Progress in Integration of Social Science in the Parks Canada Science Strategy

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Abstract

In addition to protecting and presenting the nationally significant examples of the diversity that Canada's natural and cultural heritage has to offer, the Parks Canada mandate also recognizes the need for the public to appreciate and enjoy these treasures. As such, Parks Canada must be committed to performing not just natural science but also social science research to discover how to meet, and whether they are meeting the public understanding, appreciation and enjoyment aspect of the mandate. This paper explores three key strategic reports describing the state of social science research in Parks Canada up until 2002. Six interviews were conducted with social scientists in Parks Canada at the service center and national office levels with the line of questioning based on the findings from the key reports. Themes identified through qualitative analysis of the interviews provided direction, criticism and praise for the state of social science research, management and integration of the sciences in Parks Canada.

Introduction

It has been recognized that government and non-governmental organizations often cooperate with local researchers in the fields of the natural sciences, mainly biodiversity and ecology (Hieu, 2003). However, partnerships with researchers in the social sciences have often been overlooked, or alternatively have used social science expertise only in the case of feasibility and prediction studies (Hieu, 2003). Likewise, social science research conducted by outside organizations often neglects natural science aspects (Christie *et al.*, 2003; Hieu, 2003). But, it is imperative to Parks Canada, in meeting its mandate, that both natural science and social science knowledge are evaluated in deci-

sion-making (Parks Canada, 2002). Emphasis on contextualized research is also necessary since Parks Canada has a goal of creating and maintaining a system of National Parks that is reflective of all regions of Canada. Hence, this human-use and place-based perspective suggests an expanded role for social science research in the Parks Canada context. Social science research can give voice to meanings and values attached to specific locations that may not otherwise be included in park managers' decision-making and may also bring to light consequences counter to the mandate (Cheng *et al*., 2003).

Three main documents were explored in assessing the progress of social science research within Parks Canada. These comprised the *Parks Canada Science Strategy* (Parks Canada, 2002), the *Review of Priorities for and Use of Social Science Research in Parks Canada* (Praxis Research, 2000), and *A Strategic Plan for Human Use Management Science in Parks Canada* (Payne, 2000). There are many similarities among the three reports: each highlights the need for temporally and place-based research, for assessment of the effectiveness of current research in informing decision-making needs, and each stresses the value of demand and visitor satisfaction research. However, it is apparent that these reports limit the purpose of science research in parks to the production of immediately useful, needs-driven knowledge.

Literature Review

> "*Natural science will in time incorporate into itself the science of man, just as the science of man will incorporate into itself natural science: there will be one science.*" (Marx, 1844).

In the 20th century there was an increase in fragmentation of the sciences leading to a plethora of disconnected, complex and specialized fields (Scheuch, 2000). Science divided into biology and chemistry, then biochemistry, which divided further into biotechnology, molecular biochemistry, and so on. This fragmentation was an understandable response to the increasingly complex and microscopic scale of information on how organisms, communities, and systems worked. However, there was, at the same time, a counter tendency in both the social and natural sciences toward inter- and multi-disciplinary approaches, as researchers realized that the natural and social worlds were not so easily disaggregated into 'researchable' chunks (Neumann, 2000; Eagly and Chaiken, 1993). Specialization is an essential part of understanding the complexity of the real world, but integrative approaches are equally important.This

realization has led to the development of approaches such as 'ecosystem management' which seeks to include both natural and social sciences in the elucidation of real world problems facing natural resource managers (Bourgeron and Jensen, 1994). Giddens (1976) said:

> "*Sociology is not concerned with a pre-given universe of objects, but with one which is constituted or produced by the active doing of subjects.*" (Giddens, 1976: 160-161).

This suggests a society that is recreated every day "*as a skilled performance on the part of its members*" (Scheuch, 2000: 592). Moreover, this changes the definition of society from being a cloudy but singular reality to a society which is multiple, socially constructed and fluid (Scheuch, 2000). Thus, research which is not attuned to the shifting and holistic nature of modern society will fail to provide the necessary guidance to enable managers to deal with the reality of conflicting goals, multiple interpretations, and changing priorities that bedevil park management today.

There is therefore a need for a park science that combines understanding from both the natural and social sciences but, further, this science must be sufficiently flexible in its methods and approaches to accommodate the shifts in meanings and variety of demands that society places on its natural areas (Patterson and Williams, 1998). Through the fragmentation of research, managers are prevented from making appropriate and timely decisions. It is also a temporal problem for managers to make decisions when the accessible research they use as a basis is out of date and not entirely corresponding to the context or representative population the management decision will be affecting. Thus, modern problem-solving needs timely research, performed from a multi-disciplinary approach, and applied to the right population by scientifically and sociologically aware managers. How will this be achieved? The *Parks Canada Science Strategy* recognized the need for a merging of science disciplines in the first paragraph of the report when they stated:

> "*This document represents the sum of many voices…the group working on the Ecological Integrity science strategy... merged with a second group that were independently developing a social sciences strategy, and more recently with the cultural science strategy working group.*" (Parks Canada, 2002: 3).

But, the recognition of the need of science research in the three fields by Parks Canada is not enough to ensure that the needs are met. Rather, it acts almost as a hindrance to progressive science for the purpose of application to management decisions, as the challenge is now how to plan, integrate, and put the research into action, cooperatively rather than competitively, and when confronted with changing patterns of human use, enjoyment and ecological needs.

Methods

Six interviews were conducted over the week of March 8-15, 2004, with seven social scientists working for Parks Canada at the service centre and national office level. The interviews were approximately 40 minutes long, and followed a prepared interview guide. The interviews were transcribed, and in one case translated. Each theme contained responses from each of the interviewees. Table 1 is an example of one of the completed thematic areas.

Results

These results were further interpreted into response categories. 'Funding, Personnel and Resources' included the themes 'Limited Capacity', and 'Relationships with Universities'. All respondents agreed that there are not enough funding, personnel, or resources to conduct the required social science research. The respondents saw a potential solution in expanding relationships with universities and in expertise-sharing across the country. The category 'Research Methods' also had consensus among the coding. This category included the themes 'Tunnel-Vision/Research Methods', 'Measuring Effectiveness', and 'Needs-Driven versus Theoretical Research'. The respondents agreed that there was confusion as to what kind of research should be done, and how to evaluate whether they are doing the right research to meet the needs of their clients and the public. Interestingly, some of the respondents felt that with the national visitor information program there was enough basic information being collected on visitors (such as demographics, expenditures, trip length and satisfaction). Thus, the research they should be doing, had they the time and resources, should include human valuation of the parks including spatially-referenced values and experience preferences, and whether the visitors are having a memorable experience.

Table 1. *Themes identified in the interviews.*

Theme	Exemplar Quote
Limited capacity of social science in parks	"Shortage? Yes. At what levels? Everywhere; there isn't enough social science capacity at any level."
Inter-agency networking	"We need to be more coordinated; everyone is running off doing their own thing, not communicating with other social scientists to see what they have done."
Corporate memory	"In the past, social science was reported ad hoc in the State of the Parks reports, it was essentially just fluff. We have to make sure that now that it is legislated, it gets maintained and applied."
Time frames for changes	"We had so many years of bums in seats, that kind of attitude, pushing as many people through the door as possible. That is not going to change over a couple of years; that's going to take a long time."
Tunnel vision – research methods	"The way it looks to me is that the few people doing the research are so caught up in the details of counting people to show the state of things."
Manager-scientist relationship	"They both have to be adaptable and flexible. Managers, in order to respond to political pressure; scientists, in order to respond to managerial pressure."
Strengthening of leadership and direction since 2000	"Strengthening? We've partially achieved it, I'd say about 30% there. There's still no chief, or even plan for a chief to be in the national office before September. As a community we work well together, perhaps better than ever, but …it's been four years and it hasn't moved a long way."
Needs-driven versus theoretical research	"On the one hand, if you don't know how many people are visiting you, you can't do anything or make any decisions. But, how many times can you count heads without becoming redundant?"
Measuring effectiveness	"It's great to develop new messages, but how do we know if people are getting our messages? How effective are we being at communicating them? How can we do it better?"
Right place/people/ numbers/expectations	"There's no right at all – it oversimplifies the challenges we face. There is no right number of people or right expectations and anyone who believes that is delusional. We have to replace right with optimal, and then this will be a workable vision."
Demands of clients	"Social science is the science of people, it is not used enough by management in the national office, and field units don't always have the understanding they need to really use the information we give them."
Relationships with universities	"Through university partnerships each institutions gets all sorts of benefits. We get links to faculty, university resources, and the students get access to us, our data sets, and practical experience."

There were three areas where contention arose in response pattern. In the category of 'Communication', embracing the themes of 'Intra-Agency Networking', 'Corporate Memory', and 'Demands of Service Centre Clients', most agreed that communication among the members of the social science community in Parks Canada was working well. However, the respondents pointed out that it may be simply because the social scientists had been working so long together that they knew each other personally, and stayed in touch for

non-agency purposes as well. The respondents noted that the *Social Science Update* and *Quarterly Bulletin* were not adequately accessed by all parks employees. Moreover, each respondent had unique links to outside networks that were not consistent across Canada. Some respondents communicated more with universities and colleges for information needs and peer review, others communicated more with organizations such as the Travel and Tourism Research Association, or with American researchers. This diversity in networks is very impressive, but the information must also be shared amongst Parks Canada workers.

Three respondents were concerned about a concept called 'Corporate Memory'; the compiling of evidence of actions/publications that is provided by records in seeking comprehensive corporate knowledge. Corporate memory is at risk of being lost through poor communication of findings to the next generation and inadequate record-keeping. Records give evidence of management planning and evaluations of business actions. Without records, organizations cannot prove that actions have been taken, commitments entered into or obligations carried out. Furthermore, the loss of records impairs the ability for organizations to build from past mistakes or miscommunications. But records have a broader purpose: organizations exist within regulatory frameworks which impose various degrees of accountability for their activities. Corporate memory can be maintained through improving networks, solidifying the social science updates and bulletins, continuing communications with outside agencies and relaying information through the agency network.

Communication also is emphasized in the theme of 'Demands of Clients'. Traditionally, the service centres had two clients: their main one being the field unit, and secondary to this, the national office. Three respondents said that the information that gets distributed to national office is the same as that distributed to field units, while three respondents said that they focus their information dispersal to national office on trends, effectiveness of monitoring programs and management techniques, and evaluations of management plans instead of the localized functional information that gets provided to field units. One respondent said that the type of information given was unimportant compared with the level of understanding of the receiver. Communication of the research sometimes means communicating, clarifying, teaching, and contextualizing the research to the target audiences be it national office or service centres. The discovery that they do not necessarily deliver the same research to national office brings up another question: how can the national office amalgamate the research and devise national-level strategies when they are not collecting the

same research across the country? The answer to this, the respondents saw, is in 'specialist-sharing'. Sharing specialists also helps to reduce communication disparities, and helps to keep research timely as time is not spent seeking expertise outside the agency.

The category of 'Management Relationships' included the themes 'Manager-scientist Relationship', 'Time Frames for Changes', and 'Right People/Place /Numbers/Expectations'. Several respondents noted that scientists primarily provide managers with information to make decisions, while others noted that managers provide scientists with problems to solve as a first step. Two respondents said that managers are unreasonable in their time allowance for research findings. This theme became more evident when one participant pointed out that the two jobs seemed to be designed to conflict: managers need to make timely decisions while under intense political, economical and local pressure, while scientists need to do thorough study that requires time and focus while maintaining scientific rigor. Both have to be adaptable and flexible, teach each other, be able to understand the research process for studies they are establishing, and remain up-to-date on advances in science and management.

Another key difference was that managers are task-oriented: they respond to conditions that are brought to their attention. Hence, managers are perpetually in a problem-centered, response-driven environment where time is a regulatory factor. This contributes to the science conducted in parks being based on needs-driven research. Managers ask scientists for specific data and analyses. They do not seek broader knowledge; although, it was pointed out that when they receive interesting spontaneous research such as that done through university co-op projects, they do take an active interest and apply the information. In a corporation, there is pressure to remain accountable to mandated needs. Although it is unwise for managers to seek out unsolicited research as a primary source of information, non-mainstream research should not be set aside. It is often through unsolicited findings that new trends or paradigms are made clear.

Large changes in the corporate structure, planning, and modeling of an agency take time to enact. Four of the respondents agreed that few changes have come about since the publishing of the three strategies; however, they did not expect many changes to occur right away since the static inertia created by years of old strategies is difficult to overcome. The other respondents stated that there were so many changes over the last two to three years that it was difficult to keep up with new policy and procedures, difficult to interpret and apply policy

coming out of the national office, and difficult to keep the change in focus of *Parks Canada's Science Strategy* in mind.

The last theme under the category of 'Management Actions' was the response to the action plan's statement of attracting visitors to the right place, and the right time, in the right numbers, with the right expectations. Two participants felt that this goal was impracticable, unattainable and idealistic. They felt that each visitor had unique motivations and expectations when they visit, and trying to satisfy these by priming visitors to have the same expectations as each other essentially makes visitors into manipulatable pieces absent of individual autonomy. However, the four other respondents felt that with proper marketing, demand management, communication within the organization and with the public, and adequate human use study, a strategic plan can be made to ensure that the 'right people, right places' goal is met.

The last area where interviewees responded diversely was in relation to how much the social science workings of Parks Canada had strengthened since the Praxis study called attention to the vital need for social science development (Praxix Research, 2000). Two respondents felt that social sciences have significantly strengthened, especially in comparison to other areas where cuts abounded in the last four years. Once again four respondents disagreed. They felt that since a chief has yet to be established in the national office, no clear leadership or direction was being promoted. Consequently, there is still an under-representation of social science at the management tables. Furthermore, without a chief to give feedback or interpret plans that come out of national office, it is difficult for social scientists at the service centre or field level to understand and apply managerial-style instructions. Without a chief, or an established personnel chain of command, cohesiveness was lacking.

Conclusions

It is evident that many changes are occurring in the direction and use of social science study and recommendations in Parks Canada's policy and management planning. The Science Strategy written in 2002 has several conflicting instructions on how science (in the inclusive sense) should be completed. There is a heavy stress on science that is needs-driven and provides usable knowledge so that managers can make decisions. However, science as a legitimate use of parks and decreased fragmentation of science must also be considered in looking to proactively meet the mandate. Communication is one key to maintain-

ing corporate memory and accountability between managers and scientists. Without a chief, the leadership and representation at the management table is lacking at the moment. However, the teamwork and networking skills of the social science community in Parks Canada is an example of the adaptability of those employees under changing conditions. Changes in policy and procedure take a long time to establish and coordinate, but are beginning to appear and function. The time-frame for science study is also lengthy, but to maintain rigor, it is essential. Forging relationships with universities is one area where Parks Canada social scientists saw a need for concentrating resources and expertise as well as meeting a continuum of science purposes: some science to meet mandated needs and management requirements, and some science for the sake of science and to balance reactive and proactive management planning, by 'unclouding' potential future problems in the social needs of visitors. Expertise-sharing is an additional source of solution to the contentious areas.

Parks Canada is a leader in applying social science to management planning. But, before it can meet the needs of future generations of visitors, it must also meet the needs of employees by reducing the limited capacity of social science.

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