

**SUPPORTING STATEMENT  
WEST COAST COMMUNITY ECONOMIC DATA COLLECTION  
OMB CONTROL NO.: 0648-xxxx**

**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 governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.**

The total sample universes for businesses and households will be the total numbers of each in each of eight representatively selected small to medium sized communities on the West Coast. Total number of households will be determined from U.S. Census records and addresses will be obtained from public records searches. The total number of businesses by ZIP code and by 2-digit North American Industry Classification System (NAICS) will be obtained from the U.S. Economic Census and from County Business Patterns. The sample universe of recreational visitors is estimated from a study of visitors to Oregon ports done by the U.S. Army Corps of Engineers (Wen-Huei Chang and R. Scott Jackson, Economic Impacts of Recreation Activities at Oregon Coastal and River Ports, ERD/EL TR-03-12, U.S. Army Corps of Engineers, August 2003).

The potential respondent universe of households, businesses and recreational visitors is as follows:

Zip Code - City	Population	Households	Businesses	Total Employment	Payroll	Recreational Visitation
98595 - Westport, WA	2,811	1,884	105	1,180	\$25,167,000	35,000
98624 - Ilwaco, WA	1,337	798	64	562	\$12,423,000	20,000
97365 - Newport, OR	10,555	5,550	600	5,225	\$122,420,000	64,220
97444 - Gold Beach, OR	4,768	2,622	189	1,204	\$25,512,000	27,969
95531 - Crescent City, CA	23,785	8,718	427	3,546	\$81,258,000	20,000
94923 - Bodega Bay, CA	1,769	875	58	543	\$12,466,000	70,000
93442 - Morro Bay, CA	10,891	6,504	385	2,784	\$56,417,000	65,000
92629 - Dana Point, CA	27,728	12,703	802	7,781	\$202,216,000	80,000

Data Source: Demographic data is from the 2000 Census. Business data is from the 2003 County Business Patterns. Visitation data is estimated from data taken from Wen-Huei Chang and R. Scott Jackson, Economic Impacts of Recreation Activities at Oregon Coastal and River Ports, ERD/EL TR-03-12, U.S. Army Corps of Engineers, August 2003.

**2. Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

### **Households and business**

Households and businesses will be randomly selected for inclusion in the study. Names, address, and telephone numbers for businesses and households will be obtained from local government records and from public record searches. The formula for calculating the sample size for a simple random sample without replacement is as follows:

$$n = \left( \frac{z\sigma}{E} \right)^2 = \left( \frac{z}{m} \right)^2$$

where,

$z$  is the  $z$  value (e.g., 1.645 for 90% confidence level, 1.96 for 95% confidence level, and 2.575 for 99% confidence level);

$\sigma$  is the standard deviation of the population;

$E$  is the acceptable bound on the error or the “margin of error”

$m$  is the margin of error expressed as a proportion of the standard deviation (e.g., .05 = + or – 5%, .07 = + or – 7%, and .1 = + or – 10%);

For the purposes of this study, we are using a 95% confidence level and a allowable error of +/- 10%.

The Finite Population Correction (FPC) factor is routinely used in calculating sample sizes for simple random samples. In fact, many sample size formulas for simple random samples include the FPC as part of the formula. It has very little effect on the sample size when the sample is small relative to the population but it is important to apply the FPC when the sample is large (10% or more) relative to the population. The sample size equation solving for  $n'$  (new sample size) when taking the FPC into account is:

$$n' = \frac{n}{1 + \frac{n}{N}}$$

where,

$n$  is the sample size based on the calculations above, and  
 $N$  is population size.

The  $n$ ' estimate of sample size will then be multiplied by the estimated response rate to obtain the actual number of surveys that will need to be mailed out over the next three years.

Zip Code - City	Surveys to be mailed	Estimated Response Rate	Households to be Surveyed
98595 - Westport, WA	638	.6	319
98624 - Ilwaco, WA	518	.6	259
97365 - Newport, OR	718	.6	359
97444 - Gold Beach, OR	670	.6	335
95531 - Crescent City, CA	736	.6	368
94923 - Bodega Bay, CA	286	.6	143
93442 - Morro Bay, CA	726	.6	363
92629 - Dana Point, CA	746	.6	373
TOTAL	5,038	.6	2,519

Zip Code - City	Surveys to be mailed	Estimated Response Rate	Businesses to be Surveyed
98595 - Westport, WA	105	.7	82
98624 - Ilwaco, WA	64	.7	54
97365 - Newport, OR	335	.7	234
97444 - Gold Beach, OR	189	.7	127
95531 - Crescent City, CA	289	.7	202
94923 - Bodega Bay, CA	58	.7	50
93442 - Morro Bay, CA	274	.7	192
92629 - Dana Point, CA	371	.7	260
TOTAL	1,685	.7	1,201

### Visitors

Estimates of the total number of recreational visitors will be determined by collecting data on total visitor occupancy in local hotels and then surveying respondents at numerous locations and times throughout the city to determine the ratio of visitors staying in hotels and those not staying in hotels. The total number of visitors ( $N$ ) can then be determined by the following calculation:

$$N = HT * \frac{TS}{HS}$$

Where  $HT$  is the total number of visitors staying in hotels,  $TS$  is the total number of visitors surveyed, and  $HS$  is the number of visitors surveyed that stayed in hotels. The total number of visitors staying in hotels will be determined from locally available hotel occupancy rates and by surveying hotel guests.

This method is insensitive as to the ratio of locals to visitors responding so surveying can be conducted in areas that are known to have a high proportion of visitors. The method is, however, sensitive to the proportion of respondents who stay in hotels versus those that do not (i.e. day use visitors). To account for this sampling will take place at multiple locations and at multiple times throughout the day and evening. The survey instrument for visitors contains only four short questions which are estimated to take less than a minute to answer in total. If the respondent is willing, the surveyor would ask the individual the four questions. The respondent would then be asked if they would be willing to answer an additional 15 minute survey in exchange for a token gift (NMFS tee shirt). If the respondent is not willing they will be asked if they would take the survey home and complete it at their leisure, then return it in a prepaid envelope that is provided. If they are not willing to do this, we thank them for their time and wish them a pleasant day. Impartiality in selection for interviewing is stressed in interviewer training.

Using the same sample size calculation from above, the total number of visitor interviews needed is as follows (potential universe size is estimated from Wen-Huei Chang and R. Scott Jackson, Economic Impacts of Recreation Activities at Oregon Coastal and River Ports, ERD/EL TR-03-12, U.S. Army Corps of Engineers, August 2003):

Zip Code - City	Visitors Contacted	Response Rate	Initial Visitor Interviews to be Conducted	Response Rate	Longer Visitor Interviews to be Completed
98595 - Westport, WA	1,056	.6	633	.6	380
98624 - Ilwaco, WA	1,047	.6	628	.6	377
97365 - Newport, OR	1,067	.6	640	.6	384
97444 - Gold Beach, OR	1,042	.6	625	.6	375
95531 - Crescent City, CA	1,042	.6	625	.6	375
94923 - Bodega Bay, CA	1,067	.6	640	.6	384
93442 - Morro Bay, CA	1,067	.6	640	.6	384
92629 - Dana Point, CA	1,067	.6	640	.6	384
TOTAL	8,453	.6	5,072	.6	3,043

#### Expected Response Rates:

Based on previous studies of households and businesses, a response rate of about 60% for households and 70% for businesses is expected. These response rates are consistent with those reported in Dillman (1974), Dillman (2000), and Fox et al. (1988). For visitors, it is expected that at least 60% of the people contacted will be willing to answer the short four question survey. It is then expected that at least 60% of the people who answer the initial questionnaire will respond to the longer survey. These are similar to response rates that the U.S. Department of Agriculture (USDA) Forest Service (2002) received with their National Visitor Use Monitoring (NVUM) study. Additionally, the aforementioned Wen-Huei Chang and R. Scott Jackson study also received a 60% response rate for visitors to Oregon ports. Additionally, adherence to the Dillman method, the use of social exchange (see #3 below), and garnered support from local officials and business leaders will support these minimum estimated response rates.

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

Cooperation from industry representatives has been garnered as well as support of government officials, commercial leaders, and the local population. A “social exchange” framework was utilized to emphasize the potential benefits of responding (greater understanding of the local economy and how to foster desired levels of economic growth) and to reduce the potential time cost to the boat owners. Social exchange is mentioned by Dillman (2000) as a crucial component of any social research survey and is intended to highlight the benefits of responding to the survey while stating how the survey has been designed to reduce the time and effort costs to the respondents.

A modified Dillman Method (Dillman 2000) will be employed to for the survey of the businesses and households. This method utilizes the following components:

1. Mailing of an information letter three to five days prior to the mailing of the survey. This letter describes the kind of information that the survey will ask, describes how the information will be used, and highlights the benefits of the survey to the respondent.
2. Three to five days after the information letter is mailed, the actual survey instrument will be mailed with a detailed cover letter explaining the purpose of the study, the expected benefits
3. Two weeks after the survey is mailed, a thank you/reminder post card is mailed
4. Two weeks after the post card is mailed, a replacement survey and cover letter will be mailed to nonrespondents
5. Two weeks after the replacement surveys are mailed, calls will be made to nonrespondents asking if they have any questions about the study that we can help answer for them

To reduce the possibility of unit non-response bias, a chi square test for structural differences will be employed to ensure that non-respondents from the survey of businesses are not systematically different from the population as a whole in known attributes such as business size (as measured by number of employees) and business type (as measured by NAICS code). A similar analysis will be performed on households to ensure that respondents are not systematically different from non-respondents in known attributes such as household size and income stratification.

Sample post-stratification methods will then be used to generate weighting classes if structural differences are found.

For the visitor survey, a token gift will be offered to respondents willing to fill out the 15 minute survey. The token gift will be a tee shirt designed for this project, the total value not exceeding \$5.

**4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval.**

None

**5. Provide the name and telephone number of individuals consulted on the 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.**

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