

## Documentation Overview

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### A. Introduction and Background

This is the Public Use File documentation for the 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR). This survey was conducted in three waves with in-person and telephone screening of households.

In the first wave, which occurred between April and May 2001, we conducted the screening interview. If any of the household members had participated in fishing or hunting between January 1, 2001 and the interview date, we sampled them into the Sportsman sample (fishing and hunting) and conducted the first detailed interview. If any of the household members had participated in wildlife watching between January 1, 2001 and the interview date, we randomly selected a sample of those participants into the wildlife watching sample (formerly called nonconsumptive) and conducted the first detailed interview.

The second wave of interviewing was conducted in September and October, 2001. For this wave, we selected household members who had not participated by the Wave 1 date of interview but were likely to participate during 2001. Their likelihood of participation was determined by their past participation levels and their stated likeliness to participate in 2001. This was the first detailed interview for these respondents. It was possible for a respondent who was in the Sportsman sample in Wave 1 to be selected for the Wildlife Watching sample in Wave 2 or for a Wildlife-Watching respondent in Wave 1 to be selected for the Sportsman sample for Wave 2.

Wave 3 was conducted in January and February, 2002. The wave 3 sample consisted of respondents from both Wave 1 and Wave 2. This was to be the second detailed interview for both samples (Sportsman and Wildlife Watching). If we were not able to reach the respondent during the wave in which they were selected into sample, we still interviewed them in the 3rd wave and collected data for the entire year of 2001.

## B. Data Layout

1. The data are provided as an ASCII text file. The data are presented in three files: 1) the screening file; 2) the sportsman (fishing and hunting) file, and 3) the wildlife watching file. Record layout descriptions are found in the WP directory under the appropriate file (Screener-1 through Screener-9 in file FH2.wp, Fish/Hunt-1 through Fish/Hunt-156 in file FH3.wp, and Wildlife Watching-1 through Wildlife Watching-51 in file FH4.wp).

We have provided three SAS programs that can be used to create SAS data sets from the three ASCII files. The modifications that you will need to make are specified in each program. Convert2.sas is for converting the screening ascii file (fh2.txt), convert3.sas is for converting the sportsman ascii file (fh3.txt), convert4.sas is for converting the wildlife watching ascii file (fh4.txt). The information in these programs specifies variable names and locations in the ASCII file, thus the programs could be modified for use in other statistical packages.

We have also provided three SPSS programs (under the \spss directory) that can be used to create SPSS databases from the three ASCII files. The modifications that you will need to make are specified in each program. Convert2.sav is for converting the screening ascii file (fh2.txt), Convert3.sav is for converting the sportsman ascii file (fh3.txt), Convert4.sav is for converting the wildlife watching ascii file (fh4.txt).

There are 116,583 records on the screening file, 25,052 records on the sportsman file, and 15,300 records on the wildlife watching file. Each file's sample was drawn specifically to arrive at estimates for that type of wildlife-related recreation; it is not correct to mix data from different files in a computer program. The sampling schemes and thus the weights are different for the 3 different files. (See Section G, "Weights" below).

2. Multiple item variable names for a question are based on the maximum number of answers that were given for that question. For example, there are ten variables for hunting states (HUNTSTD1 through HUNTSTD10 -- see page Fish/Hunt-7) because the maximum number of hunting states reported was ten. Thus there will be ten variables for each hunting question on participation and expenditures, one for each state. Those variables have identifiers that identify which state they pertain to. Please remember, for any given type of hunting (big game, small game, etc.) there may be answers in all, any, or none of these variables.

It is possible that variables for a particular type of hunting (small game for example) will not have any information in them or information in just one or two states. Also, the information may not be in the 1st, 2nd, 3rd, etc. state. Information on small game may only be in state 10 (for example, SMDAYSD10, or any combination of SMDAYSD1 through SMDAYSD10). So, when examining small game hunting in Pennsylvania for example, the first place you must look is in HUNTSTD1 through HUNTSTD10 to see if the respondent hunted in Pennsylvania and in which hunt state variable that data will be reported (HUNTSTD1 through HUNTSTD10). If "PA" is found in one of those states, then go to the small game variable of interest, small game days for example, and look for the corresponding small game day variable. Assuming "PA" was found in HUNTSTD3, you would look in SMDAYSD3 for small game hunting days in Pennsylvania. This concept applies to all types of hunting, i.e., big game, small game, migratory bird, and other animal.

The fishing questions were asked differently. First we asked respondents to identify all the states in which they fished. Then we asked if they participated in Great Lakes fishing, Freshwater fishing, and Saltwater fishing based on the available types of fishing in the state(s) where they fished. For example, respondents who fished in a Great Lakes state were asked if they did any Great Lakes Fishing. Likewise, respondents who fished in a saltwater state were asked if they fished in saltwater. Thus the number of states that were reported are different for each type of fishing. The maximum number of states anyone reported Great Lakes fishing was 3. So there will be 3 variables for each Great Lakes fishing question on participation and expenditures. The maximum number of states for Freshwater fishing was 7. The maximum number of states for Saltwater fishing was 7. Unlike the hunting data, for each type of fishing (Great Lakes, Freshwater, Saltwater) if there is no entry in the first state variable, there will not be any data in the 2nd, 3rd, (and up to 7th for Freshwater) states. States were entered in the order they were received for each type of fishing and the entry started at 1. This is only true for the state variables. Other variables such as GLSTDAYSD1 through GLSTDAYSD3 are filled based on the GLKSTED1 through GLKSTED3. Therefore it is possible for data to be in GLSTDAYSD2 but not GLSTDAYSD1 if a respondent did not answer the question for GLSTDAYSD1.

Information on participation in wildlife watching was collected in a way similar to hunting. However, since there is only one type of activity for wildlife watching (unlike the four types for hunting) state information for nonresidential wildlife watching is filled in numeric order. Data were filled in state one then state two etc. (NCU\_STD1, NCU\_STD2,...). Therefore, if a respondent does not have any information in NCU\_STD1, there will not be any in NCU\_STD2. This is only true for the state variables (NCU\_STD1 through NCU\_STD12). Other variables such as NCUDAYSD1 through NCUDAYSD12 are filled based on the NCU\_STD1 through NCU\_STD12. Therefore it is possible for data to be in NCUDAYSD2 but not NCUDAYSD1 if a respondent did not answer the question for NCUDAYSD1.

### C. Valid Lower Ranges

Some questions requesting an open-ended numeric entry allowed zeros as a valid entries and some did not. For example, we allowed zero trips to be reported but the respondent could not report zero days. We allowed zero trips since some people may not actually take a trip to participate primarily for the activity. The person may be on a trip to visit their relatives and while there go bird watching in a nearby park. Days required a minimum of one since participation on any part of a day counts as a day. All trip expenditure categories allowed zero as a valid entry. Only a few equipment expenditures did not allow zero as an entry. Equipment expenditure variables that allowed zero as a valid entry have been footnoted.

#### D. Blanks

There are four reasons a data field may be blank: 1) The respondent was not required to answer that question due to the skip pattern of the interview; 2) The respondent gave an answer of "don't know" or "refused," which was subsequently blanked; 3) The variable was created using information from other variables which did not allow us to definitively state that the respondent said "no" to the question - thus only affirmative responses are reported (see Section H, "Created Variables"); 4) For the screening data only, a household respondent answered questions for the entire household and some questions required them to identify who in the household participated in the activity (e.g., observing wildlife) or had a specific characteristic (e.g., was of Hispanic origin) thus only positive responses were recorded and all others were left blank.

#### E. Variable Names

Variable names include both interview wave and state of activity where appropriate. Coding for each variable is explained within the documentation.

#### F. Created Variables

In order to make the data more user-friendly, we created some variables using the data we received from the respondent. These variables allow the user to find information in one variable instead of having to search a list of variables. Other variables were created post-data collection in order to identify and monitor the case and its data.

The range of responses for most created variables are either 1 or blank. "No" responses for these variables were left blank since the respondent did not actually answer "no" to the question.

#### G. Weights

Each file has its own weight. The screening weight, stored in PERWGT, is appropriate for use with the screening information for individuals. The Sportsman weight, stored in SPWGHT, is appropriate for the fishing and hunting data. The Wildlife Watching weight, stored in NCWGT, is appropriate for the wildlife watching data. The weight is the number of people each observation represents.

The person weight (PERWGT) is calculated based on the inverse of the probability of selection into the screening sample. This means that the sample used for collecting the data herein was a STRATIFIED sample, NOT a RANDOM sample. This weight MUST be used with all analysis of the screening data if the results are to be representative of the U.S. Population.

The sportsmen weight (SPWGHT) is calculated based on the inverse of the probability of selection into the sportsman sample. This means that the sample used for collecting the data herein was a STRATIFIED sample, NOT a RANDOM sample. This weight MUST be used with all analysis of the sportsman data if the results are to be representative of the sportsmen.

The wildlife-watching weight (NCWGT) is calculated based on the inverse of the probability of selection into the wildlife watching sample. This means that the sample used for collecting the data herein was a STRATIFIED sample, NOT a RANDOM sample. This weight MUST be used with all analysis of the wildlife-watching data if the results are to be representative of the wildlife-watching participants.

When using the socio-demographic data that is associated with sportsmen or wildlife-watching participants, you should use the weight that applies to the specific activity. For example, when analyzing age and education characteristics of wildlife-watching participants from the wildlife-watching data set, you should use NCWGT as the weight.

For a thorough explanation of the procedures that were used to develop these weights and more information on the weights themselves, see Appendix D in the 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation National Report.

## H. Hunting Designation

To qualify as a big game hunter, the respondent had to report hunting a big game species. The same holds true for small game, migratory birds, and other animals. Once the respondent indicated hunting a certain type of game (big game, small game, etc.), we asked the correlating sections of questions. For example, respondents who indicated they hunted deer were asked participation and trip-related expenses for big game.

## I. Angler Designation

To qualify as a Great Lakes, freshwater, or saltwater angler, respondents first had to report fishing in a Great Lakes, freshwater, or saltwater state, respectively, and that they participated in that specific type of fishing. For example, respondents who reported fishing in Michigan, were asked Great Lakes and freshwater fishing introductory questions. If the respondent reported participation in Great Lakes fishing but not freshwater fishing, only Great Lakes fishing questions were asked.

## J. Great Lakes Fishing

Great Lakes fishing is defined as fishing in the Great Lakes and their tributaries and connecting waters. These include the St. Mary's River system, Detroit River, St. Clair River, and Niagara River. Also included was fishing for smelt, steelhead, and salmon in rivers that run into the Great Lakes and fishing in the St. Lawrence River, south of the bridge at Cornwall.

## K. Expenditures

### 1. Trip Expenditures

Trip expenditures account for just the respondent's share of the expenses and did not include amounts paid for license fees, stamps, tags, or equipment purchases.

### 2. Equipment Expenditures

For equipment expenditures, we included any equipment that the respondent may have purchased or that may have been bought for the respondent. The equipment expenditures had to be purchased PRIMARILY for the activity (hunting, fishing, hunting or fishing, and wildlife watching activity). We only included equipment purchased in the United States. Respondents were asked to include both new items and items previously owned by others.

### 3. Expenditures by state where spending took place

In the 2001 FHWAR (as with the 1996 FHWAR) we asked respondents to specify the state where they purchased the items of equipment. This allows researchers to report total expenditures in any given state. In past FHWAR surveys, data users were forced to assume that expenditures for equipment and land leasing or owning were made in the respondent's state of residence.

Analyzing expenditures by state where spending took place is more complicated than by respondent's state of residence.

In order to calculate expenditures by state where the spending took place, researchers must first look in the variable for where the money was spent then sum the expenditures in the expenditure variable. This is complicated by the fact that, 1) respondents may have purchased the item(s) in any state, 2) they could have reported purchasing the item(s) in up to 5 states, and 3) they could have reported those states in any order. Also respondents did not need to participate in a state to report spending money there. It follows then that the states in the variables for where the respondent spent the money do not have to match the states where the respondent participated nor does it have to match the order in which those states may have been reported.

It is important to note that respondents could have spent money on different

equipment items in different states and, even if they spent money in the same states on different equipment items, they could have reported the states in a different order. In the simplest of terms, this means that the variables that contain state codes for where spending took place are INDEPENDENT of any other variable, including other expenditure variables. The states may be the same for some, but there is no guarantee that they will be for others.

The following is an example of how to calculate total expenditures for camping equipment in Pennsylvania from the Sportsman data set.

- a. Check FHEQP1 to see if the respondent reported any expenditures in this category.
- b. Check CAMPSTA1 through CAMPSTA5, CAMPSTB1 through CAMPSTB5 (10 places) for the state code "PA" for Pennsylvania. If there is no data in the CAMPSTA1 variable, there won't be any in the CAMPSTA2 through CAMPSTA5 variables. These variables were filled in order for either Wave 1 or Wave 2 (a respondent only was asked a specific section once for either Wave 1 or Wave 2, so if they answered the sportsmen questions in Wave 1, they would not be asked them in Wave 2). However, there may be data in CAMPSTB1 through CAMPSTB5 (variables from Wave 3).

Now assume PA is found in CAMPSTA1.

- c. Check to make sure no other state code is listed in any of the other variables CAMPSTA2 through CAMPSTA5 (these are other states where the respondent may have spent money on camping equipment for the first wave/interview as determined by the "A" in the variable name). If there is a state listed in one of these other 4 variables, the respondent reported spending the money specified in more than one states and the money will need to be divided between the states.
- d. Assuming no other states are listed, the value in CAMPCOST1 can be added to the total value of expenditures for camping equipment in Pennsylvania.

It is possible for a respondent to spend money on camping equipment in two of the interview waves, the first and the last wave for example. In this case, under "d" above, PA would have been found in a wave/interview "A" and a wave "B" state variable, CAMPSTA1 and CAMPSTB1 for example. In addition to what was done above, data users should also check CAMPSTB2 through CAMPSTB5 for other states and divide the expenditures among them as appropriate.

It is important to remember that just because PA is listed as the first state in wave/interview one ("A") it doesn't mean it will be the first state listed in Wave 3 ("B"). This applies across variables too. A state may be listed first

in one expenditure item but last for another. You must check all locations!

#### L. Crossover Sample

The Sportsman and Wildlife Watching samples were selected separately. However, it is possible for a respondent to be in both samples since the same screening questionnaire was used. Respondents who are in both the sportsman and wildlife watching samples are identified as such on these files. This is identified in the I\_WAVE1, I\_WAVE2, and I\_WAVE3 variables. If a respondent is in both samples, this only indicates that the respondent received both questionnaires. This does NOT represent a population of persons who engaged in both types of activities. These people should NOT be combined to form a data set of respondents who participated in both types of activities. They were not selected for that purpose and their weights were not created for them to be representative of that population.

Respondents were asked if they participated in the other type of activity as a part of each questionnaire instrument. Researchers that are interested in "crossover" activity should use these questions to measure "crossover" activity. However, it should be noted that a different estimate will arise depending on whether the Sportsman or Wildlife Watching sample is used. This is because the samples are different and the weights are different. We recommend that the Sportsman sample be used for this type of analysis because it has a larger sample and is more reliable. This is the method that was used in reporting the data in the U.S. Fish and Wildlife Service reports.

- M. Some published estimates from the National and State Reports cannot be replicated using these ascii files for two reasons. First, outlier adjustments were made to the data set pertaining to participation of out of state hunters in South Dakota, both to the National and State reports. Secondly, some expenditure estimates were adjusted for outliers in both reports. The outlier data was not removed from the data set (ascii files on this cd).
- N. For all State Reports the variable GESTFIPS was used as the state where the respondent lived in Wave 1. For the National Reports, GESTFIPS was used for all expenditure/ economic tables and I\_RESIDENT was used for all non-expenditure tables.