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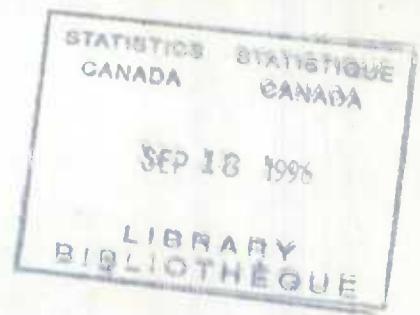
# THE IMPORTANCE OF WILDLIFE TO CANADIANS

NOT FOR LOAN  
NE S'EMPRUNTE PAS

A User's Guide  
to the Methodology of  
the 1981 National Survey







THE IMPORTANCE OF WILDLIFE TO CANADIANS:

A USER'S GUIDE TO THE METHODOLOGY OF THE 1981 NATIONAL SURVEY

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## PREFACE

The main role of this guide is to facilitate access to the findings of the Survey on the Value of Wildlife to Canadians (SVWC) conducted in February 1982 by the Special Surveys Division (SSD) of Statistics Canada under the sponsorship of the Federal-Provincial Wildlife Conference. It will aid the reader in understanding how the study was conducted and provide insights on how to interpret results obtained. This is important because the survey results have significant implications for managers involved in protecting wildlife and their habitats, developing resource policies, planning programs, and evaluating current wildlife programs and services. The potential analyses and uses of this important socio-economic data set are limited only by the imagination and creativity of managers and researchers concerned with the human dimensions of present and emerging wildlife conservation issues and strategies.

This project represents the combined efforts and expertise of wildlife management agencies in the federal government, the provincial and territorial governments, and several private non-governmental agencies. Such an undertaking would not have been possible without the unique co-operative efforts of the agencies involved, enabling information useful to the 18 sponsors and other concerned researchers to be gathered.

## LIST OF ACRONYMS USED IN THE REPORT

SVWC	Survey in the Value of Wildlife to Canadians
CWS	Canadian Wildlife Service
LFS	Labour Force Survey of Statistics Canada
SRU	Self-Representing Unit
NSRU	Non-Self-Representing Unit
SSD	Special Survey Division of Statistics Canada



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## 1. BACKGROUND AND OBJECTIVES

### 1.1. Background

The concept of a Survey on the Value of Wildlife to Canadians (SVWC) emerged from the concerns voiced by delegates at the 42nd and 43rd Federal-Provincial Wildlife Conferences in 1978 and 1979. Faced with the challenging tasks of protecting wildlife populations and habitats on the one hand and managing their use by the Canadian public on the other, delegates expressed a need for socio-economic information to help guide complex wildlife management decisions. The delegates at the conferences acknowledged the importance of obtaining information on the economic value of wildlife so that support might be gained for the continuation of programs in this area. Most delegates believed that the gathering of data on the significance of wildlife to Canadians would be beneficial in evaluating and planning wildlife management programs. As a result, recommendations were tabled to initiate research in this area.

Following the 43rd Federal-Provincial Wildlife Conference, each government wildlife agency appointed a representative to the Committee for a National Survey on the Value of Wildlife to Canadians chaired by the Canadian Wildlife Service (CWS) (see Appendix E). All committee members were asked to provide comments on the project proposal presented at the conference. These comments were summarized and used as an outline of the agenda for the committee meeting held in Ottawa on 9-10 June 1980. This meeting provided a forum to refine the terms of reference and to propose a cost-sharing formula for the survey.

By the start of the 44th Federal-Provincial Wildlife Conference held in Ottawa at the end of June 1980, all jurisdictions had agreed in principle to the idea of a national survey on the importance of wildlife to Canadians. The committee presented the terms and options for a co-operative socio-economic survey of wildlife and wildlife-related activities to the conference (Filion 1980). The reasons for undertaking a co-operative survey were summarized as follows:

- (1) Agencies require valuation data on wildlife and on the social and economic characteristics of its users in order to evaluate wildlife programs in a climate of competing alternatives and to aid managers in optimizing benefits of their programs to the public.
- (2) Because wildlife management embraces numerous wildlife species and various human uses, comprehensive valuation data are required in both fields. There is a need for socio-economic information relating to consumptive wildlife uses and to non-consumptive uses about which we know very little at present.



- (3) Because wildlife species, users, and habitat cross provincial and territorial boundaries, there is a need for valuation data that are comparable across political jurisdictions.
- (4) Because management problems change with time, there is a need for periodic valuation data that provide trend information over the years.
- (5) Because valuation expertise and funds are thinly spread across Canada, there is a need to pool available resources in order to optimize their effective use and facilitate the collection of valid and reliable data that are nationally/provincially comparable.

Along with these reasons, three major objectives for the SVWS were presented:

- (1) to provide basic, accurate, and reliable valuation data to help agencies assess wildlife programs;
- (2) to provide data that are relatively current, are homogeneous across provincial and territorial boundaries, and allow valid trend analysis at 5-year intervals;
- (3) to provide data that are comprehensive with regard to a number of wildlife species, and to a number of consumptive and non-consumptive wildlife activities throughout the year.

The committee also presented several options for surveying the Canadian public. After reviewing the advantages and limitations of each method (see Appendix D10.), the committee recommended the adoption of the Statistics Canada Labour Force Survey (LFS) Supplement as the most attractive technique to be used for the SVWC. The delegates at the conference supported the recommendations made by the committee and endorsed the goals, objectives, and cost-sharing formula for a SVWC based on the LFS Supplement to collect the data.

With the objectives and the means clarified and approved, the development of a survey commenced. In the chapters that follow we shall review this complex process. We begin by specifying the objectives of the present report and providing an outline of its chapters.

## 1.2. Objectives of the Report

The purpose of this user's guide is to provide comprehensive documentation on the SVWC. This will help users gain a better understanding of the topics covered in the survey and the methods used to measure them. More specifically the user's guide is intended to:

- (a) allow sponsors to conduct additional custom analyses, which are beyond the more general multi-sponsored reports that have been proposed or completed to date (Filion 1983);

- (b) enable sponsors to answer methodological questions pertaining to the SVWC that may be raised by other organizations;
- (c) help sponsors and other researchers understand why the results of the SVWC may differ from those originating from other sources; and
- (d) permit future replication of the survey in order to monitor trends over time.

It is important to note that the SVWC was sponsored not only by the federal and all provincial governments of Canada, but also by several non-governmental organizations, which contributed to its development (see Appendix F). As a result, the SVWC questionnaire was constructed with the intention of meeting the varied needs of its sponsors and addressing a wide range of topics. Because no single report can fulfil all the needs of the sponsors or cover the numerous topics addressed, a user's guide for this data set was deemed necessary to allow the sponsors, as well as other researchers and academics, to analyse and interpret the data to meet their specific requirements.

### 1.3. Outline of the Report

Though this report presents few socio-economic findings from the SVWC (see Highlights of the 1981 National Survey, 1983), it does present a detailed methodological account of how the survey was conducted, the construction of the survey tools, the editing and weighting of the data, item non-response rates, etc. A basic understanding of these procedures is required in order that the flexibility and limitations of the SVWC data set are better understood. The structure of the report reflects, in part, the time sequence of various phases of the study while providing a discussion of methodological matters and issues. Chapter 2 contains a review of how the survey tools for this study were constructed; it examines the history and development of the questionnaire, the initial problems of conducting a study on this topic, and the attempts made to resolve them.

Chapter 3 looks at the design and structure of the SVWC's questionnaire, and reveals the range of information that is contained on the "Micro-data tape" and "SPSS (X) system file". It also discusses some of the definitions and terms used in the survey.

Chapter 4 looks at how the Statistics Canada LFS, which was chosen as the vehicle to administer the SVWC, is designed, and includes a discussion of the sampling and weighting procedures used.

Chapter 5 describes in detail the survey operative used for the SVWC and how these differ from the data collection operations of the LFS. It explains how the questionnaires were distributed and retrieved and how data were processed, edited, and coded.

As one of the purposes of this report is to guide the researcher in analysing and interpreting the SVWC data, chapter 6 identifies potential

sources of error that may affect survey data, and comments on the reliability and validity of results.

Additional detailed information is contained in the appendices. Included here are the code manuals to the Statistics Canada "Micro-data tape" and "SPSS (X) system file", a copy of the survey questionnaire, guidelines on comparing results of the SVWC with other socio-economic survey findings, and a glossary of terms relating to this survey.



## 2. DEVELOPMENT OF THE SURVEY INSTRUMENT

The quality of survey results is directly related to the quality of the survey methods employed. Careful development of social survey instruments is often a difficult and tedious operation. There exist numerous stages in the complex survey process where errors can and do occur (Filion 1980). A number of steps were taken to avoid or minimize several potential sources of error in this mail survey. This chapter reviews how the mail questionnaire for the SVWC was (a) developed to meet both the objectives outlined in section 1.2. and the requirements of the SSD for supplements using the LFS and (b) pre-tested to ensure that it would be effective in the field. Significant changes occurred between the initial questionnaire that was pre-tested and the final one used in the national survey. These changes can be seen by comparing the questionnaires found in Appendices D8. and D9.

### 2.1. Designing the Questionnaire

A clear, well-designed SVWC questionnaire was essential as, by definition, mail surveys are self-administered and do not benefit from the guidance of interviewers. Furthermore, because a large proportion of the sample would be questioned on other topics in the following months, SSD sought to ensure that the SVWC would not have negative effects on the respondents and jeopardize their future co-operation. For these reasons, the questionnaire underwent numerous drafts and some pre-testing before being administered nationwide.

The questionnaire was initially formulated by the Canadian Wildlife Service (CWS) and a number of other sponsors in recognition of the SVWC objectives put forth at the 44th Federal-Provincial Wildlife Conference. This first draft questionnaire was sent to Statistics Canada for critical evaluation and comment in view of the operational requirements of the ongoing LFS. Several rounds of discussions then followed, which led to an official draft questionnaire that was satisfactory to both CWS and SSD. This questionnaire was then distributed to all provincial and non-governmental sponsors for comment and suggested improvements. A number of significant refinements were introduced during the consultations, which spanned several months and produced several new drafts of the questionnaire. For example, noteworthy suggestions came from the Canadian Wildlife Federation in regard to the contribution of Canadians toward maintaining wildlife habitat and membership in wildlife organizations. Contact was also established with the United States Fish and Wildlife Service to assure some compatibility with recent US wildlife studies.

### 2.2. Basis and Objectives of the Pre-test

Pre-testing is an important feature in the process of developing a survey instrument. It is usually able to expose possible problems and errors in the survey tools and the operational procedures before they exact heavy penalties in the form of low response rates or invalid data. Pre-testing is essentially a trial-and-error procedure whereby the successful trials are repeated when the final questionnaire is administered (Sletto 1940:200). Moreover, SSD strongly recommended a pre-test because

(a) survey work previously undertaken on the LFS supplementary capacity was mostly related to labour market phenomena and, (b) a mail survey, although tested, had never been conducted as a full supplement to the LFS study.

The SVWC was viewed by some as a radical departure from the previous work conducted by SSD. Because Statistics Canada had more experience conducting face-to-face interviews than mail surveys, several issues regarding self-administered questionnaires needed to be examined before a full survey could be conducted.

Several major pre-test objectives were examined. They were:

- (1) To assess whether or not the draft questionnaire was too long or burdensome for respondents.

The draft questionnaire was about 6½ pages long. It was felt that this might be too burdensome for some respondents, possibly resulting in a high rate of non-response and missing information. Furthermore, the questionnaire asked for information requiring a minimum 12-month recall period. There was a possibility that the respondents would not be willing to make the necessary effort to answer these questions.

- (2) To examine the respondents' understanding of the concepts and their ability to follow question flow patterns.

Because this was a self-administered questionnaire, it was essential that it be self-explanatory. As many simple and concise instructions and definitions as possible were placed on the pre-test questionnaire in order to aid the respondent. However, it was not known whether these would be clear and readily understood.

- (3) To verify and establish response category items (in particular for expense items).

In the formulation of the draft questionnaire, it was uncertain whether some categorization of responses was adequate for capturing the full range of possible responses. For instance, in question #41, "What is the most you would have spent before deciding not to take these outings or trips...?", six response categories are provided (\$1-49, \$50-99, etc.) with the largest category being "\$800 or more". If an unusually large percentage of the pre-test sample would have checked the top category, then the response categories would have had to be readjusted in order to capture a more precise estimation of maximum willingness to pay.

- (4) To test the French version of the questionnaire.

Because much of the English and French terminology employed for wildlife-related participation was new, there were questions about whether terms used in the survey would be understood in the translated version of the questionnaire. Furthermore, it was not known if respondents would have preferred a bilingual questionnaire (allowing consultation of the other language as an aid in completion) or two separate unilingual questionnaires.

- (5) To test the interviewer and regional office procedures and control forms.

Though it was felt by SSD that a mail survey was compatible with the LFS design, there remained questions on the best procedures to follow for having the interviewing staff at the regional level overseeing the mail survey operations.

### 2.3. Design of the Pre-test

Statistics Canada administered the SVWC pre-test in the northern New Brunswick and Winnipeg areas. These areas were chosen for the pre-test because they reflected both eastern and western parts of Canada, French and English cultures, and potentially different wildlife-related activities, populations, and habitats. Furthermore, the sampling procedure used in the LFS administrative regions of Halifax and Winnipeg ensured that both rural and urban areas were represented.

A total of 906 questionnaires was administered. Although some were dropped off and picked up by the LFS interviewer visiting the households, the majority were mailed by the regional office staff. Of the 720 questionnaires that were mailed between 17 and 22 August 1981, 544 were returned by the early closing date of 5 October 1981, resulting in a 75.6% response rate. There was a difference between the response rates from the two regions, the Halifax region having a rate of 71.9% compared to 79.9% for the Winnipeg region.

In order to achieve the objectives of the SVWC pre-test, three types of evaluation procedures were conducted:

- (a) A debriefing of respondents using a special debriefing questionnaire.

Following the 6½-week survey period, the Halifax and Winnipeg regional office staff contacted senior interviewers who were involved in the distribution of the SVWC pre-test and provided them with a list of names and telephone numbers of 15 households in the mail-out/mail-back sample portion of the pre-test. They were asked to complete a debriefing questionnaire (see Appendix D6.) for each household contacted. For those questionnaires that were dropped-off at the respondent's house, interviewers were instructed to debrief the respondent in the process of picking up the questionnaire. These questions inquired about the respondent's perceptions of the questionnaire's content and format.

- (b) A debriefing of interviewers and senior interviewers.

Members of the SSD went to Winnipeg and Halifax to conduct a debriefing of interviewers and senior interviewers involved in the SVWC pre-test. The sessions were intended to gain frank comments from the interviewers about their opinions on the pre-test, as well as comments they had received from respondents. The sessions were divided into a general discussion of the interviewers' impressions about the survey and the results of the respondents' debriefing sessions (see Agenda,



Appendix D7.). A portion of the session was devoted to a discussion of specific questions and operational procedures.

(c) An evaluation of the completed questionnaires.

From the debriefing sessions, main areas of concern were established to act as guidelines for the pre-test questionnaire assessment. These were:

- (1) participation rates by activity;
- (2) respondents' ability to follow flow-patterns among sections and within sections of the questionnaire;
- (3) perceived quality of responses to items in each section;
- (4) respondents' ability to understand and respond to the consumer surplus questions;
- (5) evaluation of expenditure data for all items;
- (6) identifying instances of double counting of participation and expenditures.

The pre-test questionnaire assessment process was conducted by the Special Surveys Group of Statistics Canada and SVWC sponsors' representatives, who were sworn in under the Statistics Act to ensure confidentiality. This group met for several days, during which all returns were individually scrutinized for clues on the strengths and weaknesses of the pre-test questionnaire.

#### 2.4. Results of the Pre-test

The following is an outline of some of the main findings of the pre-test, extracted from An evaluation of the pre-test on the proposed value of wildlife to Canadians survey (Burrell et al. 1981).

##### 2.4.1. Questionnaire Evaluation and Improvements

###### 2.4.1.1. Response Burden and Workload

Concerns, during and after the SVWC pre-test, were raised about the length of the required recall period. In several sections the questionnaire asked the respondent for detailed information on wildlife participation and expenditures covering a 12 month period ranging from 1 January 1980 to 31 December 1980. Some of the survey designers felt that these sections were too demanding. Moreover, the pre-test had been launched in mid-August 1981, 7 months after the reference period covered in the questionnaire. This constituted a 17-month recall period. It was concluded that if the SVWC was conducted within the first 2 months of 1982, some of the concerns expressed during the pre-test would be satisfied.



Despite the plan to reduce the recall period in the full SVWC, certain sections of the questionnaire were still considered overly demanding and were modified. The question concerning non-consumptive wildlife expenditures around the home (see section B of pre-test questionnaire, Appendix D8.) fell into this category. It was expected that expenditures around the home tended to be small but numerous, and the questionnaire was modified to provide response categories with fixed cost ranges in order to increase the response rate and lower the respondents' burden.

The overall response burden and workload, however, were not felt to be overly high. This conclusion was based on the fact that it took, on average, about 10 minutes for respondents to complete the pre-test questionnaire.

#### 2.4.1.2. Validity of Concepts and Terms

According to the interviewers, respondents seemed to have had little difficulty in understanding the terms used in the pre-test survey. They felt that the definitions provided were clear and concise.

However, the question arose on whether respondents clearly understood terms such as the "consumer-surplus" (see questions 26, 40-41, 52-53, 62-63, 72-73, 82-83 of the pre-test questionnaire in Appendix D8.). There is evidence of respondents' difficulty with similar questions in other surveys that have attempted to quantify this concept. In the pre-test, consumer-surplus was to be measured by asking the respondent what is the most he/she would have spent on a particular activity (a definition of the concept of "consumer-surplus" is given in chapter 3). According to Statistics Canada (1981), comments regarding possible misunderstanding of "consumer-surplus" questions might be broadly classified as follows:

- (1) people who spend nothing or some very paltry sum may have difficulty responding to the questions;
- (2) people who say they don't have a surplus may not all be saying this for the same reason. How would this be detected and analysed? Some of these diverse reasons include the following:
  - (a) they don't understand the question;
  - (b) they don't have any money;
  - (c) they didn't spend any money on the activity;
  - (d) they really didn't think it was worth more than they spent.

These issues point to a need for in-depth research on the topic.

Some confusion over consumer-surplus questions was revealed by the fact that about 18% of the respondents provided an incorrect answer to these questions. An answer was defined as incorrect where the respondent:

- (1) provided a surplus that was actually less than the total costs reported while pursuing wildlife-related activities;
- (2) answered "No" to a filter question such as "Would you have participated if your costs had been more" (see questions 40, 52, 62, 72, 82), but answered the surplus question anyway.

The former problem occurred more frequently than the latter. In light of this fact, it was concluded that a more direct question would reduce the above-mentioned problem. So, for instance, instead of asking "What is the most you would have spent before deciding not to hunt waterfowl in 1980?" (this question is intended to quantify "maximum willingness to pay", which includes both respondents' expenditures and consumer-surplus) the question was reworded as follows: "How much more would you have spent before deciding not to hunt waterfowl in 1980?". This new question was meant to identify only that portion above and beyond actual expenditures. This line of questioning is discussed at greater length in chapter 6.

#### 2.4.1.3. Double Counting

Several problems were observed in section C (see Appendix D8.) of the pre-test questionnaire. Asking for participation in non-consumptive activity by wildlife species led to missing information and seemed to encourage double-counting - the reporting of an expense or activity more than once among different response categories. As a result, asking about non-consumptive activity by wildlife categories was dropped during the revisions of the SVWC questionnaire. There was no evidence of this problem in the hunting section of the questionnaire.

#### 2.4.1.4. Questionnaire Flow

There was evidence that some respondents had been confused by the skip-patterns in the pre-test questionnaire. Most of these problems were handled through improvements in the questionnaire format and wording. For example, arrows were used to direct the respondent's attention to the proper sequence of questions and the words "skip to" were replaced by the phrase "go to".

#### 2.4.1.5. Translation

Few problems were expressed in regard to the French version of the questionnaire. Though some respondents did inquire about the possibility of having a single bilingual questionnaire, most appeared satisfied with the idea of the two separate unilingual questionnaires.

#### 2.4.2. Evaluation of Operational Procedures

Based on the debriefing sessions with interviewers and their managers in both regional offices, it appeared that there were no serious operational problems. As a result, SSD recommended that the full SVWC be conducted as a supplement to the February 1982 LFS. In light of the questionnaire modifications, the Special Surveys Group was confident that

the subject matter would not pose serious problems to the integrity of the LFS or to the relationship between Statistics Canada and its LFS sample. Some staff members felt that a survey on this novel topic might actually be a pleasant change for respondents to the LFS.

### 3. FINAL DESIGN, CONTENT AND STRUCTURE OF THE QUESTIONNAIRE

As discussed in chapter 1, the primary objective of the SVWC questionnaire was to gather information on the interest in and the importance of consumptive and non-consumptive wildlife related activities. This chapter indicates how the questionnaire used in the SVWC addressed the aforementioned objectives by:

- (a) commenting on the rationale for particular questions and their format; and
- (b) outlining the interrelations between some of the questions.

This is intended to provide the user with a better understanding of the SVWC questionnaire and to guide the user in the interpretation and further analysis of the survey data. While reading this chapter, the reader is encouraged to consult a copy of the questionnaire, which is contained in Appendix D9.

#### 3.1. Participation and Interest in Wildlife-related Activities

One of the main purposes of the SVWC was to examine the nature and frequency of human interaction with wildlife in Canada. This type of analysis is important in order to assess current wildlife management programs, and to help predict future demand and trends. The questionnaire addressed both current and potential forms of interactions between humans and wildlife. Potential human-wildlife interaction may be seen as a means by which present facilities can be critically evaluated in regard to meeting the unexpressed needs of the human population.

In order to examine participation and interest in wildlife related activities, it was necessary to create a typology of human interactions with wildlife. This proved to be a challenging and innovative project because little had been previously written on the subject.

The only prior Canadian national study of wildlife-related activities (Benson 1963) was conducted about two decades ago. The subject of the survey had been limited to hunting and fishing activities. However, it was believed that Canadians also engaged in non-consumptive wildlife-related activities, and that any statement on the importance of wildlife to Canadians should attempt to cover this facet of wildlife-human interactions.

##### 3.1.1. Typology of Wildlife-related Activities

The typology that was adopted for the purposes of the SVWC is not as complete as that proposed and discussed by Fillion (1984:22), which lists 12 possible types of interactions, categorized as consumptive, non-consumptive, or socio-cultural. Given the complexity of some of these interactions, it is almost impossible to measure some of them using a self-administered questionnaire. Consequently, socio-cultural interactions were not included in the SVWC study. Further, given the fact that persons living on reserves, in some remote areas, and in the Yukon and NWT were



excluded from the sample frame, no attempt was made to address subsistence use of wildlife in this survey. As a result, the types of wildlife-related activities covered in the SVWC are somewhat similar to a 1980 national survey conducted by the United States Fish and Wildlife Service. Whatever similarity exists between the two surveys has the potential advantage of permitting statements to be made for the North American continent as a whole, or allowing a comparison of similarities and differences that exist between Canadian and American wildlife enthusiasts.

The typology used in the SVWC is introduced in Figure 3.1 and expanded in Table 3.2. The structure of the questionnaire reflects the typology used. The first sections on the SVWC questionnaire examined the nature and characteristics of non-consumptive wildlife-related activities.

They included:

- (1) Indirect wildlife-related activities - recreational activities that allow the participant to experience wildlife outside its natural setting through a variety of modes.
- (2) Residential wildlife related activities - recreational activities involving direct contact with wildlife that take place around the home.
- (3) Wildlife related trips or outings - recreational activities involving direct contacts with wildlife that take place away from the place of residence.

These and other related terms are further defined in Appendix I.

The last part of the questionnaire examined the nature and characteristics of consumptive wildlife-related activities. This included detailed questions for major wildlife categories such as waterfowl, other wild birds, and small and large mammals. For the purpose of ensuring a high response rate, the SVWC questionnaire was structured to go from general to specific orientated questions. By using this method of organizing questions around particular types of wildlife related activities and general location of occurrence, it was possible to guide the respondent through the questionnaire with "go to" directives. Thus, only respondents with the highest wildlife-related involvement and commitment were asked to go through the entire questionnaire. In contrast, respondents with little wildlife involvement, or those who had not participated in certain types of wildlife interactions, were able to skip over some sections in the questionnaire. Questions relating to consumptive wildlife activities were placed in the last section (D) of the SVWC questionnaire because of the nature of this subpopulation and the fact that most hunters experience non-consumptive activities, while the reverse is not necessarily true. Though there are more questions on consumptive wildlife activities than on non-consumptive ones, these questions were more tightly organized than in other sections of the questionnaire. This was judged acceptable because hunters are more familiar with mail surveys as a tool of wildlife management than most non-consumptive users are.

Section A of the SVWC questionnaire (question 10) looked at some of the most common forms of indirect wildlife-related activities. The purpose of this question was to determine if significant numbers of Canadians who may seldom come into direct contact with wildlife nevertheless appreciate wildlife in other ways. This occurrence of indirect participants was reflected strongly by the number of respondents in the pre-test (see chapter 2) who expressed their favourable feelings toward wildlife even though they had not experienced wildlife-related trips during the year. Activities such as watching television programs or films about wildlife; reading books about wildlife; purchasing art, crafts, or posters of wildlife; and visiting zoos, game farms, aquariums, or natural science museums were considered legitimate indicators of indirect non-consumptive wildlife activity.

This first section of the questionnaire contained additional questions aimed at all respondents. Question 12 dealt with membership in or funding of wildlife organizations, and question 14 dealt with the maintenance of natural areas for wildlife. Other questions dealing with potential participation in wildlife activities (question 11) and attitudes toward wildlife population levels (questions 16, 17) are discussed later in this chapter.

Section B (questions 18 to 21) of the questionnaire dealt with non-consumptive wildlife-related activity that occurred around the residence or the cottage of the respondent. The presence of wildlife around the home, even in heavily urbanized areas, was seen to be a significant aspect of human-wildlife interaction. Activities such as feeding, watching, and photographing wildlife or maintaining shrubs to provide food and shelter for wildlife were forms of residential activities considered in this section. Data on the amounts of time and money spent on this category of activity were also gathered and will be discussed later in this chapter.

Section C of the questionnaire contained questions related to non-consumptive wildlife activities away from the respondent's residential environment. Because of the complexities in addressing this category of wildlife related activities (see pre-test results in chapter 2), this section was subdivided into two parts.

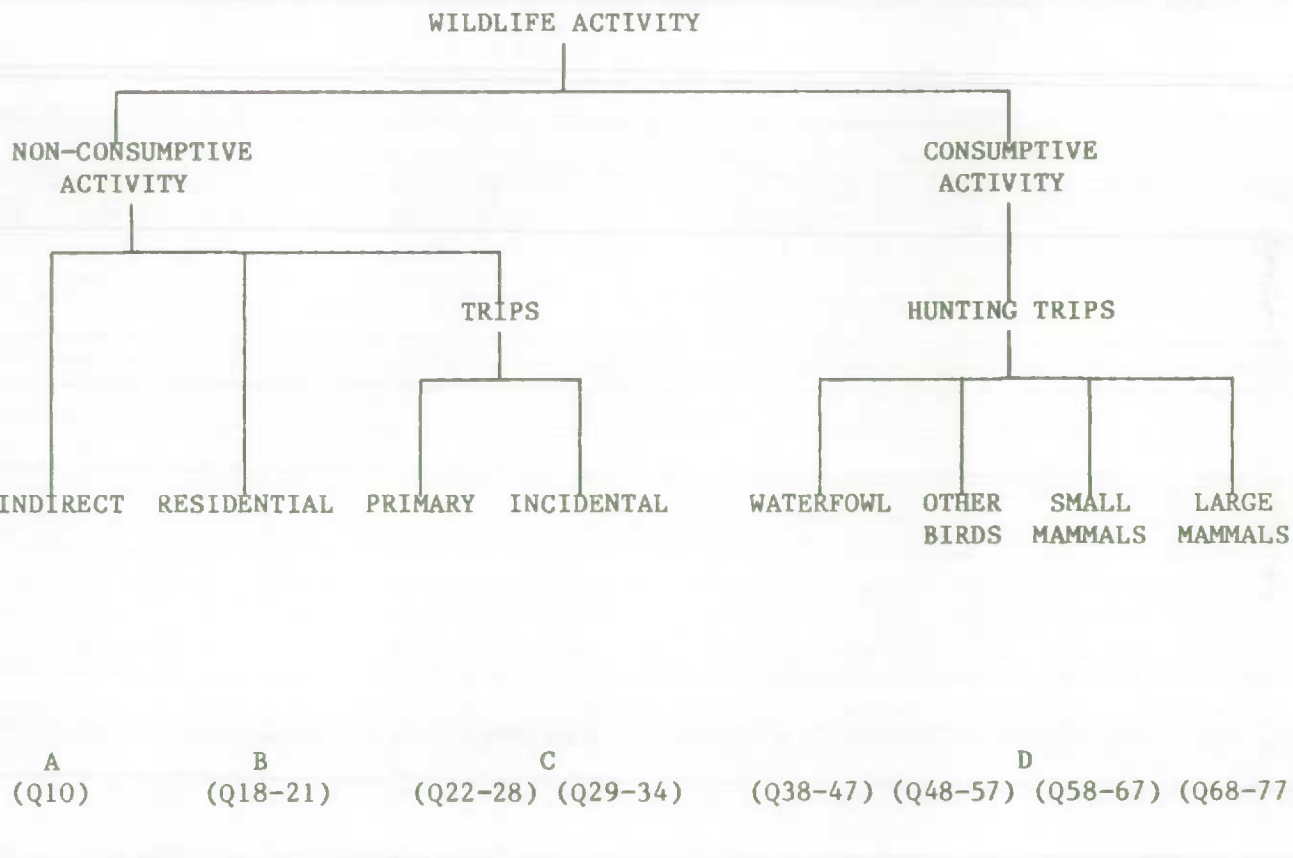
The questions in the first part (questions 22-28) were directed to obtaining information on respondents who participated in an outing or trip taken primarily to encounter wildlife. These participants were considered as part of a group of "serious, dedicated or committed" non-consumptive wildlife users and were asked detailed questions about the amount of time spent participating in these activities and the location of these activities by province or territory of Canada. Detailed questions were put concerning the costs they incurred and the consumer-surplus they received during these activities and will be discussed later.

The second part of this section (questions 29 to 34) was meant to complement the first and was concerned with individuals who had watched, fed, photographed, or studied wildlife incidentally while on trips or outings undertaken for business or pleasure rather than for wildlife

FIGURE 3.1.

Typology of Wildlife-related Activities Covered in 1981 SVWC

FORM OF WILDLIFE-RELATED ACTIVITY:



MODES OF INTERACTION:  
(see Table 3.1 for details)

LOCATION IN THE QUESTIONNAIRE:



TABLE 3.1.

Types of Wildlife-related Activities Studied in the 1981 SVWC

A. Indirect Activities

1. Reading books, magazines, and articles on wildlife
2. Watching films or TV programs on wildlife
3. Purchasing art, crafts, and posters on wildlife
4. Visiting a zoo, aquarium, game farm, museum of natural history

B. Residential Activities

1. Feeding scraps or special food to wildlife near home or cottage
2. Watching, studying, and identifying wildlife near the home or cottage
3. Photographing wildlife near home or cottage
4. Maintaining plants or shrubs to provide food or shelter for wildlife

C. Primary Non-consumptive Trips

1. Taking trips primarily to watch, feed, photograph, and study wildlife

D. Incidental Wildlife Encounters on Trips

1. Seeing, feeding, photographing, and studying wildlife such as waterfowl, other wild birds, small and large mammals, on a trip taken for some other purpose i.e. business or pleasure

E. Hunting

1. Waterfowl (such as ducks, geese)
2. Other wild birds (such as grouse, partridge, pheasants, etc.)
3. Small mammals (such as rabbits, squirrels, raccoons, etc.)
4. Large mammals (such as deer, bear, moose, etc.)

F. Other Activities

1. Belonging or contributing to a wildlife organization
2. Maintaining natural areas for wildlife

encounters. This subsection was created because of difficulties observed while pre-testing an initial version of the questionnaire. Results of the pre-test and an analysis of the hand-written comments on these questionnaires showed that numerous respondents who had encountered wildlife in an incidental manner during the year had difficulty reporting this fact in the initial version of the questionnaire.

### 3.1.2. Interest in Wildlife

Different methods were used to measure the public's predisposition toward wildlife. The first method measured the respondent's degree of interest in participating in several types of consumptive and non-consumptive wildlife activities (see question 11) using a 3-point scale. These activities are summarized in Table 3.2.

TABLE 3.2.

#### Interest in Potential Wildlife-related Activities

##### A. Non-consumptive

- (1) Watching wildlife
- (2) Feeding or attracting wildlife
- (3) Photographing, studying, or recording wildlife
- (4) Observing, collecting, or creating related art or literature

##### B. Consumptive

- (1) Hunting wildlife
- (2) Trapping wildlife for food or fur
- (3) Collecting wildlife specimens

##### C. Support of Wildlife Organizations

- (1) Membership in wildlife-related organization
- (2) Contributing to a wildlife-related organization

This question was structured in such a way as to permit non-participants to report their interest in getting involved in wildlife-related activities while allowing current participants to show their interest in continuing to participate. Points on the scale were intended to distinguish among "great interest", "some interest", or "no interest" in participating in the above-mentioned activities.

A second method measured respondents' concern for the maintenance of abundant wildlife populations and the preservation of endangered populations (see questions 16 and 17). Respondents were asked to indicate the level of importance that they attributed to this on a 5-point scale. The scales used in questions 11, 16, and 17 are the Likert type. They provide a range of response categories, which extend from a positive to a negative attitude on a particular subject or activity. This type of scale is considered to be reliable (Oppenheim 1973:140).

### 3.3. The Measurement of Value

One of the objectives of the SVWC was to obtain valuation data on wildlife-related activities. In order to do this several measures of value were employed. They were:

- (1) Time - the amount of time spent by participants on a given activity (see questions 19, 25, 32, 39, 49, 59, 69);
- (2) Expenditures - the amount of money actually spent to participate in a given activity (see questions 13, 15, 20, 26, 41-45, 51-55, 61-66, 71-75);
- (3) Consumer-surplus - the amount of money one is willing to pay above and beyond actual expenditures to participate in a given activity (see questions 21, 27, 28, 46, 47, 56, 57, 66, 67, 76, 77).

#### 3.3.1. Time Spent on Wildlife Activities

The questionnaire used two measures of time. They were:

- (a) the calendar year, defined as a 12-month period from January to December 1981,
- (b) a day, defined as any part of a day (24 hours) spent participating in a given activity.

The calendar year is a commonly recognized time unit to which the respondent could easily relate. This time period also allowed the capturing of the full range of seasonal wildlife activities. The use of a day as a measure of time spent participating in wildlife activities was convenient to facilitate recall, but it has some important implications that should be kept in mind when analysing these data. If a hunter hunted 2 hours on one day and 3 hours on another day, according to the definition used in this study it would be recorded as 2 days of hunting. However, if someone hunted 2 hours in the morning and 1 hour in the evening of the same day, it would be considered 1 day of hunting. Though the use of a "day" as defined may not provide precise results for the measurement of the actual time involved in participating in a certain activity, it does provide a fairly good account of the number of times a certain "event" occurred. Thus a day indicated an "event" or "occasion" of human-wildlife interaction within the conventional 24-hour day, and not a 24-hour period of participation. Since more than one activity can occur in one day, it should be noted that, theoretically, the total number of days of activity for a given participant could exceed the number of days in a year.

#### 3.3.2. Amount of Expenditures on Wildlife Activities

For the purposes of the SVWC, expenditures were defined as costs incurred by the participant for the purchase of goods and services used primarily to participate in a wildlife-related activity. Expenditures could only be claimed if they were used primarily for participation in such

activities. For instance, if a boat was purchased for travel and sometimes for hunting, its cost should not have been claimed as part of wildlife-related activity expenditures. On this basis the results of the survey would tend to be conservative on the subject, and could lead to an actual underestimation of wildlife-related expenditure. However, this was considered preferable to the possible opposite result. Expenditures not made primarily for human-wildlife interactions were not considered legitimate expenses on wildlife activities. Items considered were as follows:

- (a) Natural Area Costs - acceptable costs included the maintenance, improvement, or purchase of natural areas.
- (b) Residential Wildlife Activities Costs - such items as the cost of feeders, food for wildlife, bird-houses, magazines, films, cameras used primarily for wildlife.
- (c) Transportation Costs - such items as the operation of private vehicles, gas, oil, car repairs, car rentals, planes, ferries, etc.
- (d) Accommodation Costs - such items as cabins, lodges, motels, and campgrounds, etc.
- (e) Food Costs - such items as groceries, meals, and beverages, etc.
- (f) Equipment Costs - such items as cameras, camping gear, binoculars, special clothing, recording equipment, boats and motors, and other vehicles such as snowmobiles and multiple-terrain vehicles. For consumptive activities such purchases as guns and accessories, game carriers, calls, dogs, decoys, etc.
- (g) Other Item Costs - such items as feed for wildlife, books, film and film processing, as well as ammunition, guide fees, dog maintenance, equipment rentals, and repairs for consumptive wildlife activity.

Expenditures made for permits and licences (i.e. hunting licences) were not requested as they are readily available from provincial and federal wildlife agency records.

Expenditures were measured by the amount spent within the specified year on a given activity. Only where expenditures were made primarily to encounter wildlife either for consumptive or non-consumptive uses was the respondent asked to give a breakdown of his/her expenditures by the amount spent on transportation, accommodation, food, equipment, and other items (see questions 26, 41-45, 51-55, 61-65, 71-75).



### 3.3.3. Consumer-surplus Derived from Wildlife Activities

Consumer-surplus is a measurement of value used to indicate whether a given wildlife-related activity was perceived by the respondent as providing more satisfaction than might have been expected from the amount of money actually spent by the participant. In order to measure this, it is necessary to calculate an activity's subjective worth in relation to its actual cost. In this respect, consumer-surplus was measured in two steps:

- (1) through an indication of the willingness to pay more than the actual costs incurred for the satisfaction provided by a given activity (filter question);
- (2) through an indication of a hypothetical amount of money, in excess of actual costs, beyond which the respondent would have deemed the activity too expensive to continue participating in it. To aid the respondent, fixed response categories for consumer-surplus values were provided.

It is important to note (a) the format of the consumer-surplus question in the SVWC questionnaire in which a filter question on consumer surplus is used (see questions 27, 46, 56, 66, 76) to lead up to the main question intended to quantify this surplus, and (b) the context and sequence of the questions, which help the respondent build on the expenditure questions (see questions 26, 41 to 45, 51 to 55, 61 to 65, 71 to 75) to arrive at a realistic estimate of the surplus. These procedures are a departure from those sometimes used in previous surveys, and in which consumer-surplus questions have not always been very effective in eliciting usable responses. Indicators of the effectiveness of this method of questioning are found in section 6.2.1. dealing with item non-response.

### 3.4. Concepts and Terms

Three methods were used to allow a clear understanding by the respondents of the terms and concepts used in this survey. They were:

- (a) Providing simple and clear definitions where possible. Often these definitions were provided in the questions themselves.
- (b) Providing examples. This was the most common tool of clarification used.
- (c) Providing illustrations. Not only did this help clarify, but but also added to the overall attractiveness of the questionnaire.

### 3.5. Demographics

Though the SVWC questionnaire itself did not request demographic information from its respondents, some demographic information is available through the LFS itself. This information is available on the Statistics

Canada "Micro-data tape" and the "SPSS(X) system file" described in Appendix B.

It is important to note that not all the demographic information available through the LFS was placed on the SVWC "Micro-data tape" or the "SPSS(X) system file". Nor was the demographic information on these sources presented with as much detail as possible. This was done for two reasons:

- (1) Some demographic indicators were not immediately relevant to the SVWC data set.
- (2) Certain types of demographic information are so detailed as to place the respondent's confidentiality at risk.

Confidentiality played an important role in the collapsing of existing demographic indicators and the exclusion of others from the SVWC data set. If the analyst requires demographic data in addition to those described below and available on the SVWC "Micro-data tape" or the "SPSS(X) system file", this may be arranged by following the procedure described in Appendix B.

#### 3.5.1. Descriptive Demographic Indicators

Four types of descriptive demographic indicators are available on the SVWC "Micro-data tape" and "SPSS(X) system file":

- (a) Sex
- (b) Age Group
- (c) Relation to Head of Family
- (d) Marital Status.

This demographic information was gathered through the Household Record Docket form used in the LFS (see Appendix D1., items 33, 34, 35, and 37 for details on these variables) which ran concurrently with the SVWC.

#### 3.5.2. Socio-economic Status Indicators

Also included on the micro-data tape and the SPSS(X) system file are five socio-economic indicators on the sample population. They include:

- (a) Education
- (b) Labour Force Status
- (c) Occupation
- (d) Industry.

Information regarding the respondents' education was collected from item 38 on the Household Record Docket. Labour-force status, occupation, and industry (agriculture, transportation, etc.) indicators were derived from information collected on the LFS questionnaire conducted during the same period as the SVWC. Information on the respondents' personal income was collected through another supplementary survey conducted in association with the LFS 4 months after the SVWC was

completed. Because of the time lag between these two surveys, during which time three of the five rotation groups used in the SVWC survey were no longer part of the sample, there exists an income indicator for only about one-third of the SVWC sample. Consequently, this information is not included on the main data tape, but will be made available on a separate shorter tape containing about one-third of the total sample.

### 3.5.3. Location

Two indicators on respondents' region of residence are available on the SVWC "Micro-data tape". They are:

- (a) Metropolitan Area
- (b) Province.

"Metropolitan Area" refers only to respondents who live in one of Canada's 23 major cities. Due to the need for respondents' confidentiality mentioned previously, it is not possible using the available data on the "Micro-data tape" or the "SPSS(X) system file" to compare urban and rural populations in the strict sense of the word. However, such comparisons may be requested from Statistics Canada by following the procedure outlined in Appendix C).



#### 4. SAMPLE DESIGN AND WEIGHTING PROCEDURES IN THE STATISTICS CANADA LABOUR FORCE SURVEY

The SVWC questionnaire was distributed in February 1982, as a supplement to the LFS. The LFS is a large continuing household survey that was established in 1945 under the auspices of Statistics Canada. Originally it provided estimates on a quarterly basis, but since 1952 the LFS has been conducted monthly. The LFS is carried out through Statistics Canada's eight regional offices located across the country with about 1200 interviewers.

The main purpose of the LFS is to provide estimates on the size, composition, and characteristics of the labour force in Canada. The data collected monthly serve as important indicators of economic conditions and are used to inform government, business, and labour of existing and possible trends in the Canadian economy.

The LFS was chosen as a vehicle for the SVWC because of the several advantages it provided:

- (a) a low cost per questionnaire (about \$2.25 each);
- (b) a sample size that would be large enough to provide reliable figures on a provincial basis;
- (c) a suitable vehicle for a mail survey, which was deemed desirable because respondents would be allowed more time to think about their answers covering a 12 month recall period than in the case of short personal or telephone interviews;
- (d) an expected high response rate due to the fact that 1200 Statistics Canada field staff could oversee the administration of the questionnaires locally across Canada, and follow up the non-respondents;
- (e) the possibility of replicating the SVWC, as required, using the same methods because the LFS is well established and repeated monthly.

Furthermore the LFS has the most comprehensive and sophisticated general population survey design we know of in Canada at present. Such a survey design is required in order to get an accurate estimation of the target population.

In this chapter, we shall focus on the sample design and weighting procedures used in the LFS. Section 4.1. provides an outline of the terminology and principles of survey design. Section 4.2. describes the LFS design in detail but avoids most of the mathematical description of the design; it merely provides some understanding of the structure of the survey and the reasons for choosing the design. Section 4.3. describes the weighting factors included on each record in the survey. In chapter 5 we will examine how the LFS sample design was used as a vehicle for the SVWC.

#### 4.1. Terminology and Principles of Survey Design

The goal of this section is to introduce relevant concepts from the theory of survey design and define several terms which play a key role in this chapter.

The definitions provided are orientated toward their usage in the LFS and may not be as general as those found in statistics textbooks. The definitions include some explanations on the use of the techniques in the LFS.

##### 4.1.1. Terminology

**TARGET POPULATION:** The target population is the collection of individuals about which the survey is designed to provide information. For the LFS the target population covers all Canadians over 14 years of age with the exception of the populations of the Yukon and Northwest Territories, residents of Indian Reserves, full-time members of the Canadian Armed Forces, and inmates of institutions. The exclusion of the populations of the Yukon, Northwest Territories, and Indian Reserves is due to the operational and high cost consideration of conducting the LFS in these areas. Full-time members of the Canadian Armed Forces and inmates of institutions are also excluded because they are considered outside the labour market to which the LFS applies. These exclusions account for approximately 2% of individuals of 15 years of age and over residing in Canada.

**SAMPLING FRAME:** The sampling frame is a list of the sampling units in the population. It is from this list that the samples are selected. In the LFS, sampling frames are prepared separately for the various stages of sample selection as they are required by the ongoing survey.

**SAMPLING UNIT:** The sampling unit of the LFS consists of Canadian dwellings. Approximately 56 000 dwellings are selected, and all members of those dwellings 15 years of age or more are included in the survey. The procedure results in approximately 120 000 persons being questioned each month. The final step in sample selection is the dwelling, not the household (defined as the collectivity of persons living within a selected dwelling). For this reason, if the persons within a selected dwelling move out during the survey period, they are dropped from the sample and those persons who move in become part of the sample. No substitution of dwellings occurs in the event of non-response.

**STRATA:** A target population can be divided into a set of strata for various reasons. Each stratum is sampled and analysed independently of the others. The results of the estimations in each stratum are then totalled to provide estimates at the target population level. The advantages of this are threefold: (1) it allows flexibility in the design so that resources can be applied where they provide the best return, (2) estimates can be provided at the stratum level with a controlled precision, and (3) updating the ongoing LFS can be done within each stratum without affecting the other strata. The strata in the LFS consist of

provinces, and each province is subdivided into large population centres or economic regions.

**CLUSTER:** A cluster is a group of individuals who are sampled together. For example, in the LFS when a household is selected all suitable members of the household are asked to respond. Cluster sampling is done for several reasons: (1) a list of all individuals may not be available although a list of the clusters may be, (2) clustering the sample will reduce the survey cost and time by reducing travelling between households, and (3) the main cost involved in the sampling may be to contact the household, hence information on all members of the household may be collected for only a marginal increase in cost.

**MULTI-STAGE SURVEY:** A multi-stage survey is a repeated application of the concept of cluster surveying. For example, from a city one could select a city block (clusters of dwellings) and then select several dwellings within the chosen block (clusters of individuals). The LFS is a multi-stage survey with several levels of selection.

**UNEQUAL PROBABILITY SAMPLING:** It is sometimes advantageous to select certain clusters or units with greater probability than others. Such a procedure is used because: (1) under certain circumstances it may provide a more precise estimator than when equal probability sampling is used, or (2) in a multi-stage design it may correct for imbalances caused by unequal cluster sizes.

**SAMPLING RATIO:** The sampling ratio is the fraction of the target population that is included in the survey and is sometimes expressed as a percentage.

**INVERSE SAMPLING RATIO:** The inverse sampling ratio is the reciprocal of the sampling ratio. Thus if a 2% sample is taken, the inverse sampling ratio is 50, i.e. 1 out of 50 are selected for inclusion in the sample.

**SAMPLE WEIGHTING:** Since the sampling ratio varies across the strata and certain units are selected with different probabilities, each unit in the sample "represents" a different number of target population individuals. The weighting factor assigned to each unit reflects this as a term to multiply the individual's response.

**ROTATING SAMPLES:** A rotating survey is a type of repeated survey in which a portion of the sample is discarded and replaced each month. Since the individuals in the labour force change rapidly, it is desirable for the LFS to update its sampling frequently, but selecting a completely new sample each month would be expensive. Alternatively, having a fixed sample allows a uniform workload to be set up for the interview team and allows some rapport to be developed with the interviewee, which it is hoped increases response rates. Despite this, response rates decline with time in the survey as the respondent becomes weary of answering questions. In the LFS one-sixth of the sample is rotated each month to provide a complete turnover in the individuals in the survey every 6 months. Section 5.1. contains additional information on this aspect.



PRECISION: The results obtained from a sample survey vary depending on which individuals are selected. When only a small number of individuals are selected, each interviewee "represents" a large number of individuals. In this situation, when an individual who has unusual characteristics is included, his responses greatly affect the results. In general as the sample size increases, the individual sample weights decrease and the unusual responses have less ability to disturb the results, i.e. the results are more repeatable no matter which individuals are included. Precision is a measure of the repeatability of a survey.

#### 4.1.2. Principles

The LFS has as its objective the provision of estimates of the characteristics of the labour force with a given precision. In designing a survey, a sampling methodologist tries to provide the required precision for the minimum cost. The sample is selected to "represent" the population, and the responses provided by the sampled individuals are then attributed to the unsampled individuals. The ideal survey would provide the same results no matter which individuals were selected. This can be approximated by stratifying the target population so that the individuals in the same stratum are as similar as possible. Thus it would not matter which individuals were selected within each stratum since each would give a similar response. Because the individual's response is unknown, the population must be stratified using another variable, which is correlated with the response variable. The LFS uses economic regions, which are areas of similar economic structure, as strata.

Cluster sampling can reduce survey costs, but it generally increases the variability of the results compared to a completely random survey with the same number of individuals. This is because randomly selected individuals often provide a better cross-section of the population than clusters of individuals. Thus using cluster sampling requires balancing the cost-saving of conducting a survey in a few selected areas against the imprecision caused by attempting to extrapolate these results to the entire population of Canada.

Several operational and practical constraints also influence the design of a complex ongoing survey such as the LFS. It is necessary to provide a balanced workload for the field staff, to provide for follow-up procedures which attempt to control for non-response bias, to allow for non response when setting up criteria for precision of design, to allow for updating in the design as the target population changes, and to allow for possible changes in sample size in future.

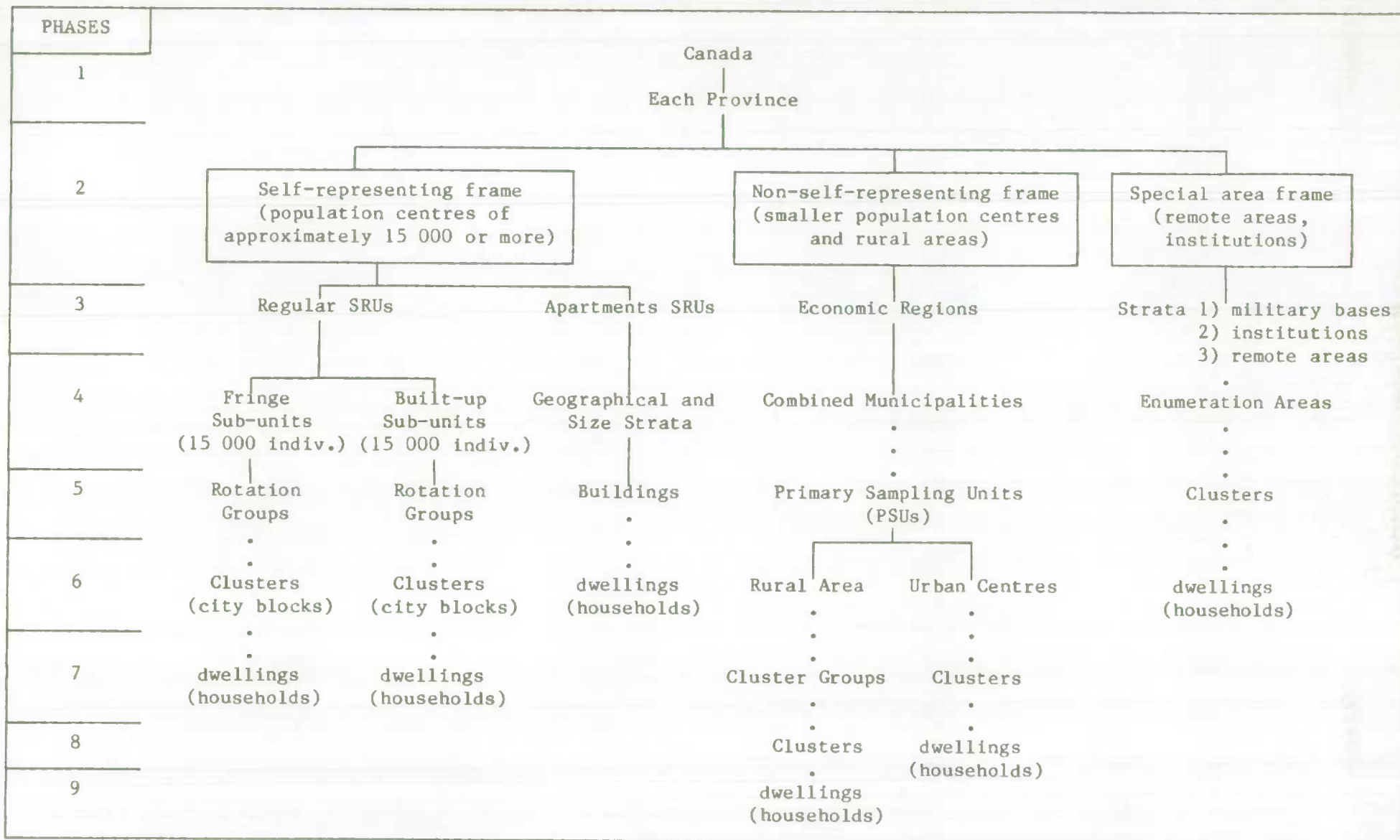
#### 4.2. Labour Force Survey Design

This section presents a general outline of the sampling procedures followed in the LFS. These procedures include a number of levels at which the sample is stratified and several stages at which probability samples are selected. The complex multi-stage probability design is illustrated in Figure 4.1. This figure constitutes an important key in understanding what follows. This chapter is based on two Statistics



FIGURE 4.1

Multi-stage Probability Design of Sampling in Labour Force Survey (LFS)



— Level of stratification.  
 ..... Stage of sampling.

- 27 -

Canada publications (Methodology of the Canadian Labour Force Survey, 1976 and Guide to Labour Force Survey data, 1979) which the reader is encouraged to consult for a more thorough explanation of the matter.

As shown in Figure 4.1., the first phase of the design of the LFS is to partition the target population into the 10 provinces. An independent sample is drawn within each province. The effort expended in each province can then be balanced, so that sufficiently precise estimates of the labour force characteristics can be calculated. The sampling ratios and sample sizes for each province are shown in Table 4.1. It can be seen that the sampling ratio varies from 4.23% in Prince Edward Island to 0.42% in Ontario.

In the next phase of the sampling scheme each province is divided into three segments: self-representing units (SRU), non-self-representing units (NSRU) and special areas (SA). Self-representing units are larger cities. Each of these cities is sampled directly and the minimum size for defining SRUs varies by province. Non-self-representing units comprise rural and smaller urban areas. Finally, the special-area frame covers the civilian population of military establishments, hospitals, other institutions, and remote areas. This frame covers that small portion of the population that is difficult to include with the rest of the sample because either (1) including these areas would appreciably disturb the results as they were rotated in or out of the sample, or (2) inaccessibility might delay the compilation of the results. The sampling scheme has been designed separately for each sector to confront its distinctive problems.

The SRUs and NSRUs have different sampling ratios as shown in Table 4.1. The NSRUs are sampled more intensively than the SRUs. This is done, despite the fact that rural and smaller urban centres have a low density resulting in increased travelling costs, because of the higher variability in the LFS characteristics in these areas. We will now describe each of these three segments.

#### 4.2.1. Self-Representing Units (SRUs)

The number of SRUs by province ranges from two in Prince Edward Island to 36 in Ontario. For operational and theoretical reasons the minimum population size for an SRU varies from province to province. The guidelines used by Statistics Canada to calculate the minimum SRU population are based on the product of the inverse sampling ratio in the province (see Table 4.1.) times the minimum interviewer assignment (20 households) and the estimated population per household. For example, the lower population limit for an SRU in 1971 was 24 000 in Ontario and Quebec, and 14 500 in Manitoba and Alberta (Statistics Canada 1976:24). However, some cities smaller than the minimum size for a province were designated SRUs due to their unique characteristics.

Figure 4.2 and Table 4.2 provide an example of the SRUs from the province of Nova Scotia. It should be noted that in two cases (see 1 and 6 on Figure 4.2) cities or towns were combined to represent one SRU. The LFS employs this methodology of combining smaller urban centres to form

TABLE 4.1  
Provincial Sampling Ratios (%) and Number of Households  
in Sample of Self and Non-Self-Representing Frames

Province	Non-self-representing frame(1)		Self-representing frame(2)		Overall	
	Sampling ratio	Sample size	Sampling ratio	Sample size	Sampling ratio	Sample size
Newfoundland	3.2	1 568	(3)	1 523	2.34	3 091
Prince Edward Island	4.8	1 089	3.19	347	4.23	1 436
Nova Scotia	2.4	2 917	1.06	1 317	1.73	4 234
New Brunswick	2.4	2 449	2.13	1 811	2.31	4 260
Quebec	0.75	3 742	0.33	4 813	0.45	8 555
Ontario	0.75	4 078	0.33	6 825	0.42	10 903
Manitoba	2.4	2 307	1.11	2 182	1.52	4 489
Saskatchewan	2.4	3 785	1.77	2 204	2.09	5 989
Alberta	1.6	3 057	1.08	3 749	1.26	6 806
British Columbia	1.4	2 805	(4)	3 163	0.83	5 968
Canada	1.4	27 797	0.56	27 934	0.80(5)	55 731

(1) Non-metropolitan area.

(2) Metropolitan area.

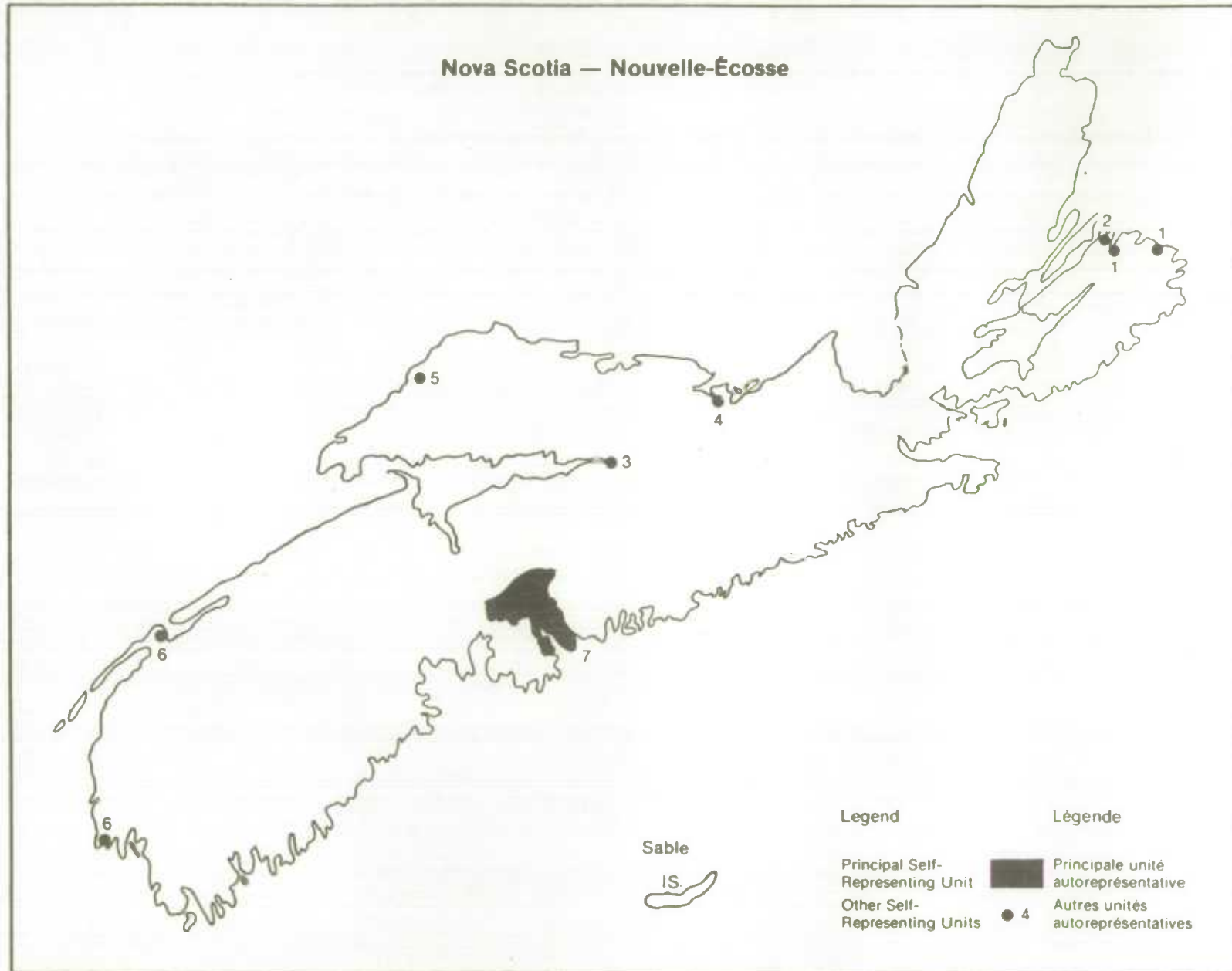
(3) 2.13 for St. John's; 1.06 for Cornerbrook, Wabamma-Bell Island, and Windsor - Grand Falls; 1.60 for all other SRUs in Newfoundland.

(4) 0.95 for Victoria and 0.48 for all SRUs in British Columbia.

(5) A sampling ratio of 3.0 means that about 3 households out of 100 are randomly selected across Canada.

Source: Statistics Canada 1976:89 and 1979:18.

Figure 4.2 - Map of Nova Scotia Depicting Self-representing Units



Source: Statistics Canada 1976



an SRU because of such factors as their unique characteristics, the distance between the urban centres, or the total urban and rural population in the economic region.

Phase 3 of Figure 4.1 shows that the self-representing frame is made up of two strata: regular SRUs and apartment units. Apartment units were established in 17 of Canada's larger cities owing to their unique characteristics. Each of these two strata is sampled differently.

#### 4.2.1.1. Regular SRUs

Larger regular SRUs are divided into sub-units to provide geographical representativeness. The size of these sub-units varies from province to province ranging from 1000 to 12 000 dwellings. These sub-units have a population of approximately 15 000. The boundaries of the sub-units are usually based on census tracts, where available, or else on city blocks or block faces. In Table 4.2, the names of the SRUs for Nova Scotia are shown with their corresponding 1971 population and number of sub-units.

In the fourth phase of Figure 4.1 sub-units are classified into one of the three categories on the basis of their potential for future growth:

- (1) built-up sub-units;
- (2) fringe sub-units;
- (3) combination (built-up and fringe) sub-units.

In Figures 4.3 and 4.4, an example of Halifax as a SRU is given. Figure 4.3 indicates the geographical size and shape of this SRU and furthermore shows fringe sub-units that surround the Halifax core. Figure 4.4 shows an enlarged version of the Halifax core and indicates the sub-units contained therein. From these two figures, one should note that the size of the sub-units varies according to the population density in that area.

The sub-units were divided into clusters. A cluster was generally defined as a city block, but minimum and maximum cluster sizes were imposed. The minimum number of dwellings was 18 for built-up clusters and 10 for fringe clusters, and the maximum was set at 100 dwellings in Ontario and Quebec and 60 in other provinces. When a city block had less than the minimum number of dwellings it was aggregated with an adjacent block. When the block had too many dwellings it was broken down using identifiable features (e.g. parks, churches, block faces), except in exceptional circumstances when no such features existed.

In the fifth phase of the selection the clusters were randomly aggregated into group clusters. This was done to facilitate setting up a monthly rotating sample. The subsequent selection then ensured that each subunit had a portion of its sample in each step of the rotation.

In the sixth phase of the sample selection one cluster was randomly selected within the group cluster using unequal probability sampling. The probabilities were proportional to the number of dwellings in the cluster.

Table 4.2

## List of Self-Representing Units for Nova Scotia, 1971

Code from Figure 4.2	Name of SRU	1971 population	Number of sub-units
1	Sidney, city and Glace Bay	90 879	11
2	Sidney Mines	32 760	5
3	Truro	24 693	5
4	New Glasgow	23 435	3
5	Amherst	9 966	1
6	Yarmouth and Digby	10 879	1
7	Halifax	222 635	24
	TOTAL	415 247	

Source: Statistics Canada 1976:100.

Table 4.3

## Nova Scotia Non-Self-Representing Frame Showing List of Combined Municipalities (CM) and Primary Sampling Units (PSU)

Economic region	Number of CM	Number of PSU	NSRU population
1	2	22	44 132
2	4	44	99 336
3	3	45	88 032
4	4	49	101 435
5	2	19	38 796
Total	15	179	361 731

Source: Statistics Canada 1976:99.

Figure 4.3 - The SRU for Halifax Showing Built-up and Fringe Sub-units (nos. 21, 22, 23, 24)

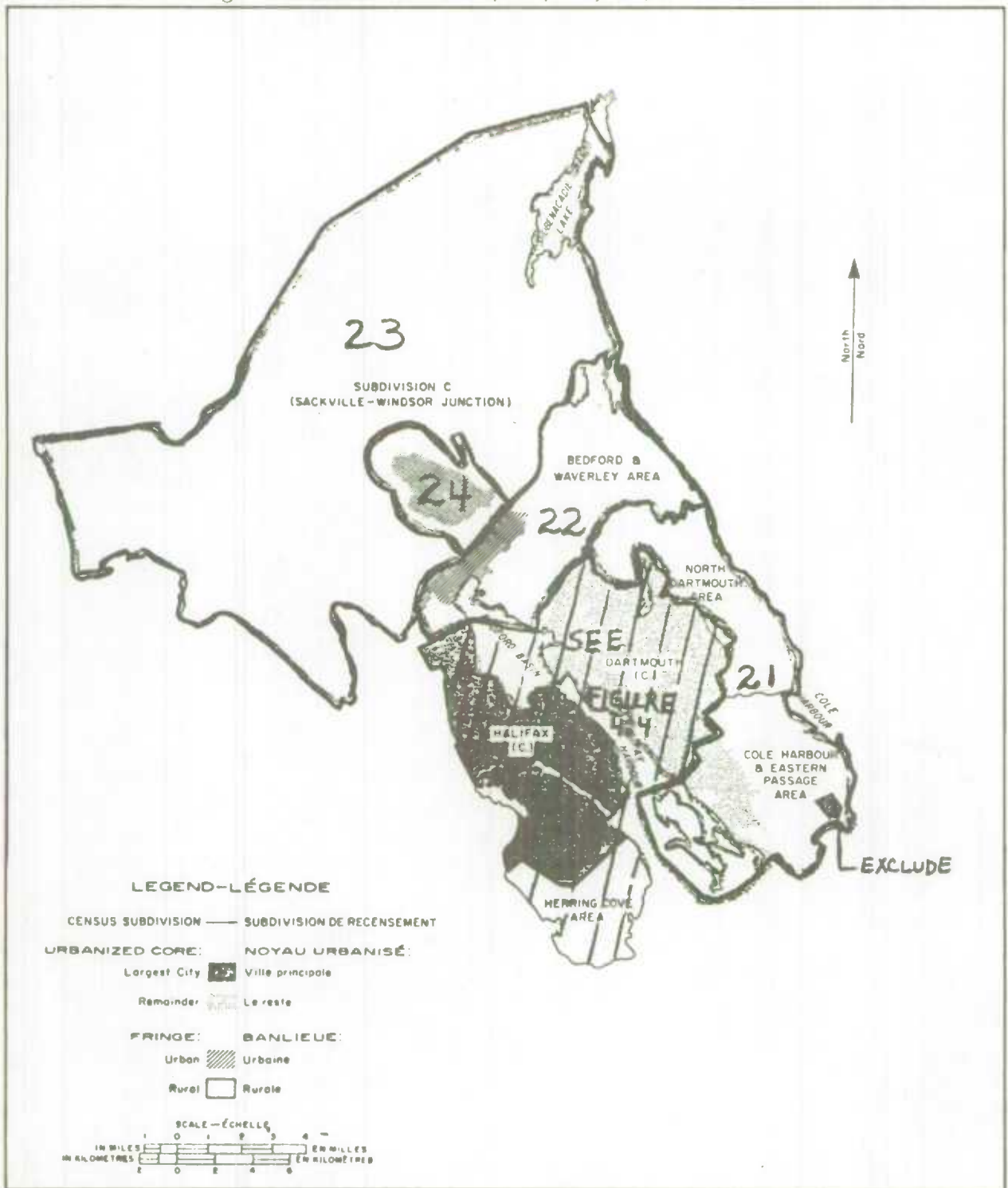
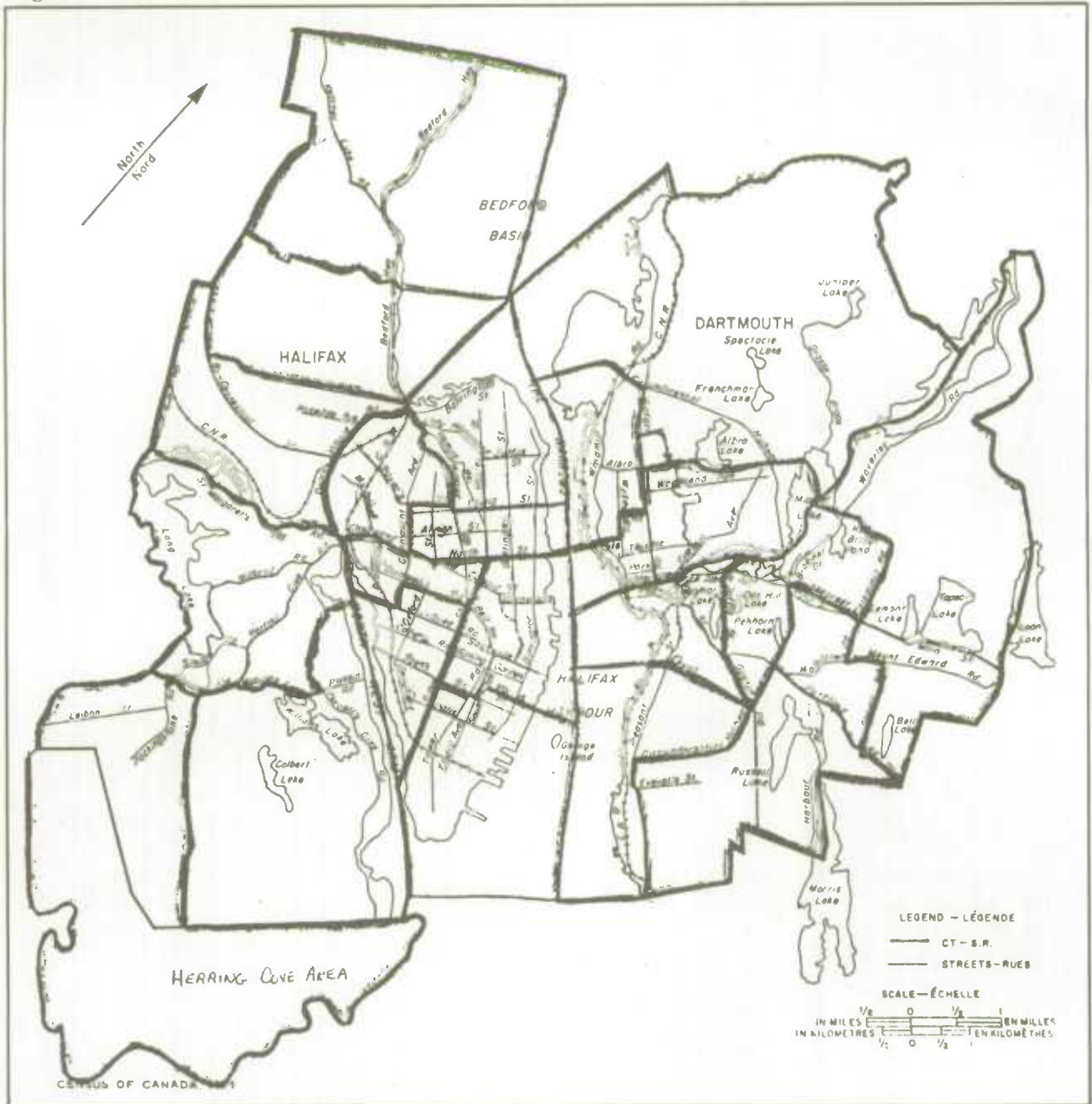


Figure 4.4 - Sub-units of Inner Halifax Area (from Figure 4.3)





The final seventh phase of the design involved selecting dwellings within each selected cluster. Dwellings were chosen using a systematic sampling scheme. All eligible individuals within the household were interviewed.

#### 4.2.1.2. Special Apartment Sample

As indicated in the third phase of Figure 4.1, apartment buildings located in 17 of the larger SRUs were treated in a special manner. Included in this special sample are the cities of Montreal, Toronto, Ottawa, Hamilton, London, Winnipeg, Calgary, Edmonton, Vancouver, Halifax, Quebec City, Oshawa, Burlington, Windsor, Kitchener, Saskatoon, and Victoria. Apartment buildings having at least five storeys of living quarters and 30 or more units were placed in this special category. By setting up a separate frame for apartments the survey was able to capture the characteristics of apartment dwellers because they may differ from persons living in other types of dwellings. Furthermore, it avoids having to reconsider the survey sample size every time new apartment buildings are constructed.

The apartment frames in Toronto and Montreal were stratified by geographical location. In addition the apartment frame in the nine largest SRUs (including Toronto and Montreal) were stratified by the number of dwellings. These strata comprise the fourth phase of sampling for apartments.

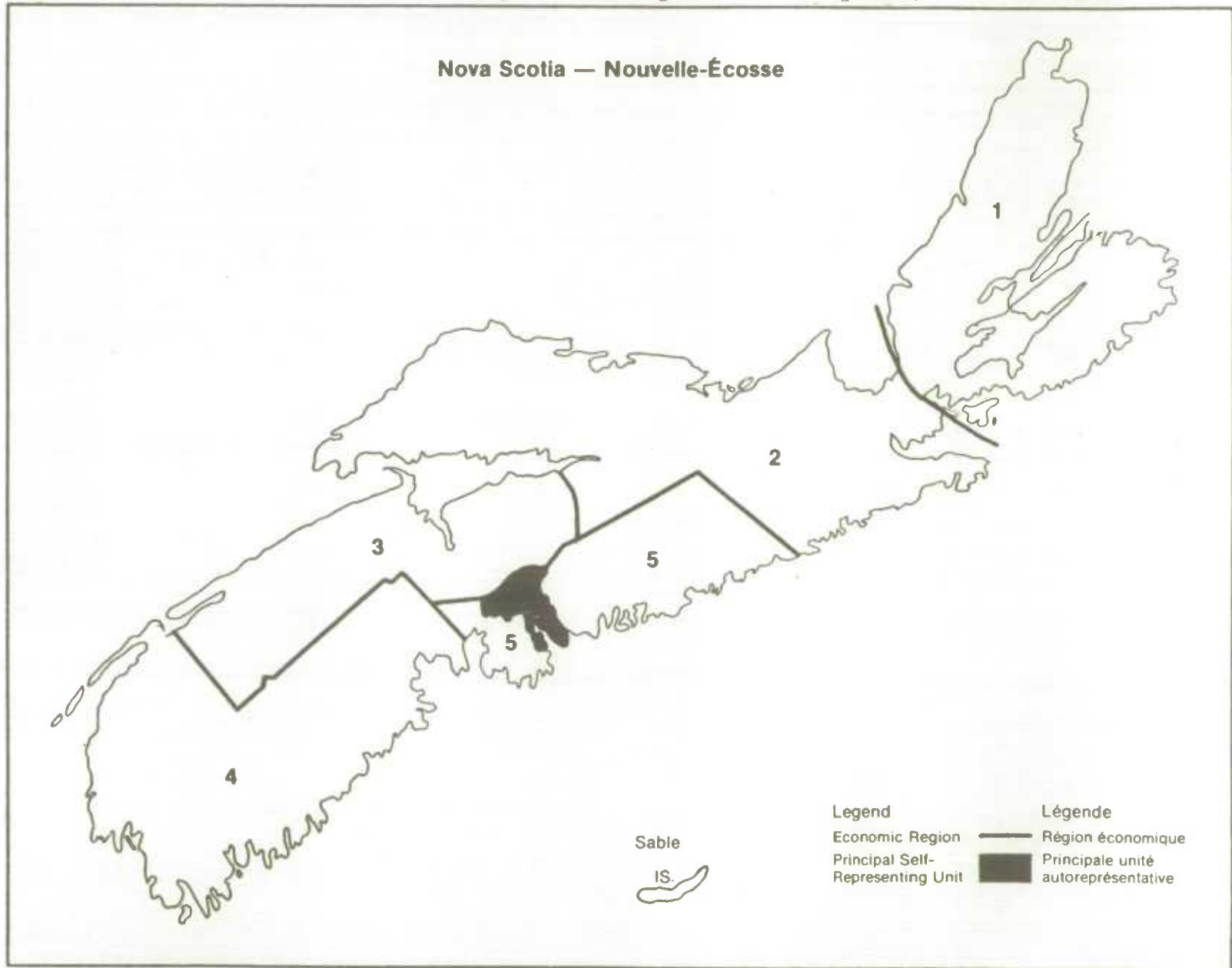
In the fifth phase of sampling a random selection of buildings (clusters of dwellings) was made systematically with probability proportional to number of units. Households were then selected systematically within each building.

#### 4.2.2. Non-Self-Representing Units (NSRUs)

In accordance with Phase 2 of Figure 4.1, the NSRU frame constitutes the next largest component of the LFS sample design. For survey purposes, Statistics Canada divides each of Canada's 10 provinces into a number of "economic regions" (ERs): areas that have similar economic structures (i.e. agriculture, manufacturing, construction, etc.). The number of ERs by province ranges from one in Prince Edward Island to 10 in Ontario. The reader should recall that for purposes of sampling NSRUs, the self-representing areas discussed earlier were omitted from these ERs. For example, the province of Nova Scotia was divided into five differing ERs as shown in Figure 4.6. The populations of these regions are shown in Table 4.3.

The fourth phase in the design of the NSRU portion of the survey was to divide the ERs into combined municipalities (CM). An example of this for Nova Scotia is shown in column 2 of Table 4.3. These CMs are aggregations of census enumeration areas (EA). The EAs were combined as follows: (1) the proportion of the labour force employed in each of seven sectors of the economy was calculated; (2) the three sectors that showed the most ability to differentiate among the EAs within the ER were retained as stratification variables; (3) the patterns of employment in each of

Figure 4.6 - Map of Nova Scotia Depicting Economic Regions (excluding SRUs)



Source: Statistics Canada 1976

these three sectors were used to group the EAs into approximate strata that were as similar as possible; and (4) the approximate strata were adjusted to satisfy size and contiguity constraints. The labour force characteristics for the five ERs in Nova Scotia are shown in Table 4.4.

The above procedure was modified for Newfoundland owing to its unique demographic characteristics. In each ER one or two urban combined municipalities comprised of all population centres of 500 or more were formed. The remainder of the ER was subjected to the pattern analysis described above.

The size of the CMs varied among regions due to the differing sampling intensities. The average and range of sizes are shown for each region in Table 4.5. The sizes are given by the inverse sampling ratio times 400, where the factor 400 is a product of an enumerator's workload of 50 households times 4 persons per household times 2 (since 2 samples are taken in the next phase of sampling).

In the fifth phase of the design, the CMs were divided into primary sampling units (PSU). An example of this for Nova Scotia is given in column 3 of Table 4.3. Two PSUs were selected with probability proportional to size from each CM. The number of PSUs per CM was set at an average of 15, except in the Maritimes where it was 12 (owing to the high sampling ratio there). The number of PSUs within a CM varied between 10 and 19. The average size of the PSUs is shown in Table 4.5.

The PSUs are aggregates of the EAs that satisfy the criteria: (1) each PSU does not deviate from the stratum average for any of the three important LF characteristics by more than 5%; (2) the population of the PSU should lie between 0.86 and 1.14 times the average provincial PSU size; and (3) the proportion of urban and rural population in each PSU should not deviate from the corresponding stratum proportion by more than 5%. To achieve criteria on (3) it was often necessary to apportion urban centres among the PSUs. When a PSU was selected that contained a shared urban portion, the sampling ratio for the urban portion was scaled to correspond to the proportion shared. The definition of urban population was different from that used in the census, the definition being based on a minimum 1-day assignment (about six sampled households). A cut-off point in the range 200-500 was used to designate urban centres.

Table 4.3. demonstrates how the five ERs of Nova Scotia have been divided into 15 strata (CM) and 179 PSUs. Each stratum from this list contains an average population of about 24 115 persons.

The sixth phase of the sampling scheme for NSRUs involved dividing the PSUs into urban centres and rural areas. These two segments of the population were handled separately.

A sample was taken from each urban centre in a two-stage selection procedure. For the seventh phase of selection each urban centre was partitioned into clusters that had well defined physical boundaries. Clusters were selected from each urban centre with probability proportional

TABLE 4.4

Nova Scotia Non-Self-Representing Frame -  
Labour Characteristics of Economic Regions

Economic region	Population %		Ranked LF characteristic used in stratification and % of labour force		
	Rural	Urban	1	2	3
1	80	20	S 49	Ma 17	F 10
2	75	25	S 50	Ma 17	C 10
3	73	27	S 55	Ma 14	A 10
4	81	19	S 46	Ma 25	F 11
5	88	12	S 55	Ma 15	C 13

(1) Services (S), manufacturing (Ma), construction (C), forestry and fisheries (F), agriculture (A).

TABLE 4.5

Combined Municipality (CM) and Primary Sampling Unit (PSU)  
Sample Sizes for Canada

Region	Inverse sampling ratio for NSRUs	Allowed population for CMs	Average number of PSUs per CM	Allowed population for PSUs
Maritimes	62.5	20 000 - 30 000	12	1700 - 2300
Ontario-Québec	200	64 000 - 96 000	15	4600 - 6100
Prairies	125	40 000 - 60 000	15	2900 - 3800
British Columbia	143	45 000 - 68 000	15	3300 - 4300



to size. Special procedures were used when selecting from urban centres shared between PSUs.

The eighth phase for urban centres involved selecting households within clusters and was carried out in a manner similar to that for SRUs.

The rural portions of the PSU were divided into groups for the seventh phase of sampling for this sector of the population. Individual EAs were designated groups except when the population was too small or too large. Undersized EAs were combined with adjacent ones to provide allowable-sized groups, and oversized EAs were divided to form two or three groups that shared the same area. Groups were selected using PPS systematic sampling. An example of how a PSU is divided into an urban portion and rural groups is shown in Figure 4.7.

The selected groups were mapped and clusters were defined in a manner similar to that described for urban centres. In the eighth phase of sampling a probability proportional to size sample of clusters was taken from the groups. The ninth phase involved selecting households from the clusters in a manner similar to that for SRUs. An example of how a rural group is broken into clusters is shown in Figure 4.8.

#### 4.2.3. Special Areas

Institutions, such as hotels, hospitals, schools, and military establishments, and remote areas, are designated as special areas. This is done because these special areas possess characteristics different from those discussed above. Their inclusion in the regular sample would greatly increase sample variance. Furthermore, in the case of remote areas, the frequency of data collection has been modified due to their inaccessibility.

For sampling purposes, special areas are stratified into four groups: military establishments, hospitals, other institutions, and remote areas. It should be noted that only the civilian population living on military establishments is included in the survey and that, in the case of institutions, inmates of the institutions are not included in the survey.

The first-stage sample units for special areas correspond to EAs and are selected systematically with probability proportional to size (the eligible labour-force population as of the 1971 census being the size measure).

Subsequent stages of sampling are clusters and dwellings. These are sampled in a similar fashion to clusters and dwellings in SRUs.

#### 4.3. Weighting

Probability sampling is a method by which population characteristics can be assessed through a much smaller sample. Thus the principle behind probability sampling is that the selected sample will be

Figure 4.7 - Nova Scotia NSR Primary Sampling Units (1 urban and 3 rural groups) from ER4

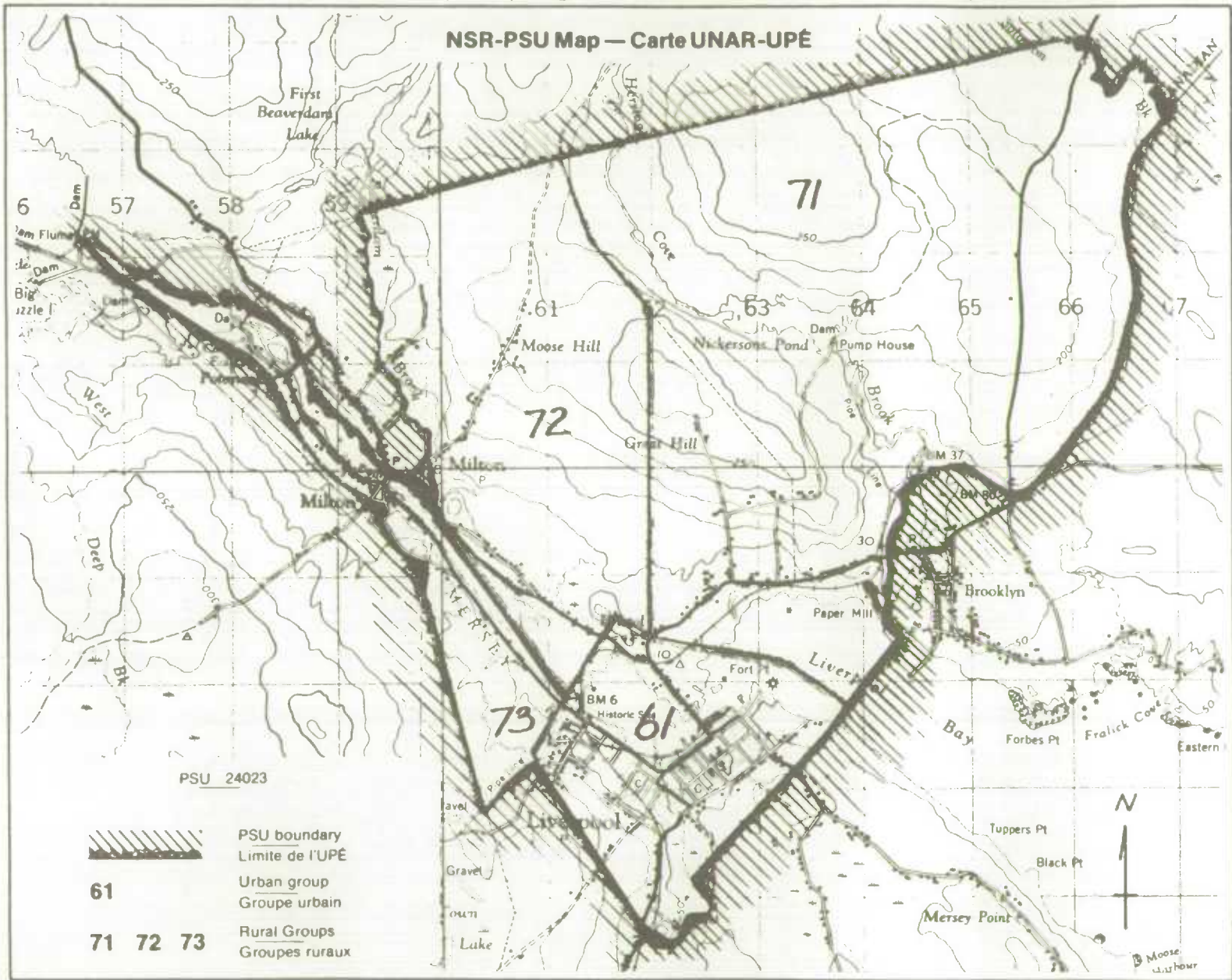
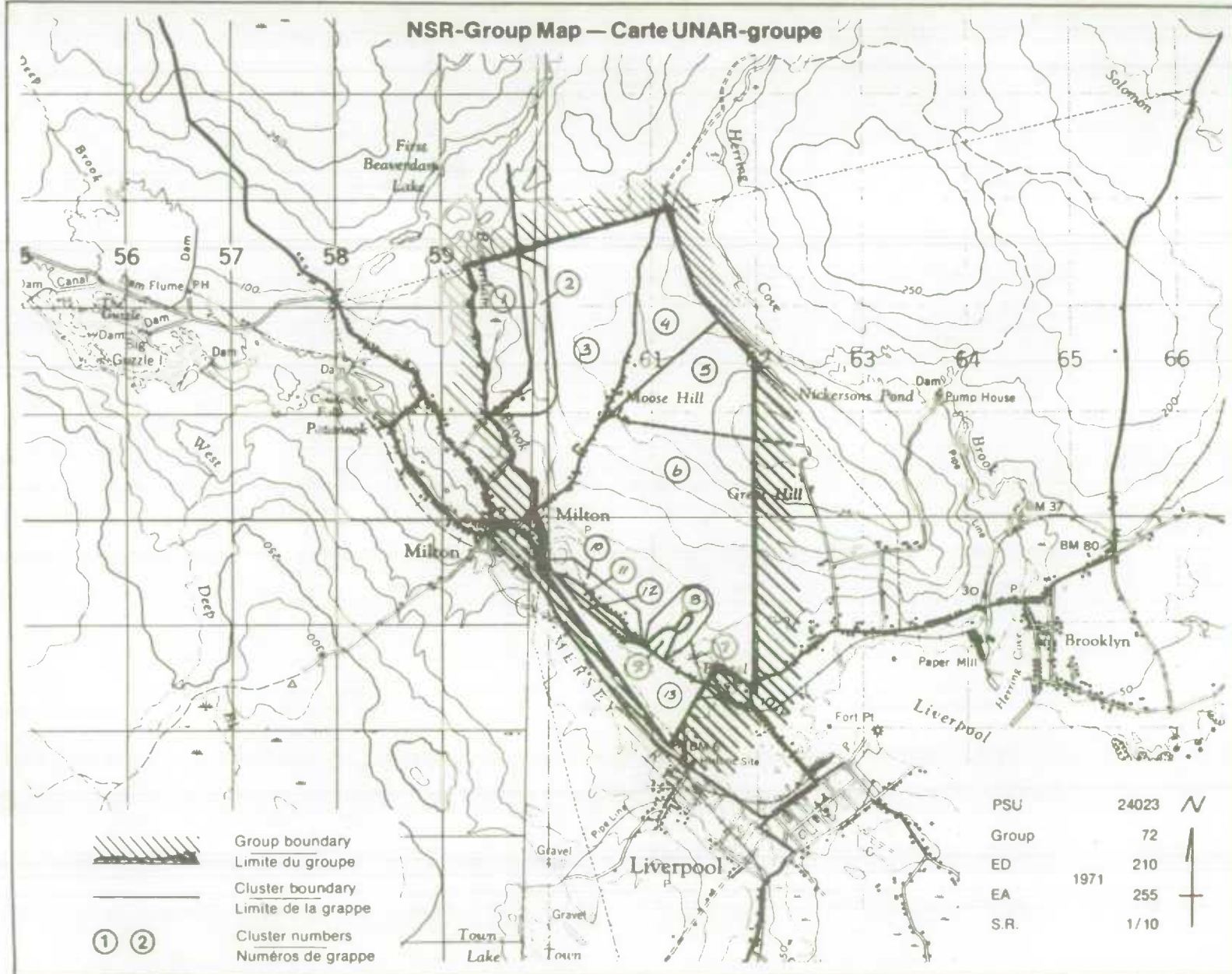




Figure 4.8 - Nova Scotia NSR Rural Group (No. 72 in Fig. 4.7.) Subdivided into Clusters



Source: Statistics Canada 1976

"representative" of the whole population or that each person in the sample will represent several other persons not in the sample.

For complex multi-stage designs such as the LFS the sampled individuals from each segment "represent" a different number of target population individuals. For example, if a 2% sample is selected in one segment of the population, each respondent represents 50 persons in the population. If in a second segment a 5% sample is taken, then each response represents only 20 members of the target population. When the samples are combined to estimate the overall average response, these representation factors must be considered. This is achieved by storing a weighting factor along with respondents' responses. The weights stored with each record on the LFS file add up to the population of Canada at the time of the survey.

The LFS weight attached to each record is based on five factors: the basic weight, the cluster sub-weight, the non-response factor, the rural-urban factor, and the age-sex factor. These factors are based on the sampling scheme and auxiliary information which are used to balance the demographic characteristics of the sample. For example, if males aged 20-24 years were under-sampled compared to reliable demographic information, the weight assigned to these records would be increased.

#### 4.3.1. Basic Weight

For LFS data, basic weights are determined by the sample design itself. Essentially, the weight is based on the inverse of the probability that an individual is selected for the sample. As an example, if a sub-provincial population was sampled at a rate of 1/50, responses from individuals of that area were given a weight of 50. This process would correct most errors that would have caused an underestimation of regional populations.

#### 4.3.2. Cluster Sub-weight

When moderate growth occurs within a cluster the actual sample taken, which is based on a sampling ratio, will only increase slightly. As an example, if the size of one cluster increases by 100%, this results in a sample increase of only two to six dwellings in the cluster (Statistics Canada 1976:68). Thus, substantial growth in a cluster can occur before this will present any field problems. However, if high growth is maintained in one cluster over a period of time, or if growth takes place in more than one cluster in an assignment, field problems can occur. In order to avoid disruptions in field operations due to this sudden growth, sub-sampling may be resorted to as a means of keeping interviewers' assignments manageable. Therefore, in order to adjust for the undersampling as a result of this procedure, cluster sub-weights are applied after the data have been collected. The cluster sub-weight represents the inverse of this sub-sampling ratio in clusters where sub-sampling has occurred.



#### 4.3.3. Non-response Weight

Non-response occurs when a person who belongs to a sample does not participate in the survey due to such factors as refusal, absence at time of interview, sickness, etc. Non-response is compensated for in either of two ways. If data on a respondent from LFS conducted the previous month are available, this information is entered in the non-response record. However, if this information is not available, non-response is compensated for by increasing the weight attached to responding households in the geographical area where non-response has occurred. To the extent that responding households were representative of all households in this area, this non-response procedure did not bias the estimates. The latter technique was used in the SVWC.

It is important to realize that this factor only adjusts for the number of records on the file. If a respondent replies to only a portion of the questions, a further adjustment for non-response will have to be made individually for each variable. This topic is covered in Section 6.2.1

#### 4.3.4. Rural-Urban Factor

Every primary sampling unit (PSU) in the NSRU portion of the survey is composed of rural and urban areas. The proportion of the population that resides in either urban or rural areas varies from province to province and stratum to stratum. The 1971 census contains information on the proportion of the population that belongs to these areas for each PSU as well as for each province. By taking information from the 1971 census on the selected PSUs and dividing it by the known probability of selection, a simple estimate is obtained of the 1971 rural-urban population for each province. Comparisons of the rural-urban ratio of each province from the census with the same ratio for the sample indicates whether the sample over- or under-represents individuals from rural or urban areas and by how much. If the sample proves not to be representative of the actual rural-urban ratio, provincial weights are computed to correct it.

#### 4.3.5. Age-Sex Factor

Weights were also used in order to correct for "slippage": "the difference between population estimates obtained by summing the weighted sample records and independently derived population estimates" (Statistics Canada 1979:12). Slippage occurs as a result of the failure, during the sampling stage, to enumerate households or individuals within households. However, by comparing independently derived population totals (census counts) on particular characteristics, slippage can be corrected. For the SVWC, sex-age population characteristics were used. By comparing sex-age ratios from each provincial census with the same sample characteristics in the SVWC, discrepancies were noted and adjusted through weighting.

Although the main weighting factors in the LFS have been explained we have not yet covered all of them. Because the SVWC was based on a subset of the LFS sample, further weighting was required. This will be explained more specifically in Section 5.5. of the next chapter.

## 5. SPECIAL OPERATIONS EDITING, AND WEIGHTING USED IN THE SVWC AS A SUPPLEMENT TO THE LFS

The SVWC was carried out between 22 February and 7 May 1982, under the management of the SSD of Statistics Canada and its 1200 enumerators across the country. Using the LFS, which employs a national multi-stage probability sample design as a vehicle, a self-administered mail-back questionnaire was delivered to 99 913 individuals. After follow-up procedures, 75 119 questionnaires were returned, giving a 75.2% response rate.

The purpose of this chapter is to explain how the LFS Supplement (a subset of the LFS) was used as a vehicle for the SVWC and what special procedures were introduced in order to accommodate it and weight the results. A large part of this chapter has been devoted to the "Decision logic tables" because of the major impact these procedures have on the final outcome of the SVWC results.

### 5.1. The Labour Force Survey Supplement

Through the sampling procedure of the LFS, a large sample population was made available for the SVWC. For this purpose the LFS Supplement was used. The total LFS sample is not accessible to supplementary surveys such as the SVWC. As a general rule, SSD does not allow supplementary surveying of the one-sixth portion of the LFS sample that has just been rotated into the survey in a given month. In this way, the burden on new respondents is minimized. By using the LFS supplement, the SVWC surveyed five-sixths of the total LFS sample (Burrell *et al.* 1980:16). This provided a sample of approximately 47 000 households and 100 000 people aged 15 or more. Survey rotation is discussed further in Section 4.1.

### 5.2. Questionnaire Distribution and Retrieval

#### 5.2.1. Distribution of the Questionnaire

The SVWC questionnaire was distributed during the week of 22-27 February 1982.

One week before this date, questionnaires were assigned to all household members 15 years and over through the reprinting of information contained in the LFS "Household record docket" (see Appendix D1; docket items 2, 4, 31, and 32). A "Household record docket" is made up for every dwelling in the LFS. It acts as both a survey operations/control document and a record of socio-demographic information on household members. All persons who usually reside in the selected dwellings, regardless of age, are included as household members.

From the "Household record docket", the name of the respondent was written on the SVWC questionnaire. The name was written in pencil so that if the respondent wished, he or she could erase it upon completion of the questionnaire. The telephone number of the local Statistics Canada

regional office was also included, in case the respondent had any questions about the SVWC.

During the survey week, the SVWC was introduced to the respondent by the field staff after all questions pertaining to the LFS were asked. If the LFS interview was done "face-to-face", the field staff were instructed to leave with the respondent the assigned questionnaires for all eligible household members. If the LFS interview was done over the telephone, the field staff were instructed to mail all questionnaires to the household.

The questionnaire was then sent back in a postage-paid, pre-addressed envelope in order to minimize the respondent's burden and cost, and to speed up its return. Furthermore, the Statistics Canada field staff were required to fill out an "Interviewer control form" (see Appendix D2.). This form was used for control purposes, as well as for a record of the wildlife survey questionnaire status for every eligible household member.

#### 5.2.2. Follow-up Procedures and Response Rates

In a mail survey the burden of completing and returning the questionnaire is placed on the respondent. Since not all respondents respond promptly, it is necessary, in order to achieve a high response rate, to remind the respondent to complete the questionnaire and to mail it.

After the SVWC questionnaire was either dropped off or mailed to the respondents, field staff were requested to send the corresponding "Interviewer control form" to their local regional office. This allowed for a systematic accounting by Statistics Canada's regional officers of which questionnaires were received and when. Respondents whose completed questionnaires were not received by the regional office on or before 5 March were sent a "First reminder letter" (see Appendix D3.). If a completed questionnaire was not yet received by the time of the March LFS interview week (March 22-27), additional follow-up procedures were taken.

Before the March LFS interview week, as part of the follow-up process, staff members were informed by the regional offices of respondents currently in the sample who had not mailed in a completed questionnaire. They were instructed to remind these respondents to send in the questionnaire during the process of collecting data for the March LFS. If the respondent indicated that his/her questionnaire had been misplaced or lost, the field staff were requested to send a new questionnaire to the respondent. For the group of respondents who had rotated out of the sample between the months of February and March and had not mailed in a questionnaire, a "Second reminder letter" was mailed to them by the regional office (see Appendix D4.) with a replacement questionnaire and a postage-paid, pre-addressed envelope. Returned questionnaires were processed until the closing date, 7 May 1984. Table 5.0. shows the sample sizes and response rates by provinces.



TABLE 5.0.

Sample sizes and Response Rate by Province for the Survey on the 1981 Value of Wildlife to Canadians

Province	Sample size	Questionnaire returned	Response rate (%)
Newfoundland	6 222	5 072	81.5
Prince Edward Island	2 575	1 930	75.0
Nova Scotia	7 502	5 888	78.5
New Brunswick	7 876	6 303	80.0
Québec	15 437	12 718	82.4
Ontario	18 983	14 743	77.7
Manitoba	8 076	6 623	82.0
Saskatchewan	9 269	7 119	76.8
Alberta	11 968	8 049	67.2
British Columbia	10 351	6 674	64.5
Canada	98 259	75 119	76.4

### 5.3. Data Processing

After the SVWC questionnaires were received by Statistics Canada's regional offices, responses were edited and coded for computer data capture. This was facilitated somewhat by the fact that numerous questions on the questionnaire were already pre-coded. Responses that were not already pre-coded, such as open-ended expenditure or time questions, had to be manually edited and coded. This process was carried out by a small staff of clerks at each regional office following a precise set of coding instructions.

Once these data had been edited and coded, they were captured on the regional office's mini-computer system. Data capture errors were reduced through a special computer program that relayed these errors to the computer operator. Through the direct computer links between each of the eight Statistics Canada regional offices to the main branch in Ottawa, the raw data were transmitted to Statistics Canada's main computer, where they were placed on tape.



After the transmission of data from the regional offices was received, the staff at the Head Office standardized the data by placing them in a fixed format and creating a single record per questionnaire. The records were then linked to their corresponding "Labour force record", which contained socio-demographic information on each respondent. This information was placed on the newly created wildlife survey file.

The data on the wildlife survey file were then checked extensively for consistency. This lengthy and complex process involved ensuring a logical flow between the questions and making corrections where necessary according to rigid guidelines outlined in a set of "Decision logic tables" (see Appendix A). In the following section an outline of these "Decision logic tables" is provided.

#### 5.4. "Decision logic tables"

The "Decision logic tables" (DLTs) are a comprehensive set of editing procedures covering all questions in the questionnaire. They were developed by SSD in consultation with sponsors of the SVWC. The objectives of the DLTs were to maximize the number of usable cases in the data file, verify the validity of outliers in certain fields, and to construct new summary variables that would help analyse the findings.

In order to achieve this the DLTs were structured in order to do the following tasks:

- (1) The Assignment of Missing Values. Question items that were left blank by the respondent were given a "missing value" code allowing item non-response to be accounted for in later analysis. This practice makes it possible to identify questions that may have been difficult for the respondent to answer and to implement item non-response correction procedures as discussed in section 6.2.1. It should be noted that not all surveys follow this practice, as some researchers declare non-response to questions as a negative reply. It is our opinion that this procedure would have produced statistics that grossly underestimated participation and related data on involvement in wildlife-related activities.
- (2) Skip-pattern Correction and Response Assignment. This was the correction of questions left blank due to the apparent failure of the respondent to follow the intended "skip-pattern" or to answer filter questions correctly. In a few cases, a response was automatically assigned to an unanswered question because of evidence found elsewhere in the questionnaire.
- (3) The Validation of High Expense Values. Through the process of flagging outliers, high participant expenditures were checked for consistency and logic.

- (4) The Computation of Derived Variables. In order to facilitate future analysis, some questions were combined to create new variables.

The following section reviews how these tasks were carried out by the DLTs. The complete DLTs are presented in Appendix A. The examples that follow are essential in understanding the logic underlying the DLTs and how they function.

#### 5.4.1. The Assignment of Missing Values

##### (1) Simple

Assigning a missing value in the majority of variables was a simple and straightforward matter. An example of this type of editing procedure can be illustrated using question 10, which asked: "During 1981 (1 January 1981 to 31 December 1981) did you take part in any of the following activities?". Either of the two replies available, "Yes" and "No", was coded as 1 and 2 respectively prior to the data's transmission to Statistics Canada headquarters from the regional offices. If the respondent failed to indicate either response given for the question, a missing value of 9 was assigned through the DLTs after the data had been transmitted to Statistics Canada headquarters in Ottawa.

TABLE 5.1 - Example of Assignment of Missing Values for Question 10a

Question 10a: Did you read books, magazines, or articles on wildlife?				
Stage				
I	Possible responses	YES	NO	-
				(1)
II	Regional pre-edit coding	1	2	∅
III	Headquarters DLT editing	1	2	9

(1) ∅ = blank

##### (2) Complex

The assignment of a missing value is more complex in the event of filter questions in the creation of derived variables. The more complex editing procedures for assigning missing values to variables can be best illustrated using an example.

The first derived variable (DV1) was created by examining responses from questions 10(a) to 10(d) so that a new variable could be created to reveal any participation in this group of wildlife-related activities (see also section 5.3.4.).

TABLE 5.2 - Example of Assignment of Missing Values for Derived Variable 1

Derived variable 1: Did you participate in any form of "indirect" wildlife-related activity?								
Questions used to compute DV1	10a	10b	10c	10d				
Respondent's reply:	(1)							
	<input type="checkbox"/> b	-AND-	<input type="checkbox"/> b	-AND-	<input type="checkbox"/> b	-AND-	<input type="checkbox"/> b	
	<input type="checkbox"/> NO	-AND-	<input type="checkbox"/> NO	-AND-	<input type="checkbox"/> NO	-AND-	<input type="checkbox"/> NO	
	<input type="checkbox"/> YES	-OR-	<input type="checkbox"/> YES	-OR-	<input type="checkbox"/> YES	-OR-	<input type="checkbox"/> YES	
Resulting DLT Editing for DV1								<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 9

(1) b = blank

In this example, item non-response (b) must have occurred in all four questions before DV1 is assigned a non-response code (9). Whereas, if a "Yes" is reported at least once among the four questions asked, DV1 is assigned a value of 1. Where some bs and some Nos are reported, the DV is assigned a value of 2. Some variables had a considerably more involved process of assigning missing values (see "Decision logic tables", Appendix A).

#### 5.4.2. Skip-pattern Correction and Response Assignment

During the editing procedures, one of the main concerns of the sponsors for the SVWC was to ensure the maximum number of valid cases as possible in the data set. One means by which this was done was to assign a response where no response had been given by the respondent by examining responses given elsewhere in the questionnaire. For instance, if the respondent did not indicate whether he or she had ever hunted (question 35), yet claimed in another question that he or she had hunted in 1981 (question 36) or perhaps "bagged" some game in 1981 (question 40), the first question on past hunting experience was assigned a "Yes" response.

In this regard, the following procedures were used in order to maximize the number of valid cases:

- (1) If a respondent answered a given question (i.e. Q22) in a positive manner, either indicating "Yes" or marking with a

" " activities participated in, but failed to answer following questions dealing with or contingent upon the given question, the response to the given question was coded "YES, BUT NO DETAIL".

- (2) If a respondent answered a filter question in a negative manner, either by indicating "NO" or by not checking activities participated in, but answered following questions dealing with or contingent upon the filter question, the response to the filter question was recoded "YES".
- (3) If a respondent failed to respond to a filter question and did not provide any answers to the following questions that dealt with or were contingent upon the filter question, the response to the filter question was coded "NO".

An example of this procedure is outlined in Table 5.3. The example uses questions 14 and 15, which ask respondents to indicate if they maintained a natural area for which providing food and shelter for wildlife was an important concern (question 14) and the amount spent by the respondent to maintain this area (question 15).

TABLE 5.3 - Example of Assignment of Responses when Responses are Incomplete or Missing

IF	Code	BUT	Code	THEN	Code
Q14 = Yes.....1		Q15 = Non-response....∅ <sup>(1)</sup>		Q14 = Yes, but no detail...3 Q15 = Missing...99999	
Q14 = Non-response...∅		Q15 = Non-response....∅		Q14 = No.....2	
Q14 = No.....2		Q15 = Response.....00001-99998		Q14 = Yes.....1	
Q14 = Non-response...∅		Q15 = Response.....00001-99998		Q14 = Yes.....1	

(1) ∅ = blank

Thus, if the respondent answered "Yes" to question 14, but did not indicate the amount spent in question 15, the code recorded for question 14 would be 3, indicating that the respondent did participate but failed to provide any details. Question 15, in turn, is coded as 9 in order to correct for missing value. If the respondent answered "No" to question 14 or failed to indicate an answer, but recorded a value for question 15, question 14 would be recoded as having a "Yes" response.



In only two cases (question 16 and question 17) were all missing values directly reassigned a response value. These questions asked the respondent to indicate how important the maintenance of abundant wildlife and the preservation of endangered species were to him or her. One of the responses available to the respondent was "Don't know". As a result, it was felt appropriate to reassign through the DLTs all missing values as "Don't know" because of the assumed similarity between these two types of responses.

TABLE 5.4 - Example of Assignment of Response  
when Responses are Incomplete or Missing

Question 16: Presently most types of wildlife are abundant in Canada. How important is it to you that this abundance be maintained?							
Stage		Very	Fairly	Little	No	Don't know	(1)
I	Possible responses						∅
II	Regional pre-edit coding	1	2	3	4	5	∅
III	Headquarters DLT editing	1	2	3	4	5	5

(1) ∅ = blank

#### 5.4.3. The Validation of High Expense Values

In several sections of the SVWC questionnaire, questions asked for information on expenditure on wildlife-related activities. As a potential safeguard against highly inflated or erroneous values, reported expenditures that were considered high or extreme were scrutinized using a two-step procedure. They were "flagged" and examined for validity. Table 5.5 shows the criteria used for flagging.

TABLE 5.5 - Criteria used in Flagging Expenditures by Question

Questionnaire section	Question	Expenditure category	Amount was flagged if equal to or greater than...
C	26a	TRANSPORTATION	\$2000
	26b	ACCOMMODATION	500
	26c	FOOD	1000
	26e	OTHER	500
D (Waterfowl)	41	TRANSPORTATION	\$1000
	42	ACCOMMODATION	800
	43	FOOD	500
	45	OTHER	1000
D (Other birds)	51	TRANSPORTATION	\$1000
	52	ACCOMMODATION	800
	53	FOOD	500
	55	OTHER	1000
D (Small mammals)	61	TRANSPORTATION	\$1000
	62	ACCOMMODATION	1000
	63	FOOD	500
	65	OTHER	1000
D (Large mammals)	71	TRANSPORTATION	\$2000
	72	ACCOMMODATION	500
	73	FOOD	1000
	75	OTHER	500

For example, if a respondent claimed that he had spent \$2000 or more on transportation while hunting big game, the expenditure was flagged and examined further for its validity. The procedure used to identify potential outliers was established by using means for expenditures categories by province. Those expenditures that exceeded the mean by 10% were flagged for further review. This examination would ensure to some degree that large expenditures had not been entered erroneously and that estimates of statistical variance would not be unreasonably inflated. No limit was set for equipment expenditures because of the difficulty of scrutinizing the validity for this category.

The method used to check for validity was to examine the relationship between the flagged expenditure and other variables. For instance, if the respondent who reported exceptionally large expenditures also had reported a large number of wildlife-related activity days, activity in several provinces, or a large consumer surplus, then high expenditures were considered probable and therefore valid. All cases that failed the conditions specified in Table 5.6 were submitted to further examination.

TABLE 5.6 - Criteria used in Validating  
and Retaining Large Expenditures by Question

Question	Criteria
Section C (Q27-28)	<p>If Q28 (consumer-surplus) was greater than 7 (\$600 or more) and not equal to 9 (missing value)</p> <p style="text-align: center;"><u>OR</u></p> <p>If the total number of days in question 25 (DV11) was equal to or greater than 30 and not equal to the missing value of 999</p> <p style="text-align: center;"><u>OR</u></p> <p>If Q28 (consumer-surplus) was greater than 4 (\$200 or more) and not equal to 9 (missing value) and if the total number of days in question 25 (DV11) was equal to or greater than 15 and not equal to the missing value of 999</p> <p style="text-align: center;"><u>OR</u></p> <p>If the number of provinces visited in question 25 (DV10) was equal to or greater than 3 but not equal to the missing value of 99</p>
Section D (Q41-45, Q51-55, Q61-65, Q71-75)	<p><i>Personal income &gt; 40,000</i></p> <p>If the consumer-surplus for hunting a wildlife species (see questions 47, 57, 67, 77) was equal to or greater than 5 (\$400 or more) and not equal to 9 (missing value)</p> <p style="text-align: center;"><u>OR</u></p> <p>If the total number of days hunting a wildlife species (see variables DV19, DV23, DV27, DV31) was equal to or greater than 30 but not equal to the missing value (999)</p> <p style="text-align: center;"><u>OR</u></p> <p>If the consumer-surplus for hunting a wildlife species was equal to or greater than 3 (\$100 or more) and not equal to 9 (missing value) and if the total number of days hunting a wildlife species was equal to or greater than 15 but not equal to the missing value (999)</p> <p style="text-align: center;"><u>OR</u></p> <p>If the total number of provinces visited while hunting a wildlife species (see variables DV18, DV22, DV26, DV30) was equal to or exceeded 3 but not equal to the missing value (99)</p>

In the event that none of the conditions in Table 5.6 supported the high expenditures, the two right cells of the expenditure category were examined for the presence of two 0s. The concern was over the possible inclusion of cents columns by the respondent causing the reported expenditure to be much higher than the actual expenditure (i.e. \$1600 rather than \$16). All expenditure questions that had escaped the conditions in Table 4.6 and that ended in two 0s were considered invalid and were corrected by dividing these values by 100.

5.4.4. The Computation of Derived Variables (DVs)

(1) The Reassignment of Response Values

In the cases where response categories for questions offered a set range of values (i.e. \$5 to 10, etc.) a new variable was derived that instead offered a single value representing the mid-point of the range. This was done in order to simplify analysis of the data and allow computation of the means. Table 4.7 illustrates how, through the DLTs, mid-points were assigned to close-ended ranges for days.

TABLE 5.7 - Example of Assignment of Mid-points for Categorized Days (1)

Question 19: On how many different days did you participate in these activities around your residence or cottage?									
Stage									
I	Possible responses	1-9, 10-19, 20-49, 50-99, 100-149, 150-199, 200 or more, ø							
II	Regional pre-edit coding	1	2	3	4	5	6	7	ø
III	Headquarters DLT editing for DV8	5	15	35	75	125	175	283	999

(1) DV means "derived variable"; ø means blank.

(2) The mid-point for "200 or more days" was determined using the following formula:  $(365 \text{ days} + 200 \text{ days}) / 2 \text{ days}$ .

The assignment of mid-point values for costs (see Table 5.8) follows the same procedure as that used for days except in the case of the last response category. Because the actual range limit for these expenses is unknown, the lower bound of \$200 was used. This procedure is likely to produce a conservative estimate of expenditures.



TABLE 5.8 - Assignment of Mid-points for Derived Expenditure Variables

Question 20: What did it cost you to participate in these activities around your residence or cottage in 1981?									
Stage I	Possible responses	\$0, \$1-4, \$5-9, \$10-24, \$25-49, \$50-99, \$100-200, Over \$200, $\emptyset$							
Stage II	Regional pre-edit coding	1	2	3	4	5	6	7	8 $\emptyset$
Stage III	Headquarters DLT editing (2) for DV9	0	3	7	17	37	75	150	200 999

- (1)  $\emptyset$  = blank.
- (2) Collapsed Information

In order to help summarize information found in several detailed questions (i.e. total number of days, total amount of expenses, number provinces visited, number of activities participated in, etc.) new variables were constructed by combining answers to several questions. To illustrate this, Table 5.9 shows how DV2 on interest in participating in any consumptive wildlife activity was created from three other variables. If any one answer to Questions Q11c, Q11e, or Q11f equalled one (or "Yes") then DV2 was made equal to 1. In other words, the highest level of reported interest was retained to reflect interest in participating in any of the consumptive wildlife activities shown. If any of the responses equalled 2 but none of them equalled 1 then DV2 was made equal to 2. However, if any of Q11c, Q11e, or Q11f equalled 3 but none of them were equal to 1 or 2, the DV2 was made equal to 3. Only if all three questions were left blank was DV2 given a missing value (9).

TABLE 5.9 - Example of Collapsing Questions to Create a Derived Variable on Interest in Participating in Consumptive Wildlife Activity

IF			BUT			THEN
Q11c	Q11e	Q11f	Q11c	Q11e	Q11f	DV2
=1	or =1	or =1				=1
=2	or =2	or =2	$\neq 1$	and $\neq 1$	and $\neq 1$	=2
=3	or =3	or =3	$\neq 1$ or 2	and $\neq 1$ or 2	and $\neq 1$ or 2	=3
(1)	$\emptyset$ and $\emptyset$	and $\emptyset$				=9

- (1)  $\emptyset$  = blank

## 5.5. Supplementary Survey Weighting

The objective of survey weighting was to weight the respondents to the SVWC upwards in order that extrapolated survey results would speak for the universe of Canadians aged 15 or more. The basic procedures used for calculating the weights for the SVWC were the same as those used for the LFS. This has already been described in chapter 4. However, SSD notes that modifications for supplementary surveys such as the SVWC are usually necessary for the following reasons:

- (1) The supplement is often conducted using only a sub-sample of the full LFS (e.g. 5 out of 6 rotation groups in the case of the SVWC).
- (2) The non-response of the LFS and the supplement differ. The most frequent case is when a household answers the LFS but refuses the supplement. Consequently a response to the LFS is obtained but not for the supplementary survey.
- (3) Because of the sub-sampling and differential non-response, the distribution of the supplementary survey sample by province, age, and sex will be different from that of the LFS. Hence, population estimates from the supplementary survey data will not match projected census counts and must be adjusted appropriately.

In order to correct the effect of these differences between the supplementary survey (SVWC) and the LFS, an adjustment factor was used. After supplementary data had been weighted according to the LFS procedures outlined in chapter 4, due to the aforementioned factors, the sum of the individual weights for the supplementary would be less than the sum of the individual weights for the LFS. To make the sum of the weights in the supplementary equal to those of the LFS, the weights in each record were multiplied by the adjustment factor. The adjustment factor can be expressed as follows:

$$\text{adjustment factor} = \frac{\text{sum of LFS weights for all LFS records}}{\text{sum of LFS weights for the subset of LFS records in the supplement}}$$

In a similar fashion, a provincial-age-sex ratio can be calculated (see Age-Sex ratios weighting, chapter 4). The sum of the LFS final weight for the supplementary survey represents an estimate of the population for each provincial-age-sex classification. In order to adjust this estimate to projected provincial-age-sex census counts, the LFS final weight of the supplementary survey records was adjusted by the following ratio:

$$\text{provincial-age-sex ratio adjustment} = \frac{\text{projected census population count}}{\text{sum of LFS final weights for LFS records in the supplement}}$$

## 6. INDICATORS OF DATA RELIABILITY AND VALIDITY

This chapter examines potential survey data problems in general and measures that have been taken to minimize a number of them in the SVWC. The objective is to provide users with a heightened awareness of the potential limitations of the data originating from this and other related surveys available to wildlife managers. The chapter discusses indicators of data reliability and validity by focusing attention on potential problems attributable to sampling and non-sampling domains respectively.

### 6.1. Potential Errors Related to Sampling

#### 6.1.1. Survey Coverage

The target population for the SVWC was all individuals, of 15 years and over, residing in Canada. However, approximately 2% of the target population was not covered by the survey. Though this percentage will have little or no effect on the actual national and provincial estimates, it is important to note that estimates for certain sub-populations, such as northerners (residents of the Yukon and Northwest Territories) or Indians living on the reserves, is not possible. This may concern some of the users of the data set because of the importance of wildlife to these sub-populations in regard to subsistence utilization of wildlife and local economic impacts. It should be pointed out, however, that the survey did question over 14 000 residents of northern and remote provincial areas whose responses were extrapolated to represent 1.5 million northerners (see Fillion, 9 September 1983b). Furthermore, information related to wildlife activity in the North through tourism was also partially captured by the SVWC questionnaire (see questions 25, 39, 49, 59, 69). Although the survey coverage was non-existent for the Yukon and Northwest Territories, we know of no other vehicle that offers a better or more complete coverage of the population targeted than the 98% coverage achieved in using the LFS. This 2% omission probably has a slight biasing effect in some of the estimates yielded by the SVWC. For example, it is likely that a higher proportion of residents in the Yukon and Northwest Territory were involved in recreational hunting than elsewhere in Canada during 1981. A question arises about the magnitude of this potential bias. Even if we assume that every man, woman, and child residing in the Yukon and the Northwest Territories sport hunted in 1981 (a fairly unlikely event), this would increase our national current estimate of recreational hunting by less than 1%, or from about 10 to 11% for 1981.

#### 6.1.2. Sampling Errors

Sampling errors are caused by the fact that only a portion of the population is selected, and had a different sample been selected a different estimate would have been calculated. They are a function of the sample size, the survey design, and the estimation procedure. The inherent variability due to sampling error can itself be estimated from the variability in the selected sample. The coefficient of variation is a measure of the precision of the estimated value expressed as a percentage associated coefficient of variation.



Calculation of a measure of variability is difficult for a complex multi-stage survey such as the LFS. The LFS used four different statistical techniques to derive the weighting factors associated with each selected sample: (1) stratification, (2) clustering, (3) unequal probability sampling, and (4) re-weighting adjustments for non-response, age-sex representation, etc. Each of these four techniques has a different effect on the variance of the estimator, and a correct estimate of variance can only be developed when these four terms are available for each respondent. This information is not available in the "SPSS(X) system file" because of the need to preserve confidentiality. The file only provides a weighting factor which can be used to create estimates of the averages or totals.

As the detail required for correct calculation of variances is not available, and estimating the variability ignoring the sampling scheme can lead to erroneous inferences (Moser and Kalton 1972), a procedure for calculating approximate coefficients of variation (CV) has been prepared by the SSD. These approximate CVs were developed as follows: first, the exact CV was calculated for a variety of sub-population estimates (both nationally and for each province) and then the relationship between the estimates and their CVs was modelled using a power curve. This curve was calculated in such a way that two-thirds of all estimates had a smaller CV than predicted by the model. This was done to provide a somewhat conservative estimate of the CV and reduce the possibility of erroneous inferences.

The tabulations produced from the SVWC can be classified into two types: qualitative and quantitative estimates. Qualitative tabulations comprise measures of participation rates or responses to attitudinal questions. Quantitative tabulations comprise measures of days or expenditures.

In preparing the approximate CVs, different procedures were used for each of these two tabulation types, and the CV for qualitative variables was difficult to model for certain variables. Hence the CVs were available in three formats: (1) qualitative variables (all types), (2) quantitative variables such as days of participation, expenditures around home and during incidental encounters, and consumer surplus, and (3) quantitative variables such as expenditures on trips to encounter wildlife and on hunting. The information presented in 6.1.2. and in the tables in Appendix H are based on Micro Data Documentation Package prepared by Haining, Nesich and Sheridan (undated). The CVs presented in appendix H tend to be conservative (i.e. overestimates) compared to the values that would be computed using an exact variance calculation. The formulas for the CVs for estimates based on combinations of variables, e.g. ratios, differences, combined totals, are also conservative, i.e. they include assumptions about the covariances of the variables that provide the largest CVs). If more appropriate estimates of CVs are required the SSD may be able to provide more exact calculations.



#### 6.1.2.1. Calculation of CV for Qualitative Variables

Appendix H contains individual tables for each province and for totals for the Atlantic Provinces, Prairie Provinces, and Canada (Tables H1-H13). The following rules should be used to calculate CVs for aggregates (totals), percentages, ratios, differences, and differences of ratios based on population attributes, e.g. number of persons involved in hunting.

##### Rule 1: Estimates of Aggregates (totals)

The CV depends only on the size of the estimated aggregate itself. Locate the estimated aggregate in the left-most column of the table (headed "Numerator of percentage") and follow the asterisks across to the first figure encountered. This figure is the estimated CV.

For example, the response that "maintaining abundant wildlife is very important" was agreed to by an estimated 8.96 million Canadians. From Table H13, dealing with all of Canada, the corresponding CV (for 9 million persons) is 0.6%.

##### Rule 2: Estimates of Percentages

The CV of an estimated percentage depends on the size of the percentage and the size of the total on which the percentage is based. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50% or more. (Note that in the tables the CVs drop in going from left to right.)

When the percentage is based on the total survey population of the geographic area covered by the table, the CV of the percentage is the same as the CV of the numerator of the percentage. In this case, Rule 1 can be used.

For example, the percentage of the Canadian population who agree that "maintaining abundant wildlife is very important" is  $8.96 \times 100 / 18.47 = 48.5\%$ . This percentage also has an estimated CV of 0.6% as calculated in the previous example.

When the percentage is based on a subset of the total population, e.g. those in a particular age-sex group, reference should be made to the percentage (across the top of the table) and to the numerator of the percentage (down the left side of the table). The intersection of the appropriate row and column gives the CV.

For example, in the sub-population of 3.6 million participants in primary non-consumptive wildlife-related trips, 306 000 (or 8.5%) are 65 years of age or older. The closest tabulated value in Table H13 is a numerator of 300 000 and a percentage of 10%, which leads to an estimated CV of 4.3 for Canada as a whole.

### Rule 3: Ratios

In the case where the numerator is a subset of the denominator, the ratio should be converted to a percentage and Rule 2 applied.

In the case where the numerator is not a subset of the denominator, the CV of the ratio of two estimates is approximately equal to the square root of the sum of squares of each CV considered separately. That is, the CV of a ratio:

$$R = \frac{X}{Y}$$
$$\text{is CV (R)} = \sqrt{\text{CV}(X)^2 + \text{CV}(Y)^2}$$

### Rule 4: Differences

The standard deviation (SD) of a difference between two estimates is approximately equal to the square root of the sum of squares of each SD considered separately. That is, the SD of a difference:

$$d = X - Y$$
$$\text{is SD}(d) = \sqrt{[X - \text{CV}(X)]^2 + [Y - \text{CV}(Y)]^2}$$

The coefficient of variation of d is approximately:

$$\text{CV}(d) = \frac{\text{sd}(d)}{d}$$

This formula is accurate for the difference between separate and uncorrelated characteristics, but is only approximate otherwise.

### Rule 5: Difference of Ratios

In this case, Rules 3 and 4 are combined. The CVs of the two ratios are first determined using Rule 3, and the CV of their difference is found by using Rule 4.

#### 6.1.2.2. Calculation of Coefficients of Variation for Quantitative Variables

The CVs for estimates of: (1) number of days of participation, (2) expenditures around the home or on incidental encounters, and (3) measures of consumer surplus are calculated by using the formulas in Appendix H (Tables H14, H15, and H16 respectively).

The CV for estimates of (1) expenditures on wildlife organizations, (2) expenses on non-consumptive trips, and (3) hunting expenses are given in Appendix H (Tables H17, H18, H19-H29 respectively). For these three types of variables no adequate model to predict the CV

could be developed. The responses to expenditure questions have a high variance due to the presence of a few extreme responses. When studying sub-populations the individual observations become more influential and the problem of extreme responses increases. Thus it is difficult to predict the CV for sub-populations and no model could be developed. These tables only provide an indication if the CV is less than 16.5%, between 16.5% and 25%, or greater than 25%.

The following rules should be used to calculate the CV for totals, averages per respondent, proportions, and combined totals.

#### Rule A: Totals

For variables listed in Appendix H (Tables H14-H16), the CV for an estimate of total is calculated by using a formula of the form:

$$CV = A X^B$$

where X is the estimated total and A and B are parameters found in the table. For example, the estimated total days spent participating in residential wildlife-related activities for Canada is 754 400 000. An approximate CV for this estimate can be calculated by using Table H14, viz:

$$1448.51 (754\ 400\ 000)^{-0.3547} = 1.03\%$$

For variables listed in Tables H17-H29, the CV of an estimate can only be crudely gauged because of the difficulty in developing a model for the CV. If an estimate is larger than the values in the first column, it has a CV less than 16.5%; and if it is larger than the value in the second column, it has a CV less than 25%, otherwise no bound on the CV is provided and would have to be calculated using the exact variance program used by the SSD.

For example, the estimated total expenditures of Canadian hunters for hunting small mammals is \$200.7 million. From Table H19 it can be seen that this is larger than 30 million, hence the CV for this estimate is less than 16.5%.

#### Rule B: Ratios (Averages, Proportions)

Two forms of ratios can be distinguished: (1) the ratio of a quantitative and a qualitative variable, e.g. average expenditure per participant; and (2) the ratio of two quantitative variables, e.g. accommodation expenses for waterfowl hunting as a proportion of total waterfowl hunting expenses. Both of these two types of ratios, however, have CVs estimated through the same formula.

For most of the quantitative ratio estimates computed from the SVWC, there will be a relationship between the numerator and denominator of the ratio. The CV of the ratio can be approximated as  $CV(\text{ratio}) = \max(CV(\text{numerator}), CV(\text{denominator}))$ .

### Rule C: Combined Estimates of Totals

Combination of the estimates of several quantitative variables is often required, e.g. in order to estimate the total hunting expenditure for all wildlife types, the expenses for waterfowl, other birds, small mammals and large mammals, are added. For this type of estimate the CV for the combined estimate can be approximated from the individual CVs.

For example, when there are three estimates X, Y, and Z that are combined to give a total,  $T = X + Y + Z$ , then the CV for T is approximated by:

$$CV(T) = \sqrt{P_X^2 CV(X)^2 + P_Y^2 CV(Y)^2 + P_Z^2 CV(Z)^2}$$

where

$$P_X = \frac{X}{T}$$
$$P_Y = \frac{Y}{T}$$
$$P_Z = \frac{Z}{T}$$

This formula can be reduced to incorporate only two components or expanded to incorporate more than three components.

#### 6.1.2.3. Statistics Canada Release Policy

As guidelines for the publishability of data from a LFS supplement such as the SVWC, using CV estimates, Statistics Canada (1981) suggests following the policy indicated in Table 6.1. Due to the size of the sample population used in the SVWC, it is expected that most national estimates can be released without qualification; however, this may not be so for some survey estimates at the provincial level.

For example, in Table 6.1, the estimated CV for total and average expenditure on maintaining wildlife areas, per participant, was 25%. In accordance with Statistics Canada sampling variability release policy, findings that are published relating to expenditure on maintaining wildlife areas should be accompanied by a warning of high sampling variability associated with the estimates.

This policy is intended to reduce the occasions in which dubious inferences based on only a small sample are attributed to work carried out by Statistics Canada. Users may choose to work internally in their organizations with figures that Statistics Canada deems non-releasable, but should bear in mind the imprecision of such estimates.

#### 6.1.2.4. Confidence Intervals

The CV can be used to calculate confidence intervals for a population parameter such as the proportion of Canadians involved in a



TABLE 6.1

## Statistics Canada Sampling Variability Release Policy

Type of estimate	Coefficient of variation (%)	Alphabetic indicators	Policy statement
1. Unqualified	0.0 to 0.5	A	Estimates can be considered for general unrestricted release. No special notation is required, although the alphabetic indicators at left are suggested.
	0.6 to 1.0	B	
	1.1 to 2.5	C	
	2.6 to 5.0	D	
	5.1 to 10.0	E	
	10.1 to 16.5	F	
2. Qualified	16.6 to 25.0	G	Estimates can be considered for general unrestricted release but should be accompanied by a warning cautioning users of the high sampling variability associated with the estimates. Such estimates should be identified by the letter G (or in some other similar fashion).
3. Restricted	25.1 to 33.3	H	Estimates can be considered for general constricted release <u>only</u> when sampling variabilities are obtained using the LFS variance calculation procedure.
4. Not for release:		J	Estimates cannot be released in any form under any circumstances. In statistical tables, such estimates should be deleted and replaced by dashes (--).
(i) 33.4% or over			
(ii) any estimate of less than 4000 (after rounding) regardless of CV			

Note: The sampling variability policy should be applied to rounded (to the nearest thousand) estimates.

given wildlife-related activity. A confidence interval is a range of values within which one can assert that the true population value falls with a given probability. Thus for any confidence interval there is an associated probability that it contains the value. As the length of the interval increases, holding everything else fixed, the probability that it contains the true mean increases.

A confidence interval on a value, Y, would be computed as follows:

$$Y \pm (f)(Y)(CV)/100$$

CV is the corresponding coefficient of variation; f is a factor that determines the probability that the confidence interval encloses the mean. For large sample sizes, f = 1.6 gives a 90% confidence interval, f = 2.0 gives a 95% confidence interval, and f = 2.6 gives a 99% confidence interval.

Example 1: Number and percentage of participants in any non-consumptive residential wildlife-related activities. The estimated number of participants is 12.3 million, or 66.8% of the Canadian population, with a CV of 0.4%. A 95% confidence interval for the number of participants is  $12.3 \pm 2 \times 12.3 \times 0.4/100$  or a range of 12.20- 12.40. Thus one is 95% confident that the true number of participants is between 12.20 million and 12.40 million people. The corresponding interval for the percentage participating is  $66.8 \pm 2 \times 66.8 \times 0.4/100$ , or a range of 66.3-67.3. Thus one is 95% confident that the true percentage of the Canadian population participating in this activity is between 66.3% and 67.3%.

Example 2: Percentage of participants in primary non-consumptive wildlife-related trips who are 65 years of age or older. The estimated percentage of this group who are 65 years of age or older is 8.5. The CV is 4.4%. Thus a 95% confidence interval on this percentage is  $8.5 \pm 2 \times 8.5 \times 4.4/100$ , or an interval of 7.8-9.2. One is 95% confident that the true percentage is between 7.8% and 9.2%.

Example 3: Proportion of the Canadian population rating "maintaining abundant wildlife populations" as very important. The estimated percentage was 48.5 and the CV was estimated as 0.6%. Thus a 95% confidence interval for this percentage is  $48.5 \pm 2 \times 48.5 \times 0.6/100$  or a range of 47.9-49.1. One is 95% certain that the true percentage is between 47.9% and 49.1%.

## 6.2. Potential Errors Unrelated to Sampling

For convenience, non-sampling errors will be discussed under three headings related to non-response bias, response bias, and biases due to data retrieval and editing procedures.

### 6.2.1. Non-response Bias

Non-response bias may occur when individuals who have been selected to participate in a survey decline to do so. Non-response can

bias survey findings considerably. If a sample is carefully selected to represent a larger population non-response may weaken the sample's representativeness because those who do answer the questionnaire may differ from those who don't. A number of sociological surveys have found that non-respondents differ significantly from respondents in demographic socio-economic characteristics (Filion 1980). The bias is therefore directly related to the rate of non-response and the extent of the difference between respondents and non-respondents.

Non-response usually occurs at two levels. In the case of survey non-response, the entire questionnaire is not returned, which results in a missing record. In the case of item non-response, the questionnaire is returned but is found to be incomplete.

In order to keep survey non-response bias to a minimum in the SVWC, response induction procedures were taken (see chapter 5) which involved two reminders: one was a follow-up letter and the other was a follow-up visit by the interviewer to the household. This was effective in producing a national response rate of 76%, which was considered quite adequate for the objectives of the SVWC. Survey non-response was highest in Alberta and British Columbia, as seen in chapter 5.

Survey non-response bias can also be diminished through weighting procedures after the data have been collected. The most common procedure is based on the assumption that respondents and non-respondents do not differ significantly. This type of procedure was applied to the results of the SVWC. Non-response was compensated for by increasing the weight attached to responding households in the same geographical area. As a result, responses given by the 76 201 respondents were allowed to reflect the wildlife-related behaviour and interests of the 99 601 individuals sampled. Other procedures used to compensate for non-response are based on the assumption that non-respondents do differ from respondents. Most of them attempt to correct for any bias by examining the characteristics of late or non-respondents and weight accordingly. These more complex and costly procedures were not applied to the SVWC because of the reasonable response rate, the lack of resources, and time constraints. However, this type of procedure is often considered desirable because of evidence that shows that non-respondents are less motivated to respond because of low interest or involvement in the topics covered by some surveys. The absence of similar non-response bias correction procedures may result in overestimates of participation variables (Filion 1980b).

Item non-response occurs when questionnaires are returned with some parts incomplete. The extent of item non-response is revealed in Table 6.4, where it is expressed as a percentage of the total target population as well as a percentage of the appropriate sub-populations. Judging from the percentages shown, item non-response does not emerge as a serious problem throughout the questionnaire in general. However, questions dealing with "expenditures" and "days" were more susceptible to item non-response than others. Close-ended questions (e.g. questions 32, 33), which could be answered by using a simple check mark, fared considerably better than the more detailed open-ended questions requiring more precise answers on the subject. Item non-response can also bias



survey findings. For example, in some surveys non-response to questions on participation in activities or non-response to cost- and time-related questions, are recoded as "no" or "nothing" during the editing process. This procedure tends to bias results and yields population estimates that are likely to underestimate the magnitude of these parameters. In the SVWC, efforts were made to avoid this type of bias. To minimize this bias, the results published in The Importance of Wildlife to Canadians: Highlights of the 1981 National Survey (Filion et al. 1983), which deals with estimates of the total amount of time and money spent on wildlife-related activities, were corrected in accordance with the following formula:

$$a.c/b$$

where a = total amount of time or money spent on a given activity,

b = total participants in a given activity who responded to the question of time or money,

c = total number of participants in a given activity.

This procedure assumes that participants in a given activity who didn't respond to questions on "days" and "expenditures" behaved in a very similar manner to those who did report that information. In other words, it assigns the mean values of those participants who did answer questions on "days" or "expenditures" to those who didn't. This procedure was not applied to correct for non-response to questions that estimate participation in wildlife-related activities where, according to Table 6.4, item non-response was not serious and that was, in part, addressed by the editing procedures outlined in the "Decision logic tables" found in Appendix A.

The results in Table 6.4 reveal which variables have the highest propensity for being affected by item non-response bias. The table shows, for each question, two rates of non-response expressed as a percentage. The first column on the left estimates what proportion of the total target population, i.e. the 18 473 091 Canadians surveyed, didn't respond to the question. The last column on the right shows what proportion of the actual target sub-population i.e. the specific wildlife users' groups participating in a given activity, did not respond to the question. For example, the figure of 0% in the "Canadian population" column for question 36 reveals that all those who were asked question 36 did answer either "yes" or "no" to the question: "During 1981, did you hunt wildlife". In other words there is an item non-response rate of 0%. The figure for the "Canadian population" column for Question 37 reveals that 1.6% of all respondents to the questionnaire did not answer this question dealing with the number of days spent hunting wildlife in 1981. The correct base for question 37 is the number of respondents answering "yes" to question 36: the 1 802 799 persons who said they hunted in 1981. By using this "subpopulation of hunters" as the base we find that item non-response to question 37 was in fact 16.2%.



TABLE 6.4

Percentage of Item Non-response for Main Population and Appropriate Sub-populations  
 (-) Indicates Not Applicable

## Section A of the Questionnaire

Question	Estimated % of total Canadian population (18 473 091) who did not respond	Estimated % of sub-population taking part in given wildlife activity who did not respond		
		Sub-population size	Source	% non-response
10a	5.8	-	-	-
10b	3.1	-	-	-
10c	11.2	-	-	-
10d	7.9	-	-	-
Q11(a,b,d,)	3.4	-	-	-
Q11(c,e,f,)	7.4	-	-	-
Q11(h,i,j,)	7.9	-	-	-
Q12(1)	0	-	-	-
Q13	0.3	1 115 701	Q12	5.7
Q14(2)	0	-	-	-
Q15	2.3	1 164 143	Q14	37.2
Q16(3)	0	-	-	-
Q17(4)	0	-	-	-

(1) & (2) The Decision logic tables prevent the possibility of non-response for these values. If these questions were left blank, they were given values (yes/no) depending on respondents' answers on associated questions.

(3) & (4) In accordance with Decision logic tables, all non-responses were given a value of 5 ("Don't know").

(cont'd)

TABLE 6.4 (cont'd)

## Section B of Questionnaire

Question	Estimated % of total Canadian population (18 473 091) who did not respond	Estimated % of sub-population taking part in given wildlife activity who did not respond		
		Sub-population size	Source	% non-response
18	2.1	-	-	-
19	7.8	12 330 797	Q18	11.7
20	6.1	12 330 797	Q18	9.1
21	12.4	12 330 797	Q18	18.6

## Section C of Questionnaire

Question	Estimated % of total Canadian population (18 473 091) who did not respond	Estimated % of sub-population taking part in given wildlife activity who did not respond		
		Sub-population size	Source	% non-response
22(1)	0	-	-	-
23	1.4	3 587 521	Q22	-
24	0.7	3 587 521	Q22	3.6
25	3.1	3 587 521	Q22	16.1
26	5.8	3 587 521	Q22	30.0
27	0.1	3 587 521	Q22	0.5
28	1.0	2 381 801	Q27	7.8

(1) The Decision logic tables prevent the possibility of non-response for these values. If these questions were left blank, they were given values (yes/no) depending on respondents' answers on associated questions.

(cont'd)

TABLE 6.4 (cont'd)

## Section C.2 of the Questionnaire

Question	Estimated % of total Canadian population (18 473 091) who did not respond	Estimated % of sub-population taking part in given wildlife activity who did not respond		
		Sub-population size	Source	% non-response
29	0	-	-	-
30	3.4	-	-	-
31	10.2	8 113 315	Q29	23.2
32	2.5	8 113 315	Q29	5.7
33	2.3	8 113 315	Q29	5.2
34	1.0	8 113 315	Q29	2.2

(Cont'd)

TABLE 6.4 (cont'd)

## Section D of Questionnaire

Question	Estimated % of total Canadian population (18 473 091) who did not respond	Estimated % of sub-population taking part in given wildlife activity who did not respond		
		Sub-population size	Source	% non-response
<b>GENERAL</b>				
35	0	-	-	-
36	0	-	-	-
37	1.6	1 802 799	Q36	16.2
<b>WATERFOWL</b>				
38(2)	0	1 802 799	Q36	0
39	0.4	658 177	Q38	11.0
40	0.6	658 177	Q38	19.8
41-45	0.5	658 177	Q38	13.0
46	0.1	658 177	Q38	1.5
47	0.1	510 712	Q46	4.6
<b>OTHER BIRDS</b>				
48(2)	0	1 802 799	Q36	0
49	0.4	982 446	Q48	7.8
50	1.1	982 446	Q48	19.8
51-55	0.6	982 446	Q48	12.1
56	0.1	982 446	Q48	1.4
57	0.3	690 228	Q56	4.8

(cont'd)



TABLE 6 4 (con't.)

SMALL MAMMALS				
58(2)	0	1 802 799	Q36	0
59	0.5	929 502	Q58	9.4
60	0.7	929 502	Q58	13.3
61-65	0.6	929 502	Q58	12.8
66	0.1	929 502	Q58	1.8
67	0.2	647 901	Q66	4.3
LARGE MAMMALS				
68(2)	0	1 802 799	Q36	0
69	0.4	942 456	Q68	9.4
70	1.9	942 456	Q68	37.1
71-75	0.5	942 456	Q68	9.0
76	0.1	942 456	Q68	1.2
77	0.2	738 549	Q76	4 5

(2) The Decision logic tables diminish the likelihood of non-response for these values. If these questions were left blank, they were given values (yes/no) depending on respondents' answers on associated questions.

(Cont'd)

### 6.2.2. Response Bias

Response bias occurs when the respondent's answer to a question differs from the true answer to it. Although this type of bias is relatively easy to define, it remains difficult to quantify. This is partly owing to the many factors that may contribute to response bias. Among them is the inability of the respondent to recall information accurately because of the length of the timeframe or the level of detail requested in the questions. Inadequate questionnaire design (wording, concepts, response categories, etc.) may inadvertently mislead the respondent in his/her answer, or provide a means of structuring and reporting answers that is unsuitable to him or her. Some of these potential problems are examined briefly in what follows. Other potential sources of bias, such as sponsorship, response burden, and the nature of the content of the questionnaire, will not be addressed because they are beyond the scope of this guide. Interviewers' biases are assumed to be negligible because most questionnaires were self-administered by the respondents.

#### 6.2.2.1. Recall

The time interval over which respondents had to recall information was a 12 month period ending 2 months prior to the survey's issue. Because of the length of the recall period, a degree of bias should be assumed due to memory decay. It is not possible to quantify the extent of this bias, but we can provide clues to the nature and extent of the problem and its probable effect on questions dealing with "expenditures" and "days".

Past studies in experimental psychology indicate that the greater the time from the occurrence of a particular event, the lower an individual's retention of the information on the event will probably be (Hilgard and Atkinson 1967). However, the nature of forgetting is very complex and may be strongly affected by other factors such as the subject's motivation, the degree of significance the event had, the frequency with which the event is recalled..., etc.

Neter and Waksberg (1964), in a study that examined the accuracy of respondents' recall of expenditure data in household interviews over a period of time, found that as the time period from when the event occurred increases, the ability to recall the number of expenditures, particularly small expenditures, decreases. This was found to result in a net underestimation of the frequencies of expenditures. However, this does not mean that the total expenditure would necessarily be seriously underestimated, because large expenditures were recalled more accurately than smaller ones. As a result, it is likely that SVWC findings underestimate total expenditure. The pre-test findings showed only 34% of the hunters reporting the cost for ammunition, which for most hunters may be relatively small in comparison to other expenditure items. During the SVWC pre-test it was found that of the 291 respondents who indicated participation in non-consumptive activity around the home, 74% did not report any expenditures. It was felt at the time that this large amount of unreporting of expenditures may have been due to the small size of the

expenditures. In order to aid recall and prompt response, a close-ended question showing response categories that request the reporting of small expenditures (i.e. "nothing", "under \$5", "\$5-9", etc.) was introduced. Item non-response rates (see Table 6.4) to the expenditure questions on the final questionnaire provide further evidence of the difficulty experienced by respondents. There is evidence that the close-ended design version of these questions worked more effectively than the more burdensome open-ended design.

Recall bias may also affect the accuracy with which respondents are able to report the correct timing of events. Studies by Neter and Waksberg (1964) and Sen (1973) indicated a tendency for individuals to report events at a time that differed from the time when the event actually occurred (referred to as the "telescoping effect").

The telescoping effect was found to bias responses in two ways:

- (a) for a specific time interval respondents may tend to report events closer to the time of questioning than in reality (internal forward telescoping);
- (b) respondents may tend to report events that actually happened outside the specific time period (external forward telescoping).

Because the SVWC did not address the issue of the dates at which events occurred in a specified time period, the former effect is not seen to be as relevant as the latter. It is expected that having a clearly delineated 12 month (January to December 1981) timeframe, which corresponds to the calendar year, would minimize external forward telescoping. This timeframe also allows the respondent to report consumptive and non-consumptive experiences for all seasons.

The length of the recall period can cause several types of bias to be introduced into the survey findings (Filion 1981:881). They can be summarized as follows:

- (a) As the time between an event and the time of questioning increases, there will probably be increased under-reporting of information about the event.
- (b) Events that are important to the individual will probably be reported more completely and accurately than those of less importance.
- (c) Reporting of an event will probably be distorted in a socially desirable direction.
- (d) Events are likely to be reported as having happened at a time closer to the moment of questioning than when they actually occurred.

- (e) Reporting of numerical information will probably be rounded to the nearest 0 or 5, or some other multiple associated with the event.
- (f) Increasing response burden in mail surveys will probably result in lower reported incidences of the event.

In view of the above observations, it is entirely possible that the SVWC data pertaining to wildlife activities around the home and those pursued during trips taken for business or pleasure will tend to be underestimated, due generally to their higher frequency and lower significance in comparison with the more involved primary purpose consumptive and non-consumptive trips. However, it is at present impossible to confirm the direction or to quantify the magnitude of this potential bias.

#### 6.2.2.2. Questionnaire Design

In addition to the preceding observations, a number of questionnaire design considerations can influence response bias. Among them are potential ambiguities in the questionnaire, and difficulties created by question wording and the use of certain concepts.

##### (a) Ambiguities

It is important to note that, as in most other social surveys, terms and questions used in the SVWC could have been misconstrued or misinterpreted by the respondent. Considerable effort was made to minimize its possible occurrence, ranging from the use of simple words where possible to the use of definitions intended to clarify selected terms. However, there is always the possibility of a respondent misunderstanding even what seem to be simple and direct questions. For example, the wife of a hunter who accompanied her husband on a hunting trip may have claimed to have gone hunting in the SVWC questionnaire despite the fact that she may not have handled a firearm or intended to kill an animal.

In certain cases, terms were added to help clarify the meaning or intent of the question. For instance, in questions concerned with expenditures on equipment, the term "primarily for wildlife" was used to guard against overestimating such expenditures (see questions 26, 44, 54, 69, 74 in Appendix D9.). However, there is no way of estimating how effective this wording has been.

In at least one case, rigid terms were purposely made less specific. As indicated in chapter 2, instead of defining residential wildlife-related activities as having occurred within a 1-mile radius of one's home or cottage, as was done in the pre-test, they were defined in the final questionnaire survey as activities that occurred "around" one's home or cottage. Clearly this term may have been subject to a variety of interpretations ranging from an area covering several hundred hectares of farmland to the front balcony of an apartment. Though the use of this less specific term may have affected the range of answers given by urban and rural residents, it was considered a less burdensome and intimidating way



of obtaining information for purposes that did not require that such a rigid distinction be made.

(b) Double-counting

Bias due to double-counting occurs when an event is reported more than once, resulting in an overestimation of that event. There were two forms of double-counting bias that were possible in the SVWC:

- (1) Multiple reporting among respondents;
- (2) Overlapping among questions.

Multiple reporting among respondents occurs when an event, such as the expenditure for a particular item used in a wildlife related activity, is reported by more than one household member. This bias is most likely to occur in activities that are group-orientated. In order to minimize the possibility of multiple reporting on expenditures, questions were phrased to show that only personal expenditures were wanted e.g. "...how much did you spend...", "what did it cost you...", etc.

Another potential form of double-counting bias concerns overlapping among questions. Overlapping occurs when one event, such as a participant's expenditure on an item, is accounted for more than once within the questionnaire. For instance, in the SVWC, expenditure data for hunting were collected for four categories of wildlife. However, if a hunter hunted more than one family of wildlife, general expenses such as those made for equipment could have been reported more than once. In order to prevent overlap bias, special instructions were placed on the SVWC questionnaire: "Note: Include the costs for any of these items only once if they were used for more than one type of hunting in 1981". Because respondents were asked to report overlapping expenses only once rather than burdening them with the task of allocating them evenly among the types of wildlife hunted, a bias may have been introduced favouring higher expenditures for the wildlife category that appeared first in the hunting section of the questionnaire. To minimize this, considerable effort went toward designing the hunting section of the questionnaire differently from other sections. Rather than following a purely segmented or sequential format as in sections A, B, and C of the SVWC questionnaire, a parallel format in which groupings of questions were shown side by side was used in section D. This design required that all questions on hunting be visible to the respondent at once by printing them on two facing pages, as shown in Appendix D9. Although the question numbering system required the respondent to answer a group of questions for only one wildlife category at a time, all questions on similar topics were aligned from left to right across the two facing pages. This allowed the respondent the opportunity to reflect on the amount of time and money spent on all categories of game hunting while answering the same questions for any one given wildlife category. This design feature appears to have worked as intended in light of the fact that the mean hunters' expenditures are, as expected, considerably higher for big game hunting than for the other game hunting sections that preceded it. It is likely that possible overestimation of

expenditures due to double-counting are offset by possible underestimation of expenditures due to question wording as discussed in section 3.3.2.

(c) Consumer-surplus

At the present time, there is a serious debate among economists on the measurement of consumer-surplus values, especially in situations where no market exists. Providing a review of the debate is beyond the scope of this report. It should suffice to say that it is increasingly obvious that the measurement of consumer-surplus values involves some of the most difficult measurement problems faced by economists. Despite this, for the purpose of the SVWC, the measurement of consumer-surplus for wildlife-related activities was judged essential. For our purpose consumer-surplus for the enjoyment provided by a wildlife activity was defined as the difference between a wildlife user's maximum willingness to pay and his/her actual costs for participating in the activity.

The direct method employed here to measure consumer surplus was based on a willingness-to-pay measure (WTP) question. Had another form of measuring consumer-surplus been used, such as willingness to accept compensation (WTAC), substantial differences would very probably have occurred in the observed results. There have been some studies that have obtained WTAC results that are 10-20 times greater than those obtained in using WTP questions. Sponsors of the SVWC deliberately chose the WTP line of questioning on the assumption that the results obtained would be conservative and easier to defend than those obtained based on WTAC questions.

The difficulties that occur when direct questions on consumer-surplus are asked result from the artificiality of the context in which respondents find themselves. Most people have not previously had to express their enjoyment of wildlife-related activities in monetary terms as they more commonly do for marketed goods such as movies, food, or clothing. Consequently, the artificiality of the hypothetical questions posed may not provide a sufficiently meaningful framework for rational responses. When respondents are not certain about what they would do, some will refuse to answer the question, others may state a willingness-to-pay value that they feel is socially desirable, and others may set implausibly high values for compensation.

In the past, a number of studies on wildlife have attempted to measure consumer-surplus with varying degrees of success. In an attempt to improve on these past studies, two noteworthy modifications for measuring consumer-surplus were developed and used in this study.

The first modification was founded on the assumption that consumer-surplus questions can be answered best when the respondent has had the opportunity to recall the event as accurately as possible. For this reason consumer-surplus questions in the SVWC were placed at the end of the appropriate sections and immediately following questions on expenditures (see Q28, 47, 57, 67, 77). By placing consumer surplus questions in this location, we offered the respondent every opportunity to reflect on his/her actual behaviour and on the parameters that affected his/her enjoyment.

We believe this allowed the respondent realistically to judge the value of the enjoyment received from a wildlife-related activity in relation to its actual cost. However, it must be recognized that the consumer-surplus values will probably be related to the magnitude of the participants' expenditures. This form of "anchoring bias" may lead to an underestimate of consumer-surplus for those having spent little or no money on wildlife activities.

The second modification dealt with the manner in which the consumer-surplus question was introduced. Two questions were used instead of the traditional single question. A filter question (see Q27, 46, 58, 66, 76) sought to identify the presence or absence of a consumer-surplus, and to direct those experiencing a surplus to the next question, which quantified its magnitude. Judging from the evidence shown in Table 6.4, this approach was successful in as much as item non-response was kept at an acceptable level. This is the lowest item non-response rate that we have seen for a consumer-surplus question on a mail survey in Canada.

### 6.2.3. Data Collection and Editing

Several measures were taken during the data collection stage, and the editing and coding stage, to ensure the quality of responses. This section reviews several of these measures.

#### (a) The Retrieval Process

The form and method used in the retrieval process are important not only to ensure an adequate response rate, but also to ensure minimal confusion on the part of the respondent, the interviewer, and the regional office staff. The following methods were adopted to achieve these goals:

##### (1) Media Attention

Before the full SVWC was conducted, the CWS distributed a press release of the event. This resulted in news time from TV, radio, and newspapers. It was felt that this should improve respondents' knowledge of and predisposition toward the survey (see Appendix J).

##### (2) Interviewer's Manual

In both the pre-test and the full SVWC, an interviewer's guide was issued. Its purpose was to inform the interviewer of the purpose of the survey, its timeframe, and instructions for completing the questionnaire. This was intended to provide all interviewers with a basic understanding of the survey process so that they might be of service to respondents requiring assistance and ensure that data collection proceeded smoothly. All Statistics Canada interviewers followed a training program in addition to the above-mentioned manual (see Appendix D5.).

##### (3) Information Manual

In both the pre-test and the full SVWC, an information package was sent to Statistics Canada's regional offices. Not only did this



package provide information on the basic purpose of the SVWC, but it also provided a set of questions and answers on the survey in the event that respondents or members of the public called regional staff with queries (see Appendix D:11).

(4) Data Collection Procedure

As discussed in chapter 4, two forms of reminders were used to encourage survey participants to complete and return the questionnaire.

(5) Other

Other factors, such as providing postage-paid, pre-addressed envelopes with the questionnaire, and providing interviewer control forms, were intended to minimize the burden and to act as incentives in the data collection process.

(b) The Editing Process

Though the methods employed in the editing process will not improve response rates, they are able to minimize errors that occur in the transmission of the data, and to correct for errors and bias in the data itself.

(1) Transmission from Regional Offices

A precise set of coding instructions was issued to the regional offices to help minimize errors in transmission, via computer, to Statistics Canada's headquarters in Ottawa. Furthermore, the use of a special computer program, which relays input errors to the operators, helped to further diminish errors in the transmission process.

(2) "Decision logic tables"

After data had been received at Statistics Canada's headquarters, response errors were identified and corrected through the "Decision logic tables" (see chapter 4). In this way, variance in the data was reduced (see Appendix A).



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## APPENDIX A.

### DECISION LOGIC TABLES

Decision logic tables (DLT) are a comprehensive set of editing procedures covering all questions in the Survey on the Value of Wildlife to Canadians (SVWC). They are introduced and explained in depth in Section 5.4. of this report. What follows is a detailed summary of the more comprehensive and lengthier version used by Statistics Canada.

#### A1. How to Read the Decision logic tables

The following tables have been organized to produce fairly simple "if-then" statements. In other words, if a certain condition occurs (on the left side of the table), then a specific action will result (on the right side of the table).

"Y" and "N" stand for "Yes" and "No" respectively. A slash (/) indicates the beginning of another dependent "if" statement. All "Øs" indicate a blank or unanswered question. A "-" means that a given condition does not apply.

One reads the DLT as one reads a book, from left to right, so that the first line in Example A.1 should read:

IF Q38 and Q48 and Q58 and Q68 are all equal to 2

and

IF Q35 is equal to 1

THEN Q36 will equal 2 and Q37 to Q77 will be treated as a blank.

In a similar fashion the last line of Example A.1 should be read as follows:

IF Q38 and Q48 and Q58 and Q68 are not all equal to 2

and

IF Q35 is not equal to 1

and

IF Q37 is not greater than 0

THEN Q37 will equal 999  
Q36 will equal 1, and  
Q35 will equal 1.

EXAMPLE A1.

IF			THEN
Q38+Q48+Q58+Q68=2	/Q35=1	/Q37 > 0	
Y	Y	-	Q36 = 2, Q37-77 = <del>1</del>
Y	N	-	Q36 = <del>1</del> , Q37-77 = <del>1</del> , Q35 = 2
N	Y	Y	Q36 = 1, Q35 = 1
N	Y	N	Q37 = 999, Q36 = 1, Q35 = 1
N	N	N	Q37 = 999, Q36 = 1, Q35 = 1

A2. Decision logic tables

A2.1. Assigning Missing Values

IF	THEN
Q10A or B or C or D = $\emptyset$	Q10 = 9
Q11A or B or C...J = $\emptyset$	Q11 = 9
Q12 = /Q13A = $\emptyset$ /Q13B = $\emptyset$	
1 Y N	Q13A = 0000
1 N Y	Q13B = 0000
1 N N	Q12 = 3
2 or $\emptyset$ Y N	Q12 = 1, Q13A = 0000
2 or $\emptyset$ N N	Q12 = 1
2 or $\emptyset$ Y Y	Q12 = 2
2 or $\emptyset$ N Y	Q12 = 1, Q13B = 0000
Q14 = /Q15 = $\emptyset$	
1 Y	Q14 = 3, Q15 = 9999
1 N	
2 or $\emptyset$ Y	Q14 = 2
2 or $\emptyset$ N	Q14 = 1
Q16 = $\emptyset$	Q16 = 5
Q17 = $\emptyset$	Q17 = 5
Q18 = /Q19-21 = Response	
7 Y	Q18 = 8
$\emptyset$ Y	Q18 = 8
1 to 6 N	Q21 = 9
$\emptyset$ N	Q18 = 7, Q19-21 = $\emptyset$
7 N	Q19-21 = $\emptyset$
Q19 = 1-7 /Q18 = 7	
N N	Q19 = 9
N Y	Q19 = $\emptyset$
Q20 = 1-8 /Q18 = 7	
N N	Q20 = 9
N Y	Q20 = $\emptyset$
Q21 = 1-2 /Q18 = 7	
N N	Q21 = 9
N Y	Q21 = $\emptyset$

(cont'd)

A2.1 Assigning Missing Values (cont'd)

IF			THEN
Q22 =	/Q23-26 =	Response	
2	Y		Q22 = 1
␣	Y		Q22 = 1
1	N		Q22 = 3
2	N		Q23-28 = ␣
␣	N		Q22 = 2, Q23-28 = ␣
Q23 = 1-4	/Q22 =	2	
N	N		Q23 = 9999
N	Y		Q23 = ␣␣␣␣
Q24 = 1-5	Q/22 =	2	
N	N		Q24 = 99999
N	Y		Q24 = ␣␣␣␣␣
Q25 = 1-98	/Q22 =	2	
N	N		Q25 = 99
N	Y		Q25 = ␣␣
Q26 = 1-9998	/Q22 =	2	
N	N		Q26 = 9999
N	Y		Q26 = ␣␣␣␣
Q27 =	/Q28 =	Response	/Q22 = 2
2	Y		N
␣	Y		N
1	N		N
␣	N		N
-	-		Y
			Q27 = 1
			Q27 = 1
			Q27 = 3, Q28 = 9
			Q27 = 2, Q28 = 9
			Q27 = ␣, Q28 = ␣
Q29 =	/Q30-34 =	Response	
2	Y		Q29 = 1
␣	Y		Q29 = 1
1	N		Q29 = 3, Q33 = ␣
2	N		Q33 = ␣
␣	N		Q29 = 2, Q33 = ␣
Q30 = 1-4	/Q29 =	2	
N	N		Q30 = 9999
N	Y		Q30 = ␣␣␣␣
Q31 = 1-5	/Q29 =	2	
N	N		Q31 = 99999
N	Y		Q31 = ␣␣␣␣␣

(cont'd)



A2.1. Assigning Missing Values (cont'd)

IF				THEN
Q32 = 1-7	/Q29 = 2			
N	N			Q32 = 9
N	Y			Q32 = $\emptyset$
Q33 = 1-8	/Q29 = 2 or 3			
N	N			Q33 = 9
N	Y			Q33 = $\emptyset$
Q34 = 1-5	/Q29 = 2			
N	N			Q34 = 9
N	Y			Q34 = $\emptyset$
Q38+Q48+Q58+Q68=2	/Q35=1	/Q37 0		
Y	Y	-		Q36 = 2, Q37-77 = $\emptyset$
Y	N	-		Q36 = $\emptyset$ , Q37-77 = $\emptyset$ , Q35 = 2
N	Y	Y		Q36 = 1, Q35 = 1
N	Y	N		Q37 = 999, Q36 = 1, Q35 = 1
N	N	N		Q37 = 999, Q36 = 1, Q35 = 1
N	N	Y		Q36 = 1, Q35 = 1
Q38=	/Q39-47=Response	/Q36 = 2 or $\emptyset$		
-	-	Y		Q38 = $\emptyset$
2	Y	N		Q38 = 1
$\emptyset$	Y	N		Q38 = 1
1	N	N		Q33 = 3
2	N	N		Q39-47 = $\emptyset$
$\emptyset$	N	N		Q38 = 2, Q39-47 = $\emptyset$
Repeat steps of Q38 for Q48, Q58, Q68				
Q39= $\emptyset$ /Q39A-D	Q37/Q37 $\neq$ $\emptyset$ /Q38=2/Q36=2or $\emptyset$			
-	-	-	Y	Q39 = $\emptyset$
-	-	-	Y	Q39 = $\emptyset$
Y	-	-	N	Q39 = 99
-	Y	Y	N	Q39(A-D) = Q37
Repeat steps of Q39 for Q49, Q59, Q69				
Q40 = 1 or 2	/Q38 = 2	/Q36 = 2 or $\emptyset$		
-	-	Y		Q40 = $\emptyset$
-	Y	-		Q40 = $\emptyset$
N	N	N		Q40 = 9
Repeat steps of Q40 for Q50, Q60, Q70, Q80				

(cont'd)

A2.1. Assigning Missing Values (concl'd)

IF				THEN
Q41 = 1-9999	/Q38 = 2	/Q36 = 2	or $\emptyset$	
-	-	Y		Q41 = $\emptyset$
-	Y	-		Q41 = $\emptyset$
N	N	N		Q41 = 0000
Repeat steps of Q41 for Q51, Q61, Q71, Q81				
Q42 = 1-9999	/Q38 = 2	/Q36 = 2	or $\emptyset$	
-	-	Y		Q42 = $\emptyset$
-	Y	-		Q42 = $\emptyset$
N	N	N		Q42 = 0000
Repeat steps of Q42 for Q52, Q62, Q72				
Q43 = 1-9999	/Q38 = 2	/Q36 = 2	or $\emptyset$	
-	-	Y		Q43 = $\emptyset$
-	Y	-		Q43 = $\emptyset$
N	N	N		Q43 = 0000
Repeat steps of Q43 for Q53, Q63, Q73				
Q44 = 1-9999	/Q38 = 2	/Q36 = 2	or $\emptyset$	
-	-	Y		Q44 = $\emptyset$
-	Y	-		Q44 = $\emptyset$
N	N	N		Q44 = 0000
Repeat steps of Q44 for Q54, Q64, Q74				
Q45 = 1-9999	/Q38 = 2	/Q36 = 2	or $\emptyset$	
-	-	Y		Q45 = $\emptyset$
-	Y	-		Q45 = $\emptyset$
N	N	N		Q45 = 0000
Repeat steps of Q45 for Q55, Q65, Q75				
Q46 =	/Q47=1-6	/Q32=2	/Q36=2	or $\emptyset$
-	-	-	Y	Q46 = $\emptyset$
-	-	Y	-	Q46 = $\emptyset$
1	N	N	N	Q46 = 3, Q47 = 9
2	Y	N	N	Q46 = 1
$\emptyset$	Y	N	N	Q46 = 1
$\emptyset$	N	N	N	Q46 = 2, Q47 = 9
Repeat steps of Q46 and Q47 for Q56 and Q57, Q66 and Q67, Q76 and Q77				

- (1) / = and if  
 Y = Yes  
 N = No  
 $\emptyset$  = blank

A2.2. Construction of Derived Variables (DVs)

IF	THEN
Q10A - D = 9999 / Q10A-D = 2222	DV1
Y N	= 9
N Y	= 2
N N	= 1
Q11C or E or F = 1 / 2 / 3	DV2
Y - -	= 1
N Y -	= 2
N N Y	= 3
N N N	= 9
Q11A or B or D or G = 1 / 2 / 3	DV3
Y - -	= 1
N Y -	= 2
N N Y	= 3
N N N	= 9
Q11H or I or J = 1 / 2 / 3	DV4
Y - -	= 1
N Y -	= 2
N N Y	= 3
N N N	= 9
Q12 = / Q13A = $\emptyset$ / Q13B = $\emptyset$	DV5
2 or $\emptyset$ Y Y	= $\emptyset$
1 Y Y	= 99999
Q13 TOTAL 99999/Q15 99999/Q13orQ15=99999	DV6
Y N -	= Q13 TOTAL
N Y -	= Q15
Y Y -	= Q15 + Q13 TOTAL
N N Y	= 99999
N N N	= $\emptyset$
Q18 = 1-6 or 8	DV7
Y	= 1
N	= 2
Q19 = / Q18 = 7	DV8
1 -	= 005
2 -	= 015
3 -	= 035
4 -	= 075
5 -	= 125
6 -	= 175
7 -	= 283
$\emptyset$ N	= 999
$\emptyset$ Y	= $\emptyset\emptyset\emptyset$

(cont'd)

A2.2. Construction of Derived Variables (cont'd)

IF			THEN
Q20 =	/Q18 = 7		DV9
1	-		= 000
2	-		= 003
3	-		= 007
4	-		= 017
5	-		= 035
6	-		= 075
7	-		= 150
8	-		= 200
b	N		= 999
b	Y		= bbb
Q25 = Response	/Q22 = 2		DV10
Y	-		= # of Different Entries
N	N		= 99
N	Y		= bb
Q25 = Response	/Q22 = 2		DV11
Y	-		= TOTAL DAYS, bb = 000
N	N		= 000
N	Y		= bbb
Q26 = Response	/Q22 = 2		DV12
Y	-		= TOTAL Q26, b = 0
N	N		= 99999
N	Y		= bbbbb
Q28 =	/Q27 =	/Q22 = 2	DV13
1	-	-	= 010
2	-	-	= 035
3	-	-	= 075
4	-	-	= 150
5	-	-	= 250
6	-	-	= 350
7	-	-	= 500
8	-	-	= 600
b	1	-	= 999
b	-	N	= 999
b	-	Y	= bbb
Q32 =	/Q29 = 2		DV14
1	-		= 005
2	-		= 015
3	-		= 035
4	-		= 075
5	-		= 125
6	-		= 175
7	-		= 283
b	N		= 999
b	Y		= bbb

(cont'd)



A2.2. Construction of Derived Variables (cont'd)

IF				THEN
Q33 =	Q29 = 2 or 3			DV15
1	-			= 000
2	-			= 003
3	-			= 007
4	-			= 017
5	-			= 035
6	-			= 075
7	-			= 150
8	-			= 200
Ø	N			= 999
Ø	Y			= ØØØ
DV11=Response/DV14=Response/DV10 or DV14=999	N	N	Y	DV16
	Y	Y	-	= 999
	Y	N	-	= DV10 + DV14
	N	Y	-	= DV10
			-	= DV14
DV12=Response/DV15=Response/DV11 or DV15=999	N	N	Y	DV17
	Y	Y	-	= 999999
	Y	N	-	= DV11 + DV15
	N	Y	-	= DV11
			-	= DV15
Q39=Response /Q38 = 2 /Q36 = 2 or Ø	Y	-	-	DV18
	N	-	Y	= TOTAL # of Entries
	N	Y	-	= ØØ
	N	N	N	= ØØ
				= 99
Q39=Response /Q38 = 2 /Q36 = 2 or Ø	Y	-	-	DV19
	N	-	Y	= TOTAL DAYS IN Q39 ØØ = 00's
	N	Y	-	= ØØØ
	N	N	N	= ØØØ
				= 999
Repeat steps of DV18 and DV19 for DV22 and DV23, DV26 and DV27, DV30 and DV31				
Q41+42+43+44+45=Ø	/Q38 = 2	/Q36 = 2 or Ø		DV20
N	-	-		= Q41 + 42 + 43 + 45
-	-	Y		= ØØØØØ
-	Y	-		= ØØØØØ
Y	N	N		= 99999

(cont'd)

A2.2. Construction of Derived Variables (cont'd)

IF					THEN
Repeat steps of DV20 for DV24, DV28, DV32					
Q47 =	/Q38 = 2	/Q36 = 2	or	Ø	DV21
1	-	-			= 025
2	-	-			= 075
3	-	-			= 150
4	-	-			= 300
5	-	-			= 600
6	-	-			= 800
Ø	-	Y			= ØØØ
Ø	Y	-			= ØØØ
Ø	N	N			= 999
Repeat steps of DV21 for DV25, DV29, DV33					
DV20or24or28	/DV20=	/DV24=	/DV28=	/DV32=	
or32=response					
N	0	-	-	-	DV20 = 99999, Q41-45 = 9's
N	-	0	-	-	DV24 = 99999, Q51-55 = 9's
N	-	-	0	-	DV28 = 99999, Q61-65 = 9's
N	-	-	-	0	DV32 = 99999, Q71-75 = 9's
Q39+49+59+69 = 9's		/Q39+49+59+69 = Ø's			DV34
Y		N			= 999
N		Y			= Ø
N		N			= Q39+49+59+69 (DAYS BY PROVINCE)
Q39+49+59+69 = 9's		/Q39+49+59+69 = Ø's			DV35
Y		N			= 999
N		Y			= Ø
N		N			= Q39+49+59+69 (TOTAL DAYS)
Q41+51+61+71 = 9's		/Q41+51+61+71 = Ø's			DV36
Y		N			= 999
N		Y			= Ø
N		N			= Q41+51+61+71
Q41+51+61+71 = 9's		/Q41+51+61+71 = Ø's			DV37
Y		N			= 999
N		Y			= Ø
N		N			(Q41 Q51 or Q61 or Q71) = Q41
N		N			(Q51 Q41 or Q61 or Q71) = Q51
N		N			(Q61 Q41 or Q51 or Q71) = Q61
N		N			(Q71 Q41 or Q51 or Q61) = Q71

(cont'd)

A2.2. Construction of Derived Variables (concl'd)

IF	THEN
<p>For DV38 and DV39, repeat steps for DV36 and DV37 using Q42, Q52, Q62, Q72</p> <p>For DV40 and DV41, repeat steps for DV36 and DV37 using Q43, Q53, Q63, Q73</p> <p>For DV42 and DV43, repeat steps for DV36 and DV37 using Q44, Q54, Q64, Q74</p> <p>For DV44 and DV45, repeat steps for DV36 and DV37 using Q45, Q55, Q65, Q75</p>	
<p>DV36+38+40+42+44=9's /DV36+38+40+42+44=ϕ</p> <p>Y N</p> <p>N Y</p> <p>N N</p>	<p>DV46</p> <p>= 999999</p> <p>= ϕϕϕϕϕ</p> <p>= DV36+38+40+42+44</p>
<p>Q18=1-6or8, or Q22=1, or Q29=1, or Q36=1</p> <p>Y</p> <p>N</p>	<p>DV47</p> <p>= 1</p> <p>= 2</p>
<p>DV5+Q15+Q20+DV12+Q33+DV46 = Response</p> <p>Y</p> <p>N</p>	<p>DV48</p> <p>= DV5+Q15+Q20+DV12+Q33+DV46</p> <p>= 0000000</p>
<p>DV48 0000000</p> <p>Y</p> <p>N</p>	<p>DV49</p> <p>= 1</p> <p>= 2</p>
<p>For DV50 and DV51, repeat steps for DV48 and DV49 using Q28, Q47, Q57, Q67, Q77</p>	
<p>Q19+DV11+Q32 = ϕ's</p> <p>Y</p> <p>N</p>	<p>DV52</p> <p>= ϕϕϕ</p> <p>= Q19+DV11+Q32</p>

- (1) / = and if  
 Y = Yes  
 N = No  
 ϕ = blank

## APPENDIX B.

### CODE BOOKS FOR "SPSS (X) SYSTEM FILE" AND STATISTICS CANADA "MICRO-DATA TAPE"

This appendix contains a dictionary for the "SPSS (X) system file" (Appendix B1.) and a description of the file format for the Statistics Canada "Micro-data tape" (Appendix B2.) dealing with the results of the Survey on the Value of Wildlife to Canadians (SVWC). Appendix B1. also contains introductory notes on the importance of selecting the appropriate numerical base to compute meaningful statistics and the Job Control Language (JCL) required to access the system file.

#### B1. "SPSS (X) System File"

##### B1.1. Introduction

The enormous size of the data set dictated that it had to be broken down into 10 system files, each system file corresponding to the weighted sample from a particular province in order to be run on SPSS (X). With this system it should be possible for most users to run jobs for several provinces at once, depending on their size and the local data-processing facilities available. However, running all 10 provinces at once will not be possible unless special arrangements are made with the supplier of data-processing services. These arrangements would concern the allocation of adequate on-line data storage capability and sufficient computer core memory to handle the large volume of data. Local service bureaus should be consulted on the amount of memory that would be required for an initial run. The default memory provided by SPSS is two cylinders (one cylinder = 30 tracks, one track = 19 069 bytes), which is quite inadequate for any one of the 10 system files.

##### B1.1.1. Weighting

The limitations of SPSS (X) also forced an adjustment in the case weight. The original sample of 76 201 was weighted by Statistics Canada to 18 473 091 to represent all residents of Canada 15 years of age and over. However, SPSS (X) cannot handle more than 6 digit figures within a cell in a cross-tabulation procedure. This resulted in SPSS (X)'s inability to print out data pertaining to the time and money spent on and the number of participants in a significant number of wildlife activities for Canada and a number of provinces. In order to handle this problem, the Statistics Canada case weight was divided by a 100, so that the total weighted population is now 184 731 rather than 18 473 091. The user of the "SPSS (X) system file" is urged to note this case weight adjustment and to manually correct all point estimates that may otherwise be biased if left unchanged. Consequently, all frequencies, counts, and totals must be multiplied by 100 before being used as point estimates for the parameters of the Canadian and provincial populations. To the best of our knowledge this adjustment will not affect statistical procedures such as percentages



and means. To change this default weight to the original Statistics Canada weight the following procedure is recommended:

COMPUTE FINALWT = NEWWT x 100

#### B1.1.2. Reconstructed Variables

In the "SPSS (X) system file", five variables were reconstructed (questions 18, 23, 24, 30, 31) in order to be more suitable for research and analysis. In the "Micro-data tape" the coding for these variables did not distinguish between missing values and negative replies to the question. In order to correct for this in the "SPSS (X) system file" the following procedures were carried out:

- (1) If the respondent indicated participation in the activity, his or her response was designated a value of 1 indicating a "Yes" response.
- (2) If the respondent did not indicate participation in the activity but indicated similar forms of participation examined in the same question, his or her response was designated a value of 2 indicating a "No" response.
- (3) If the respondent did not indicate any participation in the activities listed within the question but responded to other questions in that section of the questionnaire, his or her response was assigned a missing value of 9 indicating the response was "Not stated".
- (4) If the respondent did not indicate participation in this question or other questions in the same section of the questionnaire, his or her response was designated a blank.

The "Micro-data file" provided nine categories for the variable AGEGROUP. The first two of these were "15-16 years" and "17-19 years", and the last two were "65-69 years" and "70 years and over". In creating the system file the first two and last two categories respectively were combined into new categories labelled "15-19 years" and "65 years and over".

#### B1.1.3. Variable Labels

In order to comply with constraints on the amount of space allowed by SPSS (X) for variable labels, short forms were often used in constructing titles for each variable. These are as follows:

<u>Short Form used in Variable Labels</u>	<u>Meaning of Label Used</u>
ACCOM.	ACCOMMODATION
B.C.	BRITISH COLUMBIA
CONS.	CONSUMPTIVE
CONTRIB.	CONTRIBUTION
MID PT.	MID-POINT

NON CONS.  
NWT  
ORG.  
OTHER TRIPS  
PEI  
P. TRIPS  
RES.  
WLDLFE

NON CONSUMPTIVE  
NORTHWEST TERRITORIES  
ORGANIZATION  
INCIDENTAL TRIPS  
PRINCE EDWARD ISLAND  
PRIMARY TRIPS  
RESIDENTIAL  
WILDLIFE

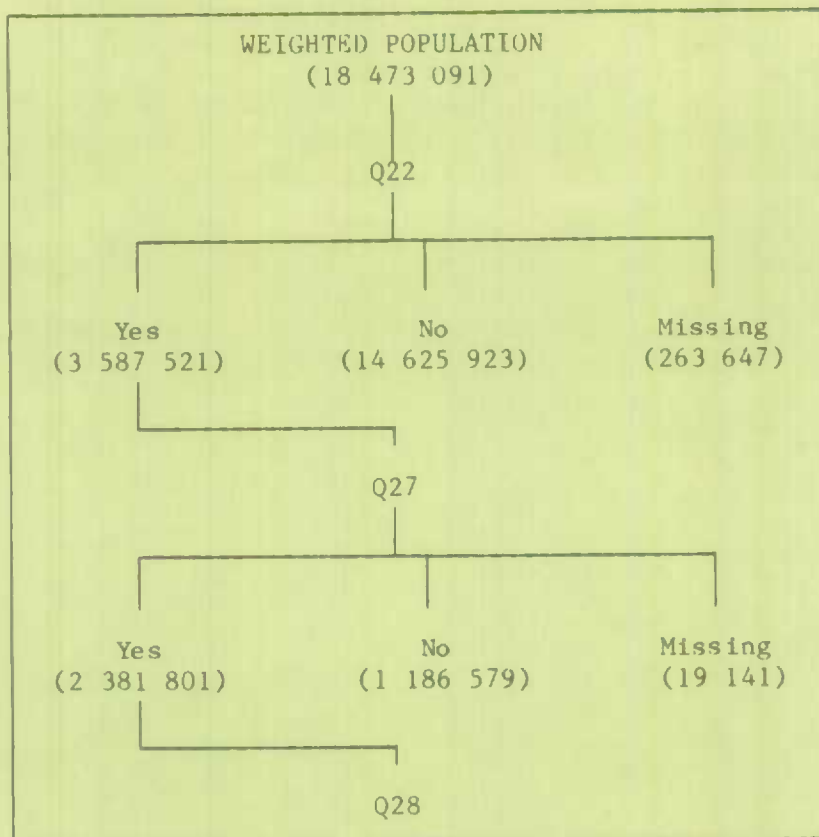
B1.2. Costs and Numerical Bases

Before using the Statistics Canada data file on the SVWC, two important factors should be considered: (a) the cost of the run, and (b) the appropriate subpopulation or base of the variable to be used.

Because the SVWC data file is very large, runs will be more costly than for typical social surveys. In order to reduce the overall cost of the runs, careful planning of the intended analysis is recommended. By combining several anticipated runs into a single slightly more complex run significant savings should be achieved.

As a general rule the subpopulation or numerical base varies from one question to another throughout the questionnaire. It is important to take this into account when running tables, as the resulting statistics could otherwise be invalid. There are several filter questions set up in the questionnaire which exclude certain subsets of the sample from answering certain questions. For example, question 28 has a subpopulation of 2 381 801 rather than 18 473 091 due to two filter questions (questions 22 and 27) that precede it (see Figure B.1). The correct subpopulations for all questions on the survey are presented in Table 6.4 in section 6.2.2. of this report.

FIGURE B.1. Example of Filter Questions and Appropriate Numerical Bases



The subpopulation for all questions on the survey are available in Table 6.4, section 6.2.2.

B1.3. Job Control Language (JCL) to Access "SPSS (X) System File"

Prepared by A. Chopra, Environment Canada.

B1.3.1. JCL for Using a System File (for IBM/370)

The following information will be provided with each system file tape:

- DSN        -- Data set name
- VOL=SER   -- Physical volume no. of the tape

This information should be replaced for each system file.

Ontario. The following is an example for using a system file tape for

```
// JOB CARD (1)
// EXEC SPSS, DATA = 30 (2)
// SYSONT DD DSN=FPA16.CWSURV.SYSONT,DISP=(OLD,KEEP)
// UNIT=HSTAPE,LABEL=(I,SL),VOL=SER=CW1234
// SYSIN DD*
  SPSS Program
//
/*
```

The system file is accessed in the SPSS program by the following statement:

```
GET FILE SYSONT (3)
```



The following is an example for using a system file tape for Ontario.

```
// JOB CARD (1)
// EXEC SPSS, DATA = 30 (2)
// SYSONT DD DSN=FPA16.CWSURV.SYSONT,DISP=(OLD,KEEP)
// UNIT=HSTAPE,LABEL=(I,SL),VOL=SER=CW1234
// SYSIN DD*
  SPSS Program
//
/*
```

The system file is accessed in the SPSS program by the following statement:

```
GET FILE SYSONT (3)
```

### B1.3.2. JCL for Creating a System File from Micro-data Tape

A system file should only be created after a subset of the data (e.g. a province) has already been extracted from the original tape. Appropriate data-set names and volume serial numbers should be used.

The following is an example for creating a system file for Ontario data.

```
// JOB CARD (1)
// EXEC SPSS, DATA = 30 (2)
// WILDLIFE DD DSN=FPA16,ONTARIO.DATA,UNIT=HSTAPE
// LABEL=(I,SL),DISP=(OLD,KEEP)
// DCB=(RECFM=FB,LRECL=600,BLKSIZE=12000)
// VOL=SER=CW2222
// SYSONT DD DSN=FPA16.CWSURV.SYSONT,DISP=(NEW,KEEP)
// UNIT=HSTAPE,LABEL=(I,SL,,OUT)
// VOL=SER=CW3333
// SYSIN DD *
//
```

- (1) The format of the job card depends on the installation being used.
- (2) In this example, "30" denotes the number of cylinders of memory requested. It is a good idea to put a number slightly higher than anticipated. The user will only be charged for the actual memory used.
- (3) The file name will vary according to province.

B1.4. "SPSS (X) System File"

Prepared by A. Chopra, Environment Canada.

FILE: VALUE OF LIFELIFE TO CANADIANS - SURVEY DATA

LIST OF VARIABLES ON THE ACTIVE FILE

NAME		POSITION
SURVNUM	SURVEY RECORD NUMBER PRINT FORMAT: F6 WRITE FORMAT: F6	1
PROV	REGION & PROVINCE OF RESIDENCE PRINT FORMAT: F2 WRITE FORMAT: F2	2
	VALUE LABEL	
	10 Nfld	
	11 PEI	
	12 NS	
	13 NB	
	24 QUEBEC	
	35 ONTARIO	
	46 MANITOBA	
	47 SASKATCHEWAN	
	48 ALBERTA	
	59 BC	
SEX	PRINT FORMAT: F1 WRITE FORMAT: F1	3
	VALUE LABEL	
	1 MALE	
	2 FEMALE	
MARITAL	MARITAL STATUS PRINT FORMAT: F1 WRITE FORMAT: F1	4
	VALUE LABEL	
	1 MARRIED	
	2 SINGLE	
	3 OTHER	

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

RELHEAD RELATION TO HEAD OF FAMILY 5  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	HEAD
2	SPOUSE
3	SON/DAUGHTER
4	PARENT, IN-LAW
5	SON/DAUGHTER-IN-LAW
6	OTHER RELATIVE

AGEGROUP AGE GROUP 6  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	15 - 19 YEARS
2	20 - 24 YEARS
3	25 - 34 YEARS
4	35 - 44 YEARS
5	45 - 54 YEARS
6	55 - 64 YEARS
7	65 YEARS AND OVER

EDUCATN EDUCATION 7  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	NONE OR ELEM
2	HIGH SCHOOL
3	SOME POST-SECONDARY
4	POST-SECONDARY CERT
5	UNIVERSITY

LABRSTAT LABOUR FORCE STATUS 8  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	EMPLOYED
2	UNEMPLOYED
3	NOT IN LABOUR FORCE



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

INDUSTRY INDUSTRY OF EMPLOYMENT 9  
PRINT FORMAT: F2  
WRITE FORMAT: F2

VALUE	LABEL
1	AGRICULTURE
2	OTHER PRIMARY
3	MANUFAC,DURABLES
4	MANUFAC, NON-DURABLES
5	CONSTRUCTION
6	TRANSPORTATION
7	WHOLESALE TRADE
8	RETAIL TRADE
9	FINANCE
10	COMMUNITY SERVICES
11	PERSONAL SERVICES
12	BUSINESS,MISC
13	PUBLIC ADMIN
14	NEVER WORKED
15	NA

OCCUP OCCUPATION 10  
PRINT FORMAT: F2  
WRITE FORMAT: F2

VALUE	LABEL
1	MANAGERIAL
2	PROFESSIONAL
3	TEACHING
4	MEDICINE
5	CLERICAL
6	SALES
7	SERVICES
8	PRIMARY OCCUP
9	MINING
10	FABRICATION
11	CONSTRUCTION
12	TRANSPORTATION
13	NEVER WORKED
14	NA

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

METAREA METROPOLITAN AREA 11  
PRINT FORMAT: F2  
WRITE FORMAT: F2

VALUE	LABEL
1	ST. JOHN
2	HALIFAX
3	SAINT JOHN
4	CHICOUTIMI
5	QUEBEC/LEVIS
6	MONTREAL
7	OTTAWA-HULL
8	SUDBURY
9	TORONTO
10	HAMILTON
11	ST. CATHERINES
12	LONDON
13	WINDSOR
14	KITCHENER
15	THUNDER BAY
16	WINNIPEG
17	REGINA
18	SASKATOON
19	CALGARY
20	EDMONTON
21	VANCOUVER
22	VICTORIA
23	OSHAWA
24	NON-METRO AREA

FINALWT FINAL WEIGHT 12  
PRINT FORMAT: F10.4  
WRITE FORMAT: F10.4

Q10A READ BOOKS MAGAZINES ETC. ON WILDLIFE 13  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

G10B WATCH FILMS OR TV PROGRAMS ON WILDLIFE 14  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

G10C PURCHASE ARTS, CRAFTS, POSTERS ON WILDLIFE 15  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

G10D VISIT ZOO, GAME FARM, AQUARIUM OR MUSEUM 16  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

DV1 G10 - PARTICIPATION IN INDIRECT ACTIVITY 17  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 ANY PARTICIPATION  
2 NO PARTICIPATION  
9 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

0118 INTEREST IN WATCHING WILDLIFE 18  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

0119 INTEREST IN FEEDING, ATTRACTING WILDLIFE 19  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

0110 INTEREST IN COLLECTING WILDLIFE SPECIMENS 20  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

0115 INTEREST IN PHOTOGRAPHING, ETC. WILDLIFE 21  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q11F INTEREST IN HUNTING WILDLIFE 22  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

Q11F INTEREST IN TRAPPING FOR FOOD OR FUR 23  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

Q11G INTEREST IN ART ON WILDLIFE 24  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

Q11H INTEREST IN MEMBERSHIP-WILDLIFE ORG. 25  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q11I INTEREST IN ORG. WHICH PROTECTS 26  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

Q11J INTEREST IN ORG. WHICH MAINTAINS 27  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

DV2 Q11 - INTEREST IN CONSUMPTIVE ACTIVITY 28  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

DV3 Q11 - INTEREST IN NON-CONS. ACTIVITY 29  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

QV4 G11 - INTEREST IN ORG. ACTIVITIES 20  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	GREAT INTEREST
2	SOME INTEREST
3	NO INTEREST
9 M	NOT STATED

G12 CONTRIBUTE TO WILDLIFE RELATED ORG 21  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	YES
2	NO
3	YES BUT NO DETAIL

Q13A MEMBERSHIP FEES TO ORGANISATION 32  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE	LABEL
9999 M	NOT STATED

G13B DONATION TO ORGANISATION 33  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE	LABEL
9999 M	NOT STATED

QV5 G13 - TOTAL CONTRIBUTION TO WLDLF ORG. 34  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE	LABEL
99999 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q14 MAINTAIN NATURAL AREAS FOR WILDLIFE 35  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	YES
2	NO
3	YES BUT NO DETAIL

Q15 COST OF MAINTENANCE OF NATURAL AREAS 36  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE	LABEL
99999 M	NOT STATED

Q16 IMPORTANCE MAINTAINING ABUNDANT WLDLF 37  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	VERY IMPORTANT
2	FAIRLY IMPORTANT
3	LITTLE IMPORTANCE
4	NO IMPORTANCE
5	DON'T KNOW

Q17 IMPORTANCE PRESERVING ENDANGERED WLDLF 38  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	VERY IMPORTANT
2	FAIRLY IMPORTANT
3	LITTLE IMPORTANCE
4	NO IMPORTANCE
5	DON'T KNOW

Q18 TOTAL COSTS FOR Q13 & Q15 39  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE	LABEL
99999 M	NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q18A FEEDING TABLE SCRAPS - RESIDENTIAL 40  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

Q18P PURCHASING SPECIAL FEED - RESIDENTIAL 41  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

Q18C WATCHING WILDLIFE - RESIDENTIAL 42  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

Q18D STUDYING WILDLIFE - RESIDENTIAL 43  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q18E MAINTAIN PLANTS, SHRUBS FOR WILDLIFE-RES. 44  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q18F PHOTOGRAPHING WILDLIFE - RESIDENTIAL 45  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q18G 46  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

Q18H 47  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

QV7 Q18 - ANY PARTICIPATION - RESIDENTIAL 48  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE LABEL  
1 PARTICIPANT  
2 NON-PARTICIPANT

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q19 PARTICIPATION - DAYS - RESIDENTIAL 49  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	1-9 DAYS
2	10-19 DAYS
3	20-49 DAYS
4	50-99 DAYS
5	100-149 DAYS
6	150-199 DAYS
7	200 OR MORE
9 M	NOT STATED

QV8 DAYS (MID PT) PARTICIPATION-RESIDENTIAL 50  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE	LABEL
5	5 DAYS
15	15 DAYS
35	35 DAYS
75	75 DAYS
125	125 DAYS
175	175 DAYS
283	283 DAYS
999 M	NOT STATED

Q20 COST OF ACTIVITIES - RESIDENTIAL 51  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	NOTHING
2	UNDER \$5
3	\$5 - 9
4	\$10-24
5	\$25-49
6	\$50-99
7	\$100-200
8	OVER \$200
9 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

QV9 COST (MID PT) OF ACTIVITIES-RESIDENTIAL 52  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE	LABEL
0	NOTHING
3	\$3
7	\$7
17	\$17
37	\$37
75	\$75
150	\$150
200	\$200
999 M	NOT STATED

G21 PARTICIPATION IF COST MORE-RESIDENTIAL 53  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

G22 NON CONSUMPTIVE PRIMARY TRIPS 54  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	YES
2	NO
3	YES BUT NO DETAIL

Q23A WATCHING WILDLIFE - PRIMARY TRIPS 55  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q23B FEEDING WILDLIFE - PRIMARY TRIPS 56  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

Q23C PHOTOGRAPHING - PRIMARY TRIPS 57  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

Q23D STUDYING WILDLIFE - PRIMARY TRIPS 58  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

Q24A WATERFOWL-NON CONS. PRIMARY TRIPS 59  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q24B OTHER BIRDS-NON CONS. PRIMARY TRIPS 60  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q24C SMALL MAMMALS-NON CONS. PRIMARY TRIPS 61  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q24D LARGE MAMMALS-NON CONS. PRIMARY TRIPS 62  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q24E OTHER WILDLIFE-NON CONS. PRIMARY TRIPS 63  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q25A NEWFOUNDLAND-DAYS-PRIMARY TRIPS 64  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q25D PRINCE EDWARD ISLAND-DAYS-PRIMARY TRIPS 65  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25C NOVA SCOTIA - DAYS - PRIMARY TRIPS 66  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25D NEW BRUNSWICK - DAYS - PRIMARY TRIPS 67  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25E QUEBEC - DAYS - PRIMARY TRIPS 68  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25F ONTARIO - DAYS - PRIMARY TRIPS 69  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q25G MANITOBA - DAYS - PRIMARY TRIPS 70  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25H SASKATCHEWAN - DAYS - PRIMARY TRIPS 71  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25I ALBERTA - DAYS - PRIMARY TRIPS 72  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25J BRITISH COLUMBIA - DAYS - PRIMARY TRIPS 73  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25K YUKON - DAYS - PRIMARY TRIPS 74  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q25L NORTHWEST TERRITORIES-DAYS-PRIMARY TRIPS 75  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q25M OUTSIDE CANADA - DAYS - PRIMARY TRIPS 76  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

QV10 NO. OF PROVINCES - PRIMARY TRIPS 77  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

QV11 TOTAL NO OF DAYS ON PRIMARY TRIPS 78  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

Q26A TRANSPORTATION COSTS ON PRIMARY TRIPS 79  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q26F ACCOMMODATION COSTS ON PRIMARY TRIPS 80  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q26C FOOD COSTS ON PRIMARY TRIPS 81  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q26D EQUIPMENT COSTS ON PRIMARY TRIPS 82  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL  
99999 M NOT STATED

Q26E OTHER ITEMS COSTS ON PRIMARY TRIPS 83  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

QV12 TOTAL COSTS FOR PRIMARY TRIPS 84  
PRINT FORMAT: F6  
WRITE FORMAT: F6  
MISSING VALUES: 999999

VALUE LABEL  
999999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q27 PARTICIPATION IF COST MORE-PRIMARY TRIPS 85  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
3	YES BUT NO DETAIL
9 M	NOT STATED

Q28 CONSUMER SURPLUS - PRIMARY TRIPS 86  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	\$1-19
2	\$20-49
3	\$50-99
4	\$100-199
5	\$200-299
6	\$300-399
7	\$400-599
8	OVER \$600
9 M	NOT STATED

QV13 CONSUMER SURPLUS(MID PT) PRIMARY TRIPS 87  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE	LABEL
10	\$10
35	\$35
75	\$75
150	\$150
250	\$250
350	\$350
500	\$500
600	\$600
999 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q29 NON CONS. OTHER TRIPS 88  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE LABEL  
1 YES  
2 NO  
3 YES BUT NO DETAIL

Q30A WATCHING WILDLIFE ON OTHER TRIPS 89  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q30F FEEDING WILDLIFE ON OTHER TRIPS 90  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q30C PHOTOGRAPHING WILDLIFE ON OTHER TRIPS 91  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q300 STUDYING WILDLIFE ON OTHER TRIPS 92  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q31A WATERFOWL-NON CONS. - OTHER TRIPS 93  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q31B OTHER BIRDS-NON CONS. - OTHER TRIPS 94  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q31C SMALL MAMMALS-NON CONS.-OTHER TRIPS 95  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

G310 LARGE MAMMALS-NON CONS. - OTHER TRIPS 96  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

G315 OTHER WILDLIFE-NON CONS. - OTHER TRIPS 97  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	YES
2	NO
9 M	NOT STATED

G32 PARTICIPATION-DAYS-NON CONS. OTHER TRIPS 98  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	1-9 DAYS
2	10-19 DAYS
3	20-49 DAYS
4	50-99 DAYS
5	100-149 DAYS
6	150-199 DAYS
7	200 OR MORE
9 M	NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV14 DAYS (MID PT-032)-NON CONS. OTHER TRIPS 99  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE	LABEL
5	5 DAYS
15	15 DAYS
35	35 DAYS
75	75 DAYS
125	125 DAYS
175	175 DAYS
283	283 DAYS
999 M	NOT STATED

Q33 COST OF ACTIVITIES ON OTHER TRIPS 100  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	NOTHING
2	UNDER \$5
3	\$5 - 9
4	\$10-24
5	\$25-49
6	\$50-99
7	\$100-200
8	OVER \$200
9 M	NOT STATED

DV15 COST (MID PT-033)-NON CONS. OTHER TRIPS 101  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE	LABEL
0	NOTHING
3	\$3
7	\$7
17	\$17
37	\$37
75	\$75
150	\$150
200	\$200
999 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q34 AMOUNT OF WLDLF ENJOYMENT-OTHER TRIPS 102  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	INCREASED VERY MUCH
2	INCREASED SOMEWHAT
3	NO DIFFERENCE
4	DECREASED SOMEWHAT
5	DECREASED VERY MUCH
9 M	NOT STATED

DV16 G25 & G32 - TOTAL DAYS - NON CONS. TRIPS 103  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE	LABEL
999 M	NOT STATED

DV17 G26 & G33 - TOTAL COST - NON CONS. TRIPS 104  
PRINT FORMAT: F6  
WRITE FORMAT: F6  
MISSING VALUES: 999999

VALUE	LABEL
999999 M	NOT STATED

Q35 EVER HUNTED WILDLIFE 105  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	YES
2	NO

Q36 HUNT WILDLIFE DURING 1981 106  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	YES
2	NO

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q37 TOTAL HUNTING DAYS IN 1981 107  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

Q38 HUNT IN 1981 - WATERFOWL 108  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE LABEL  
1 YES  
2 NO  
3 YES BUT NO DETAIL

Q39A NEWFOUNDLAND - DAYS WATERFOWL HUNTED 109  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39B P.E.I. - DAYS WATERFOWL HUNTED 110  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39C NOVA SCOTIA - DAYS WATERFOWL HUNTED 111  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q39D NEW BRUNSWICK - DAYS WATERFOWL HUNTED 112  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39E QUEBEC - DAYS WATERFOWL HUNTED 113  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39F ONTARIO - DAYS WATERFOWL HUNTED 114  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39G MANITOBA - DAYS WATERFOWL HUNTED 115  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39H SASKATCHEWAN - DAYS WATERFOWL HUNTED 116  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q39I ALBERTA - DAYS WATERFOWL HUNTED 117  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39J BRITISH COLUMBIA-DAYS WATERFOWL HUNTED 118  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39K YUKON - DAYS WATERFOWL HUNTED 119  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39L N.W.T. - DAYS WATERFOWL HUNTED 120  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q39M OUTSIDE CANADA - DAYS WATERFOWL HUNTED 121  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

QV18 NO. OF PROVINCES FOR HUNTING WATERFOWL 122  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

QV19 G39 - TOTAL DAYS FOR HUNTING WATERFOWL 123  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

Q40 HAD ANY WATERFOWL 124  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q41 TRANSPORTATION COSTS TO HUNT WATERFOWL 125  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q42 ACCOMMODATION COSTS TO HUNT WATERFOWL 126  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q43 FOOD COSTS WHILE HUNTING WATERFOWL 127  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q44 EQUIPMENT COSTS FOR HUNTING WATERFOWL 128  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL  
99999 M NOT STATED

Q45 AMMUNITION COSTS FOR HUNTING WATERFOWL 129  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

DV20 TOTAL COST FOR HUNTING WATERFOWL 130  
PRINT FORMAT: F6  
WRITE FORMAT: F6  
MISSING VALUES: 999999

VALUE LABEL  
999999 M NOT STATED

Q46 HUNT IF COSTS MORE - WATERFOWL 131  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
3 YES BUT NO DETAIL  
9 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q47 CONSUMER SURPLUS FOR HUNTING WATERFOWL 132  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	\$1 - 49
2	\$50 - 99
3	\$100 - 199
4	\$200 - 399
5	\$400 - 799
6	\$800 OR MORE
9 M	NOT STATED

DV21 CONSUMER SURPLUS (MID PT-Q47) WATERFOWL 133  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE	LABEL
25	\$25
75	\$75
150	\$150
300	\$300
600	\$600
800	\$800
999 M	NOT STATED

Q48 HUNT IN 1981 - OTHER BIRDS 134  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	YES
2	NO
3	YES BUT NO DETAIL

Q49A NEWFOUNDLAND - DAYS OTHER BIRDS HUNTED 135  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE	LABEL
99 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q49B P.E.I. - DAYS OTHER BIRDS HUNTED 136  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49C NOVA SCOTIA - DAYS OTHER BIRDS HUNTED 137  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49D NEW BRUNSWICK - DAYS OTHER BIRDS HUNTED 138  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49E QUEBEC - DAYS OTHER BIRDS HUNTED 139  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49F ONTARIO - DAYS OTHER BIRDS HUNTED 140  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q49C MANITOBA - DAYS OTHER BIRDS HUNTED 141  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49H SASKATCHEWAN - DAYS OTHER BIRDS HUNTED 142  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49I ALBERTA - DAYS OTHER BIRDS HUNTED 143  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49J BRITISH COLUMBIA-DAYS OTHER BIRDS HUNTED 144  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49K YUKON - DAYS OTHER BIRDS HUNTED 145  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q49L N.W.T. - DAYS OTHER BIRDS HUNTED 146  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q49M OUTSIDE CANADA - DAYS OTHER BIRDS HUNTED 147  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

DV22 NO. OF PROVINCES FOR HUNTING OTHER BIRDS 148  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

DV23 Q49 - TOTAL DAYS FOR HUNTING OTHER BIRDS 149  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

Q50 BAG ANY OTHER BIRDS 150  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

051 TRANSPORTATION COSTS TO HUNT OTHER BIRDS 151  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL

9999 M NOT STATED

052 ACCOMMODATION COSTS TO HUNT OTHER BIRDS 152  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL

9999 M NOT STATED

053 FOOD COSTS WHILE HUNTING OTHER BIRDS 153  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL

9999 M NOT STATED

054 EQUIPMENT COSTS FOR HUNTING OTHER BIRDS 154  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL

99999 M NOT STATED

055 AMMUNITION COSTS FOR HUNTING OTHER BIRDS 155  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL

9999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV24 TOTAL COSTS FOR HUNTING OTHER BIRDS 156  
PRINT FORMAT: F6  
WRITE FORMAT: F6  
MISSING VALUES: 999999

VALUE LABEL  
999999 M NOT STATED

G56 HUNT IF COST MORE - OTHER BIRDS 157  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
3 YES BUT NO DETAIL  
9 M NOT STATED

Q57 CONSUMER SURPLUS FOR HUNTING OTHER BIRDS 158  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 \$1 - 49  
2 \$50 - 99  
3 \$100 - 199  
4 \$200 - 399  
5 \$400 - 799  
6 \$800 OR MORE  
9 M NOT STATED

DV25 CONSUMER SURPLUS(MID PT)-OTHER BIRDS 159  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
25 \$25  
75 \$75  
150 \$150  
300 \$300  
600 \$600  
800 \$800  
999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q58 HUNT IN 1981 - SMALL MAMMALS 160  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE LABEL

1 YES  
2 NO  
3 YES BUT NO DETAIL

Q59A NEWFOUNDLAND-DAYS SMALL MAMMALS HUNTED 161  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED

Q59B P.E.I. - DAYS SMALL MAMMALS HUNTED 162  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED

Q59C NOVA SCOTIA - DAYS SMALL MAMMALS HUNTED 163  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED

Q59D NEW BRUNSWICK-DAYS SMALL MAMMALS HUNTED 164  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q59E GUEBEC - DAYS SMALL MAMMALS HUNTED 165  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q59F ONTARIO - DAYS SMALL MAMMALS HUNTED 166  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q59G MANITOBA - DAYS SMALL MAMMALS HUNTED 167  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q59H SASKATCHEWAN-DAYS SMALL MAMMALS HUNTED 168  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q59I ALBERTA - DAYS SMALL MAMMALS HUNTED 169  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q59J P.C. - DAYS SMALL MAMMALS HUNTED 170  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q59K YUKON - DAYS SMALL MAMMALS HUNTED 171  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q59L N.W.T. - DAYS SMALL MAMMALS HUNTED 172  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q59M OUTSIDE CANADA-DAYS SMALL MAMMALS HUNTED 173  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

DV26 NO.OF PROVINCES FOR HUNTING SMALL MAMMAL 174  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

QV27 G59-TOTAL DAYS FOR HUNTING SMALL MAMMALS 175  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
99 NOT STATED

Q60 H4G ANY SMALL MAMMALS 176  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

Q61 TRANSPORTATION COSTS-HUNT SMALL MAMMALS 177  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q62 ACCOMMODATION COSTS - HUNT SMALL MAMMALS 178  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q63 FOOD COSTS WHILE HUNTING SMALL MAMMALS 179  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q64 EQUIPMENT COSTS TO HUNT SMALL MAMMALS 180  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL  
99999 M NOT STATED

Q65 AMMUNITION COSTS TO HUNT SMALL MAMMALS 181  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

DV28 TOTAL COSTS FOR HUNTING SMALL MAMMALS 182  
PRINT FORMAT: F6  
WRITE FORMAT: F6  
MISSING VALUES: 999999

VALUE LABEL  
999999 M NOT STATED

Q66 HUNTED IF COST MORE - SMALL MAMMALS 183  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
3 YES BUT NO DETAIL  
9 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q67 CONSUMER SURPLS TO HUNT SMALL MAMMALS 184  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE	LABEL
1	\$1 - 49
2	\$50 - 99
3	\$100 - 199
4	\$200 - 399
5	\$400 - 799
6	\$800 OR MORE
9 M	NOT STATED

QV29 CONSUMER SURPLS(MID PT)-SMALL MAMMALS 185  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE	LABEL
25	\$25
75	\$75
150	\$150
300	\$300
600	\$600
800	\$800
999 M	NCT STATED

Q68 HUNT IN 1981 - LARGE MAMMALS 186  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE	LABEL
1	YES
2	NO
3	YES BUT NO DETAIL

Q69A NEWFOUNDLAND - DAYS LARGE MAMMALS HUNTED 187  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE	LABEL
99 M	NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

069E P.E.I. - DAYS LARGE MAMMALS HUNTED 188  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED

069C NOVA SCOTIA - DAYS LARGE MAMMALS HUNTED 189  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED

069D NEW BRUNSWICK-DAYS LARGE MAMMALS HUNTED 190  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED

069E QUEBEC - DAYS LARGE MAMMALS HUNTED 191  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED

069F ONTARIO - DAYS LARGE MAMMALS HUNTED 192  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL

99 M NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

G69G MANITOBA - DAYS LARGE MAMMALS HUNTED 193  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

G69H SASKATCHEWAN - DAYS LARGE MAMMALS HUNTED 194  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

G69I ALBERTA - DAYS LARGE MAMMALS HUNTED 195  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

G69J B.C. - DAYS LARGE MAMMALS HUNTED 196  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

G69K YUKON - DAYS LARGE MAMMALS HUNTED 197  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q69L N.W.T. - DAYS LARGE MAMMALS HUNTED 158  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

Q69M CUTSIDE CANADA-DAYS LARGE MAMMALS HUNTED 199  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

DV30 NO.OF PROVINCES FOR HUNTING LARGE MAMMAL 200  
PRINT FORMAT: F2  
WRITE FORMAT: F2  
MISSING VALUES: 99

VALUE LABEL  
99 M NOT STATED

DV31 Q69-TOTAL DAYS FOR HUNTING LARGE MAMMALS 201  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

Q70 BAG ANY LARGE MAMMALS 202  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
9 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

Q71 TRANSPORTATION COSTS-HUNT LARGE MAMMALS 203  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q72 ACCOMMODATION COSTS-HUNT LARGE MAMMALS 204  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q73 FOOD COSTS WHILE HUNTING LARGE MAMMALS 205  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

Q74 EQUIPMENT COSTS TO HUNT LARGE MAMMALS 206  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL  
99999 M NOT STATED

Q75 AMMUNITION COSTS TO HUNT LARGE MAMMALS 207  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV32 TOTAL COSTS FOR HUNTING LARGE MAMMALS 208  
PRINT FORMAT: F6  
WRITE FORMAT: F6  
MISSING VALUES: 999999

VALUE LABEL  
999999 M NOT STATED

Q76 HUNT IF COST MORE - LARGE MAMMALS 209  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 YES  
2 NO  
3 YES BUT NO DETAIL  
9 M NOT STATED

Q77 CONSUMER SURPLUS TO HUNT LARGE MAMMALS 210  
PRINT FORMAT: F1  
WRITE FORMAT: F1  
MISSING VALUES: 9

VALUE LABEL  
1 \$1 - 49  
2 \$50 - 99  
3 \$100 - 199  
4 \$200 - 399  
5 \$400 - 799  
6 \$800 OR MORE  
9 M NOT STATED

DV33 CONSUMER SURPLUS(MID PT)-LARGE MAMMALS 211  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
25 \$25  
75 \$75  
150 \$150  
300 \$300  
600 \$600  
800 \$800  
999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV34A NEWFOUNDLAND - TOTAL DAYS - ALL HUNTING 212  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL

999 M NOT STATED

DV34B P.E.I. - TOTAL DAYS - ALL HUNTING 213  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL

999 M NOT STATED

DV34C NOVA SCOTIA - TOTAL DAYS - ALL HUNTING 214  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL

999 M NOT STATED

DV34D NEW BRUNSWICK - TOTAL DAYS - ALL HUNTING 215  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL

999 M NOT STATED

DV34E QUEBEC - TOTAL DAYS - ALL HUNTING 216  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL

999 M NOT STATED



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV34F ONTARIO - TOTAL DAYS - ALL HUNTING 217  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

DV34G MANITOBA - TOTAL DAYS - ALL HUNTING 218  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

DV34H SASKATCHEWAN - TOTAL DAYS - ALL HUNTING 219  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

DV34I ALBERTA - TOTAL DAYS - ALL HUNTING 220  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

DV34J B.C. - TOTAL DAYS - ALL HUNTING 221  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV34K YUKON - TOTAL DAYS - ALL HUNTING 222  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

DV34L N.W.T. - TOTAL DAYS - ALL HUNTING 223  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

DV34M OUTSIDE CANADA-TOTAL DAYS - ALL HUNTING 224  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

DV35 Q39-Q69 - GRAND TOTAL DAYS-ALL HUNTING 225  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

DV36 TOTAL TRANSPORTATION COSTS- ALL HUNTING 226  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL  
99999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV37 LARGEST COST FOR TRANSPORT.-ALL HUNTING 227  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

DV38 TOTAL ACCOMMODATION COSTS-ALL HUNTING 228  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL  
99999 M NOT STATED

DV39 LARGEST COST FOR ACCOMOD. - ALL HUNTING 229  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

DV40 TOTAL FOOD COSTS - ALL HUNTING 230  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL  
99999 M NOT STATED

DV41 LARGEST COST FOR FOOD - ALL HUNTING 231  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL  
9999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV42 TOTAL EQUIPMENT COSTS - ALL HUNTING 232  
PRINT FORMAT: F6  
WRITE FORMAT: F6  
MISSING VALUES: 999999

VALUE LABEL

999999 M NOT STATED

DV43 LARGEST COST FOR EQUIPMENT-ALL HUNTING 233  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL

99999 M NOT STATED

DV44 TOTAL OTHER ITEMS COST - ALL HUNTING 234  
PRINT FORMAT: F5  
WRITE FORMAT: F5  
MISSING VALUES: 99999

VALUE LABEL

99999 M NOT STATED

DV45 LARGEST COST FOR OTHER ITEMS-ALL HUNTING 235  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL

9999 M NOT STATED

DV46 041-075 - GRAND TOTAL COST - ALL HUNTING 236  
PRINT FORMAT: F6  
WRITE FORMAT: F6  
MISSING VALUES: 999999

VALUE LABEL

999999 M NOT STATED

FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV47 G18-77-PARTICIPATION-ALL WLDLF ACTIVITY 237  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE LABEL

1 YES  
2 NO

DV48 G13-77 - TOTAL COSTS-ALL WLDLF ACTIVITY 238  
PRINT FORMAT: F7  
WRITE FORMAT: F7  
MISSING VALUES: 9999999

VALUE LABEL

9999999 M NOT STATED

DV49 ANY COSTS - ALL WLDLF ACTIVITY 239  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE LABEL

1 YES  
2 NO

DV50 TOTAL CONSUMERSURPLUS-ALL WLDLF ACTIVITY 240  
PRINT FORMAT: F4  
WRITE FORMAT: F4  
MISSING VALUES: 9999

VALUE LABEL

9999 M NOT STATED

DV51 ANY CONSUMER SUPPLUS-ALL WLDLF ACTIVITY 241  
PRINT FORMAT: F1  
WRITE FORMAT: F1

VALUE LABEL

1 YES  
2 NO



FILE: VALUE OF WILDLIFE TO CANADIANS - SURVEY DATA

DV50 TOTAL DAYS - ALL WLDLF ACTIVITY 242  
PRINT FORMAT: F3  
WRITE FORMAT: F3  
MISSING VALUES: 999

VALUE LABEL  
999 M NOT STATED

NEWWT ONE-HUNDRETH (1/100) OF FINAL WEIGHT 243  
PRINT FORMAT: F8.2  
WRITE FORMAT: F8.2

B2. Code Book for Statistics Canada "Micro-data Tape"

The following code book was prepared by the Special Surveys Division of Statistics Canada. Explanations for the codes for questions 10 to 77 and definitions for derived variables (DV) are found in Appendix A.

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
1	6	1-6	N	Record Number
2	4	7-10	0282	Survey Date
3	2	11-12		Region & Province
			10	Nfld
			11	PEI
			12	NS
			13	NB
			24	Quebec
			35	Ontario
			46	Manitoba
			47	Saskatchewan
			48	Alberta
			59	BC
4	1	13		Sex
			1	Male
			2	Female
5	1	14		Marital Status
			1	Married
			2	Single
			3	Other

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
6	1	15		Relation to Head of Family
			1	Head
			2	Spouse
			3	Son/Daughter
			4	Parent or Parent-in-law
			5	Son/daughter-in-law
			6	Other Relative
7	1	16		Age Group
			1	15 - 16 years
			2	17 - 19 years
			3	20 - 24 years
			4	25 - 34 years
			5	35 - 44 years
			6	45 - 54 years
			7	55 - 64 years
			8	65 - 69 years
			9	70 years and over
8	1	17		Education
			1	None or Elementary
			2	High School some or completed
			3	Some post-secondary
			4	Post secondary certificate or diploma
			5	University degree

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
9	1	18		Labour Force Status
			1	Employed
			2	Unemployed
			3	Not in Labour Force
10	2	19-20		Industry
			01	Agriculture
			02	Other primary
			03	Manufacturing, durables
			04	Manufacturing, non-durables
			05	Constructions
			06	Transportation, etc
			07	Wholesale Trade
			08	Retail Trade
			09	Finance, etc
			10	Community services
			11	Personal services
			12	Business & Miscellaneous services
			13	Public Administration
			14	Never worked
			15	Not applicable



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
11	2	21-22		Occupation
			01	Managerial
			02	Professional
			03	Teaching
			04	Medicine
			05	Clerical
			06	Sales
			07	Services
			08	Primary Occupation
			09	Mining, Processing, Machining
			10	Fabrication
			11	Construction
			12	Transportation, materials handling, other crafts
			13	Never worked
			14	Not applicable
12	2	23-24		Filler

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
13	9	25-33		Final Weight (xxxxx.xxxx)
14	23	34-56		Filler

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
24	4	57-60	10	Did you take part in any of the following activities
		(57)	(A)	Read books, magazines, articles on wildlife
			1	Yes
			2	No
			9	Not stated
		(58)	(B)	Watch films, TV on wildlife
			1	Yes
			2	No
			9	Not stated
		(59)	(C)	Purchase art, crafts, posters wildlife
			1	Yes
			2	No
			9	Not stated
		(60)	(D)	Visit zoo, aquarium, game farm, museum
			1	Yes
			2	No
			9	Not stated

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
25	1	61	DVQ10 DV1	Participation Q10
			1	Any participation
			2	No participation
			9	Not stated
26	10	62-71	11	Interest in participation
		(62)	(A)	Watching wildlife
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
		(63)	(B)	Feeding or attracting wildlife
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
		(64)	(C)	Collecting butterflyfiles or other Wildlife specimens
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(65)	(11(D))	Photographing studying or recording wildlife
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
1		(66)	(E)	Hunting wildlife
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
		(67)	(F)	Trapping for food or furs
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
		(68)	(G)	Observing, collecting or creating wildlife related art or literature
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(69) 11 (H)		Being a member of any wildlife related organization
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
		(70) (I)		Contributing to an organization which protects endangered wildlife
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
		(71) (J)		Contributing to an organization which maintains abundant wildlife
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
27	3	72-74	DVQ11A DV2	Consumptive activities
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
		(73)	DVQ11B DV3	Non-consumptive activities
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
		(74)	DVQ11C DV4	Membership activities
			1	Great interest
			2	Some interest
			3	No interest
			9	Not stated
28	1	75	Q12	1981, Did you belong to or contribute to any wildlife related org.
			1	Yes
			2	No
			3	Yes but no detail

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
29	8	76-83	13	\$ Value for memberships or donations
		(76-79)	(A)	0000 No cost for membership
				0001-
				9998 Dollars for memberships
				9999 Not stated / bbbb - blank
		(80-83)	(B)	0000 No cost for donations
				0001-
				9998 Dollars for donations
				9999 Not stated / bbbb - blank
30	5	84-88	DVQ13 DV05	Total cost for memberships and donations
				bbbb Blank
				00000 No cost
				00001-
				99998 Dollars
				99999 Not stated
31	1	89	Q14	Maintain any natural areas for wildlife
				1 Yes
				2 No
				3 Yes but no detail
32	5	90-94	Q15	Cost of maintenance or natural areas
				00000 No cost
				00000-
				99998 Dollars
				99999 Not stated
				bbbbbb Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
33	1	95	16	Importance of the abundance of wildlife being maintained
			1	Very important
			2	Fairly important
			3	Of little importance
			4	Of no importance
			5	Don't know
34	1	96	17	Importance of endangered species of wildlife being preserved
			1	Very important
			2	Fairly important
			3	Of little importance
			4	Of no importance
			5	Don't know
35	5	97-101	DVA DV06	Total Dollars Section A
			00000	Nothing
			00001-	
			99998	Dollar cost
			99999	Not stated
			bbbbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
36	8	102-109	18	Wildlife activities around home or cottage
		(102)	A	1 Feeding wildlife with table scraps
			b	Blank
		(103)	B	2 Purchasing or putting out special feed for wildlife
		(104)	C	3 Watching wildlife
			b	Blank
		(105)	D	4 Studying & identifying different types of wildlife
			b	Blank
		(106)	E	5 Maintaining plants or shrubs to provide food for shelter
			b	Blank
		(107)	F	6 Photographing wildlife
			b	Blank
		(108)	G	7 None of the above
			b	Blank
		(109)	H	8 Unidentified participation
			b	Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
37	1	110	DVQ18 DV07	Participation around home
			1	Participant
			2	Non-participant
38	1	111	Q19	Number of days participation around the home or cottage
			1	1 - 9 days
			2	10 - 19
			3	20 - 49
			4	50 - 99
			5	100 - 149
			6	150 - 199
			7	200 or more days
			9	Not stated
			b	Blank
39	3	112-114	DVQ19 DV08	Number of days participation around home or cottage (midpt)
			005	5 days
			015	15 days
			035	35 days
			075	75 days
			125	125 days
			175	175 days
			283	283 days
			999	Not stated
			bbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
40	1	115	20	Cost of activities around home or cottage
			1	Nothing
			2	Under \$5
			3	\$5 to \$9
			4	\$10 to \$24
			5	\$25 to \$49
			6	\$50 to \$99
			7	\$100 to \$200
			8	Over \$200
			9	Not stated
			b	Blank
41	3	116-118	DVQ20 DV09	Cost of activities around home for cottage (midpt)
			000	Nothing
			003	\$3
			007	\$7
			017	\$17
			037	\$37
			075	\$75
			150	\$150
			200	\$200
			999	Not stated
			bbb	Blank
42	1	119	Q21	Would you still have participated in activities around home if costs more
			1	Yes
			2	No
			9	Not stated
			b	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
43	1	120	22	Primary purpose trips/outings to WFPS wildlife
			1	Yes
			2	No
			3	Yes but no detail
44	4	121-124	23	Activities during primary purpose trips/outings
		(121)	A	1 Watching wildlife
			9	Not stated
			b	Blank
		(122)	B	2 Feeding wildlife
			9	Not stated
			b	Blank
		(123)	C	3 Photographing wildlife
			9	Not stated
			b	Blank
		(124)	D	4 Studying & identifying wildlife
			9	Not stated
			b	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
45	5	125-129	24	What species you WFPS during primary purpose trips
		(125)	A	1 Waterfowl 9 Not stated b Blank
		(126)	B	2 Other birds 9 Not stated b Blank
		(127)	C	3 Small mammals 9 Not stated b Blank
		(128)	D	4 Large mammals 9 Not stated b Blank
		(129)	E	5 Other wildlife 9 Not stated b Blank
46	26	130-155	25	Days by province for primary purpose trips to WFPS
		(130-131)	A	99 Not stated 00-98 Days in Newfoundland bb Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
1		(132-133)	B	99 Not stated 00-98 Days in PEI bb Blank
		(134-135)	C	99 Not stated 00-98 Days in Nova Scotia bb Blank
		(136-137)	D	99 Not stated 00-98 Days in New Brunswick bb Blank
		(138-139)	E	99 Not stated 00-98 Days in Quebec bb Blank
		(140-141)	F	99 Not stated 00-98 Days in Ontario bb Blank
		(142-143)	G	99 Not stated 00-98 Days in Manitoba bb Blank
		(144-145)	H	99 Not stated 00-98 Days in Saskatchewan bb Blank
		(146-147)	I	99 Not stated 00-98 Days in Alberta bb Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(148-149) 25Con't	99	Not stated
			00-98	Days in B.C.
			bb	Blank
		(150-151) K	99	Not stated
			00-98	Days in Yukon
			bb	Blank
		(152-153) L	99	Not stated
			00-98	Days in Northwest Territories
			bb	Blank
		(154-155) M	99	Not stated
			00-98	Days outside Canada
			bb	Blank
47	2	156-157	DVQ25	Number of Provinces marked
			DV10	
			01-13	Different prov's marked
			99	Not stated
			bb	Blank
48	3	158-160	DVQ25	Total number of days on primary purpose
			DV11	trips to WFPS
			999	Not stated
			001	
			998	Number of days
			bbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
49	21	161-181	26	Expenditures on primary purpose trips to WFPS
		(161-164)	A	Transportation
			9999	Not stated
			0000	
			9998	Dollars
			bbbb	Blank
		(165-168)	B	Accomodation
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank
		(169-172)	C	Food
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank
	(5)	(173-177)	D	Equipment
			99999	Not stated
			00000-	
			99998	Dollars
			bbbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(178-181)	26 E	Other
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank
50	6	182-187	DVQ26 DV12	Total expenditures for primary purpose trips to WFPS
			999999	Not stated
			000001	
			999998	Total dollars
			bbbbbb	Blank
51	1	188	Q27	Would you still have taken PP trips if costs more?
			9	Not stated
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
52	1	189		Consumer surplus PP trips
			1	\$1 - \$19
			2	\$20 - \$49
			3	\$50 - \$99
			4	\$100 - \$199
			5	\$200 - \$299
			6	\$300 - \$399
			7	\$400 - \$599
			8	\$600 or more
			9	Not stated
			b	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
53	3	190-192	DVQ28 DV13	Primary purposes trips consumer surplus (midpoints)
			010	\$10
			035	\$35
			075	\$75
			150	\$150
			250	\$250
			350	\$350
			500	\$500
			600	\$600
			999	Not stated
			bbb	Blank
54	1	193	Q29	Other trips or outings were you WFPS wildlife
			1	Yes
			2	No
			3	Yes but no detail
55	4	194-197	Q30	Other trips/outings which activities
		(194)	A	1 Watching wildlife
				9 Not stated
			b	blank
		(195)	B	2 Feeding wildlife
				9 Not stated
			b	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(196)	30C	3 Photographing wildlife 9 Not stated b Blank
		(197)	D	4 Studying & identifying wildlife 9 Not stated b Blank
56	5	198-202	31	Other trips/outings which species
		(198)	A	1 Waterfowl 9 Not stated b Blank
		(199)	B	2 Other birds 9 NS b Blank
		(200)	C	3 Small mammals 9 NS b Blank
		(201)	D	4 Large mammals 9 Not stated b Blank
		(202)	E	5 Other wildlife 9 Not stated b Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
57	1	203	32	Number of days WFPS wildlife on other trips/outings
			1	1 - 9 days
			2	10 - 14 days
			3	20 - 49 days
			4	50 - 99 days
			5	100 - 149
			6	150 - 199
			7	200 or more
			9	Not stated
			b	Blank
58	3	204-206	DVQ32 DV14	Number of days (midpoints)
			005	5 days
			015	15 days
			035	35 days
			075	75 days
			125	125 days
			175	175 days
			283	283 days
			999	Not stated
			bbb	Blank

7  
6

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
57	1	203	32	Number of days WFPS wildlife on other trips/outings
			1	1 - 9 days
			2	10 - 14 days
			3	20 - 49 days
			4	50 - 99 days
			5	100 - 149
			6	150 - 199
			7	200 or more
			9	Not stated
			b	Blank
58	3	204-206	DVQ32 DV14	Number of days (midpoints)
			005	5 days
			015	15 days
			035	35 days
			075	75 days
			125	125 days
			175	175 days
			283	283 days
			999	Not stated
			bbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
59	1	207	33	Cost to watch feed, photograph or study wildlife on other trips or outings
			1	Nothing
			2	Under \$5
			3	\$5 to \$9
			4	\$10 to \$24
			5	\$25 to \$49
			6	\$50 to \$99
			7	\$100 to \$200
			8	Over 200
			b	Blank
			9	Not stated
60	3	208-210	DVQ33 DV15	cost on other trips (midpoints)
			000	Nothing
			003	\$3
			007	\$7
			017	\$17
			035	\$35
			075	\$75
			150	\$150
			200	\$200
			bbb	Blank
			999	Not stated
61	1	211	Q34	Effect of encountering wildlife on other outings or trips
			1	Increased enjoyment very much
			2	Increased enjoyment somewhat
			3	Made no difference
			4	Decreased enjoyment somewhat
			5	Decreased enjoyment very much
			9	Not stated
			b	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
62	3	212-214	DVSEC 'C' Days DV16	Total days for section C
			999	Not stated
			001-	
			998	Number of days
			bbb	Blank
63	6	215-220	DVSEC 'C' Costs DV17	Total expenditure for section C
			999999	Nothing / not stated
			000000-	
			999998	Dollars
			bbbbbb	Blank
64	1	221	Q35	Have you ever hunted wildlife?
			1	Yes
			2	No

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
65	1	222	Q36	In 1981, Did you hunt wildlife?
			1	Yes
			2	No
			b	Blank
66	3	223-225	Q37	Attending dats in 1981
			999	Not stated
			001-	
			365	Number of days
			bbb	Blank
67	1	226	Q38	1981 - Did you hunt waterfowl?
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
68	26	227-252	Q39	Days by province for hunting waterfowl
				Newfoundland
		(227-228)	A	00 Not stated
			00-98	Days in Newfoundland
			bb	Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
Cont'd		(229-230)	39B	PEI
			99	Not stated
			00-98	Days in PEI
			bb	Blank
		(231-232)	C	Nova Scotia
			99	Not stated
			00-98	Days in N.S.
			bb	Blank
		(233-234)	D	New Brunswick
			99	Not stated
			00-98	Days in NB
			bb	Blank
		(235-236)	E	Quebec
			99	Not stated
			00-98	Days in Que.
			bb	Blank
		(237-238)	F	Ontario
			99	Not stated
			00-98	Days in Ont
			bb	Blank
		(239-240)	G	Manitoba
			99	Not stated
			00-98	Days in Man
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(241-242)	H	Saskatchewan
			99	Not stated
			00-98	Days in Sask
			bb	Blank
		(243-244)	I	Alberta
			99	Not stated
			00-98	Days in Alta
			bb	Blank
		(245-246)	J	British columbia
			99	Not stated
			00-99	Days in BC
			bb	Blank
		(247-248)	K	Yukon
			99	Not stated
			00-98	Days in NWT
			bb	Blank
		(249-250)	L	NWT
			99	Not stated
			00-98	Days in NWT
			bb	Blank
		(251-252)	M	Outside Canada
			99	Not stated
			00-98	Days outside Canada
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
69	2	253-254	DVQ39 DV18	Number of different provinces checked for waterfowl hunting
			99	Not stated
			00-13	# of prov's
			bb	Blank
70	<del>2</del> 3	255-257	DVQ39 DV19	Total days hunting waterfowl
			999	Not stated
			001-	
			998	Days
			bbb	Blank
71	1	258	Q40	Did you bag any waterfowl
			1	Yes
			2	No
			9	Not stated
			b	Blank
72	4	259-262	Q41	Transportation cost for hunting waterfowl
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
73	4	263-266	Q42	Accomodation costs for hunting waterfowl
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
74	4	267-270	Q43	Food costs for hunting waterfowl
			9999	Not stated
			0000-	
			9998	\$
			bbbb	blank
75	5	271-275	Q44	Equipment costs for hunting waterfowl
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
76	4	276-279	Q45	Ammunition, repairs and other items cost for hunting waterfowl
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
77	6	280-285	DV Waterfowl DV20	Total expenditure for hunting waterfowl
			999999	Not stated
			000000-	
			999998	Expenditure in \$
			bbbbbb	Blank
78	1	286	Q46	Would you still have hunted waterfowl if costs more
			9	Not stated
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
79	1	287	Q47	Consumer surplus for hunting waterfowl
			1	\$1 to \$49
			2	\$50 to \$99
			3	\$100 to \$199
			4	\$200 to \$399
			5	\$400 to \$799
			6	\$800 or more
			b	Blank
			9	Not stated



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
81	3	288-290	DVQ47 DV21	Consumer surplus (midpoint) for hunting waterfowl
			025	\$25
			075	\$75
			150	\$150
			300	\$300
			600	\$600
			800	\$800
			bbb	Blank
			999	Not stated
82	1	291	Q48	1981 - Did you hunt other birds
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
83	26	292-317	49	Days by province for hunting other birds
				Newfoundland
		(292-293)	A	99 Not stated
			00-98	Days in Newfoundland
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		294-295	49B	PEI
			99	Not stated
			00-98	Days in PEI
			bb	Blank
		(296-297)	C	Nova Scotia
			99	Not stated
			00-98	Days in NS
			bb	Blank
		(298-299)	D	New Brunswick
			99	Not stated
			00-98	Days in NB
			bb	Blank
		(300-301)	E	Quebec
			99	Not stated
			00-98	Days in Que
			bb	Blank
		(302-303)	F	Ontario
			99	Not stated
			00-98	Days in Ont
			bb	Blank
		(304-305)	G	Manitoba
			99	Not stated
			00-98	Days in Man
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(306-307)	49H	Saskatchewan
			99	Not stated
			00-98	Days in Sask
			bb	Blank
		(308-309)	I	Alberta
			99	Not stated
			00-98	Days in Alta
			bb	Blank
		(310-311)	J	British Columbia
			99	Not stated
			00-98	Days in BC
			bb	Blank
		(312-313)	K	Yukon
			99	Not stated
			00-98	Days in Yukon
			bb	Blank
		(314-315)	L	NWT
			99	Not stated
			00-98	Days in Yukon
			bb	Blank
		(316-317)	M	Outside Canada
			99	Not stated
			00-98	Days outside Canada
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(148-149) 25Con't	99	Not stated
			00-98	Days in B.C.
			bb	Blank
		(150-151) K	99	Not stated
			00-98	Days in Yukon
			bb	Blank
		(152-153) L	99	Not stated
			00-98	Days in Northwest Territories
			bb	Blank
		(154-155) M	99	Not stated
			00-98	Days outside Canada
			bb	Blank
47	2	156-157	DVQ25	Number of Provinces marked
			DV10	
			01-13	Different prov's marked
			99	Not stated
			bb	Blank
48	3	158-160	DVQ25	Total number of days on primary purpose
			DV11	trips to WFPS
			999	Not stated
			001	
			998	Number of days
			bbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
49	21	161-181	26	Expenditures on primary purpose trips to WFPS
		(161-164)	A	Transportation
			9999	Not stated
			0000	
			9998	Dollars
			bbbb	Blank
		(165-168)	B	Accomodation
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank
		(169-172)	C	Food
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank
	(5)	(173-177)	D	Equipment
			99999	Not stated
			00000-	
			99998	Dollars
			bbbbbb	Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(178-181)	26 E	Other
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank
50	6	182-187	DVQ26 DV12	Total expenditures for primary purpose trips to WFPS
			999999	Not stated
			000001	
			999998	Total dollars
			bbbbbb	Blank
51	1	188	Q27	Would you still have taken PP trips if costs more?
			9	Not stated
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
52	1	189		Consumer surplus PP trips
			1	\$1 - \$19
			2	\$20 - \$49
			3	\$50 - \$99
			4	\$100 - \$199
			5	\$200 - \$299
			6	\$300 - \$399
			7	\$400 - \$599
			8	\$600 or more
			9	Not stated
			b	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
53	3	190-192	DVQ28 DV13	Primary purposes trips consumer surplus (midpoints)
			010	\$10
			035	\$35
			075	\$75
			150	\$150
			250	\$250
			350	\$350
			500	\$500
			600	\$600
			999	Not stated
			bbb	Blank
54	1	193	Q29	Other trips or outings were you WFPS wildlife
			1	Yes
			2	No
			3	Yes but no detail
55	4	194-197	Q30	Other trips/outings which activities
		(194)	A	1 Watching wildlife
				9 Not stated
				b blank
		(195)	B	2 Feeding wildlife
				9 Not stated
				b Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(196)	30C	3 Photographing wildlife 9 Not stated b Blank
		(197)	D	4 Studying & identifying wildlife 9 Not stated b Blank
56	5	198-202	31	Other trips/outings which species
		(198)	A	1 Waterfowl 9 Not stated b Blank
		(199)	B	2 Other birds 9 NS b Blank
		(200)	C	3 Small mammals 9 NS b Blank
		(201)	D	4 Large mammals 9 Not stated b Blank
		(202)	E	5 Other wildlife 9 Not stated b Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
57	1	203	32	Number of days WFPS wildlife on other trips/outings
			1	1 - 9 days
			2	10 - 14 days
			3	20 - 49 days
			4	50 - 99 days
			5	100 - 149
			6	150 - 199
			7	200 or more
			9	Not stated
			b	Blank
58	3	204-206	DVQ32 DV14	Number of days (midpoints)
			005	5 days
			015	15 days
			035	35 days
			075	75 days
			125	125 days
			175	175 days
			283	283 days
			999	Not stated
			bbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
57	1	203	32	Number of days WFPS wildlife on other trips/outings
			1	1 - 9 days
			2	10 - 14 days
			3	20 - 49 days
			4	50 - 99 days
			5	100 - 149
			6	150 - 199
			7	200 or more
			9	Not stated
			b	Blank
58	3	204-206	DVQ32 DV14	Number of days (midpoints)
			005	5 days
			015	15 days
			035	35 days
			075	75 days
			125	125 days
			175	175 days
			283	283 days
			999	Not stated
			bbb	Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
59	1	207	33	Cost to watch feed, photograph or study wildlife on other trips or outings
			1	Nothing
			2	Under \$5
			3	\$5 to \$9
			4	\$10 to \$24
			5	\$25 to \$49
			6	\$50 to \$99
			7	\$100 to \$200
			8	Over 200
			b	Blank
			9	Not stated
60	3	208-210	DVQ33 DV15	cost on other trips (midpoints)
			000	Nothing
			003	\$3
			007	\$7
			017	\$17
			035	\$35
			075	\$75
			150	\$150
			200	\$200
			bbb	Blank
			999	Not stated
61	1	211	Q34	Effect of encountering wildlife on other outings or trips
			1	Increased enjoyment very much
			2	Increased enjoyment somewhat
			3	Made no difference
			4	Decreased enjoyment somewhat
			5	Decreased enjoyment very much
			9	Not stated
			b	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
62	3	212-214	DVSEC 'C' Days DV16	Total days for section C
			999	Not stated
			001-	
			998	Number of days
			bbb	Blank
63	6	215-220	DVSEC 'C' Costs DV17	Total expenditure for section C
			999999	Nothing / not stated
			000000-	
			999998	Dollars
			bbbbbb	Blank
64	1	221	Q35	Have you ever hunted wildlife?
			1	Yes
			2	No

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
65	1	222	Q36	In 1981, Did you hunt wildlife?
			1	Yes
			2	No
			b	Blank
66	3	223-225	Q37	Attending dats in 1981
			999	Not stated
			001-	
			365	Number of days
			bbb	Blank
67	1	226	Q38	1981 - Did you hunt waterfowl?
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
68	26	227-252	Q39	Days by province for hunting waterfowl
				Newfoundland
		(227-228)	A	00 Not stated
			00-98	Days in Newfoundland
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
Cont'd		(229-230)	39B	PEI
			99	Not stated
			00-98	Days in PEI
			bb	Blank
		(231-232)	C	Nova Scotia
			99	Not stated
			00-98	Days in N.S.
			bb	Blank
		(233-234)	D	New Brunswick
			99	Not stated
			00-98	Days in NB
			bb	Blank
		(235-236)	E	Quebec
			99	Not stated
			00-98	Days in Que.
			bb	Blank
		(237-238)	F	Ontario
			99	Not stated
			00-98	Days in Ont
			bb	Blank
		(239-240)	G	Manitoba
			99	Not stated
			00-98	Days in Man
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(241-242)	H	Saskatchewan
			99	Not stated
			00-98	Days in Sask
			bb	Blank
		(243-244)	I	Alberta
			99	Not stated
			00-98	Days in Alta
			bb	Blank
		(245-246)	J	British columbia
			99	Not stated
			00-99	Days in BC
			bb	Blank
		(247-248)	K	Yukon
			99	Not stated
			00-98	Days in NWT
			bb	Blank
		(249-250)	L	NWT
			99	Not stated
			00-98	Days in NWT
			bb	Blank
		(251-252)	M	Outside Canada
			99	Not stated
			00-98	Days outside Canada
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
69	2	253-254	DVQ39 DV18	Number of different provinces checked for waterfowl hunting
			99	Not stated
			00-13	# of prov's
			bb	Blank
70	2	255-257	DVQ39 DV19	Total days hunting waterfowl
			999	Not stated
			001-	
			998	Days
			bbb	Blank
71	1	258	Q40	Did you bag any waterfowl
			1	Yes
			2	No
			9	Not stated
			b	Blank
72	4	259-262	Q41	Transportation cost for hunting waterfowl
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
73	4	263-266	Q42	Accomodation costs for hunting waterfowl
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
74	4	267-270	Q43	Food costs for hunting waterfowl
			9999	Not stated
			0000-	
			9998	\$
			bbbb	blank
75	5	271-275	Q44	Equipment costs for hunting waterfowl
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
76	4	276-279	Q45	Ammunition, repairs and other items cost for hunting waterfowl
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
77	6	280-285	DV Waterfowl DV20	Total expenditure for hunting waterfowl
			999999	Not stated
			000000-	
			999998	Expenditure in \$
			bbbbbb	Blank
78	1	286	Q46	Would you still have hunted waterfowl if costs more
			9	Not stated
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
79	1	287	Q47	Consumer surplus for hunting waterfowl
			1	\$1 to \$49
			2	\$50 to \$99
			3	\$100 to \$199
			4	\$200 to \$399
			5	\$400 to \$799
			6	\$800 or more
			b	Blank
			9	Not stated

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
81	3	288-290	DVQ47 DV21	Consumer surplus (midpoint) for hunting waterfowl
			025	\$25
			075	\$75
			150	\$150
			300	\$300
			600	\$600
			800	\$800
			bbb	Blank
			999	Not stated
82	1	291	Q48	1981 - Did you hunt other birds
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
83	26	292-317	49	Days by province for hunting other birds
				Newfoundland
		(292-293)	A	99 Not stated
			00-98	Days in Newfoundland
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		294-295	49B	PEI
			99	Not stated
			00-98	Days in PEI
			bb	Blank
		(296-297)	C	Nova Scotia
			99	Not stated
			00-98	Days in NS
			bb	Blank
		(298-299)	D	New Brunswick
			99	Not stated
			00-98	Days in NB
			bb	Blank
		(300-301)	E	Quebec
			99	Not stated
			00-98	Days in Que
			bb	Blank
		(302-303)	F	Ontario
			99	Not stated
			00-98	Days in Ont
			bb	Blank
		(304-305)	G	Manitoba
			99	Not stated
			00-98	Days in Man
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(306-307)	49H	Saskatchewan
			99	Not stated
			00-98	Days in Sask
			bb	Blank
		(308-309)	I	Alberta
			99	Not stated
			00-98	Days in Alta
			bb	Blank
		(310-311)	J	British Columbia
			99	Not stated
			00-98	Days in BC
			bb	Blank
		(312-313)	K	Yukon
			99	Not stated
			00-98	Days in Yukon
			bb	Blank
		(314-315)	L	NWT
			99	Not stated
			00-98	Days in Yukon
			bb	Blank
		(316-317)	M	Outside Canada
			99	Not stated
			00-98	Days outside Canada
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
84	2	318-319	DVQ49 DV22	Number of different provinces checked for other birds hunting
			99	Not stated
			01-13	# of prov's
			bb	Blank
85	3	320-322	DVQ49 DV23	Total days hunting other birds
			999	Not stated
			001-	
			998	Days
			bbb	Blank
86	1	323	50	Did you bag any other birds?
			1	Yes
			2	No
			9	Not stated
			b	Blank
87	4	324-327	51	Transportation costs for hunting other birds
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
88	4	328-331	Q52	Accomodation costs for hunting other birds
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
89	4	332-335	Q53	Food costs for hunting other birds
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
90	5	336-340	Q54	Equipment costs for hunting other birds
			99999	Not stated
			00000-	
			99998	\$
			bbbbb	Blank
91	4	341-344	Q55	Ammunition, repairs and other items cost for hunting other birds
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
92	6	345-350	DV other birds DV24	Total expenditure for hunting other birds
			999999	Not stated
			000000-	
			999998	Expenditure in \$
			bbbbbb	Blank
93	1	351	Q56	Would you still have hunted other birds if cost more
			9	Not stated
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
94	1	352	Q57	Consumer surplus for hunting other birds
			1	\$1 to \$49
			2	\$50 to \$99
			3	\$100 to \$199
			4	\$200 to \$399
			5	\$400 to \$799
			6	\$800 or more
			b	Blank
			9	Not stated

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
95	3	353-355	DVQ57 DV25	Consumer surplus (midpoint) for hunting other birds
			025	\$25
			075	\$75
			150	\$150
			300	\$300
			600	\$600
			800	\$800
			bbb	Blank
			999	Not stated
96	1	356	58	1981 - Did you hunt small mammals
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
97	26	357-382	59	Days by province for hunting small mammals
		(357-358)	99	Newfoundland Not stated
			00-98	Days in Newfoundland
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(359-360)	59B	PEI
			99	Not stated
			00-98	Days in PEI
			bb	Blank
		(361-362)	C	Nova Scotia
			99	Not stated
			00-98	Days in NS
			bb	Blank
		(363-364)	D	New Brunswick
			99	Not stated
			00-98	Days in NB
			bb	Blank
		(365-366)	E	Quebec
			99	Not stated
			00-98	Days in Que
			bb	Blank
		(367-368)	F	Ontario
			99	Not stated
			00-98	Days in Ont
			bb	Blank
		(369-370)	G	Manitoba
			99	Not stated
			00-98	Days in Man
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		371-372	H	Saskatchewan
			99	Not stated
			00-98	Days in Sask
			bb	Blank
		373-374	I	Alberta
			99	Not stated
			00-98	Days in Alta
			b	Blank
		375-376	J	British Columbia
			99	Not stated
			00-98	Days in BC
			bb	Blank
		377-378	K	Yukon
			99	Not stated
			00-98	Days in Yukon
			bb	Blank
		379-380	L	NWT
			99	Not stated
			00-98	Days in NWT
			bb	Blank
		381-382	M	Outside Canada
			99	Not stated
			00-98	Days outside Canada
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
98	2	383-384	DVQ59 DV26	Number of different provinces checked for small mammals hunting
			99	Not stated
			01-13	# of prov's
			bb	Blank
99	3	385-387	DVQ59 DV27	Total days hunting small mammals
			999	Not stated
			001-	
			998	Days
			bbb	Blank
100	1	388	Q60	Did you bag any small mammals
			1	Yes
			2	No
			9	Not stated
			b	Blank
101	4	389-392	Q61	Transportation costs for hunting small mammals
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
102	4	393-396	62	Accomodation costs for hunting small mammals
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
103	4	397-400	63	Food costs for hunting small mammals
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
104	5	401-505	64	Equipment costs for hunting small mammals
			99999	Not stated
			00000-	
			99998	\$
			bbbbb	Blank
105	4	406-409	65	Ammunition, reapiers and other items cost for hunting small mammals
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
106	6	410-415 DV Small mammals DV28		Total expenditure for hunting small mammals
			999999	Not stated
			000000-	
			999998	Expenditure in \$
			bbbbbb	Blank
107	1	416	66	Would you still have hunted small mammals if cost more
			9	Not stated
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
108	1	417	67	Consumer surplus for hunting small mammals
			1	\$1 to \$49
			2	\$50 to \$99
			3	\$100 to \$199
			4	\$200 to \$399
			5	\$400 to \$799
			6	\$800 or more
			b	Blank
			9	Not stated

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
109	3	418-420	DVQ67 DV29	Consumer surplus (midpoint) for hunting small mammals
			025	\$25
			075	\$75
			150	\$150
			300	\$300
			600	\$600
			800	\$800
			bbb	blank
			999	Not stated
110	1	421	68	1981 - Did you hunt large mammals
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
111	26	422-447	Q69	Days by province for hunting large mammals
				Newfoundland
		422-423	A 99	Not stated
			00-98	Days in Newfoundland
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		(424-425)	69B	PEI
			99	Not stated
			00-98	Days in PEI
			bb	Blank
		(426-427)	C	Nova Scotia
			99	Not stated
			00-98	Days in NS
			bb	Blank
		(428-429)	D	New Brunswick
			99	Not stated
			00-98	Days in NB
			bb	Blank
		(430-431)	E	Quebec
			99	Not stated
			00-98	Days in Que
			bb	Blank
		(432-433)	F	Ontario
			99	Not stated
			00-98	Days in Ont
			bb	Blank
		(434-435)	G	Manitoba
			99	Not stated
			00-98	Days in Man
			bb	blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
(436-437)		H		Saskatchewan
			99	Not stated
			00-98	Days in Sask
			bb	Blank
(438-439)		I		Alberta
			99	Not stated
			00-98	Days in Alta
			bb	Blank
(440-441)		J		British Columbia
			99	Not stated
			00-98	Days in BC
			bb	Blank
(442-443)		K		Yukon
			99	Not stated
			00-98	Days in Yukon
			bb	Blank
(444-445)		L		NWT
			99	Not stated
			00-98	Days in NWT
			bb	Blank
(446-447)		M		Outside Canada
			99	Not stated
			00-98	Days outside Canada
			bb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
112	2	448-449	DVQ69 DV30	Number of different provinces checked for large mammal hunting
			99	Not stated
			01-13	# of prov's
			bb	Blank
113	3	450-452	DVQ69 DV31	Total days hunting large mammals
			999	Not stated
			001-	
			998	Days
			bbb	Blank
114	1	453	Q70	Did you bag any large mammals
			1	Yes
			2	No
			9	Not stated
			b	Blank
115	4	454-457	Q71	Transportation costs for hunting large mammals
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
116	4	458-461	Q72	Accomodation costs for hunting large mammals
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
117	4	462-465	Q73	Food costs for hunting large mammals
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank
118	5	466-470	Q74	Equipment costs for hunting large mammals
			99999	Not stated
			00000-	
			99998	\$
			bbbbb	Blank
119	4	471-474	Q75	Ammunition, repairs and other items cost for hunting large mammals
			9999	Not stated
			0000-	
			9998	\$
			bbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
120	6	475-480	DV large mammals DV32	Total expenditure for hunting large mammals
			999999	Not stated
			000000-	
			999998	Expenditure in \$
			bbbbbb	Blank
121	1	481	76	Would you still have hunted large mammals is costs more
			1	Yes
			2	No
			b	Blank
			3	Yes but no detail
			9	Not stated
122	1	482	Q77	Consumer surplus for hunting large mammals
			1	\$1 to \$49
			2	\$50 to \$99
			3	\$100 to \$199
			4	\$200 to \$399
			5	\$400 to \$799
			6	\$800 or more
			b	Blank
			9	Not stated

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
123	3	483-485	DVQ77 DV33	Consumer surplus (midpoint) for hunting large mammals
			025	\$25
			075	\$75
			150	\$150
			300	\$300
			600	\$600
			800	\$800
			bbb	Blank
			999	Not stated
124	1	486		Filler
125	39	487-525	DVHUNTING DV34	A Total hunting days by province
		(487-489)	A	Newfoundland hunting days
			999	Not stated
			000-	
			998	Days
			bbb	

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		490-492	B	PEI hunting days
			999	Not stated
			000-	
			998	
			bbb	
		494-495	C	Nova Scotia hunting days
			999	Not stated
			000-	
			998	
			bbb	
		496-498	D	New Brunswick hunting days
			999	Not stated
			000-	
			998	
			bbb	
		499-501	E	Quebec hunting days
			999	Not stated
			000-	
			998	
			bbb	

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		502-504	F	Ontario hunting days
			999	Not stated
			000-	
			998	
			bbb	
		505-507	G	Manitoba hunting days
			999	Not stated
			000-	
			998	
			bbb	
		508-510	H	Saskatchewan hunting days
			999	Not stated
			000-	
			998	
			bbb	
		511-513	I	Alberta hunting days
			999	Not stated
			000-	
			998	
			bbb	

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
		514-516	J	BC hunting days
			999	Not stated
			000-	
			998	
			bbb	Blank
		517-519	K	Yukon hunting days
			999	Not stated
			000-	
			998	
			bbb	Blank
		520-522	L	NWT hunting days
			999	Not stated
			000-	
			998	
			bbb	
		523-525	M	Outside Canada hunting days
			999	Not stated
			000-	
			998	
			bbb	



<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
126	3	526-528 DVHUNTING DV35	B	Added total hunting days
			999	Not stated
			000-	
			998	Total hunting days
			bbb	Blank
127	5	529-533 DVHUNTING DV36	C	Total Transportation hunting
			99999	Not stated
			00000-	
			99998	Dollars
			bbbbbb	Blank
128	4	534-537 DVHUNTING DV37	D	Largest single entry-transportation
			9999	Not stated
			0000	
			9998	Dollars
			bbbb	Blank
129	5	538-542 DVHUNTING DV38	E	Total accomodation hunting
			99999	Not stated
			00000-	
			99998	Dollars
			bbbbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
130	4	543-546 DVHUNTING DV39	F	Largest single entry-accomodation
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank
131	5	547-551 DVHUNTING DV40	G	Total food hunting
			99999	Not stated
			00000-	
			99998	Dollars
			bbbbb	Blank
132	4	552-555 DVHUNTING DV41	H	Largest single entry food
			9999	Not stated
			0000-	
			9998	Dollars
			bbbb	Blank
133	6	556-561 DVHUNTING DV42	I	Total equipment hunting
			999999	Not stated
			000000-	
			999998	Dollars
			bbbbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
134	5	562-566 DVHUNTING DV43	J	Largest single entry equipment
			99999	Not stated
			00000-	
			99998	Dollars
			bbbbbb	Blank
135	5	567-571 DVHUNTING DV44	K	Total other hems hunting
			99999	Not stated
			00000-	
			99998	Dollars
			bbbbbb	
136	4	572-575 DVHUNTING DV45	L	Largest single entry other items
			9999	Not stated
			0000-	
			9998	Dollars
			b00bb	Blank
137	6	576-581 DVHUNTING DV46	M	Total expenditure hunting
			999999	Not stated
			000001-	
			999998	Dollars
			bbbbbbb	Blank

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
138	1	582	DV47	Any participant (one of sections BCCD)
			1	Yes
			2	No
139	7	583-589	DV48	Total wildlife expenditure
			0000000-	
			9999998	Dollars
			0000000	Blank or not stated
140	1	590	DV49	Any expenditure
			1	Yes
			2	No
141	4	591-594	DV50	Total surplus \$
			0001-	
			9998	Dollars
			bbbb	Blank or not stated
142	1	595	DV51	Any surplus
			1	Yes
			2	No

<u>Field</u>	<u>Size</u>	<u>Position</u>	<u>Code</u>	<u>Title</u>
143	3	596-598	DV52	Total wildlife days (added from different sections days overlap)
			001-	
			998	Days
			bbb	Blank or not stated
	2	599-600	Filler	

## APPENDIX C.

### ACCESS TO SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS (SVWC) DATA

The data from the Survey on the Value of Wildlife to Canadians (SVWC) are accessible in three ways. Two of them have already been described in Appendix B, namely via the "SPSS (X) system file" and the "Micro-data tape". The third manner consists of contracting the Special Surveys Division of Statistics Canada to generate custom tables on specific topics in the SVWC. There are two potential advantages in doing so. On the one hand the Special Surveys Division may be able to provide a greater amount of demographic information than it could in the sources covered in Appendix B, because of constraints imposed by the need to protect respondents' confidentiality. On the other hand the Special Surveys Division will be able to calculate exact estimates of the coefficient of variation resulting in unrestricted release of a greater number of findings from the SVWC.

For further information on these matters you should contact:

Special Surveys Division  
Tunney's Pasture  
Ottawa, Ontario  
K1A 0T6

Telephone: 613-990-9478



**APPENDIX D.**

TOOLS OF THE SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS (SVWC)





CODE SHEET

Household Record Docket (Form 03)

- 8
- 1 Single Detached
  - 2 Double
  - 3 Row or Terrace
  - 4 Duplex
  - 5 Apartment, Flat
  - 6 Institution
  - 7 Hotel or Large Lodging House
  - 8 Camp - Logging, Construction, etc.
  - 9 Mobile Home
  - 0 Other - Specify in NOTES

- 34
- M Male
  - F Female

- 35
- What is . . . . . marital status?  
(Read categories to respondent)
- 1 Now married or living common-law
  - 2 Single (never married)
  - 3 Widow or widower
  - 4 Separated or divorced

- 36
- A Assign one letter to all household members related to the head of a family by one of the relationships listed in Item 37.  
(‘A’ for each member of the first family, ‘B’ for each member of the second family, etc.)

- 37
- Each different letter used in Item 36 requires a different ‘Head of Family’ in Item 37.
- 1 Head of family
  - 2 Spouse
  - 3 Son or daughter (natural, adopted, or step)
  - 4 Grandchild
  - 5 Son-in-law or daughter-in-law
  - 6 Foster child (less than age 18)
  - 7 Parent
  - 8 Parent-in-law
  - 9 Brother or sister
  - 0 Other relative - Specify in NOTES
- Unrelated roomers, boarders and friends require a separate family identifier in Item 36.

- 38
- (Read questions to respondent)
- Column 1: How many years of primary and secondary education has . . . . . completed?
- 0 No schooling
  - 1 1 to 8 years of primary and secondary education
  - 2 9 or 10 years of primary and secondary education
  - 3 11 years of primary and secondary education
  - 4 12 years of primary and secondary education
  - 5 13 years of primary and secondary education
- Column 2: A. Has. . . . . taken any post-secondary education?
- 0 No (No post-secondary education)
  - Yes → B. Did this education normally require high school graduation?
  - 0 No (No post-secondary education)
  - Yes → C. Did. . . . . receive a degree, certificate, or diploma?
  - 1 No (Took some post-secondary education)
  - 2 Yes (Received a post-secondary certificate or diploma)
  - 3 Yes (Received a university degree)

- 40
- 0 Not a household member this month
  - 1 Civilian household member this month
  - 2 Full-time member of Canadian Armed Forces this month

- FIRST CODE: Entered by interviewer
- NOTE: for any code other than X, explain situation on appropriate form(s) . . . FORMS
- X LFS questionnaire completed for all eligible household members 22
  - E LFS questionnaire completed for some (not all) eligible household members 15/22
  - N No-one at home (after several calls) 15/22
  - R Household refusal 15/22
  - K Interview prevented by death, sickness, language problem or other unusual circumstances in the household 15/22
  - L Interview prevented by weather conditions 15/22
  - T Household temporarily absent 15/22
  - V Vacant dwelling (or trailer stall) 22
  - S Vacant seasonal dwelling 22
  - C Dwelling under construction 22
  - B Dwelling occupied by persons not to be interviewed 15/22
  - D Dwelling demolished; converted to business premises; moved; abandoned (unfit for habitation); listed in error 12/22
  - A Interview cancelled for lack of an interviewer (Entered by Regional Office only)

- 41
- SECOND CODE: Entered by Regional Office only
- Blank interview or attempt to interview again
- 3 Do not interview unless there is a complete change in household membership
  - 4 Attempt to interview again. A letter was sent
  - 5 Attempt to interview again. Personal contact made by Regional Office staff

- ACTION CODES FOR CLUSTER LIST (FORM 02)
- 1 ADDITION, i.e., new listing line
  - 2 CORRECTION, i.e., to the original listing line
  - 3 CHANGE IN STATUS, i.e., should be deleted from the list

USING TEMPORARY DOCKET NUMBERS

T    [ ]    [ ]    [ ]    A

Always start with ‘T’ for Temporary      Use the last 4 digits of your assignment number      ‘A’ for the first additional dwelling, ‘B’ for the second, ‘C’ for the third, etc.

ROTATION

JAN 01	1	JUL 07
FEB 02	2	AUG 08
MAR 03	3	SEP 09
APR 04	4	OCT 10
MAY 05	5	NOV 11
JUN 06	6	DEC 12







Statistics  
Canada

Statistique  
Canada

Procedures Manual

Manuel des procédures

# SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS

# ENQUÊTE SUR L'IMPORTANCE DE LA FAUNE AUX YEUX DES CANADIENS





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Introduction	1	Introduction
Timetable	1	Calendrier
Supplies to Regional Office	3	Fournitures au bureau régional
Supplies to Interviewers	3	Fournitures aux interviewers
Control of Returns	4	Contrôle des questionnaires retournés
First Follow-up	4	Premier rappel
Second Follow-up	5	Deuxième rappel
Transmittal of F07 Copies	6	Envoi des copies des F07
Transmittal to Head Office	6	Envoi au bureau central

SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS

REGIONAL OFFICE PROCEDURES MANUAL

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The February 1982 Wildlife Survey is being conducted by Statistics Canada on behalf of the Canadian Wildlife Service of Environment Canada. The major objective of this survey is to collect information of watching, feeding, attracting, photographing and hunting wildlife and what these activities contributed to the Canadian economy in 1981.

INTRODUCTION  
AND GENERAL  
COMMENTS

At the time of the LFS Interview, for those assignments that are personal visit assignments, the interviewer should leave a Form 06 for each household member, 15 years of age and over, for whom a Form 05 was completed.

At this time, in that assignment that was designated as a drop-off/pick-up assignment, the interviewer should arrange a mutually convenient time during the following week to pick up the household's questionnaires. There will be no further follow-up procedure for respondents in this assignment.

In all other assignments involved, the Wildlife Survey will be introduced at the time of the LFS interview. The F06 questionnaires should be mailed out or dropped off in sufficient quantities for the household members, 15 years of age and over for whom a F05 was completed. In the case of large households in telephone assignments, more than one 9½" x 15" envelope may be required. With each questionnaire enclose a postage-paid envelope, pre-addressed to the Regional Office, for each respondent to mail back his/her completed questionnaire. The envelope containing the questionnaire(s) should be addressed to the household member who responded to the January LFS.

Interviewers should use the postage cost guide in their manual to ensure sufficient postage is affixed to the envelopes in which they mail the questionnaires out to the respondent.

Receipt of supplies in the Regional Office - February 1.

TIMETABLE

Survey Week - interviewers drop-off or mail-out the Wildlife Survey Questionnaires - February 22-27.

Interviewers return copy 2 of the F07 for Regional Office control of questionnaires mailed back by respondents as soon as completed - no later than February 27.

Control and identification of returned questionnaires in the Regional Office - To start no sooner than March 4 (upon the arrival of Head Office personnel).

Pick-up of F06 questionnaires from respondents in drop-off/pick-up assignment as per arrangement made in previous week by interviewer - March 1-5.

Transmittal of all completed questionnaires and FORMS 07 in drop-off/pick-up assignments as soon as the assignment is completed - No later than March 6.

Preparation of first reminder letter to respondents for whom completed questionnaire not yet received - March 8.

Mail-out from Regional Office of first follow-up reminder letter - March 9 (Excluding drop-off/pick up assignment).

Control and identification of questionnaires returned after first follow-up reminder letter sent - March 10 up to and including the morning of March 18.

Interviewer notified by telephone of all respondents (excluding those in drop-off/pick-up assignment) for whom a questionnaire has not been received - afternoon of March 18 through March 19.

A second follow-up/reminder will be made by interviewers during March LFS week (March 22 to 27) for households in Rotation Groups 1, 4, 5, and 6 (excluding those in drop-off/pick-up assignment) for whom completed questionnaires have not been received. March 22-27.

A second follow-up reminder letter to be mailed from the Regional Office to respondents in Rotation Group 3 (excluding those in drop-off/pick-up assignment) who have not returned their questionnaires - March 22 and 23.

Interviewers send all unused supplies to the Regional Office - March 29.

Cut-off of control of returns in the Regional Office - April 2.

Transmittal of all completed questionnaires and originals of FORMS 07 - March 27

1. Information Manual
2. Regional Office Procedures Manual
3. List of Interviewers Assignments
4. Interviewers Manual and Interviewer Manual "B"
5. Interviewer Control Forms FO7 and FO7B
6. Wildlife Survey Questionnaires (FO6)
7. First follow-up reminder letter. Second follow-up reminder letter for rotates-out (Rotation Group 3).
8. Extra copies of blank FO6s for use in follow-up procedure for the rotates-out (to be kept in the Regional Office).

SUPPLIES TO THE  
REGIONAL OFFICE

Each interviewer selected to interview for the Wildlife Survey should receive the following supplies:

SUPPLIES TO  
INTERVIEWERS

1. Interviewer Manual - for mail-out/drop-off/mail-back households.

OR

Interviewer Manual B - for drop-off/pick up households.

2. Interviewer Control Form FO7 or FO7B (depending on assignment type) in sufficient quantities to list all dwellings in the assignment.
3. The Wildlife Survey Questionnaires FO6; four questionnaires (English and/or French) for each household in the assignment, plus a few extra copies of each language.
4. Postage paid 9½" x 15" envelopes, pre-addressed to the Statistics Canada Regional Office. Envelopes will be used for respondents to return completed questionnaires. One envelope per questionnaire plus a few extras should be supplied.
5. Blank 9½" x 15" envelopes which interviewers (with telephone assignments) are to use to mail questionnaires to the households. Approximately two for each dwelling in the assignment.



6. Sufficient postage stamps (first class) for their assignment. Upon receipt of the survey materials in the Regional Office, the list of supplies should be verified to ensure that all the necessary supplies have been received.

SAMPLE

IN SOME CASES, ASSIGNMENTS ORIGINALLY SELECTED FOR THE WILDLIFE SURVEY MAY HAVE BEEN SPLIT. IN THESE CASES THE SPLIT ASSIGNMENTS SHOULD BE REPLACED BY AN ASSIGNMENT OF THE SAME TYPE, i.e. SRU OR NSRU. IF INSUFFICIENT SPARES ARE AVAILABLE, HEAD OFFICES SHOULD BE NOTIFIED AT ONCE. THESE SPARES ARE ONLY TO BE USED IF THE ORIGINALLY SELECTED ASSIGNMENT IS SPLIT. THE WILDLIFE SURVEY WILL APPLY ONLY TO THOSE HOUSEHOLDS IN ROTATION GROUPS 1, 3, 4, 5 AND 6.

NOTE

Interviewers will complete the FO7 in two copies. They will keep the original and send the copy to the Regional Office by March 1. During the period March 1 through March 31, the control clerk(s) will identify all FO6s which have been received.

CONTROL OF  
RETURNS IN THE  
REGIONAL OFFICE

The control clerk(s) will check the returns for each household member by Page/Line Number and Given Name on the FO7. For each document received, the clerk(s) will place a check mark (✓) in the column on the FO7 identifying individuals who have returned their questionnaire on or before March 5.

On March 8, the control clerk(s) will identify, from the FO7, all individuals who have not returned their questionnaire. The control clerk(s) will enter the date March 8 on the FO7 and prepare the first reminder letter to be mailed to the household March 9.

FIRST FOLLOW-UP  
REMINDER

A copy of the first follow-up letter should have been received in your Regional Office. The letter should be reproduced onto your Statistics Canada letterhead and signed by the Regional Director.

PREPARATION OF  
FIRST FOLLOW-UP  
LETTER

Using the mailing address which the interviewer will have determined at the time of the interview, send the first follow-up letter to:

NAME OF HOUSEHOLD MEMBER LISTED ON FO7 MAILING  
ADDRESS

Form 06 questionnaires received after the first follow-up must be accounted for the FO7 by checking appropriate Page/Line Number in the column headed "FO6 RECEIVED AFTER REMINDER SENT".

The second follow-up will be made by the interviewer during the March LFS interview week for all respondents for whom a completed questionnaire has not been received by March 18, in Rotation Groups 1, 4, 5 and 6.

SECOND FOLLOW-UP

On March 18 (p.m.) and 19, the control clerk(s) will telephone the interviewers to notify them of respondents who have not mailed back their questionnaires. The interviewer will record on his/her copy of the FO7, in the column headed "DATE REFERRED TO INTERVIEWER FOR FOLLOW-UP", by Page/Line Number and Given Name, those respondents he/she will remind to complete their questionnaires during the March Labour Force Survey week.

METHOD OF SECOND FOLLOW-UP FOR ROTATION GROUPS 1, 4, 5, & 6

Respondents in Rotation Group 3, i.e. those respondents who have rotated out of the sample (in both telephone and personal interview assignments) who have not completed and returned their questionnaires will not be followed up with a second reminder from the interviewer because they will have rotated out of the sample in March.

EXCLUSION

Respondents in Rotation Group 3 who have not returned their questionnaires by March 18 will be sent a second follow-up letter, replacement questionnaires and postage-paid, pre-addressed envelopes by the Regional Office clerk. The second follow-up letter will be mailed March 22 and 23.

FOLLOW-UP PROCEDURES FOR RESPONDENTS IN ROTATION GROUP 3

Using the mailing address from the FO7:

1. Address one 9½" x 15" blank envelope to the households in Rotation Group 3 who have not returned their questionnaires.
2. Complete the identification on the extra FO6s (which were kept in the Regional Offices) for each household member in Rotation Group 3 who has not returned a completed questionnaire.
3. Place the second reminder letter in the envelope with the replacement questionnaire and pre-addressed, 9½" x 15" postage-paid envelope.
4. Using the postage guide below mail the envelope to the Household. Ensure that you use sufficient postage:



1	envelope containing 1 questionnaire and 1 reply envelope =	\$ 0.60
1	" " 2 questionnaires and 2 " envelopes =	\$ 0.80
1	" " 3 " " 3 " " =	\$ 0.80
1	" " 4 " " 4 " " =	\$ 1.00
1	" " 5 " " 5 " " =	\$ 1.20

All documents mailed to the Regional Office as a result of the second follow-up will be accounted for by the Regional Office control clerk. The questionnaires returned after the second follow-up will be identified on the FO7 by placing a check mark (✓) in the column headed "FO6 RECEIVED AFTER INTERVIEWER FOLLOW-UP". Questionnaires received from respondents in both telephone and personal interview assignments in Rotation Group 3 who were followed up by the second letter from the Regional Office will require a check mark (✓) and the number 2 inserted beside this check mark in the column headed "FO6 RECEIVED AFTER INTERVIEWER FOLLOW-UP".

CONTROL OF  
SECOND FOLLOW-  
UP

Control of returns of questionnaires will cease April 2.

A copy of each FO7 should be received in the Regional Office by March 2 or 3.

TRANSMITTAL OF  
COPIES OF FO7A

All other supplies will be retained by the interviewer until the end of Labour Force Survey week in March and forwarded to the Regional Office by no later than March 27.

TRANSMITTAL TO  
HEAD OFFICE

Form 06's and 07's should be placed together in assignments. FO6's should be placed in the order in which they appear on the FO7's. Forward the completed FO6's and FO7's, in one shipment, on ~~April 2~~ to:

May 15

A. Burell  
Special Surveys Co-ordination Group  
Section C-3, 3rd Floor  
Jean Talon Building  
Tunney's Pasture  
Ottawa, Ontario  
K1A 0T6

CONTROL OF RETURNS IN REGIONAL OFFICE - FO7

STEP 1

By March 1, you will receive a copy of the Form 07 from the interviewers involved in the Wildlife Survey. The FO7 will have been completed by the interviewer, as shown below.



Statistics Canada Statistique Canada

SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS  
ENQUÊTE SUR L'IMPORTANCE DE LA FAUNE AUX YEUX DES CANADIENS  
INTERVIEWER CONTROL FORM  
FORMULE DE CONTRÔLE DE L'INTERVIEWER

Form 07  
Formula  
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INTERVIEWER DATA - DONNÉES SUR L'INTERVIEWER

Name - Nom: JONES Agency Number - N° de l'agence: 22205 Regional Office - Bureau régional: HALIFAX

HOUSEHOLD DATA - DONNÉES SUR LE MENAGE

Display Number - N° de l'échantillon: 027432 PSL - CPE: 24523 Group - Groupe: 04 Cluster - Classe: 354 Replicate - N° de répétition: 5 Line - Numéro de ligne: 291

Household non-interviewed for IEPA  
Vous n'avez pas interviewé le ménage pour l'IEPA

Sumami - Nom de famille: BROWN Telephone Number - N° de téléphone: 9024291110

Listing Address - Adresse de liste: 1371 ST. REMI  
HALIFAX N.S.  
B3K 1W7

Mailing Address - Adresse postale: \_\_\_\_\_

Drop-off Mail-out Date  
Date de livraison à l'envoi par la poste: 230282

HRD page line No N° de page ligne du DNI	Given Name Prénom	Refused IIS Refus de l'IIS	Refused IEPA Refus de l'IEPA	Date Follow-up Reminded mailed Date de mise à la poste de la lettre de rappel	Date returned to interviewer Date de retour après l'envoi d'une lettre de rappel	Date referred to interviewer Date de renvoi à l'interviewer	Date Follow-up by interviewer Date du suivi par l'interviewer	Interviewer Follow-up Suivi par l'interviewer	Interviewer Follow-up Suivi par l'interviewer
(N)	(N)	(N)	(N)	(D/M/Y)	(N)	(D/M/Y)	(D/M/Y)	(N)	(N)
11	PETER		✓						
12	MARY		✓						
13	JOHN			✓	MAR 9	✓			
14	ROBERT			✓		✓			
15	MARCIA			✓		✓	MAR 19		

HRD page line No / N° de page ligne du DNI

COMMENTS - COMMENTAIRES

STEP 2

On February 25, Peter and Mary Brown mail back their completed Wildlife Survey questionnaires. The Regional Office receives them on March 1. You will indicate that these questionnaires have been returned by entering a check mark (✓) beside Peter's and Mary's name and page/line number in the column headed "FO6 received in RO without reminder".



Statistics Canada - Statistique Canada

SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS  
ENQUÊTE SUR L'IMPORTANCE DE LA FAUNE AUX YEUX DES CANADIENS  
INTERVIEWER CONTROL FORM  
FORMULE DE CONTRÔLE DE L'INTERVIEWER

Form 07  
Enquête  
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de

INTERVIEWER DATA - DONNÉES SUR L'INTERVIEWER

Name - Nom: JONES Assignment Number - N° de la liste: 22205 Regional Office - Bureau régional: HALIFAX

HOUSEHOLD DATA - DONNÉES SUR LE MÉNAGE

Docket Number - N° du dossier: 027432 PSL - LPE: 24523 Group - Groupe: 04 Cluster - Groupe: 354 Station - N° de recensement: 5 Listing - N° de liste: 291 Household non-interviewed LFS:  Non-entrevue du ménage pour LFS PA

Surname - Nom de famille: BROWN Telephone Number - N° de téléphone: 9024291110 CODI:

Listing Address - Adresse de liste: 1371 ST. REMI HALIFAX N.S. B3K 1W7 Mailing Address - Adresse postale: \_\_\_\_\_ Drop-off Mail-out Date - Date de livraison l'envoi par la poste: D / M / A: 23 / 02 / 82

HRD page-line no N° de page-ligne du DM	Given Name Prénom	Revised LFS	FO6 received in RO without reminder	Date Follow-up Reminder mailed	FO6 received in RO with reminder	Date returned to interviewer for follow-up	Date Follow-up to Interviewer	FO6 received after interview	FO6 received after interview
		(N)	(N)	D/M/Y A	(N)	D/M/Y A	D/M/Y A	(N)	(N)
11	PETER		✓						
12	MARY		✓						
13	JOHN			✓	HM 9	✓			
14	ROBERT			✓		✓			
15	MARCIA			✓					

HRD page-line no / N° de page-ligne du DM: \_\_\_\_\_

COMMENTS - COMMENTAIRES: \_\_\_\_\_

STEP 3

On March 8, you will review all F07's to identify those respondents who have NOT returned their completed F06 questionnaires. In the case of the Brown household, you will notice that HRD page/line numbers 13, 14 and 15 have not mailed back their questionnaires. You will prepare a reminder letter to the household, to be mailed out March 9. You will indicate a check mark (✓) and the date beside John, Robert and Marcia's name and HRD page/line number in the column "Date Follow-up Reminder Mailed".



Statistics Canada Statistique Canada

SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS  
ENQUÊTE SUR L'IMPORTANCE DE LA FAUNE AUX YEUX DES CANADIENS

INTERVIEWER CONTROL FORM

FORMULE DE CONTRÔLE DE L'INTERVIEWER

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INTERVIEWER DATA - DONNÉES SUR L'INTERVIEWER

Name - Nom: JONES  
 Address Number - N° de l'adresse: 22205  
 Regional Office - Bureau régional: HALIFAX

HOUSEHOLD DATA - DONNÉES SUR LE MÉNAGE

Display Number - N° de dossier: 027432  
 PSL - LPI: 24523  
 Group - Groupe: 04  
 Cluster - Groupe: 354  
 Rotation - N° de rotation: 5  
 Listing - N° de liste: 291  
 Household non-interviewed for F05 - Non interviewé du ménage pour l'F05

Surname - Nom de famille: BROWN  
 Telephone Number - N° de téléphone: 9024291110  
 CODI: \_\_\_\_\_  
 (From Item 41 on F03 - Poste 41 de la Formule 03)

Listing Address - Adresse de liste: 1371 ST REMI  
 HALIFAX N.S.  
 B3K 1W7  
 Mailing Address - Adresse postale: \_\_\_\_\_  
 Drop-off Mail-out Date - Date de livraison l'envoi par la poste: 230282

HRD page-line No - N° de page ligne du DM	Given name - Prénom	Refused F06 - Refus de l'F06	F06 received in mail without reminder - F06 reçu en mail sans envoi d'une lettre de rappel	Date Follow-up Reminder mailed - Date de mise à la poste de la lettre de rappel	F06 received in mail with reminder - F06 reçu en mail avec lettre de rappel	Date returned to interviewer for follow-up - Date de retour à l'intervieweur pour le suivi	Date Follow-up by interviewer - Date du suivi par l'intervieweur	F06 received after follow-up - F06 reçu après le suivi	F06 copies kept by interviewer - F06 conservés par l'intervieweur	F06 Not returned in mail - F06 non retournés en mail	F06 Not returned in mail (if applicable, check box) - F06 non retournés en mail (à remplir, cocher la case)
		(N)	(N)	D/M/Y	(N)	D/M/Y	D/M/Y	(N)	(N)	(N)	(N)
11	PETER		✓								
12	MARY		✓								
13	JOHN			✓ MAR 9	✓						
14	ROBERT			✓ "	✓						
15	MARCIA			✓ -		✓ MAR 19		✓			

HRD page-line No - N° de page ligne du DM

COMMENTS - COMMENTAIRES



STEP 4

Between March 10 and March 18, you will control and identify, on the F07, returns that have been made as a result of the first reminder letter. John and Robert have completed and returned their questionnaires as a result of this letter. You indicate this by entering a check mark (✓) beside their name and HRD page/line number in the column "F06 received after reminder sent".



Statistics Canada Statistique Canada

SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS  
ENQUÊTE SUR L'IMPORTANCE DE LA FAUNE AUX YEUX DES CANADIENS

INTERVIEWER CONTROL FORM  
FORMULE DE CONTRÔLE DE L'INTERVIEWER

Form 07  
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INTERVIEWER DATA - DONNÉES SUR L'INTERVIEWER

Name - Nom: JONES Association Number - N° de l'association: 22205 Regional Office - Bureau régional: HALIFAX

HOUSEHOLD DATA - DONNÉES SUR LE MÉNAGE

Doc. No. Number - N° de dossier: 027432 PSL - LPE: 24523 Group - Groupe: 04 Cluster - Groupe: 354 Region - N° de région: 5 Listing - N° de liste: 291 Household non-interviewed for LFS:  Non interviewé du ménage pour l'EPA

Surname - Nom de famille: BROWN Telephone Number - N° de téléphone: 9024291110 CODI:  (From Item 41 on F03 - Poste 41 de la Formulaire 03)

Listing Address - Adresse de liste: 1371 ST. REMI Mailing Address - Adresse postale: \_\_\_\_\_  
HALIFAX N.S.  
B3K 1W7

Drop-off Mail-out Date: \_\_\_\_\_  
Date de livraison l'envoi par la poste: \_\_\_\_\_  
D / J / M / A: 230282

HRD page-line No N° de page ligne du DV	Given Name Prénom	Refused LFS	F06 received in HRD without a reminder letter	Date Follow-up Reminder mailed	F06 received after reminder sent	Date referred to interviewer for follow-up	Date Follow-up by interviewer	F06 received after interviewer follow-up	F06 received after interviewer follow-up	F06 received after interviewer follow-up
		(✓)	(✓)	D/J/M/Y/A	(✓)	D/J/M/Y/A	D/J/M/Y/A	(✓)	(✓)	
11	PETER		✓							
12	MARY		✓							
13	JOHN									
14	ROBERT									
15	MARCIA									

HRD page-line No: \_\_\_\_\_

NO de page ligne du DV: \_\_\_\_\_

COMMENTS - COMMENTAIRES

STEP 5

On March 19, you telephone the interviewer (Jones) to notify her that the questionnaire for HRD page/line number 15 (Marcia) has not been received. Indicate this by entering a check mark (✓) and the date beside Marcia's name in the column "Date referred to Interviewer for Follow-up".



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SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS  
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INTERVIEWER DATA - DONNÉES SUR L'INTERVIEWER

Name - Nom: JONES  
Assignment Number - N° de liste: 22205  
Regional Office - Bureau régional: HALIFAX

HOUSEHOLD DATA - DONNÉES SUR LE MÉNAGE

Dist. Acc. Number - N° de dossier: 027432  
PSI - LPE: 24523  
Group - Groupe: 04  
Cluster - Groupe: 354  
Rotation - N° de rotation: 5  
Listing - N° de liste: 291  
Household non-interviewed for LIS: Non interviewé du ménage pour LISPA  
CODI: [ ]  
Surname - Nom de famille: BROWN  
Telephone Number - N° de téléphone: 9024291110  
Listing Address - Adresse de liste: 1371 ST. REMI HALIFAX N.S. B3K 1W7  
Mailing Address - Adresse postale: [ ]  
Drop-off/Mail-out Date: 230282  
Date de livraison/Envoi par la poste: D / J / A

HRD page/line no N° de page/ligne du DM	Given Name Prénom	Refused LIS Refus de LISPA	LIS received in HRD LISPA reçu en dossier	Date Follow-up Rappel Date de mise à la poste de la lettre de rappel	LIS received plus reminded visit LISPA reçu plus l'intervention de rappel	Date referred to interviewer for Follow-up Date de renvoi à l'interviewer pour le suivi	Date Follow-up by interviewer Date du suivi par l'interviewer	LIS received after interviewer follow-up LISPA reçu après le suivi par l'interviewer	LIS received in LISPA LISPA reçu en LISPA	LIS received in LISPA (if applicable) LISPA reçu en LISPA (si applicable)
		(✓)	(✓)	D/J/M/Y-A	(✓)	D/J/M/Y-A	D/J/M/Y-A	(✓)	(✓)	(✓)
11	PETER									
12	MARY									
13	JOHN									
14	ROBERT									
15	MARCIA									

HRD page/line no / N° de page/ligne du DM

COMMENTS - COMMENTAIRES



STEP 6

At the time of the March LFS interview, the interviewer will inquire as to whether Marcia has mailed her completed questionnaire. She will indicate her follow-up by entering a check mark (✓) and the date beside Marcia's name in the column "Date Follow-up by Interviewer".

On March 29, you receive Marcia's completed F06 as a result of the interviewer's follow-up. You indicate this by placing a check mark (✓) beside Marcia's name in the column headed "F06 received after Interviewer Follow-up".



Statistics Canada Statistique Canada

SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS  
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INTERVIEWER DATA - DONNÉES SUR L'INTERVIEWER

Name - Nom: JONES Agency Number - No de bureau: 22205 Regional Office - Bureau régional: HALIFAX

HOUSEHOLD DATA - DONNÉES SUR LE MÉNAGE

Doc# Number - No du dossier: 027432 PSI - LPE: 24529 Group - Groupe: 04 Cluster - Groupe: 354 Reason - No de raisons: 5 Listing - No de liste: 291 Household non-interviewed for LFS: Non interviewé du ménage pour LFS

Surname - Nom de famille: BROWN Telephone Number - No de téléphone: 9024291110 CODI: \_\_\_\_\_

Listing Address - Adresse de liste: 1371 ST. REMI HALIFAX N.S. B3K 1W7 Mailing Address - Adresse postale: \_\_\_\_\_

Drop-off Mail-out Date: 230282

HRD page-line No No de page ligne du DM	Given Name Prénom	Refus de LFS Refus de LFS	F06 received after interview F06 reçue après l'interview	Date Follow-up Reminded mailed Date de mise à la poste de la lettre de rappel	F06 received after interviewer's visit F06 reçue après l'arrivée d'un courrier de rappel	Date referred to interviewer for Follow-up Date de renvoi à l'interviewer pour le suivi	Date Follow-up by Interviewer Date du suivi par l'interviewer	F06 received after interviewer's follow-up F06 reçue après le suivi par l'interviewer	F06 received after interviewer's follow-up F06 reçue après le suivi par l'interviewer
		(✓)	(✓)	D/J/M/Y A	(✓)	D/J/M/Y A	D/J/M/Y A	(✓)	(✓)
11	PETER		✓						
12	MARY		✓						
13	JOHN			MAR 9					
14	ROBERT								
15	MARCIA								

HRD page-line No / No de page ligne du DM: \_\_\_\_\_

COMMENTS - COMMENTAIRES: \_\_\_\_\_

### ROTATION GROUP 3

In the case of households in Rotation Group 3 (rotate out), you will follow the same procedure as in Steps 1, 2 and 3. However, if the FO6's have not been received by March 17, you will not refer these cases to the interviewer for follow-up since these households will not be in the LFS in March. You will send these households the second reminder letter on March 22 and 23.

In cases where the interviewer has a drop-off/pick-up assignment, control procedures will be handled by the interviewer, using a Form 07B. The FO7Bs and FO6s for these assignments will be forwarded to the Regional Office by the interviewers.

In cases where the FO6s are completed at the time of the February drop-off, the interviewer will check the column "FO6 received in RO without reminder", and will return the completed questionnaires with the copy of the FO7s to the Regional Office when his assignment is completed (by February 27).

Dear Householder:

As a participant in the February Labour Force Survey conducted by Statistics Canada, your household received one or more supplementary questionnaires pertaining to the value of wildlife to Canadians. To date, our records indicate that some or all of the questionnaires for your household have not been returned.

The participation of the members of your household in this survey is important. We ask that all questionnaires for your household be completed and mailed in the postage-paid return envelopes no later than March 16, 1982.

We remind you that all replies to the questions will be held in confidence and used only for purposes of statistical analysis. We wish to emphasize that identifiable information about individuals will not be released to anyone, including other government departments.

If all of the questionnaires received by your household are already in the mail, we would like to take this opportunity to thank you for your co-operation. If you have not yet mailed your completed questionnaires, we urge you to do so at your earliest possible convenience.

D4.           Second Reminder Letter

Dear Householder:

As a participant in the February Labour Force Survey conducted by Statistics Canada, you and your household received one or more supplementary questionnaires pertaining to the value of wildlife to Canadians. As of March 19th, our records indicated that all the questionnaires for your household had not yet been returned. At that time, we sent a letter to you urging your co-operation.

Our records indicate that you still have not completed and returned your questionnaire. If you or other members of your household have not yet returned your completed questionnaires, please do so as soon as possible.

In the event that you may have lost one or more questionnaires and/or the postage-paid, pre-addressed envelopes, we are enclosing additional copies of both.

If all of the questionnaires received by your household are already in the mail, we would like to take this opportunity to thank you for your co-operation.





Statistics  
Canada

Statistique  
Canada

**Interviewer's Manual**

**Manuel de l'interviewer**

**SURVEY ON THE  
VALUE OF WILDLIFE  
TO CANADIANS**

**ENQUÊTE SUR  
L'IMPORTANCE DE LA  
FAUNE AUX YEUX  
DES CANADIENS**





TABLE DES MATIÈRES	PAGE	CONTENTS
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Préparer les F07	3	Preparation of F07
Présentation de l'enquête sur la faune	4	Introduction of Wildlife Survey
Changements de la composition du ménage	4	Changes in Household Membership
Non-interview du ménage pour l'EPA	6	Household Non-interview for the Labour Force Survey
Interview EPA partielle	6	Partial Interview for LFS
Non-interview pour l'enquête sur la faune seulement	6	Non-interview for the Wildlife Survey only
Envoi au bureau régional	7	Transmittal to Regional Office
Formule 07 remplie	9	Completed Form 07
Le questionnaire	10	The Questionnaire

# SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS

## INTERVIEWER'S MANUAL

Information collected from this survey will be used to provide estimates of the value of wildlife to Canadians. The major objective of the survey is to collect information with which to assess the monetary value of watching, feeding, attracting, photographing and hunting wildlife and what these activities contributed to the Canadian economy in 1981. In addition, it is hoped that the information provided by respondents will permit an assessment of how important wildlife is to Canadians. The survey is being sponsored by the Canadian Wildlife Service of Environment Canada, Canada's provincial wildlife agencies, and several citizens' groups.

OBJECTIVES,  
SPONSOR and  
GENERAL COMMENTS

The Wildlife Survey applies to every person 15 years of age or over, for whom a Form 05 is completed, in households in Rotation Groups 1, 3, 4, 5 and 6.

THE SAMPLE

You should have received the following supplies for the Wildlife Survey. Please check this list carefully to ensure that you have all of the survey materials you require.

SUPPLIES

1. Interviewer's Manual.
2. Interviewer Control Form 07.

You should have sufficient quantities to list all dwellings in Rotation Groups 1, 3, 4, 5 and 6 of your assignment.

3. Wildlife Survey Questionnaires Forms 06

The Form 06 is designed to be mailed out in telephone interviews and dropped off at the time of the personal interview for the respondents to complete themselves. The answers to the questions require only a check (✓) in the appropriate circles or an entry in the appropriate box 

1	2	3	4
---	---	---	---

. A Form 06 should be dropped off or mailed to every eligible household member.

4. Envelopes (9½" x 15") blank

Postage-paid and pre-addressed to the Regional Office. These envelopes are to be used by respondents to mail back their questionnaires.

5. Envelopes (9½" x 15") blank

These envelopes are for telephone interviews only. They are to be used to mail the Wildlife Survey Questionnaires to households where the interview is conducted over the telephone.

6. Postage Stamps

Your Regional Office will provide you with a supply of postage stamps to use with the blank 9½" x 15" envelopes. Use enough stamps to ensure that each blank envelope containing questionnaires and reply envelopes that you mail out to your respondents has enough first-class postage affixed. A chart showing the first class rates required for the different possible combinations of questionnaires and reply envelopes is provided following. Please make sure that sufficient first-class postage is affixed to all materials that you send out to your respondents.

1	envelope	containing	1	questionnaire	and	1	reply	envelope	=	\$0.60
1	"	"	2	questionnaires	and	2	reply	envelopes	=	0.80
1	"	"	3	"	"	3	"	"	=	0.80
1	"	"	4	"	"	4	"	"	=	1.00
1	"	"	5	"	"	5	"	"	=	1.20

BEFORE SURVEY WEEK

PROCEDURES

Step 1 - Copy Items 2, 4, 31 and 32 from the Household Record Docket (Form 03) into the corresponding boxes on the supplementary questionnaire Form 06 for every household member, 15 years of age and over, for whom a Form 05 is pre-printed.

PREPARATION OF FORMS 06

Ensure that the respondent's name is entered in pencil on the F06 questionnaire so that he/she may erase it, if he/she wishes, upon completion of the questionnaire. If a respondent asks why the name is required, explain that it is necessary in order to ensure proper distribution of questionnaires to respondents.

Step 2 - Enter the telephone number of your Regional Office in the space provided in the text of the introductory message to respondents. The Regional Office telephone number

is to be provided so that those respondents wishing to receive a French questionnaire may do so by contacting your Regional Office at the number listed below:

St. John's	<u>709-737-4646</u>	Toronto	<u>416-996-6104</u>
Halifax	<u>902-426-6212</u>	Winnipeg	<u>204-949-2029</u>
Montréal	<u>514-283-4092</u>	Edmonton	<u>403-420-3023</u>
Ottawa	<u>613-998-8855</u>	Vancouver	<u>604-666-3553</u>

Step 3 - Place a postage-paid pre-addressed envelope (folded in half) inside the front cover of each F06.

Step 4 - As you prepare the Wildlife Survey Questionnaires (F06's), prepare an Interviewer Control Form (F07) for that household. This form will be used for control purposes, as well as for a record of the Wildlife Survey questionnaire status for every eligible household member. PREPARATION OF FORM 07

Enter the Interviewer Data as well as all available Household Data in the spaces provided on the F07. In the spaces provided, copy the HRD Page/Line Number and Given Name of every household member for whom you have prepared a Wildlife Survey questionnaire, in the same order as listed on the F03.

Number the Interviewer Control Form (F07) in the space provided at the top of the form. For example, for the fifth household in the assignment of 20 households, the F07 would be numbered "Page 5 of 20". If more than one F07 is required for a household, give all forms for that household the same number and identify the first page as "a", the second page as "b", and so on for as many additional pages as required. For example, if the ninth of 35 households required two F07's, the forms would be numbered as "Page 9a of 35" and "Page 9b of 35".

Place the prepared Wildlife Survey questionnaires (F06) and the Interviewer Control Form (F07) behind the last Form 05 for the household Record Docket (Form 03).



AT THE TIME OF THE LFS INTERVIEW

INTRODUCTION OF  
WILDLIFE SURVEY

Step 1 - After the last Form 05 is completed for the household, introduce the Wildlife Survey.

In the case of telephone assignments explain that you will be mailing the questionnaires for all household members 15 years of age and over to complete.

REMEMBER THAT YOU MUST GET THE RESPONDENT'S MAILING ADDRESS IF THERE IS ANY DOUBT ABOUT USING THE LISTING ADDRESS AS A PROPER MAILING ADDRESS.

NOTE

If, at the time of the LFS interview, you find that the household membership has changed, i.e. it now has a new member, or no longer has a former member, proceed as follows:

CHANGES IN  
HOUSEHOLD  
MEMBERSHIP

NEW MEMBER

Prepare a Form 06 for each new eligible member of the household (as described on Page 2 of this manual).

Add the new Page/Line Number and Given Name of the new eligible member to the F07 prepared for the household.

NO LONGER A MEMBER

Cancel the prepared F06 for the person who is no longer a member of the household (as described on Page 6 of this manual).

Delete the individual's Page/Line Number and Given Name from the F07 prepared for the household.

COMPLETE CHANGE IN HOUSEHOLD MEMBERSHIP

Cancel all F06's and the F07 that you prepared for the former household. Prepare a new F06 for each eligible member of the new household, as well as a new F07. Use the same page number on the new F07 as you used for the former household. For example, if the cancelled F07 was Page 7 of 24, the new F07 will also be numbered as Page 7 of 24.

- Step 2 - Determine if the Listing Address you have entered on the FORM 07 is a proper mailing address.

Example:

1140 Fisher Avenue  
Apartment 907, Ottawa, Ont.  
K1A 2J4

If the Listing Address is not a proper mailing address or you are unsure, you will have to ask the respondent for his/her mailing address.

For example:

2 STY CLAPBRD CRPRT AT RIGHT

This is not a proper mailing address. You would have to determine from the respondent his/her mailing address at the time you introduce the Wildlife Survey. In the case above, the mailing address would be:

RR No. 1,  
Winchester, Ontario  
K3B 1W2

BE SURE TO ENTER THE RESPONDENT'S CORRECT MAILING ADDRESS ON THE FORM 07 AT THE TIME OF THE LFS INTERVIEW.

NOTE

IT IS VERY IMPORTANT THAT THE MAILING ADDRESS IS ENTERED CORRECTLY ON THE FORM 07, AS IT WILL BE REQUIRED TO MONITOR RETURNS IN THE REGIONAL OFFICE, AND, IF NECESSARY, TO MAIL OUT A REMINDER LETTER.

- Step 3 - In the case of telephone assignments, copy the name of the respondent to whom you have introduced the survey on one or more blank 9½" x 15" envelopes (as required). Enter the mailing address on the envelope, affix sufficient postage and mail the questionnaires at the end of the day or the next morning. The amount of postage required is shown on Page 2 of the manual.

MAIL-OUT OF  
QUESTIONNAIRES  
AND ENVELOPES

FOR HOUSEHOLDS WHERE YOU WILL BE SENDING OUT MORE THAN 5 QUESTIONNAIRES AND RETURN ENVELOPES, USE A SEPARATE BLANK 9½" x 15" ENVELOPE FOR EVERY 5 SETS OF QUESTIONNAIRES AND RETURN ENVELOPES.

NOTE



Step 4 - During February Survey Week, return a copy of your completed F07 to the Regional Office on a daily basis. Make sure that copies of all F07's are mailed to the Regional Office no later than February 27. FORMS 07

For households where it is impossible to obtain a Labour Force Survey interview for reasons of refusal, temporarily absent, no one at home, vacant, etc., record the reason in the space headed "HOUSEHOLD NON-INTERVIEW FOR LFS" on the F07. This entry should agree with the non-response code (Item 41) on the Household Record Docket. HOUSEHOLD NON-INTERVIEW FOR LFS

In the event that you have a non-interview household for the LFS, draw a line across the front page of the F06 questionnaires prepared for all members of this household. Return any cancelled F06 to the Regional Office with a copy of the F07 by the end of February LFS week. Be sure to record the correct code for the LFS non-interview in the space provided on the F07. CANCELLATION OF PREPARED F06

A partial interview for the LFS will require a reason in the "COMMENTS" section for each eligible member of the household for whom a F05 was not completed. In such cases the F06's will be cancelled (as per instructions). PARTIAL INTERVIEW FOR LFS

For households where the LFS was obtained, but the Wildlife Survey was refused by some, or all, household members, you must document this fact on the F07. Place a check mark (✓) in the column headed "F06 NON-INTERVIEW" beside the appropriate Given Name and Page/Line Number. Explain the reason for each refusal beside the appropriate Page/Line Number in the "COMMENTS" section of the F07. Cancel any prepared F06's. NON-INTERVIEW FOR WILDLIFE SURVEY ONLY

IT IS IMPORTANT THAT YOU RECORD THE REASONS FOR ALL NON-INTERVIEWS AS ACCURATELY AND COMPLETELY AS POSSIBLE. NOTE

RETAIN ALL UNUSED COPIES OF F06, ENVELOPES, ETC., UNTIL AFTER THE MARCH LABOUR FORCE SURVEY. THESE MAY BE REQUIRED FOR FOLLOW-UPS.

#### AT THE TIME OF THE MARCH LFS

The copy of the Form 07 which you returned to the Regional Office will be used to control and monitor mail-back returns.

Step 1 - By March 19, the Regional Office control clerk will notify you of respondents in Rotation Groups 1, 4, 5 and 6 for whom completed questionnaires have not been received. Identify these respondents on your copy of the FORM 07 by entering a check mark (✓) opposite the respondent's Page/Line Number and Given Name in the column "DATE REFERRED TO INTERVIEWER FOR FOLLOW-UP" and enter the date. Respondents in Rotation Group 3 who have not returned their completed questionnaires will be handled by the Regional Office (because they have rotated out of the Sample).

Step 2 - Before each interview for the March LFS, check the Form 07 to determine if any respondents in the household must be reminded to mail in their questionnaire. In these households, inquire whether the respondents in question have mailed their completed questionnaire. If they have not, request that they do so as soon as possible.

During the follow-up in the March LFS week, you may find respondents who have not returned their questionnaire because they have lost or misplaced it.

EXTRA COPIES  
FORMS 06,  
ENVELOPES,  
POSTAGE STAMPS

In the case of personal visits, bring a few extra questionnaires (FORM 06). Prepare the FORMS 06 as described on Page 2 of this manual. Leave the questionnaire(s) with the household, along with one (1) pre-addressed, postage-paid envelope per questionnaire. Ask the respondent to complete the FORM 06 as soon as possible and return by mail in the envelope(s) provided.

In the case of a telephone assignment, inform the respondent that you will send questionnaires to replace those lost or misplaced. Complete the identification of the FORM(S) 06 as described on Page 2 of this manual. Ask respondents to return their completed questionnaires as soon as possible. Include one return envelope for each questionnaire you send to the household. Enclose the questionnaire(s) and return envelope(s) in a 9½" x 15" envelope addressed to the individual in the household who was respondent for this month's Labour Force Survey. Mail the envelope at the end of the day; be sure to use sufficient postage.

At the end of the March Labour Force Survey, in one shipment, send your Regional Office:

TRANSMITTAL TO  
REGIONAL OFFICE

- the original FORMS 07;

- any FORMS 06 completed or received during the March Labour Force Survey;
- the extra envelopes and postage stamps;
- any extra FORMS 06.

The parcel should be identified "WILDLIFE SURVEY".

In this example, the interviewer, Mrs. Sewchuck, copied all of the necessary data from the F03 before February Survey Week. Since the Listing Address appeared to be a proper mailing address, she did not ask for the address at the time of the February LFS. Mrs. Sewchuck interviewed Mary Keats by telephone, introduced the Wildlife Survey and mailed the questionnaires and return envelopes (addressed to Mary Keats). On March 18, the Control Clerk at the Regional Office notified the interviewer that no questionnaires had been received from the Keats household. Mrs. Sewchuck entered a check mark and the date beside each given name for that household in the column headed "Date referred to Interviewer for Follow-up" on the F07. At the time of the March LFS, Mrs. Sewchuck reminded the household to complete and mail back the questionnaires. She entered the date of this reminder in the column headed "Date Follow-up by Interviewer" beside the given name and page/line number of each member of that household.



Statistics Canada - Statistique Canada

SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS  
ENQUÊTE SUR L'IMPORTANCE DE LA FAUNE AUX YEUX DES CANADIENS  
INTERVIEWER CONTROL FORM  
FORMULE DE CONTRÔLE DE L'INTERVIEWER

Form 07  
Formulaire 07  
Page 4 of 27  
de

INTERVIEWER DATA - DONNÉES SUR L'INTERVIEWER

Name - Nom: SEWCHUCK Assignment Number - N° de liste: 23205 Regional Office - Bureau régional: WINNIPEG

HOUSEHOLD DATA - DONNÉES SUR LE MENAGE

Dist. - Numéro: 657923 PS1 - 65345 Group - Groupe: 07 Cluster - Groupe: 354 Rotation - N° de rendez: 5 Listing - N° de liste: 272

Surname - Nom de famille: KEATS Telephone Number - N° de téléphone: 2049472137

Listing Address - Adresse de liste: 273 OAK BAY  
WINNIPEG MAN  
R4C LK3

Mailing Address - Adresse postale: \_\_\_\_\_

Drop-off/Mail-out Date  
Date de livraison/Envoi par le poste: 230282

Household non interview for LFS - Non interviewé de ménage pour l'EPA  
CODI   
(From Item 41 on F03 - Poste 41 de la Formulaire 03)

HRD page line No N° de page ligne de DM	Given Name Personne	Reached LFS Rég. de l'ÉPA	Reached LFS Rég. de l'ÉPA	Date Follow-up Reminder mailed Date de mise à la poste de la lettre de rappel	Date referred to Interviewer for Follow-up Date de rendez-vous pour l'interview	Date referred to Interviewer for Follow-up Date de rendez-vous pour l'interview	Date Follow-up by Interviewer Date de suivi par l'intervieweur	Date referred to Interviewer for Follow-up Date de rendez-vous pour l'interview	Date referred to Interviewer for Follow-up Date de rendez-vous pour l'interview
		(✓)	(✓)	D / M / Y - A	(✓)	D / M / Y - A	D / M / Y - A	(✓)	(✓)
11	ROBERT					18-3-82	23-3-82		
12	MARY								
13	STEVEN								
14	ANN								

HRD page line No: \_\_\_\_\_  
N° de page ligne de DM: \_\_\_\_\_

COMMENTS / REMARQUES: \_\_\_\_\_



## THE QUESTIONNAIRE

This section of the manual deals with a brief description of the survey and some notes on some of the more complex questions. Since we expect respondents to complete the questionnaire on their own, we hope there are very few questions which will prove problematic for the respondent. You may, during the March LFS, have to "follow-up" some respondents who have not completed their documents. At this time there is the possibility you may be asked questions about the survey. This section of the manual will hopefully aid in answering any such questions.

The Value of Wildlife Survey questionnaire is made up of four (4) sections. All questions for the survey deal with the year 1981. Everyone is to answer the first twenty questions which ask the respondent to provide information about some very general aspects of wildlife activities, memberships in wildlife organizations and opinions about wildlife maintenance.

The second major section of the document deals with wildlife activities around the respondent's home or cottage during 1981. The questions are about watching, feeding, attracting and photographing wildlife.

The third section deals with outings or trips the respondent may have taken in order to watch, feed, photograph wildlife or chance encounters the respondent may have had with wildlife while participating in some outdoor activity.

The fourth section of the questionnaire deals with hunting wildlife in 1981. The questions relate to the number of days spent hunting and the amount spent while hunting. The questions are asked for 4 wildlife families.

### Question 10

Respondent is to check "yes" or "no" depending whether he/she took part in any of the activities listing during 1981.

### Question 11

This item is intended to measure respondents interest in taking part in any of the activities listed. If the respondent currently participates or has participated they should indicate their interest in continuing to participate.

### Questions 12 and 13

Ask respondents about memberships, donations and costs for belonging to or contributing to wildlife organizations in 1981.

### Questions 14 and 15

Ask whether the respondent maintained property for providing food or shelter for wildlife. The respondent should not include, for example, his/her cottage. An example of improvement or provision of a natural area for wildlife would be to maintain or add to an area certain types of plants for the purpose of feeding or sheltering wildlife.

### Questions 16 and 17

These two questions are opinion type questions. Sixteen requires respondents to define how important having an abundance of wildlife is to them. Seventeen requires the respondent to define how important it is to preserve wildlife that are endangered. The respondent is to check only one category.

### Questions 18 to 21

These questions involve reporting on wildlife activities around the home or cottage. The questions concern participation in watching, feeding, attracting and photographing wildlife. The respondent is to report if he/she participated in any of the activities during 1981 and is to indicate in which activities they participated.

### Question 19

This item requires that the respondent indicate how many different days he/she participated in these wildlife activities around his/her residence or cottage in 1981. If the respondent can't remember exactly how many days, he/she should make an approximation. The number indicated should be the total days of participation in 1981.



#### Question 20

Refers to the amount of money the respondent spent participating in wildlife activities around his/her residence or cottage in 1981. The amount reported for this question should be respondent's own out of pocket expenses. The respondent should not include expenses that he or she did not actually make themselves. If a respondent shared the cost for participation in any of these activities the cost reported should not be total but only the respondent's share.

#### Question 21

This item is intended to provide a measure of the surplus value associated with the enjoyment the respondent received from these wildlife activities. The intent of the question is to determine if the respondent would have participated in these same activities around the home in 1981 if his/her costs had been more.

#### Questions 22 to 28

Questions 22 to 28 ask respondents for details concerning trips which the respondent may have taken during 1981, primarily to watch, feed, photograph or study wildlife. The questions request the respondent to indicate, by province, the number of days they spent watching, feeding or photographing birds, mammals and all other types of wildlife.

Trips or outings for the purpose of this survey may be very short day trips. They may also include a "side" trip taken as part of a vacation trip or a business trip for which one of the reasons for taking the trip was to watch, feed or photograph wildlife. In the case of trips or outings where one of the reasons for taking the trip was to watch, feed or photograph, the start point or origin of the trip is not necessarily the respondent's residence. The origin may be a camp-site, the home of friends or relatives, etc.

#### Question 26

This question concerns monies spent during 1981 on trips or outings taken primarily to watch, feed, photograph or study wildlife. Note the trip does not have to begin from home.

Expenses reported here should be personal expenses only. If certain items were purchased jointly or expenses shared, the respondent should include only his/her share of the expense if expenditures reported should be for all of 1981 for all outings or trips.

#### Questions 27 and 28

The 2 final questions in this section ask the respondent to first decide, if his costs had been more for the year 1981, would he/she have participated in these outings or trips. If yes, the respondent is asked to decide how much more he/she would have spent by indicating the appropriate range.

#### Questions 29 to 34

These items deal with wildlife encounters that occurred during other outings or trips. The primary purpose or intent of the trip was not to watch, feed, photograph or study wildlife but these activities occurred during the outing or trip. The questions ask the respondent to provide information on types of activities, types of wildlife encountered and number of different days the activities occurred.

#### Questions 33 and 34

Ask about how much extra money these wildlife related trips cost and what effect encountering wildlife had on the outing or trip.

#### Question 35 to 77

The fourth section of the questionnaire deals with hunting during 1981. Those persons who hunted during 1981 are asked questions about their hunting activities for four wildlife families. The questions asked about hunting each of these wildlife families are essentially the same. The four wildlife families are waterfowl, other birds, small mammals and large mammals. The respondent should answer the questions only for the wildlife families he/she hunted in 1981.

The respondent should include only his/her out of pocket expenses. If the respondent shared the cost of some hunting activity he/she should only report his or her portion of the costs. The respondent should include the cost of any item used for more than 1 type of hunting only once. If the respondent is unsure about the cost of a particular item or component he or she should make an approximation of the cost. Costs are divided into 5 components: transportation, accommodation, food, equipment and ammunition and other items. Definitions of what should be included should be consulted prior to attempting to answer the questions.

D6.

"Pre-test Debriefing Instructions"

SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS

PRE-TEST DEBRIEFING INSTRUCTIONS

These instructions are intended to aid you in obtaining the best results from the Wildlife Survey pre-test debriefing of respondents.

We will use this information in making a decision about the potential success of a full-scale Wildlife Survey.

When speaking with respondents during the debriefing session, try to encourage a dialogue with the respondent using the questions provided with these instructions. Record all comments made by the respondent.

These instructions are to be used by:

- (a) those Senior Interviewers who will be telephoning selected dwellings where the respondents were to have returned their questionnaires by mail;
- (b) those Interviewers who were to personally pick up the respondents questionnaires.

In order to realistically evaluate the success of the pre-test, we need to be able to answer two basic questions:

1. In those households where the respondents did not complete their questionnaires, why didn't they?
2. In those households where the respondents did complete the questionnaire, did they have any major problems completing the questionnaire?

INSTRUCTIONS TO SENIOR INTERVIEWERS

On August 27, 1981, your Regional Office will contact you and provide you with a list of the names and telephone numbers of 15 households in the mail-out/mail-back sample portion of the Wildlife Survey pre-test. You will be asked to complete a debriefing questionnaire for each household contacted. The information gathered will be used to evaluate the reaction of the respondents to this survey.

INSTRUCTIONS TO INTERVIEWERS WITH DROP-OFF/PICK-UP ASSIGNMENTS

When you return to pick up the Wildlife Survey questionnaires, quickly review the questionnaires, checking for completeness, following of skip patterns, etc. Fill out a debriefing questionnaire with the respondent from whom you pick up the questionnaires.



We are also interested in the comments of the other household members so, at the same time, ask the respondent if the other household respondents had any difficulties, comments, questions, etc., and make note of these on the same debriefing questionnaire. For example, ask the respondent: "Did you find the questionnaire easy to complete?", and make note of his/her answer. At the same time ask: "Did the other members of your household find the questionnaire easy to complete?" and make note of their comments, if any.



DEBRIEFING QUESTIONNAIRE

1981 SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS PRE-TEST

REGIONAL OFFICE \_\_\_\_\_

Completed by:

Senior Interviewer

Interviewer

F06 QUESTIONNAIRE

Questionnaire

1. Did you find the questionnaire easy to complete?

YES

NO (If NO, please explain)

---

---

---

---

---

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---

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2. Did you find the questionnaire attractive?

YES

NO (if NO, please explain)

---

---

---

---

---

---

---

---

3. Were the boxes provided for you to mark your answers large enough?

YES

NO

4. Do you feel that the illustrations added to the overall look of the questionnaire?

YES

NO

Questionnaire Content

1. Did you find any of the questions difficult to understand?

YES

NO

If yes, which ones \_\_\_\_\_

2. Were there any questions which you did not answer because you could not understand them?

YES

NO

If yes, which ones \_\_\_\_\_

3. Did you find the definitions provided easily understood?

YES

NO

If no, which ones were unclear? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Did you have any difficulty remembering any of your wildlife related activities and/or expenses for the previous year, i.e. 1980?

YES

NO

5. Did you find the questionnaire

TOO DETAILED

NOT DETAILED ENOUGH

Miscellaneous

1. Approximately how long did it take you to complete the questionnaire?

\_\_\_\_\_

2. If respondent did not complete the questionnaire, why didn't they?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Do you have any additional comments or suggestions on the questionnaire?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- D7. Pre-test Debriefing Agenda
  - (i) Introduction of Participants
  - (ii) General Overview of the Special Surveys Program
  - (iii) General Overview and History to Date of the Value of Wildlife Survey
    - Objectives of the Survey
    - Objectives of the Pre-test
    - Where we go now, what's next
  - (iv) Discussion of the Questionnaire
    - (a) Interviewers' General Comments and Impressions about the Survey
    - (b) Results of the Respondents Debriefing Questionnaire
    - (c) Specific Questions about the Questionnaire
  - (v) Interviews Manuals
  - (vi) Survey Procedures
  - (vii) Interviewer Control Forms
  - (viii) Summary and Recommendations

D8.

"Pre-test Questionnaire"



SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS

"Authority-Statistics Act, Chapter 18,  
Statutes of Canada 1970-71-72."

1.  Form No.    2.  Docket No.    3.  Survey Date    4.  Assignment No.    5.  HRD page-line No.

6.  Given name    7.  Surname

**Dear Respondent**

Thank you in advance for your cooperation in taking a few minutes to answer these questions on the value of wildlife in your day-to-day activities. Your answers to these questions combined with those of other Canadians will provide valuable insights into both the economic value of wildlife as well as the enjoyment Canadians derive from wildlife and wildlife-related activities. This survey is being conducted by Statistics Canada for the Canadian Wildlife Service of Environment Canada, Canada's provincial wildlife agencies and several citizens' groups. Your responses to this survey are strictly confidential.

*Aux francophones: Si ce questionnaire anglais vous a été posté par erreur et si vous désirez un questionnaire en français, veuillez appeler à frais virés \_\_\_\_\_. On vous postera un questionnaire dans la langue officielle de votre choix.*

**INSTRUCTIONS**

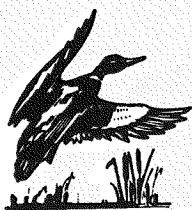
This questionnaire to be completed by \_\_\_\_\_

To answer the questions in this survey enter a check in the appropriate circle  or a number in the boxes provided . For example, the answer three would be answered as . Mark your answers clearly. For processing purposes, the questions start with number 10. When you have completed your questionnaire, please place it in the postage paid envelope provided and mail it no later than August 26, 1981.

**IMPORTANT DEFINITIONS**

Please read the following important definitions before you answer any questions.

**WILDLIFE:** Means wild animals, not pets or other domesticated animals. It includes waterfowl, other wild birds, small and large mammals and other wildlife in a natural environment. It does not include animals in zoos or game farms.



**WATERFOWL:** For example ducks, geese, coots, cranes.



**SMALL MAMMALS:** Includes small game and non-game species. For example, rabbits, squirrels, raccoons, foxes, groundhogs, beaver and other fur-bearers.



**OTHER BIRDS:** All other wild birds such as robins, sparrows, crows, pigeons, hawks, owls and up-land game birds such as grouse, partridge, pheasant ...



**LARGE MAMMALS:** Includes big game and non-game species. For example, deer, bears, moose, mountain sheep ...



**OTHER WILDLIFE:** Includes all remaining wildlife such as butterflies, frogs, snakes, lizards, but not fish.

**SPORT FISHING:** Please note that there are no questions about fishing since another survey is currently being conducted on sport fishing in Canada.







**C. OUTINGS OR TRIPS OF 1 MILE OR MORE TO WATCH, FEED OR PHOTOGRAPH WILDLIFE (EXCLUDE OUTINGS OR TRIPS FOR WHICH THE PURPOSE WAS TO VISIT A ZOO OR TO HUNT. HUNTING TRIPS SHOULD BE REPORTED IN THE SECTION FOR HUNTING.)**

Note: While on a vacation or other trips, you may take a number of "outings" or "side trips" to watch, feed or photograph wildlife. Include only the details of the "outings" or "side trips" below.

27. DURING 1980, DID YOU TAKE ANY OUTINGS OR TRIPS OF 1 MILE OR MORE, IN ORDER TO WATCH, FEED OR PHOTOGRAPH WILDLIFE?

Yes  No  Skip to question 42.

28. IN WHICH ACTIVITIES DID YOU PARTICIPATE ON THESE OUTINGS OR TRIPS? (Mark all that apply)

Watching  Feeding  Photographing

THE FOLLOWING QUESTIONS CONCERN DETAILS ABOUT OUTINGS OR TRIPS YOU TOOK IN 1980 TO WATCH, FEED OR PHOTOGRAPH:

(i) WATERFOWL AND OTHER BIRDS,  
(ii) LARGE AND SMALL MAMMALS, and  
(iii) OTHER WILDLIFE. } Refer to definitions on page 1.

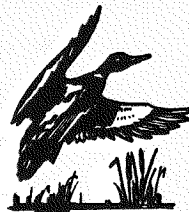
**(i) WATERFOWL AND OTHER BIRDS**

29. DURING 1980, DID YOU TAKE ANY OUTINGS OR TRIPS OF 1 MILE OR MORE, IN ORDER TO WATCH, FEED OR PHOTOGRAPH WATERFOWL OR OTHER BIRDS?

Yes  No  Skip to question 31.

30. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU WATCHED, FED OR PHOTOGRAPHED WATERFOWL OR OTHER BIRDS.

	Days		Days
Newfoundland	<input type="text"/>	Saskatchewan	<input type="text"/>
Prince Edward Island	<input type="text"/>	Alberta	<input type="text"/>
Nova Scotia	<input type="text"/>	British Columbia	<input type="text"/>
New Brunswick	<input type="text"/>	Yukon	<input type="text"/>
Quebec	<input type="text"/>	Northwest Territories	<input type="text"/>
Ontario	<input type="text"/>	Outside Canada	<input type="text"/>
Manitoba	<input type="text"/>		



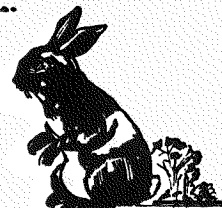
**(ii) LARGE AND SMALL MAMMALS**

31. DURING 1980, DID YOU TAKE ANY OUTINGS OR TRIPS OF 1 MILE OR MORE, IN ORDER TO WATCH, FEED OR PHOTOGRAPH MAMMALS?

Yes  No  Skip to question 33.

32. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU WATCHED, FED OR PHOTOGRAPHED LARGE OR SMALL MAMMALS.

	Days		Days
Newfoundland	<input type="text"/>	Saskatchewan	<input type="text"/>
Prince Edward Island	<input type="text"/>	Alberta	<input type="text"/>
Nova Scotia	<input type="text"/>	British Columbia	<input type="text"/>
New Brunswick	<input type="text"/>	Yukon	<input type="text"/>
Quebec	<input type="text"/>	Northwest Territories	<input type="text"/>
Ontario	<input type="text"/>	Outside Canada	<input type="text"/>
Manitoba	<input type="text"/>		



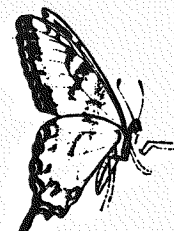
**(iii) ALL OTHER WILDLIFE**

33. DURING 1980, DID YOU TAKE ANY OUTINGS OR TRIPS OF 1 MILE OR MORE, IN ORDER TO WATCH, FEED OR PHOTOGRAPH OTHER WILDLIFE?

Yes  No  Skip to question 35.

34. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU WATCHED, FED OR PHOTOGRAPHED OTHER WILDLIFE.

	Days		Days
Newfoundland	<input type="text"/>	Saskatchewan	<input type="text"/>
Prince Edward Island	<input type="text"/>	Alberta	<input type="text"/>
Nova Scotia	<input type="text"/>	British Columbia	<input type="text"/>
New Brunswick	<input type="text"/>	Yukon	<input type="text"/>
Quebec	<input type="text"/>	Northwest Territories	<input type="text"/>
Ontario	<input type="text"/>	Outside Canada	<input type="text"/>
Manitoba	<input type="text"/>		



**EXPENSES FOR WILDLIFE RELATED OUTINGS OR TRIPS OF 1 MILE OR MORE IN 1980**

35. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO WATCH, FEED OR PHOTOGRAPH WILDLIFE? (Include costs for private vehicles, gas, oil, repairs, car rentals, buses, trains, planes, ferries)

\$         .00

36. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS WHILE WATCHING, FEEDING OR PHOTOGRAPHING WILDLIFE IN 1980? (Include campgrounds, cabins, lodges, motels)

\$         .00

37. HOW MUCH DID YOU SPEND ON FOOD WHILE WATCHING, FEEDING OR PHOTOGRAPHING WILDLIFE IN 1980? (Include groceries, meals, beverages)

\$         .00

38. IN 1980, HOW MUCH DID YOU SPEND ON PURCHASING EQUIPMENT USED PRIMARILY TO WATCH, FEED OR PHOTOGRAPH WILDLIFE? (Include cameras, camping gear, special clothing, binoculars, boats & motors, jeeps, trailers and accessories, recording equipment, snowmobiles, multiple terrain vehicles)

\$         .00

39. HOW MUCH DID YOU SPEND ON OTHER ITEMS USED TO WATCH, FEED OR PHOTOGRAPH WILDLIFE IN 1980? (Include food for wildlife, books, film, film processing, courses, equipment rentals & repairs)

\$         .00

40. CONSIDERING THE ENJOYMENT YOU GOT FROM WATCHING, FEEDING OR PHOTOGRAPHING WILDLIFE IN 1980 WOULD YOU HAVE MADE THESE OUTINGS OR TRIPS IF YOUR COSTS HAD BEEN MORE?

Yes  No  Skip to question 42.

41. WHAT IS THE MOST YOU WOULD HAVE SPENT BEFORE DECIDING NOT TO TAKE THESE OUTINGS OR TRIPS TO WATCH, FEED OR PHOTOGRAPH WILDLIFE?

- |  |  |
|--|--|
| \$ 1. to \$ 49. <input type="radio"/>  | \$200. to \$399. <input type="radio"/> |
| \$ 50. to \$ 99. <input type="radio"/> | \$400. to \$799. <input type="radio"/> |
| \$100. to \$199. <input type="radio"/> | \$800. or more. <input type="radio"/>  |



D. HUNTING

42. DURING 1980 DID YOU HUNT WILDLIFE?

Yes  Read definitions below and then answer question 44.

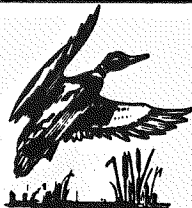
No

DEFINITIONS FOR QUESTIONS

TRANSPORTATION – Include costs to operate private vehicles, gas, oil, repairs, car rentals, planes, boats, etc.

ACCOMMODATIONS – Include cabins, lodges, motels and campgrounds.

FOOD – Include groceries, meals and beverages.



44. DURING 1980 DID YOU HUNT WATERFOWL?

Yes  No  Skip to question 54.

45. ENTER THE NUMBER OF DAYS BESIDE THE LOCATIONS WHERE YOU HUNTED WATERFOWL IN 1980.

	Days		Days
Newfoundland		Manitoba	
P.E.I.		Saskatchewan	
Nova Scotia		Alberta	
New Brunswick		British Columbia	
Quebec		Yukon	
Ontario		N.W.T.	
Location outside of Canada			

46. DID YOU BAG ANY WATERFOWL?

Yes  No

47. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO HUNT WATERFOWL IN 1980?

\$ .00

48. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS TO HUNT WATERFOWL IN 1980?

\$ .00

49. HOW MUCH DID YOU SPEND ON FOOD WHILE HUNTING WATERFOWL IN 1980?

\$ .00

50. IN 1980 HOW MUCH DID YOU SPEND ON EQUIPMENT USED PRIMARILY FOR HUNTING WATERFOWL?

\$ .00

51. HOW MUCH DID YOU SPEND ON OTHER ITEMS FOR HUNTING WATERFOWL IN 1980?

\$ .00

52. CONSIDERING THE ENJOYMENT YOU GOT FROM HUNTING WATERFOWL IN 1980, WOULD YOU HAVE GONE HUNTING IF YOUR COSTS HAD BEEN MORE?

Yes  No  Skip to question 54.

53. WHAT IS THE MOST YOU WOULD HAVE SPENT BEFORE DECIDING NOT TO HUNT WATERFOWL IN 1980?

\$ 1. to \$ 49.  \$200. to \$399.   
 \$ 50. to \$ 99.  \$400. to \$799.   
 \$100. to \$199.  \$800. or more.

Skip to question 54.



54. DURING 1980 DID YOU HUNT OTHER BIRDS?

Yes  No  Skip to question 64.

55. ENTER THE NUMBER OF DAYS BESIDE THE LOCATIONS WHERE YOU HUNTED OTHER BIRDS IN 1980.

	Days		Days
Newfoundland		Manitoba	
P.E.I.		Saskatchewan	
Nova Scotia		Alberta	
New Brunswick		British Columbia	
Quebec		Yukon	
Ontario		N.W.T.	
Location outside of Canada			

56. DID YOU BAG ANY OTHER BIRDS?

Yes  No

57. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO HUNT OTHER BIRDS IN 1980?

\$ .00

58. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS TO HUNT OTHER BIRDS IN 1980?

\$ .00

59. HOW MUCH DID YOU SPEND ON FOOD WHILE HUNTING OTHER BIRDS IN 1980?

\$ .00

60. IN 1980 HOW MUCH DID YOU SPEND ON EQUIPMENT USED PRIMARILY FOR HUNTING OTHER BIRDS?

\$ .00

61. HOW MUCH DID YOU SPEND ON OTHER ITEMS FOR HUNTING OTHER BIRDS IN 1980?

\$ .00

62. CONSIDERING THE ENJOYMENT YOU GOT FROM HUNTING OTHER BIRDS IN 1980, WOULD YOU HAVE GONE HUNTING IF YOUR COSTS HAD BEEN MORE?

Yes  No  Skip to question 64.

63. WHAT IS THE MOST YOU WOULD HAVE SPENT BEFORE DECIDING NOT TO HUNT OTHER BIRDS IN 1980?

\$ 1. to \$ 49.  \$200. to \$399.   
 \$ 50. to \$ 99.  \$400. to \$799.   
 \$100. to \$199.  \$800. or more.

Skip to question 64.

**WILDLIFE**

**43. HAVE YOU EVER HUNTED?**

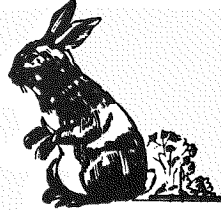
Yes  } Skip to question 84.  
No  }

**ON YOUR EXPENSES**

**EQUIPMENT** - Report that equipment which was purchased primarily for hunting. Include guns and accessories, game carriers, calls, dogs, decoys, camping gear, boats, trailers, snowmobiles, multiple terrain vehicles.

**OTHER ITEMS** - Include ammunition, books, guide fees, dog maintenance, equipment rentals and repairs.

**NOTE:** Include the costs for any of these items only once if they were used for more than one type of hunting in 1980.



**64. DURING 1980 DID YOU HUNT SMALL MAMMALS?**

Yes  No  Skip to question 74. →

**65. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU HUNTED SMALL MAMMALS IN 1980.**

	Days		Days
Newfoundland	<input type="text"/>	Manitoba	<input type="text"/>
P.E.I.	<input type="text"/>	Saskatchewan	<input type="text"/>
Nova Scotia	<input type="text"/>	Alberta	<input type="text"/>
New Brunswick	<input type="text"/>	British Columbia	<input type="text"/>
Quebec	<input type="text"/>	Yukon	<input type="text"/>
Ontario	<input type="text"/>	N.W.T.	<input type="text"/>
Location Outside of Canada	<input type="text"/>		

**66. DID YOU BAG ANY SMALL MAMMALS?**

Yes  No

**67. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO HUNT SMALL MAMMALS IN 1980?**

\$       .00

**68. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS TO HUNT SMALL MAMMALS IN 1980?**

\$       .00

**69. HOW MUCH DID YOU SPEND ON FOOD WHILE HUNTING SMALL MAMMALS IN 1980?**

\$       .00

**70. IN 1980 HOW MUCH DID YOU SPEND ON EQUIPMENT USED PRIMARILY FOR HUNTING SMALL MAMMALS?**

\$       .00

**71. HOW MUCH DID YOU SPEND ON OTHER ITEMS FOR HUNTING SMALL MAMMALS IN 1980?**

\$       .00

**72. CONSIDERING THE ENJOYMENT YOU GOT FROM HUNTING SMALL MAMMALS IN 1980, WOULD YOU HAVE GONE HUNTING IF YOUR COSTS HAD BEEN MORE?**

Yes  No  Skip to question 74.

**73. WHAT IS THE MOST YOU WOULD HAVE SPENT BEFORE DECIDING NOT TO HUNT SMALL MAMMALS IN 1980?**

- \$ 1. to \$ 49.  \$200. to \$399.
- \$ 50. to \$ 99.  \$400. to \$799.
- \$100. to \$199.  \$800. or more.

Skip to question 74.



**74. DURING 1980 DID YOU HUNT LARGE MAMMALS?**

Yes  No  Skip to question 84. →

**75. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU HUNTED LARGE MAMMALS IN 1980.**

	Days		Days
Newfoundland	<input type="text"/>	Manitoba	<input type="text"/>
P.E.I.	<input type="text"/>	Saskatchewan	<input type="text"/>
Nova Scotia	<input type="text"/>	Alberta	<input type="text"/>
New Brunswick	<input type="text"/>	British Columbia	<input type="text"/>
Quebec	<input type="text"/>	Yukon	<input type="text"/>
Ontario	<input type="text"/>	N.W.T.	<input type="text"/>
Location outside of Canada	<input type="text"/>		

**76. DID YOU BAG ANY LARGE MAMMALS?**

Yes  No

**77. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO HUNT LARGE MAMMALS IN 1980?**

\$       .00

**78. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS TO HUNT LARGE MAMMALS IN 1980?**

\$       .00

**79. HOW MUCH DID YOU SPEND ON FOOD WHILE HUNTING LARGE MAMMALS IN 1980?**

\$       .00

**80. IN 1980 HOW MUCH DID YOU SPEND ON EQUIPMENT USED PRIMARILY FOR HUNTING LARGE MAMMALS?**

\$       .00

**81. HOW MUCH DID YOU SPEND ON OTHER ITEMS FOR HUNTING LARGE MAMMALS IN 1980?**

\$       .00

**82. CONSIDERING THE ENJOYMENT YOU GOT FROM HUNTING LARGE MAMMALS IN 1980, WOULD YOU HAVE GONE HUNTING IF YOUR COSTS HAD BEEN MORE?**

Yes  No  Skip to question 84.

**83. WHAT IS THE MOST YOU WOULD HAVE SPENT BEFORE DECIDING NOT TO HUNT LARGE MAMMALS IN 1980?**

- \$ 1. to \$ 49.  \$200. to \$399.
- \$ 50. to \$ 99.  \$400. to \$799.
- \$100. to \$199.  \$800. or more.

Turn Page



**E. QUESTIONS ABOUT YOU**

84. SEX:

MALE

FEMALE

85. DATE OF BIRTH

Day

Month

Year

86. FOR THE YEAR 1980, IN WHICH OF THE FOLLOWING RANGES WAS YOUR TOTAL INCOME BEFORE TAXES AND DEDUCTIONS?  
(Include income from wages, salaries, tips, commissions, pensions, interest and rents, etc.)

Less than \$10,000

\$10,000 to \$14,999

\$15,000 to \$19,999

\$20,000 to \$24,999

\$25,000 to \$29,999

\$30,000 to \$34,999

\$35,000 and over

COMMENTS:



D9.

Questionnaire Used in 1981 Survey on the Value of Wildlife to  
Canadians .



## A. QUESTIONS ABOUT WILDLIFE IN GENERAL

10. DURING 1981 (JANUARY 1, 1981 TO DECEMBER 31, 1981) DID YOU TAKE PART IN ANY OF THE FOLLOWING ACTIVITIES?

	Yes	No
Read books, magazines or articles on wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○
Watch films or T.V. programs on wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○
Purchase art, crafts, posters of wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○
Visit a zoo, game farm, aquarium or museum of natural history . . . . .	<sup>1</sup> ○	<sup>2</sup> ○

11. FOR EACH ACTIVITY LISTED BELOW, CHECK THE CATEGORY THAT BEST DESCRIBES YOUR INTEREST IN PARTICIPATING. (If you have participated in any of these activities, please indicate your interest in continuing to take part in the activity)

	Great interest in participating	Some interest in participating	No interest in participating
Watching wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Feeding or attracting wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Collecting butterflies or other wildlife specimens . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Photographing, studying or recording wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Hunting wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Trapping for food or fur . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Observing, collecting or creating wildlife related art or literature . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Being a member of any wildlife related organization . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Contributing to an organization which protects endangered wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○
Contributing to an organization which maintains abundant wildlife . . . . .	<sup>1</sup> ○	<sup>2</sup> ○	<sup>3</sup> ○

12. DURING 1981, DID YOU BELONG OR CONTRIBUTE TO ANY WILDLIFE RELATED ORGANIZATION? (Naturalist, Conservation or Sportsmans' Clubs)

Yes <sup>1</sup>○
No <sup>2</sup>○ → Go to Question 14.

↓

13. IN 1981, HOW MUCH DID YOU SPEND ON YOUR MEMBERSHIP FEE(S) OR DONATION(S)?

Membership Fee(s)    \$  .00

Donation(s)            \$  .00

14. IN 1981, DID YOU MAINTAIN ANY NATURAL AREAS FOR WHICH PROVIDING FOOD OR SHELTER FOR WILDLIFE WAS AN IMPORTANT CONCERN? (By natural areas we mean wood lots, hedges, marshes, open fields or other natural areas)

Yes <sup>1</sup>○
No <sup>2</sup>○ → Go to Question 16.

↓

15. IN 1981, HOW MUCH DID YOU SPEND MAINTAINING THESE NATURAL AREAS FOR WILDLIFE? (Include costs for maintenance, improvement or purchase)

\$  .00



16. PRESENTLY, MOST TYPES OF WILDLIFE ARE ABUNDANT IN CANADA. HOW IMPORTANT IS IT TO YOU THAT THIS ABUNDANCE BE MAINTAINED?

- Very important <sup>1</sup>○ Fairly important <sup>2</sup>○ Of little importance <sup>3</sup>○ Of no importance <sup>4</sup>○ Don't know <sup>5</sup>○

17. PRESENTLY IN CANADA, SOME TYPES OF WILDLIFE ARE DECLINING IN NUMBER OR ARE ENDANGERED. HOW IMPORTANT IS IT TO YOU THAT THESE TYPES OF WILDLIFE BE PRESERVED?

- Very important <sup>1</sup>○ Fairly important <sup>2</sup>○ Of little importance <sup>3</sup>○ Of no importance <sup>4</sup>○ Don't know <sup>5</sup>○

## B. WILDLIFE ACTIVITIES AROUND YOUR RESIDENCE OR COTTAGE

18. IN 1981, IN WHICH OF THE FOLLOWING WILDLIFE ACTIVITIES DID YOU PARTICIPATE AROUND YOUR RESIDENCE OR COTTAGE? (Mark all that apply)

- Feeding wildlife with table scraps ..... <sup>1</sup>○  
 Purchasing or putting out special feed for wildlife ..... <sup>2</sup>○  
 Watching wildlife ..... <sup>3</sup>○  
 Studying and identifying different types of wildlife ..... <sup>4</sup>○  
 Maintaining plants or shrubs to provide food or shelter for wildlife ..... <sup>5</sup>○  
 Photographing wildlife ..... <sup>6</sup>○  
 None of the above <sup>7</sup>○ → Turn page and go to Question 22

19. IN 1981, ON HOW MANY DIFFERENT DAYS DID YOU PARTICIPATE IN THESE ACTIVITIES AROUND YOUR RESIDENCE OR COTTAGE?

- 1 to 9 days <sup>1</sup>○ 100 to 149 days <sup>5</sup>○  
 10 to 19 days <sup>2</sup>○ 150 to 199 days <sup>6</sup>○  
 20 to 49 days <sup>3</sup>○ 200 or more days <sup>7</sup>○  
 50 to 99 days <sup>4</sup>○

20. WHAT DID IT COST YOU TO PARTICIPATE IN THESE ACTIVITIES AROUND YOUR RESIDENCE OR COTTAGE IN 1981? (Include costs for feeders, food for wildlife, birdhouses, magazines, film, cameras used primarily for wildlife)

- Nothing <sup>1</sup>○ \$ 25 to \$ 49 <sup>5</sup>○  
 Under \$5 <sup>2</sup>○ \$ 50 to \$ 99 <sup>6</sup>○  
 \$ 5 to \$ 9 <sup>3</sup>○ \$100 to \$200 <sup>7</sup>○  
 \$10 to \$24 <sup>4</sup>○ Over \$200 <sup>8</sup>○

21. WOULD YOU STILL HAVE PARTICIPATED IN THESE ACTIVITIES AROUND YOUR RESIDENCE OR COTTAGE IF YOUR COSTS HAD BEEN MORE?

- Yes <sup>1</sup>○ No <sup>2</sup>○



## C. WILDLIFE ACTIVITIES AWAY FROM YOUR RESIDENCE OR COTTAGE

### OUTINGS OR TRIPS TAKEN PRIMARILY TO ENCOUNTER WILDLIFE

22. DURING 1981, DID YOU TAKE ANY OUTINGS (LESS THAN A DAY) OR TRIPS (MORE THAN A DAY) FOR WHICH THE *PRIMARY* PURPOSE WAS TO WATCH, FEED, PHOTOGRAPH OR STUDY WILDLIFE?

Yes <sup>1</sup>○

No <sup>2</sup>○ → Go to next page and answer Question 29



23. DURING THESE OUTINGS OR TRIPS, IN WHICH OF THE FOLLOWING ACTIVITIES DID YOU PARTICIPATE? (Mark all that apply)

Watching wildlife <sup>1</sup>○

Photographing wildlife <sup>3</sup>○

Feeding wildlife <sup>2</sup>○

Studying and identifying wildlife <sup>4</sup>○

24. WHICH OF THE FOLLOWING TYPES OF WILDLIFE DID YOU WATCH, FEED, PHOTOGRAPH OR STUDY? (Mark all that apply)

Waterfowl <sup>1</sup>○

Large mammals <sup>4</sup>○

Other birds <sup>2</sup>○

Other wildlife <sup>5</sup>○

Small mammals <sup>3</sup>○

25. ON HOW MANY DIFFERENT DAYS DID YOU WATCH, FEED, PHOTOGRAPH OR STUDY WILDLIFE WHILE ON THESE OUTINGS OR TRIPS? (Enter the number of days in the boxes beside the locations that apply)

	Days
Newfoundland	01 <input type="text"/>
Prince Edward Island	02 <input type="text"/>
Nova Scotia	03 <input type="text"/>
New Brunswick	04 <input type="text"/>
Quebec	05 <input type="text"/>
Ontario	06 <input type="text"/>
Manitoba	07 <input type="text"/>

	Days
Saskatchewan	08 <input type="text"/>
Alberta	09 <input type="text"/>
British Columbia	10 <input type="text"/>
Yukon	11 <input type="text"/>
Northwest Territories	12 <input type="text"/>
Outside Canada	13 <input type="text"/>

26. DURING THESE OUTINGS OR TRIPS, HOW MUCH DID YOU SPEND TO WATCH, FEED, PHOTOGRAPH OR STUDY WILDLIFE? (Enter expenditures in the boxes beside the categories that apply)

TRANSPORTATION (include gas, oil, car rentals, planes, buses, trains, ferries) . . . . .	\$ <input type="text"/>	.00
ACCOMMODATION (include campgrounds, lodges, motels) . . . . .	\$ <input type="text"/>	.00
FOOD (include groceries, meals, beverages) . . . . .	\$ <input type="text"/>	.00
EQUIPMENT used primarily for wildlife activities (include cameras, camping gear, binoculars, special clothing, recording equipment, boats & motors and other vehicles) . . . . .	\$ <input type="text"/>	.00
OTHER ITEMS (include feed for wildlife, books, film and film processing) . . . . .	\$ <input type="text"/>	.00



27. WOULD YOU STILL HAVE TAKEN THESE OUTINGS OR TRIPS IF YOUR COSTS HAD BEEN MORE?

Yes <sup>1</sup>○

No <sup>2</sup>○ → Go to Question 29.



28. HOW MUCH MORE WOULD YOU HAVE SPENT BEFORE DECIDING NOT TO TAKE THESE OUTINGS OR TRIPS IN 1981?

\$ 1 to \$ 19 <sup>1</sup>○

\$200 to \$299 <sup>5</sup>○

\$ 20 to \$ 49 <sup>2</sup>○

\$300 to \$399 <sup>6</sup>○

\$ 50 to \$ 99 <sup>3</sup>○

\$400 to \$599 <sup>7</sup>○

\$100 to \$199 <sup>4</sup>○

\$600 or more <sup>8</sup>○

**WILDLIFE ENCOUNTERS DURING OTHER OUTINGS OR TRIPS**

29. IN 1981, DID YOU WATCH, FEED, PHOTOGRAPH OR STUDY WILDLIFE DURING *OTHER* OUTINGS (for example hiking, picnics) OR TRIPS TAKEN FOR *OTHER* PURPOSES (for example vacation, business)?

Yes <sup>1</sup>○

No <sup>2</sup>○ → Turn page and go to Question 35.



30. WHILE ON THESE OTHER OUTINGS OR TRIPS, IN WHICH OF THE FOLLOWING ACTIVITIES DID YOU PARTICIPATE? (Mark all that apply)

Watching wildlife <sup>1</sup>○

Photographing wildlife <sup>3</sup>○

Feeding wildlife <sup>2</sup>○

Studying & identifying wildlife <sup>4</sup>○

31. WHILE ON THESE OTHER OUTINGS OR TRIPS, WHICH OF THE FOLLOWING TYPES OF WILDLIFE DID YOU WATCH, FEED, PHOTOGRAPH OR STUDY? (Mark all that apply)

Waterfowl <sup>1</sup>○

Large Mammals <sup>4</sup>○

Other Birds <sup>2</sup>○

Other Wildlife <sup>5</sup>○

Small Mammals <sup>3</sup>○

32. ON HOW MANY DIFFERENT DAYS DID YOU WATCH, FEED, PHOTOGRAPH OR STUDY WILDLIFE WHILE ON THESE OTHER OUTINGS OR TRIPS?

1 to 9 days <sup>1</sup>○

100 to 149 days <sup>5</sup>○

10 to 19 days <sup>2</sup>○

150 to 199 days <sup>6</sup>○

20 to 49 days <sup>3</sup>○

200 or more days <sup>7</sup>○

50 to 99 days <sup>4</sup>○

33. HOW MUCH EXTRA MONEY DID IT COST YOU TO WATCH, FEED, PHOTOGRAPH OR STUDY WILDLIFE WHILE ON THESE OTHER OUTINGS OR TRIPS?

Nothing <sup>1</sup>○

\$ 25 to \$ 49 <sup>5</sup>○

Under \$5 <sup>2</sup>○

\$ 50 to \$ 99 <sup>6</sup>○

\$ 5 to \$ 9 <sup>3</sup>○

\$100 to \$200 <sup>7</sup>○

\$10 to \$24 <sup>4</sup>○

Over \$200 <sup>8</sup>○

34. IN GENERAL, WHAT EFFECT DID ENCOUNTERING WILDLIFE HAVE ON THESE OTHER OUTINGS OR TRIPS?

Increased  
enjoyment  
Very much  
<sup>1</sup>○

Increased  
enjoyment  
somewhat  
<sup>2</sup>○

Made no  
difference  
<sup>3</sup>○

Decreased  
enjoyment  
somewhat  
<sup>4</sup>○

Decreased  
enjoyment  
Very much  
<sup>5</sup>○

## D. HUNTING WILDLIFE

35. HAVE YOU EVER HUNTED WILDLIFE?

Yes <sup>1</sup>

No <sup>2</sup>  → Go to Question 78.

36. DURING 1981, DID YOU HUNT WILDLIFE?

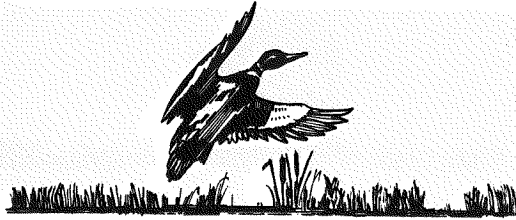
Yes <sup>1</sup>

No <sup>2</sup>  → Go to Question 78.

37. IN TOTAL, ON HOW MANY DIFFERENT DAYS DID YOU HUNT WILDLIFE IN 1981?

Days

→ Go to Question 38.



38. DURING 1981 DID YOU HUNT WATERFOWL?

Yes <sup>1</sup>

No <sup>2</sup>  → Go to Question 48.

39. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU HUNTED WATERFOWL IN 1981.

	Days		Days
Newfoundland	01 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	Saskatchewan	08 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
P.E.I.	02 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	Alberta	09 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
Nova Scotia	03 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	British Columbia	10 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
New Brunswick	04 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	Yukon	11 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
Quebec	05 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	N.W.T.	12 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
Ontario	06 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	Outside Canada	13 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
Manitoba	07 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>		

40. DID YOU BAG ANY WATERFOWL?

Yes <sup>1</sup>

No <sup>2</sup>

41. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO HUNT WATERFOWL IN 1981? (See definitions on page 7)

\$  .00

42. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS TO HUNT WATERFOWL IN 1981? (See definition)

\$  .00

43. HOW MUCH DID YOU SPEND ON FOOD WHILE HUNTING WATERFOWL IN 1981? (See definition)

\$  .00

44. IN 1981 HOW MUCH DID YOU SPEND ON EQUIPMENT USED PRIMARILY FOR HUNTING WATERFOWL? (See definition)

\$  .00

45. HOW MUCH DID YOU SPEND ON AMMUNITION, REPAIRS AND OTHER ITEMS FOR HUNTING WATERFOWL IN 1981? (See definition)

\$  .00

46. WOULD YOU STILL HAVE HUNTED WATERFOWL IF YOUR COSTS HAD BEEN MORE?

Yes <sup>1</sup>

No <sup>2</sup>  → Go to question 48.

47. HOW MUCH MORE WOULD YOU HAVE SPENT BEFORE DECIDING NOT TO HUNT WATERFOWL IN 1981?

\$ 1 to \$ 49 <sup>1</sup> <input type="radio"/>	\$200 to \$399 <sup>4</sup> <input type="radio"/>
\$ 50 to \$ 99 <sup>2</sup> <input type="radio"/>	\$400 to \$799 <sup>5</sup> <input type="radio"/>
\$100 to \$199 <sup>3</sup> <input type="radio"/>	\$800 or more <sup>6</sup> <input type="radio"/>

Go to question 48.



48. DURING 1981 DID YOU HUNT OTHER BIRDS?

Yes <sup>1</sup>

No <sup>2</sup>  → Go to question 58.

49. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU HUNTED OTHER BIRDS IN 1981.

	Days		Days
Newfoundland	01 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	Saskatchewan	08 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
P.E.I.	02 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	Alberta	09 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
Nova Scotia	03 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	British Columbia	10 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
New Brunswick	04 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	Yukon	11 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
Quebec	05 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	N.W.T.	12 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
Ontario	06 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	Outside Canada	13 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>
Manitoba	07 <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>		

50. DID YOU BAG ANY OTHER BIRDS?

Yes <sup>1</sup>

No <sup>2</sup>

51. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO HUNT OTHER BIRDS IN 1981? (See definitions on page 7)

\$  .00

52. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS TO HUNT OTHER BIRDS IN 1981? (See definition)

\$  .00

53. HOW MUCH DID YOU SPEND ON FOOD WHILE HUNTING OTHER BIRDS IN 1981? (See definition)

\$  .00

54. IN 1981 HOW MUCH DID YOU SPEND ON EQUIPMENT USED PRIMARILY FOR HUNTING OTHER BIRDS? (See definition)

\$  .00

55. HOW MUCH DID YOU SPEND ON AMMUNITION, REPAIRS AND OTHER ITEMS FOR HUNTING OTHER BIRDS IN 1981? (See definition)

\$  .00

56. WOULD YOU STILL HAVE HUNTED OTHER BIRDS IF YOUR COSTS HAD BEEN MORE?

Yes <sup>1</sup>

No <sup>2</sup>  → Go to question 58.

57. HOW MUCH MORE WOULD YOU HAVE SPENT BEFORE DECIDING NOT TO HUNT OTHER BIRDS IN 1981?

\$ 1 to \$ 49 <sup>1</sup> <input type="radio"/>	\$200 to \$399 <sup>4</sup> <input type="radio"/>
\$ 50 to \$ 99 <sup>2</sup> <input type="radio"/>	\$400 to \$799 <sup>5</sup> <input type="radio"/>
\$100 to \$199 <sup>3</sup> <input type="radio"/>	\$800 or more <sup>6</sup> <input type="radio"/>

Go to question 58.

**DEFINITIONS FOR QUESTIONS ON YOUR EXPENSES**

**NOTE:** Include the costs for any of these items only once if they were used for more than one type of hunting in 1981.

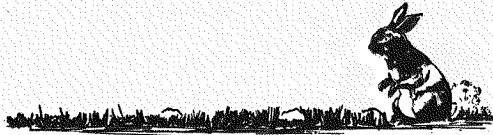
**TRANSPORTATION** — Include costs to operate private vehicles, gas, oil, car repairs, car rentals, planes, ferries . . .

**ACCOMMODATIONS** — Include cabins, lodges, motels and campgrounds . . .

**FOOD** — Include groceries, meals and beverages . . .

**EQUIPMENT** — Equipment which was purchased primarily for hunting. Include guns and accessories, game carriers, calls, dogs, decoys, camping gear, boats, trailers, snowmobiles, multiple terrain vehicles . . .

**OTHER ITEMS** — Include ammunition, books, guide fees, dog maintenance, equipment rentals and repairs . . .



58. DURING 1981 DID YOU HUNT SMALL MAMMALS?

Yes <sup>1</sup>  No <sup>2</sup>  → Go to question 68.

59. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU HUNTED SMALL MAMMALS IN 1981.

	Days		Days
Newfoundland	01 <input type="text"/>	Saskatchewan	08 <input type="text"/>
P.E.I.	02 <input type="text"/>	Alberta	09 <input type="text"/>
Nova Scotia	03 <input type="text"/>	British Columbia	10 <input type="text"/>
New Brunswick	04 <input type="text"/>	Yukon	11 <input type="text"/>
Quebec	05 <input type="text"/>	N.W.T.	12 <input type="text"/>
Ontario	06 <input type="text"/>		
Manitoba	07 <input type="text"/>	Outside Canada	13 <input type="text"/>

60. DID YOU BAG ANY SMALL MAMMALS?

Yes <sup>1</sup>  No <sup>2</sup>

61. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO HUNT SMALL MAMMALS IN 1981? (See definitions on page 7)

\$     .00

62. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS TO HUNT SMALL MAMMALS IN 1981? (See definition)

\$     .00

63. HOW MUCH DID YOU SPEND ON FOOD WHILE HUNTING SMALL MAMMALS IN 1981? (See definition)

\$     .00

64. IN 1981 HOW MUCH DID YOU SPEND ON EQUIPMENT USED PRIMARILY FOR HUNTING SMALL MAMMALS? (See definition)

\$     .00

65. HOW MUCH DID YOU SPEND ON AMMUNITION, REPAIRS AND OTHER ITEMS FOR HUNTING SMALL MAMMALS IN 1981? (See definition)

\$     .00

66. WOULD YOU STILL HAVE HUNTED SMALL MAMMALS IF YOUR COSTS HAD BEEN MORE?

Yes <sup>1</sup>  No <sup>2</sup>  Go to question 68.

67. HOW MUCH MORE WOULD YOU HAVE SPENT BEFORE DECIDING NOT TO HUNT SMALL MAMMALS IN 1981?

\$ 1 to \$ 49 <sup>1</sup> <input type="radio"/>	\$200 to \$399 <sup>4</sup> <input type="radio"/>
\$ 50 to \$ 99 <sup>2</sup> <input type="radio"/>	\$400 to \$799 <sup>5</sup> <input type="radio"/>
\$100 to \$199 <sup>3</sup> <input type="radio"/>	\$800 or more <sup>6</sup> <input type="radio"/>

Go to question 68.

68. DURING 1981 DID YOU HUNT LARGE MAMMALS?

Yes <sup>1</sup>  No <sup>2</sup>  → Go to question 78.

69. ENTER THE NUMBER OF DAYS BESIDE THE LOCATION(S) WHERE YOU HUNTED LARGE MAMMALS IN 1981.

	Days		Days
Newfoundland	01 <input type="text"/>	Saskatchewan	08 <input type="text"/>
P.E.I.	02 <input type="text"/>	Alberta	09 <input type="text"/>
Nova Scotia	03 <input type="text"/>	British Columbia	10 <input type="text"/>
New Brunswick	04 <input type="text"/>	Yukon	11 <input type="text"/>
Quebec	05 <input type="text"/>	N.W.T.	12 <input type="text"/>
Ontario	06 <input type="text"/>		
Manitoba	07 <input type="text"/>	Outside Canada	13 <input type="text"/>

70. DID YOU BAG ANY LARGE MAMMALS?

Yes <sup>1</sup>  No <sup>2</sup>

71. HOW MUCH DID YOU SPEND ON TRANSPORTATION TO HUNT LARGE MAMMALS IN 1981? (See definitions on page 7)

\$     .00

72. HOW MUCH DID YOU SPEND ON ACCOMMODATIONS TO HUNT LARGE MAMMALS IN 1981? (See definition)

\$     .00

73. HOW MUCH DID YOU SPEND ON FOOD WHILE HUNTING LARGE MAMMALS IN 1981? (See definition)

\$     .00

74. IN 1981 HOW MUCH DID YOU SPEND ON EQUIPMENT USED PRIMARILY FOR HUNTING LARGE MAMMALS? (See definition)

\$     .00

75. HOW MUCH DID YOU SPEND ON AMMUNITION, REPAIRS AND OTHER ITEMS FOR HUNTING LARGE MAMMALS IN 1981? (See definition)

\$     .00

76. WOULD YOU STILL HAVE HUNTED LARGE MAMMALS IF YOUR COSTS HAD BEEN MORE?

Yes <sup>1</sup>  No <sup>2</sup>  Go to question 78.

77. HOW MUCH MORE WOULD YOU HAVE SPENT BEFORE DECIDING NOT TO HUNT LARGE MAMMALS IN 1981?

\$ 1 to \$ 49 <sup>1</sup> <input type="radio"/>	\$200 to \$399 <sup>4</sup> <input type="radio"/>
\$ 50 to \$ 99 <sup>2</sup> <input type="radio"/>	\$400 to \$799 <sup>5</sup> <input type="radio"/>
\$100 to \$199 <sup>3</sup> <input type="radio"/>	\$800 or more <sup>6</sup> <input type="radio"/>

Turn Page.

78. DO YOU HAVE ANY ADDITIONAL COMMENTS?

THANK YOU FOR YOUR COOPERATION.  
PLEASE RETURN YOUR QUESTIONNAIRE TODAY.



Canada



D10. Approximate Sample Size, Costs, Advantages, and Limitations of three Survey Options

Table D10

Approximate sample size, costs, advantages and limitations of three survey options, assuming that provinces share 60% of total costs in relation to their sample sizes, and assuming the question content described in the objectives

Province	Option 1		Option 2		Option 3	
	Sample size	Cost \$	Sample size	Cost \$	Sample size	Cost \$
Nfld.	312	2 905	5 600	8 528	500	12 556
NS	456	3 322	7 500	9 724	500	12 556
PEI	60	2 174	2 600	6 638	500	12 556
NB	372	3 079	7 800	9 913	500	12 556
Que.	2100	8 090	15 800	14 953	2000	26 222
Ont.	2200	8 380	19 600	17 346	2000	26 222
Man.	342	2 992	8 500	10 354	500	12 556
Sask.	316	2 916	10 400	11 551	500	12 556
Alta.	642	3 862	12 700	13 000	1000	17 111
BC	1200	5 480	11 100	11 992	1000	17 111
Prov. share		43 200		114 000		162 000
Fed. share		28 800		76 000		108 000
Total	8000	72 000	101 600	190 000	9000	278 000
Pro	- low overall cost - \$72 000, - data collected by season (3-month periods), - short periods favour low recall bias, - adequate sample size for regional data	- low cost per questionnaire - \$1.87, - large sample size for provincial needs, - although questions cover 1 year, more time to think about answers, - Stats. Can. mail survey response as high as for private interview surveys, - high quality control	- medium overall cost - \$190 000, - sampling base for territories would have to be developed from lists (electoral, telephone, etc.), - in territories, survey administered by own staff but using identical questionnaire - an advantage - questions cover one year (medium recall bias)	- high costs - \$278 000 overall - \$30 per interview, - costs in territories might be as high as \$200-400/interview since sampling base must be developed, - questions cover 1 year and are administered in a few minutes - potential for high recall bias, - extra time needed to collect socio-demographic information on respondent		
Con	- medium cost per interview - \$9, - insufficient sample size for most provinces, - insufficient sample size for hunting data based on fall survey, - data from four seasonal surveys cannot be combined to measure yearly participation, - no similar vehicle for territories, - limit of 7 minutes per interview					





Information Manual  
Value of Wildlife  
to Canadians Survey

Manuel d'Information  
Enquête sur l'importance  
de la faune aux yeux des  
Canadiens

February 1982

Février 1982

Introduction

Introduction

### 1.1 General Comments

The survey on the Value of Wildlife to Canadians is being conducted by Statistics Canada on behalf of the Canadian Wildlife Service (C.W.S.) of Environment Canada, Provincial Wildlife Agencies and several non-government wildlife organizations. The global objective of the survey is to provide data which can be utilized in the assessment of the socio-economic value of wildlife to Canadians. More specifically the C.W.S. is interested in assessment of consumptive and non-consumptive wildlife related activities for five wildlife families by rates of participation, associated expenditures, and demographic profiles of participants and non-participants. The survey questionnaire is a self-enumerated document which will be dropped off and mailed back to the Regional Office in NSRU's and mailed out and mailed back to the Regional Office in the SRU's.

### 1.2 A few Words about the Reasons for this Survey

The terms of reference for the Value of Wildlife Survey were set out at the forty-fourth Federal-Provincial Wildlife Conference. The rationale for the co-operative venture on the Value of Wildlife Survey are summarized as follows:

### 1.1 Introduction

Statistique Canada effectue l'Enquête sur l'importance de la faune aux yeux des Canadiens au nom du Service canadien de la faune d'Environnement Canada, des services provinciaux de la faune et de plusieurs groupes de citoyens. Il s'agit essentiellement de recueillir des données qui pourront être utilisées pour déterminer la valeur socio-économique de la faune pour les Canadiens. Le Service canadien de la faune cherche plus précisément à évaluer les activités (de consommation ou non) relative à cinq familles d'animaux et d'oiseaux sauvages, selon le taux de participation, les dépenses connexes et le profil démographique des participants et des non participants. Les questionnaires de l'enquête, que les répondants remplissent eux-mêmes, seront livrés puis ramassés par les bureaux régionaux dans les UNAR ou expédiés par la poste dans les UAR.

### 1.2 Objet de l'enquête

L'objet de cette entreprise conjointe a été déterminé lors de la quarante-quatrième Conférence fédérale-provinciale sur la faune. Voici les principes sur lesquels elle se fonde:

(1) Agencies require valuation data on Wildlife and on the social and economic characteristics of its users in order to evaluate wildlife programs in a climate of competing alternatives and to aid managers in optimizing benefits of their programs to the public.

(2) There exists a need for socio-economic information relating not only to consumptive wildlife uses, but also non-consumptive uses about which little is known.

(3) Since wildlife species, users and habitat do not respect provincial and territorial boundaries, there is a need for valuation data which are comparable across political jurisdictions.

### 1.3 Goals

The ultimate goal of the survey and the ensuing analysis process will be to:

- (1) provide basic, accurate and reliable valuation data to help wildlife agencies assess wildlife programs.
- (2) provide current and homogeneous data which will allow trend analysis at selected intervals in the future.

(1) Les organismes intéressés ont besoin de données sur la faune et les caractéristique sociales et économiques de ceux qui s'y intéressent, afin d'évaluer les programmes y ayant trait (dans un milieu fortement concurrentiel) et d'aider les gestionnaires à optimiser les avantages de ceux-ci pour le public.

(2) Il nous faut recueillir des données socio-économiques non seulement sur les activités de consommation de la faune, mais également sur les activités de non-consommation dont on ne sait pas grand chose.

(3) Étant donné que les animaux sauvages, les personnes qui s'intéressent à la faune et l'habitat en général ne sont pas limités à des frontières provinciales ou territoriales précises, il faut recueillir des données qui sont comparables d'un secteur à l'autre.

### 1.3 Buts

L'enquête et l'analyse des données recueillies permettront:

- (1) d'établir des données de base exactes et fiables qui aideront les organismes s'occupant de la faune à évaluer leurs programmes;
- (2) d'établir des données courantes et homogènes servant à analyser les tendances à des intervalles réguliers;



(3) assess the feasibility of using the mails to collect supplementary survey information on the Labour Force Survey vehicle.

#### 1.4 Mail Strike

In the event of a mail strike the interviewer will introduce the wildlife survey supplement as per the instructions in the interviewers manual adding the caveat that the respondent should receive his/her questionnaire when the mails resume service.

#### 1.5 Survey Time Table

The Value of Wildlife Survey will be conducted during the Labour Force survey (L.F.S.) week for the month of February 1982. Survey documents will be mailed out or dropped off to respondents during the week of February 22 thru 27, 1982.

Respondents whose completed questionnaires have not been received on or before March 5 will be sent a reminder letter. A copy of the reminder letter may be found at the end of this section of the manual. A second follow-up of those respondents in the mail sample for whom completed questionnaires have not been received will take place during the March L.F.S. interview week (March 22-27)

(3) de déterminer s'il est possible de recueillir ces données par la poste, dans le cadre de l'enquête sur la population active.

#### 1.4 Grève des postes

S'il y avait une grève des postes, l'interviewer posera les questions supplémentaires de l'Enquête sur la faune selon les instructions de son guide, en précisant aux répondants qu'ils recevront les questionnaires dès la fin de la grève.

#### 1.5 Calendrier d'exécution

L'Enquête sur l'importance de la faune aux yeux des Canadiens sera menée pendant la semaine de l'Enquête sur la population active (EPA) pour le mois de février 1982. Les documents de l'enquête seront postés ou livrés aux répondants pendant la semaine du 22 au 27 février 1982.

Les répondants dont les questionnaires remplis ne sont pas revenus au bureau régional au plus tard le 5 mars recevront une lettre de rappel, dont on trouvera copie à la fin de ce chapitre. Un deuxième suivi auprès des répondants ayant reçu les questionnaires par la poste mais ne les ayant pas renvoyés se fera pendant la semaine prévue pour l'EPA de mars (du 22 au 27 mars).



For respondents who will rotate out of the sample after the February survey (Rot.3), the second follow-up will be done through the mails. A copy of the second reminder to rotates out may be found at the end of this section of the manual. Several interviewers assignments across Canada will be designated as dropoff and pick-up. At the pickup stage of the survey several persons will accompany these interviewers in an attempt to obtain some immediate respondent feedback on the survey.

En ce qui concerne les répondants qui sont supprimés par renouvellement après l'EPA de février (rotation no.3), le deuxième suivi se fera par courrier. Une copie de la lettre à utiliser à cet égard se trouve à la fin de ce chapitre. Plusieurs interviewers dans tout le Canada seront chargés de livrer les questionnaires et d'aller les chercher ensuite. Lorsque l'interviewer ira reprendre les questionnaires, il sera accompagné d'autres personnes chargées d'obtenir les réactions du répondant sur l'enquête.

Questions and Answers

Questions et Réponses

Q.1 What do you mean by "Value of Wildlife to Canadians?"

A.1 By "Value of Wildlife" we mean the importance of wildlife to people or the interest people have in wildlife. The concepts of value, importance and interest are often difficult to measure. In this survey several sets of questions are used to attempt this. One set of questions asks about how people feel towards wildlife. These data help wildlife managers understand the attitudes of Canadians towards wildlife and how people are predisposed to act toward this resource. Another set of questions asks if people participate in various wildlife related activities or if they would like to participate in them. Participation data are necessary to measure "consumer demand for wildlife". Yet another set of questions asks about the economic value of the enjoyment derived from wildlife related activities. The total economic value is composed of "consumer expenditures" and "consumer surplus". Consumer expenditures consist of the amount of money actually spent by respondents to participate

Q.1 Qu'entendez-vous par "l'importance de la faune aux yeux des Canadiens"?

R.1 Cela signifie la valeur de la faune pour les Canadiens ou leur intérêt à cet égard. Les notions de valeur d'importance et d'intérêt sont souvent difficiles à mesurer. Dans notre enquête, diverses séries de questions nous permettront d'y parvenir. Une série de questions porte sur les sentiments des répondants à l'égard de la faune. Les données ainsi recueillies permettront aux gestionnaires de la faune de comprendre les attitudes des Canadiens et la façon dont ils sont disposés à agir envers cette ressource. Une autre série de questions vise à déterminer si les répondants participent à des activités liées à la faune ou s'ils aimeraient y participer. Nous pourrons ainsi mesurer la "demande" à l'égard de la faune. Une dernière série de questions porte sur la valeur économique du plaisir tiré des activités liées à la faune. Cette valeur économique totale se divise en deux aspects les "dépenses" et le "surplus". Les dépenses sont les sommes d'argent consacrées par les répondants à ces activités. Certains participants estiment que le plaisir qu'ils en retirent vaut plus que les sommes qu'ils y consacrent; ils s'agit

in the activities. Some participants feel that the enjoyment derived from the activities is worth more than what they actually spent on them. The purpose of the consumer surplus questions is to identify how many people feel this way and to measure the dollar value of this surplus.

Q.2 You conduct the Labour Force Survey in person or over the telephone. Why are you mailing this survey for me to complete?

A.2 The reason for sending to you (and asking you to return) this survey in the mail is twofold:  
First Some of the questions on this survey may require you to reflect or think about your wildlife activities over the past year. It is felt that in order to be fair to the respondent the self enumerated document is the best way to collect the information. Some of the questions may require that the respondent consult his/her records. In order to do this it was felt the best way to collect the information required is to leave the document with the respondent so he/she could complete it at a convenient time.

du "surplus". Nous cherchons à savoir combien de Canadiens pensent de cette façon et à mesurer la valeur monétaire du "surplus."

Q.2 L'Enquête sur la population active se fait en personne ou par téléphone. Pourquoi m'envoyez-vous ce questionnaire par la poste?

R.2 Nous avons deux raisons pour vous envoyer ce questionnaire par la poste (et vous demander de nous le renvoyer de la même façon):  
Premièrement, quelques questions pourront exiger de votre part une certaine réflexion sur vos activités de l'année passée ou la consultation de vos dossiers. Nous avons donc pensé que la meilleure façon de procéder, c'était de vous laisser le questionnaire et de vous demander de nous le renvoyer quand vous aurez eu le temps d'y répondre.



Second By using the mails to conduct this supplementary survey a more cost efficient way of distribution and collection of the questionnaires is realized. The cost differences associated with the use of the mails versus the dropoff and pickup method are very substantial. For this particular survey the cost saving is in the neighbourhood of \$100,000.

Deuxièmement, nous pouvons ainsi réduire les coûts de l'enquête. En effet, les économies réalisées lors d'une enquête postale (par rapport à une enquête où les questionnaires sont livrés et ramassés ensuite) sont très importants; pour cette enquête en particulier, il s'élève à près de \$100,000.

Q.3 Which non-government wildlife or organizations are financially supporting this survey?

Q.3 Quels organismes privés participent-ils au financement de l'enquête?

A.3 The non government wildlife organizations supporting this survey include:

R.3

- (1) Le Fond mondial pour la nature
- (2) La Fédération canadienne de la faune (et les associations provinciales)
- (3) L'Association canadiennes des aquariums et parcs zoologiques
- (4) La Fédération canadienne de la nature (et toutes les organisations provinciales)
- (5) Le Canadian National Sportsmans Show
- (6) La Federation of Alberta Naturalists
- (7) La Ontario Federation of Anglers and Hunters.

- (1) The World Wildlife Fund
- (2) The Canadian Wildlife Federation (and all provincial chapters)
- (3) The Canadian Association of Zoological Parks and Aquariums (L.A.Z.P.A.)
- (4) The Canadian Nature Federation (and all provincial units)
- (5) The Canadian National Sportsman Show
- (6) Federation of Alberta Naturalists
- (7) Ontario Federation of Anglers and Hunters.

Q.4 Why are there no questions on fishing?

A.4 Fishing activities and their value to Canadians are being assessed by another survey currently being conducted with fishermen across Canada.

Q.5 Why do you want to know about my various memberships and the fees I pay to wildlife organizations?

A.5 The response to these questions may be used as a proxy indicator for interest in wildlife in Canada. They also contribute to some extent to the total monetary value of wildlife. In some cases these contributions and donations may be used for conservation and management activities.

Q.6 What do you mean in questions 14 and 15?

A.6 The Canadian Wildlife Service would like to know how many Canadians participate in activities such as planting special types of trees for either food or shelter for animals. Persons participating in these types of activities directly or indirectly aid the management of wildlife.

Q.4 Pourquoi le questionnaire ne porte-t-il pas sur la pêche?

R.4 Il existe déjà une enquête sur la pêche qui est réalisée auprès des pêcheurs de tout le Canada.

Q.5 Pourquoi voulez-vous savoir à quelles organisations j'appartiens et les frais d'adhésion que je paye à ce titre?

R.5 Les réponses à ces questions pourront servir à déterminer l'intérêt des Canadiens envers la faune. Elles contribueront également, dans une certaine mesure, à déterminer la valeur monétaire totale de la faune. Dans certains cas, elle peuvent également être utilisées dans le cadre d'activités de conservation et de gestion de la faune.

Q.6 Que signifient les questions 14 et 15?

R.6 Le Service canadien de la faune aimerait connaître le nombre de Canadiens qui participent à certaines activités par exemple planter des arbres qui fourniront nourriture ou abrit aux animaux. Ceux qui s'adonnent directement ou indirectement à de telles activités contribuent à la gestion de la faune.



Q.7 Why do you not consider activities related to animals in the zoo for this survey.

A.7 By definition the Canadian Wildlife Service does not consider that animals in zoos or game farms are in a natural environment. Although zoos and game farms may provide a very natural setting for the game, for the purpose of this survey they are not considered as wildlife in a natural setting. Therefore activities such as watching, feeding or photographing animals in zoos or game farms should not be included.

Q.8 Why do you want to know the details of my hunting during 1981 by the type of game I hunted?

A.8 We have attempted to establish four very broad wildlife families for reporting on hunting activities. These categories attempt to encompass all possible types of wildlife. Details are asked for each type in order to estimate how much money is spent in a given year for hunting a particular family of wildlife. Currently the amount being spent on each type is unknown.

Q.7 Pourquoi l'enquête ne porte-t-elle pas sur les animaux dans les parcs zoologiques?

R.7 Le Service canadien de la faune, par définition, ne considère pas les animaux qui habitent des jardins zoologiques ou des fermes d'élevage comme vivant dans leur milieu naturel. Même si les zoos et les fermes d'élevage leurs offrent parfois un milieu très proche de leur milieu naturel, ils ne sont pas, aux fins de notre enquête, considérés comme des animaux sauvages dans leur habitat naturel. Par conséquent, les activités qui consistent à observer à nourrir ou à photographier des animaux dans les zoos ou les fermes d'élevage ne doivent pas être incluses.

Q.8 Pourquoi me posez-vous des questions sur mes voyages de chasse en 1981 selon le genre d'animaux chassés?

R.8 Nous avons tenté de diviser en quatre grandes familles les animaux sauvages pouvant être chassés; ces catégories regroupent toutes les espèces d'animaux sauvages. Nous vous demandons des détails sur chacune pour nous permettre d'estimer les sommes d'argent qui sont consacrées chaque année à la chasse de chaque famille d'animaux sauvages. A l'heure actuelle, nous n'avons pas de données à ce sujet. Les réponses à ces questions nous permettront d'établir des estimations.

The answers to these questions will provide estimates for these expenditures.

Q.9 Why are you asking me about wildlife? I live in the city and there is no wildlife around here.

Q.9 Pourquoi me poser ces questions à moi? J'habite la ville et il n'y a pas d'animaux sauvages près de chez moi.

A.9 Although sometimes not readily apparent, the larger urban areas in Canada do have rather significant bird and small mammal populations. In many urban areas people make attempts to attract and feed birds and small mammals. Answers to questions on these activities by urban dwellers will provide some insights into the frequency of this type of activity.

R.9 Même si cela n'est pas toujours évident les grands centres urbains du Canada ont des populations importantes d'oiseaux et de petits animaux. Dans de nombreuses villes, les gens tentent de les attirer et de les nourrir. Vos réponses à ces questions nous permettront d'obtenir plus de données sur la fréquence de ce genre d'activités.

Q.10 When will the results for this survey be available?

Q.10 Quand les résultats de l'enquête seront-ils publiés?

A.10 Preliminary results from the survey on Wildlife to Canadians will be available in mid July 1982.

R.10 Les résultats préliminaires de l'Enquête sur l'importance de la faune aux yeux des Canadiens seront publiés à la mi-juillet 1982.

Q.11 How can I obtain results from this survey?

Q.11 Comment puis-je me procurer des résultats?

A.11 Results from the Value of Wildlife Survey can be obtained by contacting, either by mail or phone:

R.11 On peut entrer en communication, par la poste ou par téléphone, avec les personnes suivantes:

(Mr.) Michael Sheridan  
Special Surveys Group  
Statistics Canada  
Jean Talon Bldg.  
3C7 3rd Floor  
Tunney's Pasture  
Ottawa, Ontario  
K1A 0T6  
(613) 996-5717

(M.) Michael Sheridan  
Groupe des enquêtes spéciales  
Statistique Canada  
Immeuble Jean Talon  
3ième étage, section 3C7  
Parc Tunney  
Ottawa, Ontario  
K1A 0T6  
(613) 996-5717

or

ou

(Mr.) Fern Filion  
Canadian Wildlife Service  
Environment Canada  
Room 1619,  
Place Vincent Massey  
351 St. Joseph Blvd.  
Hull, Québec  
(819) 997-1841

(M.) Fern Filion  
Service canadien de la faune  
Environnement Canada  
Pièce 1619,  
Place Vincent Massey  
351, boul. St. Joseph  
Hull Québec  
(819) 997-1841

Contact for Further  
Information

Contacts pour renseignements  
supplémentaires

For further information concerning  
the Value of Wildlife Survey  
contact any of the persons listed  
below.

Mr. M.J. Sheridan  
Special Surveys Group  
3rd Floor Jean Talon Bldg.  
Section C-7  
Tunney's Pasture  
Ottawa, Ontario  
K1A 0T6  
(613) 996-5717

Mr. R.T. Ryan  
Special Surveys Group  
3rd Floor Jean Talon Bldg.  
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Ottawa, Ontario  
K1A 0T6  
(613) 996-5717

Ms. Anne Burrell  
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3rd Floor Jean Talon Bldg.  
Section C-2  
Tunney's Pasture  
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K1A 0T6  
(613) 995-3034

Mr. Fern Filion  
Canadian Wildlife Service  
Environment Canada  
Room 1619  
Place Vincent Massey  
351 St. Joseph Blvd.  
Hull, Québec  
(819) 997-1841

Pour obtenir plus de renseignements  
au sujet de l'enquête, n'hésitez pas  
à communiquer avec l'une ou l'autre des  
personnes suivantes:

M. M.J. Sheridan  
Groupes des enquêtes spéciales  
3ième étage Immeuble Jean Talon  
Section C-7  
Parc Tunney  
Ottawa, Ontario  
K1A 0T6  
(613) 996-5717

M. R.T. Ryan  
Groupe des enquêtes spéciales  
3ième étage Immeuble Jean Talon  
Section C-7  
Parc Tunney  
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(613) 996-5717

Mme Anne Burrell  
Groupe des enquêtes spéciales  
3ième étage Immeuble Jean Talon  
Section C-2  
Parc Tunney  
Ottawa, Ontario  
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(613) 995-3034

M. Fern Filion  
Service canadien de la faune  
Environnement Canada  
Pièce 1619  
Place Vincent Massey  
351, boul. St-Joseph  
Hull Québec  
(819) 997-1841



**APPENDIX E.**

**CURRENT AND PAST CONTRIBUTING MEMBERS OF THE COMMITTEE**



## Appendix E Current and Past Contributing Members of the Committee

A number of people have been actively involved in the development of the original survey idea and this report. The following is a list of those people who have participated in the Committee for a National Survey on the Value of Wildlife since its creation in 1980.

Mr. John Allan  
Resource Economist  
Economic Analysis Section  
Ministry of Environment  
Victoria, British Columbia

Mr. John M. Barbowski  
Information Data System  
Co-ordinator  
Wildlife Branch  
Ministry of Natural Resources  
Whitney Block, Queen's Park  
Toronto, Ontario

Mr. Peter Boxall  
Zoologist  
Fish and Wildlife Division  
Department of Energy and  
Natural Resources  
Edmonton, Alberta

M. Jean-Luc Ducharme  
Agent de recherche  
Direction de la recherche  
socio-économique (faune)  
Ministère du loisir, de la chasse  
et de la pêche  
Québec (Québec)

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Resource Economist  
Fish and Wildlife Division  
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Natural Resources  
Edmonton, Alberta

Mr. Chris Gibbs  
Manager, Socio-Economic Studies  
Planning Branch  
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Victoria, British Columbia

Mr. Fern L. Filion  
Committee Chairman/  
Co-ordinator, Social Studies  
Canadian Wildlife Service  
Department of Environment  
Ottawa, Ontario

Mr. Alan P. Godfrey  
Upland Game Biologist  
Fish and Wildlife Division  
Environmental Conservation  
Service  
Department of the Environment  
Charlottetown, P.E.I.

Mr. H. Haswell  
Director  
Wildlife Division  
Fish and Wildlife Branch  
Department of Natural Resources  
Fredericton, New Brunswick

Mr. Wayne Kale  
Biometrician  
Resources Planning Branch  
Department of Renewable  
Resources  
Government of the Yukon  
Territory  
Whitehorse, Yukon Territory

Mr. Brian Knudsen  
Wildlife Biometrician  
Fish and Wildlife Division  
Department of Mines, Natural  
Resources and Environment  
Winnipeg, Manitoba

Mr. Ellis M. Land  
Co-ordinator, Field Studies  
Wildlife Service  
Department of Renewable  
Resources  
Government of the Northwest  
Territories  
Yellowknife, N.W.T.

Mr. Paul C. Naftel  
Assistant Director  
Fisheries and Wildlife Branch  
Department of Tourism and  
Renewable Resources  
Regina, Saskatchewan

M. Jacques Pelletier  
Statisticien  
Direction de la planification  
Ministère du loisir, de la chasse  
et de la pêche  
Québec (Québec)

Dr. Jon O'Riordan  
Director, Planning Branch  
Ministry of Environment  
Victoria, British Columbia

Mr. Wayne Pepper, Head  
Programme Development and  
Special Projects  
Fisheries and Wildlife Branch  
Department of Tourism and  
Renewable Resources  
Regina, Saskatchewan

Mr. D.G. Pike  
Director  
Wildlife Division  
Department of Tourism  
St. John's, Newfoundland

Mr. M.H. Prime  
Director  
Wildlife Division  
Department of Lands and Forests  
Kentville, Nova Scotia

Mr. Roger Reid  
Resource Economist  
Socio-Economic Studies  
Planning Branch  
Ministry of Environment  
Victoria, British Columbia

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Economist  
Fish and Wildlife Division  
Department of Mines, Natural  
Resources and Environment  
Winnipeg, Manitoba

Dr. G.E. John Smith  
Chief, Biometrics Division  
Department of Environment  
Canadian Wildlife Service  
Ottawa, Ontario

Mr. Dan Teillet  
Resource Planner  
Fish and Wildlife Division  
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Ms. Carol Ward  
Wildlife Administrative  
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Fish and Wildlife Division  
Department of Energy and  
Natural Resources  
Edmonton, Alberta

Mr. P. Whiting  
Resource Economist  
Resources Planning Branch  
Department of Renewable  
Resources  
Government of the Yukon  
Territory  
Whitehorse, Yukon Territory

APPENDIX F.

SPONSORS OF THE (SVWC) SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS

F1. Private Non-governmental Wildlife Organizations

Canadian Association of Zoological Parks and Aquariums  
Canadian Nature Federation  
Canadian National Sportsmen's Show  
Canadian Wildlife Federation  
Federation of Alberta Naturalists  
World Wildlife Fund

F2. Governmental Wildlife Organizations

Environment Canada	
British Columbia	Quebec
Alberta	New Brunswick
Saskatchewan	Nova Scotia
Manitoba	Prince Edward Island
Ontario	Newfoundland

## APPENDIX G.

### GUIDELINES FOR COMPARISONS OF SVWC DATA WITH OTHER SOURCES OF INFORMATION

The Survey on the Value of Wildlife to Canadians (SVWC) is not the only source of information for involvement in wildlife-related activities. Other sources include: membership in wildlife organizations, records of hunting permits and other surveys of wildlife activities conducted by federal and provincial wildlife agencies, as well as those conducted by non-governmental organizations. In addition information is available on wildlife involvement in other countries, which may be used to compare or contrast with the results from this survey. The diversity of other sources is so wide that it is difficult to anticipate the comparisons which will be made. This appendix is intended to indicate the questions which must be asked when comparing different sources of information.

All sponsors of the survey were given preliminary estimates of the results from the survey and were asked to compare them with their own sources of information. No sponsor provided any documentation which showed the survey to be unreliable. The survey, however, did provide some unanticipated results which must be interpreted carefully in the future management of wildlife in Canada, and which should be confirmed from other sources if possible.

#### G1. Comparisons with Non-survey Information

The total membership in wildlife organizations and the sales of hunting permits are non-survey information sources which could be compared with the results from this survey.

It is not possible to contrast survey estimates of membership in wildlife organizations with available records from specific wildlife organizations, as the survey did not allow responding members to identify their affiliation.

Because hunting of wildlife is a licensed sport, the total sales of hunting permits should be similar to the estimate of involvement in hunting provided by the survey. However, a comparison of 1981 hunting estimates from the SVWC with figures on the number of hunting licences or permits sold during the same year reveals that estimates of the number of active hunters are much higher than the permit sales for all types of hunting (Table G1). This discrepancy is common to all general population surveys we have seen in Canada and the USA. Such surveys of the general population always find a greater participation in hunting than that indicated by licence sales. This discrepancy warrants further attention which is beyond the scope of the appendix. The difference may indicate a misinterpretation of the question by some respondents or a level of illegal or unlicensed hunting which was unsuspected until now.

**TABLE G1**  
 Comparison of 1981 Hunting Estimates Based on a General Population  
 Survey (SVWC) with Those Based on Hunting Licences Sold<sup>5</sup>

Province	Hunting estimates based on licence or permit sales			Hunting estimates based on SVWC			Percentage difference between licence sales and SVWC		
	(a) Any hunting	(b) Small game	(c) Waterfowl	(d) Any hunting	(e) Small game	(f) Waterfowl	(g) Any hunting	(h) Small game	(i) Waterfowl
	(d-a)/a	(e-b)/b	(f-c)/c						
Nfld.	-	36 212	31 500	82 548	54 625	38 017	-	50.8	20.7
PEI	5 6831	N/A	5 666	8 479	4 514	6 167	49.2	N/A	8.9
NS	83 1102	32 6244	14 149	104 069	65 584	22 875	25.2	100.9	61.7
NB	104 8962	3 720	12 212	105 431	45 625	16 775	5.1	1126.5	37.4
Que.	-	307 927	74 429	462 794	320 450	133 437	-	3.9	79.3
Ont.	460 0003	350 2284	134 573	485 847	307 554	215 810	5.6	-12.2	60.4
Man.	83 9981	N/A	40 352	85 084	41 648	44 039	1.3	N/A	9.1
Sask.	71 8102	N/A	39 399	106 648	43 138	52 242	48.5	N/A	32.6
Alta.	160 5351	N/A	64 688	186 278	71 435	89 207	16.0	N/A	37.9
BC	174 0881	N/A	28 950	175 621	33 790	39 608	0.9	N/A	36.8

1 These numbers are based upon sales of a certificate or permit which is required for an individual to purchase actual hunting licences.

2 This number is conservative as it is based upon one licence type (i.e. Big game). These provinces have licensing systems which do not allow the number of licensed hunters to be determined. This estimate is particularly low for Saskatchewan.

3 This number is estimated from computer analyses of licence sales.

4 These estimates also include game-bird hunters.

5 Data pertaining to "any" hunting and small-game hunting originate from provincial wildlife agencies. Data pertaining to waterfowl are from the Canadian Wildlife Service. This table was prepared by Peter Boxall, Alberta Fish and Wildlife Division.



## G2. Comparisons with Other Surveys

This report provides substantial documentation of how the SVWC was conducted. In order to compare the SVWC with the results of other surveys it is important to consider the following list of questions:

- (1) Who sponsored the survey?
- (2) Who conducted the survey?
- (3) When and where was the survey conducted?
- (4) What was the target population?
- (5) What was the sample frame? The sample frame is the list from which the sample was selected. This list may not correspond to the target population.
- (6) How was the sample selected?
- (7) What was the sampling unit? In the SVWC the sampling unit was the household.
- (8) What was the sample size?
- (9) Were there limitations or biases associated with the survey due to the sampling procedure?
- (10) Was the survey conducted by mail, or personal or telephone interview?
- (11) If an interview survey was done, what training was provided to the interviewing team to reduce interviewers' differences?
- (12) What time-frame was covered in the survey questions? - i.e. last week, month or year.
- (13) Was the questionnaire pre-tested?
- (14) What was the reponse rate for the survey?
- (15) What was the response rate by question?
- (16) Were any procedures undertaken to reduce non-response bias?
- (17) Were the questions phrased in a similar manner to those in the SVWC? - e.g. the number of choices provided for categorical questions and their ordering can influence results.
- (18) How statistically reliable are the results of this survey?
- (19) Are there limitations or biases associated with this survey due to data collection procedures?
- (20) How were the data coded?
- (21) What editing was done on the data? Were "outliers" or unusual responses verified or modified?
- (22) Are there limitations or biases associated with the survey due to data processing or tabulation procedures?

## APPENDIX H.

### TABLES OF COEFFICIENTS OF VARIATION FOR ESTIMATES

The tables in this appendix allow an approximate coefficient of variation (CV) to be calculated for estimates of participation rates, days of activity, expenditures, and attitudes. The footnotes with each table give a brief description of their use but a more complete discussion is given in section 6.1.



TABLE H1

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

NEFOUNDLAND

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	*****	44.7	44.5	43.8	42.6	41.4	40.2	38.9	37.6	36.2	34.8	31.8	24.6	14.2
2	*****	31.6	31.5	31.0	30.2	29.3	28.4	27.5	26.6	25.6	24.6	22.5	17.4	10.1
3	*****	25.8	25.7	25.3	24.6	23.9	23.2	22.5	21.7	20.9	20.1	18.3	14.2	8.2
4	*****	22.4	22.2	21.9	21.3	20.7	20.1	19.5	18.8	18.1	17.4	15.9	12.3	7.1
5	*****	*****	19.9	19.6	19.1	18.5	18.0	17.4	16.8	16.2	15.6	14.2	11.0	6.4
6	*****	*****	18.2	17.9	17.4	16.9	16.4	15.9	15.4	14.8	14.2	13.0	10.1	5.8
7	*****	*****	16.8	16.6	16.1	15.7	15.2	14.7	14.2	13.7	13.2	12.0	9.3	5.4
8	*****	*****	15.7	15.5	15.1	14.7	14.2	13.8	13.3	12.8	12.3	11.2	8.7	5.0
9	*****	*****	*****	14.6	14.2	13.8	13.4	13.0	12.5	12.1	11.6	10.6	8.2	4.7
10	*****	*****	*****	13.9	13.5	13.1	12.7	12.3	11.9	11.5	11.0	10.1	7.8	4.5
11	*****	*****	*****	13.2	12.9	12.5	12.1	11.7	11.3	10.9	10.5	9.6	7.4	4.3
12	*****	*****	*****	12.6	12.3	12.0	11.6	11.2	10.9	10.5	10.1	9.2	7.1	4.1
13	*****	*****	*****	12.2	11.8	11.5	11.1	10.8	10.4	10.1	9.7	8.8	6.8	3.9
14	*****	*****	*****	11.7	11.4	11.1	10.7	10.4	10.1	9.7	9.3	8.5	6.6	3.8
15	*****	*****	*****	11.3	11.0	10.7	10.4	10.1	9.7	9.4	9.1	8.2	6.4	3.7
16	*****	*****	*****	11.0	10.7	10.4	10.1	9.8	9.4	9.1	8.7	7.9	6.2	3.6
17	*****	*****	*****	10.6	10.3	10.1	9.8	9.5	9.2	8.9	8.4	7.7	6.0	3.4
18	*****	*****	*****	10.3	10.1	9.8	9.5	9.2	8.9	8.6	8.2	7.5	5.8	3.4
19	*****	*****	*****	10.1	9.8	9.5	9.2	8.9	8.6	8.3	8.0	7.3	5.6	3.3
20	*****	*****	*****	9.8	9.5	9.3	9.0	8.7	8.4	8.1	7.8	7.1	5.5	3.2
21	*****	*****	*****	*****	9.3	9.0	8.8	8.5	8.2	7.9	7.6	6.9	5.4	3.1
22	*****	*****	*****	*****	9.1	8.8	8.6	8.3	8.0	7.7	7.4	6.6	5.1	3.0
23	*****	*****	*****	*****	8.9	8.6	8.4	8.1	7.8	7.6	7.3	6.5	5.0	2.9
24	*****	*****	*****	*****	8.7	8.5	8.2	7.9	7.7	7.4	7.1	6.4	4.9	2.8
25	*****	*****	*****	*****	8.5	8.3	8.0	7.8	7.5	7.2	7.0	6.4	4.9	2.8
30	*****	*****	*****	*****	7.8	7.6	7.3	7.1	6.9	6.6	6.4	5.8	4.5	2.6
40	*****	*****	*****	*****	7.2	7.0	6.8	6.6	6.4	6.1	5.9	5.4	4.2	2.4
45	*****	*****	*****	*****	6.7	6.6	6.4	6.2	5.9	5.7	5.5	5.0	3.9	2.2
50	*****	*****	*****	*****	*****	6.2	6.0	5.8	5.6	5.4	5.2	4.7	3.7	2.1
55	*****	*****	*****	*****	*****	5.9	5.7	5.5	5.3	5.1	4.9	4.5	3.5	2.0
60	*****	*****	*****	*****	*****	5.6	5.4	5.2	5.1	4.9	4.7	4.3	3.3	1.9
65	*****	*****	*****	*****	*****	5.3	5.2	5.0	4.9	4.7	4.5	4.1	3.2	1.8
70	*****	*****	*****	*****	*****	*****	5.0	4.8	4.7	4.5	4.3	3.9	3.1	1.8
75	*****	*****	*****	*****	*****	*****	4.8	4.7	4.5	4.3	4.2	3.8	2.9	1.7
80	*****	*****	*****	*****	*****	*****	4.6	4.5	4.3	4.2	4.0	3.7	2.8	1.6
85	*****	*****	*****	*****	*****	*****	4.5	4.4	4.2	4.1	3.9	3.6	2.8	1.6
90	*****	*****	*****	*****	*****	*****	4.1	4.1	4.0	3.8	3.7	3.4	2.7	1.5
95	*****	*****	*****	*****	*****	*****	4.0	3.9	3.7	3.6	3.5	3.3	2.6	1.5
100	*****	*****	*****	*****	*****	*****	3.9	3.8	3.6	3.5	3.2	2.5	2.5	1.4
125	*****	*****	*****	*****	*****	*****	*****	3.2	3.1	2.8	2.8	2.8	2.2	1.3
150	*****	*****	*****	*****	*****	*****	*****	2.8	2.8	2.6	2.6	2.6	2.0	1.2
200	*****	*****	*****	*****	*****	*****	*****	*****	2.2	2.2	2.2	2.2	1.7	1.0
250	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.6	1.6	1.6	1.6	0.9
300	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.8
350	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.8

NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE 00000560

THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES  
THE SAMPLING VARIABILITY. 00000570  
00000580  
00000590  
(3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES,  
USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE  
COLUMN CLOSEST TO THE PERCENTAGE. 00000600  
00000610  
(4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN  
GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE  
EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000620  
00000630  
00000640

TABLE H2

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982  
PRINCE EDWARD ISLAND

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	*****	*****	33.8	33.3	32.4	31.5	30.5	29.6	28.6	27.5	26.4	24.1	18.7	10.8
2	*****	*****	*****	23.5	22.9	22.2	21.6	20.9	20.2	19.5	18.7	17.1	13.2	7.6
3	*****	*****	*****	19.2	18.7	18.2	17.6	17.1	16.5	15.9	15.3	13.9	10.8	6.2
4	*****	*****	*****	16.6	16.2	15.7	15.3	14.8	14.3	13.8	13.2	12.1	9.3	5.4
5	*****	*****	*****	*****	14.5	14.1	13.6	13.2	12.8	12.3	11.8	10.8	8.4	4.8
6	*****	*****	*****	*****	13.2	12.8	12.5	12.1	11.7	11.2	10.8	9.9	7.6	4.4
7	*****	*****	*****	*****	12.2	11.9	11.5	11.2	10.8	10.4	10.0	9.1	7.1	4.1
8	*****	*****	*****	*****	11.4	11.1	10.8	10.4	10.1	9.7	9.3	8.5	6.6	3.8
9	*****	*****	*****	*****	10.8	10.5	10.2	9.9	9.5	9.2	8.8	8.0	6.2	3.6
10	*****	*****	*****	*****	*****	9.9	9.7	9.3	9.0	8.7	8.4	7.6	5.9	3.4
11	*****	*****	*****	*****	*****	9.5	9.2	8.9	8.6	8.3	8.0	7.3	5.6	3.3
12	*****	*****	*****	*****	*****	9.1	8.8	8.5	8.2	7.9	7.6	7.0	5.4	3.1
13	*****	*****	*****	*****	*****	8.7	8.5	8.2	7.9	7.6	7.3	6.7	5.2	3.0
14	*****	*****	*****	*****	*****	*****	8.2	7.9	7.6	7.4	7.1	6.4	5.0	2.9
15	*****	*****	*****	*****	*****	*****	7.9	7.6	7.4	7.1	6.8	6.2	4.8	2.8
16	*****	*****	*****	*****	*****	*****	7.6	7.4	7.1	6.9	6.6	6.0	4.7	2.7
17	*****	*****	*****	*****	*****	*****	7.4	7.2	6.9	6.7	6.4	5.9	4.5	2.6
18	*****	*****	*****	*****	*****	*****	7.2	7.0	6.7	6.5	6.2	5.7	4.4	2.5
19	*****	*****	*****	*****	*****	*****	*****	6.8	6.5	6.3	6.1	5.5	4.3	2.5
20	*****	*****	*****	*****	*****	*****	*****	6.6	6.4	6.2	6.0	5.4	4.2	2.4
21	*****	*****	*****	*****	*****	*****	*****	6.4	6.2	6.0	5.8	5.1	4.1	2.4
22	*****	*****	*****	*****	*****	*****	*****	6.3	6.1	5.9	5.6	5.0	4.0	2.3
23	*****	*****	*****	*****	*****	*****	*****	*****	5.8	5.7	5.5	5.0	3.9	2.3
24	*****	*****	*****	*****	*****	*****	*****	*****	5.7	5.6	5.4	4.9	3.8	2.2
25	*****	*****	*****	*****	*****	*****	*****	*****	5.7	5.5	5.3	4.8	3.7	2.2
30	*****	*****	*****	*****	*****	*****	*****	*****	5.0	5.0	4.8	4.4	3.4	2.0
35	*****	*****	*****	*****	*****	*****	*****	*****	4.5	4.5	4.5	4.1	3.2	1.8
40	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	3.8	3.0	1.7
45	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	3.6	2.8	1.6
50	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.6	1.5
55	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.5	1.5
60	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.4	1.4
65	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.3
70	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.3
75	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.2
80	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.2

NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES THE SAMPLING VARIABILITY. 00000560
- (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE COLUMN CLOSEST TO THE PERCENTAGE. 00000570
- (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000580  
00000590  
00000600  
00000610  
00000620  
00000630  
00000640

TABLE H3

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

NOVA SCOTIA

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	*****	46.2	45.9	45.2	44.0	42.8	41.5	40.2	38.8	37.4	35.9	32.8	25.4	14.7
2	*****	32.6	32.5	32.0	31.1	30.3	29.3	28.4	27.5	26.5	25.4	23.2	18.0	10.4
3	*****	26.7	26.5	26.1	25.4	24.7	24.0	23.2	22.4	21.6	20.8	18.9	14.7	8.5
4	*****	23.1	23.0	22.6	22.0	21.4	20.8	20.1	19.4	18.7	18.0	16.4	12.7	7.3
5	*****	20.6	20.5	20.2	19.7	19.1	18.6	18.0	17.4	16.7	16.1	14.7	11.4	6.6
6	*****	18.8	18.8	18.5	18.0	17.5	16.9	16.4	15.8	15.3	14.7	13.4	10.4	6.0
7	*****	*****	17.4	17.1	16.6	16.2	15.7	15.2	14.7	14.1	13.6	12.4	9.6	5.5
8	*****	*****	16.2	16.0	15.6	15.1	14.7	14.2	13.7	13.2	12.7	11.6	9.0	5.2
9	*****	*****	15.3	15.1	14.7	14.3	13.8	13.4	12.9	12.5	12.0	10.9	8.5	4.9
10	*****	*****	14.5	14.3	13.9	13.5	13.1	12.7	12.3	11.8	11.4	10.4	8.0	4.6
11	*****	*****	13.9	13.6	13.3	12.9	12.5	12.1	11.7	11.3	10.8	9.9	7.7	4.4
12	*****	*****	13.3	13.1	12.7	12.3	12.0	11.6	11.2	10.8	10.4	9.5	7.3	4.2
13	*****	*****	*****	12.5	12.2	11.9	11.5	11.1	10.8	10.4	10.0	9.1	7.0	4.1
14	*****	*****	*****	12.1	11.8	11.4	11.1	10.7	10.4	10.0	9.6	8.8	6.8	3.9
15	*****	*****	*****	11.7	11.4	11.0	10.7	10.4	10.0	9.7	9.3	8.5	6.6	3.8
16	*****	*****	*****	11.3	11.0	10.7	10.4	10.0	9.7	9.4	9.0	8.2	6.4	3.7
17	*****	*****	*****	10.7	10.4	10.1	9.8	9.5	9.2	8.8	8.5	7.7	6.0	3.5
18	*****	*****	*****	10.4	10.1	9.8	9.5	9.2	8.9	8.6	8.2	7.5	5.8	3.4
19	*****	*****	*****	10.1	9.8	9.6	9.3	9.0	8.7	8.4	8.0	7.3	5.7	3.3
20	*****	*****	*****	9.9	9.6	9.3	9.1	8.8	8.5	8.2	7.8	7.2	5.5	3.2
21	*****	*****	*****	9.6	9.4	9.1	8.8	8.6	8.3	8.0	7.7	7.0	5.4	3.1
22	*****	*****	*****	9.4	9.2	8.9	8.7	8.4	8.1	7.8	7.5	6.8	5.3	3.1
23	*****	*****	*****	9.2	9.0	8.7	8.5	8.2	7.9	7.6	7.3	6.7	5.2	3.0
24	*****	*****	*****	9.0	8.8	8.6	8.3	8.0	7.8	7.5	7.2	6.6	5.1	2.9
25	*****	*****	*****	8.3	8.0	7.8	7.6	7.3	7.1	6.8	6.6	6.0	4.6	2.7
30	*****	*****	*****	*****	7.4	7.2	7.0	6.8	6.6	6.3	6.1	5.5	4.3	2.5
35	*****	*****	*****	*****	7.0	6.8	6.6	6.4	6.1	5.9	5.7	5.2	4.0	2.3
40	*****	*****	*****	*****	6.6	6.4	6.2	6.0	5.8	5.6	5.4	4.9	3.8	2.2
45	*****	*****	*****	*****	6.2	6.1	5.9	5.7	5.5	5.3	5.1	4.6	3.6	2.1
50	*****	*****	*****	*****	5.9	5.8	5.6	5.4	5.2	5.0	4.8	4.4	3.4	2.0
55	*****	*****	*****	*****	5.7	5.5	5.4	5.2	5.0	4.8	4.6	4.2	3.3	1.9
60	*****	*****	*****	*****	*****	5.3	5.1	5.0	4.8	4.6	4.5	4.1	3.2	1.8
65	*****	*****	*****	*****	*****	5.1	5.0	4.8	4.6	4.5	4.3	3.9	3.0	1.8
70	*****	*****	*****	*****	*****	4.9	4.8	4.6	4.5	4.3	4.2	3.8	2.9	1.7
75	*****	*****	*****	*****	*****	4.8	4.6	4.5	4.3	4.2	4.0	3.7	2.8	1.6
80	*****	*****	*****	*****	*****	4.6	4.5	4.4	4.2	4.1	3.9	3.6	2.8	1.6
85	*****	*****	*****	*****	*****	4.5	4.4	4.2	4.1	4.0	3.8	3.5	2.7	1.5
90	*****	*****	*****	*****	*****	4.4	4.3	4.2	4.0	3.8	3.7	3.4	2.6	1.5
95	*****	*****	*****	*****	*****	4.2	4.1	4.0	3.9	3.7	3.6	3.3	2.5	1.5
100	*****	*****	*****	*****	*****	4.2	4.0	3.9	3.7	3.6	3.5	3.2	2.3	1.3
125	*****	*****	*****	*****	*****	3.7	3.6	3.5	3.3	3.2	2.9	2.7	2.1	1.2
150	*****	*****	*****	*****	*****	3.3	3.3	3.2	3.1	2.9	2.7	2.3	1.8	1.0
200	*****	*****	*****	*****	*****	*****	2.6	2.5	2.3	2.1	1.9	1.6	0.9	0.7
250	*****	*****	*****	*****	*****	*****	*****	2.3	2.1	1.9	1.6	1.3	0.8	0.7
300	*****	*****	*****	*****	*****	*****	*****	*****	1.9	1.5	1.3	1.0	0.7	0.7
350	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.4	1.1	0.8	0.6	0.6
400	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.3	1.0	0.7	0.5	0.5
450	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.3	1.0	0.7	0.5	0.5
500	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.3	1.0	0.7	0.5	0.5

NOTES:



- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550  
(2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE 00000560  
THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES 00000570  
THE SAMPLING VARIABILITY. 00000580  
(3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, 00000590  
USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE 00000600  
COLUMN CLOSEST TO THE PERCENTAGE. 00000610  
(4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN 00000620  
GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE 00000630  
EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000640

TABLE H4

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

NEW BRUNSWICK

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	*****	40.4	40.2	39.6	38.5	37.5	36.3	35.2	34.0	32.8	31.5	28.7	22.3	12.8
2	*****	29.6	28.4	28.0	27.3	26.5	25.7	24.9	24.0	23.2	22.3	20.3	15.7	9.1
3	*****	23.3	23.2	22.9	22.3	21.6	21.0	20.3	19.6	18.9	18.2	16.6	12.8	7.4
4	*****	20.2	20.1	19.8	19.3	18.7	18.2	17.6	17.0	16.4	15.7	14.4	11.1	6.4
5	*****	18.1	18.0	17.7	17.2	16.8	16.3	15.7	15.2	14.6	14.1	12.8	10.0	5.7
6	*****	16.4	16.4	16.2	15.7	15.3	14.8	14.4	13.9	13.4	12.8	11.7	9.1	5.2
7	*****	15.2	15.2	15.0	14.6	14.2	13.7	13.3	12.8	12.4	11.9	10.9	8.4	4.9
8	*****	14.2	14.2	14.0	13.6	13.2	12.8	12.4	12.0	11.6	11.1	10.2	7.9	4.5
9	*****	13.4	13.4	13.2	12.8	12.5	12.1	11.7	11.3	10.9	10.5	9.6	7.4	4.3
10	*****	12.7	12.7	12.5	12.2	11.8	11.5	11.1	10.7	10.4	10.0	9.1	7.0	4.1
11	*****	*****	*****	11.9	11.6	11.3	11.0	10.6	10.2	9.9	9.5	8.7	6.7	3.9
12	*****	*****	*****	11.4	11.1	10.8	10.5	10.2	9.8	9.5	9.1	8.3	6.4	3.7
13	*****	*****	*****	11.0	10.7	10.4	10.1	9.8	9.4	9.1	8.7	8.0	6.2	3.6
14	*****	*****	*****	10.6	10.3	10.0	9.7	9.4	9.1	8.8	8.4	7.7	5.9	3.4
15	*****	*****	*****	10.2	10.0	9.7	9.4	9.1	8.8	8.5	8.1	7.4	5.7	3.3
16	*****	*****	*****	9.9	9.6	9.4	9.1	8.8	8.5	8.2	7.9	7.2	5.6	3.2
17	*****	*****	*****	9.6	9.3	9.1	8.8	8.5	8.2	7.9	7.6	7.0	5.4	3.1
18	*****	*****	*****	9.3	9.1	8.8	8.6	8.3	8.0	7.7	7.4	6.8	5.2	3.0
19	*****	*****	*****	9.1	8.8	8.6	8.3	8.1	7.8	7.5	7.2	6.6	5.1	2.9
20	*****	*****	*****	8.9	8.6	8.4	8.1	7.9	7.6	7.3	7.0	6.4	5.0	2.9
21	*****	*****	*****	8.6	8.4	8.2	7.9	7.7	7.4	7.1	6.9	6.3	4.9	2.8
22	*****	*****	*****	8.4	8.2	8.0	7.7	7.5	7.2	7.0	6.7	6.1	4.7	2.7
23	*****	*****	*****	8.3	8.0	7.8	7.6	7.3	7.1	6.8	6.6	6.0	4.6	2.7
24	*****	*****	*****	8.1	7.9	7.6	7.4	7.2	6.9	6.7	6.4	5.9	4.5	2.6
25	*****	*****	*****	7.9	7.7	7.5	7.3	7.0	6.8	6.6	6.3	5.7	4.5	2.6
30	*****	*****	*****	*****	7.0	6.8	6.6	6.4	6.2	6.0	5.7	5.2	4.1	2.3
35	*****	*****	*****	*****	6.5	6.3	6.1	5.9	5.7	5.5	5.3	4.9	3.8	2.2
40	*****	*****	*****	*****	6.1	5.9	5.7	5.6	5.4	5.2	5.0	4.5	3.5	2.0
45	*****	*****	*****	*****	5.7	5.6	5.4	5.2	5.1	4.9	4.7	4.3	3.3	1.9
50	*****	*****	*****	*****	5.5	5.3	5.1	5.0	4.8	4.6	4.5	4.1	3.1	1.8
55	*****	*****	*****	*****	*****	5.1	4.9	4.7	4.6	4.4	4.2	3.9	3.0	1.7
60	*****	*****	*****	*****	*****	4.8	4.7	4.5	4.4	4.2	4.1	3.7	2.9	1.7
65	*****	*****	*****	*****	*****	4.6	4.5	4.4	4.2	4.1	3.9	3.6	2.8	1.6
70	*****	*****	*****	*****	*****	4.5	4.3	4.2	4.1	3.9	3.8	3.4	2.7	1.5
75	*****	*****	*****	*****	*****	4.3	4.2	4.1	3.9	3.8	3.7	3.2	2.6	1.5
80	*****	*****	*****	*****	*****	*****	4.1	3.9	3.8	3.7	3.5	3.2	2.5	1.4
85	*****	*****	*****	*****	*****	*****	3.9	3.8	3.7	3.6	3.4	3.1	2.4	1.4
90	*****	*****	*****	*****	*****	*****	3.7	3.6	3.5	3.4	3.3	3.0	2.3	1.4
95	*****	*****	*****	*****	*****	*****	3.7	3.6	3.5	3.4	3.2	2.9	2.3	1.3
100	*****	*****	*****	*****	*****	*****	3.6	3.5	3.4	3.3	3.1	2.9	2.2	1.3
125	*****	*****	*****	*****	*****	*****	3.1	3.0	2.9	2.8	2.6	2.0	1.1	0.6
150	*****	*****	*****	*****	*****	*****	2.8	2.7	2.6	2.5	2.3	1.6	0.9	0.6
200	*****	*****	*****	*****	*****	*****	*****	*****	2.2	2.0	1.8	1.4	0.8	0.6
250	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
300	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
350	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
400	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
450	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

NOTES:



- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE 00000560  
THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES 00000570  
THE SAMPLING VARIABILITY. 00000580
- (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, 00000590  
USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE 00000600  
COLUMN CLOSEST TO THE PERCENTAGE. 00000610
- (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN 00000620  
GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE 00000630  
EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000640

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982  
ATLANTIC

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	41.5	41.3	41.1	40.5	39.4	38.3	37.1	36.0	34.7	33.5	32.2	29.4	22.7	13.1
2	29.2	29.1	28.7	28.6	27.8	27.1	26.3	25.4	24.6	23.7	22.7	20.8	16.1	9.3
3	23.8	23.7	23.4	23.4	22.7	22.1	21.4	20.8	20.1	19.3	18.6	16.9	13.1	7.6
4	20.7	20.5	20.2	20.2	19.7	19.1	18.6	18.0	17.4	16.7	16.1	14.7	11.4	6.6
5	18.5	18.4	18.4	18.4	17.6	17.1	16.6	16.1	15.5	15.0	14.4	13.1	10.2	5.9
6	16.9	16.8	16.8	16.5	16.1	15.6	15.2	14.7	14.2	13.7	13.1	12.0	9.3	5.4
7	15.6	15.5	15.3	15.3	14.9	14.5	14.0	13.6	13.1	12.7	12.2	11.1	8.6	5.0
8	14.6	14.5	14.5	14.3	13.9	13.5	13.1	12.7	12.3	11.8	11.4	10.4	8.0	4.6
9	13.8	13.7	13.5	13.5	13.1	12.8	12.4	12.0	11.6	11.2	10.7	9.8	7.6	4.4
10	13.1	13.0	12.8	12.8	12.5	12.1	11.7	11.4	11.0	10.6	10.2	9.3	7.2	4.2
11	12.5	12.4	12.2	12.2	11.9	11.5	11.2	10.8	10.5	10.1	9.7	8.9	6.9	4.0
12	11.9	11.9	11.7	11.7	11.4	11.0	10.7	10.4	10.0	9.7	9.3	8.5	6.6	3.8
13	11.5	11.4	11.2	11.2	10.9	10.6	10.3	10.0	9.6	9.3	8.9	8.1	6.3	3.6
14	11.0	11.0	10.8	10.8	10.5	10.2	9.9	9.6	9.3	8.9	8.6	7.8	6.1	3.5
15	10.7	10.6	10.4	10.4	10.2	9.9	9.6	9.3	9.0	8.6	8.3	7.6	5.9	3.4
16	10.3	10.3	10.1	10.1	9.8	9.6	9.3	9.0	8.7	8.4	8.0	7.3	5.7	3.3
17	10.0	10.0	9.8	9.8	9.6	9.3	9.0	8.7	8.4	8.1	7.8	7.1	5.5	3.2
18	9.7	9.7	9.5	9.5	9.3	9.0	8.8	8.5	8.2	7.9	7.6	6.9	5.4	3.1
19	9.4	9.4	9.3	9.3	9.0	8.8	8.5	8.2	8.0	7.7	7.4	6.7	5.2	3.0
20	9.0	9.0	9.0	9.0	8.8	8.6	8.3	8.0	7.8	7.5	7.2	6.6	5.1	2.9
21	8.8	8.8	8.8	8.8	8.6	8.4	8.1	7.8	7.6	7.3	7.0	6.4	5.0	2.9
22	8.6	8.6	8.6	8.6	8.4	8.2	7.9	7.7	7.5	7.2	6.9	6.3	4.8	2.8
23	8.4	8.4	8.4	8.4	8.2	8.0	7.7	7.5	7.2	7.0	6.7	6.1	4.7	2.7
24	8.2	8.2	8.2	8.1	7.9	7.8	7.6	7.3	7.1	6.8	6.6	6.0	4.6	2.6
25	8.1	8.1	8.1	8.1	7.9	7.7	7.4	7.2	6.9	6.7	6.4	5.9	4.5	2.6
30	7.5	7.4	7.4	7.4	7.2	7.0	6.8	6.6	6.3	6.1	5.9	5.4	4.2	2.4
35	6.8	6.8	6.8	6.8	6.7	6.5	6.3	6.1	5.9	5.7	5.5	5.0	3.8	2.2
40	6.0	6.0	6.0	6.0	6.2	6.1	5.9	5.7	5.5	5.3	5.1	4.6	3.6	2.1
45	5.7	5.7	5.7	5.7	5.6	5.4	5.3	5.1	4.9	4.7	4.5	4.4	3.4	2.0
50	5.5	5.5	5.5	5.5	5.3	5.2	5.0	4.8	4.7	4.5	4.3	4.0	3.1	1.9
55	5.2	5.2	5.2	5.2	5.1	4.9	4.8	4.6	4.5	4.3	4.2	3.8	2.9	1.7
60	4.8	4.8	4.8	4.8	4.7	4.6	4.4	4.3	4.2	4.0	3.8	3.6	2.8	1.6
65	4.7	4.7	4.7	4.7	4.5	4.4	4.3	4.2	4.0	3.9	3.7	3.4	2.6	1.6
70	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.7	3.6	3.3	2.5	1.5
75	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.5	3.2	2.5	1.4
80	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.4	3.1	2.4	1.4
85	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
90	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
95	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
100	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
105	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
110	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
115	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
120	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
125	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
130	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
135	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
140	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
145	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
150	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
155	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
160	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
165	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
170	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
175	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
180	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
185	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
190	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
195	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
200	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
205	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
210	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
215	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
220	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
225	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
230	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
235	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
240	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
245	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
250	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
255	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
260	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
265	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
270	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
275	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
280	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
285	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
290	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
295	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
300	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
305	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
310	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
315	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
320	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
325	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
330	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
335	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
340	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
345	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
350	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
355	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
360	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
365	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
370	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
375	4.5	4.5	4.5	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.3	3.0	2.3	1.3
380	4.5	4.5	4.5	4.5	4									

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NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE 00000560  
THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES 00000570  
THE SAMPLING VARIABILITY. 00000580
- (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, 00000590  
USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE 00000600  
COLUMN CLOSEST TO THE PERCENTAGE. 00000610
- (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN 00000620  
GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE 00000630  
EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000640

TABLE H6

## CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

QUEBEC

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	87.8	87.4	87.0	85.6	83.4	81.0	78.6	76.1	73.5	70.8	68.1	62.1	48.1	27.8
2	62.1	61.8	61.5	60.6	58.9	57.3	55.6	53.8	52.0	50.1	48.1	43.9	34.0	19.6
3	50.7	50.5	50.2	49.4	48.1	46.8	45.4	43.9	42.4	40.9	39.3	35.9	27.8	16.0
4	43.9	43.7	43.5	42.8	41.7	40.5	39.3	38.0	36.8	35.4	34.0	31.1	24.1	13.9
5	*****	39.1	38.9	38.3	37.3	36.2	35.1	34.0	32.9	31.7	30.4	27.8	21.5	12.4
6	*****	35.7	35.5	35.0	34.0	33.1	32.1	31.1	30.0	28.9	27.8	25.4	19.6	11.3
7	*****	33.0	32.9	32.4	31.5	30.6	29.7	28.8	27.8	26.8	25.7	23.5	16.2	10.5
8	*****	30.9	30.8	30.3	29.5	28.6	27.8	26.9	26.0	25.0	24.1	22.0	17.0	9.8
9	*****	29.1	29.0	28.5	27.8	27.0	26.2	25.4	24.5	23.6	22.7	20.7	16.0	9.3
10	*****	27.6	27.5	27.1	26.4	25.6	24.9	24.1	23.2	22.4	21.5	19.6	15.2	8.8
11	*****	26.4	26.2	25.8	25.1	24.4	23.7	22.9	22.2	21.4	20.5	18.7	14.5	8.4
12	*****	25.2	25.1	24.7	24.1	23.4	22.7	22.0	21.2	20.4	19.6	17.9	13.9	8.0
13	*****	24.2	24.1	23.8	23.1	22.5	21.8	21.1	20.4	19.6	18.9	17.2	13.3	7.7
14	*****	23.4	23.2	22.9	22.1	21.6	21.0	20.3	19.6	18.9	18.2	16.6	12.9	7.4
15	*****	22.6	22.5	22.1	21.4	20.9	20.3	19.6	19.0	18.3	17.6	16.0	12.4	7.2
16	*****	21.9	21.7	21.4	20.8	20.3	19.6	19.0	18.4	17.7	17.0	15.5	12.0	6.9
17	*****	21.2	21.1	20.8	20.2	19.6	19.1	18.5	17.8	17.2	16.5	15.1	11.7	6.7
18	*****	20.6	20.5	20.2	19.6	19.1	18.5	17.9	17.3	16.7	16.0	14.6	11.3	6.5
19	*****	20.1	20.0	19.6	19.1	18.6	18.0	17.5	16.9	16.3	15.6	14.3	11.0	6.4
20	*****	19.5	19.4	19.1	18.7	18.2	17.6	17.0	16.4	15.8	15.2	13.9	10.8	6.2
21	*****	18.6	18.5	18.3	17.9	17.4	16.8	16.2	15.7	15.1	14.5	13.2	10.3	5.9
22	*****	18.2	18.1	17.9	17.5	17.0	16.4	15.9	15.3	14.8	14.2	13.0	10.0	5.8
23	*****	17.8	17.8	17.4	17.1	16.7	16.0	15.5	15.0	14.5	13.9	12.7	9.8	5.7
24	*****	17.5	17.4	17.1	16.7	16.2	15.7	15.2	14.7	14.2	13.6	12.4	9.6	5.6
25	*****	16.0	15.9	15.6	15.2	14.8	14.3	13.9	13.4	12.9	12.4	11.3	8.8	5.1
30	*****	14.8	14.7	14.5	14.1	13.7	13.3	12.9	12.4	12.0	11.5	10.5	8.1	4.7
35	*****	13.8	13.8	13.5	13.2	12.8	12.4	12.0	11.6	11.2	10.8	9.8	7.6	4.4
40	*****	13.0	13.0	12.8	12.4	12.1	11.7	11.3	11.0	10.6	10.1	9.3	7.2	4.1
45	*****	*****	12.3	12.1	11.8	11.5	11.1	10.8	10.4	10.0	9.6	8.8	6.8	3.9
50	*****	*****	11.7	11.5	11.2	10.9	10.6	10.3	9.9	9.6	9.2	8.4	6.5	3.7
55	*****	*****	11.2	11.1	10.8	10.5	10.1	9.8	9.5	9.1	8.8	8.0	6.2	3.6
60	*****	*****	10.8	10.6	10.3	10.0	9.7	9.4	9.1	8.8	8.4	7.7	6.0	3.4
65	*****	*****	10.4	10.2	10.0	9.7	9.4	9.1	8.8	8.5	8.1	7.4	5.8	3.3
70	*****	*****	10.0	9.9	9.6	9.4	9.1	8.8	8.5	8.2	7.9	7.2	5.6	3.2
75	*****	*****	9.7	9.6	9.3	9.1	8.8	8.5	8.2	7.9	7.6	6.9	5.4	3.1
80	*****	*****	9.4	9.3	9.0	8.8	8.5	8.3	8.0	7.7	7.4	6.7	5.2	3.0
85	*****	*****	9.2	9.0	8.8	8.5	8.3	8.0	7.7	7.5	7.2	6.5	5.1	2.9
90	*****	*****	8.9	8.8	8.6	8.3	8.1	7.8	7.5	7.3	7.0	6.4	4.9	2.9
95	*****	*****	*****	8.6	8.3	8.1	7.9	7.6	7.4	7.1	6.8	6.2	4.8	2.8
100	*****	*****	*****	8.3	8.1	7.9	7.6	7.4	7.1	6.8	6.5	5.6	4.3	2.5
125	*****	*****	*****	7.7	7.5	7.2	7.0	6.8	6.6	6.3	6.1	5.1	3.9	2.3
150	*****	*****	*****	7.0	6.8	6.6	6.4	6.2	6.0	5.8	5.6	4.4	3.4	2.0
200	*****	*****	*****	6.1	5.9	5.7	5.6	5.4	5.2	5.0	4.8	3.9	3.0	1.8
250	*****	*****	*****	*****	5.3	5.1	5.0	4.8	4.6	4.5	4.3	3.6	2.8	1.6
300	*****	*****	*****	*****	4.8	4.7	4.5	4.4	4.2	4.1	3.9	3.3	2.6	1.5
350	*****	*****	*****	*****	4.5	4.3	4.2	4.1	3.9	3.8	3.6	3.1	2.4	1.4
400	*****	*****	*****	*****	4.2	4.1	3.9	3.8	3.7	3.5	3.4	2.9	2.3	1.3
450	*****	*****	*****	*****	3.9	3.8	3.7	3.6	3.5	3.3	3.2	2.8	2.2	1.2
500	*****	*****	*****	*****	3.6	3.6	3.5	3.4	3.3	3.2	3.0	2.5	1.8	1.0
750	*****	*****	*****	*****	2.9	2.9	2.9	2.8	2.7	2.6	2.5	2.0	1.5	0.9
1000	*****	*****	*****	*****	2.4	2.4	2.4	2.4	2.3	2.2	2.2	1.5	1.0	0.9







TABLE H7

## CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

## ONTARIO

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	95.0	94.6	94.1	92.6	90.2	87.6	85.0	82.3	79.5	76.6	73.6	67.2	52.0	30.1
2	67.2	66.9	66.5	65.5	63.7	62.0	60.1	58.2	56.2	54.2	52.0	47.5	36.8	21.2
3	54.8	54.6	54.3	53.5	52.0	50.6	49.1	47.5	45.9	44.2	42.5	38.8	30.1	17.3
4	47.5	47.3	47.0	46.3	45.1	43.8	42.5	41.1	39.8	38.3	36.8	33.6	26.0	15.0
5	42.5	42.3	42.1	41.4	40.3	39.2	38.0	36.8	35.6	34.3	32.9	30.1	23.3	13.4
6	38.8	38.6	38.4	37.8	36.8	35.8	34.7	33.6	32.5	31.3	30.1	27.4	21.2	12.3
7	*****	35.7	35.6	35.0	34.1	33.1	32.1	31.1	30.1	29.0	27.8	25.4	19.7	11.4
8	*****	33.4	33.3	32.7	31.9	31.0	30.1	29.1	28.1	27.1	26.0	23.8	18.4	10.6
9	*****	31.5	31.4	30.9	30.1	29.2	28.3	27.4	26.5	25.5	24.5	22.4	17.3	10.0
10	*****	29.9	29.7	29.3	28.5	27.7	26.9	26.0	25.1	24.2	23.3	21.2	16.5	9.5
11	*****	28.5	28.4	27.9	27.2	26.4	25.6	24.8	24.0	23.1	22.2	20.3	15.7	9.1
12	*****	27.3	27.2	26.7	26.0	25.3	24.5	23.8	23.0	22.1	21.2	19.4	15.0	8.7
13	*****	26.2	26.1	25.7	25.0	24.3	23.6	22.8	22.1	21.2	20.4	18.6	14.4	8.3
14	*****	25.3	25.1	24.8	24.1	23.4	22.7	22.0	21.2	20.5	19.7	18.0	13.9	8.0
15	*****	24.4	24.3	23.9	23.3	22.6	21.9	21.2	20.5	19.8	19.0	17.3	13.4	7.8
16	*****	23.6	23.5	23.2	22.5	21.9	21.2	20.6	19.9	19.2	18.4	16.8	13.0	7.5
17	*****	22.9	22.8	22.5	21.8	21.2	20.6	20.0	19.3	18.6	17.9	16.3	12.6	7.3
18	*****	22.3	22.2	21.8	21.2	20.7	20.0	19.4	18.7	18.1	17.3	15.8	12.3	7.1
19	*****	21.7	21.6	21.2	20.7	20.1	19.5	18.9	18.2	17.6	16.9	15.4	11.9	6.9
20	*****	21.1	21.0	20.7	20.2	19.6	19.0	18.4	17.8	17.1	16.5	15.0	11.6	6.7
21	*****	20.6	20.5	20.2	19.7	19.1	18.5	18.0	17.3	16.7	16.1	14.7	11.4	6.6
22	*****	20.2	20.1	19.7	19.3	18.7	18.1	17.5	17.0	16.3	15.7	14.3	11.1	6.4
23	*****	19.7	19.6	19.3	18.9	18.3	17.7	17.2	16.6	16.0	15.3	14.0	10.9	6.3
24	*****	19.3	19.2	18.9	18.5	17.9	17.3	16.8	16.2	15.6	15.0	13.7	10.6	6.1
25	*****	18.9	18.8	18.5	18.0	17.5	17.0	16.5	15.9	15.3	14.7	13.4	10.4	6.0
30	*****	17.3	17.2	16.9	16.5	16.0	15.5	15.0	14.5	14.0	13.4	12.3	9.5	5.5
35	*****	16.0	15.9	15.7	15.2	14.6	14.4	13.9	13.4	13.0	12.4	11.4	8.8	5.1
40	*****	15.0	14.9	14.6	14.3	13.9	13.4	13.0	12.6	12.1	11.6	10.6	8.2	4.8
45	*****	14.1	14.0	13.8	13.4	13.1	12.7	12.3	11.9	11.4	11.0	10.0	7.8	4.5
50	*****	13.4	13.3	13.1	12.7	12.4	12.0	11.6	11.2	10.8	10.4	9.5	7.4	4.2
55	*****	12.7	12.7	12.5	12.2	11.8	11.5	11.1	10.7	10.3	9.9	9.1	7.0	4.1
60	*****	12.2	12.1	12.0	11.6	11.3	11.0	10.6	10.3	9.9	9.5	8.7	6.7	3.9
65	*****	11.7	11.7	11.5	11.2	10.9	10.5	10.2	9.9	9.5	9.1	8.3	6.5	3.7
70	*****	11.2	11.2	11.1	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.0	6.2	3.6
75	*****	10.9	10.9	10.7	10.4	10.1	9.8	9.5	9.2	8.8	8.5	7.8	6.0	3.5
80	*****	10.5	10.5	10.4	10.1	9.8	9.5	9.2	8.9	8.6	8.2	7.5	5.8	3.4
85	*****	10.2	10.2	10.0	9.8	9.5	9.2	8.9	8.6	8.3	8.0	7.3	5.6	3.3
90	*****	9.9	9.9	9.8	9.5	9.2	8.9	8.7	8.4	8.1	7.8	7.1	5.5	3.2
95	*****	9.7	9.7	9.5	9.2	9.0	8.7	8.4	8.2	7.9	7.6	6.9	5.3	3.1
100	*****	9.4	9.4	9.3	9.0	8.8	8.5	8.2	8.0	7.7	7.4	6.7	5.2	3.0
125	*****	8.4	8.4	8.3	8.1	7.8	7.6	7.4	7.1	6.9	6.6	6.0	4.7	2.7
150	*****	7.6	7.6	7.4	7.2	6.9	6.7	6.5	6.3	6.0	5.8	5.5	4.2	2.5
200	*****	6.5	6.5	6.4	6.2	6.0	5.8	5.6	5.4	5.2	4.9	4.8	3.7	2.1
250	*****	5.9	5.9	5.7	5.5	5.4	5.2	5.0	4.8	4.7	4.5	4.2	3.3	1.9
300	*****	5.3	5.3	5.2	5.1	4.9	4.8	4.6	4.4	4.2	4.1	3.9	3.0	1.7
350	*****	*****	*****	4.8	4.7	4.5	4.4	4.2	4.0	3.8	3.7	3.6	2.8	1.6
400	*****	*****	*****	4.5	4.4	4.2	4.1	4.0	3.8	3.6	3.5	3.4	2.6	1.5
450	*****	*****	*****	4.0	3.9	3.8	3.7	3.6	3.4	3.3	3.2	3.1	2.5	1.4
500	*****	*****	*****	*****	4.0	3.9	3.8	3.7	3.6	3.4	3.3	3.2	2.3	1.3
750	*****	*****	*****	*****	*****	3.2	3.1	3.0	2.9	2.8	2.7	2.6	1.9	1.1
1000	*****	*****	2.8	2.7	2.6	2.6	2.5	2.5	2.4	2.3	2.3	2.2	1.6	1.0

1500	*****	2.1	2.0	1.9	1.7	1.3	0.8
2000	*****	1.8	1.7	1.6	1.5	1.2	0.7
3000	*****	*****	*****	*****	1.2	1.0	0.5
4000	*****	*****	*****	*****	*****	0.8	0.5
5000	*****	*****	*****	*****	*****	*****	0.4
6000	*****	*****	*****	*****	*****	*****	0.4

NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES THE SAMPLING VARIABILITY. 00000560  
00000570  
00000580
- (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE COLUMN CLOSEST TO THE PERCENTAGE. 00000590  
00000600  
00000610
- (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000620  
00000630  
00000640

TABLE H8

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

MANITOBA

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	*****	47.5	47.3	46.5	45.3	44.0	42.7	41.4	40.0	38.5	37.0	33.8	26.2	15.1
2	*****	33.6	33.4	32.9	32.0	31.1	30.2	29.2	28.3	27.2	26.2	23.9	18.5	10.7
3	*****	27.4	27.3	26.9	26.2	25.4	24.7	23.9	23.1	22.2	21.4	19.5	15.1	8.7
4	*****	23.8	23.6	23.3	22.7	22.0	21.4	20.7	20.0	19.2	18.5	16.9	13.1	7.6
5	*****	21.2	21.1	20.8	20.3	19.7	19.1	18.5	17.9	17.2	16.5	15.1	11.7	6.8
6	*****	19.4	19.3	19.0	18.5	18.0	17.4	16.9	16.3	15.7	15.1	13.8	10.7	6.2
7	*****	18.0	17.9	17.6	17.1	16.6	16.1	15.6	15.1	14.6	14.0	12.8	9.9	5.7
8	*****	16.7	16.5	16.3	16.0	15.6	15.1	14.6	14.1	13.6	13.1	11.9	9.2	5.3
9	*****	15.8	15.6	15.5	15.1	14.7	14.2	13.8	13.3	12.8	12.3	11.3	8.7	5.0
10	*****	14.9	14.7	14.7	14.3	13.9	13.5	13.1	12.6	12.2	11.7	10.7	8.3	4.8
11	*****	14.3	14.0	14.0	13.7	13.3	12.9	12.5	12.0	11.6	11.2	10.2	7.9	4.6
12	*****	13.6	13.4	13.4	13.1	12.7	12.3	11.9	11.5	11.1	10.7	9.7	7.6	4.4
13	*****	13.1	12.9	12.9	12.6	12.2	11.8	11.5	11.1	10.7	10.3	9.4	7.3	4.2
14	*****	12.6	12.4	12.4	12.1	11.8	11.4	11.1	10.7	10.3	9.9	9.0	7.0	4.0
15	*****	12.2	12.0	12.0	11.7	11.4	11.0	10.7	10.3	9.9	9.6	8.7	6.8	3.9
16	*****	11.6	11.3	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.2	6.5	3.8
17	*****	11.3	11.0	11.0	10.7	10.4	10.1	9.7	9.4	9.1	8.7	8.0	6.3	3.7
18	*****	11.0	10.7	10.7	10.4	10.1	9.8	9.5	9.2	8.8	8.5	7.7	6.0	3.6
19	*****	10.7	10.4	10.4	10.1	9.8	9.6	9.2	8.9	8.6	8.3	7.6	5.8	3.4
20	*****	10.4	10.1	10.1	9.8	9.6	9.3	9.0	8.7	8.4	8.1	7.4	5.7	3.3
21	*****	10.2	9.9	9.9	9.6	9.4	9.1	8.8	8.5	8.2	7.9	7.2	5.6	3.2
22	*****	9.9	9.7	9.7	9.4	9.2	8.9	8.6	8.3	8.0	7.7	7.0	5.5	3.1
23	*****	9.7	9.4	9.4	9.2	8.9	8.6	8.3	8.0	7.7	7.4	6.9	5.3	3.1
24	*****	9.5	9.2	9.2	9.0	8.7	8.4	8.1	7.8	7.5	7.2	6.6	5.0	3.0
25	*****	9.3	9.1	9.1	8.8	8.5	8.2	7.9	7.6	7.3	7.0	6.4	4.8	2.8
30	*****	8.5	8.3	8.0	7.8	7.6	7.2	7.0	6.8	6.5	6.3	5.7	4.4	2.6
35	*****	7.9	7.7	7.4	7.2	7.0	6.8	6.5	6.3	6.1	5.8	5.2	4.1	2.4
40	*****	7.2	7.0	6.8	6.6	6.4	6.2	6.0	5.7	5.4	5.2	4.6	3.7	2.3
45	*****	6.8	6.6	6.4	6.2	6.0	5.8	5.6	5.4	5.2	5.0	4.4	3.5	2.1
50	*****	6.4	6.1	5.9	5.7	5.5	5.3	5.1	5.0	4.8	4.6	4.0	3.1	2.0
55	*****	6.1	5.8	5.7	5.5	5.3	5.1	4.9	4.8	4.6	4.4	3.8	3.0	1.9
60	*****	5.8	5.6	5.5	5.3	5.1	4.9	4.8	4.6	4.4	4.2	3.6	2.8	1.8
65	*****	5.6	5.4	5.3	5.1	4.9	4.8	4.6	4.4	4.3	4.1	3.5	2.7	1.7
70	*****	5.4	5.2	5.1	4.9	4.8	4.6	4.5	4.3	4.2	4.0	3.4	2.6	1.6
75	*****	5.2	5.1	4.9	4.8	4.6	4.5	4.3	4.2	4.0	3.9	3.3	2.5	1.5
80	*****	4.9	4.8	4.6	4.5	4.3	4.2	4.0	3.9	3.8	3.6	3.0	2.3	1.4
85	*****	4.6	4.5	4.4	4.3	4.1	4.0	3.8	3.7	3.5	3.4	2.8	2.1	1.3
90	*****	4.4	4.3	4.2	4.1	4.0	3.8	3.7	3.5	3.4	3.3	2.7	2.0	1.2
95	*****	4.2	4.1	4.0	3.9	3.8	3.6	3.5	3.3	3.2	3.0	2.4	1.8	1.1
100	*****	4.0	3.9	3.8	3.7	3.6	3.4	3.3	3.1	3.0	2.8	2.2	1.6	1.0
150	*****	3.5	3.4	3.3	3.2	3.1	2.9	2.8	2.6	2.5	2.3	1.8	1.3	0.8
200	*****	3.1	3.0	2.9	2.8	2.7	2.6	2.4	2.3	2.1	2.0	1.5	1.0	0.7
250	*****	2.8	2.7	2.6	2.5	2.4	2.3	2.1	2.0	1.9	1.7	1.3	0.9	0.6
300	*****	2.4	2.3	2.2	2.1	2.0	1.9	1.7	1.6	1.5	1.4	1.0	0.7	0.5
350	*****	2.1	2.0	1.9	1.8	1.7	1.6	1.4	1.3	1.2	1.1	0.8	0.6	0.4
400	*****	1.9	1.8	1.7	1.6	1.5	1.4	1.2	1.1	1.0	0.9	0.7	0.5	0.3
450	*****	1.7	1.6	1.5	1.4	1.3	1.2	1.0	0.9	0.8	0.7	0.5	0.4	0.2
500	*****	1.5	1.4	1.3	1.2	1.1	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.2

NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550  
 (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE 00000560  
 THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES 00000570  
 THE SAMPLING VARIABILITY. 00000580  
 (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, 00000590  
 USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE 00000600  
 COLUMN CLOSEST TO THE PERCENTAGE. 00000610  
 (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN 00000620  
 GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE 00000630  
 EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000640



TABLE H9

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

SASKATCHEWAN

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	*****	58.9	58.6	57.7	56.2	54.6	53.0	51.3	49.5	47.7	45.9	41.9	32.4	18.7
2	*****	41.7	41.4	40.8	39.7	38.6	37.4	36.3	35.0	33.8	32.4	29.6	22.9	13.2
3	*****	34.0	33.8	33.3	32.4	31.5	30.6	29.6	28.6	27.6	26.5	24.2	18.7	10.8
4	*****	29.5	29.3	28.9	28.1	27.3	26.5	25.6	24.8	23.9	22.9	20.9	16.2	9.4
5	*****	26.3	26.2	25.8	25.1	24.4	23.7	22.9	22.2	21.3	20.5	18.7	14.5	8.4
6	*****	24.1	23.9	23.6	22.9	22.3	21.6	20.9	20.2	19.5	18.7	17.1	13.2	7.6
7	*****	22.3	22.2	21.8	21.2	20.6	20.0	19.4	18.7	18.0	17.3	15.8	12.3	7.1
8	*****	20.7	20.7	20.4	19.9	19.3	18.7	18.1	17.5	16.9	16.2	14.8	11.5	6.6
9	*****	19.5	19.5	19.2	18.7	18.2	17.7	17.1	16.5	15.9	15.3	14.0	10.8	6.2
10	*****	18.5	18.5	18.2	17.8	17.3	16.7	16.2	15.7	15.1	14.5	13.2	10.3	5.9
11	*****	17.7	17.7	17.4	16.9	16.5	16.0	15.5	14.9	14.4	13.8	12.6	9.8	5.6
12	*****	16.9	16.9	16.7	16.2	15.8	15.3	14.8	14.3	13.8	13.2	12.1	9.4	5.4
13	*****	16.3	16.3	16.0	15.6	15.1	14.7	14.2	13.7	13.2	12.7	11.6	9.0	5.2
14	*****	15.7	15.7	15.4	15.0	14.6	14.2	13.7	13.2	12.8	12.3	11.2	8.7	5.0
15	*****	14.9	14.9	14.6	14.2	13.7	13.2	12.8	12.4	12.0	11.5	10.5	8.4	4.8
16	*****	14.4	14.4	14.0	13.6	13.2	12.8	12.4	12.0	11.6	11.1	10.2	7.9	4.5
17	*****	14.0	14.0	13.6	13.2	12.9	12.5	12.1	11.7	11.3	10.8	9.9	7.6	4.4
18	*****	13.6	13.6	13.2	12.9	12.5	12.1	11.8	11.4	11.0	10.5	9.6	7.4	4.3
19	*****	13.2	13.2	12.9	12.6	12.2	11.8	11.5	11.1	10.7	10.3	9.4	7.3	4.2
20	*****	12.9	12.9	12.6	12.3	11.9	11.6	11.2	10.8	10.4	10.0	9.1	7.1	4.1
21	*****	12.6	12.6	12.3	12.0	11.6	11.3	10.9	10.6	10.2	9.8	8.9	6.9	4.0
22	*****	12.3	12.3	12.0	11.7	11.4	11.0	10.7	10.3	10.0	9.6	8.7	6.8	3.9
23	*****	12.0	12.0	11.8	11.5	11.1	10.8	10.5	10.1	9.7	9.4	8.5	6.6	3.8
24	*****	11.8	11.8	11.5	11.2	10.9	10.6	10.3	9.9	9.5	9.2	8.4	6.5	3.7
25	*****	11.5	11.5	11.2	10.9	10.6	10.3	9.9	9.5	9.1	8.7	7.6	5.9	3.4
30	*****	10.5	10.5	10.3	10.0	9.7	9.4	9.0	8.7	8.4	8.1	7.1	5.5	3.2
35	*****	9.8	9.8	9.6	9.2	8.9	8.7	8.4	8.1	7.8	7.5	6.6	5.1	3.0
40	*****	8.9	8.9	8.6	8.4	8.1	7.9	7.6	7.4	7.1	6.8	6.2	4.8	2.8
45	*****	8.4	8.4	8.1	7.9	7.7	7.5	7.3	7.0	6.8	6.5	5.9	4.6	2.6
50	*****	7.9	7.9	7.7	7.5	7.4	7.1	6.9	6.7	6.4	6.2	5.6	4.4	2.5
55	*****	7.6	7.6	7.4	7.1	7.0	6.8	6.6	6.4	6.2	5.9	5.4	4.2	2.4
60	*****	7.3	7.3	7.0	6.8	6.6	6.4	6.2	6.1	5.9	5.7	5.2	4.0	2.3
65	*****	7.0	7.0	6.8	6.6	6.4	6.2	6.1	5.9	5.7	5.5	5.0	3.9	2.2
70	*****	6.7	6.7	6.5	6.3	6.1	5.9	5.7	5.5	5.3	5.1	4.7	3.6	2.1
75	*****	6.3	6.3	6.1	5.9	5.7	5.6	5.4	5.2	5.0	4.8	4.4	3.4	2.0
80	*****	6.1	6.1	5.9	5.7	5.6	5.4	5.2	5.0	4.9	4.7	4.3	3.3	1.9
85	*****	5.9	5.9	5.7	5.6	5.4	5.2	5.0	4.8	4.6	4.4	4.0	3.2	1.9
90	*****	5.7	5.7	5.5	5.4	5.2	5.0	4.8	4.6	4.4	4.2	3.8	2.9	1.7
95	*****	5.5	5.5	5.3	5.1	4.9	4.7	4.6	4.4	4.3	4.1	3.7	2.6	1.5
100	*****	5.3	5.3	5.1	4.9	4.7	4.6	4.4	4.2	4.0	3.9	3.4	2.3	1.3
125	*****	4.7	4.7	4.6	4.4	4.2	4.0	3.8	3.5	3.4	3.2	2.6	1.5	1.2
150	*****	4.2	4.2	4.0	3.8	3.6	3.4	3.2	3.0	2.9	2.7	2.2	1.1	1.1
200	*****	3.5	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.3	2.1	1.7	1.0	1.0
250	*****	3.0	3.0	2.8	2.6	2.4	2.2	2.1	1.9	1.8	1.6	1.2	0.9	0.9
300	*****	2.9	2.9	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.1	0.8	0.8
350	*****	2.4	2.4	2.2	2.0	1.8	1.6	1.5	1.3	1.2	1.0	0.7	0.5	0.5
400	*****	2.2	2.2	2.0	1.8	1.6	1.4	1.3	1.1	1.0	0.8	0.5	0.4	0.4
450	*****	1.9	1.9	1.7	1.5	1.3	1.1	1.0	0.8	0.7	0.5	0.4	0.3	0.3
500	*****	1.7	1.7	1.5	1.3	1.1	0.9	0.8	0.6	0.5	0.4	0.3	0.2	0.2

NOTES:



- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550  
(2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE 00000560  
THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES 00000570  
THE SAMPLING VARIABILITY. 00000580  
(3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, 00000590  
USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE 00000600  
COLUMN CLOSEST TO THE PERCENTAGE. 00000610  
(4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN 00000620  
GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE 00000630  
EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000640

TABLE H10

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

ALBERTA

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	70.9	70.6	70.2	69.1	67.3	65.4	63.4	61.4	59.3	57.2	54.9	50.2	38.8	22.4
2	*****	49.9	49.6	48.9	47.6	46.2	44.9	43.4	42.0	40.4	38.8	35.5	27.5	15.9
3	*****	40.7	40.5	39.9	38.8	37.8	36.6	35.5	34.3	33.0	31.7	29.0	22.4	12.9
4	*****	35.3	35.1	34.6	33.6	32.7	31.7	30.7	29.7	28.6	27.5	25.1	19.4	11.2
5	*****	31.6	31.4	30.9	30.1	29.2	28.4	27.5	26.5	25.6	24.6	22.4	17.4	10.0
6	*****	28.8	28.7	28.2	27.5	26.7	25.9	25.1	24.2	23.3	22.4	20.5	15.9	9.2
7	*****	26.7	26.5	26.1	25.4	24.7	24.0	23.2	22.4	21.6	20.8	19.0	14.7	8.5
8	*****	25.0	24.8	24.4	23.8	23.1	22.4	21.7	21.0	20.2	19.4	17.7	13.7	7.9
9	*****	23.5	23.4	23.0	22.4	21.8	21.1	20.5	19.8	19.1	18.3	16.7	12.9	7.5
10	*****	22.3	22.2	21.9	21.3	20.7	20.1	19.4	18.8	18.1	17.4	15.9	12.3	7.1
11	*****	21.3	21.2	20.8	20.3	19.7	19.1	18.5	17.9	17.2	16.6	15.1	11.7	6.8
12	*****	20.4	20.3	20.0	19.4	18.9	18.3	17.7	17.1	16.5	15.9	14.5	11.2	6.5
13	*****	19.6	19.5	19.2	18.7	18.1	17.6	17.0	16.5	15.9	15.2	13.9	10.8	6.2
14	*****	18.9	18.8	18.5	18.0	17.5	17.0	16.4	15.9	15.3	14.8	13.4	10.4	6.0
15	*****	18.2	18.1	17.8	17.4	16.9	16.4	15.9	15.3	14.8	14.2	12.9	10.0	5.8
16	*****	17.6	17.6	17.3	16.8	16.3	15.9	15.4	14.8	14.3	13.7	12.5	9.7	5.6
17	*****	17.6	17.0	16.8	16.3	15.9	15.4	14.9	14.4	13.9	13.3	12.2	9.4	5.4
18	*****	16.5	16.5	16.3	15.9	15.4	15.0	14.5	14.0	13.5	12.9	11.8	9.2	5.3
19	*****	16.1	15.9	15.9	15.4	15.0	14.6	14.1	13.6	13.1	12.6	11.5	8.9	5.1
20	*****	15.7	15.5	15.5	15.0	14.6	14.2	13.7	13.3	12.8	12.3	11.2	8.7	5.0
21	*****	15.3	15.1	15.1	14.7	14.3	13.8	13.4	12.9	12.5	12.0	10.9	8.5	4.9
22	*****	15.0	14.7	14.7	14.4	14.0	13.5	13.1	12.7	12.2	11.7	10.7	8.3	4.8
23	*****	14.6	14.4	14.4	14.0	13.6	13.2	12.8	12.4	11.9	11.5	10.5	8.1	4.7
24	*****	14.3	14.1	14.1	13.7	13.3	12.9	12.5	12.1	11.7	11.2	10.2	7.9	4.6
25	*****	14.0	13.8	13.8	13.5	13.1	12.7	12.3	11.9	11.4	11.0	10.0	7.8	4.5
30	*****	12.8	12.6	12.6	12.3	11.9	11.6	11.2	10.8	10.4	10.0	9.2	7.1	4.1
35	*****	11.7	11.7	11.4	11.1	10.7	10.4	10.0	9.7	9.4	9.3	8.5	6.6	3.8
40	*****	10.9	10.6	10.3	10.0	9.7	9.5	9.2	8.8	8.5	8.2	7.5	6.1	3.5
45	*****	10.3	10.0	9.7	9.5	9.2	9.0	8.7	8.4	8.1	7.8	7.1	5.5	3.2
50	*****	9.8	9.5	9.2	9.0	8.7	8.6	8.3	8.0	7.7	7.4	6.8	5.2	3.0
55	*****	9.3	9.1	8.8	8.7	8.4	8.2	7.9	7.7	7.4	7.1	6.5	5.0	2.9
60	*****	8.9	8.7	8.4	8.3	8.1	7.9	7.6	7.4	7.1	6.8	6.2	4.8	2.8
65	*****	8.6	8.3	8.1	8.0	7.8	7.6	7.3	7.1	6.8	6.6	6.0	4.6	2.7
70	*****	8.3	8.0	7.8	7.6	7.6	7.3	7.1	6.9	6.6	6.3	5.8	4.5	2.6
75	*****	8.0	7.8	7.6	7.3	7.1	6.9	6.6	6.4	6.1	5.8	5.4	4.3	2.5
80	*****	7.7	7.5	7.3	7.1	6.9	6.7	6.4	6.2	6.0	5.8	5.4	4.2	2.4
85	*****	7.3	7.1	6.9	6.7	6.5	6.3	6.1	5.9	5.7	5.5	5.1	4.0	2.3
90	*****	6.9	6.7	6.5	6.3	6.1	5.9	5.7	5.5	5.3	5.1	4.7	3.9	2.2
95	*****	6.7	6.5	6.3	6.1	5.9	5.7	5.5	5.3	5.1	4.9	4.5	3.5	2.0
100	*****	6.0	5.8	5.7	5.5	5.3	5.1	4.9	4.8	4.7	4.5	4.1	3.2	1.8
125	*****	5.5	5.3	5.2	5.0	4.8	4.6	4.5	4.4	4.3	4.2	3.9	3.0	1.6
150	*****	5.5	5.3	5.2	5.0	4.8	4.6	4.5	4.4	4.3	4.2	3.9	3.0	1.6
200	*****	4.6	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.6	3.5	3.2	2.5	1.4
250	*****	4.0	4.0	3.9	3.8	3.6	3.5	3.4	3.3	3.2	3.1	2.9	2.2	1.3
300	*****	3.7	3.7	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.7	2.5	2.2	1.2
350	*****	3.3	3.3	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.2	1.1
400	*****	3.1	3.1	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.0	1.1
450	*****	2.8	2.8	2.8	2.8	2.7	2.6	2.6	2.5	2.4	2.3	2.2	1.9	1.0
500	*****	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.3	2.2	2.1	1.8	1.0
750	*****	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.3	2.2	2.1	1.7	0.8
1000	*****	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.3	2.2	2.1	1.7	0.7

NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS.
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES THE SAMPLING VARIABILITY.
- (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE COLUMN CLOSEST TO THE PERCENTAGE.
- (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL.

00000550  
00000560  
00000570  
00000580  
00000590  
00000600  
00000610  
00000620  
00000630  
00000640

PRAIRIES

NUMERATOR OF PERCENTAGE ( '000 )

ESTIMATED PERCENTAGE

	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	59.5	59.2	58.9	58.0	56.5	54.9	53.2	51.5	49.8	48.0	46.1	42.1	32.6	18.8
2	42.1	41.9	41.7	41.0	39.9	38.8	37.6	36.4	35.2	33.9	32.6	29.8	23.1	13.3
3	34.3	34.2	34.0	33.5	32.6	31.7	30.7	29.8	28.8	27.7	26.6	24.3	18.8	10.9
4	*****	29.6	29.5	29.0	28.2	27.4	26.6	25.8	24.9	24.0	23.1	21.0	16.3	9.4
5	*****	26.5	26.4	25.9	25.3	24.5	23.8	23.1	22.3	21.5	20.6	18.8	14.6	8.4
6	*****	24.2	24.1	23.7	23.1	22.4	21.7	21.0	20.3	19.6	18.8	17.2	13.3	7.7
7	*****	22.4	22.3	21.9	21.3	20.7	20.1	19.5	18.8	18.1	17.4	15.9	12.3	7.1
8	*****	20.9	20.8	20.5	20.0	19.4	18.8	18.2	17.6	17.0	16.3	14.9	11.5	6.7
9	*****	19.7	19.6	19.3	18.8	18.3	17.7	17.2	16.6	16.0	15.4	14.0	10.9	6.3
10	*****	18.7	18.6	18.3	17.9	17.4	16.8	16.3	15.7	15.2	14.6	13.3	10.3	6.0
11	*****	17.9	17.8	17.5	17.0	16.5	16.1	15.5	15.0	14.5	13.9	12.7	9.4	5.7
12	*****	17.1	17.0	16.7	16.3	15.8	15.4	14.9	14.4	13.9	13.3	12.1	9.4	5.4
13	*****	16.4	16.3	16.1	15.7	15.2	14.8	14.3	13.8	13.3	12.8	11.7	9.0	5.2
14	*****	15.8	15.7	15.5	15.1	14.7	14.2	13.8	13.3	12.8	12.3	11.2	8.7	5.0
15	*****	15.3	15.2	15.0	14.6	14.2	13.7	13.3	12.9	12.4	11.9	10.9	8.4	4.9
16	*****	14.8	14.7	14.5	14.1	13.7	13.3	12.9	12.4	12.0	11.5	10.5	8.1	4.7
17	*****	14.4	14.3	14.1	13.7	13.3	12.9	12.5	12.1	11.6	11.2	10.2	7.9	4.6
18	*****	14.0	13.9	13.7	13.3	12.9	12.5	12.1	11.7	11.3	10.9	9.9	7.7	4.4
19	*****	13.6	13.5	13.3	13.0	12.6	12.2	11.8	11.4	11.0	10.6	9.7	7.5	4.3
20	*****	13.2	13.2	13.0	12.6	12.3	11.9	11.5	11.1	10.7	10.3	9.4	7.3	4.2
21	*****	12.9	12.9	12.7	12.3	12.0	11.6	11.2	10.9	10.5	10.1	9.2	7.1	4.1
22	*****	12.6	12.6	12.4	12.0	11.7	11.3	11.0	10.6	10.2	9.8	9.0	7.0	4.0
23	*****	12.3	12.3	12.1	11.8	11.4	11.1	10.7	10.4	10.0	9.6	8.8	6.8	3.9
24	*****	12.1	12.0	11.8	11.5	11.2	10.9	10.5	10.2	9.8	9.4	8.6	6.7	3.8
25	*****	11.8	11.8	11.6	11.3	11.0	10.6	10.3	10.0	9.6	9.2	8.4	6.5	3.8
30	*****	10.8	10.8	10.6	10.3	10.0	9.7	9.4	9.1	8.8	8.4	7.7	6.0	3.4
35	*****	*****	10.0	9.8	9.5	9.3	9.0	8.7	8.4	8.1	7.8	7.1	5.5	3.2
40	*****	*****	9.3	9.2	8.9	8.7	8.4	8.1	7.9	7.6	7.3	6.7	5.2	3.0
45	*****	*****	8.8	8.6	8.4	8.2	7.9	7.7	7.4	7.2	6.9	6.3	4.9	2.8
50	*****	*****	8.3	8.2	8.0	7.8	7.5	7.3	7.0	6.8	6.5	6.0	4.6	2.7
55	*****	*****	7.9	7.8	7.6	7.4	7.2	7.0	6.7	6.5	6.2	5.7	4.4	2.5
60	*****	*****	7.6	7.5	7.3	7.1	6.9	6.7	6.4	6.2	6.0	5.4	4.2	2.4
65	*****	*****	7.2	7.2	7.0	6.8	6.6	6.4	6.2	6.0	5.7	5.2	4.0	2.3
70	*****	*****	6.9	6.9	6.7	6.6	6.4	6.2	6.0	5.7	5.5	5.0	3.9	2.2
75	*****	*****	6.7	6.7	6.5	6.3	6.1	6.0	5.8	5.5	5.3	4.9	3.8	2.2
80	*****	*****	6.5	6.5	6.3	6.1	6.0	5.8	5.6	5.4	5.2	4.7	3.6	2.1
85	*****	*****	6.3	6.3	6.1	6.0	5.8	5.6	5.4	5.2	5.0	4.6	3.5	2.0
90	*****	*****	6.1	6.1	6.0	5.8	5.6	5.4	5.2	5.1	4.9	4.4	3.4	2.0
95	*****	*****	6.0	6.0	5.8	5.6	5.5	5.3	5.1	4.9	4.7	4.3	3.3	1.9
100	*****	*****	5.8	5.8	5.6	5.5	5.3	5.2	5.0	4.8	4.6	4.2	3.3	1.9
125	*****	*****	5.2	5.2	5.1	4.9	4.8	4.6	4.5	4.3	4.1	3.8	2.9	1.7
150	*****	*****	4.7	4.7	4.6	4.5	4.3	4.2	4.1	3.9	3.8	3.4	2.7	1.5
200	*****	*****	4.0	4.0	4.0	3.9	3.8	3.6	3.5	3.4	3.3	3.0	2.3	1.3
250	*****	*****	3.6	3.6	3.6	3.5	3.4	3.3	3.1	3.0	2.9	2.7	2.1	1.2
300	*****	*****	3.3	3.3	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.4	1.9	1.1
350	*****	*****	2.9	2.9	2.8	2.7	2.8	2.8	2.7	2.6	2.5	2.2	1.7	1.0
400	*****	*****	2.7	2.7	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.1	1.6	0.9
450	*****	*****	2.6	2.6	2.5	2.5	2.5	2.4	2.3	2.3	2.2	2.0	1.5	0.8
500	*****	*****	2.6	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.1	1.5	0.7
750	*****	*****	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.1	1.9	1.5	0.8
1000	*****	*****	1.9	1.9	1.8	1.9	1.9	1.9	1.8	1.8	1.7	1.5	1.2	0.6



0.5  
0.4  
0.6  
0.7

1.1  
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1500  
2000

NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE 00000560  
THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES 00000570  
THE SAMPLING VARIABILITY. 00000580
- (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, 00000590  
USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE 00000600  
COLUMN CLOSEST TO THE PERCENTAGE. 00000610
- (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN 00000620  
GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE 00000630  
EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000640



TABLE H12 CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982  
BRITISH COLUMBIA

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	88.4	88.0	87.6	86.2	83.9	81.6	79.1	76.6	74.0	71.3	68.5	62.6	48.5	28.0
2	62.5	62.3	61.9	61.0	59.4	57.7	56.0	54.2	52.4	50.4	48.5	44.2	34.3	19.8
3	*****	50.8	50.6	49.8	48.5	47.1	45.7	44.2	42.7	41.2	39.6	36.1	28.0	16.2
4	*****	44.0	43.8	43.1	42.0	40.8	39.6	38.3	37.0	35.7	34.3	31.3	24.2	14.0
5	*****	39.4	39.2	38.6	37.5	36.5	35.4	34.3	33.1	31.9	30.7	28.0	21.7	12.5
6	*****	35.9	35.8	35.2	34.3	33.3	32.3	31.3	30.2	29.1	28.0	25.5	19.8	11.4
7	*****	33.3	33.1	32.6	31.7	30.8	29.9	29.0	28.0	27.0	25.9	23.6	18.3	10.6
8	*****	31.1	31.0	30.5	29.7	28.8	28.0	27.1	26.2	25.2	24.2	22.1	17.1	9.9
9	*****	29.3	29.2	28.7	28.0	27.2	26.4	25.5	24.7	23.8	22.8	20.9	16.2	9.3
10	*****	27.8	27.7	27.3	26.5	25.8	25.0	24.2	23.4	22.6	21.7	19.8	15.3	8.8
11	*****	26.5	26.4	26.0	25.3	24.6	23.9	23.1	22.3	21.5	20.7	18.9	14.6	8.4
12	*****	25.4	25.3	24.9	24.2	23.6	22.8	22.1	21.4	20.6	19.8	18.1	14.0	8.1
13	*****	24.4	24.3	23.9	23.3	22.6	22.0	21.3	20.5	19.8	19.0	17.4	13.4	7.8
14	*****	23.5	23.4	23.1	22.4	21.8	21.2	20.5	19.8	19.1	18.3	16.7	13.0	7.5
15	*****	22.7	22.6	22.3	21.7	21.1	20.4	19.8	19.1	18.4	17.7	16.2	12.5	7.2
16	*****	22.0	21.9	21.6	21.0	20.4	19.8	19.2	18.5	17.8	17.1	15.6	12.1	7.0
17	*****	21.4	21.2	20.9	20.3	19.8	19.2	18.6	18.0	17.3	16.6	15.2	11.8	6.8
18	*****	20.8	20.6	20.3	19.8	19.3	18.7	18.1	17.5	16.8	16.2	14.7	11.4	6.6
19	*****	20.2	20.1	19.8	19.3	18.7	18.2	17.6	17.0	16.4	15.7	14.4	11.1	6.4
20	*****	19.7	19.6	19.3	18.8	18.2	17.7	17.1	16.6	16.0	15.3	14.0	10.8	6.3
21	*****	*****	19.1	18.8	18.3	17.8	17.3	16.7	16.2	15.6	15.0	13.7	10.6	6.1
22	*****	*****	18.7	18.4	17.9	17.4	16.9	16.3	15.8	15.2	14.6	13.3	10.3	6.0
23	*****	*****	18.3	18.0	17.5	17.0	16.5	16.0	15.4	14.9	14.3	13.0	10.1	5.8
24	*****	*****	17.9	17.6	17.1	16.7	16.2	15.6	15.1	14.6	14.0	12.8	9.9	5.7
25	*****	*****	17.5	17.2	16.8	16.3	15.8	15.3	14.8	14.3	13.7	12.5	9.7	5.6
30	*****	*****	16.0	15.7	15.3	14.9	14.5	14.0	13.5	13.0	12.5	11.4	8.8	5.1
35	*****	*****	14.8	14.6	14.2	13.8	13.4	13.0	12.5	12.1	11.6	10.6	8.2	4.7
40	*****	*****	13.9	13.6	13.3	12.9	12.5	12.1	11.7	11.3	10.8	9.9	7.7	4.4
45	*****	*****	*****	12.9	12.5	12.2	11.8	11.4	11.0	10.6	10.2	9.3	7.2	4.2
50	*****	*****	*****	12.2	11.9	11.5	11.2	10.8	10.5	10.1	9.7	8.8	6.9	4.0
55	*****	*****	*****	11.6	11.3	11.0	10.7	10.3	10.0	9.6	9.2	8.4	6.5	3.8
60	*****	*****	*****	11.1	10.8	10.5	10.2	9.9	9.6	9.2	8.8	8.1	6.3	3.6
65	*****	*****	*****	10.7	10.4	10.1	9.8	9.5	9.2	8.8	8.5	7.8	6.0	3.5
70	*****	*****	*****	10.3	10.0	9.8	9.5	9.2	8.8	8.5	8.2	7.5	5.8	3.3
75	*****	*****	*****	10.0	9.7	9.4	9.1	8.8	8.5	8.2	7.9	7.2	5.6	3.2
80	*****	*****	*****	9.6	9.4	9.1	8.8	8.6	8.3	8.0	7.7	7.0	5.4	3.1
85	*****	*****	*****	9.4	9.1	8.8	8.6	8.3	8.0	7.7	7.4	6.8	5.3	3.0
90	*****	*****	*****	9.1	8.8	8.6	8.3	8.1	7.8	7.5	7.2	6.6	5.1	2.9
95	*****	*****	*****	8.8	8.6	8.4	8.1	7.9	7.6	7.3	7.0	6.4	5.0	2.9
100	*****	*****	*****	8.6	8.4	8.2	7.9	7.7	7.4	7.1	6.9	6.3	4.8	2.8
125	*****	*****	*****	*****	7.5	7.3	7.1	6.9	6.6	6.4	6.1	5.6	4.3	2.5
150	*****	*****	*****	*****	6.9	6.7	6.5	6.3	6.0	5.8	5.6	5.1	4.0	2.3
200	*****	*****	*****	*****	5.9	5.8	5.6	5.4	5.2	5.0	4.8	4.4	3.4	2.0
250	*****	*****	*****	*****	*****	5.2	5.0	4.8	4.7	4.5	4.3	4.0	3.1	1.8
300	*****	*****	*****	*****	*****	4.7	4.6	4.4	4.3	4.1	4.0	3.6	2.8	1.6
350	*****	*****	*****	*****	*****	4.2	4.1	4.0	3.8	3.7	3.5	3.3	2.6	1.5
400	*****	*****	*****	*****	*****	4.0	3.8	3.7	3.6	3.4	3.2	2.9	2.4	1.4
450	*****	*****	*****	*****	*****	3.6	3.5	3.4	3.2	3.1	2.9	2.7	2.3	1.3
500	*****	*****	*****	*****	*****	3.4	3.3	3.2	3.1	2.9	2.8	2.6	2.2	1.3
750	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	1.0
1000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.9

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1500

NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE 00000560  
THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES 00000570  
THE SAMPLING VARIABILITY. 00000580
- (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, 00000590  
USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE 00000600  
COLUMN CLOSEST TO THE PERCENTAGE. 00000610
- (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN 00000620  
GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE 00000630  
EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000640

TABLE H13

CRUDE SAMPLING VARIABILITY TABLES FOR VALUE OF WILDLIFE SURVEY - FEB 1982

CANADA

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	0.1%	1.0%	2.0%	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	50.0%	70.0%	90.0%
1	78.2	77.9	77.5	76.3	74.2	72.1	70.0	67.8	65.5	63.1	60.6	55.3	42.9	24.7
2	55.3	55.1	54.7	53.9	52.5	51.0	49.5	47.9	46.3	44.6	42.9	39.1	30.3	17.5
3	45.2	45.0	44.7	44.0	42.9	41.7	40.4	39.1	37.8	36.4	35.0	31.9	24.7	14.3
4	39.1	38.9	38.7	38.1	37.1	36.1	35.0	33.9	32.7	31.5	30.3	27.7	21.4	12.4
5	35.0	34.8	34.6	34.1	33.2	32.3	31.3	30.3	29.3	28.2	27.1	24.7	19.2	11.1
6	31.9	31.8	31.6	31.1	30.3	29.5	28.6	27.7	26.7	25.8	24.7	22.6	17.5	10.1
7	29.6	29.4	29.3	28.8	28.1	27.3	26.5	25.6	24.7	23.8	22.9	20.9	16.2	9.4
8	27.7	27.5	27.4	27.0	26.2	25.5	24.7	24.0	23.1	22.3	21.4	19.6	15.2	8.7
9	26.1	26.0	25.8	25.4	24.7	24.0	23.3	22.6	21.8	21.0	20.2	18.4	14.3	8.2
10	24.7	24.6	24.5	24.1	23.5	22.8	22.1	21.4	20.7	19.9	19.2	17.5	13.6	7.8
11	23.6	23.5	23.4	23.0	22.4	21.8	21.1	20.4	19.7	19.0	18.3	16.7	12.9	7.5
12	22.6	22.5	22.4	22.0	21.4	20.8	20.2	19.6	18.9	18.2	17.5	16.0	12.4	7.1
13	21.7	21.6	21.5	21.2	20.6	20.0	19.4	18.8	18.2	17.5	16.8	15.3	11.9	6.9
14	20.9	20.8	20.7	20.4	19.8	19.3	18.7	18.1	17.5	16.9	16.2	14.8	11.5	6.6
15	20.2	20.1	20.0	19.7	19.2	18.6	18.1	17.5	16.9	16.3	15.6	14.3	11.1	6.4
16	19.6	19.5	19.4	19.1	18.6	18.0	17.5	16.9	16.4	15.8	15.2	13.8	10.7	6.2
17	19.0	18.9	18.8	18.5	18.0	17.5	17.0	16.4	15.9	15.3	14.7	13.4	10.4	6.0
18	18.4	18.4	18.3	18.0	17.5	17.0	16.5	16.0	15.4	14.9	14.3	13.0	10.1	5.8
19	*****	17.9	17.8	17.5	17.0	16.6	16.1	15.5	15.0	14.5	13.9	12.7	9.8	5.7
20	*****	17.4	17.3	17.1	16.6	16.1	15.6	15.2	14.6	14.1	13.6	12.4	9.6	5.5
21	*****	17.0	16.9	16.6	16.2	15.7	15.3	14.8	14.3	13.8	13.2	12.1	9.4	5.4
22	*****	16.6	16.5	16.3	15.9	15.4	14.9	14.4	14.0	13.5	12.9	11.8	9.1	5.3
23	*****	16.2	16.2	15.9	15.5	15.0	14.6	14.1	13.7	13.2	12.6	11.5	8.9	5.2
24	*****	15.9	15.8	15.6	15.2	14.7	14.3	13.8	13.4	12.9	12.4	11.3	8.7	5.1
25	*****	15.6	15.5	15.3	14.8	14.4	14.0	13.6	13.1	12.6	12.1	11.1	8.6	4.9
30	*****	14.2	14.1	13.9	13.6	13.2	12.8	12.4	12.0	11.5	11.1	10.1	7.8	4.5
35	*****	13.2	13.1	12.9	12.5	12.2	11.8	11.5	11.1	10.7	10.2	9.4	7.2	4.2
40	*****	12.3	12.2	12.1	11.7	11.4	11.1	10.7	10.4	10.0	9.6	8.7	6.8	3.9
45	*****	11.6	11.5	11.4	11.0	10.8	10.4	10.1	9.8	9.4	9.0	8.2	6.4	3.7
50	*****	11.0	11.0	10.8	10.3	10.0	9.9	9.6	9.3	8.9	8.6	7.8	6.1	3.5
55	*****	10.5	10.4	10.3	9.8	9.6	9.4	9.1	8.8	8.5	8.2	7.5	5.8	3.3
60	*****	10.1	10.0	9.8	9.6	9.3	9.0	8.7	8.5	8.1	7.8	7.1	5.5	3.2
65	*****	9.7	9.6	9.5	9.2	8.9	8.7	8.4	8.1	7.8	7.5	6.9	5.3	3.1
70	*****	9.3	9.3	9.1	8.9	8.6	8.4	8.1	7.8	7.5	7.2	6.6	5.1	3.0
75	*****	9.0	8.9	8.8	8.6	8.3	8.1	7.8	7.6	7.3	7.0	6.4	4.9	2.9
80	*****	8.7	8.7	8.5	8.3	8.1	7.8	7.6	7.3	7.1	6.8	6.2	4.8	2.8
85	*****	8.4	8.4	8.3	8.1	7.8	7.6	7.4	7.1	6.8	6.6	6.0	4.6	2.7
90	*****	8.2	8.2	8.0	7.8	7.6	7.4	7.1	6.9	6.6	6.4	5.8	4.5	2.6
95	*****	8.0	7.9	7.8	7.6	7.4	7.2	7.0	6.7	6.5	6.2	5.7	4.4	2.5
100	*****	7.8	7.7	7.6	7.4	7.2	7.0	6.8	6.5	6.3	6.1	5.5	4.3	2.5
125	*****	7.0	6.9	6.8	6.6	6.5	6.3	6.1	5.9	5.6	5.4	4.9	3.8	2.2
150	*****	6.4	6.3	6.2	6.1	5.9	5.7	5.5	5.3	5.2	4.9	4.5	3.5	2.0
200	*****	*****	5.5	5.4	5.2	5.1	4.9	4.8	4.6	4.5	4.3	3.9	3.0	1.7
250	*****	*****	4.9	4.8	4.7	4.6	4.4	4.3	4.1	4.0	3.8	3.5	2.7	1.6
300	*****	*****	4.5	4.4	4.3	4.2	4.0	3.9	3.8	3.6	3.5	3.2	2.5	1.4
350	*****	*****	4.1	4.1	4.0	3.9	3.7	3.6	3.5	3.4	3.2	3.0	2.3	1.3
400	*****	*****	3.8	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.0	2.8	2.1	1.2
450	*****	*****	3.6	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.6	2.0	1.1
500	*****	*****	3.4	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.5	1.9	1.1
750	*****	*****	2.8	2.8	2.7	2.6	2.6	2.5	2.4	2.3	2.2	2.0	1.6	0.9
1000	*****	*****	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.0	1.9	1.7	1.4	0.8

1500	*****	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.4	1.1	0.6
2000	*****	*****	1.6	1.6	1.5	1.5	1.4	1.4	1.2	1.0	0.6
3000	*****	*****	*****	1.3	1.2	1.2	1.2	1.1	1.0	0.8	0.5
4000	*****	*****	*****	*****	1.1	1.0	1.0	1.0	0.9	0.7	0.4
5000	*****	*****	*****	*****	*****	0.9	0.9	0.9	0.8	0.6	0.3
6000	*****	*****	*****	*****	*****	*****	0.8	0.8	0.7	0.6	0.3
7000	*****	*****	*****	*****	*****	*****	*****	0.7	0.7	0.5	0.3
8000	*****	*****	*****	*****	*****	*****	*****	*****	0.6	0.5	0.3
9000	*****	*****	*****	*****	*****	*****	*****	*****	0.6	0.5	0.3
10000	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.4	0.2
12500	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.2
15000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	0.2

NOTES:

- (1) SAMPLING VARIABILITIES (COEFFICIENTS OF VARIATION) ARE IN PERCENTS. 00000550
- (2) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF TOTALS, LOCATE THE ROW CLOSEST TO THE ESTIMATED TOTAL. THE LEFT-MOST COLUMN GIVES THE SAMPLING VARIABILITY. 00000560  
00000570  
00000580
- (3) TO DETERMINE SAMPLING VARIABILITIES FOR ESTIMATES OF PERCENTAGES, USE THE ROW CLOSEST TO THE NUMERATOR OF THE PERCENTAGE AND THE COLUMN CLOSEST TO THE PERCENTAGE. 00000590  
00000600  
00000610
- (4) SAMPLING VARIABILITIES IN THIS TABLE ARE CRUDE INDICATORS AND IN GENERAL ARE HIGHER THAN THOSE THAT WOULD BE OBTAINED USING MORE EXACT TECHNIQUES. UNDER NO CIRCUMSTANCES ARE THEY OFFICIAL. 00000620  
00000630  
00000640



**TABLE H14**

Factors to Calculate Approximate Coefficients of  
Variation for Number of Days of Participation

Region	Pre-exponent factor A	Exponent B
Newfoundland	963.16	-0.3381
Prince Edward Island	1200.61	-0.3613
Nova Scotia	857.77	-0.3328
New Brunswick	630.52	-0.3089
Total Atlantic	891.66	-0.3440
Quebec	2045.15	-0.3585
Ontario	1438.20	-0.3396
Manitoba	846.64	-0.3266
Saskatchewan	530.03	-0.2797
Alberta	723.08	-0.2994
Total Prairies	867.03	-0.3234
British Columbia	893.84	-0.3034
Total Canada	1448.51	-0.3547

An approximate coefficient of variation for an estimate of X days of participation is given by the formula  $AX^B$ :

e.g. the estimated total days spent participating in "Residential wildlife-related activities" for Canada is 754 400 000.

An approximate coefficient of variation for this estimate is  $1448.51 (754\ 400\ 000)^{-0.3547} = 1.03$ .



**TABLE H15**

Factors to Calculate Approximate Coefficients of Variation  
for Expenditures Around Home or Incidental Encounters

Region	Pre-exponent factor A	Exponent B
Newfoundland	161.8452	-0.3889
Prince Edward Island	83.7004	-0.3132
Nova Scotia	248.264	-0.4617
New Brunswick	183.3839	-0.4314
Total Atlantic	289.1463	-0.4907
Quebec	703.7377	-0.5034
Ontario	435.5695	-0.4473
Manitoba	428.9212	-0.5179
Saskatchewan	240.1309	-0.4460
Alberta	291.3511	-0.4277
Total Prairies	239.6313	-0.4228
British Columbia	633.8941	-0.4963
Total Canada	510.2699	-0.4783

An approximate coefficient of variation for an estimate of an expenditure of X dollars is given by the formula  $AX^B$ :

e.g. the estimated expenditure on "Incidental encounters" was \$84.9 million for Canada. An approximate coefficient of variation for this figure is  $510.2699 (84\ 900\ 000)^{-0.4783} = 0.08$ .

TABLE H16

Factors to Calculate Approximate Coefficients  
of Variation for Consumer Surplus

Region	Pre-exponent factor A	Exponent B
Newfoundland	528.05	-0.2359
Prince Edward Island	1429.37	-0.3308
Nova Scotia	1107.18	-0.2957
New Brunswick	3303.92	-0.3857
Total Atlantic	1656.55	-0.3336
Quebec	4447.68	-0.3694
Ontario	6566.29	-0.3832
Manitoba	1396.60	-0.3089
Saskatchewan	1146.12	-0.2918
Alberta	5486.93	-0.3811
Total Prairies	5230.94	-0.3894
British Columbia	3200.52	-0.3341
Total Canada	10999.07	-0.4275

An approximate coefficient of variation for an estimated consumer-surplus of X dollars is given by the formula  $AX^B$ .

TABLE H 17

Bounds for the Coefficient of Variation  
for Expenses on Wildlife Organizations

Prov/Reg (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
Canada	20 000	8 000
Newfoundland	NR <sup>1</sup>	NR
PEI	NR	NR
Nova Scotia	NR	NR
New Brunswick	NR	1 400
Atlantic	NR	3 500
Quebec	NR	10 000
Ontario	25 000	10 000
Manitoba	2 000	1 500
Saskatchewan	7 000	2 000
Alberta	3 400	2 000
Prairies	5 600	1 500
British Columbia	NR	NR

<sup>1</sup> NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading, e.g. if an expenditure of \$10 million is estimated for a portion of the Canadian population, the CV for this estimate is less than 25%.

TABLE H18

Bounds for the Coefficient of Variation for Non-consumptive Trip Expenses

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
Canada		
Total	64 000	16 500
Transportation	19 000	7 000
Accommodation	11 000	8 000
Food	14 000	5 400
Equipment	200 000	90 000
Other	25 000	13 500
Newfoundland		
Total	NR <sup>1</sup>	20 000
Transportation	NR	1 000
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR
PEI		
Total	NR	NR
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	100
Nova Scotia		
Total	NR	15 000
Transportation	9 000	3 000
Accommodation	NR	NR
Food	NR	2 000
Equipment	NR	NR
Other	1 100	400

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading, e.g. if an expenditure of \$17 million is estimated for a portion of the Canadian population, the CV for this estimate is less than 25%.

(cont'd)

TABLE H18 (cont'd)

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>New Brunswick</b>		
Total	NR <sup>1</sup>	12 000
Transportation	3 300	2 000
Accommodation	NR	NR
Food	NR	2 800
Equipment	NR	NR
Other	NR	1 200
<b>Quebec</b>		
Total	80 000	22 500
Transportation	40 000	12 000
Accommodation	17 000	6 000
Food	18 000	8 500
Equipment	NR	27 000
Other	NR	13 000
<b>Ontario</b>		
Total	400 000	100 000
Transportation	20 000	9 000
Accommodation	9 000	3 300
Food	11 000	5 000
Equipment	NR	220 000
Other	NR	19 000
<b>Manitoba</b>		
Total	45 000	18 000
Transportation	5 000	2 100
Accommodation	NR	2 100
Food	3 000	1 500
Equipment	NR	24 000
Other	NR	1 400

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided.

(cont'd)



TABLE H18 (concl'd)

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Saskatchewan</b>		
Total	NR <sup>1</sup>	56 000
Transportation	9 000	2 700
Accommodation	1 500	600
Food	2 500	1 000
Equipment	NR	NR
Other	2 000	400
<b>Alberta</b>		
Total	75 000	24 000
Transportation	7 000	3 000
Accommodation	5 000	2 300
Food	5 000	1 400
Equipment	95 000	24 000
Other	2 500	1 900
<b>British Columbia</b>		
Total	220 000	55 000
Transportation	25 000	15 000
Accommodation	8 000	5 000
Food	23 000	10 000
Equipment	NR	92 000
Other	10 000	4 500
<b>Atlantic</b>		
Total	80 000	19 000
Transportation	5 500	3 300
Accommodation	NR	3 500
Food	7 000	3 000
Equipment	NR	NR
Other	3 500	1 000
<b>Prairies</b>		
Total	85 000	30 000
Transportation	12 000	8 000
Accommodation	6 000	2 500
Food	6 000	1 600
Equipment	140 000	50 000
Other	2 800	1 900

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided.

TABLE H19

Bounds for the Coefficient of Variation  
for Hunting Expenses for Newfoundland

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	NR <sup>1</sup>	15 000
Transportation	NR	1 700
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	1 600
<b>Other birds</b>		
Total	NR	10 000
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR
<b>Small mammals</b>		
Total	6 000	4 000
Transportation	NR	1 500
Accommodation	NR	300
Food	NR	1 300
Equipment	2 500	900
Other	NR	900
<b>Large mammals</b>		
Total	NR	5 000
Transportation	NR	2 500
Accommodation	NR	NR
Food	NR	1 800
Equipment	NR	1 600
Other	NR	7 500

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$10 million is estimated for total expenditures for hunting other birds, the CV for this estimate is less than 25%.

TABLE H20

Bounds on the Coefficient of Variation  
for Hunting Expenses for PEI

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
Waterfowl		
Total	NR <sup>1</sup>	1400
Transportation	NR	150
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR
Other birds		
Total	NR	230
Transportation	NR	70
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	70
Small mammals		
Total	NR	NR
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR
Large mammals		
Total	NR	NR
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$230 000 is estimated for total expenditures for hunting other birds, the CV for this estimate is less than 25%.

TABLE H21

Bounds on the Coefficient of Variation  
for Hunting Expenses for Nova Scotia

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	NR <sup>1</sup>	4700
Transportation	NR	1900
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	2500
Other	NR	NR
<b>Other birds</b>		
Total	7000	3500
Transportation	NR	1200
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	800
Other	NR	2800
<b>Small mammals</b>		
Total	NR	6400
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	3200	1500
<b>Large mammals</b>		
Total	NR	NR
Transportation	NR	4000
Accommodation	NR	NR
Food	NR	5900
Equipment	NR	NR
Other	NR	3600

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$3.5 million is estimated for total expenditures for hunting other birds, the CV for this estimate is less than 25%.



TABLE H22

Bounds on the Coefficient of Variation  
for Hunting Expenses for New Brunswick

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	NR <sup>1</sup>	NR
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR
<b>Other birds</b>		
Total	6000	2400
Transportation	3500	2500
Accommodation	NR	NR
Food	NR	1100
Equipment	1900	530
Other	NR	1700
<b>Small mammals</b>		
Total	NR	1800
Transportation	NR	NR
Accommodation	NR	NR
Food	500	140
Equipment	600	200
Other	NR	NR
<b>Large mammals</b>		
Total	NR	NR
Transportation	6000	1200
Accommodation	280	150
Food	NR	2200
Equipment	NR	NR
Other	NR	2000

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$2.5 million is estimated for total expenditures for hunting other birds, the CV for this estimate is less than 25%.



TABLE H23

Bounds on the Coefficient of Variation  
for Hunting Expenses for Quebec

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	25 000	8 000
Transportation	NR <sup>1</sup>	7 000
Accommodation	NR	700
Food	NR	1 500
Equipment	11 000	8 000
Other	NR	NR
<b>Other birds</b>		
Total	40 000	9 000
Transportation	NR	4 000
Accommodation	NR	1 300
Food	1 500	900
Equipment	NR	12 000
Other	6 000	2 000
<b>Small mammals</b>		
Total	16 000	6 000
Transportation	10 000	5 000
Accommodation	NR	1 300
Food	1 900	1 000
Equipment	8 000	5 000
Other	NR	1 800
<b>Large mammals</b>		
Total	55 000	30 000
Transportation	22 000	10 000
Accommodation	3 000	1 500
Food	8 000	3 400
Equipment	NR	12 000
Other	NR	NR

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$9.0 million is estimated for total expenditures for hunting other birds, the CV for this estimate is less than 25%.

TABLE H24

Bounds on the Coefficient of Variation  
for Hunting Expenses for Ontario

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	35 000	7 000
Transportation	8 000	3 000
Accommodation	NR <sup>1</sup>	1 300
Food	1 300	900
Equipment	NR	5 000
Other	7 000	3 000
<b>Other birds</b>		
Total	NR	45 000
Transportation	NR	13 000
Accommodation	NR	NR
Food	7 000	1 900
Equipment	NR	NR
Other	NR	6 000
<b>Small mammals</b>		
Total	NR	NR
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	6 000
Other	NR	NR
<b>Large mammals</b>		
Total	22 500	12 500
Transportation	8 500	5 000
Accommodation	4 500	2 000
Food	NR	7 500
Equipment	10 000	4 000
Other	NR	4 400

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$45 million is estimated for total expenditures for hunting other birds, the CV for this estimate is less than 25%.

TABLE H25

Bounds on the Coefficient of Variation  
for Hunting Expenses for Manitoba

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	NR <sup>1</sup>	17 000
Transportation	1200	600
Accommodation	NR	NR
Food	1400	600
Equipment	NR	NR
Other	NR	1 200
<b>Other birds</b>		
Total	NR	NR
Transportation	NR	2 000
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	1 500
<b>Small mammals</b>		
Total	NR	NR
Transportation	NR	1 200
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	1 400
<b>Large mammals</b>		
Total	8000	3 000
Transportation	3500	1 500
Accommodation	NR	860
Food	1000	400
Equipment	4300	2 000
Other	NR	1 500

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$3 million is estimated for total expenditures for hunting large mammals, the CV for this estimate is less than 25%.

TABLE H26

Bounds on the Coefficient of Variation  
for Hunting Expenses for Saskatchewan

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	6700	1 800
Transportation	3000	900
Accommodation	NR <sup>1</sup>	NR
Food	NR	600
Equipment	1500	900
Other	2000	1 100
<b>Other birds</b>		
Total	2700	1 600
Transportation	1000	500
Accommodation	NR	100
Food	NR	300
Equipment	1000	500
Other	NR	800
<b>Small mammals</b>		
Total	NR	NR
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR
<b>Large mammals</b>		
Total	NR	18 000
Transportation	4000	900
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	9 000
Other	3200	1 800

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$1.6 million is estimated for total expenditures for hunting other birds, the CV for this estimate is less than 25%.

TABLE H27

Bounds on the Coefficient of Variation  
for Hunting Expenses for Alberta

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	NR <sup>1</sup>	NR
Transportation	6 500	3800
Accommodation	NR	NR
Food	NR	1400
Equipment	NR	NR
Other	NR	5000
<b>Other birds</b>		
Total	NR	NR
Transportation	NR	3500
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR
<b>Small mammals</b>		
Total	NR	NR
Transportation	NR	1600
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	2 000	900
<b>Large mammals</b>		
Total	NR	NR
Transportation	16 000	7000
Accommodation	NR	NR
Food	7 000	3000
Equipment	NR	NR
Other	NR	NR

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$3.7 million is estimated for transportation expenditures for hunting waterfowl, the CV for this estimate is less than 25%.



TABLE H28

Bounds on the Coefficient of Variation  
for Hunting Expenses for British Columbia

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	NR <sup>1</sup>	9 000
Transportation	3 200	1 100
Accommodation	NR	NR
Food	NR	1 000
Equipment	NR	NR
Other	NR	NR
<b>Other birds</b>		
Total	NR	NR
Transportation	5 500	3 000
Accommodation	NR	NR
Food	NR	1 700
Equipment	NR	NR
Other	3 000	1 700
<b>Small mammals</b>		
Total	NR	NR
Transportation	NR	NR
Accommodation	NR	NR
Food	NR	NR
Equipment	NR	NR
Other	NR	NR
<b>Large mammals</b>		
Total	NR	70 000
Transportation	18 000	7 000
Accommodation	NR	NR
Food	5 000	2 200
Equipment	NR	NR
Other	5 800	2 700

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure of \$3 million is estimated for transportation expenditures for hunting other birds, the CV for this estimate is less than 25%.

TABLE H29

Bounds on the Coefficient of Variation for Hunting Expenses for Canada

Item (\$' 000)	Coefficient of variation less than 16.5%	Coefficient of variation less than 25%
<b>Waterfowl</b>		
Total	30 000	8 500
Transportation	14 000	5 000
Accommodation	4 000	2 200
Food	6 500	2 000
Equipment	75 000	45 000
Other	14 000	3 000
<b>Other birds</b>		
Total	NR <sup>1</sup>	100 000
Transportation	16 000	8 000
Accommodation	8 000	2 200
Food	6 000	2 500
Equipment	NR	NR
Other	7 000	2 000
<b>Small mammals</b>		
Total	120 000	65 000
Transportation	35 000	10 000
Accommodation	5 000	2 000
Food	NR	8 000
Equipment	NR	NR
Other	28 000	4 000
<b>Large mammals</b>		
Total	60 000	16 000
Transportation	18 000	7 000
Accommodation	7 500	2 000
Food	13 000	5 000
Equipment	150 000	32 000
Other	15 000	7 000

<sup>1</sup>NR - Coefficient of variation is unpredictable. No bound is provided. If the estimate is greater than the figure in the table, the CV is bounded by the column heading; e.g. if an expenditure on transportation by waterfowl hunters for a certain portion of the Canadian population is \$8.0 million, the CV is less than 25%.

**APPENDIX I.**

**DEFINITION OF TERMS**

**WILDLIFE:**

In this report wildlife is defined as wild animals, not pets or other domesticated animals. It includes waterfowl, other wild birds, small and large mammals and other wildlife in a natural environment. Animals in zoos or game farms were not classified as wildlife in this study with the exception of indirect wildlife-related activities.

**Waterfowl:**

Is defined as duck, geese, herons, cranes . . .

**Other Birds:**

Is defined as all other wild birds such as robins, sparrows, crows, pigeons, hawks, owls and upland game birds such as grouse, partridge, pheasants . . .

**Small Mammals:**

Is defined as small game and non-game species, for example: rabbits, squirrels, raccoons, foxes, groundhogs, beaver and other fur-bearers . . .

**Large Mammals:**

Is defined as big game and non-game species, for example: deer, bears, moose, mountain sheep . . .

**Other Wildlife:**

Is defined as all remaining wildlife such as butterflies, frogs, snakes, lizards . . . but does not include fish.

**CONSUMPTIVE ACTIVITY:**

Is defined as an activity whose purpose is the harvesting of wildlife. This usually means hunting wildlife although in some sections of the report collecting wildlife specimens and trapping are included.

**NON-CONSUMPTIVE ACTIVITY:**

Is defined as activities which do not involve the harvesting of wildlife such as observing, feeding, photographing or studying wildlife. Such activities as INDIRECT, RESIDENTIAL and WILDLIFE-RELATED TRIPS OR OUTINGS are non-consumptive activities.

**WILDLIFE-RELATED ACTIVITIES:**

In this report wildlife-related activities are defined as recreational activities that include, in some form, either direct or indirect contact with wildlife. Such activities as INDIRECT wildlife activities, RESIDENTIAL wildlife activities, PRIMARY NON-CONSUMPTIVE trips and OTHER TRIPS OR OUTINGS and CONSUMPTIVE wildlife activity are included in this category.

**INDIRECT ACTIVITY:**

Is defined as recreational activity which allows the participant to experience wildlife outside its natural setting through a variety of modes: reading, watching films or TV, purchasing art or crafts and visiting

institutions dealing with wildlife such as zoos, game farms, aquariums or museums of natural history. This is in contrast to direct contact with wildlife through residential and consumptive activities or during trips or outings.

**RESIDENTIAL ACTIVITY:**

Is defined as recreational activity that takes place around the home. Such activities as feeding, watching, studying, photographing wildlife or maintaining shrubs or plants for wildlife are included.

**TRIP OR OUTING:**

A trip is defined as a journey away from the place of residence for more than one day, an outing is defined as a journey away from the place of residence for less than one day.

**Primary Non-consumptive Trip:**

Is defined as a trip taken for the primary purpose of encountering wildlife to watch, feed, photograph or study them.

**Other Trip or Outing:**

Is defined as a trip with wildlife encounters, which had a main purpose other than encountering wildlife.

**DAY:**

Is defined as any part of a day (24 hours) spent participating in a given activity. An example of this definition is: if a hunter hunted 2 hours one day and 3 hours another day, it would be recorded as 2 days of hunting. If someone hunted 2 hours in the morning and 1 hour in the evening of the same day, it would be considered 1 day of hunting.

**WILDLIFE-RELATED ORGANIZATION:**

Is defined to include organizations such as a naturalist or conservation organization or a sportsman's club.

**NATURAL AREA:**

Is defined to include areas such as a woodlot, hedge, marsh, open field or similar natural area which provides food or shelter for wildlife.

Several additional methodological terms are defined in Section 4.1.

**COST:**

Is defined as expenses incurred by the participant for the purchase of goods and services to be used primarily for participation in a wildlife-related activity. Goods bought for other purposes, but used in wildlife-related activities were *not* considered legitimate cost of wildlife activities.

Items considered in each category were as follows:

**Natural Areas Costs:**

Acceptable costs included the maintenance, improvement or purchase of natural areas. An example of improvement or provision of a natural area for wildlife would be to maintain or add to an area certain types of plants for the purpose of feeding or sheltering wildlife. The respondent could not include, for example, his/her cottage.

**Residential Wildlife Activities Costs:**

Such items as the cost of feeders, food for wildlife, birdhouses, magazines, films, cameras used primarily for wildlife would be included.

**Transportation Costs:**

Such items as the operation of private vehicles, gas, oil, car repairs, car rentals, planes, ferries . . . would be included.

**Accommodation Costs:**

Such items as cabins, lodges, motels and campgrounds . . . would be included.

**Food Costs:**

Such items as groceries, meals and beverages . . . would be included.

**Equipment Cost:**

Such items as cameras, camping gear, binoculars, special clothing, recording equipment, boats and motors and other vehicles such as snowmobiles and multiple terrain vehicles would be considered. For consumptive wildlife activity such purchases as guns and accessories, game carriers, calls, dogs, decoys, etc., would be included.

**Other Item Costs:**

Such items as feed for wildlife, books, film and film processing, as well as ammunition, guide fees, dog maintenance, equipment rentals and repairs for consumptive wildlife activity would be included.



**APPENDIX J.**

NEWS RELEASE FOR THE SURVEY ON THE VALUE OF WILDLIFE TO CANADIANS (SVWC)



Environment  
Canada

Environnement  
Canada

# News release Communiqué

This information was released to the wire services on the date indicated. Despite the delay, some releases and speeches are mailed to out of town media because the content is not time dependent or because it will be useful for background files.

Cette information a été transmise aux agences de presse à la date indiquée. Malgré le retard, certains communiqués et discours sont expédiés aux médias de l'extérieur parce que leur contenu n'a rien à voir avec les délais ou parce qu'ils peuvent servir comme documentation.

Date: February 19, 1982

For release: IMMEDIATE

## STUDY TO DETERMINE IMPORTANCE OF WILDLIFE TO CANADIANS

OTTAWA -- The Canadian Wildlife Service announced today that the first comprehensive national survey focusing on the importance of wildlife to Canadians will be carried out during February 1982.

This co-operative survey will be funded jointly by the wildlife agencies of the provincial, territorial and federal governments, and several non-governmental groups. It will be conducted by Statistics Canada in conjunction with its Labour Force Survey. Approximately 100 000 Canadians from all regions and walks of life will take part.

The findings will be used by government and private organizations to evaluate wildlife management programs, improve program benefits to the public and to chart trends in interactions with wildlife.

The survey will, for the first time in Canada, provide nationally comparable information on how people feel toward wildlife and on their participation in such activities as wildlife conservation, wildlife watching, feeding, photographing and hunting. It will cover wildlife like waterfowl, other birds, and small and large mammals. Economic data will also be gathered for travel, accommodation, equipment and other expenditures related to the above activities.

Results of the survey will be made public in June 1983 at the Federal-Provincial Wildlife Conference in Edmonton, Alberta.

03/19/02/82

For further information, please contact:

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