

The Supporting Statement for OMB 0596-0010

Forest Industries and Logging Operations Data Collection Systems

Terms of Clearance

A. 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.**

Statutes and Regulations: Resources Planning Act (RPA) of 1974 (PL 93-278), National Forest Management Act Of 1976 (16 U.S.C. 1600), and the Forest and Rangeland Renewable Resources Research Act of 1978 (PL 95-307, STAT. 353) amended by the Energy Security Act of 1980 (42 U.S.C. 8701).

The Resources Planning Act (RPA) of 1974 and the Forest and Rangeland Renewable Resources Research Act of 1978 amended by the Energy Security Act of 1980 assigned responsibility for the inventory of timberland resources to the USDA Forest Service. Specifically, the legislation calls for: (1) an analysis of present and anticipated uses, demand for, and supply of the renewable resources of the Nation's forest and rangelands, and (2) an inventory, based on information developed by the Forest Service and other federal agencies, of present and potential renewable resources. The Act requires the Secretary of Agriculture to:

"...make and keep current a comprehensive survey and analysis of the present and prospective conditions and requirements for the renewable resources of the forest and rangelands of the United States...and of the supplies of such renewable resources, including a determination of the present and potential productivity of the land, and of such other facts as may be necessary and useful in the determination of ways and means needed to balance the demand for and supply of these renewable resources, benefits and uses meeting the needs of the people of the United States."

The Act also calls for:

"resource management research activities related to managing forests and rangelands for energy production" and for "resource utilization research activities related to harvesting, transporting processing, marketing, distributing, and utilizing wood from forest and rangeland renewable resources; [and utilization research activities related to] producing and conserving energy..."

The current consumptive and non-consumptive timber use levels from public and private lands are critical elements in developing this assessment. These research activities aid the Forest Service in preparation of future state and nationwide renewable resource assessments and programs. The data collected are currently not available nationwide from other sources.

- 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.**

a. What information will be collected - reported or recorded? (If there are pieces of information that are especially burdensome in the collection, a specific explanation should be provided.)

Two sets of information are collected. A survey of primary forest industry referred to as “mill survey” and aimed to gather industrial roundwood information from primary timber mills, and a loggers’ survey to collect information on the logging industry. See table below

b. From whom will the information be collected? If there are different respondent categories (e.g., loan applicant versus a bank versus an appraiser), each should be described along with the type of collection activity that applies.

Table 1 -

Information Collected	Description	Information Provided to:	Prepared by
Industrial roundwood data (mill survey)	Information on mills' volume of wood receipts by tree species and wood's county of origin, primary products production, and allocation of mill residues to by-products	Forest Service, Forest Inventory and Analysis (FIA) Program, agents of the FIA Program, or cooperating state agencies	Primary timber mills
Logger characteristics (loggers' survey)	Information about logging companies such as number of crews, loads per day, and certification status	Same as above	Logging staff

c. What will this information be used for - provide ALL uses?

Industrial roundwood information (mill data) is used to identify current and potential timber supply problems and opportunities, which informs the development and modification of both public and private forest management programs and investments.

This information collection, and analysis performed on data collected, is used by state foresters and the USDA Forest Service in the development of state forest resource plans. General uses of the data are to provide information describing the timber resource and its use in detail, to evaluate trends in resource use and carbon pools, to forecast future anticipated level of drain on the resource, and to analyze the ramifications of any changes in timber drain (demand).

Specifically, summarized mill data are used in conjunction with economic indicators by:

- State foresters and the Forest Service in the development of state forest resource and economic development plans,
- All levels of the Federal government in the development of policy,
- The timber industry to develop long-range plans, make decisions, and identify raw material problems and opportunities,
- State government and industry to develop specific economic development plans for new forest-related industries, and
- Forestry and economic development agencies, as well as private sector consultants.
- Mill data are also used to determine the wood and carbon flow from

processing material to timber and primary products. Such information supports state-level forest ecosystem and harvested wood product carbon inventories.

Summarized information is shared with state, regional, and national policy makers and with program developers. Information is combined and summarized to avoid disclosure of individual respondent's consumption or production. Compiled and summarized results are made available to the public over the internet and are also available upon request by contacting FIA units at each research station.

Information on loggers' characteristics assist identifying and describing the logging capacity available in the area. Information pertaining to the logging company (home county/city, crew members, and number of crews) will be tracked to determine changes in the logging contractor workforce overall, not by individual company. As mills close and forest land uses change, jobs and businesses may be lost. On the other hand, investments in new heavy equipment or increases in the number of crews are usually positive signs for the logging industry and workforce. These data are important in understanding the logging industry and its response to outside influences. The crew and production information (e.g., loads per day, certification status, miles willing to travel and procurement method) are used in the site selection analysis and can show areas of excess worker capacity. When this information is combined with the USDA Forest Service FIA forest stand data, we gain a better understanding of opportunities for the logging industry.

d. How will the information be collected (e.g., forms, non-forms, electronically, face-to-face, over the phone, over the Internet)? Does the respondent have multiple options for providing the information? If so, what are they?

The mill survey is delivered using a combination of paper questionnaires and electronic forms. Respondents have multiple options for providing the information, including the use of a hard copy questionnaire which can be returned by regular mail, using pre-paid envelopes, or by fax; the use of an electronic form which can be submitted via electronic mail, or can be mailed or faxed back, after printing; or by providing the information through a phone or in-person interview.

The survey of loggers is carried out at active logging operations during FIA's tree utilization data collection. The information is collected face-to-face only.

e. How frequently will the information be collected?

Both data collection efforts are done annually

f. Will the information be shared with any other organizations inside or outside USDA or the government?

The information is shared with state and university partners, assisting in the data collection and analysis efforts.

g. If this is an ongoing collection, how have the collection requirements changed over time?

Collection requirements have changed over time. The most current change is the shift from a survey of all active mills (full canvass) carried out at varying

frequencies within each region, to an annual survey of a mill sample, targeting at a minimum 40% of all active mills, and used consistently across all regions.

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.

Mill Survey: In general, the FIA program within each region (Southern Research Station, Northern Research Station, and Western Region -Rocky Mountain Research Station, and Pacific Northwest Research station) determines the best approach for implementing the survey for their region. All regions use a combination of paper questionnaires and electronic fillable forms. Responses using an electronic form can be submitted electronically, or can be mailed or faxed back, after printing the completed form.

Southern and Northern regions e-mail the survey questionnaire to all pulpwood mills that have an e-mail address in file and have not requested a hard copy of the questionnaire. The e-mail includes either an MS Excel workbook or a fillable PDF attachment containing the questionnaire and instructions, with available ways for the mill to return the completed form.

Non-pulpwood mills in Southern and Northern regions as well as all mills in the Western region receive a paper questionnaire but can request an electronic version following instructions provided in the form's cover page. The electronic forms used assist respondents to some degree by allowing easier navigation and allowing for easy questionnaire return.

In near future we plan to develop an interactive version of the electronic form, that will tailor available questions and options as respondents progress through the form and will also provide short instructions for further question clarification. For instance, once a respondent selects a mill type, remaining questions will only be related to their selected mill type. The interactive form will also provide error messages when needed, for instance if the sum of county volumes doesn't match the total log consumption volume the respondent will receive an error message or alert. The form will be developed with feedback from collaborators assisting with data collection and from a few respondents as well (less than 10, to meet OMB requirements). This interactive form should lower respondent's burden and help minimize invalid responses, reducing editing efforts as well.

Loggers Survey: All regions collect logger information through face-to-face interviews. Responses are recorded into an electronic data recorder by the FIA representative conducting the interview. This minimizes the burden to respondents and reduces costs by eliminating printing, mailing and phone contacts. Respondents are contacted only once with no follow-up or reminders needed.

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 Item 2 above.

Information collected through this effort is not available from any other source or study. No other Federal or state mandate or procedure assures the consistency and continuance of the information collected; or that the information is available to Federal, state, and private policymakers on a continuing and timely basis as called for by the Resources Planning Act (RPA).

Close contact between personnel from the U.S. Forest Service Research Stations, other Federal agencies, State forestry services, state agricultural extension offices, and universities keep Forest Service personnel aware of other studies or surveys that might accomplish the objectives of this data collection. As available, alternative information is used to avoid duplication and to minimize the public's burden. As an example, the States of Maine and Vermont collect some of the information included in this OMB renewal submission. But since the information is collected for tax purposes, it cannot be released by State agencies. Some mills respond to our request for information by sending a copy of their tax records which contain the same information that we are requesting.

The Forest Service and State agencies cooperate in collecting this information. Sharing the collection burden and study results with State forestry personnel eliminates duplication of effort therefore lowering the public's burden. Formal agreements exist between the Forest Service and some State agencies and other federal agencies outlining cooperative responsibilities in the collection and dissemination of these data.

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

Mill Survey: Mills are selected into the sample using a stratified sample design, with mill size as one stratum. In this manner larger mills have a higher probability of selection into the sample, minimizing the impact to smaller mills. However, according to the U.S. Census Bureau, nearly 87% of the establishments in the Wood products manufacturing and the Pulp, paper, and paperboard manufacturing sectors (NAICS codes 321 and 3221, respectively) employed fewer than 500 people in 2018 (U.S. Census Bureau. 2018. Statistics of U.S. Businesses. <https://www.census.gov/data/tables/2018/econ/susb/2018-susb-annual.html>. Accessed September 10, 2021). Therefore, our mill sample will include mostly small entities. The collection effort aims to minimize impact to all respondents by

- 1) Requesting information useful to the states when generating state mill directories (such as mill contact information, products produced, and equipment lists) which helps reduce the number of surveys a mill could receive
- 2) Many state cooperators collecting the information for this survey attach address labels to the questionnaire. These address labels include the mill name, contact person/owner, address, county, and latitude and longitude (if available). Including these labels reduce the burden on respondents by requiring only review for accuracy and edits as necessary.
- 3) Mills can provide other forms, spreadsheets, documentation, or other available internal or external reports that contain the same information requested in the questionnaires. Some mills maintain internal databases of the tree species processed, and from where trees are harvested. Instead of

filling out this section in the respective questionnaire, the mill may submit a computer printout or an electronic file of this information from their database.

- 4) Some States rely on personal mill visits to collect the information. These data collectors often assist respondents in completing the questionnaires.
- 5) For mailed questionnaires, self-addressed and stamped return envelopes are provided.
- 6) To aid respondents in selecting their applicable wood procurement areas, states may add an appendix page to the mill survey showing a map of the state with counties name and number, and/or provide a list of state county names.

Loggers Survey: According to the U.S. Census Bureau, 95% of establishments in NAICS code 1133 – Logging category, employed fewer than 500 people in 2018 (U.S. Census Bureau. 2018. Statistics of U.S. Businesses. <https://www.census.gov/data/tables/2018/econ/susb/2018-susb-annual.html> Accessed September 10, 2021). The Loggers' survey is designed to minimize the burden to businesses and entities of all sizes by presenting the questions in person and requiring no respondent's effort to access, complete, or mail forms. All answers are recorded in data recorders by interviewer, reducing the time and cost burden to respondents.

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.

Not conducting this data collection would impede the Forest Service from complying with the Forest Management Act of 1976 (RPA), which states that: "to serve the national interest, the renewable resources program must be based on a comprehensive assessment of present and anticipated uses, demand for, and supply of renewable resources from the Nation's public and private forest and rangelands ..." To assure the necessary data for the periodic national assessments required by the RPA, this means:

- a. Updating a current comprehensive inventory and analysis of timber resource use.
- b. Applying scientific knowledge to support the inventory and analysis.
- c. Providing related information for the development of the periodic assessments.

If the data were collected less frequently, Federal and State agencies, legislators, industrial firms and associations, colleges and universities, Congressional staffers, and researchers would not have the insight into national and regional trends in timber resource use and industry development needed to influence the policy decisions of the legislature and executive branches of both Federal and State governments. Trends in forest harvests would be spread out over larger periods, resulting in renewable resource decisions being based on older or out of date information.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner:

- **Requiring respondents to report information to the agency more often than quarterly;**

- **Requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
- **Requiring respondents to submit more than an original and two copies of any document;**
- **Requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;**

Not applicable- Mill surveys are carried out with one-year lag, asking mills for the prior year amount of wood received and processed. Logger surveys collect current information therefore no record keeping required.

- **In connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
- **Requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
- **That includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
- **Requiring respondents to submit proprietary trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

There are no special circumstances. The collection of information is conducted in a manner consistent with the guidelines in 5 CFR 1320.6.

- 8. If applicable, provide a copy and identify the date and page number of publication 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.**

The Federal Register 60-day Notice for the renewal of this information collection was published on August 13, 2021, in Volume 83, No. 137, pages 33194-33195. Available here: <https://www.gpo.gov/fdsys/pkg/FR-2018-07-17/pdf/2018-15228.pdf>.

No public comments received.

Describe 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 record keeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

Aside from direct communication with individual state partners and industry representatives, FIA carries out periodic TPO users' group meetings to provide opportunities for program staff to interact with the user community. The latest

such meeting was held in February of 2021.

Additionally, we requested a review of the OMB package (Support Statement A&B, standard survey forms, and test forms) from the following three external reviewers:

External Reviewer 1:

Steve Prisley
Principal Research Scientist
NCASI (www.ncasi.org)
541 Washington Ave SW | Roanoke, VA 24016
(540) 808-8022; sprisley@NCASI.org

Comments received via e-mail, October 15, 2021.

“Some positive comments and one question-

First, NCASI appreciates the opportunity to review these materials. We strongly endorse the need for the data provided by the TPO program from these surveys, as our member organizations include both suppliers of this data (recipients of questionnaires) and end-users of the information products developed. Data provided by TPO is critical for understanding wood supply and demand relationships in the US, and is valued for strategic and tactical planning by companies in the forestry sector.

The application materials do an excellent job of summarizing the need for the surveys, the methods used in conducting the surveys, and the statistical methodology used for sampling.

The methodology behind the survey is sound and time-tested. That said, the USFS TPO program has shown willingness to adapt and change to meet changing user needs. The program is to be commended for seeking to conduct tests to improve the response rates through modification of questionnaires and through financial incentives. These are both suggestions that were provided by the community of users of TPO data during a recent TPO Stakeholders meeting (see Supporting Statement A, section 8).

Question: Statement B, section B.1. Mill survey. It’s unclear when the text mentions that sample intensity is dependent on the state, whether this is the state in which the mill is located or the state from which the roundwood originated. If the state in which the mill is located, how is the sampling for Canadian mills conducted? By province?

[Response: *It refers to state where mills locate. I’ll add a note to clarify.*

The stratification is done first at the state level and then at the mill-type level, within each state. As for Canadian mills, we don’t sample from any region in Canada. However, we do survey selected pulp mills and composite panels mills in Canada that are known to use US wood.]

Overall, the package looks great!”

External Reviewer 2:

Nadia Tase
Climate Change and Forest Inventory Specialist | Fire and Resource Assessment Program
California Department of Forestry and Fire Protection
3141 Hwy 50, Suite B
South Lake Tahoe, CA 96150
(530) 573-2320 (o); Nadia.Tase@fire.ca.gov

Comments received via e-mail, October 18, 2021

"... I didn't really have a lot of comments on the TPO survey. The only doc I commented on was the Supporting Statement A about adding some emphasis on carbon and climate mitigation, but I don't know if that language or emphases are set by other documents. I'm not familiar enough with some of the concerns with the annual sample to make any comments on sample design or about what questions might be missing from the annual survey vs. the periodic survey."

[Response: *Suggested edit to Supporting Statement A, question 2c, adding application of collected data in analysis and accounting of carbon inventories, was accepted.*]

External Reviewer 3:

Kristen Bergstrand

Timber Utilization and Marketing Consultant | Forestry Division

Minnesota Department of Natural Resources

Resource Assessment Office

483 Peterson Road

Grand Rapids, MN, 55744

(218) 322-2511; Kristen.Bergstrand@state.mn.us

Comments received via e-mail, October 13, 2021.

"... Thank you, for the opportunity to make suggestions on these forms. Scott Burns and I took a look and have a few things for your consideration. I'm not as familiar with the pulpwood surveys because we don't assist with that data collection but I enjoyed seeing it and have a few comments in the attached. I only reviewed the forms for the North. I wondered why the forms aren't in the same format for the pulpwood and sawmill surveys (i.e. fillable pdf and excel spreadsheet)? I'd suggest considering an excel document for the fillable pdf North Primary Non-pulp form as well and maybe vice versa and get both formats approved. We've used forms in an excel format for the sawmills in the past successfully and it's another option for data collection if folks are used to excel vs. fillable pdf's. The main point is to definitely have an electronic form available that can be e-mailed to mills. **[Response:** *forms will be available in MS Excel format as well]*

1. I assume the logger survey instrument is for utilization studies only or will be done by FS personnel? I did not review. Is that new? I don't recall a logger survey ever being part of TPO data collection? **[Response:** *North only asks two questions. West and South collect more information]*

2. The North Cognitive Interviews- I'm a little confused if this is an approved format/form to collect the survey data by phone or if this is a new survey form to ask them for feedback on the new short TPO survey form? I'm thinking this is a new survey about the survey form not actual data collection. That's how I viewed it and formulated comments. Timing on this, I assume it will be given after the 2021 data is collected on the short and long form to see what's missing needed or where folks stumble? What form will they be given during the interview and would they already have completed the 2021 survey? Is this to prep for the next two year approval so for improvements to 2024 forms? **[Response:** *Cognitive interviews will be done using the standard form, not the tests forms. They'll be performed only one year, once approved by OMB. Cognitive interviews will*

provide information to improve clarity of questions for future years (next OMB renewal period, 2025-2027)]

3. North test 1 Postcard- I think the intent with this is a tool to try to gain feedback on the new short fillable pdf forms and set up the cognitive interviews to go through questions and identify needs? **[Response: Sorry, no. This is part of the length test only (not related to cognitive interviews). It's proposed to evaluate mill response to a short 3-question postcard to gather basic information. If mills provide a good response, it can be used in future to help maintain an updated mill list.]**

4. North Test1 Short Form- There are some good simplifications in this document, please see attached comments. **[Response: Thanks]**

5. North Primary Non-Pulp Form- suggestions for consideration in the comments. **[Response: Thanks. These will be considered]**

General comments Supporting Statement A for OMB 0596-0010

I like the idea of trying to add financial incentives to complete the survey.

I like the idea to direct questions and have instant error check on future online survey forms.

General comments Supporting Statement B for OMB 0596-0010

MN would volunteer to test the financial incentives. I think it would be productive to require a full survey for the financial incentives. MN could potentially be interested in the data experiment if it is stratified like the mills on volume and size. I think this should all be done by volume consumed per facility. The large facilities need a full survey, medium facilities the short survey small facilitates maybe a postcard or really abbreviated form could suffice.

This is an interesting concept to try. I'm curious why this is only being done in the Northern region (lowest response rate, most mills)? Wrapping my head around the statement below I see for the three test groups 1) regular questionnaire 2) postcard plus regular questionnaire 3) short survey questionnaire. **[Response: North has the expertise to carry out the tests. Depending on results and funding availability, FIA will consider requesting OMB approval to expand the testing in a future OMB renewal period]**

I'm not sure what the postcard would say- just an awareness the full survey is coming or see what data would come back on the postcard and document if they fill out the whole survey? I'm assuming it's a different postcard then the test postcard? A little confused I guess on the postcard use in the test scenarios below. **[Response: Sorry for the confusion. The description was edited to clarify. Edited description below]**

"The following experiment will be run in up to three states across the Northern U.S. The states will be selected based on a diversity of mill types and support from state partners. Across each state, the annual sample will be randomly divided into three treatments. One treatment will be the control (standard implementation). The second treatment will consist of first sending a short postcard (3 questions) followed by the full questionnaire. And the third group would receive the postcard followed by a version of the questionnaire that is roughly half the length of the standard survey and all complex questions (e.g., matrices) are minimized. Additionally, the short 3-question postcard will be sent to sampled mills in the region as well."

“Additionally, testing form lengths will require contacting 2,500 mills with a 3-question postcard and performing cognitive interviews will involve contacting 500 mills for initial screening and invitation to participate in the interview, with 20 of those mills targeted for the cognitive interview. “

Q. 2500 mills will receive the 3-question postcard (that’s a lot of mills for only 3 states?- assuming the testing may be done in more than three states?) Will just 20 mills or 4% of the 500-sample size be enough to draw reliable data on the efficiency or preference for the new form? **[Response: Excellent point! 2,500 mills would cover the region not only 3 states. The following was added to reflect that “Additionally, the short 3-question postcard will be sent to sampled mills in the region as well.”]**

Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.

Each regional TPO group have consulted with representatives via e-mail, telephone, and video conversations to discuss timeliness and frequency of data reports as well as the length and depth of the resulting industry reports.

FIA consulted with state partners that compile mill records, to help evaluate these questionnaires in terms of information usefulness, adequacy of frequency, and difficulty.

Consultation 1:

Dan Chappell
Alabama Forestry Commission
Office & Cell # (334) 850-3986
Email: James.Chappell@forestry.alabama.gov

Comment received via e-mail from Mr. Chappell, May 26, 2021:

“I have looked over the Proposed TPO Survey Form. I am fine with supporting the change. I know that you and the team spent a lot of time and effort to streamline to a point where it is, as you state, as simple as it can be while providing you with the survey questions that you need answered. Please proceed with our support.”

Consultation 2:

Scott Danskin
South Carolina Forestry Commission
Office (803) 896-8819
sdanskin@scfc.gov

Comment received via e-mail from Mr. Danskin, June 3, 2021:

“I gave it an honest going-over, and have a few points I’d like to contribute. Overall, I think the new form is a much more user-friendly than the previous form, and prefer the changes that have been made.

- *On the front page, the objective is identified as to survey the “quantities and types of logs.” Should it also include a mention of “other in-woods products” such as chips or grindings?*
 - *It would be helpful if you changed the year of the survey to an editable field. This would allow a survey from a previous year to be updated, saving a lot of time on addresses, contact information and other fields that often don’t change.*
 - *Rather than a new Section 2.1a if a mill takes in two products, allow for the selection of multiple products like sawlogs and chin-n-saw (they can be filled in across the lines as the form already allows, including the dimensions). If the mill takes two very different products, we generally consider it another operation.*
 - *Section 2.3 used to have a disclaimer that if section 2.1a was not completed then this section is required, otherwise it is okay to leave blank. That exception is missing in the new form.*
 - *In the fillable computer-based PDF version, please allow the tab function to move the cursor to the next logical location on the form.*
- Just a thank you for the extra space on page”*

Consultation 3:

Barry D. New, CF, RF

[North Carolina Forest Service](#); [NC Department of Agriculture & Consumer Services](#)

Office: 919-857-4843; Mobile: 919-673-9594

barry.new@ncagr.gov

Comment received via e-mail from Mr. New, June 5, 2021:

“... Below are a few comments based on a very quick review from myself and Robert Ross.

- *Page 1 / Section 1.1: agree with changes that have been made to facility address.*
- *Page 1 / Section 1.5: agree with changes to remove business start date field.*
- *Page 1 / Official Use Only: suggest adding a check box for “faxed” survey.*
- *Page 1 / Official Use Only: agree with moving latitude/longitude fields into new location on survey and to be entered by the survey administrator.*
- *Page 2 / Section 2.1a: the current form/survey does not allow for the listing of pine and hardwood raw material received. Change the form/survey to allow for the primary wood processor to list the volumes and units of measure for both pine and hardwood raw materials received. **NC has numerous mills that receive both pine and hardwood. Consider re-formatting 2.1a & b. The form should be designed in a way that is capable of capturing all attributes (volume amt., unit of measure, log length, top diam.) for both softwood & hardwood sawlogs, softwood & hardwood veneer, etc.*
- *Page 2 / Section 2.1b: the current form/survey does not allow for the listing of pine and hardwood export of unprocessed roundwood. Change the form/survey to allow for the primary wood processor to list the volumes and units of measure for both pine and hardwood roundwood exports.*
- *Page 3 / Section 2.4: the current form/survey allows for the primary wood processor to list the species that they procure and process. The proposed changes would eliminate the species list and combine into two categories of*

*softwood & hardwood. Suggest leaving Section 2.4 unchanged from the 2020 survey. ** Note: Even though all of these species groups are not correlated with individual FIA species codes, knowing the primary species and relative percentage of each that a mill processes is extremely valuable information for state U&M staff. It may be possible to work this into the draft revision as a species drop down list.*

- *Page 3/ Disposal of mill residues: Does not capture the amount of mill residues produced. How will this be calculated?"*

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

The Forest Service is requesting approval to test the efficacy of a series of financial incentives to improve mill response. It is expected that mills will be more likely to dedicate the needed time to complete a survey form if compensation is offered. The proposed plan will evaluate a range of incentives on response (from \$25 to \$100 gift cards). Costs associated with the financial incentive will likely be offset by reduced costs in conducting nonresponse follow-up and the benefit of higher response rates leading to more accurate data summaries. Nonresponse decreases precision of our estimates, lowering data reliability and validity. Forest products mill populations are small and continuously shrinking, therefore it is critical to maximize the number of responses to ensure representation and reduce error in our estimates. This test will provide the needed information to evaluate effectiveness of incentives on response from mill participants.

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

Data collected fall under the Forest Inventory and Analysis data protection authority where confidential information is protected under: 7 U.S.C. § 2276 : US Code - Section 2276: Confidentiality of information. Data collection is also part of agency policy as stated by the Forest Service Handbook Directive 4809.11-2008-1: sections 19.2 (Data Collection) and 19.3 (Data Privacy). Data collected are also protected from disclosure under the Confidential Information Protection and Statistical Efficiency Act (CIPSEA) , Title V of the E-Government Act of 2002, [Public Law 107-347](#).

Instructions on the mill survey's front page indicate that "All Volumes Reported will be held confidential and will only be used to aggregate to the county and state level." Furthermore, where applicable, the mill survey forms provide the option for respondents to opt out of state directories, further protecting mill privacy.

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.

There are no questions of a sensitive nature, such as those pertaining to sexual behavior, attitudes, religious beliefs, or other matters commonly considered private.

12. Provide estimates of the hour burden of the collection of information. Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated.

- **Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. If this request for approval covers more than one form, provide separate hour burden estimates for each form.**

- a) **Description of the collection activity**
- b) **Corresponding form number (if applicable)**
- c) **Number of respondents**
- d) **Number of responses annually per respondent,**
- e) **Total annual responses (columns c x d)**
- f) **Estimated hours per response**
- g) **Total annual burden hours (columns e x f)**

Table 2 -

(a) Description of the Collection Activity	(c) Number of Respondents	(d) Number of responses annually per Respondent	(e) Total annual responses (c x d)	(f) Estimate of Burden Hours per response	(g) Total Annual Burden Hours (e x f)
Standard Forms					
Mill data, South All (Pulp Mills)	77	1	77	0.50	39
Mill Data, South All (Excluding Pulp Mills)	643	1	643	0.50	322
Mill Data, North Standard (Pulp Mills)	28	1	28	0.83	23
Mill Data, North Standard (Excluding Pulp Mills)	1214	1	1214	0.83	1010
Mill Data, West Annual Survey	120	1	120	0.75	90
Mill Data W. General Forms, Pulp, Board & BioMass	88	1	88	0.85	75
Mill Data W. General Forms, Pulp, Board & BioMass (pulp Mills)	16	1	16	0.85	14
Mill data, West Short Census	280	1	280	0.50	140
Mill data, West postcard	34	1	34	0.30	10
<i>Subtotal Standard Forms</i>	<i>2,500</i>	<i>--</i>	<i>2,500</i>	<i>--</i>	<i>1,723</i>
Tests Forms					
Mill data, North test Short*	98	1	98	0.42	41
Mill data, North postcard**	2,500	1	2,500	0.083	208
Mill survey, Cognitive Interviews*	500	1	500	0.083	42
Mill survey, Cognitive Screener*	20	1	20	1.00	20
<i>Subtotal—Test Forms</i>	<i>3,118</i>	<i>--</i>	<i>3,118</i>	<i>--</i>	<i>311</i>
Loggers Survey					
Logger survey, South & West	90	1	90	0.25	23
Logger survey, North short	60	1	60	0.08	5
<i>Subtotal Loggers Survey</i>	<i>150</i>	<i>--</i>	<i>150</i>	<i>--</i>	<i>28</i>

(a) Description of the Collection Activity	(c) Number of Respondents	(d) Number of responses annually per Respondent	(e) Total annual responses (c x d)	(f) Estimate of Burden Hours per response	(g) Total Annual Burden Hours (e x f)
Total All Activities	5,768	---	5,768	---	2,060

Note: *=These activities will be performed one year only. **=The North's postcard will be tested the first year. Its use over the remaining years will depend on results (level of response) from first year's test.

Record keeping burden should be addressed separately and should include columns for:

- a) Description of record keeping activity: None**
- b) Number of record keepers: None**
- c) Annual hours per record keeper: None**
- d) Total annual record keeping hours (columns b x c): Zero**

Table 3

(a) Description of record keeping activity	(b) Number of Record keepers	(c) Annual hours per record keeper	(d) Total annual record keeping hours (b x c)
None	None	None	0
Totals	None	---	0

The information collection doesn't require special record keeping by respondents. Other than the time-burden to complete the questionnaire, respondents require no special equipment, extra personnel assistance, or incur any additional costs from participation.

- **Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories.**

Table 4

(a) Description of the Collection Activity	(b) Estimated Total Annual Burden on Respondents (Hours)	(c)* Estimated Average Income per Hour	(d) Estimated Cost to Respondents
Mill survey, pulpwood mills ⁽¹⁾	75.40	28.10	2,108.63
Mill survey, all other ⁽¹⁾	1,957.60	22.15	43,360.83
Logger survey ⁽²⁾	27.30	23.75	648.38
Totals	2,060.30	---	46,127.84

⁽¹⁾ Estimated average hourly earnings for all employees of NAICS codes 321 (wood products) and 322 (pulp, paper, and paperboard mills), 2020. Source: U.S. Department of Labor, Bureau of Labor Statistics. Series id CES3132100003 and

CES3232210003 respectively. <http://www.bls.gov/data/#employment>. Accessed June 11, 2021.

⁽²⁾ Estimated average hourly earnings for all employees, NAICS 1133 (logging), 2020. Source: U.S. Department of Labor, Bureau of Labor Statistics. <http://www.bls.gov/data/#employment>. Accessed June 11, 2021.

13. Provide estimates of 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 shown in items 12 and 14). The cost estimates should be split into two components: (a) a total capital and start-up cost component annualized over its expected useful life; and (b) a total operation and maintenance and purchase of services component.

There are no capital operation and maintenance costs.

14. Provide estimates of annualized cost to the Federal government. Provide a description of the method used to estimate cost and any other expense that would not have been incurred without this collection of information.

The response to this question covers the actual costs the agency will incur as a result of implementing the information collection. The estimate should cover the entire life cycle of the collection and include costs, if applicable, for:

- **Employee labor and materials for developing, printing, storing forms**
- **Employee labor and materials for developing computer systems, screens, or reports to support the collection**
- **Employee travel costs**
- **Cost of contractor services or other reimbursements to individuals or organizations assisting in the collection of information**
- **Employee labor and materials for collecting the information**
- **Employee labor and materials for analyzing, evaluating, summarizing, and/or reporting on the collected information**

The data collection total annual cost is estimated at \$1,732,295 distributed as follows,

Mill survey program estimated annual costs:

Activity	Mill Survey Costs
Planning	28,918
Printing Forms (includes changes to forms)	328
Correspondence/Postage/Mailing,	492
Canvass/Follow-up (In-kind by states) ¹	402,935
Editing, coding, tabulating, analysis, writing	513,554

Printing/publishing	5,352
Dissemination/Mailing	437
Training and Miscellaneous	35,280
Direct coop agreements ²	743,000
Total	1,730,295

¹ For the Northern and Southern Regions, information is collected by FIA personnel by participating State personnel. Time and expense that states incur in the data collection can be applied to the state's costs associated with buying down the Forest Inventory and Analysis annual cycle.

² The contracts with the University of Montana-Missoula, Bureau of Business and Economic Research Program includes that costs associated with planning, printing forms, correspondence/postage/ mailing, canvass/follow-up, editing, coding, tabulating, analyzing, writing, training, and miscellaneous for the Western Region. The contract with University of Massachusetts, Amherst covers costs associated with data collection (including printing forms, correspondence/postage/ mailing, canvass/follow-up, editing, coding, and tabulating, among others).

Loggers' survey annual estimated costs:

Implementing the Loggers survey will cost approximately \$2,000 per year. Cost of implementing this survey will be low, as all planning, travel, training, costs of processing program and data edits, etc. are costs already incurred as part of the harvest utilization studies. Adding the survey collection to this existing program only creates minor added time for survey delivery.

15. Explain the reasons for any program changes or adjustments reported in items 13 or 14 of OMB form 83-I.

The overall annual burden hours will decrease 87 hours from 2,147 hours for the current OMB approval to 2,060 hours for this OMB renewal submission. The decrease in the annual burden hours is based partially on a smaller mill population (closures) and changes to the survey forms which reduced the number of questions and simplified the wood procurement question (volume by species and county of origin) from a matrix for to a listing format.

The estimated cost to respondents is expected to increase from \$43,174 estimated for the currently approved OMB collection to \$46,127 for this OMB renewal submission. The increase in costs to respondents is the result of increase in average per hour income across all categories.

Increase costs to government are based on higher costs to deliver an annual survey. Fixed costs associated with planning and analysis are higher due to the additional steps needed to update a mill list, plan, and analyze data within a year rather than over the course of 2-5 years.

16. For collections of information whose results are planned to be published, outline plans for tabulation and publication.

Collected data are aggregated to county and state levels by various categories providing information by region, tree species, primary wood product, and mill residues. This information is compared, contrasted, and evaluated with earlier collections, timber resource supply statistics, and industrial output information.

Results of this information collection will be published as Forest Service Research Notes, General Technical Reports, and Resource Bulletins. The reports will contain tabular summaries of the information collected along with appropriate analysis and evaluation of impacts on the timber resource supply and demand conditions. The information from the loggers' survey will be shared with the Southern Research Station Forest Operations Research to Achieve Sustainable Management Unit.

Compiled and summarized results will also be available over the internet and by contacting each research station. In some instances, data may be retrieved and summarized by specific counties or regions, by specific products, or by a specific size-class of mills.

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.

Not applicable. The expiration date for OMB approval will be displayed on all forms.

18. Explain each exception to the certification statement identified in item 19, "Certification Requirement for Paperwork Reduction Act."

The agency is able to certify that the collection of information encompassed by this request complies with 5 CFR 1320.

B. Collections of Information Employing Statistical Methods

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.

Mill data are collected from a stratified simple random sample of all known primary wood-using mills using harvested wood in log or chip form, such as sawlogs, veneer logs, pulpwood, and pulp chips, to manufacture products such as lumber, paper, and biomass energy. All known primary wood products industries in the United States, and Canadian mills that process wood material from the United States, are sampled annually. Sample intensity will be dependent on the primary product and the state. For states not participating in the annual sample, a canvas of all other known wood products industries will be conducted every 2-5 years, depending on the state.

A total of 7,488 primary wood-using mills will be sampled during the 2022-2024 time-period covered by this Information Collection Request (Table 5). All primary wood-using mills will be contacted and/or accounted for during this survey for which the sample will be drawn. For respondents that are still in operation but cannot be contacted or decline to participate, historical information from previous mill responses, or other ancillary information is used. If a respondent is deemed to be out of business, it is removed from future canvasses.

Table 5. Number of primary wood-using mills by type of mill and data collection year (including proposed tests and cognitive survey)

Survey type	Total	Data collection year			Response Rate
		2022	2023	2024	2018
	3				
Pulpwood Producers	63	121	121	121	73%
Other Primary Wood Products Industries	7,004	2,379	2,375	2,250	68%
Form length and incentive tests	2,598	2,598	--	--	--
Cognitive Interviews	520	520	--	--	--
Total	10,485	5,618	2,496	2,371	

Tests for form length, incentives, and cognitive interviews are proposed for one year only. However, the postcard option will be implemented each year unless the first year shows low mill response.

Loggers Survey: The loggers' survey will be conducted on active logging sites visited as part of ongoing Harvest Utilization Studies, which are carried out annually across the nation to collect information on fell tree utilization.

Table 6. Number of logging establishments (2018) and expected annual number of sites to visit

Logging Establishments	Operations per year	Average Response Rate
8,019	125-175	+85%

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.

Mill Survey: The annual sample of all primary wood-processors provides a barometer of timber industry activity as well as information specific to current product demand for states that elect to participate as described in the sample design below.

Sample frame:

The USDA Forest Service Forest Inventory and Analysis (FIA) program maintains a current list of all facilities that accept roundwood in the United States. This list will include, at a minimum, the facility's name, location, type, primary roundwood product, number of employees, and previous total mill receipts (or estimated total receipts if the facility is new). This list serves as the sampling frame and is updated annually.

Sample selection:

Several sampling designs were tested by Coulston et al. (2018) including simple random sampling, probability proportional to size sampling, and two types of stratified simple random sampling. The two types of stratified simple random sampling were (1) creating equal size cumulative measure of size strata by primary roundwood product and sampling 2 elements per strata, and (2) using Neyman allocation and cluster analysis to determine the number of strata per primary roundwood product and the sample size for each stratum. Recommendations from Coulston et al. (2018) were to use a stratified simple random sample where strata are determined by equal sizes of cumulative total facility receipts. This approach was shown to provide estimates significantly more precise than recommended in Forest Service Handbook 4809.11, Chapter 10 (5% sampling error for annual estimates of timber cut in the eastern United States, and 10% sampling error in the western United States).

FIA uses a three-level stratified simple random sample design to sample wood using facilities. State is the first level. Primary roundwood product is the second level. The third level is developed by (1) identifying sampled with certainty strata for facilities with > 10 million cubic feet (ft³) of receipts and then by (2) creating equally sized strata of cumulative previous facility total receipts (or estimated total receipts) for those facilities with ≤ 10 million ft³ of receipts. Two facilities will be selected at random within each third level stratum (except for the sampled with certainty strata). The target sampling fraction within each second level strata (State by primary product) is 0.4. However, because of the sampled with certainty strata, all pulp & paper mills that receive pulpwood (primary product) will be sampled.

Estimation:

We use the standard direct estimators for stratified simple random sampling from Cochran (1977). Under the stratified simple random sample design each N facility (i) belongs to a single strata h. The within strata selection probability is $\pi_{ih} = n_h/N_h$. The estimated population total

for Y is then:

$$\hat{Y} = \sum_h \frac{N_h}{n_h} \sum_{i=1}^{n_h} y_{hi} \hat{Y} = \sum_{h=1}^H \frac{N_h}{n_h} \sum_{i=1}^{n_h} y_{hi} \quad (1)$$

with estimated variance

$$\widehat{\text{var}}(\hat{Y}) = \sum_h \frac{N_h^2}{n_h} \left(1 - \frac{n_h}{N_h}\right) s_{yh}^2 \quad (2)$$

where

$$s_{yh}^2 = \sum_h \frac{1}{n_h - 1} \sum_{i=1}^{n_h} (y_{hi} - \hat{Y}_h)^2 \quad (3)$$

and

$$\hat{Y}_h = \frac{1}{n_h} \sum_{i=1}^{n_h} y_{hi} \quad (4)$$

is the mean for stratum h.

Equations 1-4 are used when the desired estimate follows strata boundaries. These equations are modified to construct estimates for domains or subpopulations j that cross strata boundaries.

The estimated total for Y_j is then:

$$\hat{Y}_j = \sum_h \frac{N_h}{n_h} \sum_{i=1}^{n_h} y_{hij} \quad (5)$$

with estimated variance

$$\widehat{\text{var}}(\hat{Y}_j) = \sum_h \frac{N_h^2}{n_h} \left(1 - \frac{n_h}{N_h}\right) s_{yjh}^2 \quad (6).$$

Here we introduce the domain indicator I_j which takes the value of 1 when facility i is in the domain and zero otherwise. The indicator is then used in the construction of strata (h) and domains (j) means and variances:

$$s_{yjh}^2 = \sum_h \frac{1}{n_h - 1} \sum_{i=1}^{n_h} (y_{hi} I_j - \hat{Y}_{hj})^2 \quad (7)$$

and

$$\hat{Y}_{hj} = \frac{1}{n_h} \sum_{i=1}^{n_h} y_{hi} I_j \quad (8).$$

For states not participating in the annual sample a canvas of all other known wood products industries will be conducted every 2-5 years, depending on the State. The information, when combined with the annual survey of pulpwood processors, will provide a complete set of industrial harvest information of the State, as well its impact on the forest resources.

Loggers Survey: Logging sites are selected assuming an infinite or uncountable population, as the population of sites depends on a state's logger capacity but also on weather and market conditions at a given time. This makes the size of the population varying and unknown. A state's sample size is determined using the utilization ratios' sample error tables developed by Zarnoch et al. (2004).

Sites are selected independently from a stratified population to allocate sites to all significant primary products including saw logs, veneer logs, pulpwood, composite panels, poles and pilings, posts, firewood, and other miscellaneous as applicable. Stratification is accomplished using information from a state's most current primary mill survey, which provides the species group and product type breakdown.

References:

Cochran, W.G. 1977. Sampling Techniques. John Wiley & Sons. New York. 428p.

Coulston, J.W., Westfall, J.A., Wear, D.N., Edgar, C.B., Prisley, S.P., Treiman, T.,

Abt, R.C., Smith, W.B. 2018. Annual monitoring of US timber production: rationale and design. Forest Science 64 (5), 533-543. <https://doi.org/10.1093/forsci/fxy010>.

USDA Forest Service. 2008. Operational procedures. First report of the Blue Ribbon Panel on forest inventory and analysis. Forest Service Handb. 4809.11. Washington, DC: 11: 1-1.

Zarnoch, Stanley J.; Bentley, James W.; Johnson, Tony G. 2004. Determining Sample Size for Tree Utilization Surveys. Res. Paper SRS-34. Asheville, NC: U.S. Department of Agriculture, Forest Service. Southern Research Station. 11p.

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.

Mill Survey: Respondents are provided several formats to provide information, including mail, phone, e-mail, or personal visits. These same methods are used for multiple follow up attempts to contact respondents. For respondents that are still in operation but cannot be reached or decline to participate, historical information from previous mill response is used. If a respondent is deemed to be out of business, it is removed from the sample frame.

Loggers Survey: Loggers that allow entry to the site for fell tree data collection will be asked to participate on the survey. If a logger doesn't allow access to the site, then a replacement site is selected, if available. If the logger allows entry to the site but declines to participate on the survey, then the record will be noted as non-response. To maximize response, survey questions will be asked and

recorded on-site. No follow-up is needed.

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.

Two modifications to mill data collection approach will be tested to assess improvements to response rates and reduce burden in future. This is the first time these two modifications will be tested:

Test 1- Providing various survey lengths

Survey length and complexity have long been identified as factors that impact survey response rates. We propose to test the impacts of the mill survey length/complexity on response rates. The following experiment will be run in up to three states across the Northern U.S. The states will be selected based on a diversity of mill types and support from state partners. States selected for the financial incentives' test (test 2) will be excluded. Across each state, the annual sample will be randomly divided into three treatments. One group will be the control (standard implementation). One treatment will consist of first sending all mills a short postcard and sending a subset of mills (the same as would be contacted in the base scenario) the full questionnaire. The third group will receive a version of the questionnaire that is roughly half the length of the standard survey and all complex questions (e.g., matrices) are minimized.

Test 2- Offering a range of financial incentives

To test the efficacy of providing respondents with financial incentives, we propose to run the following experiment in up to three states across the Northern U.S. The states will be selected based on a diversity of mill types and support from state partners. States selected for the survey lengths' test (test 1) will be excluded. Across each state, the annual sample will be randomly divided into five groups, one control and four treatments:

- Control: no financial incentive received.
- Treatment 1: \$25 debit card included with first mailing and a note added to the cover letter stating: "The enclosed debit card for \$25 is to help compensate you for the time it takes you to complete the survey."
- Treatment 2: \$50 debit card included with first mailing and a note added to the cover letter stating: "The enclosed debit card for \$50 is to help compensate you for the time it takes you to complete the survey."
- Treatment 3: \$100 debit card included with first mailing and a note added to the cover letter stating: "The enclosed debit card for \$100 is to help compensate you for the time it takes you to complete the survey."
- Treatment 4: \$25 debit card included with first mailing, a \$75 debit card will be provided after completion of the survey, and a note added to the cover letter stating: "The enclosed debit card for \$25 is to help compensate you for the time it takes you to complete the survey. An additional debit card for \$75 will be sent to you after we receive your completed survey."

Although there are costs associated with the financial incentive, there will likely be a net savings to the government because of the reduced costs in conducting nonresponse follow-up and the benefit of higher response rates leading to more accurate data summaries.

Additionally, the Forest service is requesting permission to conduct cognitive interviews to test survey questions and get a deeper understanding of responses. This will be the first time that cognitive interviews will be used for the mill survey. We propose to do this by contacting 500 respondents to assess interest in participation in the cognitive interview. From these 500 initial contacts 20 respondents will be interviewed to solicit feedback on understanding of survey questions.

Sample sizes for the questionnaire length and incentive studies were calculated based on power analyses. Using the standard equation for a power analysis for differences between two samples:

$$n_i = 2 \left(\frac{Z\sigma}{E} \right)^2$$

And assuming:

- A 90% confidence level (z-score = 1.645);
- A pooled sample standard deviation (σ) of 0.25; and
- A desired margin of error (E) of 0.05.

The target sample size is 135 per treatment. Sensitivity analyses with varying levels of these values were also tested, but the values presented above represent our best approximations at the values. Treatment groups will be compared using a 5% margin of error.

5. Provide the name and telephone number 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.

Mill Survey: Sampling is based on methods developed by Coulston et al. (2018). Consult John Coulston (540-231-4674) for additional information on statistical aspects of the design. Data will be gathered by FIA personnel or FIA representatives, University of Montana-Missoula Bureau of Business and Economic Research personnel (BBER), collaborators from State agencies, and the University of Massachusetts, Amherst (UMA). Analysis will be done by FIA personnel in collaboration with BBER and UMA.

Loggers Survey: Sampling is based on method developed by Zarnoch et al. (2004). Data will be gathered by FIA personnel or FIA representatives, BBER personnel, and collaborators from State agencies. All analysis will be done by FIA and BBER personnel.

Proposed Studies (survey length, incentives, and cognitive interviews): Consult Brett Butler (413-545-1387) for additional information on their statistical design. Data will be gathered by FIA personnel or FIA representatives and collaborators from State agencies and UMA. Analysis will be performed by FIA in

collaboration with UMA.