

An Assessment of Research in Ontario Provincial Parks from 1936-1998*†

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Introduction

Scientific interest along with park planning and management needs have led to a long history of research activity in Ontario's provincial parks. However, relatively little is known about the characteristics of this work over time and across the park system. An initial investigation of research trends in provincial parks by Ontario Parks in 1997 showed that research activity involved many natural and social science disciplines such as geology, ecology, archaeology and economics (Beechey, Davidson, Feilders and Mulrooney 1998). This investigation also showed that research activity peaked in the 1970s, has been dominated by research in the biological disciplines, and has taken place moreso in parks on the Canadian Shield such as Algonquin, Killarney and Lake Superior than in southern parks like Rondeau, Presqu'île and Pinery.

In the fall of 1998, the University of Waterloo Heritage Resources Centre was contracted by Ontario Parks to undertake an in-depth assessment of research trends in Ontario provincial parks. This project consisted of three components: 1) completion of a database holding some 1300 records of individual research projects undertaken in provincial parks from 1936 until present; 2) an analysis of records in the database to better understand the nature of past research activity in provincial parks; and 3) an overall assessment of results to provide recommendations for future research policy, monitoring and management by Ontario Parks. This brief report presents some of the preliminary results of this research as they were available at the time of the 1999 Annual Meeting of the Parks Research Forum of Ontario. The focus is mainly to describe the distribution of research activity in On-

* This paper arises from a poster paper at the 1999 Annual Meeting at the Parks Research Forum of Ontario.

† Two papers on research activities in Ontario Provincial Parks were presented at the 1999 Annual Meeting of the Parks Research Forum of Ontario. The proceedings paper by Mulrooney, Davidson and Beechey of Ontario Parks reported on initial work conducted in 1997 by the Planning and Research Section of Ontario Parks to develop a past research activity database and to undertake a preliminary analysis of the database. This paper by Lussier, Van Osch and Nelson of the Heritage Resources Centre, University of Waterloo reported on a more detailed analysis and assessment of the database developed by Ontario Parks. This research was conducted mainly in the Fall of 1998 in co-operation with Ontario Parks. A final report on this study was completed in May 1999 and included a number of specific recommendations to guide the development of a system for research planning, management, monitoring and decision-making for Ontario provincial parks. Information on this report can be obtained by contacting the authors through the Heritage Resources Centre.

tario's provincial parks and to outline some key questions regarding future research activity in Ontario provincial parks.

Research Objectives

1. To complete a database of over 1300 records of past research activity in provincial parks which was initiated by Ontario Parks in 1997.
2. To analyze the database to gain a better understanding of the nature of past research activity.
3. To assess the results and provide considerations for future research policy, monitoring and management by Ontario Parks.

Research in Parks Database

The initiative to create a database to record all research projects undertaken in provincial parks originated from the *Ontario Parks Research and Information Strategy* which was prepared in June 1997. The database, entitled *Research in Parks*, includes 25 fields into which information from over 1300 research applications and files has been entered. The fields in the database covered information on: Year; Discipline; Park; Park Class Zone; Site Region/Site District; Title of Research Activity; Researcher Name and Contact Information; Institution; Grant Support; Application Date; Approval Date; Conditions of Approval; Validation Period; Interim Report; Final Report; Results; Location of Publication.

Some Preliminary Results

Tables 1, 2 and 3 along with Figures 1 and 2 and provide some general characteristics of research in Ontario's provincial parks from 1936 to 1998.

Park	Number of Records
Algonquin	435
Pinery	101
Rondeau	54
Presqu'île	44
Quetico	35
Long Point	34
Killarney	32
Sandbanks	24
Lake Superior	21
Wheatley	18
Sleeping Giant	17
Fish Point	16
East Sister Island	14
Ipperwash	14
Lighthouse Point	14
Polar Bear	13
Inverhuron	12
Peche Island	12
Slate Islands	10
Turkey Point	9

Table 1: Distribution of Research Activity by Provincial Park (Top 20 only)

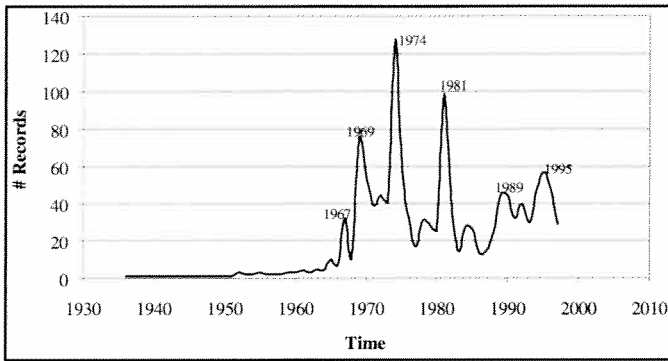


Figure 1: Volume of Research Activity over Time

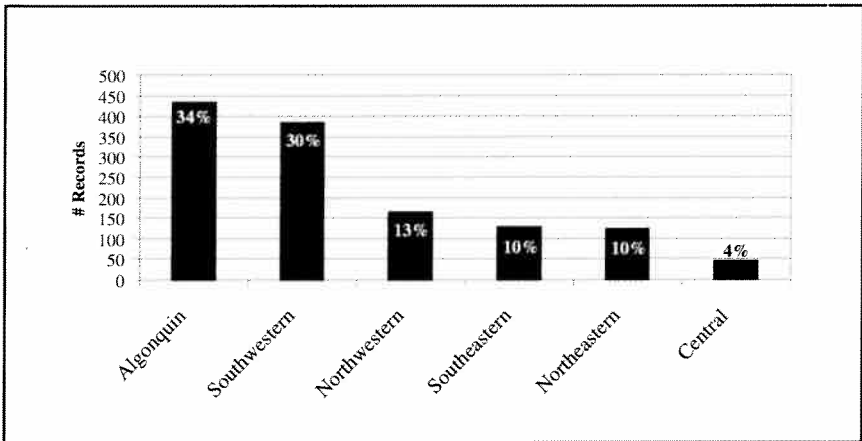


Figure 2: Geographic Distribution of Research Activity by Park Management Zone

Discipline	Number of Records
Zoology	751
Botany	188
Geology	64
Ecology	62
Biology	44
Physical Geography	40
Environmental Studies	38
Recreation and Leisure Studies	34
Archaeology	32
Forestry	11
History	10
Geography	7
Sociology	7
Land Use Planning	5

Table 2: Distribution of Research by Discipline (Top 14 only)

Institution	Number of Records
University of Toronto	219
University of Waterloo	133
University of Guelph	107
Agriculture Canada	84
University of Western Ontario	55
University of Chicago	51
University of Windsor	47
Biosystematics Research Institute	34
Brock University	32
Department of Lands and Forests	31
York University	31
Canadian Wildlife Service	25
Lakehead University	25
Royal Ontario Museum	24
Queen's University	23
McMaster University	21
Ministry of the Environment	19
Trent University	12
Ministry of Natural Resources	11
University of Vermont	10

Table 3: Sources of Research Activity (Top 20 only)

Some Considerations for Research Policy and Management in Ontario Provincial Parks

Table 4 presents some preliminary results from the database analysis along with brief interpretations of the findings and consideration or implications for future research policy and management in Ontario's provincial parks.

Overall, the preliminary results of this research indicated the need for action in two areas regarding future planning, management, and tracking of research activity in Ontario Provincial Parks:

- 1) at the technical level there need to be changes in the research database design and development so that more accurate results are produced in assessments of this kind; and,
- 2) at the fundamental or strategic level Ontario Parks need to establish clear goals and objectives for research in provincial parks. To this end, it is recommended that a workshop be held to provide a forum for discussing strategic level issues and to provide directions for developing a plan for future research activity.

Preliminary Results	Interpretations	Considerations
Volume and Nature of Past Research Activity		
<p>The incidence of past research activity exhibited a slow pattern of growth beginning in the late 1960s and continuing until the present, with outlying peaks in several years.</p> <p>Past research activity is concentrated in physical science disciplines such as zoology and botany.</p>	<p>The 1970s marked a period of unprecedented growth in park development in Ontario as well as in park use by the public. Outlying data is related to technical deficiencies in database construction.</p> <p>A number of factors may explain these results: 1) early research in parks emphasized the collection of species; 2) early research in parks tended to focus on single species or guilds; 3) assignment of disciplines is subjective, occurred in the absence of assignment criteria, and relates to personnel experience.</p>	<p>Technical deficiencies in database construction prevent us from drawing conclusions about the distribution of research over time. Changes must be made in the way data is entered to accurately reflect the volume of research activity in a given year.</p> <p>Research in Ontario Parks should contribute to the four management objectives of Protection, Recreation, Heritage Appreciation, and Tourism. The extent to which research would contribute in this regard should guide the research approval process in future. A discipline checklist should be added to the research application to allow researchers to code their own</p>
Geographic Distribution of Past Research Activity		
<p>Past research activity is highly concentrated in terms of specific parks, classes of park, zones, and site districts</p>	<p>A number of factors related to site selection by researchers may explain these results including: accessibility and proximity of park; unique park biophysical characteristics and research requirements; and popularity of certain parks</p>	<p>Management decisions regarding the value of select areas of the province for research activity need to be considered. Should efforts be made into developing and promoting other less studied areas for research? Is the aim to have more equal representation of research activity across Ontario? Should management decisions on this issue reflect an ecological standpoint or an administrative one?</p>
Sources of Past Research Activity		
<p>Sources included here represent institutions involved in past research activity in parks. Academic institutions make up 46% of the distribution.</p> <p>Some information is included in the database on individual researchers and funding sources supporting research, but this information is insufficient to be able to report on.</p>	<p>The long-term nature of research carried out by many of these institutions -- particularly academic institutions -- is essential in future park management, planning, and decision-making.</p> <p>Much remains unknown about sources of past research activity. Observations of long-term research activity are misleading, and lack of consistent information regarding funding sources makes it difficult to establish trends.</p>	<p>Increased effort should be made to track research results from these institutions. These results may have been published in journals, books and other materials.</p> <p>The database needs to be improved to more accurately record long-term research activity and sources of origin.</p>

Table 4: Preliminary findings, interpretations and considerations

Reference

- Beechey, T. J., R. J. Davidson, S. B. Feilders and D. R. Mulrooney. 1998. Science, Research and Information Needs for Ontario's Parks and Protected Areas in the Canadian Shield. In *Parks and Protected Areas Research in Ontario 1998*. Proceedings of the 1998 Annual Meeting of the Parks Research Forum of Ontario, February 5 and 6, 1998, Peterborough, Ontario, edited by J. G. Nelson and K. Van Osch with T. J. Beechey, W. R. Stephenson and J. Marsh, 11-29. Waterloo: Parks Research Forum of Ontario, 11-29.