The importance of wildlife to Canadians: Results from three national surveys

Paul A. Gray

Research, Science and Technology Branch, Ministry of Natural Resources,
P.O. Box 7000, Peterborough, Ontario, K9J 8M5 Canada

Peter Boxall

Canadian Forest Service, 5320 122nd St., Edmonton, Alberta, T6H 3S5 Canada

Roger Reid

Wildlife Branch, Ministry of the Environment, Lands and Parks,
Government of British Columbia, 780 Blanshard St., Victoria, British Columbia, V8V 1X4 Canada

Fern L. Filion, Elaine DuWors, André Jacquemot

Canadian Wildlife Service, Environment Canada, Ottawa, K1A 0H3 Canada

Pierre Bouchard

Ministère de l'Environnement et de la faune, 150 René Lévesque Est, Quebéc, Quebéc, G1R 4Y1 Canada

and Alistair Bath

Department of Geography, Memorial University of Newfoundland,
Science Building, Room S2012, St. John's, Newfoundland, A1B 3X9 Canada

Abstract

In recognition of the need to integrate the socio-economic values of wildlife into natural asset management programs, Canadian wildlife agencies created the "Survey on the Importance of Wildlife to Canadians" (SIWC). The survey was first conducted in 1981 and at approximately 5-year intervals after that (1987 and 1991). This paper describes the evolution of this cooperative program, reviews a few major trends of some wildlife-related activities and outlines the importance of this information.

Introduction

Canada encompasses approximately 10 million km^2 of which 4.53 million km^2 is forested (Environment Canada 1991). The country's forested ecosystems are diverse, ranging from remnants of the southern deciduous forest, to large northern ecosystems dominated by boreal conifer forest. In addition to 131 tree species, Canada's ecosystems are comprised of more than 4000 other vascular plants, thousands of non-vascular plant species, approximately 200 mammal species, 580 bird species, 80 species of amphibians and reptiles, and a minimum of 48,000 species of invertebrates (Environment Canada 1991). Most of these species complete at least a portion of their life cycle in forest ecosystems.

Forest ecosystems are a dominant, albeit often controversial, feature of Canadian society and are as central to the ecological health of the nation and to Canadian culture as they are to the economy (Canadian Council of Forest Ministers 1992, Fulford 1992). As managers of Canada's ecosystems and their constituent wildlife populations and habitats, delegates to the 1978 and 1979 Federal/Provincial-Territorial Wildlife

Conferences identified the need for socio-economic information to assist them in their efforts to make significant contributions to the management of wildlife. At the 1980 Conference, provincial and federal wildlife agencies agreed to sponsor a national "Survey on the Importance of Wildlife to Canadians" (SIWC) to provide: basic, accurate, and reliable data on wildlife-related activities to help Canadian wildlife agencies assess their wildlife programs; current data and information about wildlife assets at national and provincial levels every 5 years; and, data and information about consumptive and non-consumptive wildlife-related activities. A Task Force on the Importance of Wildlife to Canadians was formed in 1980 to oversee completion of the national surveys; to date, three surveys have been conducted (1981, 1987, and 1991). This paper reviews major trends of selected wildlife-related activities and describes the application and importance of this information.

Methods

The surveys were administered by Statistics Canada under the sponsorship of the federal and provincial wildlife agencies and the direction of the Task Force on the Importance of Wildlife to Canadians. Each survey samples approximately 98% of the Canadian population 15 years of age or over. Residents of the Yukon and the Northwest Territories are excluded, as well as residents of Indian reserves, full time members of the Canadian Armed Forces, and inmates in institutions. The survey employs a questionnaire that is prepared and pre-tested in consultation with the survey sponsors. Although the survey has evolved somewhat since 1981, every effort has been made to employ the same or similar questions to enable comparability of between-year results. The mail-out/mail-back questionnaire was distributed by Statistics Canada. To ensure an acceptable response rate, Statistics Canada interviewers conduct telephone follow-ups, when necessary, to encourage respondents to complete and return the questionnaire.

The questionnaire is divided into four sections. The first section asks respondents a series of general questions about their actual participation and interest in participating in a variety of wildlife-related activities, and about the importance of maintaining wildlife populations and preserving declining populations or endangered species. The second and third sections focus on non-consumptive activities, while the last section examines the nature and characteristics of consumptive activities. (Non-consumptive activities include: home-based actions such as watching or feeding wildlife; incicdental encounters on a trip not planned for encounters with wildlife; trips or outings specifically to observe wildlife; indirect activities such as watching nature films, visiting museums or zoos, purchasing wildlife arts or crafts. Consumptive activities include: hunting, fishing, and trapping.) Completed questionnaires are processed under stringent quality control, including the weighting of sample results to obtain corresponding population estimates, an exhaustive computer edit to ensure data quality and completeness, and a procedure to match respondent demographic data to their responses in the SIWC. Measures of statistical confidence are calculated to ensure all information released satisfies a minimum level of reliability. A users guide is prepared for each survey, and contains detailed descriptions of the methods (e.g., Filion et al. 1985, Statistics Canada 1982, and Yiptong and DuWors 1990). Response to the three surveys averaged 72.2 percent.

Results: Some examples of major trends, 1981-1991

Trends in participation rates

Wildlife plays an important role in the lives of Canadians; 90.2% of the

population participated in some form of wildlife-related activity in 1981, 91.2% in 1987, and 90.1% in 1991 (Filion et al. 1983, 1989, 1993). Growth in participation in wildlife-related activities equalled the growth of Canada's population, where the total number of participants increased 13%, from 16.6 million in 1981 to 18.2 million in 1987, and 18.9 million in 1991. The Canadian population also grew by 13% during this period. In addition, most Canadians participated in more than one wildlife-related activity. For example, most hunters also pursued non-consumptive wildlife-related activities. In 1991, 89.3% of hunters also watched, photographed, fed, and studied wildlife on trips or around their home or cottage.

Participation in primary non-consumptive trips remained relatively stable at 19.4% of the Canadian population in 1981 and 18.7% in 1991, while participation in hunting declined from 9.8% in 1981 to 7.4% of the Canadian population in 1991 (Fig. 1). During 1981-1991, hunting participation rates were higher for men than for women and for rural residents than for urban residents. Canadians under the age of 45 demonstrated higher participation rates than those over 45, with the highest participation rates among those between 15 and 19 years of age.

The participation rate in large mammal hunting remained relatively constant at 5.1% of the Canadian population in 1981, 5.2% in 1987, and 4.7% in 1991. Participation rates in hunting waterfowl, other birds, and small mammals declined. The largest decline occurred in small mammal hunting, where participation dropped from 5.0% in 1981 to 2.9% of the population in 1991. It is important to note, however, that while participation in hunting declined in 1981-1991, interest in hunting by respondents who did not hunt during the year for which the survey was completed remained substantial at 9.4% of Canadians in 1981, 10.2% in 1987, and to 8.2% in 1991.

Trends in the frequency of participation

The total number of days Canadians spent on wildlife-related activities increased by more than 34% from 1981 to 1991, from 992 million days in 1981 to 1.2 billion days in 1987 and 1.3 billion days in 1991 (Filion et al. 1983, 1988, 1989, 1992, 1993). The frequency of participation in primary non-consumptive trips or outings increased steadily by 48.7%

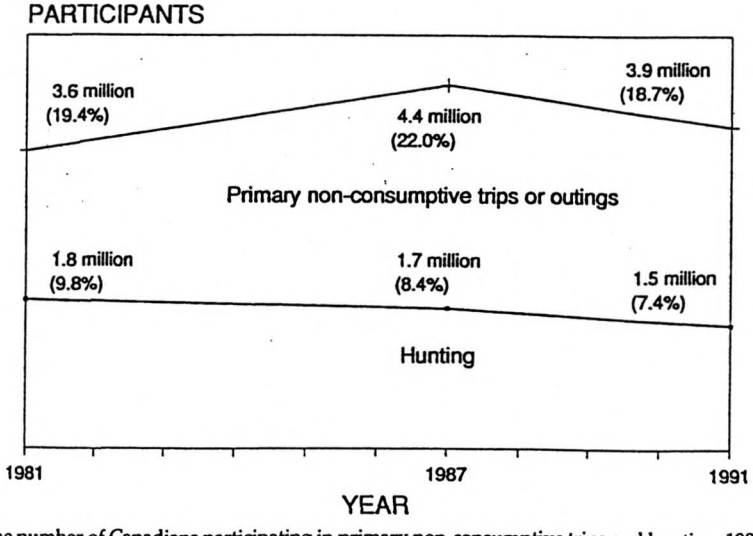

Figure 1. The number of Canadians participating in primary non-consumptive trips and hunting, 1981-1991. The percentage shown in brackets is the age of the Canadian population.

during this period (from 56.7 million to 84.3 million days), while the frequency of hunting declined 24.8% from 32.3 million days in 1981 to 24.3 million days in 1991 (Fig. 2). While the average number of days during which Canadians participated in primary non-consumptive activities increased substantially (15.8 in 1981, 16.9 in 1987, and 21.5 days in 1991), the time hunters spent in the field decreased from 17.9 days in 1981, to 17.0 days in 1987, and to 15.7 days in 1991.

Trends in expenditures

Total expenditures (in current dollars) on wildlife-related activities increased 32.9% from $4.2 billion in 1981, to $5.1 billion in 1987, to $5.6 billion in 1991 (Filion et al. 1983, 1985, 1989, 1990, 1993; Jacquemot et al. 1986) (Fig. 3). Despite a $1.4 billion increase in expenditures during the decade, inflation grew at an overall rate of 67%, and increased prices eroded the purchasing power of the Canadian dollar. There has been an actual decline in expenditures (when measured in 1991 constant dollars) over and above inflation (Fig. 3). The average per capita expenditure (in current dollars) increased between 1981 and 1991 in all wildlife-related activities. For example, per capita expenditures by participants in primary non-consumptive wildlife-related activities declined from $589 in 1981 to $507 in 1987, but increased to $619 in 1991. Similarly, hunters spent an average of $662 in 1981, $630 in 1987, and $769 in 1991.

Attitudes

Each of the surveys asked respondents to rank (on a 4-point scale ranging from "very important" to "of no importance") the importance of maintaining abundant wildlife populations and to rank the importance of preserving declining populations or endangered species. Results indicate that it is very or fairly important to maintain abundant wildlife populations (80% of the respondents in 1981, 83.3% in 1987, and 86.2 in 1991), and very or fairly important to preserve declining populations or endangered wildlife (82% of the respondents in 1981, 85.2% in 1987, and 83.3% in 1991) (Filion et al. 1993).

Using the results of the survey: Implications for program and policy development

In these times of increasing urbanization, resource extraction, and industrialization, as well as globalization of economic and environmental programs, effective management of Canada's forested ecosystems and the wildlife that inhabit them is critical (Gray and Cameron 1990). Recognition of the fact that we live in a finite world, with limited space and natural assets has precipitated considerable support for change in Canada — change directed towards the creation of a society that subscribes to, and practices, sustainable living. The ways in which Canadians care for forested ecosystems are an important aspect of this change.

Meeting sustainable living objectives

Recognition of the need to adopt sustainable lifestyles has, in part, been demonstrated through the quantification of the costs to society of environmental degradation. Information on the value Canadians place on the continued survival, diversity, and use of wildlife populations can be employed to weigh the benefits of conservation against activities that jeopardize the health and integrity of Canada's ecosystems and wildlife. The emerging importance of such evidence in natural asset damage assessments and restitution underscores the need to continuously monitor these benefits across Canada in order to anticipate the potential loss of benefits. These socio-economic values also are essential for assessing land use options, determining the values for mitigation and compensation claims, and in developing defensible legal liability rules that provide for equitable future payments by offenders. In support of sustainable living, the SIWC contributes to the sustainable use of

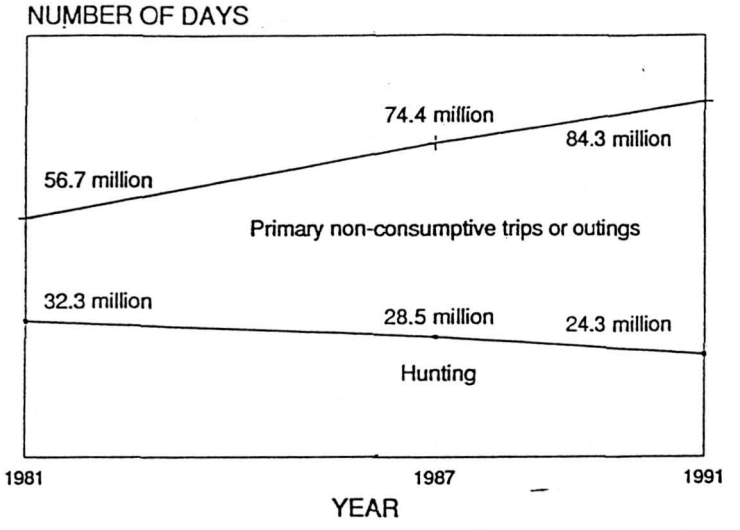

Figure 2. The total number of days Canadians spent participating in wildlife-related activities, 1981-1991.

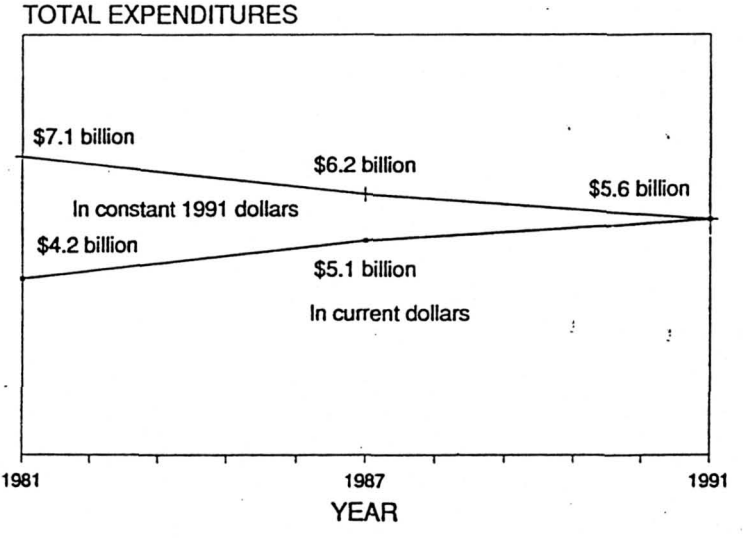

Figure 3. Total expenditures by Canadians who participated in wildlife-related activities, 1981-1991. The top line describes expenditures in constant 1991 dollars and the bottom line represents expenditures in current dollars.

wildlife assets through the dissemination of knowledge about the demands placed on these assets.

Biodiversity conservation

Data and information collected through the SIWC are important in the design and application of social and economic instruments in support of biodiversity conservation. Given the environmental significance and the immense popularity of wildlife-related recreational activities, government agencies and non-government organizations are accountable to diverse and nationwide constituencies. These constituencies share the benefits of biological assets as well as the

costs of management. The SIWC results indicate high levels of commitment to wildlife-related activities and strong support for some aspects of management.

As outlined by Filion et al. (1993), socio-economic data and information help determine investments in conservation by providing indicators of the socio-economic benefits that may be lost if Canada's biological assets are degraded. Knowledge of these benefits assists Canadians to recognize the magnitude of the loss should wildlife assets be managed in unsustainable ways. Survey results provide managers with an opportunity to develop creative ways to encourage agencies, organizations, and individuals to contribute to the cost of maintaining and enhancing Canada's biological assets. Socio-economic findings such as these constitute essential inputs in the design and implementation of economic programs that support conservation initiatives.

Greening the economy

Canada's national income accounts are intended to provide indicators to assess the performance of the economy. However, natural assets valued through instruments like wildlife-related recreation opportunities are not employed as a productive force in these accounts. Efforts to correct this gap using survey results are currently underway. Identifying the various goods and services provided by natural assets, and estimating their economic value is essential in efforts to reform or to "green" national income accounting practices. The data and information generated by the SIWC document the important economic contributions made by Canada's natural assets by reflecting their value in the proposed Environmental Satellite National Income Accounts.

The tourism industry

The SIWC helps Canadians recognize and understand the important role of conserving natural assets in maintaining and enhancing the country's significant tourism industry. Canada is the seventh most popular tourist destination in the world, and many visitors come to experience the country's diverse ecosystems and wildlife. This provides powerful socio-economic incentives to maintain, and where possible, enhance wildlife populations and habitats through job creation and capital investment.

Future directions

The Task Force plans to complete additional analyses of the 1981-1991 survey results, oversee completion of a survey in 1996, and continue to work towards the integration of SIWC data and information into natural asset management programs across the country. The results from the SIWC suggest a number of emerging trends in the use of wildlife, trends that the Task Force on the Importance of Wildlife to Canadians has begun to examine. The increase in non-consumptive activities and the decrease in hunting exemplify the kinds of trends currently being evaluated. Preliminary examination of the factors affecting trends suggests that the reasons for these, and other, trends can be numerous. Often trends result from a number of interacting factors including a changing age structure (Canadians are getting older), changing attitudes, continued habitat loss and alienation, increased costs and serious economic recession, and perceived declines in some populations of wildlife.

Summary

Canadians have begun to adopt an ecosystem approach to caring for the country's forests, and to adopt an holistic view of the natural world, to recognize its complexity and interconnections, to take account of the dynamic nature and finite capacity of ecosystems, and to encourage collaboration among all those whose activities affect forested ecosystems. The socio-economic aspects of caring for and using

these assets are critical to the success of our forest ecosystem management programs.

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