms of information technology.

### **4. Describe efforts to identify duplication.**

Based on conversations with a variety of stakeholders (academic, governmental, and Tribal representatives) involved in the dam removal and restoration effort, we have found no existing data collection activities that have specifically addressed the information needs of this study.

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

Focus groups, stakeholder meetings, and one-on-one interviews will target individuals rather than small businesses or small entities.

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

Without this collection, NOAA will be unable to develop the tools necessary to conduct this study.

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

This collection is consistent with OMB guidelines.

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

A Federal Register Notice requesting comments regarding this request was published on March 16, 2011(76 FR 14374). No comments were received.

**Consultants outside the agency**

NOAA and Stratus Consulting have compiled a team of experts to carry out this study. Key team members include Mr. David Chapman, Dr. Michael Welsh, Dr. Eric English, Dr. Megan Lawson, Ms. Colleen Donovan, and Drs. Richard Bishop, James Boyd, John Duffield, John Loomis, Roger Tourangeau, and Barbara Kanninen. We have also contracted with Drs. V. Kerry Smith, Richard Carson, and W. Michael Hanemann to participate in advisory roles. These experts have extensive experience in all disciplines necessary to complete an effective study, including the fields of nonmarket valuation, econometrics, and survey research and design. They have frequently applied their expertise in the context of environmental issues, including the protection of threatened and endangered (T&E) species, the implementation of ecological restoration projects, water quality issues, water allocation issues, impacts to recreation, and impacts to tribal resources. Members of this Team have worked extensively for federal, state, and local governments; American Indian tribes in the Pacific Northwest and throughout the United States; nonprofit groups; and research foundations.

A key qualification of our proposed team is the substantial experience of team members specifically addressing dam removal, dam modification projects, and management of river flows to protect T&E species. Prior experience specifically related to dam modification projects includes:

- Dr. Bishop conducted a study that valued improvements to environmental, cultural, and recreational resources of the Grand Canyon resulting from modifications to the operation of Glen Canyon Dam (Bishop et al., 1987; Welsh et al., 1997). The study involved two nonuse surveys, one conducted throughout the United States and one conducted specifically with ratepayers whose electricity costs would increase due to changes in dam operations. The valuation scenarios included protection of tribal, cultural, and spiritual resources. Secretary of the Interior Bruce Babbitt and Commissioner of Reclamation Eluid Martinez (Martinez and Babbitt, 1996) cited the nonuse valuation study in justifying their decision to modify Glen Canyon Dam operations in order to achieve environmental and other goals.

- Dr. Hanemann studied the restoration of water flows below the Friant Dam on the San Joaquin River in California and the resulting restoration of salmon populations (Hanemann, 2005; Cody et al., 2007). In a lawsuit between a coalition of conservation and fishing groups and the Bureau of Reclamation, the nonuse value of the restored river was considered alongside the value of irrigation water and other economic values to reach a settlement in which water flows were restored to a 60-mile portion of the river that was previously dry.
- Dr. Loomis conducted a study that valued the increase in salmon populations from the removal the Elwha River dams (Loomis, 1996b). To our knowledge this is the only nationwide study of the nonuse value of environmental impacts from dam removal. One conclusion of this study involved the extent of the relevant market, specifically, that a nationwide population held nonuse values for dam removal and restored salmon runs (Loomis, 1996a).
- Dr. Smith is currently engaged in a similar nonmarket valuation effort investigating the value of dam removal on the Klamath River in Oregon. Dr. Smith will provide important insights from the findings in that study which may be applicable to the Pilot Project.

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

Based on Stratus Consulting's extensive experience in working with local marketing firms to conduct focus groups, incentives will be provided by the local marketing research groups to participants, to increase participation rates. The specific incentive amounts (\$50-\$75) are determined by each of the market areas where the focus groups are conducted (that is, a larger amount might be expected in a larger city). The purpose of the incentive is to encourage attendance and to thank people for their time.

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

No assurance of confidentiality based on statute or regulation will be provided to the respondents. Respondents will be told that their identity will be protected. The anonymity of the focus group members and one-on-one interview participants will be protected by using an independent contractor to collect the information, by enacting procedures to prevent unauthorized access to respondent data, and by preventing the public disclosure of the responses of individual participants. In each focus group or one-on-one interview, we will ask only for the respondent to record his or her first name. The focus group will be taped to help prepare a summary of the group discussion. However, these recordings do not have any personal identifying information beyond respondents' first names.

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

We will not ask questions of a sensitive nature.



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

Estimated number of participants for the:

- Focus groups<sup>1</sup>.....140
- One-on-one interviews.....24

**Total respondents and responses: 164.**

Estimated time per response for the:

- Focus groups.....2 hours
- One-on-one interviews.....1 hour

Estimated total annual burden hours for the:

- Focus groups .....280 hours
- One-on-one interviews.....24 hours

Total: 304 hours.

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

There will be no recordkeeping/reporting costs to the respondents.

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

The cost to the federal government for this pilot project will be \$320,000.

**15. Explain the reasons for any program changes or adjustments.**

This is a new information collection request.

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

Stratus Consulting will provide NOAA with a report of the focus group discussions. No statistical analyses will be conducted, and there are no plans to publish the data for statistical use.

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

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<sup>1</sup> . The estimate of participants, time per response, and burden hours for focus groups includes 12 focus groups and 2 stakeholder meetings.

NA.

**18. Explain each exception to the certification statement.**

NA.