Supporting Statement B

Economic Contribution of Federal Investments in Restoration of Degraded, Damaged, or Destroyed Ecosystems.

OMB Control Number 1028-0107

Collections of Information Employing Statistical Methods

The agency should be prepared to justify its decision not to use statistical methods in any case where such methods might reduce burden or improve accuracy of results. When the question "Does this ICR contain surveys, censuses, or employ statistical methods?" is checked "Yes," the following documentation should be included in Supporting Statement B to the extent that it applies to the methods proposed:

1. **Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.**

Potential restoration projects will be identified by the NRDA restoration program and will be selected only if the project manager is interested in participating.

There is currently no comprehensive, centralized database that includes all restoration projects across the DOI agencies (i.e., the universe is unknown). Therefore, it is infeasible to develop a sampling approach that would allow us to adequately draw a diverse variety of restoration projects from which to create statistics generalizable to the larger population.

2. **Describe the procedures for the collection of information including:**
   * **Statistical methodology for stratification and sample selection,**
   * **Estimation procedure,**
   * **Degree of accuracy needed for the purpose described in the justification,**
   * **Unusual problems requiring specialized sampling procedures, and**
   * **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

The methods for data collection and economic analysis are informed by the previous case studies that are published in "Estimating the Economic Impacts of Ecosystem Restoration—Methods and Case Studies." The Conclusions and Suggestions for Future Analyses section of this report gives five suggested options for future data collection and impact analyses (on pages 30-31). We

have designed the new expenditure survey to collect the necessary data to execute option #3:

> 3. Use a combined best-fit sector and analysis-by-parts approach—Project management activities, as well as restoration activities implemented in-house by government agencies, are not well matched to IMPLAN sectors. Projects managed by government agencies and nongovernmental organizations could track expenditure data and direct economic impacts as projects occur and use NAICS codes to match private expenditures to best-fit IMPLAN sectors. The Forest Service and the Fish and Wildlife Service already have monitoring systems in place to track Federal project expenditures, and these systems could serve as examples.

For each case study restoration project, project cost data provided in the project expenditure survey will be compiled to split total project cost by project phase (planning, implementation, monitoring), by restoration actions (e.g., aerial seeding, streambank stabilization, project management, etc.), and by year.

Cost data and contractor NAICS codes will be used to develop IMPLAN economic input/output models to estimate the direct and secondary economic impacts of contracted expenditures. We will follow the Best-Fit Sector Method described on pages 28-29 in "Estimating the Economic Impacts of Ecosystem Restoration—Methods and Case Studies."

Data collected on labor hours and labor costs will be used to estimate the direct labor and labor income effects for restoration activities conducted in-house by the project manager's organization.

The economic impacts estimated for each case study will be specific to that case study. Because we do not know the universe of restoration projects and are not drawing a representative sample, we will not make generalizations about the economic impacts of the population of restoration projects.

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

Since we are not generating statistics and there are enough choices of representation for the various kinds of projects, nonresponse bias is not an issue.

4. **Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.**

We completed 21 case studies of restoration projects between 2013 and 2016 using the survey instruments and methods approved by OMB in 2013. The revised survey instruments and methods developed for this data collection were modified based on lessons learned from the initial efforts of this project.

We completed 3 additional case studies between 2016 and 2019 using the survey instruments and methods approved by OMB in 2016 (Cullinane Thomas et al., 2019, Huber et al., forthcoming-a, Huber et al., forthcoming-b). We made minor adjustments to the survey instruments based on these new case studies.

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

Statistical components of this project were consulted on by:
Eric White
Research Social Scientist
U.S. Forest Service
360-753-7684

Persons collecting and analyzing data:
Cathy Cullinane Thomas
Economist
U.S. Geological Survey

Chris Huber
Economist
U.S. Geological Survey

References cited

Cullinane Thomas, C., Huber, C., Skrabis, K., & Sidon, J. (2016). *Estimating the Economic Impacts of Ecosystem Restoration—Methods and Case Studies.* U.S. Geological Survey Open-File Report No. 2016-1016. Retrieved from http://dx.doi.org/10.3133/ofr20161016

Cullinane Thomas et al. (2019). *Economic impacts of restoration in national parks.* Natural Resource Report. NPS/NRSS/EQD/NRR—2018/1860, 2019. Retrieved from https://irma.nps.gov/DataStore/Reference/Profile/2258766

Huber et al. (forthcoming-a). *Economic impacts of wildfire risk reduction and source water protection projects in the Rio Grande river basin.* U.S. Geological Survey Open-File Report.

Huber et al. (forthcoming-b). *Economic impacts of the Wyoming Landscape Conservation Initiative.* U.S. Geological Survey Open-File Report.