

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.**

The potential respondent universe is the population of adult residents (18 years of age or older) residing in the metro areas (defined as a combination or portion of an MSA, dependent upon population size and proximity to an urban national forest, see http://www.census.gov/population/www/estimates/metro_general/2007/List1.txt for a listing of MSAs) adjacent to Urban National Forests across the United States. We propose to conduct one survey per year. Collection phasing will not overlap with the timing of the 2010 census, with collections on hold during that period in order to ensure publics are not overburdened with multiple collection efforts. The general survey format and respondent selection method used will be the same for each survey.

To minimize research costs and maximize efficiency, a constrained form of random digit dialing (RDD) will be used to populate the survey sample. Following Waksberg's (1978) model, we will obtain from the phone company a list of all area codes and (3-digit) prefix numbers (exchanges) currently in use in the area to be sampled. Then, every possible two-digit number is added to these numbers. This list of 8-place numbers constitutes the initial sampling frame. Numbers are sampled randomly from this frame, and then two additional random numbers are added to those selected, thus resulting in 10-digit numbers (area code, exchange, and the four additional numbers needed to complete the call). Each sampled number is called. If it is not a residential phone, it is discarded from further consideration. However, if the number is that of a residential phone, it is sampled and used as the basis for further number generation, by randomly replacing the last two numbers of each successful "seed number." This procedure dramatically improves the efficiency of the RDD process. A computer-assisted telephone interviewing (CATI) process will enhance the reliability of the data.

We expect a response rate of 80% of all eligible contacted respondents. To help ensure this response rate, up to 12 follow-up calls will be made to households that fail reach an individual who answers the phone. This call back rate is more than is common, but it ensures the maximum response while reasonably containing costs. In addition, those who voice some reluctance (but not refusal) will be shifted to survey personnel who are adept at converting potential refusers to cooperators. Those who refuse will be thanked politely and will not be recalled. Surveys may be completed in Spanish as needed, in order to ensure a maximum response rate.

For those who answer the phone (non-answers or "not at homes" are the most common cause of sample loss in RDD surveys – (Visser, Krosnick and Lavrakas 2000)

the sponsorship of the call (US Forest Service) will be identified to establish the bona fides of the researcher. In addition, following Crano and Brewer (2002), (a) less threatening questions will be loaded at the beginning of the survey, (b) approximate time required to complete the survey will be noted at the beginning of the interview, (c) reinforcement for continuance will be given over the course of the interview, and (d) updates regarding the time to completion will be provided periodically during the survey. Sex of respondents, along with age (>18 years), will be determined and used as potential covariates or stratification factors in our analyses, depending upon the particular form of analysis that is used, or question that is at issue.

We anticipate that the metropolitan population surrounding each of the National Forest areas to be surveyed will consist of 50,000 or more eligible respondents. Based on this number, we anticipate drawing (via RDD) samples of 2,000 respondents within each area. Given this population, this sample size will result in a precision factor (or error) of +/- 2.2%, at 95% confidence (see Table 1).

Racial/ethnic groupings also are at issue in this research. Accordingly, the sample will be stratified by race/ethnicity. The race/ethnicity stratification will consist of White (non-Hispanic), African-American, Asian, and Hispanic respondents.

Analyses carried out within ethnic groups will lower precision, as would be expected, because the size of the relevant (ethnicity based) sample is less than the overall sample. However, given our projected N , the resultant precision is acceptable. As of March 2002, approximately 69% of the population was white, non-Hispanic; 13.4% was African-American; 4.4% was Asian, and 13.2% was Hispanic (http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pageId=tp9_race_ethnicity).

Table 1 provides the basis for estimating precision within each of these groups given a total projected sample of 2,000 respondents. If these general census proportions hold, then our sample of 2,000 will consist of approximately 265 African-American respondents. According to Table 1, then, the error rate for this group will be approximately 6%. This figure also approximates the precision of the estimate for Hispanic respondents, given the constraints noted (population size greater than 50,000, 95% confidence).

Table 1. Precision, assuming a population of 50,000 or more, at 95% confidence (assuming a binary response, from Kalton, 1983; also see: <http://www.nss.gov.au/nss/home.NSF/pages/Sample+size+calculator?OpenDocument>)

N	error
100	10.0
150	8.1
200	7.0
250	6.3
300	5.8
350	5.3
400	5.0
450	4.7
500	4.4
550	4.2
600	4.1
650	3.9
700	3.8
750	3.6
800	3.5
850	3.4
900	3.3
950	3.2
1000	3.1
1100	3.0
1200	2.8
1300	2.7
2000	2.2

2. Describe the procedures for the collection of information including:

a. Statistical methodology for stratification and sample selection,

Random digit dialing of appropriate area codes, as described in item B.1, constitutes the manner in which the sample will be selected. Given the projected N , this approach assures a representative sample of the population in the geographic areas under study. The sample will be post-stratified on the basis of information obtained in the survey. The sample size will allow for adequate precision to form estimates of all the critical variables and relations under study.

b. Estimation procedure,

Estimation of precision used commonly accepted approaches (see <http://www.nss.gov.au/nss/home.NSF/pages/Sample+size+calculator?OpenDocument>.)

c. Degree of accuracy needed for the purpose described in the justification,

Overall, we anticipate a relatively high degree of precision given the sample size (+/- 2.2%). Within ethnic subgroupings, the central focus of the research, we will have adequate precision (+/- 6%) on which to base our observations and recommendations.

d. Unusual problems requiring specialized sampling procedures, and

None

e. Any use of periodic (less frequent than annual) data collection cycles to reduce burden.

Collected on an annual basis and only 1 time from any individual respondent

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.

Up to 12 call backs will be made to any one individual household selected as a working residential phone number. The expected rate of accuracy in ethnic subgroups is within + or - 6 percent, given the expected population size and the overall selection approach.

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.

Public review and pre-testing of this instrument was undertaken with 9 individuals to ensure clarity of each response item, overall length of administration, and flow of research items/integrity of instruments. Some modification of wording, including branching to avoid redundant items, was adopted based on this pretesting.

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.

Dr. Haiganoush Preisler, research statistician, Pacific Southwest Research Station, USDA Forest Service, reviewed this submission package and attached instrument.

Data collection and analysis will be overseen by Dr. William Crano of Claremont Graduate University and Dr. Patricia Winter of the Pacific Southwest Research Station. Others involved in this collection will include the technical staff at the Pacific Southwest Research Station and graduate and undergraduate students at the Claremont Colleges as appropriate.