

# **DRINKING WATER STATE REVOLVING FUND (DWSRF) INCOME SURVEY GUIDE**

## **A Step-By-Step Survey Process For Determining The Number Of Low- And Moderate-Income (LMI) Households To Meet the Public Works Board (PWB) Requirements**

### **Introduction**

This guide outlines a step-by-step survey process to be used by third party survey entity or organization for determining whether a water system will meet the Public Works Board (PWB) requirements for a reduced interest rate under the Drinking Water State Revolving Fund (DWSRF) loan program. It contains instructions necessary to develop, administer, and document a statistically valid income survey related to Low-and Moderate-Income (LMI) households.

Surveys conducted within the past three (3) years by US Department of Housing and Urban Development (HUD)'s, Washington State Community Development Block Grant (CDBG), United States Department of Agriculture (USDA) or Census data which show that the service area consists of over 51percent LMI households will be accepted by the PWB. The minimum percentage of LMI households required of a water system project to be eligible for a reduced interest rate is 51 percent.

### **Definitions**

The following definitions explain terms that are used throughout this income survey guidebook:

#### **A. Low- and Moderate-Income (LMI) Households**

For the purposes of determining Public Works Board (PWB) requirements for a water system, Low and Moderate Income (LMI) households are defined as:

- Low-income households - at or below 50% of the county's median household income.
- Medium-income households - at or below 80% of the county's median household income.

#### **B. Area**

The area is the total number of households or connections within the entire service area that is to be served by the water system project or activity. A portion of the area with a heavy concentration of LMI households cannot be singled out as a target area.

#### **C. Sample Size**

A sample size is a number of households that have been randomly selected from an area. Random selection of an adequate-sized sample ensures that it is

representative of the area from which it has been drawn. By sampling a portion of the households residing within a water system, estimates may be made about the incomes of all residents of that water system.

#### **D. Total Household Income**

Total Household Income is all taxable and non-taxable income earned by all members of the household for the latest tax year. Income includes (but is not limited to) gross wages, tips, salaries, business, retirement, supplemental security, public assistance, disability, unemployment and investment income. Income received by children under the age of 15 does not need to be included. Example: survey in 2007 would be for tax year 2006.

#### **Step One: Appoint a Survey Coordinator from an Entity or Organization**

The first step of a survey process is to recognize that a survey will typically take planning, coordination, and effort over a period ranging from several days to several months depending on the size of the population or target area to be surveyed. To ensure that the effort yields statistically valid results, it is recommended that a Coordinator from a survey entity or organization be appointed to lead the process and provide oversight through all steps, from beginning to end. A water system could use a technical assistant provider such as Rural Community Assistance Corporation (RCAC) or Evergreen Rural Water of WA (ERWOW). It may be possible for a water system to use other resources available like a volunteer (not related with the water system), a University or consultant but must be approved by the PWB. What is important at this stage is: to obtain a commitment from the person selected to see the process through; to be clear about expectations of the job; and to establish effective communication channels with local elected officials.

An appointed Survey Coordinator must have the survey instruments and methodology reviewed and approved by the PWB prior to conducting the survey.

#### **Step Two: Define Survey Area**

This step of the survey process is designed to yield a definition of the survey area. Completion of this step is dependent on identifying: the physical boundaries of the geographic area to be surveyed, and the households that exist within the defined geographic area.

##### **A. Identify geographic boundaries of the survey area.**

The survey area must conform to geographic boundaries of the service area or jurisdiction that will receive services.

##### **B. Identify households within the survey area.**

To complete the process of defining the survey area, all households in the water system, service area, or target population must be identified. A list of each person living in an area, their address and telephone number should be available from the water system.

After all households have been identified, the Survey Coordinator must assign a household sampling number to each household within the survey area. This method for identifying the households in an area must be developed in order to draw a sample size.

### Step Three: Select Survey Sample From The Households Within The Area

Once the survey area has been defined, the next step is to select a survey sample of households within the survey area. To complete this step, it is necessary to: determine the appropriate sample size; determine unoccupied homes; establish a process to replace unreachable and other non-response households; and draw the survey sample.

#### A. Determine sample size needed to generate the minimum number of required responses.

The next step is to determine the sample size needed to generate the minimum number of responses required for a DWSRF income survey. If the minimum number of responses is not obtained, the survey will not be considered valid.

To help determine sample group size, use Table A, "Required Sample Sizes For Areas of Various Sizes." Listed in Column A are the area sizes. Listed in Column B are the sample group sizes or the minimum number of needed responses. A hypothetical 400 household neighborhood is used to illustrate the use of this table. Under "Number of Households in the Area," locate line 399 to 650 households. The number of complete responses required in the sample is 250.

**TABLE A**  
Required Sample Sizes For Areas of Various Sizes

<i>Column A</i>	<i>Column B</i>
Number of Households in <u>the Area</u>	Required Sample Size Needed to <u>Validate the Survey</u>
1-49	1-49 (100%)
50-55	50
56-63	55
64-70	60
71-77	65
78-87	70
88-99	80
100-115	90
116-133	100
134-153	110
154-180	125
181-238	150
239-308	175
309-398	200
399-650	250
651-1,200	300
1,201-2,700	350
2,701 or more	400

**B. Establish a process to replace unreachable and other non-response households within the sample.**

The sample sizes listed in Table A indicate the number of interviews that must be completed, not necessarily the number of households that will need to be contacted. To be considered a completed interview for DWSRF purposes, the interview must include complete and accurate information on the respondent's income level.

Table B indicates the usual rates of response that can be expected from a variety of survey instruments. For example, when conducting a door-to-door survey in a 400 household neighborhood, a sample of 278 to 333 households (250 divided by .90 or .75) should be drawn to obtain 250 completed interviews. Over sampling is one way to deal with unreachable households, unoccupied homes and other non-response situations.

**TABLE B**  
Expected Response Rates For  
Different Types of Surveys

<u>Expected Survey Type</u>	<u>Rate of Response</u>
Mail	25 - 50%
Mail, with letter follow-up	50 - 60%
Mail, with telephone follow-up	50 - 80%
Telephone	75 - 90%
Door-to-Door	75 - 90%

**C. Draw Samples.**

To acquire a good sample of the area, every household in the area needs to have an equal chance of being included in the sample. To ensure an equal chance, a random sample may be drawn using a random numbers table or Microsoft Excel generated random numbers. Please contact the Public Works Board (PWB) if you need assistance in determining random samples.

It is advisable to over-sample when unreachable households, unoccupied homes and other non-response situations are encountered. They may be replaced with households in the over-sample list in the order replacements were selected. For example, if a list of 300 households is drawn in an effort to obtain 250 interviews, the first household written off as "unreachable" should be replaced by the 251st household in the sample.

Take note that statistically valid results will be obtained if households are not too quickly written off as unreachable. If a door-to-door survey is being conducted, two or more passes through the area (at different times) should be attempted. With a telephone survey, attempt three calls before replacing a household.

## Step Four: Select Survey Method

The Survey Coordinator should decide which survey method or combination of survey methods is best for an area, considering the number of people available to assist, the size of the sample needed, and the means available for identifying households to interview. Any survey method selected should provide a means for households with limited English proficiency (LEP) to respond to the survey. Please refer to the Department of Justice website [www.usdoj.gov/crt/cor/13166.htm](http://www.usdoj.gov/crt/cor/13166.htm) or from 65 CFR 50123 for the specifics of this requirement.

- A. A telephone survey** is relatively easy to conduct. The interviewer places a telephone call to a previously determined household, introduces himself, identifies the head of the household or a knowledgeable person, proceeds with the interview, and accurately records the answers.
- B. A door-to-door survey** takes more time to conduct because of the “leg work” needed to obtain interviews. First, the interviewer should introduce themselves, and then make contact with someone who is qualified to speak for the household (i.e., head of household, spouse of the head of household, or someone in the household who is mature and knowledgeable about household income.) Next, the interviewer identifies the purpose of the survey, solicits participation from the respondent, and accurately records the answers.

Small water systems often use a door-to-door survey because the service area is easily defined.

- C. A mail survey** may be the easiest to conduct, but often yields a low rate of response, which means a low degree of accuracy. To conduct a mail survey, the Survey Coordinator needs a list of all the addresses in the service area; a questionnaire; stamped, self-addressed return envelope; and postage. Consideration must be given to multiple unit residences, such as apartment buildings, which may have only one billing address but represent several households to be surveyed. With mail surveys, at least one follow-up letter or telephone call may be needed to produce the required number of responses.
- D. A combination survey** may be advisable in some situations. For example, when no one is home to answer a door-to-door survey, a note may be left requesting that the occupants telephone the interviewer. Similarly, the interviewer may telephone a household to schedule an interview time. A letter may be mailed to residents of the target area informing them of the date a survey will occur and a time an interviewer(s) will be in the area.

## Step Five: DWSRF Income Survey Questionnaire

A DWSRF income survey questionnaire is designed to ask only the critical questions about income and the relationship of the respondent to the water system. (See Attachment 1, page 10).

## **A. Income Questions**

Since questions about income are personal, people are often reluctant to answer them. This is especially true if the reason for the question is not understood. One way to handle this problem is to structure the interview process to first explain why income information is needed, and then to ask the three essential income questions:

1. Does this household receiving its water from \_\_\_\_\_ water system?
2. How many people live in this household?
3. What is the total income of all members of your household?

## **Step Six: Publicize Survey Process**

Citizen participation may be promoted by arranging advanced notice. Respondents who know how, when, and why they will be contacted are more likely to complete a questionnaire or an interview. Local newspaper notices, announcements at churches or civic organizations, flyers and radio are means to get information to the public.

As with all aspects of the survey and questionnaire, any publicity must say that the water system is applying for LMI benefits under the DWSRF Program and that, as part of the application, the water system has to provide PWB with current estimates of the income of the residents of the service area. It is not appropriate to say that, in order for the water system to receive the desired interest rates, a survey must be conducted to show that most of the residents of the service area have low incomes.

## **Step Seven: Recruit and Train Survey Staff**

### **A. Recruit staff**

Survey Coordinator may hire professional interviewers or volunteer persons from local community groups as long as they are not connected to the water system. Colleges that offer courses on civics, public policy, or survey research may be willing to assist as a means of providing their students with practical experience and credit.

It is best to choose interviewers who can make respondents feel comfortable, who will hold the attention of the respondent, ask the questions as they are written, follow respondent selection procedures, and accurately record the responses.

### **B. Train staff**

Interviewers should read the questions exactly as they are written. If the respondent does not understand the question or gives an unresponsive answer, the interviewer should repeat the question exactly as written. Questions should be read in the order in which they are written. The respondent's answers should be recorded neatly and accurately as they are provided. Before proceeding to the next interview, the interviewer should edit the questionnaire to be sure that every answer is clear and accurately recorded. This simple check helps to avoid the need to re-contact the respondent for clarification.

## **Step Eight: Conduct Interviews**

Interviewers should attempt to contact respondents at a time when they are most likely to get a high rate of response. Telephone interviews are conducted early in the evening when most people are home. Door-to-door interviews also may be conducted early in the evening or on weekends. Attempts should be made at different times to reach anyone in the original sample who is missed by the initial round of interviews.

The interviewer should avoid selecting a time or method that will yield biased results. For example, interviewing only during the day from Monday to Friday probably will miss families where both the husband and wife work. Since these families could have higher incomes than families with only one employed member, poor timing may lead to the biased result of finding an excessively high proportion of low-income households.

Remember, interviewers also should follow the set procedures for replacing unreachable and non-respondents as discussed above in Step 3.

Once the interview is done, the interviewer must write the sampling number equivalent of the respondent in the "Sampling #" box located at the top left hand corner of the completed questionnaire. This will serve as the tracking number for survey coordinator.

## **Step Nine: Edit and Evaluate Questionnaires**

Interviewers should return completed surveys in to the Survey Coordinator. The Survey Coordinator should ensure that each survey is complete and that each question is answered clearly. Incomplete or ambiguous responses can be clarified by re-contacting the respondent.

The survey coordinator must then complete the "Evaluation" box located at the top right hand corner of each of the questionnaires with LMI symbol representing the status of the respondent. Refer to Appendix A: CDBG Income Limits for county's household median income.

### **LMI Symbols:**

50% - if income data is less than or at 50% of the county's household median income.

80% - if income data is more than 50% or at 80% of the county's household median income.

X - if income data is more than 80% of the county's household median income.

## **Step Ten: Tabulate Survey Results**

The survey coordinator should organize and record survey data. Tabulation should only be done by the Survey Coordinator and not by the jurisdiction or water system applying for funding. Use Table C to complete the Income Survey Worksheet on page 9.



## **Step Twelve: Retain and Submit Documentation Of Survey Process And Results**

Maintain survey documentation consisting of completed questionnaires, a list of respondents, a description of the sampling procedures, and survey tabulations.

**A. Retain completed surveys.** These serve as documentation that the survey was conducted, the proper questions asked, and that the sample was adequate.

To maintain confidentiality, save the cover sheets separately from the survey questions. If necessary, they can be matched later for verification.

**B. Retain a list of households of the original sample and a list of households actually interviewed.** Compile a list of households that were in the original sample and those households that were actually interviewed. The process used to replace unreachable or other non-respondent households should also be noted.

**C. Retain sampling procedures.** Written documentation should describe the method used to select sample households.

**D. Retain data.** Data may be retained on a disk, a spreadsheet or a table.

**E. Submit data, documentation of survey process and results to the Public Works Board for verification.**

## DWSRF Income Survey Questionnaire

This survey for the \_\_\_\_\_ is being conducted to determine Low-and Medium-Income households. Information obtained will be used to determine the water system's eligibility for a lower interest rate under DWSRF loan program to rehabilitate the water system.

<div style="border: 1px solid black; width: 100%; height: 100%;"></div>	<h3 style="margin: 0;">DWSRF Income Survey Questionnaire</h3>	<div style="border: 1px solid black; width: 100%; height: 100%;"></div>
(Sampling #)		(Evaluation)
<p>1. Does this household receive its water from _____ (name of the water system)?</p> <p>Yes _____ No: _____ (If No, then do not answer any other questions)</p>		
<p>2. How many people live in this household? _____</p>		
<p>3. What was the household's total income during _____? _____</p> <p>Example: survey in 2007 would be for tax year 2006.</p>		

Comments:

Note:

- The number of people in the household should equal the number of people who lived in the residence for at least six months of the year.
- The income reported should be the same as reported on tax returns.
- Income includes (but is not limited to) gross wages, tips, salaries, business, retirement, supplemental security, public assistance, disability, unemployment and investment income.
- Income received by children under the age of 15 does not need to be included.

<b>Income Survey Worksheet</b>			
1.	Enter the estimated total number of households in the water system.	1.	
2.	Enter the total number of households interviewed.	2.	
3.	Enter the total number of low-income (50% LMI) households interviewed. (Refer to Table C, column A)	3.	
4.	Enter the total number of moderate-income (51% - 80% LMI) households interviewed. (Refer to Table C, column B)	4.	
5.	Enter the total number of low- and moderate-income households interviewed (Line 3 + Line 4).	5.	
6.	Enter the total number of households interviewed in which the income was above the low- and moderate-income level. (Refer to Table C, column X)	6.	
7.	Divide Line 3 by Line 2. (This is the percentage of households interviewed that have low-incomes.)	7.	
8.	Divide Line 5 by Line 2. (This is the percentage of households interviewed that have low-and moderate-incomes.)	8.	