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THE UNIVERSITY OF ALBERTA

THE ATTRACTION OF DESTINATIONS FOR ENVIRONMENTAL EDUCATION FIELD TRIPS

BY

DOUGLAS ALISTAIR FINLAYSON

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

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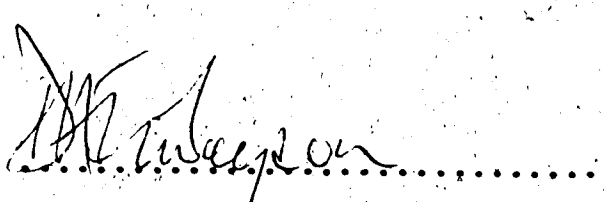

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled THE ATTRACTION OF DESTINATIONS FOR ENVIRONMENTAL EDUCATION FIELD TRIPS submitted by DOUGLAS ALISTAIR FINLAYSON in partial fulfilment of the requirements for the degree of MASTER OF ARTS.

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ABSTRACT

The goal of the thesis is to describe and explain the attraction of sites for environmental education field trips. Research on environmental education field trips has embraced either a focus on the educational merits of such field trips or, if site oriented, such research tended initially to be little more than inventories of sites. More recent research has applied the procedures of recreation demand surveys to the use of sites for environmental education field trips, with limited success.

This thesis proposes that ideas about spatial choice behaviour developed in behavioural geography provide an integrative, conceptual basis for investigating the selection of environmental education field trip sites. The elements of this conceptual framework were tested by investigating the choice situation of teachers when selecting a field trip site, and the influence of their perceptions of site characteristics on their choice of a site for an environmental education field trip.

Data were obtained by means of an interview questionnaire survey of 107 teachers selected by a stratified random sample, who used at least one of the five field trip sites in the study. Concepts operationalized in

the questionnaire, included teachers' sources of information, preferences for settings, motivations, perceptions of distance, the evaluation of site features, and their relative importance when selecting a field trip site.

The major findings were (1) that teachers have considerable freedom of action when choosing field trip sites, but were constrained by a limited awareness of potential alternatives, and by limits to the distance they were prepared to travel with their class. Site characteristics became attractions because of their significance to decision makers, (2) and it was found that significant differences in perceptions of site features, and field trip objectives, and the sites chosen for the field trip were consistently associated with differences in teachers according to the grade they taught. The findings confirmed the validity of perceptions in the explanation of destination choice.

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Above all others, I owe a debt of gratitude to my wife, Cathy. Her faith in me and in this project never wavered throughout the many struggles we endured to see the thesis through to the end.

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CHAPTER ONE

INTRODUCTION

1. Background

Over the past decade the interdisciplinary nature of environmental education has facilitated the introduction of this new area of education into the school curriculum. As a result, environmental or outdoor education has become an established part of teaching in many Alberta schools. A number of reports and studies have revealed that large numbers of school groups take environmental education field trips to a wide variety of sites and locations for varying lengths of stay (Alberta Recreation and Parks, 1981, 1983; Adamson et al., 1982).

By their very nature, environmental education field trips have an "extramural" quality and normally take place at sites away from the school. Their non-classroom setting has acted as a deterrent to research by education specialists, and also created uncertainty for the site managers of areas used for environmental education field trips. They usually cater to recreational users, but in this situation have to deal with the needs of environmental education field trip groups. Previous environmental

education field trip research has amounted to little more than inventories of sites or alternatively has utilized the techniques of the traditional recreation demand survey. This type of survey has been criticized by Stankey (1977) and Driver and Tocher (1979) because recreation demand was equated with recreation participation. In such surveys, little consideration was given to important underlying variables, such as the reasons for participating, the choice of alternatives available to recreationists, or the degree of satisfaction derived from the activity. The critical problem from the geographical perspective of this thesis is the relationship between behaviour, in this case field trip activities, and place, representing the opportunity for these activities to occur. This relationship is examined by investigating the process of selecting a site for an environmental education field trip.

2. A Conceptual Framework based on the Decision-Making Process and Perceptions of Destinations

In geographical terms, environmental education field trips represent a form of spatial behaviour such as described by Hanson (1974), and Allton and Lieber (1983), among others, involving travel from an origin (in this case, the school), to a destination (the site of the field trip), arising from a decision-making process. The focus

in studies of spatial behaviour is on person (individual or group) variables and perceptions of stimulus or "surroundings" variables (Sonnenfeld, 1976). Within the broad framework of spatial decision-making, the substantial body of knowledge developed in recreation spatial behaviour is particularly appropriate as a source of ideas relevant to this study.

The premise for considering environmental education field trips as having parallels with recreation spatial behaviour rests on the close theoretical, conceptual, and operational linkages between these types of travel behaviour. Environmental education field trips can be characterized in similar terms to those describing outdoor recreation. Sadler (1978) defined outdoor recreation as a demand-supply relationship which links people with resources, and this definition applies equally well to environmental education field trips. Aldskogius (1977) offered the following definition of outdoor recreation:

> Outdoor recreation generally takes place in an outdoor setting, away from home, although it is still non-remunerative and non-occupational in character. It involves a moderate degree of active participation and is oriented toward land and water resources, rather than to places with significant cultural or economic characteristics (p. 163).

Environmental education field trips could be defined in similar terms. There are differences, however, since environmental education activities are not undertaken

because they are intrinsically rewarding, as is the case for recreation, but because of their educational value. The teachers involved would certainly object to field trips being described as "non-occupational," and the students themselves would not describe them as free-time activities.

Yet the correspondence between outdoor recreation and environmental education field trips is reinforced given the view expressed by Perloff and Wingo (1979), of recreation as a system of behaviour comprised of three elements, namely recreation publics, amenities, and facilities. This systemic approach is equally appropriate as a model of the interacting components of environmental education field trips. The publics involved are school groups possessing identifiable characteristics associated with desires for specific types of field trips. The facilities consist of the landbase, together with any man-made improvements and capital investments, as well as the locational aspects of the site that govern its accessibility to users. Facilities become amenities by the degree to which they suit user requirements. Therefore, based on the close definitional fit, the approaches used in the study of outdoor recreation can serve to guide the investigation of environmental education field trips.

3. Concerns and Problems of Site Management

Pigram (1983) has described the need of site managers for information that would help explain the reasons that:

1. certain activities, sites, and routeways are favoured;
2. some attractions are failures, while others provide satisfaction or even draw excess patronage;
3. variations are found in the way alternative recreation opportunities are ranked.

This thesis also has practical applications to similar problems in the planning and management of sites for environmental education field trips. The study is in response to previous research efforts, which exhibit many faults in common with those described by Burton (1982) for recreation research, of being piecemeal, ad hoc, and reactive. It is suggested that some of the shortcomings of the earlier work can be overcome by applying an integrative, conceptual approach to describe and explain the selection of sites for environmental education field trips.

4. The Inoperativeness of Market Economics

As Allton and Lieber (1983) have stated is the case for many recreation services, opportunities for environmental education are available almost as "free goods". Except for at most a nominal charge, users do not

directly bear the costs incurred by site operators in supplying these services. Hence, site managers lack most of the guidelines available to managers operating under the conditions of the market place (Perloff & Wingo, 1979). The market mechanism is redundant as a means whereby user preferences can direct the allocation of community resources among recreation alternatives.

In the absence of the normal market place test of consumer acceptability, user choices become dictated by the available possibilities. The working of "opportunity theory" is exemplified when "participation (in recreation) is influenced by the supply (of opportunities)" (Smith, 1975). Or as Hendee (1969) stated:

> . . . it implies a supply-sensitivity of recreation demands, i.e., create opportunities and they will be fulfilled, at least at near-zero prices (p. 335).

As well as these marked effects on user participation, there are serious implications for site management, for as Stankey (1977) said:

> When opportunities are available at little or no cost, they will be used. But by being used, it should not lead us to automatically assume that people are satisfied (p. 156).

Without the objective test of the market place as a guide to users' preferences, site management for environmental education field trips, like the management of recreation areas, may be based on little more than a

subjective assessment of user wants, and rely heavily on a managers' "experience, intuition and informed judgment", as Gunn (1972) put it.

A further implication of recreation program evaluation for management noted by Perloff and Wingo (1979) is that the effectiveness of publicly-funded services can be measured only in terms of what people want of them. They also commented that views of what is desirable and needed are continually changing, though changes can be hard to discern, as public pressures build up around what is available as against what is expected and aspired to.

5. An Alternative--The Behavioural Approach

Gunn (1972) modified his criticisms of the way recreation demand has been assessed, pointing to the wider acceptability of an approach that attempts to explore the personal dimensions in the perception of opportunities and the selection of sites. This approach to research is initiated by investigating users' decision-making processes and beyond that, outlining the assumptions about rationality that underlie it.

According to the behavioural approach, decision-makers operate with imperfect knowledge in a context of bounded rationality (Simon, 1957; White, 1961; Kates, 1962; Hamill, 1968; Slovic et al., 1974). In contrast to assumptions

about rationality used to model behaviour, for example in economic theory, of perfect information and knowledge among those operating in a market, bounded rationality is less of an oversimplification of the real world. Decision making is neither perfectly rational, nor is it irrational. Instead choices are made within the limits of individuals' experience, the information available to him, and his perceptions of alternatives.

6. Setting, Place Utility, and Site Attraction

The second fundamental behavioural concept in this thesis is perception of sites and how this is related to the choice of a site. Knowledge of what users perceive as significant site features enables sites to be structured to facilitate the expression of user wants (Hecock, 1970). In a previous study of environmental education field trips (Adamson et al., 1982), the main interest was in the educational objectives of the field trip, and site aspects were scarcely considered. This type of omission has been criticized in studies of the use of recreation areas because "by ignoring the environmental dimension, researchers were ignoring the dimensions that the manager can best manipulate" (Allton and Lieber, 1983, p. 199).

Destinations have both locational and amenity variables. Locational variables consist of a site's

spatial aspects, both relative to the origin and to other potential destinations (Hanson, 1974). Destination amenity variables noted by Hanson (1974) and also by Smith (1975) refer to the overall "quality" found, that is, the standard of the amenities at the site and the extent to which they fulfill user requirements. Referring to the importance of setting, Pigram (1983) has commented:

> increasing attention is being given to the "setting" in which action takes place as a prime influence on perception, and on the pleasure gained from the ensuing (recreation) experience (p. 25).

Levy (1979) had noted earlier that because of this responsiveness on the part of recreationists to site variables, there were a number of implications for site managers. Pigram summarized these, as follows:

> given a knowledge of the behaviour setting for a specific recreation experience, and identifying the expectations for the trip, management should be able to determine the human and non-human attributes of the site/area/facility, and identify those contributing to or detracting from social satisfaction (p. 25).

The assessment and comparison of destinations arises from the interplay of locational with amenity variables, since the attractiveness or place utility of a destination is countered by the effects of distance-deterrence on visitors' willingness to travel (Ewing, 1976).

One management strategy that has been proposed is the "recreation opportunity spectrum" (Stankey, 1977) or a "leisure environment" (Burton, 1974). A range of sites

would be made available to provide a variety of recreation outlets.

Place utility is defined in terms of the opportunities a setting possesses relevant to the goals of the persons involved and their estimation of satisfaction they can expect (Lueck, 1976). Visitors have established importance hierarchies which reflect the relative utility to them of the various attributes of a site (Gunn, 1972). Usually, it is on the basis of a few salient features that users will select a given site (Hanson, 1974). She suggested that a research strategy relevant to the study of destination attraction is one designed to reveal the particular attributes that are significant to the decision-maker.

2. The Decision to Visit a Site

Hanson (1974) has stated that a visitor's preferred choice will be the destination with the largest amounts of the most important attributes. Their "importance" is a function of their relative utility to the visitor. Gunn (1972) reiterates the key role of visitors' perceptions of attractions, that is the image they have formed of destinations, which he calls the critical factor in spatial choice and decision-making. For Hanson (1974), work in destination choice examines the information upon which travel decisions are based. She argues that destination

attraction studies should be directed toward the choice situation facing the decision-maker. The meaning of "choice situation" includes the part played by personal variables characterizing a trip-maker, as well as various external constraints imposed on the traveller.

Conceivably, a decision-maker can choose from a host of potential destinations, but in reality, the actual parameters of choice are much more restrictive. Information available to a decision-maker about potential opportunities is limited and incomplete. Processing of this information varies according to an individual's evaluations of the sets of attributes associated with possible destination (Hanson, 1974).

In addition, individuals vary in their evaluation of site information depending on the purpose and type of trip (Hanson, 1974). Lattart and Barnes (1979) confirm that people differ not only in their site preferences, but also in the goals they set for trips.

The values held by a trip maker affect the destination choice "for even when people perceive objects or phenomena similarly, they may differ in the values they assign to them or the preferences they express for them" (Lattart and Barnes, 1979, p. 26).

8. Research Objectives

The primary objective of the research is to apply existing theory on destination choice, to the decision making process of environmental education field trip site selection and examine the significance of teachers' perceptions of sites in this process. In some respects it parallels certain aspects of recreation surveys done by both academics and public agencies (Burton, 1982; Goodall and Whittow, 1975; Osborne, 1974; Peace River Planning Commission, 1974) and is designed to:

1. Report the observed behaviour i.e. the site chosen that signifies the attraction of sites for environmental education field trips.

2. Outline variations in perceptions of field trip sites and assess the relative influence in attracting school groups for environmental education field trips of teachers' perceptions of

   (a) the environmental features of the site;

   (b) the facilities, amenities and other man-made changes to the site;

   (c) the role of on-site staff as facilitators in developing, producing and assisting environmental education programming.

3. Identify significant influences on perceptions of sites attributable to selected characteristics of school field trip groups and the environmental education program sought.

4. Gauge ~~the impact~~ of distance and accessibility on school groups' willingness to travel to destinations.

9. Study Areas

The five sites investigated were the John Janzen Nature Centre, the Bennett Centre, the Swiss Valley Nature Centre, the Ministik Hills Field Centre, and Elk Island National Park. These sites were selected because of their popularity and the way they reflect quantitative and qualitative differences in site variables and permit a comparative analysis to be carried out on the relative importance of the different categories of site variables. An effort was made to control for distance by selecting only field study sites that are located either in Edmonton or in close proximity to the city. Furthermore the sampling of respondents was restricted to teachers using the site who taught in either the Edmonton school systems or the St. Albert school systems.

10. Data Needs and Sources

The selection of one of these sites for a field trip follows from teachers' evaluations of the potential of places for the desired type of environmental education program. Therefore the information needs of this thesis lie in revealing how this assessment takes place, by investigating the awareness, attitudes, and preferences of those responsible for field trips. To do so, teachers who were users of the five sites were surveyed, using a

sampling frame derived from the 1982-83 site booking records, which listed the names of teachers, grades, schools, numbers of students in field trip groups. The primary data collection instrument was a questionnaire that was administered in person to a stratified random sample of Edmonton and St. Albert Kindergarten-Grade 12 teachers.

11. Delimitations of the Research

In the usage of Burton (1977), the term "delimitations" refers to those restrictions built into the research at the discretion of the researcher. The study examined only the field trip visits by school groups to the sites. Trips to the sites that originate outside the school system, whether they involve school-aged participants or not, were not considered. Additionally, only certain school group activities that take place at a site were classified as environmental education. Class activities that are social, cultural, or involved athletic competition were excluded from the research. A temporal delimitation restricted the period covered to field trips that occurred during the school year September 1982 - June 1983.

12. Organization of the Thesis

In this opening chapter, a conceptual framework for the research was presented to examine the choice of destinations for environmental education field trips. It was argued that the problem of field trip destination choice is not capable of solution by market economic analysis, since price is not the determinant of supply and demand. Inventorying and outmoded demand survey techniques have been found to be inadequate to address similar problems found in recreation research. An alternative, behavioural approach, based on an understanding of user decision-making processes, and the significance of perceptions of site characteristics, holds considerable promise in this context.

The thesis is organized as follows. Chapter 2 contains a review of previous research on environmental education field trips. In Chapter 3, further literature related to this subject is examined, mostly studies of recreation spatial behaviour and tourism destination attraction. From this the conceptual framework for the inquiry is derived and leads to a statement of research questions. In Chapter 4, the methods and techniques of the survey research are described. The sources of data and methods of data collection are discussed, outlining the population, sampling frame, sampling method, sample size,

data collection instrument, and completion rate. The limitations on the findings and conclusions imposed by the methodology used are also considered.

The final chapters deal with the results and in Chapters 5, 6, and 7, the data are described, analysed, and interpreted. In Chapter 5, the two independent variables are established. These are teachers according to site visited, and teachers by grade taught, and these are used in analysing the data through all three chapters. The data analysis is organized to parallel the presite visit stage and the on-site visit experience stage. The remainder of Chapter 5 deals with the field trip objectives and setting preferences of teachers. Constraints on the selection of a field trip site including the range of site alternatives, sources of site information, and their relative influence, external and institutional constraints are all examined in Chapter 6. An analysis of the influence of distance on teachers' site choices is also found in this chapter. The data analysed in Chapter 7 covers the on-site experience of the field trip. Teachers' perceptions of the environmental features, facility developments, and services provided by site staff at the field trip site are examined, and their relative importance when choosing a site are measured. Chapter 8 contains a statement of conclusions, and offers answers to the research questions. There is a discussion

of the limitations of the survey research and suggestions for further research.

CHAPTER TWO

REVIEW OF PREVIOUS RESEARCH AND RELATED LITERATURE ON ENVIRONMENTAL EDUCATION FIELD TRIPS

1. Introduction

Disinger (1979) has commented that, because of the interdisciplinary nature of the subject, an initial survey of environmental education literature is inevitably broad in scope. This review is organized to demonstrate the significance of the attraction of destinations for field trips as the subject of this thesis.

First the review examines the findings of previous studies of environmental education field trips, as well as other out-of-school trips, that have been carried out in Canada, Alberta, and in the Edmonton region. Next the nature of environmental education is discussed to gain a better understanding of the reasons young people are given the opportunity to discover more about their environment, and how these translate into the goals of a field trip. Planning strategies, and theoretical issues are evaluated to reveal priorities in environmental education, and the special importance of the field trip component.

2. Previous Studies of Environmental Education Field Trips

Towler (1981) provided a Canadian perspective on environmental education in describing four previous reports (Davis, 1976; Rioux, 1973; Towler, 1981; UNESCO, 1980). These reports presented a national coverage of environmental education in Canada, but only went as far as describing its status in the education systems around the country. More specifically field trip site related work was undertaken by Davis and Casselman (1979) in their "Catalogue of Programs and Personnel in Outdoor Education in Ontario." As its title suggests, this was little more than a list of site opportunities, in which even basic statistical information, such as site visitation, had not been compiled.

In Alberta, perhaps the first major piece of research on school field trips, including environmental education field trips, was carried out by Burton and Unger (1978). This study was conducted under the joint sponsorship of a number of Provincial Government Departments (Advanced Education, Culture, Education, and the Recreation, Parks and Wildlife Department).

The classification for school field trips devised by Burton and Unger is useful as an introduction to some of the dimensions categorizing such trips, including:

1. type of activity;

2. curricular basis;
3. formal foundation, i.e., whether a trip was mandatory or left to the initiative of an individual teacher;
4. cost considerations;
5. funding arrangements.

The researchers were dependent on school and Board records for statistical data and discovered that very little of the kind of information they sought, such as number of trips, duration, and destination, was kept on file. Lacking the needed quantitative data, the results of the research were more in the form of subjective impressions rather than a quantitative analysis.

In the authors' estimation, field trips were an important part of school programs, and where the theme was environmental or outdoor education, the field trip was an integral part of the education curriculum. A significant observation made by Burton and Unger was that field trips by schools made extensive use of community facilities and resources. A major objective of the study was to assess the impact of school field trips on the outside community. By implication, planning for school trips was more than a school or educational concern. Field trips also became a matter of interest to those who managed resources, outside the school system, that were used for field trips.

In order to furnish some of the requirements of planning for environmental education activity, other Alberta government departments, notably the Provincial Department of Recreation and Parks, have initiated their own market research. As a result, a series of market surveys covering the "trade areas" of about one quarter of Alberta Provincial Parks have been produced. More recently a summary which reviewed the environmental education market research completed to date was prepared (Alberta Department of Recreation and Parks, 1983). The purpose of that report was to consolidate and integrate the previous individual market studies for use as a resource document for a departmental position paper. Together these represent much of what is known about environmental education field trip activity in the province.

The most developed of these surveys was the Kananaskis Country Environmental Education Report (Alberta Department of Recreation and Parks, 1981). There were four components to the report, namely:

1. An inventory of existing sites, facilities and programs, both privately and government operated;
2. Documentation of past and current level of use of these facilities for environmental education by examining field trip records of school boards in the

local region, as well as site and facility booking records;

3. An examination of the needs and preferences of environmental education users with respect to facilities and programs. This information was obtained via a telephone survey of selected environmental education teachers;
4. A projection of environmental education use in Kananaskis Country to 1983 by extrapolating present use rates against Department of Education enrolment projections.

In summary, the main findings of the various Recreation and Parks Department surveys were:

1. The absolute numbers involved in environmental education have not only increased, but use has become concentrated at certain sites, intensifying pressures; this may be related to more specialized environmental education programming trends;
2. Most environmental education activity occurs from late spring to early summer, reaching a peak in May-June, which is the only time serious over-crowding and congestion occur, and then only at the most popular environmental education destinations;
3. Environmental and outdoor education activities take many different forms although typically are centred

around camping, hiking, nature study and various other more physical outdoor activities; environmental education programming involves a plural experience that involves acquiring new skills, increasing the knowledge of nature among participants, and improving students' socialization through group activity. Programs are built around on-site activities, which are themselves the expression of diverse motivations and patterns of behaviour.

The reason for doing these surveys was to gather information on environmental education involvement that could be realistically assessed in terms of planning needs for provincial parks across the province. There were, however, a number of problems associated with the exercise:

1. Information on user needs and preferences can best be described as preliminary;
2. Most of the information collected relates to user numbers and participation;
3. The data are in a form such that only rudimentary statistical analysis is possible;
4. It is difficult to compare or interpret the findings with any degree of certainty;
5. As a result it is possible to indicate only broad patterns of use.

The information collected was satisfactory as part of an exploratory study but is only the first step in gaining the kind of comprehensive understanding of environmental education that is needed for parks planning. Consequently the reports have not really enhanced the Department's ability to derive clear signals about environmental education field trips that the research sought to provide.

The next major study in Alberta was a thesis by a team of University of Alberta Educational Administration graduate students that focussed specifically on those environmental education field trips to Elk Island National Park, near Edmonton (Adamson et al., 1982). The research objectives went beyond previous studies in two ways. First, variations in participation, and not just the number of participants, were examined. Second, the researchers attempted to gauge user satisfaction with the Park's environmental education program.

The differences in objectives between the impact study of Burton and Unger, and the demand survey that was part of the planning for Kananaskis Country and this user survey by the Educational Administration group, entailed a different research design, especially with regard to sources of data. Booking records of school groups visits to Elk Island National Park collected by Parks Canada were used to compile visitor statistics. These records also provided a

sampling frame of teachers for a questionnaire survey of site users. Such evaluation research of site environmental education programming involves an orientation away from the school systems as originating areas, and towards destinations as the location for environmental activities.

Unfortunately, the results fell far short of meeting the research objectives, and the usefulness of the site-based approach to research design could not be determined, since the whole project was undermined by a low response rate to the questionnaire survey compounded by the small number of the completed questionnaires that were usable. The researchers found themselves working with inadequate data that yielded only marginally useful frequency of responses distributions. Instead, two supplementary data sources--the booking records, and a non-random, small self-selected sample of respondent interviews--assumed an unwarranted position of importance. This reliance on the booking records was despite the shortcomings, pointed out by the researchers themselves, of not having been systematically collected annually by Parks Canada. This led to a rather speculative conclusion that user numbers were declining, which was not borne out by the research team's user survey that indicated difficulty in booking a field trip to the site, because of visitor pressure.

The study failed to meet the requirements of site managers, who were co-sponsors of the research. Parks Canada was interested in the reasons environmental education field trip groups use Elk Island National Park, how it was selected as a destination, and what users' expectations were and whether they were being fulfilled, especially with regard to the role of Park Naturalists in environmental programs.

3. Lessons From Previous Research in Alberta

A review of previous research on environmental education field trips in Alberta is instructive in pointing out areas for improvement that should be carefully considered by those engaged in similar research. Research to date has been less than satisfactory due to difficulties achieving the goals of the research, often because of shortcomings in the methodology used.

The Kananaskis Study is a good example of over-ambitious objectives, even considering the amount of resources employed in the study. The dynamics of environmental education field trips at the regional level proved too complex to even describe, let alone explain, the interaction of the supply of and the demand for environmental education opportunities. Without a reliable basis for explanation, prediction can be extremely

hazardous. Projections based on an assumption of "other things being equal" become meaningless if outside factors change. In the Kananaskis study area, the policy of the largest school board in the region changed, and they switched programs to other sites. An object lesson for such research is to concentrate on those elements under the control of the sponsor, or those contracting the research.

The weaknesses of the other two studies lie principally in the methodology used, and the consequent impact on data collection, analysis, and interpretation. In the Burton and Unger study, existing secondary data were inadequate, being incomplete and piecemeal. The Educational Administration team initially were less dependent on secondary data, but their primary data collection instrument performed poorly, and left them short of even the minimal information needed. Both studies point out the need for a carefully thought out research design that will yield sufficient data for analysis that can provide possible answers to the research questions.

Part of the reason these studies did not produce more useful results was because the demand for sites for environmental selection field trips was assumed to be represented by the level of use at sites. Participation numbers are superficially an expression of demand, and site utilization factors are good as indicators of demand, but

are not the full expression of the impulses that drive demand. For example, one of the reasons Parks Canada contracted the Elk Island study was because they were looking for ways to improve the on-site experience for school field trip groups. Visitor counts are an important preliminary step, but increasing visitor satisfaction was the overriding management objective of Parks Canada.

In order to shed some light on what might be suitable research objectives, and hence what are the appropriate research methods, a greater understanding of the value of environmental education field trips is called for.

4. The Purpose of Environmental Education

Boswell (1978) traces the origins of environmental education as far back as 1530, to Erasmus in Rotterdam, who instructed the children of the aristocracy in the wonders of nature. In Boswell's view, modern environmental education seeks to promote a wide range of goals in a child's educational development in such areas as group dynamics, experiences in living processes, and health and physical fitness, and to act as an antidote to the pressures of urban life.

In the report of the UNESCO Tibilisi Conference (UNESCO, 1980), the environmental aspect of environmental education was strongly emphasised, with frequent references

to the biosphere, natural ecosystems, and the interaction between man and the environment. In the report, the rationale for environmental education is that it takes into account man's ability both to adjust the relationship of living things within the environment, as well as human capacity to transform the environment itself. In fact, the report notes, the degree of man's ability to control his environment is otherwise expressed as the stage of development a society or culture has attained. UNESCO argues that the old view of human progress consisting of increasing domination of nature by man, ought to be replaced by a new "environmental ethic" that maintains the life sustaining systems of the Earth as a common heritage of man.

The term "environment" is used in the UNESCO report as an all-embracing concept that includes the biological and physical aspects of the planet linked to the economic and sociocultural values of human society. In environmental education, it is not always clear if the meaning of environment is seen in quite the same way as used by UNESCO. Problems with definitions and usage have persisted in this subject, often obscuring the purpose and value of environmental education.

5. Definitions: Outdoor Education or Environmental Education

Any interpretation of the meaning of environmental education is made more difficult by the vying usage of the apparently similar term "outdoor education." Because of the confusion over the terminology, Backiel (1976) concluded that "outdoor education" had lost all meaningful definition. Similarly, in one instance, "environmental education" has also been used to refer to community college coursework in resource and environmental management (Moritz, 1981).

The use of the term "environmental education" has gained ascendancy of late, for which Crociechea (1971) cites the influence of United States Federal legislation. Following the passage of the Environmental Education Act (1970), funding was made available for "environmental education" programs, so the titles of proposals for such funds tended to use the words "environmental education," at the expense of "outdoor education." Although the term "outdoor education," when used nowadays, is synonymous with "environmental education," the gradual takeover in common usage of "environmental education" to some extent also reflects a reshaping of the subject from what it was as "outdoor education."

Pettus and Schwab (1979) have stated the meaning of the environmental education as:

1. Making students aware of and knowledgeable about environmental problems;
2. Helping students develop skills for solving such problems;
3. Promoting among students, attitudes, values and behaviours for maintaining a suitable environment for our planet (p. 36).

The American Camping Association (ACA) Outdoor Education Task Force (1972) considered that the goal of environmental education was to develop in young people an awareness and understanding of man's interrelationship with his environment. In an environmental education field trip, the outdoors was utilized as a resource for a direct learning experience to achieve this goal. As well as this appreciation of the aims and characteristics of environmental education, the ACA position points out a clear direction for the implementation of environmental education. First, the focus in environmental education is on children and young people of school age. Second, environmental education is best taught by a direct learning experience in the environment itself, and not by normal, passive-abstract classroom instruction.

Two important implications flow from these directives. As young people are the target group, the goal of developing environmentally sensitive attitudes can only be

accomplished over the long term, although these attitudes can begin to be instilled in children in their formative years. Additionally, in terms of a "direct learning experience," the ACA is making a strong plea for environmental education to involve out-of-school field trips.

The ACA noted other benefits of the field trip beyond its strictly educational value. Given its major interest in outdoor recreation, it is perhaps not surprising that the American Camping Association favoured outdoor education as a means of allowing young people the opportunity to develop outdoor recreation skills and interests, and as a way to promote the worthwhile use of leisure time.

This theme of outdoor education preparing young people for a lifetime of outdoor recreation had been taken up earlier by Gabrielson and Holtzer (1965). They claimed that outdoor education, although primarily was educating in the outdoors, could also be educating for the outdoors. They went further and advanced the notion that although distinctions could be found between outdoor education and outdoor recreation, there was nevertheless much in common between them. Outdoor recreation involves participation in any of a variety of outdoor activities, with the enjoyment and satisfaction achieved being related to the goals and abilities of the recreationists. Outdoor education also

was based on developing many of these same skills, and attaining similar satisfaction and enjoyment, with the additional goal of creating attitudes tuned to the "environmental ethic."

6. Planning Strategies For Environmental Education

In his review of recent developments in environmental education in Canada, Towler (1981) lamented the lack of support from either Departments of Education or Resource Management Departments at both the Provincial and Federal levels. As Towler saw it, a major issue was the lack of specific policies dealing with environmental education, and the critical need was for personnel trained to teach the subject, since only a small number had received training in how to teach it.

Puntenney and Stapp (1981) propose that input from selected individuals with experience and interest in environmental education should be part of policy formulation. Such people could offer expert advice on such matters as instructional materials, physical facilities, programs, personnel, funding, legislation, organizations, and institutions. Puntenney and Stapp acknowledge the position of experienced teachers as experts, who can be called upon to identify more precisely the most effective

educational methods and procedures to advance environmental education.

The teaching profession is clearly expected to be in the forefront of the growth and development of environmental education as is demonstrated by a number of statements referring to needs and responsibilities of teachers: "initiating and maintaining environmental education" (Pettus & Schwab, 1979); "consultant and in-service opportunities for teachers" (Sacks, 1981); "communication among environmental educators" (Towler, 1981); "planning programs, devising teaching aids, training personnel" (UNESCO, 1980). Similar calls for action emanate from teachers and administrators with other educational special interests. Environmental education is unique in one crucial respect, owing to the field trip component that takes education out of the normal school setting. Therefore, developing environmental education usually involves joint planning and cooperative action with others outside the teaching profession and education administration.

The extra-mural character of the environmental education field trip presents special needs, and was one of the priority areas recognized by the Alberta Department of Education (1974). The report endorsed:

> the facilitation of student activity in environmental education through recognition of the costs of physical

> facilities, human resources and transportation associated with out-of-school experiences, as part of the curriculum package (p. 13).

Given the impact of environmental education field trips occurring outside the school system, other government departments became involved, and published "Priorities in Environmental Education Strategies" (Interdepartmental Committee on Environmental Education, Government of Alberta, 1977). Directions for government actions were outlined in an Appendix of the report.

The Committee clearly saw a dichotomy between the role of educators and the task of site managers, whose efforts have to be coordinated to make it possible for environmental education field trips to take place. The mandate of the Department of Education is to prepare students academically for environmental education field trips, whereas the role of the Department of Recreation and Parks is to make areas they administer available for use in environmental education field trips.

The Interdepartmental Committee on Environmental Education (I.C.E.E.) (1977) in its list of recommendations, made particular reference to the role of the provincial government as a manager of much of the natural areas in the province. Recommendation 8 states:

> that the Government of Alberta institute a system to make optimum use of Crown Land and existing or planned

> facilities, and to provide financial support for related program planning and research for environmental education (p. 16).

It was the opinion of the I.C.E.E. that this management directive would require little or no additional cost to implement, at least not initially. At a later stage, parks management could provide environmental learning centres in designated areas "if that were the direction decided upon" (p. 16). Applying such a qualification to the environmental education centre option signifies that one of the critical site management issues is to define criteria for the design and operation of sites for environmental education field trips and has been raised elsewhere (Anderson et al., 1974; Webb, 1980), as well as in this thesis. The requirement for such a development will depend on the degree a site can be transformed from its natural state and still be suitable for an environmental education experience.

7. The Requirement for Environmental Education to Involve a Direct Experience of the Environment

Rawling (1981), repeating the view of the Working Party of the Environmental Board (H.M.S.O., 1979), pointed out that environmental education is more than environmental knowledge gained through academic study. Skills, feelings, and the emotions involved are equally important, but above

all, the environmental education of youngsters ought to involve direct experience of the environment. This applies even in tough economic times, when field trips are threatened because some consider them to be unnecessary "frills" (Adams, 1984).

Rawling herself was critical of some of the teaching methods used in environmental education. She felt there was a tendency to be overconcerned with being knowledgeable about the environment, and too little an emphasis on students having a direct experience of the environment, and of using the environment itself as a medium for learning.

O'Riordan (1981) claimed that environmentalism could not be learned in the abstract, but should be translated into the daily experience of students, and suggested the greater use of illustrative case-studies. This would help students gain a sense of the conditions in which planning and resource-use decisions are made. Similarly, environmental education interest groups have pointed out that environmental education does not end with acquiring environmental knowledge (Adams, 1984). The knowledge and skills learned should have practical applications.

8. The Position of the Teacher in the Planning and Organization of Environmental Education Field Trips

Criticisms of and suggestions for improvements in teaching environmental education have mainly concentrated on making teachers conscious of the need for field trips (O'Riordan, 1981; Rawling, 1981). This focus marks the teacher as having the key role in putting environmental education into practice and making it "come alive." Markson (1975) noted three ways in which the teacher is vital to the practical success of environmental education. Generally the teacher is the main motivator for the field trip, in the way the class is prepared for going on the field trips. Secondly the teacher can have prior experience of the field trip site and the environmental education programs available. Thirdly the self-confidence generated from such previous experience can be transmitted to the students and increase their desire to go.

Despite so much of the success of a field trip depending on the teacher, Pettus and Schwab (1979) found that, in 88% of the schools they surveyed, it was the regular classroom teachers, and not environmental education specialists, who were responsible for promoting and carrying out environmental education field trips. Given the extent to which teachers control the kind of field trip taken, one of the basic needs of research in this field is

to investigate teachers' attitudes and gain a better knowledge of the underlying assumptions and biases of teachers involved in environmental education (Falk & Balling, 1979).

Workshops can be a key factor in shaping teachers' outlook. The purpose of a workshop is for teachers to gain experience of an environmental education program at a site, in advance of the actual field trip. Research has shown that without a workshop, teachers are less skilled in assimilating and presenting the contents of an environmental education program. Teachers who have attended workshops work better and have more productive students on the field trip (Falk & Balling, 1979; Markson, 1975).

Workshops are only a partial solution to the difficulties faced by teachers planning field trips. Surveys have revealed a long list of constraints felt by teachers which, in order of difficulty, ranged from the cost of transportation, to teacher incentive, lack of administrative support, curriculum inflexibility, teacher confidence, the absence of specialized teacher training and the absence of worthwhile places to go (Burton & Unger, 1978; Falk & Balling, 1979).

Burton and Unger devised a classification scheme that summarized teacher concerns about field trips into

operational, functional, and philosophical issues. Operational concerns were the practical difficulties and restrictions in organizing a field trip. Functional issues referred to the capability of teachers, and the role of administration in giving direction and assistance. Philosophical issues centred on the content of programs, the composition of decision-making bodies, questions about standardization of programs, and to what extent individual initiative should be allowed. While operational and functional concerns predominate in this thesis, some of the philosophical issues of environmental education field trips demand attention.

Values or moral education seems an integral part of teaching environmental education. Harshman (1979) sees this as a three-stage process involving value clarification, value analysis, and moral development. The process provides a means of evaluating environmental issues and helps form an environmental ethic.

Harshman's views correspond to those of O'Riordan (1981), that environmentalism is both an attitude of mind and a code of behaviour. This is particularly important in its effect on the outlook, beliefs, and behaviour of teachers and their approach to environmental education. Some teachers see it as just another subject to be taught, while in contrast, others feel a deep personal commitment

to it. Between these two extremes lies a third group, whose attitude to environmental education is generally supportive of environmentalism, but for whom it is not an all-consuming passion. Teachers' sets of values and their corresponding attitudes form the reference point from which they assess opportunities for environmental education programs.

9. Field Trip Site Features and Facilities

Evidence has been found of a relationship between the perceived availability of field trip opportunities and the provision of environmental education in schools (Pettus and Schwab, 1979). Existing research indicates that a wide range of sites and facilities can be used for environmental education, such as outdoor areas on school property, wooded areas, nature trails, parks, zoos, gardens, though favoured environments were natural areas for preservation and conservation (Gabrielson & Holtzer, 1965; ACA, 1972; Pettus & Schwab, 1979; UNESCO, 1980). Gabrielson and Holtzer were particularly insistent that nature be omnipresent in environmental education field trips, and the ACA considered that examples of man's work in environmental conservation should also be present.

Bagby and Chavarria (1980) drew up what is almost a blueprint for an environmental education field trip site

and may represent a yardstick against which existing or proposed sites could be measured. Alternatively, there may be considerable value as a site for field trips in man-modified environments. The specifications of Bagby and Chavarria call for a nature centre, which is defined as an area of undeveloped land with facilities and services for outdoor educational and recreational programs. Ideally, the landbase should be in its original condition and representative of the original landscape of the region. They recommended that facilities include buildings with meeting and exhibit rooms and resource areas for books and other media materials. Other basic site facilities are access roads, parking areas, and water and sanitation arrangements. Management services should relate to the specific features of the site in setting up seasonal programs and workshops. Finally the site should be publicized through printed brochures and news releases as well as more informal means of disseminating information. Gabrielson and Holtzer (1965) also considered this an important management function, since teachers often have difficulty finding out about suitable sites.

Sites for environmental education do not necessarily have to be designed as such. The ACA Outdoor Education Task Force (1972) recommended the use of residential camps during the school terms, when camps are not normally

heavily used. As long as a site has the kind of environmental resource base, the facility features, and the management services which fulfill the criteria already referred to, it would appear to be at least adequate, if not necessarily ideal for environmental education field trips.

10. Examples of Environmental Education Field Study Centres

The organization of operational field trip sites can be looked at to assess the relative significance of each of the three site criteria--environmental attributes, facility development, and management programs. The Lonsdale Outdoor Education Centre in New Zealand covers seven hectares of half cleared brush, half natural forest, and it is the "environmental" aspects that are the site's principal characteristics (Boswell, 1978). At Camp Arowhon, Ontario, the water and land resources of the local environment are the main resources of the site, used for camping, boating and canoeing (Markson, 1975). The Chesapeake Bay Center for Environmental Studies encloses a huge area--2,600 acres--and contains the full range of local and regional habitats for study, and again the emphasis is on the environmental resource (Pogell, 1981).

Elsewhere the involvement of the site's own personnel in environmental education programs is emphasized (Environmental Learning Centre, 1979). Without minimizing the quality of the environmental landbase found there, the operators stress the learning facilities constructed at the site, and the assistance of the staff in preparing and organizing environmental education programs for visiting school groups.

The management at ELC (Environmental Learning Center) operate under the principle that even a pristine natural site is insufficient, unless it can be used in an educationally meaningful way be teachers and students. It is the task of the on-site staff to accomplish this, by acting as facilitators, and become the means and resources for organizing environmental education programs. The teachers themselves remain the "educational promoters."

The Elk Island National Park Study (Adamson et al., 1982) was initiated by Parks Canada to evaluate the effects of a "Multiplier Program" which had replaced the direct involvement of Parks Naturalists in environmental education programs. Through the Multiplier Program, teachers were introduced to the educational resources of the Park by workshops conducted by the Naturalists. The teachers were left to conduct their own field trips and act as interpreters and instructors for their classes. The

"multiplier" concept referred to the potential of teachers, who had been trained by Parks personnel, to pass on to other teachers the knowledge and experience they had acquired. Given the problems encountered in that study, it is still unclear how this change from the previous practice was received by teachers using Elk Island for environmental education field trips.

11. Summary

Previous studies have examined a number of aspects of environmental education field trips, namely the impact on community resources, participation on the regional scale, and an evaluation of the absence of on-site staff in programs. Important lessons can be derived from these studies for this thesis, in setting research objectives and the methodology to be used.

Environmental education receives broadly based support from government and public planning agencies, who endorse its social goals. These are derived from a concept of man and his environment, that recognizes the interdependency of living things in the environment, that seeks to heighten awareness of the effects of human action on the environment, and to shape an environmental ethic to guide these actions.

The environmental education field trip is a way of reaching for these goals, and the emphasis on a direct, "hands-on" experience of the environment distinguishes environmental education from more traditional, academic education. The extramural character of field trips has two important consequences. First, it involves people outside the education sphere, who provide opportunities for field trip groups. Second, it places on the teacher considerable responsibility and freedom of action in planning and carrying out an environmental education program.

Teachers taking environmental education field trips and the managers of such sites are in a demand-supply relationship. Teachers are seeking contact with the environment for their classes in an educationally meaningful way. Site operators are trying to provide the kinds of opportunities that will allow that to happen. Straightforward copying of other sites is not practical since areas used for environmental education field trips cover a wide spectrum of possible arrangements of environment, facilities, and staff services. Two issues confront site management and provide the orientation to this thesis. First, a means of determining user demand is needed, and secondly, following from this is the need to establish priorities for the development of site features

which are important for successful environmental education field trips.

CHAPTER THREE

THE RELATEDNESS OF THE STUDY OF RECREATION AND LEISURE TO ENVIRONMENTAL EDUCATION FIELD TRIP RESEARCH

1. Introduction

The purpose of the second part of the literature review is to gain a better understanding of both some of the limitations and the successful approaches of research in other forms of spatial behaviour like recreation, with which environmental education field trips have parallels. The behavioural approach exemplified by recreational geography is offered as conceptualization of spatial behaviour. Using this approach, fundamental questions such as decision-making in a spatial context can be addressed, and the decision to visit a location is seen as the outcome of a process involving individuals' attitudes and preferences and their perception of available alternatives. Travel to a destination is part of a system of spatial interaction, and when characteristics of the originating area and distance factors are controlled for, destination variables become the main impetus for attracting visitors.

2. The Contribution of Geography to Recreation Research

Coppock (1980) has commented that there are two broad categories of recreation research that public bodies and agencies have customarily commissioned. First, much research has been carried out on the use of environmental resources for recreation, and the long-established tradition of geographers in land use studies has been the basis for their continuing involvement in this type of research (Goodall & Whittow, 1975; Tanner, 1973). The second major theme in recreation research has been the characterization of participation and the specification of the demand for recreation opportunities. With the rise of new forms and new approaches in geography, such as locational analysis and studies of spatial behaviour, geographers have made a substantial contribution to this type of recreation research (Beaman et al., 1979; Ewing, 1981; Goodchild & Booth, 1980; Patmore & Collins, 1980).

Many recreation research projects are the work of an interdisciplinary team, and geographers have become unsure of their specifically geographical input. Patmore (1978) maintains there is little that is distinctively recreation geography. Yet environmental resource use for outdoor recreation continues to be a subject for geographical inquiry, examples of which are studies of campground design and campers' satisfaction (Foster & Jackson, 1979) and the

recreational use of undeveloped, surviving "natural" areas within an urban community (Jackson, 1980).

Furthermore, Rodgers (1973) sees a clear role for geographers in analysing the spatial dimensions of recreation demand. As Coppock has observed, geographical interest in recreation is derived from the characteristic separation of recreationists from recreation areas. Lavery (1974) described the spatial dimension of outdoor recreation in the following way:

> . . . recreation involves the movement from an origin to a destination reflecting the spatial distribution of the demand for and the supply of suitable resources (p. 19).

It is in this context of spatial relationships that geographers can rightfully claim their place in recreation research.

3. The Behavioural Approach in Geographical Explanation

The opening up of recreation as a field of inquiry for geographers is largely due to the growth of the discipline, whereby classical geographical explanation has been supplemented by the behavioural approach. Under the classical method of analysis the search for explanation is a process of conceiving a spatial structure, and from this inferences can be made about behavioural factors. This approach lends itself to quantification and mathematical

modelling, and has reached highly developed forms in economic geography and locational analysis. The behavioural approach is a complete reversal of this vision, and spatial patterns are instead derived from an understanding of individual and group behaviour. When large numbers of related individual activities are grouped and treated collectively, certain regularities can become apparent. Analysis of these observations using statistical probabilities has become an integral part of behavioural geography.

Golledge and Rushton (1976) describe this as "an interest in the role of human behavioural processes in the explanation of spatial phenomena" (p. viii). The initial specification of the behavioural postulates makes up the premises and assumptions on which behavioural research is based. Commonly such assumptions will be tested as part of the research, by such measures as uncovering the preference structures of the subjects in a study.

4. Concepts in Spatial Behaviour

A starting point for an analysis of spatial behaviour is the examination of attitudes, preferences, and perceptions. Hanson (1974) sees a connection between attitudes and spatial choice behaviour, since in her definition attitudes refer to "an individual's disposition

to react towards alternatives, either positively or negatively." (p. 563).

Hanson explains that the underlying purpose of studying attitudes is to understand the way in which alternatives are evaluated by the decision-maker. In the case of destination choice, this is a complex matter since there are many alternative destinations to be considered, each with its own set of site variables, in a situation where a decision-maker has less than complete information about all potential destinations.

Sonnenfeld (1976) questions whether attitudes and preferences are adequately reliable measures for predicting behaviour. Even if attitudes influence behaviour then, Sonnenfeld claims, they are also derived from behaviour. For example, the attitudes of a recreationist are in part a function of past recreation experiences. Further recreation experiences may have reinforced the attitude or led to its replacement. Attitudes, once formed, are not fixed, but subject to modification in the light of actual experience.

Similarly, Pigram (1983) views the composition of perceptions as a function of past experiences, which have shaped present values, motivations, and needs. Perceptions, in recreation decision-making situations, comprise the subjective, evaluative beliefs and mental

images of the nature and quality of potential recreation opportunities. Individuals' perceptions determine both how much information people make use of for their decisions and also how it is processed.

Golledge and Rushton (1976) see this as one of the cardinal principles of the behavioural approach. Decisions are made with the external environment "filtered" and are based on the decision-makers' somewhat distorted cognition of the environment in which he operates. Spatial decisions, once made, represent an individual's revealed choice pattern.

5. The Implications of a Behavioural Interpretation of Recreation for Recreation Management

Lavery (1974) defined recreation as "a broad spectrum of leisuretime activities generated as a result of many individual decisions and personal preferences" (p. 19). As well as having the external manifestations of activities, recreation has internal or psychological dimensions, relating to the experience of attaining the goal-objects that motivated the recreationist (Driver & Tocher, 1979).

Other distinguishing characteristics of recreation behaviour noted by Driver and Tocher are that participation is a matter of free choice and not an obligation. However, it would be a mistake to exaggerate the unconstrained

nature of recreation, given the extent to which recreation has become planned for and managed.

Recreation management interest has been concentrated on the issues of recreation demand, the recreationists' decision-making process, and recreational pressures on resources (Lavery, 1974). The orthodox management view of recreation as participation in activities limited the scope of recreation research (Driver & Tocher, 1979). Standard recreation research became restricted to profiles of recreation participants, and the timing, location, and duration of recreation engagements. Other more serious limitations of the "activities approach" are that it does not make explicit the reasons for participation, the alternative activities that might have been chosen is opportunities existed, the satisfaction gained from the activity, or ways of enhancing the overall enjoyment (Stankey, 1977; Driver & Tocher, 1979).

These commentators note that the assumptions of the activities approach contain a particularly disturbing implication. In effect, supply determines preferences or at least, supply will generate its own demand. The prevalence of the activities approach, which is certainly appropriate for an initial study, has tended to restrict research and planning efforts too narrowly to current recreation opportunities being supplied, and gives too

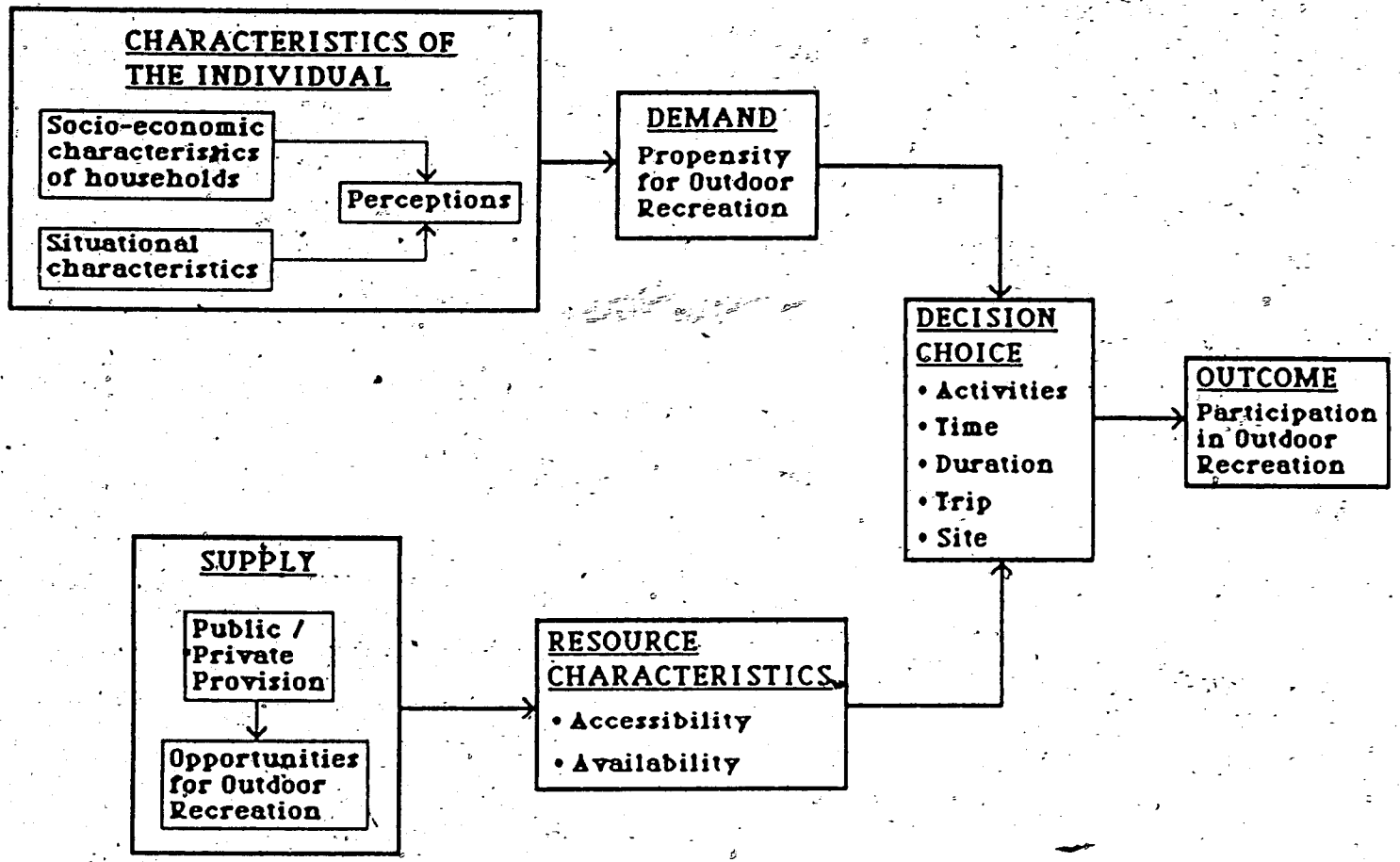
little attention to the broader spectrum of recreation demand.

Pigram (1983) has described more fully the demand-supply relationship in recreation. The demand for recreation is made up of the demographic, socio-economic and individual situational characteristics, which generate a propensity to recreate. Recreation supply consists of the external environment of the natural world and social organization, which facilitates or constrains the choice of opportunities. These determine the accessibility or availability of recreation, and in functional terms, define those resources that are opportunities for recreation.

The interaction of demand and supply factors involved in recreation participation is modelled in Figure 1, showing it as a process of recreation decision making. The decision choice involves the selection of activities, of the time and duration for participation, and the location where recreation will take place.

Participation occurs based on the expectation of the attainment of the recreational goal object, namely a satisfying recreation experience. The concept of user satisfaction is fundamental to recreation (Bultena & Klessig, 1969; Foster & Jackson, 1979). Bultena and Klessig defined recreation satisfaction as the congruency between expectations and the perceived reality of the

FIGURE 1: THE DECISION PROCESS IN OUTDOOR RECREATION



Source: Modified from Pigram (1983), p. 22

recreation experience. Learning what experiences recreationists find satisfying is the underlying reason for investigating user demand (Beard and Ragheb 1980; Ragheb, 1980). Beard and Ragheb devised a multi-dimensional leisure satisfaction scale that attempted to measure psychological, social, relaxation, educational, physiological and aesthetic factors in recreation. These non-observable factors proved difficult to measure, though associations were found between particular activities and certain of the satisfaction categories or even sets of satisfaction categories.

Realistically, conditions that would provide complete recreation satisfaction often do not exist, which has prompted inquiries into the degree user satisfaction can be maintained under less than ideal conditions. The idea of substitutability has been postulated to describe the possibility that recreation opportunities can be manipulated to provide the desired user satisfaction (Hendee & Burdge, 1974; Stankey, 1977). In the context of site management, different settings might be capable of providing the same or similar kinds of satisfying experiences.

There are however, limits on the extent to which sites can replace one another. As Stankey (1977) pointed out, there can be a real difference in the kinds of satisfying

experiences associated with different settings. Satisfactions that are common to many settings, and not uniquely linked to one particular setting, he terms "generic satisfaction." Certain satisfaction can be obtained only in a particular environment, which Stankey calls "dependent satisfaction."

Stankey admits that the concepts of recreation satisfaction are broad and abstract, but considers them to provide recreation planners and policy makers with a useful benchmark for evaluating recreation alternatives. In practice, recreation managers have experienced great difficulty in measuring the effectiveness of recreation services. Even operations manuals that address user satisfaction with recreation facilities (Fisk & Hatry, 1979) may not be much help, since their measures of satisfaction reflect the "consumption" or use of existing facilities and rely on attendance figures as an index of user satisfaction.

Given the uncertainty about which attributes of a recreation venue are significant to the recreational experience, or even the type and number of recreational experiences sought, recreation professionals have proposed a strategy of providing a "recreation opportunity spectrum" (Stankey, 1977), or a "leisure environment" (Burton, 1974), made up of a wide range of recreation alternatives, at a

number of sites and facilities comprising a system of leisure opportunities. The variety of recreation opportunities and settings would offer different outlets to satisfy the many different motivations and preferences that lead people to participate.

The notion of providing a range of recreation opportunities has become incorporated into recreation management practices. In forest recreation planning and management, the operational counterpart of recreation opportunity spectrum is "recreational user requirements" (Goodall & Whittow, 1975). The task of recreation site management is to provide various types of environments containing the characteristics recreationists require, which at the same time, define a site's recreational potential. Goodall and Whittow devised a user requirements matrix on which site characteristics such as physical environments, accessibility, site layout, etc., could be matched with recreational activities.

A major drawback of the matrix is that user satisfaction is assumed to be implicit in participating in an activity. Goodall and Whittow state the important caveat that, regardless of the breadth of the recreation opportunity spectrum or even if user requirements were correctly identified, whether recreation will take place in

a given location will depend on the features there being sufficiently attractive to would-be users.

6. Analysis of Destination Attraction

Pigram (1983) described recreation travel as a process of spatial interaction, arising from a spatial imbalance of recreation opportunities. The elements of this system are recreationists and recreation sites, and the distance that separates the two. Pigram concludes that the ease or difficulty of movements to sites and the awareness of recreationists of potential sites are basic to the explanation of recreation spatial interaction.

There have been many models of this kind of spatial interaction proposed. As Ewing (1980) has stated, travel models attempt to identify the factors accounting for variations in the recreational use of places and secondly determine the weights of these factors. Traditionally, researchers have relied on the gravity model, analagous to Newtonian physics, which postulates that travel flows from an origin to a destination are related to the "mass" of population characteristics of the origin, and the attraction "force" of the amenity attributes of a destination, adjusted for time and/or distance constraining factors between them both (Schulman, 1964; Van Doren, 1965; Volk, 1965; Thompson, 1979). When tested, the predictions

of gravity models are often not matched by the actual travel flows measured, which may be either underestimated or overestimated. Ewing attributes this to a basic flaw in simple gravity models of not allowing for the notion of recreationists having a number of alternative destinations from which to choose.

Recognizing these difficulties inherent to the gravity model, Thompson (1979) proposed an "intervening opportunities model" that rests on the supposition in that the probability of a trip from origin i destined for area j is related to the quantity of recreation area available ar area j, and inversely related to the amount of recreation areas closer to origin i. Leaving aside the complex specification of Thompson's model, his study is of interest since it turns out to be a study of destination attraction, rather than travel flow. He concluded that Ontario Provincial Parks having "attractive" landscapes, and a wide range of visitor facilities had greater drawing power than less well-endowed parks. Thompson's study would have been more useful if he could have been more specific about which features did attract visitors.

7. The Tourism System: An Example of Destination Attraction

The tourism system is a specialized branch of recreation travel behaviour, with its own terminology. Origins have been termed "sending places", "places of departure", "sender places" and destinations referred to as "welcoming places" or "host places" (Moissec, 1977; Husbands, 1983). Gunn (1972) saw three parts to the tourism system--people at one end-point, and attractions at the other end-point, and between them transportation, information, facilities and services linkages. Leiper (1979, 1981) visualizes a five-element system encompassing a human component--tourists, three geographical components--the generating region, the destination region and the route in transit, and an economic component--the tourism industry.

Leiper's approach was criticized by Pigram (1983), who argued that the destination region and its characteristics should receive greater prominence, and the generating region less. His reasons were that tourists "at home" are scarcely indistinguishable from the rest of the population, and had no real significance, whereas it was the destination region that felt the full impact of the influx of visitors.

In most tourism studies, the destination has tended to be the focus of attention. Leiper himself makes it quite clear that the attractions and facilities of destinations are essential to the tourism process. Gunn (1972) is more emphatic and calls attractions the "real energizer" of tourism, defining "attraction" as the appeal of places derived from the features there that have the capacity to excite, motivate, and attract visitors.

Attraction is not an innate quality, nor restricted to natural features, since man-made features can greatly enhance even an unremarkable resource base (Husbands, 1983; Pigram, 1983). There is, however, a spatial quality to attraction since it is tied indirectly to a specific setting or location. Facilities and services that are developed represent created amenities, complementary to the natural or cultural features of the resource base. They serve to bring visitors into beneficial contact with the resource base for tourism. Pigram adds that they can develop a distinct appeal of their own, and can be promoted to becoming attractions in their own right.

Husbands (1983) makes an important distinction between the terms "attractiveness" and "attraction." Attractiveness springs from the natural or man-made, visitor-pleasing attributes of a place. Yet, frequently a place having a large number of attributes that might be

thought to make it attractive, will receive a less than expected volume of tourists. Such a situation may be a reflection of distance factors deterring visitors.

Attraction is more to do with the actual levels and patterns of visitation. The implication for research is to concentrate on attraction, which can be subjected to measurement, even though the attraction of place does seem to be based on the attractiveness of its attributes. Husbands recommends that the researcher does not attempt to put a subjective valuation of his own on these attributes, but instead to shed light on the association between levels of visitation and the presence of certain place variables.

Destination attraction research has been criticized because of its repeated inability to demonstrate any objective measure of the ability of places to attract visitors. Husbands considers the criticism, that research so far has not been definitive, to be unfair. Progress has been made by researchers such as Goodrich (1977), who found that destinations tend to be associated with definite images. Cheung (1972) developed a model of attraction for day-use parks based on his own evaluation of the attributes that are important in determining attractiveness.

Smith (1975) has criticized such an approach for resting on an assumption that the researcher or site manager is intuitively knowledgable concerning the factors

that are influential in attracting visitors. Nevertheless, views such as Cheung's do represent a movement away from the proposition that attraction can be objectively defined.

Husbands points out that such a proposition is based on the faulty premise that attraction is an innate characteristic of a place. To cling to such a belief ignores the entire contribution to spatial behaviour studies of the behavioural approach. Husbands restates the principles of spatial behaviour as they apply to destination attraction studies. Attraction is internally determined, and varies between individuals. The decision to visit a given destination and hence its attraction arises from individual perceptions of the destination's attributes, including the distance of the destination from the origin, and how closely these attributions mesh with the preferences of potential visitors.

8. A Summary of the Parallels Between Recreation Behaviour and Environmental Education Field Trips

The literature review supports the premise of this thesis that environmental education field trips have much in common with outdoor recreation behaviour, both at the conceptual and the operational level. Outdoor recreation and environmental education are related through sharing a similar conceptual framework of spatial behaviour. A model

of the decision-making process in recreation behaviour is also applicable to environmental education field trips. The model is comprised of personal variables and psychological characteristics such as motivations, preferences, goals and the choice-situation of the decision-maker. These shape how opportunities for the desired activities are perceived, and determine the selection that is made.

On a more practical level, operational research on recreation behaviour has dealt with many of the issues now being raised by managers of environmental education field trip sites. Recreation managers have long been interested in recreation demand, recreationists' decision-making process and pressure on recreation resources. In response, recreation research has developed various approaches to meet these research needs. Initially demand surveys were conducted, with an emphasis on participation in recreation activities. More recently, the trend in recreation research is increasingly in the form of the behavioural approach, which explores the recreation experience in its entirety. Given these parallels, the study of recreation spatial behaviour is a particularly suitable model for the inquiry into the choice of a site for an environmental education field trip.

9. A Conceptualization of Environmental Education Field Trips in a Model of Spatial Choice Behaviour

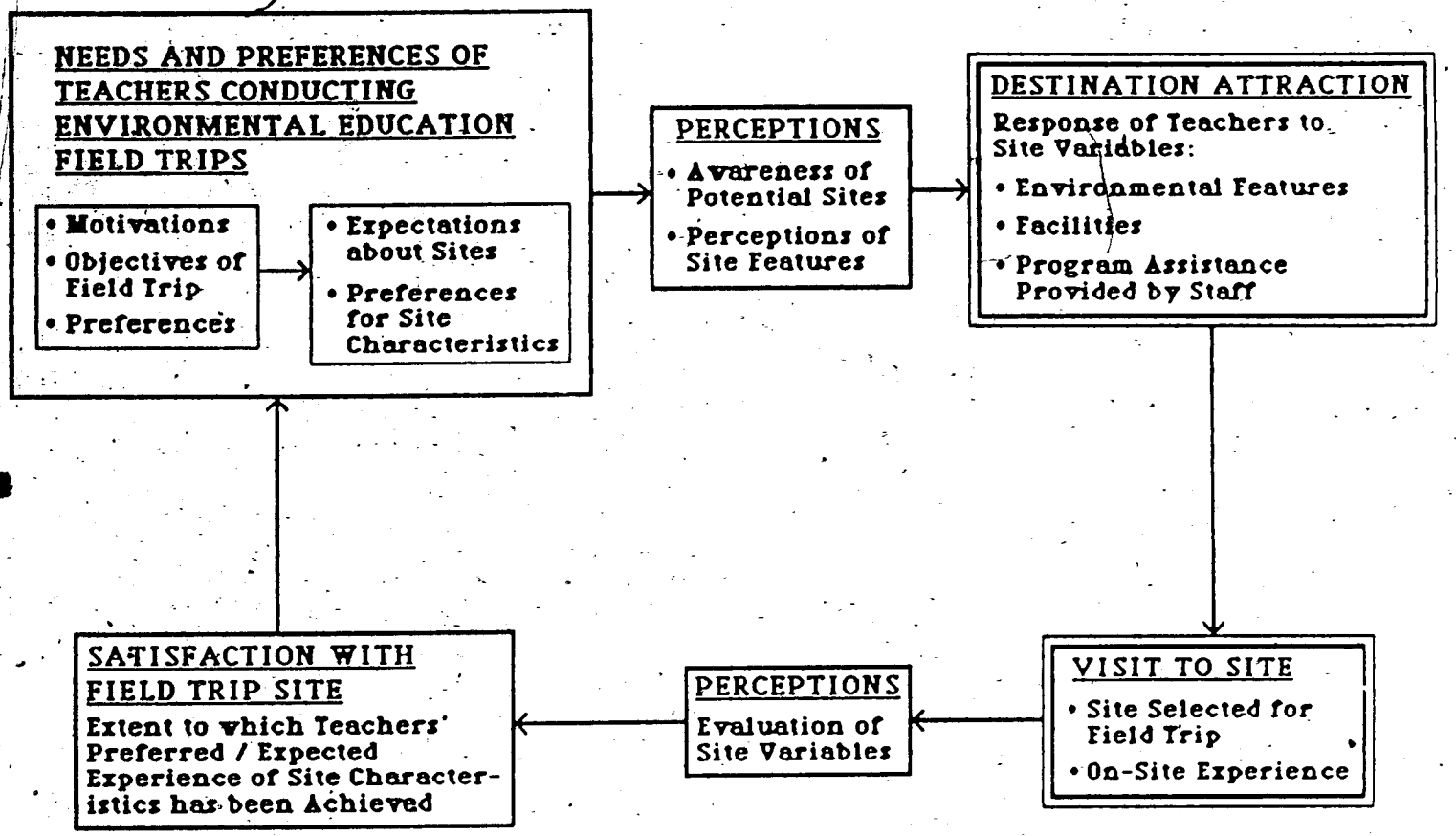
The structure of the research problem for this thesis consists of the needs and preferences of users of sites for environmental education field trips, their response to site variables, and the visit to the site. The influences on these elements and the linkages between them form a conceptual framework of the relationships being investigated (Figure 2).

The initial premise is that the teacher's outlook, beliefs and setting preferences shape the type and location of the field trip site chosen. In addition, they underlie the preferences for, and expectations about, site characteristics.

The conceptual basis for the thesis rests on the connection between such attitudes and actual spatial choice behaviour. The model depicts the behavioural approach which is offered as a more appropriate means of understanding the decision-making process than is possible under the "activities" approach. Site attraction is not considered as an innate quality, but rather as a function of users' awareness of potential sites and their perception of destination characteristics.

The site selection phase precedes the visit to the site and the on-site field trip experience, which reflects

FIGURE 2: TEACHERS' DECISION PROCESS TO SELECT AN ENVIRONMENTAL EDUCATION FIELD TRIP SITE



the evaluation of site attributes encountered. The perception that expected experience of site characteristics has been achieved results in the level of user satisfaction. The extent the visit is a satisfying experience is not the end-point of the process, since experience also connects past behaviour and future action.

10. Summary of the Literature Review : A Restatement of the Research Assumptions and Questions

From the review of previous research and related literature in this and the preceding chapter, a number of the research propositions can be stated as follows:

1. A study of the spatial elements of environmental education should concentrate on the field trip component.
2. Furthermore, in studying the field trip, attention should be focused primarily on the relationship between users and sites for environmental education field trips.
3. Though the composition of field trip site user groups is both teacher and school children, realistically it is the teacher who acts as the motivator, initiator and decision-maker and has responsibility for the field trip, and becomes the focus of the inquiry.

4. The core questions of this thesis concern the response of these teachers to the site attributes of field trip destinations. The problem can be divided into two separate but related phases. Questions of destination attraction, and the decision-making process of selecting a site, are separate from questions of users' on-site experience. These stages are related because on one level both are an evaluation process, and at another level, the on-site experience itself then affects how sites in future are chosen.
5. Therefore, the site selection process is explored in research questions that examine teachers' perceptions of sites, variations in their perceptions, and factors associated with variation in perceptions, that lead to a field trip site being chosen.
6. A further set of research questions concerns teachers' assessments of the site of their field trip to provide a satisfying experience, by determining the extent the field trip site lived up to teachers' expectations.

CHAPTER FOUR

RESEARCH METHODS

1. Introduction

This chapter has a two-fold purpose. Primarily it is an outline of how the research questions and objectives were operationalized. The research procedures are presented that were used to gather empirical data representing the research concepts. The sources and means of obtaining data are discussed including the;

1. selection of the study areas
2. survey population
3. sampling frame
4. sampling method and sample size determination
5. data collection methods

Furthermore certain limitations due to the methodology used, especially with regard to sample used for the survey, are noted. The applicability of computer software selected in generating the output of statistics needed for data analysis is described.

The second reason for an account of the research methods is to comply with the standards of the scientific

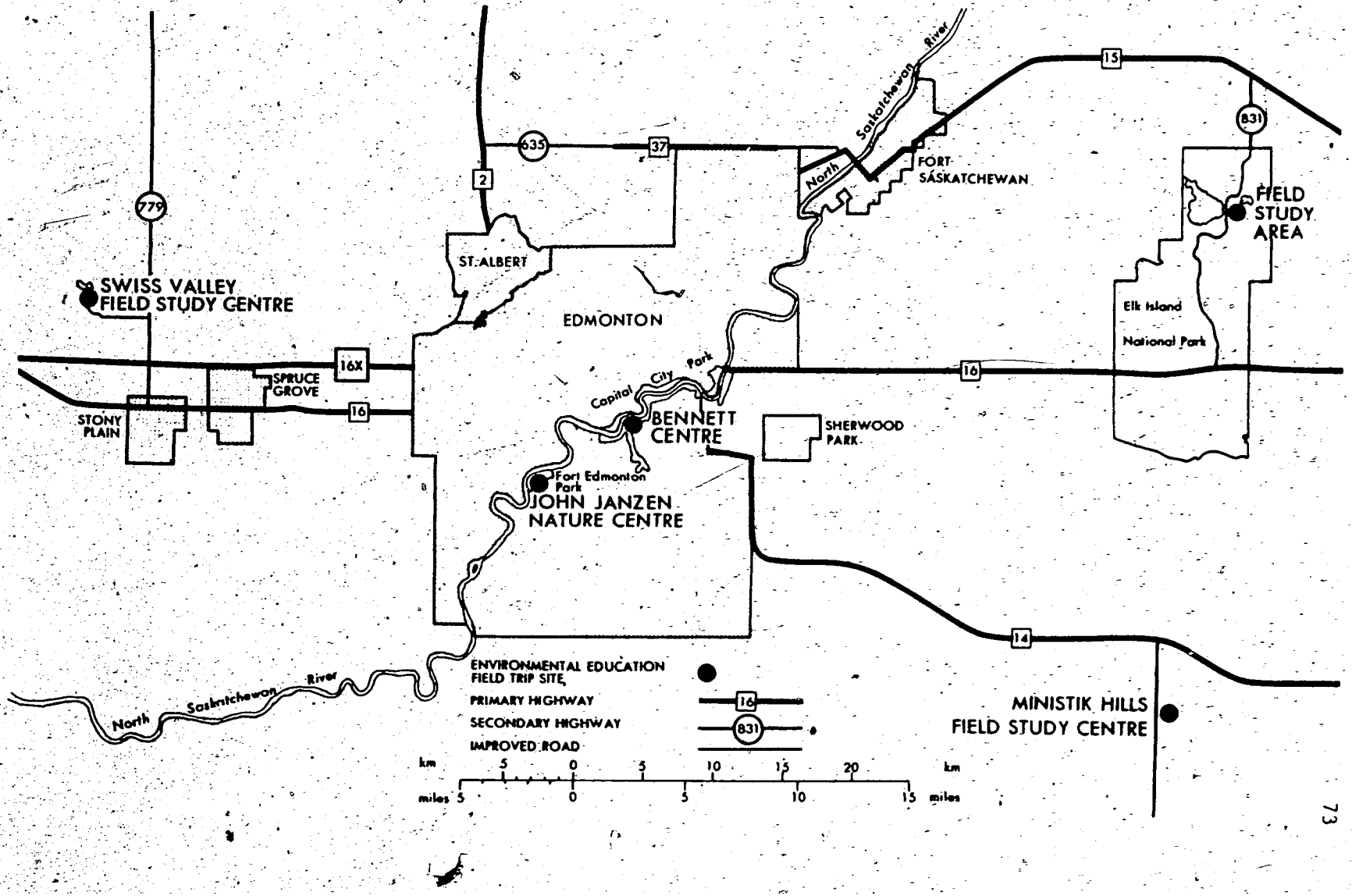
method stipulating that the procedures for replication of the study are to be set down.

2. Selection of Field Trip Sites to be Studied in the Thesis

A number of the better-known local leaders in environmental education were contacted to solicit information about field trip sites. These informants were part of an environmental education network that exists within the school system, both in administration and classroom teaching. Under such conditions the "snowballing" method worked very well and yielded many contacts and leads, so that it became necessary to prepare a short list of potential field trip sites on which the research would concentrate.

The final selection criteria used to include a site in the study were familiarity, location, and site features. Familiarity meant that site had to have been referred to by several informants. A site had to be located within Edmonton or if it was outside the city, it was only a short journey to reach the site. It was thought that this would control for the "distance effect" in destination attraction. A site had to have good examples of at least one of the environmental features, facility developments, or on-site staff services destination variables, that from

FIGURE 3:
THE EDMONTON REGION WITH THE LOCATIONS OF THE ENVIRONMENTAL EDUCATION FIELD TRIP SITES SELECTED FOR STUDY



a review of the literature were thought to be of special significance.

In this way, the number of potential sites for study was narrowed down to the five following locations.

1. John Janzen Nature Centre, Fort Edmonton Park, Edmonton;
2. Bennett Environmental Education Centre, Cloverdale, Edmonton;
3. Swiss Valley Field Study Area, north of Stony Plain, off Highway 16 West, approximately 20 miles west of Edmonton;
4. Ministik Hills Field Study Centre, off Highway 14 in the County of Beaver, approximately 20 miles southeast of Edmonton;
5. Elk Island National Park, off Highway 16 East approximately 20 miles east of Edmonton.

Therefore only two of the sites were within Edmonton. It was hypothesized that because the other three sites were within a 20 miles radius of Edmonton, all the sites were within an acceptable travelling distance for bused school groups (Figure 3).

In May, 1983, a site inspection was made of all five sites during the peak field trip visiting period. This permitted the researcher to make a site assessment

(Figure 4) and also observe the activities of field trip groups (Figures 5.1-5.5).

While all sites displayed varying degrees of the three categories of site variables, one of these sets of characteristics predominated at each site. At the John Janzen Nature Centre, facilities and programming assistance from on-site staff were most highly developed. The Bennett Centre, located in an old neighbourhood, in the river valley "flats" in the city's inner core, gave a first impression of being environment-poor, but has well-developed facilities and moderate direct involvement by on-site staff. At Swiss Valley, program development has been heavily emphasized and is set within a "natural" environment, but facilities were comparitively lacking. Ministik Hills had a similar environment to Swiss Valley, and more facilities, though programming was less structured. Elk Island National Park, as might be expected, given the management philosophy of Parks Canada, contained the best preserved "natural" environment. Facilities (at the time fieldwork was conducted) were minimal, and staff involvement in conducting programs for environmental educational field trip groups had been discontinued.

FIGURE 4: INVENTORY OF FEATURES OF THE ENVIRONMENTAL EDUCATION FIELD TRIP SITES SELECTED FOR STUDY

ENVIRONMENTAL FEATURES	JOHN JANZEN NATURE CENTRE	BENNETT E.E. CENTRE	SWISS VALLEY FIELD STUDY CENTRE	MINISTIK HILLS FIELD STUDY CENTRE	ELK ISLAND NATIONAL PARK
Area of site is large, greatef than 160 acres	yes	No. But access to Capital City	yes	yes	yes
Site contains a wide variety of fauna and flora	comparatively less so	not really	yes	yes	yes
Site is representative of the local/regional natural environment	somewhat	less than somewhat	yes	yes	yes
Site has few signs of human impact	no	no	mostly yes	yes, some farming	yes
Site can be used for environmental education programs without being disturbed by other users of the area	no	no	yes	yes	no
Site is by a body of water, that is issued as part of the program	no	no	yes	yes	yes
Site provides good examples of environmental themes e.g. ecological processes like succession, or geological history	somewhat	somewhat	yes	yes	yes
FACILITY DEVELOPMENTS					
Good access road to site	yes	yes	gravel, route hard to follow	gravel, then track to farm	yes
Garbage disposal service	yes	yes	contractor	site operation	site operation
Water and sanitation services.	yes	yes	at ski lodge	standpipe outhouse	standpipe outhouse
Constructed sleeping facilities	no, day use only	yes	no, day use only	yes	no, camping area
Food service and eating facilities	no	yes	at ski lodge	yes	no
Indoor teaching/instruction areas	yes	yes	yes	yes	no
Nature trails	small scale	trail system of Capital City Park	yes	cow trails	extensive trail system
Designated sites for field work study	no	no	yes	no	no
Building with displays, educational exhibits or audiovisual presentations	yes	yes	yes	yes, barn converted to lab	no

FIGURE 4: INVENTORY OF FEATURES OF THE ENVIRONMENTAL EDUCATION FIELD TRIP SITES SELECTED FOR STUDY (continued)

ENVIRONMENTAL FEATURES	JOHN JANZEN NATURE CENTRE	BENNETT E.E. CENTRE	SWISS VALLEY FIELD STUDY CENTRE	MINISTIK HILLS FIELD STUDY CENTRE	ELK ISLAND NATIONAL PARK
ON-SITE STAFF SERVICES					
On-site staff conduct program	yes	yes	no	yes	no
Program activities are demonstrated by on-site staff, but [illegible] primarily conducts program	no	yes	yes	no	no
Materials and equipment are available on-site	yes	yes	yes	yes	no
Literature, field manuals etc. are available that were produced specifically for a field trip to the site	no	yes	yes	no	no
Teacher conducts program, following a program set up by on-site staff	no	yes	yes	optional	no
On-site staff have little influence on teacher, who conducts own program unassisted	no	no	no	no	yes
Before the field trip, on-site staff conduct in-service orientation	no	no	yes	optional	optional
Pre and post visitation site-related material for in-classroom use are available	no	no	yes	no	no

FIGURE 5.5: SWISS VALLEY FIELD STUDY CENTRE: DESIGNATED STUDY SITE ON WOODLAND TRAIL

3. The Survey Population and Sampling Frame

Although the thesis was site oriented, it was not intended to be simply an inventory of the sites' features. The foregoing descriptive summary of the characteristics of the five field trip destinations was a preliminary to an inquiry into users' perceptions of, and reaction to these attributes. Teachers who took their classes to any of these five locations henceforth became the focus of the research and formed the population for the survey. The booking records of school field trips kept by the management at each of these sites became the means of identifying teachers who had used the site for an environmental education field trip.

The booking records of the five sites for the school year September, 1982 - June, 1983 were examined in the Fall of 1983 and information gathered that identified the teacher by name, the school, and the grade of the class for every field trip. These data were entered on computer file and the number of trips taken by each teacher, as well as the number of sites visited by each teacher during 1982 - 83 was computed.

Eight hundred and thirty-nine teachers had between them taken 1,052 field trips to these field trip sites, and this registry of teachers served as the sampling frame for the survey of users of the sites for school

environmental education field trips. The booking records also defined the survey population and hence potential respondents in terms of the site variable. Teachers by site became one of the two independent variables that was used later in the data analysis. The sampling frame derived from the site's booking records fulfilled two critical requirements. First these records were a means of identifying teachers using the sites for environmental field trips. In other words, participants in environmental education at these sites could be readily traced within the much larger body of teachers who have no involvement with environmental education field trips. Second, the sampling frame was not diluted through the inclusion of recreationists from the general public who visited these sites.

4. Sample Design

A complicating factor was unexpectedly imposed upon the survey design which necessitated a complete rethinking of sampling for the questionnaire survey. The source of the difficulty was the Cooperative Activities Agreement, a protocol between the University of Alberta and the various school jurisdictions in the greater Edmonton area. The Cooperative Activities Agreement is a screening process for dealing with the many research requests emanating from the

University of Alberta (which includes a large Faculty of Education) that require the involvement of Edmonton area schools, teachers, or school students as subjects of research projects. Under this shared responsibility, the University ensures the legitimacy of research requests, while the respective School Administrations impose conditions so as to minimize the disruption of normal school activities by any such request that is forwarded for approval. Approval is on a permissive basis, the final decision resting with the principal of each school.

In compliance with the terms of the Agreement, the researcher provided an outline of the research design and the research method proposed. The group of teachers to be surveyed was identified and a draft of the questionnaire submitted. The draft questionnaire passed this scrutiny, with requests for minor changes to some of the wording. However, the original proposal to conduct a mail out questionnaire survey of about one-half of the teachers taking environmental educational field trips to the study sites (or approximately 500 teachers) was not acceptable to the Edmonton Public School Board, the largest school jurisdiction in the area. The Board put forward a counter proposal for an extremely limited survey of perhaps 10 schools. This would be an inadequate, sample size, if the

results of the survey were to have any statistical significance.

The Edmonton Public School Board restriction would also have severely limited the proportion of the population who could respond to the survey, given that 62% of the teachers using the field trip sites were from that jurisdiction (Table 1). A survey from which 2/3 of the study group were excluded would yield badly-skewed results.

Table 1

DISTRIBUTION OF E.E. TEACHERS BY JURISDICTION

Jurisdiction	Number of Teachers Using Study Area Sites	%
Edmonton Public School Board	521	62
Edmonton Separate School Board	98	12
Non-Edmonton Boards	220	26
	N = 839	100%

There were two factors to consider in determining an appropriate sample for the questionnaire survey. The distribution of teachers predicated a stratified sample, weighted to reflect the EPSB contingent. Second, it was recognized that statistical theory stipulates that it is

the absolute size of the sample, not the proportion of the population that it represents, that affects the confidence limits of statistical reliability.

5. Size of Sample

(i) Standard Error Formula

An objective means of determining an acceptable minimum sample size was to employ the Standard Error Formula, which specifies how large a sample must be to give the degree of accuracy desired. Provided that the size of a sample is greater than 30, it is assumed in the Standard Error Formula that the sample means form a normal distribution in the same manner as the parent population. The formula is expressed as follows:

$$n = \frac{Npq}{(N-1)\ D + pq}$$

where

n = sample size for simple random sampling

p = proportion of population possessing some defined characteristics

q = proportion of population not having this defined characteristic

N = total population size

D = constant value = 0.000625

Using this mathematical formula Tables for Determining Sample Size have been completed (Portman et al., 1975). In using the tables for this thesis, the following procedures were applied:

1. desired confidence level of 95% was specified
2. population size, N was known to be 839 teachers
3. allowable precision was specified at ± 5%
4. estimate of the proportion of an attribute characterizing the population (corresponding to pq in the formula)

Having specified the confidence and precision levels, and with population N known, the proportion of the population (pq) became the key variable in deriving an appropriate sample size for the survey.

Further examination of the sampling frame revealed that, of the 26% of teachers previously categorized as "non Edmonton", a further percentage (about 10% of the entire sampling frame) were from outside the greater Edmonton area. Therefore, the proportion variable was divided along this characteristic of the two different originating area of teachers point of origin and meant the P variable was set at 90%. In other words, the proportion of the sample conformed to the 90% of the population that were teachers from within the greater Edmonton region. Reading from the sample size tables provided by Portman et al., these

figures corresponded to a sample size of 100-120. Due to the operational constraints previously discussed in connection with the Cooperative Activities Agreement, this sample then had to be stratified into two categories - Edmonton Public School Board teachers, and Non Edmonton Public School Board teachers.

(ii) Edmonton Public School Board Teacher Sample

Bowing to these arguments, The Edmonton Public School Board permitted a survey of 40 schools out of the 153 in the jurisdiction, from which environmental educational field trip groups to the study sites had originated. Forty schools were randomly selected yielding an equivalent of 130 teachers, according to a computer match of the 40 schools to be sampled with names of teachers by school on file. This sample of teachers to be surveyed was then submitted to the Edmonton Public School Board and received approval on a permissive basis.

(iii) Non Edmonton Public School Board Teacher Sample

A random sample was drawn from the approximately 220 remaining teachers from jurisdictions in the Edmonton area other than the Edmonton Public School Board in the sampling frame. A factor of .35 was chosen so as to maintain the 60:40 proportion of the population of EPSB: Non EPSB in the

final sample (Table 2). Thirty-nine teacher names were drawn and their respective jurisdictions were notified and approval for the survey to be conducted was given.

Table 2

FINAL SAMPLE: DISTIRIBUTION OF TEACHERS BY JURISDICTION: EDMONTON PUBLIC SCHOOL BOARD, NON-EDMONTON PUBLIC SCHOOL BOARD

Juris-diction	# of Schools	# of Teachers	% of Sample	% of Teacher N.
EPSB	40	131	70	62
Non-EPSB	39	54	30	38
(n)	(79)	(185)	N = 839	

In the final sample, teachers from outside the greater Edmonton area were excluded. It was assumed that distance factors experienced by these teachers would be quite different than for Edmonton and area teachers. Also these school groups from out of town represented only 10% of the field trips to the sites which would correspond to only 10 to 12 respondents in the sample. It was judged these teachers would have created an extraneous element in the survey, and therefore could be. The EPSB and Non-EPSB teacher samples when combined, produced a final survey

sample of 185, comfortably in excess of the 100 - 120 minimum sample size needed.

6. The Questionnaire Design

The choice of an interview questionnaire survey as the primary data collection technique was predicated on two essentials. The first requirement was that the technique was compatible with, and could compensate for the small size of sample. The contents of the questionnaire would also have to meet a second need of being appropriate to the concepts being studied and relevant to the respondents in the survey.

As a first step in ensuring a high response rate, the questionnaire was administered in person, in a face-to-face interview setting at the school. The survey instrument was easy for teachers to work through as a self-completed questionnaire, but one done in the presence of the researcher who was able to provide more detailed direction to a respondent as required. Administering the questionnaire in person entailed a much greater commitment of man-hours on the part of a single researcher, taking 23 days to complete over 100 interviews.

The design of questionnaire rested on the premise that layout can influence the response rate and generally improve the quality of the returns. Dillman (1978) has

presented a step by step guide in what amounts to a manual for questionnaire design, which he terms the "Total Design Method" (TDM).

The format is standardized document and visual cues are consistent and repeated so a respondent quickly becomes familiar with the answering system. Some features of the questionnaire, that conformed to the TDM were:

1. each section of the questionnaire is preceeded by an introductory passage (capitalized);
2. instructions were provided for each question as necessary;
3. whenever possible closed-ended answer categories were provided;
4. if answers were to be ranked, this was separated from and followed the initial responses to the question topic;
5. overall length was kept to 12 pages including cover page and backcover.

A copy of the questionnaire is included in the appendix.

7. The Contents of the Questionnaire

The survey instrument was a structured questionnaire, and was designed to probe the decision-making process of environmental educational teachers using the sites in the

study. The questions operationalized the concepts that make up the framework of spatial behaviour such as teachers' attitudes, preferences and motivations, and their expectation and satisfaction levels, that it is proposed are significant considerations in teachers' decisions to visit the sites.

The questionnaire contained 34 questions and was divided into 8 sections. The opening section was simply to confirm which site was used for the field trip. If a teacher had taken a field trip to more than one of the sites in the study, respondents were instructed to answer the questionnaire in terms of the site of the most successful field trip. Next followed some questions about distance to the site and perceptions of the ability of the students to travel that distance for a field trip. The last question in the first section concerned alternative sites considered, and if any were considered, whether the teacher had previously taken an environmental education field trip to the site.

The second section of the questionnaire concerned sources of information about environmental education field trip sites. Teachers were asked how they first heard about the site they used for the field trip, and the relative influence of different sources of information when selecting a field trip site. They were also asked their

opinion on the general availability of resource material describing field trip destinations.

The next three sections were interrelated and referred to the three categories of site characteristics, that is, environmental features, facility developments, site staff services, and formed the core of the questionnaire. Each section followed the same format and teachers were asked to check off a list of site characteristics, rank their importance when field trip sites are being selected, and state whether the features had met expectations, for each of the site characteristics categories in turn. There were, however, two variations in this pattern of questions. Teachers had the opportunity to comment on changes they thought would improve facility developments or site staff services. In the case of environmental features, since these are relatively fixed, teachers were asked instead to indicate their notion of an ideal setting for an environmental education field trip.

In the next section, teachers answered questions about the relative importance of selected educational objectives of environmental field trips. Teachers were also asked about obstacles within the education system to taking a class on environmental education, and the relative severity of these difficulties.

Before the close of the questionnaire, there was a section specifically referring to the reasons for choosing the site used for the field trip. First, questions were asked about possible constraints on the choice of sites such as Board policy directives or curriculum designation. Teachers were then asked which of the three categories of site features -- environmental features, facility developments, or site staff services -- took priority over the other two when selecting the site chosen.

In the final section of the questionnaire, there were four questions on teachers' age, years of teaching experience, teaching specialization, and environmental education in-service training. A profile of teachers taking environmental education field trips was however one of the less important survey objectives.

8. The Questionnaire Effectiveness: The Pre-Test and the Completion Rate in the Survey

The questionnaire was both informally and formally tested. The informal testing was in the form of comments received in the process of approval by school administrations as part of the Cooperative Activities Agreement. In a formal pre-test using experienced environmental education teachers, who were not part of the survey, the questionnaire was found to elicit the

information being sought, which suggested there were few difficulties in the clarity, presentation and instructions of the questionnaire.

All 107 questionnaires that were administered to teachers were completed. The number of respondents fell short of the 184 teachers in the sample partly due to time constraints, but mostly because teachers included in the sample were no longer on the staff of a particular school being contacted. The 40 schools maximum edict of the Edmonton Public School Board meant many of these teachers could not be contacted if they had transferred to other schools. Others were no longer teaching in the system.

The completion rate was a measure of the survey effectiveness and was a strong endorsement both of the in-person method of administration and the questionnaire design.

9. Processing the Questionnaire Responses for Data Analysis

The advent of computer data analysis has made the coding of data an important consideration in survey research. Simplifying coding parameters were built into the questionnaire design, by using wherever possible, closed ended answer categories. Consistency in coding was maintained since all coding was carried out by the

researcher. Each attribute of every variable was given a separate code, in keeping with the principle of coding to maintain the data in its disaggregated form.

There are several statistical software packages compatible with the MTS computing system installed at the University of Alberta. Most of the survey data collected were processed using the MIDAS program, which was developed specifically for data analysis using MTS. Because of this, MIDAS has the advantage of simplicity and flexibility and was used extensively to generate frequency distributions and crosstabulations. The other standard statistical package used in the analysis was SPSSX. It is more suitable than MIDAS for analysis of multifactor variable categories, and was used to produce frequency distributions and crosstabulations of variables that were not simple, discrete variables.

10. Limitations on the Findings as a Result of the Data Collection Methods Used

The discussion of the loss of potential respondents from the sample discussed earlier can be expanded to re-evaluate the sampling frame. Minor inaccuracies in the site booking records as a sampling frame were revealed during the survey such as:

1. problems with misidentification (the records showing the principal of the school booking a site rather than the teacher who took the class);
2. incomplete information (the school jurisdiction was often excluded);
3. out of date--although the sample list was compiled by using the most recent site-visitor records, teacher turnover was unexpectedly high.

The overall quality of the sampling frame more than outweighed these slight inconveniences. The respondent group was clearly identified, which meant the questionnaire could be extremely detailed about the field trip sites, yet still be easily answered by teacher respondents.

Another benefit of the sampling frame was that it was comprehensive enough for a random sample to be drawn, yet specific enough for a precise stratification of the sample to be carried out. It meant the sample used for the questionnaire survey was reasonably representitive of the survey population.

Nevertheless, the number of respondents at 107 was low. Even allowing that this was not so much due to "non-response", and its attendant risk of a biased sample, but more because of difficulties in contacting all teachers in the sample, the limited number of completed questionnaires would have an impact on the subsequent data analysis. The

data analysis would be hampered because of fragmentation of the data, and small numbers of responses in particular categories would be a limiting factor when variables were cross-tabulated. Therefore remedial measures such as collapsing data into new, broader categories were taken for the data analysis to proceed.

CHAPTER 5

THE FIELD TRIP OBJECTIVES AND SETTING PREFERENCES OF TEACHERS TAKING ENVIRONMENTAL EDUCATION FIELD TRIPS

1. Introduction

The decision-making process postulated in the environmental education field trip destination attraction model provides an organizational structure for the analysis of the data collected in the questionnaire survey. In models of spatial decision-making, from which the model of field trip destination attraction was derived, the process of selecting a destination begins to develop from the motivations and preferences of the decision-maker concerned (Pigram, 1983; Hanson, 1974). In this chapter, teachers' responses to questions about their preferences for settings and their objectives in taking environmental education field trips are examined.

In a sense the initiation phase of the model might be thought of as corresponding to a temporal sequence in the decision-making process, beginning with the pre-visit stage. Strictly speaking, though, the survey data were in fact collected some time after the field trips had been taken, since the research was not designed as a

longitudinal study. Nevertheless, by carefully wording the questions together with accompanying instructions to respondents, an attempt was made to recreate in the minds of teacher respondents the conditions that prevailed in the pre-visit situation.

2. The Selection of the Independent Variables:--Teachers According to Site Visited; Teachers by Grade Taught

a. Choice of Site

The questionnaire survey was administered to teachers who were known to have taken their classes on an environmental education field trip to one of the sites being studied. Participation in environmental education field trips sets them apart from the rest of the teacher body. At the same time, however, within-group differences certainly did exist among the teachers in the survey, and created some considerable variations in their perceptions of site attraction.

The most obvious difference between these teachers was the site they visited. Many of their responses might be expected to vary in accordance with site variables at their chosen destination. Hence the data were analysed according to the site visited variable.

The distribution of teachers according to their choice of site is shown in Table 3. It is clear from these data that the John Janzen Nature Centre was the destination for the majority of teachers in the survey, being chosen by over 50% of them for their environmental education field trips. Teachers who used the Bennett Centre (20%) made up the second-largest group. The other three sites, Swiss Valley, Elk Island and Ministik Hills were the field trip locations of 13%, 8% and 7% respectively of the survey respondents. More significantly, from the perspective of statistical analysis, was that the percentages for Ministik and Elk Island represent only seven and eight teacher respondents respectively. Therefore the analysis

Table 3

DISTRIBUTION OF TEACHERS ACCORDING TO CHOICE OF SITE

Site	n	%
Janzen	56	52
Bennett	21	20
Swiss Valley	14	13
Ministik	7	7
Elk Island	8	8
Total	107	100

of the perceptions of teachers using these two sites might have been compromised because of the low numbers in each of these subgroups. To prevent this from occurring, where appropriate, teachers who had chosen Ministik or Elk Island were treated as one group. Little was lost in the way of differentiation since both sites share many similarities (Figure 4). The two sites differed mainly in their ownership status. Ministik Hills is privately owned property whereas Elk Island National Park is managed by Parks Canada. Private ownership of the site may allow field trips to be conducted with less disturbance from other users of the area. Environmental education users may also have greater influence in the way a site is managed.

b. Grade Level Taught

The division of teachers according to choice of site was an obvious distinction. It also quickly became apparent during the administration of the questionnaire that teachers were relating their responses to the needs, level of maturity, and stage of education of their students. Repeatedly, teachers would point out that the answers they gave were framed in terms of the grade they taught. The perspective of junior or senior high teachers was very different of those teaching in elementary schools. Even among elementary teachers, there seemed to

be a natural separation between the teachers of kindergarten and early elementary children, up to grade 3 (Division 1), and those elementary school teachers who taught Grades 4, 5, or 6 classes (Division 2). Thus, the grade level taught became the second independent variable in the data analysis, and teachers' responses were classified into three categories: Kindergarten-Grade 3, Grades 4-6, Junior High and above.

Half the teachers in the survey taught the early elementary grades, and the other half were evenly divided between Grade 4-6 teachers, and Junior or Senior High School teachers (Table 4). In fact, only one of the 24 teachers in this third group taught in High School, meaning

Table 4

DISTRIBUTION OF TEACHERS BY GRADE TAUGHT

Grade Taught	Teachers	
	n	%
Kindergarten-Grade 3	54	51
Grade 4-6	27	26
Grade 7-12	24*	23
Total	105	100

*23 Junior High teachers

this group realistically ought to be referred to as Junior High teachers.

The importance of the grade taught variable is further accentuated when crosstabulated against the distribution of teachers according to their choice of site, (Table 5). The impact of grade taught on the pattern of field trip site selection is strikingly revealed. Ninety-four percent of

Table 5

DISTRIBUTION OF TEACHERS BY CHOICE OF SITE, ACCORDING TO GRADE TAUGHT

Choice of Site	Grade Taught			
	Kindergarten to Grade 3	Grade 4 to 6	Junior High	Total
	%	%	%	%
Janzen	94	18	0	53
Bennett	6	37	33	20
Swiss Valley	0	7	50	13
Ministik	0	18	4	6
Elk Island	0	18	13	8
(n)	(54)	(27)	(24)	(105)

Insufficient cell frequencies for test of significance

the Kindergarten-Grade 3 teachers used the Janzen Nature Centre for their environmental education field trips, whereas only 18% of the Grade 4-6 teachers, and no Junior High teachers in the survey visited this site.

Similarly pronounced disproportional frequencies in the distribution of field trips by grade are found at the other sites. In the case of Grade 4-6 teachers, they chose the Bennett Centre with greater frequency (37%) than they did for the other four sites and more frequently than Kindergarten-Grade 3 teachers and Junior High teachers. Fifty percent of Grade 7 and above field trips were to Swiss Valley and Junior High classes represented the largest user group at Swiss Valley. The grade level composition of field trips to Ministik and Elk Island was similar for both sites. Like the Bennett Centre, Grade 4-6 groups were the most frequent users, but only half as many went to either Ministik (18%) or Elk Island (18%) as to Bennett. Users of Ministik and Elk Island contrasted strongly with the Janzen Nature Centre; which received an enormous number of Kindergarten-Grade 3 classes. At Ministik and Elk Island this grade category was not represented.

The pattern of site visits validated the division of elementary teachers into two groups of Kindergarten-Grade 3, and Grades 4-6. Sites like Bennett, Ministik and Elk

Island attracted proportionally more Grade 4-6 teachers than Kindergarten-Grade 3 for environmental education field trips. Conversely Janzen attracted an enormously disproportional percentage of Kindergarten-Grade 3 teachers. Junior High classes also had a distinctive pattern of site visits, with the distribution of field trips concentrated at Swiss Valley.

3. Teachers' Motivations for the Environmental Education Field Trip

Motivations for teachers taking an environmental education field trip can otherwise be described as the educational objectives of the field trip. References are found in the literature to a variety of possible learning goals teachers may have for their classes, including outdoor skills (ACA Task Force, 1972; Boswell, 1978), awareness/sensory development learning fieldwork techniques (Environmental Learning Centre, 1979), ecological studies, and learning about environmental/resource management issues (Bagby & Chavarria, 1980).

In the survey, teachers were asked about these and other objectives of the field trip (Question 21). A frequency distribution of their responses is presented in Table 6 and indicates that sensory development was by far the most important objective for the environmental

Table 6

RELATIVE IMPORTANCE OF TEACHERS' MOTIVATIONS FOR THE ENVIRONMENTAL EDUCATION FIELD TRIP

Motivation	Relative Importance					
	Not Important		Important		Very Important	
	n	%	n	%	n	%
Awareness/sensory development	1	1	31	29	74	70
Carry out ecological studies	36	34	43	41	26	25
Learn outdoor skills	30	29	49	47	25	24
Learn about environmental/ resource management issues	36	34	46	44	23	22
Learn field techniques	25	24	55	54	22	22

education field trip, being rated "very important" by 70% of the teachers. Other objectives, like carrying out ecological studies, "learning outdoor skills," "learning about resource management issues," "learning field techniques" were rated as "very important" by only 22-25% of the respondents.

Variations in the objectives most frequently cited "very important" were further analysed in crosstabulations with the "grade taught" variable. Because the purpose of

asking about objectives was to find out about those that strongly motivated teachers, responses were simplified into dichotomous pairs by retaining the "very important" responses, but both the other responses--"important" or "not important" were combined into a single category, labelled "not very important."

The data for the awareness/sensory development objective are displayed in Table 7, which shows a significant difference between teachers according to the grade level taught. Eighty percent of Kindergarten-Grade 3 teachers considered this objective very important while

Table 7

OBJECTIVES RATED "VERY IMPORTANT" BY TEACHERS ACCORDING TO GRADE TAUGHT

1. Sensory/Awareness development

	K-Gr. 3	Gr. 4-6	Junior High	Total
	%	%	%	%
Very Important	86	52	50	69
Not Very Important	14	48	50	31
(n)	(55)	(27)	(24)	(106)

Chi-Square 14.69 p<.001 d.f. 3

only about half the Grade 4-6 and Junior High teachers gave sensory development this rating. There were no significant differences between teachers' educational objectives for the field trip according to grade taught, in the objectives variables of carrying out ecological studies, learning outdoor skills, learning about resource management, or learning field techniques.

4. Teachers' Preferences for the Settings of Environmental Education Field Trips

The second part of what can be termed either the "pre-visit" stage or the re-creation of conditions as teachers entered the decision-making process of site selection, involves consideration of the setting preferences teachers hold. As with the questions that were concerned with motivations, teachers were asked to express their preferences under free choice conditions, without reference to the particular site they used.

The unconstrained preference of most teachers is for a nature centre and adjoining area, specifically designed for environmental or outdoor education, favored by 66% of teachers as an "ideal" setting (Table 8). Other settings were preferred by much smaller percentages of teachers--outdoor recreation areas by 13%, and unspoiled wilderness by 11%. Back country or bush areas, whether privately or

Table 8

MOST PREFERRED SETTING FOR

ENVIRONMENTAL EDUCATION FIELD TRIPS

	Teachers	
Setting	n	%
Environmental education nature centre, including its surrounding area	69	66
Area planned and used for outdoor recreation	13	13
Unspoiled Wilderness	12	11
Backcountry of publicly owned land	5	5
Area reshaped from natural state but few land uses	2	2
Area planned and used for urban recreation	1	1
Backcountry of privately owned land	1	1
Total	104	100

publicly owned, areas reshaped from their natural state but with few land uses and urban areas planned and used for recreation were the preferred "ideal" locations for field trips of only a very few teachers.

These findings are interesting for what they have to say about teachers' perceptions of settings. It could be argued that Ministik or Elk Island fit the description of areas "reshaped from a natural state, but with few land uses." The argument could be extended further to suggest that Swiss Valley is set in the backcountry of private land, and that Bennett, set in Edmonton's river valley Capital City Park, is part of area planned and used for urban recreation. Sonnenfeld (1976) has referred to inconsistencies between preferences and actual spatial behaviour, and this assertion was tested by comparing setting preferences of teachers with the setting of the site they chose for the field trip (Table 9).

To facilitate meaningful comparison, only the preference for an environmental centre setting (referring to both buildings and the surroundings in which it is set) whose main function is as a location for environmental education, favoured by an absolute majority of teachers, was used in the analysis. The setting preferences of the rest of the teachers were grouped in a catch-all category of "environmental education centre not the most preferred setting for field trips" (Table 9).

Sixty-five percent of teachers whose preference was an environmental education centre setting chose Janzen Nature Centre for the field trip. These teachers were

Table 9

CHOICE OF SITE ACCORDING TO PREFERENCE FOR SETTINGS

1. Environmental education centre the most preferred setting for field trips

Site Chosen	Yes %	No %	Total %
Janzen	65	32	53
Bennett	18	24	20
Swiss Valley	6	26	13
Ministik/Elk Island	12	18	14
(n)	(68)	(38)	(106)

Chi-square 13.98 p<.001 d.f. 3

considerably overrepresented at this site in relation to the proportion of all teachers who chose Janzen (53%). In contrast, the site distribution of field trips by teachers whose setting preference not the environmental education centre was consistently more frequently to the other sites in the study, that were not centres designed for environmental education. Thirteen percent of the teachers went to Swiss Valley, but 26% of the group whose preferences was the nonenvironmental education centre chose this site. Similarly, Bennett was the site used by

20% of all teachers, but 24% of the teachers whose preference was for a nonenvironmental education centre went there. Ministik/Elk Island was the choice of 18% of the teachers whose preference was for a nonenvironmental education centre preference teachers, proportionally somewhat higher than for the use of those sites by teachers in general (14%).

The evidence of the data does refute some of Sonnenfeld's criticisms of the lack of a clearly defined link between preferences and behaviour. In this research, preferences for settings were largely consistent with the choice of field trip destinations. Teachers whose preference was for a more "natural," and less formally developed setting were more likely to have chosen that type of area for the field trip, for example Swiss Valley with its typical knob and kettle topography, and development restricted to a small-scale, day-use ski-hill. Teachers whose desired setting was the opposite, for an area designed as an environmental education centre, tended to choose such a site, particularly Janzen, for their environmental education field trip. Although even at Janzen one-third of the teachers preferred a nonenvironmental educational centre setting. In general there was an association between preferences for settings, the perception of a site as being an example of such a

setting, and in turn, that site being the choice for the field trip.

Another aspect of the relationship between preferences for settings and teacher characteristics that was investigated was the extent to which grade taught shaped teachers preferences for the setting of an environmental education field trip. A similar procedure to that used in the previous analysis was followed, except in this case the setting preferences were dependent variables in relation to the grade taught variable (Table 10).

Table 10

PREFERENCE FOR SETTINGS, ACCORDING TO GRADE TAUGHT

1. Environmental education centre the most preferred setting for field trip

	Kindergarten - Grade 3	Grade 4 - 6	Junior High	Total
	%	%	%	%
Yes	80	56	37	64
No	20	44	63	36
(n)	(55)	(27)	(24)	(106)

Chi-Square 14.29 p<.001 d.f. 2

The environmental education centre was the preference of most teachers (64%). However, the frequency of the preference for environmental education centre was significantly different across grade levels. The highest frequency was among Kindergarten-Grade 3 (preferred by 80%), which then diminished to being the most preferred setting of 56% of Grade 4-6 teachers. Although the majority of teachers preferred an environmental education as a setting, the opposite was true of Junior High teachers, and only 37% of Junior High had this preference.

5. Summary of the Findings

Environmental education field trips were unevenly distributed across the five sites in the study. Over half the field trips in the survey were taken to the John Janzen Nature Centre, while the second most visited site, the Bennett Centre, received half the visitation of Janzen. Swiss Valley, Ministik and Elk Island each had even smaller share of the total number of field trips.

As well as differences in the volume of field trips to the sites, there were significant differences in the composition of field trip groups according to grade level. Kindergarten-Grade 3 teachers overwhelmingly chose Janzen. The most popular choice of Grade 4-6 teachers was the Bennett Centre, and these Division 2 teachers were equally

as likely to go to Ministik or Elk Island as they were to Janzen. Half the Junior High teachers used Swiss Valley, and a further third took field trips to the Bennett Centre. None used Janzen.

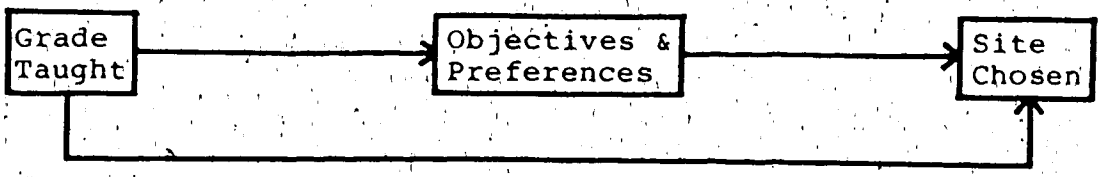
Teachers generally had similar objectives for environmental education field trips. However sensory/awareness development was significantly more important for Kindergarten-Grade 3 teachers. The safe environment and the displays and exhibits of Janzen may have been regarded as a particularly suitable locale for this objective to be achieved.

The findings of the survey support the supposition that choices of destinations are consistent with preferences for settings. This relationship is modelled in Figure 6. Teachers tended to choose a site that matched the type of setting that they preferred. However preferences for environmental education field trip settings were strongly influenced by the grade level teachers taught. There was least variation among teachers of the early elementary grades who overwhelmingly preferred the environmental education centre for field trips and accordingly most went to the John Janzen Nature Centre. Teachers of higher elementary grades and especially at the Junior High level were more diverse in their preferences, but were more likely to prefer an area planned for outdoor

Figure 6

Preferences for Environmental Education

Field Trip Settings and Site Chosen



recreation, or even unspoilt wilderness. Therefore they tended to use Bennett, Ministik and Elk Island where offered greater scope for activities in the outdoors. The preferences of Junior High teachers were even more strongly oriented toward a "natural" setting, and the relatively undeveloped surroundings of Swiss Valley were their main choice for environmental education field trips.

CHAPTER 6

CONSTRAINTS ON THE RANGE OF DESTINATION ALTERNATIVES FOR ENVIRONMENTAL EDUCATION FIELD TRIPS

1. Introduction

In the development of theories of travel behaviour, it has been suggested that the choice of a destination is dependent on not just the attractiveness of a destination, but is also influenced by various constraints imposed on the traveller (Hanson, 1974). Foremost among these is the level of information of the traveller, and given the many alternatives to be considered, individuals making travel decisions have incomplete information about all potential destinations (Hanson, 1974, 1976).

The choice situation facing the decision-maker has elsewhere been referred to as the "dimensions of alternatives in spatial choice process" (Burnett, 1973). The concepts of awareness space or cognitive space firmly established in urban residence search behaviour (Horton & Reynolds, 1971; Johnston, 1972), have parallels in recreation studies (Mercer, 1971), which emphasize more the process of acquiring information. More distant antecedents in the perception of alternatives in spatial behaviour are

studies of human adjustment to natural hazards (White, 1961; Kates, 1962; Hamill, 1968; Jackson, 1981). All of these studies demonstrate the role of "bounded rationality" in reducing the range of alternatives considered and acted on in spatial decision making.

Beyond the restricted cognitive environment of decision-makers, recreation researchers have pointed out the presence of external restraints that block the attainment of desired situations (Francken & van Raaij, 1981), matched in environmental education research with the itemizing of such concerns as transportation, lack of administrative support, or curriculum inflexibility (Falk & Balling, 1975). A classification of these restrictions into operational, functional, and philosophical issues was proposed by Burton and Unger (1975).

Finally, in the literature on travel behaviour, reference has been made to the significant degree to which perceptions can affect travel distances, by setting a distance threshold or range limit (Baxter and Ewing, 1980). Teachers' perceptions of distance to the site they used were investigated to test if the study sites in the thesis were within the day-trip range of school groups.

Based on this background of spatial decision making theory, constraints that specifically impinge on teachers in the way they organize a environmental education field

trips are examined in detail in this chapter. First, teachers were asked about their awareness of site alternatives, the availability of resource material, and whether it provided useful information about potential sites. Second, teachers responded to questions about sources of information and the relative strength of these sources to influence decisions. Third, teachers' responses on the strength of certain external, institutional difficulties were considered. Last, teachers' views on the appropriateness of the distance travelled to field trip sites for their class were compared with their estimates of the distance travelled.

2. Range of Alternative Sites Considered

The survey indicated that the range of alternative sites considered by teachers was extremely limited. Data presented in Table 11 indicate a majority of teachers in the survey (60%) had no other site in mind when choosing a location for the field trip. Nineteen percent of teachers did consider one other location as a possible field trip site. Only a very small percentage of teachers made their selection of a field trip site from what could reasonably be called a list of alternatives (13% considered two sites; 8% considered three or more potential sites).

Table 11

RANGE OF ALTERNATIVE SITES CONSIDERED

Number of Alternatives	Teachers n	Teachers %
Considered no alternative site	64	60
Considered only 1 alternative site	20	19
Considered 2 alternative sites	14	13
Considered 3 or more alternative sites	9	8
Total	107	100

A breakdown of these data according to the "grade taught" variable revealed noticable variations in teachers' consideration of site alternatives (Table 12). Three-quarters of the teachers with early elementary classes (Kindergarten - Grade 3) considered no alternative location for the field trip. The oppdsite was true of teachers of Grade 4-6 or Grade 7 and above classes, most of whom (59% and 54%) considered at least one alternative destination. Teachers were significantly different according to the grade they taught, in considering alternatives for field trips, with a much greater tendency of teachers having the youngest students to have one

Table 12

RANGE OF ALTERNATIVE SITES CONSIDERED

ACCORDING TO GRADE TAUGHT

1. Considered at least on alternative site

A. According to Grade Taught

	Kindergarten to Grade 3 %	Grade 4 to 6 %	Junior High %	Total %
Yes	25	59	54	41
No	74	41	46	59
(n)	(55)	(27)	(24)	(106)

Chi-Square 10.96 p<.01 d.f. 2

B. According to Site Chosen

	Janzen %	Bennett %	Swiss Valley %	Ministik /Elk Island %	Total %
Yes	13	62	64	47	41
No	77	38	36	53	59
(n)	(56)	(21)	(14)	(15)	(106)

Chi-Square 14.53 p<.01 d.f. 3

definite site in mind and not consider alternatives. Teachers of division 2 elementary grades and Junior High students more frequently had considered some other site as an alternative location for the field trip.

Consideration of alternatives also varied significantly depending on the site teachers chose for the field trip (Table 12). Swiss Valley and Bennett users responded that they had considered alternative destinations more frequently (64%, 62%) than did Ministik/Elk Island users (47%), and much more so than Janzen users (23%). The widest difference was between user of the Janzen site and users of the Swiss Valley site, for which there was a corresponding difference in the grade composition of user groups with for Janzen was entirely elementary grades, and for Swiss Valley, all junior high. Therefore variations in the range of alternative sites considered may more truly be a reflection of the grade taught by teachers to these sites. Empirical verification of this conclusion, however, was not possible because of the small sample size.

3. Availability of Resource Information

In question 8 of the questionnaire, teachers were asked whether there was enough resource material available describing potential environmental education field trip destinations. When answering whether in the broadest

sense, enough information about potential sites was available teachers were almost evenly divided (Table 13). Fifty-two percent thought there was an adequate amount of information about sites, but 48% of the teachers did complain of a lack of information.

Table 13

THE AVAILABILITY OF RESOURCE MATERIAL DESCRIBING ENVIRONMENTAL EDUCATION FIELD TRIP DESTINATIONS

	Teachers	
Resource Material Availability	n	%
Enough resource material	55	52
Not enough resource material	51	48
Total	106	100

When teachers were divided in "grade taught" categories, variations in the distribution of responses were found on the question of enough site information being available to environmental education teachers (Table 14). Junior High teachers gave affirmative responses significantly more frequently (79%) than did either division of elementary teachers (44% for both divisions).

Table 14

THE AVAILABILITY OF RESOURCE MATERIAL DESCRIBING ENVIRONMENTAL EDUCATION FIELD TRIP DESTINATIONS

1. Enough resource material available

A. According to Grade Taught

	Kindergarten to Grade 3 %	Grade 4 to 6 %	Junior High %	Total %
Yes	44	44	79	52
No	56	56	21	48
(n)	(55)	(27)	(24)	(106)

Chi-Square 9.25 $p<.01$ d.f. 2

B. According to Choice of Site

	Janzen %	Bennett %	Swiss Valley %	Ministik /Elk Island %	Total %
Yes	39	67	86	40	52
No	61	33	14	60	48
(n)	(56)	(21)	(14)	(15)	(106)

Chi-Square 12.61 $p<.01$ d.f. 3

Teachers' views on the availability of site information were also analysed according to which site they had chosen for the field trip (Table 14). With 86% responding affirmatively, Swiss Valley users stood out in their approval of the adequacy of information about potential sites available to them. Sixty-six percent of Bennett Centre users thought favourably of the availability of site information material. In contrast, most Janzen and Ministik or Elk Island users (61% and 60% respectively) held the opposite opinion, and felt they did not have enough material about potential sites available to them. There were significant differences in teachers' opinions about the availability of site information depending on their choice of site for their environmental education field trip. This does not necessarily imply that there was sufficient or insufficient information available about the particular site that they chose for their field trip. It does mean, however, that users of some sites were making their choices based on more information than teachers using other sites.

A second purpose of this part of the questionnaire was to investigate the relationship between information and awareness of alternative destinations. It might be expected that the availability of information about

potential sites would increase the awareness of alternative sites.

The "resource material availability" variable was crosstabulated against consideration of alternative destinations variable (Table 15). As was noted earlier, 40% of the sample had given consideration to at least one alternative destination, and this proportion was maintained both among teachers who thought the availability of site information material was adequate (44%) and also among teachers who thought there was not enough (36%). In other words the availability of resource material appeared to have no effect on the range of alternative site considered.

The findings of Hanson (1974, 1976) about spatial decision making being based on limited information were confirmed in the survey as many teachers felt they had less than complete information about sites. In the study it was also found that the quantity of information in itself was not a significant influence. The role of information in the field trip selection process may be closer to the description of Mercer (1971), and instead be a function more of how information is acquired and the relative influence of source of information.

Table 15

THE INFLUENCE OF THE AVAILABILITY OF INFORMATION ABOUT SITES AND THE RANGE OF SITE ALTERNATIVES CONSIDERED

	Availability of Resource Material		
Alternative Sites Considered	Enough	Not Enough	Total
	%	%	%
Considered at least 1 alternative	44	36	40
Did not consider any alternative	56	64	60
(n)al	(55)	(52)	(106)

Chi-square 0.56 N.S. d.f. 1

4. Sources of Information about Field Trip Sites

Teachers were asked how they had heard about the site they chose for the field trip. Many of the teachers had heard about the site from a number of sources, so it was quite possible to get multiple responses from any given teacher, hence the data are displayed as a frequency ranking (Table 16). In order of frequency, the list of information sources was headed by "information sent by

Table 16

SOURCES OF INFORMATION ABOUT THE FIELD TRIP SITE

Information Source	Teachers n	Teachers %
Information sent by site staff	55	52
Other members of the school staff	50	47
Personal knowledge of the area	38	36
Department of Education material	17	16
Environmental Education Specialists (Outside the teaching profession)	11	6
E.O.E.C. Resources	2	7
Government Agencies and Departments	1	1
Other sources	13	12

site staff" (indicated by 52% of teachers), followed by "other members of staff" (indicated by 47% of teachers). Thirty-six percent of teachers had found out about the site on their own. Conversely more formal sources, like the Environmental and Outdoor Education Council (E.O.E.C.) and government departments and agencies were only very occasionally mentioned by teachers as sources of information. The three response categories most frequently cited as sources of information--"site staff", "other members of the school staff", and "personal

knowledge"--were examined in detail by an analysis of frequencies and the results are shown in a series of tables, beginning with Table 17. The most common source of information reported by teachers was site information sent by the site staff of the field trip sites. On a site by site breakdown information sent by site staff was most frequently mentioned by Janzen users (62%) as the means they became informed about the site (Table 17). Lower percentages of Bennett and Ministik/Elk Island users (43% and 47%, respectively) indicated that information material from site staff was how they heard about the site, and Swiss Valley users responded much less frequently (29%) that this was the source of information about the site.

Also in Table 17, responses to the part played by the site staff as the source of information about the field trip site were also examined according to the grade taught by teachers. The apparent differences were not statistically significant. Instead there seemed to be the real differences between staff at the various sites acting as the initial source of information to teachers about the site's environmental education field trip opportunities.

The second most common source of information--"other members of the school staff"--was cited by 40% of teachers. A comparison of teachers' responses either according to

Table 17

SOURCES OF INFORMATION ABOUT THE FIELD TRIP SITE

1. Information material sent by the site staff

A. According to Choice of Site

	Janzen %	Bennett %	Swiss Valley %	Ministik /Elk Island %	Total %
Yes	62	43	29	47	52
No	37	57	71	53	48
(n)	(56)	(21)	(14)	(15)	(106)

Chi-Square 6.42 p<.1 d.f. 3

B. According to Grade Taught

	Kindergarten to Grade 3 %	Grade 4 to 6 %	Junior High %	Total %
Yes	58	48	37	51
No	42	52	63	59
(n)	(55)	(27)	(24)	(106)

Chi-Square 2.97 N.S. d.f. 2

their choice of site or grade taught indicated there was no significant variation in the frequencies of their responses in relation to this source of information.

The third most frequently reported source of site information was the teacher's own personal knowledge of the site, reported by 36% of teachers. As is shown in Table 18, that was also about the proportion of Janzen (38%) and Bennett (29%) users who knew about those centres from personal knowledge. In this respect, Ministik/Elk Island users were very different from other teachers, and 60% of teachers using those sites had personal knowledge of the area. The particularly high percentage was largely due to the weighted effect of Elk Island users. These teachers might be expected to be familiar with Elk Island National Park from recreational visits to this popular destination. The low frequency of Swiss Valley users whose familiarity with the site stems from personal knowledge (14%) might have represented the opposite situation--a lack of recreation popularity given that the distance to Swiss Valley is comparable to Elk Island. The Swiss Valley location is comparatively isolated and difficult to find, and recreational use of the area is largely confined to downhill skiing in winter. In summer there is only a small amount of recreational use of the undeveloped lakeshore areas.

Table 18

SOURCES OF INFORMATION ABOUT THE FIELD TRIP SITE

2.1. Personal knowledge of the site

A. Teachers According to Choice of Site

	Janzen %	Bennett %	Swiss Valley %	Ministik /Elk Island %	Total %
Yes	37	29	14	60	36
No	63	71	86	40	64
(n)	(56)	(21)	(14)	(15)	(106)

Chi-Square 7.18 p<.1 d.f. 3

B. Teachers by Grade Taught

	Kindergarten to Grade 3 %	Grade 4 to 6 %	Junior High %	Total %
Yes	36	41	29	36
No	64	59	71	64
(n)	(55)	(27)	(24)	(106)

Chi-Square 0.75 N.S. d.f. 2

The proportion of teachers responding that personal knowledge of the site was a source of information was remarkably uniform across grade levels. The range of variation around the 36% frequency response for all teachers had a low of 29% for Junior High teachers, and a high of 41% for Grade 4-6 teachers. The chi-square test statistic confirmed there was no significant difference between teachers of different grades and the frequency they responded that personal knowledge was a source of information about the field trip site. It can be inferred that the previous finding, of significant variations between teachers according to the site chosen in the extent personal knowledge was their source of information was due to factors other than variations in the grade taught composition of teachers at the different sites.

5. The Relative Influence of Sources of Information about Field Trip Sites

Teachers were also asked to rate the relative influence of the different sources of information. The rankings of sources according to their influence changed somewhat from that of sources by frequency of response (Table 19). Although in second place as a source of site information, the recommendations of other members of the school staff were given the most credibility, and were

Table 19

THE RELATIVE INFLUENCE OF SOURCES OF INFORMATION

Most Influential Source of Information	Teachers	
	n	%
Other Members of the School Staff	35	34
Personal Knowledge of the Area	25	24
Information Sent by Site Staff	21	20
Department of Education Material	8	8
Other Sources	7	7
Environmental Education Specialists (Outside the Teaching Profession)	6	6
E.O.E.C. Resources	1	1
Government Agencies and Departments	0	0
Total	103	100

rated "most influential" by 34% of teachers. Personal knowledge of the area, the third most common source of information, was the second most relied upon source, rated most influential by 24% of teachers. The most common source of information--that sent by site staff--had a third place ranking, and was most influential for only 20% of teachers.

While there were some variations in the way sources of information were deemed to be influential by teachers depending on the grade taught, most of the differences were minor and not statistically significant. The relative ranking of the three most influential information sources remained stable across all grade levels for each source (Table 20).

A greater degree of variation was found when the responses of teachers were compared on a site by site basis (Table 20). There was some shuffling in the rankings of influential sources of information. For example, information from site staff was the second most frequently referred to influential source by Janzen users compared to its third placed position with other teachers. An even greater difference between teachers on a site by site comparison was in the much greater frequency of Ministik/Elk Island users who referred to personal knowledge as the most influential source of information (47% vs. 23% for teachers as a whole). Because the influence of personal knowledge was only statistically significant according to choice of site, and not by grade taught, it can be inferred that the difference was due to factors other than the distribution of teachers by grade level to the sites in the study.

Table 20

VARIATIONS IN THE INFLUENCE OF SOURCES OF INFORMATION

A. Teachers by Choice of Site

Most Influential Source	Janzen %	Bennett %	Swiss Valley %	Ministik Elk/ Island %	Total %	Sig-nifi-cance
Other members of the school staff	39	19	43	20	33	n.s.
Personal knowledge of the area	18	29	7	47	23	sig. $p<.05$
Information sent by site staff	27	9	21	7	20	n.s.
(n)	(56)	(21)	(14)	(15)	(106)	

B. Teachers by Grade Taught

Most influential Source	Kindergarten to Grade 3 %	Grade 4 to 6 %	Junior High %	Total %	Signifi-cance
Other members of the school staff	36	26	29	32	n.s.
Personal knowledge of the area	20	26	29	24	n.s.
Information sent by site staff	22	18	17	20	n.s.
(n)	(55)	(27)	(24)	(106)	

6. External and Institutional Constraints that Affected the Choice of Field Trip Sites

Teachers in the survey were all active environmental education participants, who had to deal with a variety of logistical and planning hurdles that are a prelude to successful field trips. In the questionnaire, a list of possible external constraints on teachers' site choices was presented. Teachers could give multiple responses, depending on the applicability of these constraints. The percentages in Table 21 refer to percentages of respondents, not to percentages of responses to the question, and hence do not total one hundred percent. Eighty-five percent reported that transportation costs were a major obstacle. Information about sites and booking sites were also a problem for about 40% of teachers. Results presented earlier in this study indicated that about half the teachers thought there was not enough resource material available describing environmental education field trip sites.

The data in Table 21 also confirm a key assumption in the research design, that when arranging field trips teachers had a reasonably open choice, constrained neither by administrative nor curriculum restrictions. Nor was there an absence of worthwhile places to go, given the

Table 21

OBSTACLES TO FIELD TRIPS

Obstacles to Field Trips	Teachers n	Teachers %
Cost of transportation	85	81
Difficulty booking sites	43	40
Other	38	35
Lack of information about sites	37	35
Absence of worthwhile places to go	19	18
Students not able to deal with field trip situation	19	18
School bus schedules	18	17
Lack of teacher preparation	18	17
Lack of curriculum flexibility	13	12
Administrative support lacking	10	9

evidence that only one teacher in five in this survey considered that the choice of sites was too limited.

Within the context of external influences on teachers that affect the planning of field trips, the survey included questions about whether the selection of the site for the field trip was in some way prescribed by board policy, or whether there were references to specific sites

in the class curriculum. Furthermore teachers were asked if the site's proximity made it that much more attractive than the alternatives. These data are presented in Table 22 and show that sites thought to offer examples of themes in the curriculum, and the travel distance to potential alternatives were factors that influence the choices of respectively 67% and 53% of teachers. Few teachers noted limitations on site choice arising from board policy.

Table 22

RESTRICTIONS ON THE CHOICE OF SITE

Factor in Site Selection	Teachers		Significance of Variation	
	n	%	Teachers by site	by grade
Curriculum	67	63	n.s.	n.s.
Travel Distance	53	50	n.s.	n.s.
Board Policy	18	17	n.s.	n.s.

The proportions of teachers who referred to these factors as having an influence on the selection of a site, did not vary significantly either when teachers were compared according to the site they chose, or in relation to the grade they taught. These findings imply that

teachers in general did seek connections between the curriculum for the grade they taught and the opportunities at sites that represent examples of these environmental education themes when choosing a field trip site. Also, relative distances to alternative sites were taken into account when the site was being chosen.

7. Teachers' Perceptions of Distance to the Field Trip Destination

As was noted in the previous section, teachers were conscious of the distance factor when planning their field trip. Teachers were asked first to estimate how far they had travelled to the site of their choice, and secondly to give their views on whether this distance to site was appropriate for their class. On a practical level this would be an opportunity to calibrate perceptions of distance against distances travelled. At a more theoretical level, it could to some degree confirm the soundness of the perceptions approach to geographical description and explanation.

Half the teachers responded that the distance to the site was about right for their class (Table 23). A further 20% of teachers considered the distance travelled was well within the capabilities of their students. A small proportion (6%) of the teachers in the survey thought that

the distance to the site was further than they wanted to take their students, and 24% felt they were at the limit of their students' range. Teachers' perceptions of distance to site were not affected when teachers were compared either by grade taught or by their choice of site. These series of findings bear out the assumption that all the sites were located within the day-use travel range for field trips.

Table 23

TEACHERS' PERCEPTIONS OF DISTANCE TO THE FIELD TRIP SITE

Perception	Teachers n	Teachers %	Significance of Variation According to:-- 1. site chosen	Significance of Variation According to:-- 2. grade taught
Further than wanted to go	6	6	n.s.	n.s.
As far as wanted to go	26	24	n.s.	n.s.
About the right distance	55	51	n.s.	n.s.
Less than could travel	16	15	n.s.	n.s.
Could easily have gone further	4	4	n.s.	n.s.
Total	107	100		

The premise of the perceptions approach is that although differences in individual behaviour are

recognized, when aggregated, certain regularities in human behaviour can be observed. The acceptability of the perceptions approach is strengthened when these regularities correspond to theoretical or simply intuitive expectations.

For example, although about half the teachers irrespective of grade taught reported that the distance to the site was about the right distance for their class to travel, it might be expected that this translated into shorter distances travelled to field trip sites by teachers with younger students (Kindergarten-Grade 3) than for teachers taking higher grade levels.

In Table 24, perceptions of the distance travelled to the field trip site are compared with the distances travelled to field trip sites. The "right distance," that is, the distance beyond which travel is undesirable, for a Kindergarten-Grade 3 class was 7 miles, for a Grade 4-6 class it was 18 miles and for a Junior High class, 21 miles. In other words, teachers with older students considered longer distances to be an acceptable amount of travel on field trips, which was what intuitively might be expected.

Perceptions of the limit of travel to a day use field trip site, expressed as "as far as I wanted the class to go," also followed the expected pattern. This distance

Table 24

PERCEPTIONS OF DISTANCE AND ACTUAL DISTANCE TRAVELLED TO FIELD TRIP SITE, ACCORDING TO GRADE TAUGHT

	Kindergarten - Grade 3	Grade 4 - 6	Junior High
A. "Right distance for the class"			
Base coeff.	7.8	7.8	7.8
Regression coeff.	-	+9.6	+12.2
Predicted distance travelled	7.8 miles	17.4 miles	20 miles
Mean actual distance travelled	7 miles	18 miles	21 miles
Significance	sig.	sig.	sig.
B. "As far as I wanted the class to go"			
Base coeff.	7.8	7.8	7.8
Regression coeff.	+8.1	+8.1 (+9.6)	+8.1 (+12.2)
Predicted distance travelled	15.9 miles	26.5 miles	28.1 miles
Mean actual distance travelled	14 miles	28 miles	27 miles
Significance	sig.	sig.	sig.

Table 24

(continued)

C. "Less than class could travel"

	Kindergarten - Grade 3	Grade 4 - 6	Junior High
Base coeff.	7.8	7.8	7.8
Regression coeff.	-6.7	-6.7(+9.6)	-6.7(+12.2)
Predicted distance travelled	1.1 miles	10.7 miles	13.3 miles
Mean actual distance travelled	4 miles	3 miles	7 miles
Significance	sig.	sig.	sig.

D. "Further than class could travel"

E. "So short class could have travelled further"

Regression coefficients not significant

limit became higher as the grade level increased. Second, the average distance travelled was further than that by those who considered they had travelled "the right distance" when corresponding grade levels were compared. For Kindergarten-Grade 3 teachers the distance limit was 14 miles, for Grade 4-6 teachers it was 28 miles, and for Junior High teachers it was 27 miles. The "right distances" for the corresponding grade levels were 7 miles, 18 miles, and 21 miles respectively.

A regression analysis was performed that plotted the distance travelled by each teacher against their corresponding perception of that distance to further test the consistency between perceptions and behaviour. In the regression procedure, the Kindergarten - Grade 3 group whose perception of the distance to site was that it was about "the right distance for their class" became the base for the regression line from which a regression coefficient of 7.8 miles was computed (Table 24). The "right distance" predicted of 7.8 miles for Kindergarten - Grade 3 teachers closely compared to the mean distance of 7 miles travelled by this group of teachers. For Grade 4-6 teachers the regression coefficient was +9.6 and the predicted distance to the site was therefore 7.8 + 9.6 = 17.4 miles. In comparison, mean distance travelled by Grade 4-6 teachers was 18 miles. For Junior High teachers the predicted distance travelled was a base coefficient 7.8 + regression coefficient of 12.2 = 20 miles. In comparison, Junior High teachers whose perception was that travel to the site was the "right distance" had on average travelled 21 miles. The distances predicted by the regression analysis when compared to actual distances travelled were also significant for both the perception of distance "as far as I wanted the class to go" and for "less than the class could travel." The regression

analysis demonstrated there was a relatively consistent relationship between variations in perceptions of appropriate distances to travel, and differences in the distances travelled to the field trip site according to the grade teachers taught.

8. Summary of the Findings

This chapter has focussed on teachers' perceptions of the influence of various constraints on their selection of field trip sites. Drawing from the concepts of bounded rationality found in the related literature, four sets of factors were examined to test the parameters of choice in the field trip site selection process. The principal elements were awareness of potential sites, and in relation to this, sources of information and their relative influence, external constraints of restrictions affecting teachers' ability to go to the site of their choice, and as a final limiting factor--distance and teachers' perceptions of distance to the site.

The concept of bounded rationality could be applied to describe teachers' assessment of alternative field trip sites. It was found that most teachers had only one site in mind for their environmental education field trip, though teachers of the higher grade levels were more likely to have considered at least one alternative site. Related

to the variation in grade composition of classes using the different sites, there were also significant variations in the consideration of potential alternative site between teachers using certain sites. Janzen users generally considered no other site, whereas Swiss Valley users more frequently had given consideration to alternative sites.

Teachers were evenly divided with regard to the availability of site information material. Only Junior High teachers thought there was enough information available. Likewise, users of Swiss Valley had a favourable view of the availability of information. However the availability of site information made little difference to teachers' awareness of alternatives. Field trip site staff were most frequently cited as sources of information, though teachers stated they would rely more on other members of the school staff as sources of information. Janzen users stated significantly more frequently that site staff were the source of information, whereas Ministik/Elk Island users were much more likely than teachers in general to have personal knowledge of the area for the field trip, and were more likely to rely for information on their own experience of the site.

Teachers noted a number of obstacles to field trips, notably transportation costs, but they rarely reported a shortage of worthwhile places to go. There was no

evidence that particular sites were prescribed as the field trip destinations or that other sites were not "officially approved." The absence of any such institutional restrictions applied generally to teachers in the survey. This was an important finding since it confirmed the assumption of free choice by the decision-maker, on which the perceptions approach depends.

Similarly, although teachers recognize distance as a factor when choosing a site practically all the teachers perceived the distance travelled to the site to be within the capability of their students. The limits of the distance threshold for the different grade levels were determined. By inference, a site chosen over any other potential site within this range would be chosen not because of distance considerations but because of its site characteristics. The findings on travel to the sites demonstrated the usefulness of the perceptions approach in studies of spatial behaviour. Conventional quantitative analysis of the "hard data" yielded such information as the mean distance travelled by teachers (13.9 miles), but it was from incorporating teachers' perceptions that it can be stated that a desirable distance for day-use trips was no more than 7 miles for Kindergarten - Grade classes, 18 miles for Grade 4-6, and 20 miles for Junior High classes.

CHAPTER 7

TEACHERS' PERCEPTIONS OF THE ENVIRONMENTAL FEATURES, FACILITY DEVELOPMENTS AND SERVICES PROVIDED BY SITE STAFF AT THE FIELD TRIP SITE

1. Introduction

In the final stage of the process of destination attraction found in models of spatial behaviour, attention shifts to the destination setting itself and involves an examination of the qualities and amenities of the site measured in terms of the concept of place utility (Hanson, 1974, 1976; Pigram, 1983). Using place utility as a measure, attributes of the site that are relevant to the goals of the persons involved are identified and evaluated as either contributing or detracting from user satisfaction (Goodall & Whittow, 1975; Lueck, 1976; Allton & Leiber, 1983). Hanson further argues that it is incorrect to view place utility as some innate or inherent quality, but instead it simply reflects the importance hierarchies for the site attributes in relation to the individual user. Also in this context, the view has been expressed (Husbands, 1983), that when studying destination choice, the analysis should concentrate on the significance of the

locational and site attributes of a destination to the decision-maker. The "decision-makers" in this research were teachers, who taught grades from Kindergarten to Junior High. They could also be defined in terms of site users of some quite contrasting site types.

Gunn (1972), referred to site attraction as it applies to tourism as a composition of resources, facilities, and services. Research in recreation management has also listed site features in similar classifications (Clawson, 1960; Goodall & Whittow, 1975). In much of the literature specifically referring to environmental education sites, prominence is given to such physical attributes as sufficient area of land, variety of habitats, being representative of the native environmental, trail system (American Camping Association, 1972; Anderson et al., 1974; Pogell, 1981). Facilities that are characteristic of field trip sites include good access roads, food and accommodation, and areas of the site for specific parts of an environmental education program (American Camping Association, 1972; Bagby & Chavarria, 1980). Some of the roles site staff performed that have been reported cover such functions as producing teaching material, organizing workshops, training personnel, and planning and conducting activities and programs (Markson, 1975; Environmental Learning Centre, 1979; UNESCO, 1980; Adamson et al., 1982).

These and other site features were examined under a three-part classification of site attributes into environmental features, facility development, and site staff services. This became the organizational framework for the analysis of teachers' perceptions of site attributes.

2. Perceptions of the Environmental Features of the Field Trip Site

Teachers' perceptions of site environmental features showed marked consistencies considering the variations in the five field trip sites (Table 25). Eighty-six percent of teachers thought the site they visited was representative of the local environment. Seventy percent felt their students were not disturbed by other users of the area, and 67% of the teachers believed there was a wide variety of flora and fauna at the site. A similar percentage (63%) viewed the site as providing good examples of environmental themes.

In case these high levels of agreement might have given a misleading impression of teachers' ability to discriminate, the responses to a question dealing with whether "the site has few signs of human impact," were on the contrary illustrative of teachers' sensitivity to site characteristics (Table 26). The site with the smallest

Table 25

PERCEPTIONS OF THE FIELD TRIP SITE ENVIRONMENTAL FEATURES

	Teachers	
Perceptions of Environmental Features	n	%
Representative of the local natural environment	91	86
Not disturbed by other users of the area	74	70
Variety of fauna and flora	71	67
Examples of environmental educatin themes	67	63
Body of water for programs	50	47
Few signs of human impact	38	36
Area large	32	30

proportion (5%) of its users agreeing with that statement was the Bennett Centre, located in a river flats neighbourhood close to downtown Edmonton. Conversely, 47% of teachers using Ministik/Elk Island considered few signs of human impact true for field trips in an area returned to nature or the national park. Furthermore this latter group reported significantly more frequently than teachers as a whole the presence of a wide variety of fauna and flora at the site (87%), and Bennett users the least (38%).

Table 26

PERCEPTIONS OF THE FIELD TRIP SITE ENVIRONMENTAL FEATURES ACCORDING TO SITE CHOSEN

(significant)

Environmental Feature	Janzen %	Bennett %	Swiss Valley %	Ministik Elk/ Island %	Significance
Variety of fauna and flora	71	38	71	87	p<.01
Body of water for programs	29	52	79	80	p<.001
Few signs of human impact	46	5	29	47	p<.01
Area large	11	38	57	67	p<.001
(n)	(56)	(21)	(14)	(15)	

Ministik/Elk Island users significantly more frequently made the point that the area of the site was large, while Janzen users did so the least often, not unexpectedly given the space available there at the Fort Edmonton location. Both Swiss Valley and Ministik/Elk Island users more frequently noted that there was a body of water at the site for field work exercises, such as pond studies.

Table 27

THE RELATIVE IMPORTANCE OF THE ENVIRONMENTAL FEATURES WHEN SELECTING A FIELD TRIP DESTINATION

Most important Environmental Feature	Teachers n	Teachers %
Variety of fauna and flora	27	27
Examples of environmental education themes	26	26
Representative of the local natural environment	21	21
Not disturbed by other users of the area	10	10
Other environmental features	8	8
Area large	3	3
Body of water for programs	3	3
Few signs of human impact	3	2
Total	101	100

3. The Relative Importance of the Environmental Features at a Site when Selecting a Field Trip Destination

The site environmental features rated most important by teachers followed a somewhat different pattern from the frequency ranking of responses to the site inventory checklist. Variety of fauna and flora, and examples of

environmental education themes were the two most important environmental features in site selection, ranked first by 26% and 25% of respondents respectively (Table 27). The most commonly reported site environmental feature fell to third place in overall importance. A site's representativeness of the local natural environment was the most important feature for 19% of the teachers.

When teachers were grouped according to grade level taught, some distinctive variations in the importance of variety of fauna and flora emerged (Table 28). Kindergarten-Grade 3 teachers placed greater emphasis on the variety of fauna and flora (ranked most important by 37%). There was an inverse relationship between grade level taught and the importance of variety of fauna and flora at a site. As grade level increased, the importance of the variety of flora/fauna decreased from 35% (Kindergarten-Grade 3) to 22% (Grades 4-6) to 8% (Grade 7). The variety of fauna/flora was the only important environmental feature variable for which there was a statistically significant difference between teachers according to grade taught.

Similarly, when teachers' responses were compared according to which site they had chosen (Table 28), the only significant difference as in the importance attached to the presence of a variety of fauna and flora at a site.

Table 28

VARIATIONS IN THE RELATIVE IMPORTANCE OF THE ENVIRONMENTAL FEATURES WHEN SELECTING A FIELD TRIP DESTINATION

1. Variety of fauna and flora the most important environmental feature

A. According to Grade Taught

	Kindergarten to Grade 3 %	Grade 4 to 6 %	Junior High %	Total %
Yes	35	22	8	26
No	65	78	92	74
(n)	(53)	(27)	(24)	(106)

Chi-Square 6.25 p<.05 d.f. 2

B. According to Site Chosen

	Janzen %	Bennett %	Swiss Valley %	Ministik /Elk Island %	Total %
Yes	36	5	0	40	26
No	64	95	100	60	74
(n)	(56)	(21)	(14)	(15)	(106)

Chi-Square 14.29 p<.01 d.f. 3

This was the most important environmental feature for the largest single group of Janzen (36%) and Ministik/Elk Island (40%) users, but only a very few Bennett users (5%) and no Swiss Valley users attached that degree of importance to it.

4. Perceptions of the Field Trip Site Facility Developments

The site facility developments checklist indicated a surprising degree of standardization in the facilities found at field trip sites (Table 29). Over 90% of teachers reported that the field trip site had a good access road, contained nature trails, indoor teaching areas, had water and sanitation facilities, and that there was a building with displays on exhibit.

Nevertheless, there were some significant differences between the sites (Table 30), mainly between the lower level of facility development at Ministik/Elk Island--fewer teachers reported indoor teaching areas (60%), or the presence of a building with displays/exhibits (40%) than for the other sites. Bennett on the other hand, had a much higher level of facility development, and was consistently reported by proportionally more teachers as providing these kinds of facilities.

Table 29

PERCEPTIONS OF THE FIELD TRIP SITE FACILITY DEVELOPMENTS

	Teachers	
Facility Development	n	%
Good access road to site	98	92
Nature trails	95	90
Indoor teaching/instruction areas	94	89
Water and sanitation	93	88
Building with display, exhibits	90	85
Garbage disposal	83	78
Designated fieldwork study sites	80	76
Food service and eating areas	40	38
Sleeping facilities	24	23

5. The Relative Importance of the Facility Developments at a Site when Selecting a Field Trip Destination

When teachers were asked to select which facility development was most important when selecting a field trip destination, the developments picked most frequently by teachers (27%) were nature trails (Table 31). Next most frequently rated important were designated fieldwork study sites (20%), and then a good access to the site (19%).

Table 30

PERCEPTIONS OF THE FIELD TRIP SITE FACILITY DEVELOPMENTS ACCORDING TO SITE CHOSEN (significant)

Facility Developments	Janzen %	Bennett %	Swiss Valley %	Ministik Elk/ Island %	Signifi-cance
Indoor teaching/ instruction areas	95	95	86	60	p<.0016
Water and sanitation	95	91	79	67	p<.0193
Building with displays/exhibits	95	95	79	40	*
Food service and eating areas	5	91	71	53	*
Sleeping facilities	0	81	7	40	*

* insufficient n for test of significance

The grade level taught had no significant effect on the frequency of these facility developments were accorded the "most important" rating. The same applied when teachers were compared according to the site they visited, except for the importance of a good access road to the site (Table 32). Perhaps reflecting their distance from Edmonton, and to some extent, the greater possibility of

Table 31

RELATIVE IMPORTANCE OF FACILITY DEVELOPMENTS WHEN SELECTING A FIELD TRIP DESTINATION

Most important Environmental Feature	Teachers n	%
Nature trails	28	27
Designated fieldwork study sites	21	20
Good access road to site	19	18
Water and sanitation	13	12
Indoor teaching/instruction areas	10	9
Displays, exhibits	9	8
Sleeping facilities	2	2
Total	102	100

getting lost, Ministik/Elk Island users placed greater emphasis on a good access road (40%), than did teachers to the other sites.

6. Perceptions of the Field Trip Site Staff Services and Programs

The most commonly found site staff service was the provision of materials and equipment, reported by 85% of teachers (Table 33). The second most frequently reported

Table 32

VARIATIONS IN THE RELATIVE IMPORTANCE OF THE FIELD TRIP SITE FACILITY DEVELOPMENTS

1. Good access road to site

A. According to Site Chosen

	Janzen %	Bennett %	Swiss Valley %	Ministik /Elk Island %	Total %
Yes	13	10	29	40	18
No	87	90	71	60	82
(n)	(56)	(21)	(14)	(15)	(106)

Chi-Square 8.17 $p<.05$ d.f. 3

service provided by the staff was that the on-site staff conducted the program, according to 82% of teachers. A further 27% stated the site-staff demonstrated the program, then left the teacher to conduct it, another 19% said they followed a program set up by the site staff, and 12% said they ran their own program. The percentages cannot be reconciled, if these categories are thought of as mutually exclusive. Instead the overlapping proportions represented partial involvement of site staff in programming. The two polarities of a "staff run program and "teacher uses own

Table 33

PERCEPTIONS OF THE FIELD TRIP SITE STAFF SERVICES AND PROGRAMS

Site Staff Services and Programs	Teachers n	Teachers %
Materials and equipment are available on-site	90	85
On-site staff conduct programs	86	82
Field manuals specifically for field trips to site	71	67
Site-related material available for in-class use	70	66
In-service orientation	47	44
Staff demonstrate program, which teacher conducts	29	27
Other	25	23
Teacher conducts program set up by site staff	22	19
Teacher conducts own program	14	12

program" represented the most reliable proportional breakdown of the degrees of on site staff programming involvement.

There was a large response indicating the availability of site related field manuals (67%) and materials for in

class use (66%). Services and programs reported by a minority of teachers were in-service orientation (44%), and "other" services (23%).

When teachers' perceptions of site staff programs were examined, according to which site they had chosen for the field trip (Table 34), it became apparent that there was considerably more variation than was found in relation to either environmental features or facility developments. The availability of materials and equipment was significantly less frequently reported by Ministik/Elk Island users (53%). The frequency that Janzen users reported that on-site staff conducted the program (98%) was significantly higher than reported by users of the other sites. Bennett users reported significantly more frequently (91%) the availability of field manuals for the centre, as they and Janzen users (71% and 75% respectively) did also for site related materials for in class use. Teachers using the Bennett Centre, which is part of the public school system, significantly more frequently had been to a site in-service (86%) and users of Janzen, a site unafiliated with a school system, significantly less frequently (29%). Forty percent of Ministik/Elk Island users conducted their own program, significantly more frequently than did users of the other sites. It should be recalled that at Elk Island a new policy established by

Table 34

PERCEPTIONS OF THE FIELD TRIP SITE STAFF SERVICES AND PROGRAMS, ACCORDING TO SITE CHOSEN

Site Staff Service/Program	Janzen %	Bennett %	Swiss Valley %	Ministik Elk/ Island %	Significance
Materials and equipment available on-site	89	91	93	53	p<.01
On-site staff conduct programs	98	62	57	67	*
Field manuals specifically for field trips to site	57	91	64	73	p<.05
Site-related materials for in-class use	75	71	64	27	p<.01
In-service orientation	29	86	50	40	p<.001
Staff demonstrates program which teacher conducts	4	72	64	20	*
Staff set up program, which teacher conducts	4	67	36	7	*
Teacher conducts own program	2	19	22	40	p<.001
(n)	(56)	(21)	(14)	(15)	

* insufficient n for test of significance

Parks Canada was being followed, that called for the withdrawal of park naturalists from direct involvement in environmental education field trips.

7. The Relative Importance of the Staff Services at a Site when Selecting a Field Trip Destination

The site staff service most frequently cited by teachers as a reason for selecting a site was that the on-site staff conduct programs (34%) (Table 35). Field manuals for the site were cited as the most important site staff service when selecting a site by a much smaller proportion of teachers (13%), as was the availability of materials and equipment at the site (11%) and an in-service orientation for teachers to attend (11%).

There were significant variations between teachers depending on the sites they chose for their field trip in the rating of "site-staff conduct program" as the most important site staff service when selecting a field trip (Table 36). Forty-six percent of Janzen users stated it was the most important site staff service, and Ministik/Elk Island users were similarly emphatic about site staff programming (40%). In contrast, Bennett and Swiss Valley users were much less likely to rate this factor as "most important" (10% and 14% only).

Table 35

RELATIVE IMPORTANCE OF THE SITE STAFF SERVICES AND PROGRAMS, WHEN SELECTING A FIELD TRIP DESTINATION

Most important site staff service/program	Teachers n	%
On-site staff conduct programs	36	34
Field manuals specifically for field trips to site	14	13
Materials and equpiment are available on-site	12	11
In-service orientation	12	11
Site related materials for in-class use	11	10
Staff demonstrated programs	8	8
Teacher conducts own program	4	4
Teacher conducts program designed by site staff	1	1
Other	8	7
Total	106	100

There were also significant variations in responses to the "most important" site staff service or program, when teachers were compared according to the grade they taught (Table 36). The importance attached to site staff running the program declined as the grade taught increased, and was

Table 36

VARIATIONS IN THE RELATIVE IMPORTANCE OF SITE STAFF SERVICES AND PROGRAMS WHEN SELECTING A FIELD TRIP DESTINATION

1. On-site staff conduct program

A. According to Site Chosen

	Janzen %	Bennett %	Swiss Valley %	Ministik /Elk Island %	Total %
Yes	46	10	14	40	34
No	54	90	86	60	66
(n)	(56)	(21)	(14)	(15)	(106)

Chi-Square 12.13 p<.01 d.f. 3

B. According to Grade Taught

	Kindergarten to Grade 3 %	Grade 4 to 6 %	Junior High %	Total %
Yes	44	30	13	34
No	56	70	87	66
(n)	(53)	(27)	(24)	(106)

Chi-Square 7.5 p<.05 d.f. 2

rated most important by 44% of Kindergarten-Grade 3 teachers, which declined to 30% of Grade 4-6 teachers and dropped further to 13% of Junior High teachers. Furthermore, a close correspondence was found between the percentages of Kindergarten-Grade 3, and Janzen users (44% and 40%). Combined with a similar match between Junior High teachers and Swiss Valley users (13% and 14%), where site users were virtually entirely of that particular grade level, strongly suggests that grade taught was the primary influence on teachers' perceptions of the most important site staff service or program when selecting a field trip destination.

8. The Relative Overall Importance of Environmental Features, Facility Developments and Site Staff Services in the Selection of the Field Trip Site

In order to investigate teachers' perceptions of site attributes, the data collected was both extensive (covering several categories of site characteristics) and detailed (examining the relative importance of particular site characteristics). To gain a perspective on teachers' priorities with respect to the three categories of site features, teachers were asked to compare the relative importance of environmental features, facility developments and site staff services in the site selection process.

It brought to light a defect in the questionnaire: since teachers were being asked to rank site feature categories, this part of the questionnaire should have been designed explicitly as a single ranking question, rather than in a series of only implicitly ranking questions. Consequently there were a large number of overlapping responses that indicated nothing more than that all three categories of site features were important or very important when choosing a site. The data were reclassified forming three new response categories made up of those who answered that only one of the three site characteristic types was "very important" and the other two types of site features were only "important" or "not important." In this way it was possible to analyse teachers' responses in a way that was indicative of the relative importance of the site feature categories when choosing a field trip.

Overall, most teachers ranked environmental features the most important set of characteristics when choosing a field trip site (53%) (Table 37). Site staff services were second most frequently ranked "most important" (40%), facility developments were ranked the most important category of site features least frequently (30%).

Facility developments were low on teachers' priorities regardless of the site they had chosen or the grade they taught. There were no differences in the importance of

Table 37

THE RELATIVE OVERALL IMPORTANCE OF ENVIRONMENTAL FEATURES, FACILITY DEVELOPMENTS, AND SITE STAFF SERVICES IN THE SELECTION OF THE FIELD TRIP SITE

Relative importance of site characteristic category	Teachers n	Teachers %
Environmental features relatively more important	56	53
Site staff services relatively more important	42	40
Facility developments relatively more important	32	30

site staff services when teachers were compared according to the site chosen for the field trip. The grade taught variable made no discernable difference to the overall importance of environmental features to teachers when choosing a field trip site. However, significant variations were found in the importance of environmental features when teachers were compared according to their site chosen (Table 38). Janzen and Bennett users less frequently ranked environmental features as most important (46% and 43% respectively) than did teachers in general (53%) and much less so than Ministik/Elk Island users (87%). Because there was no significant difference in the

Table 38

ENVIRONMENTAL FEATURES MOST IMPORTANT WHEN SELECTING A FIELD TRIP DESTINATION, ACCORDING TO SITE CHOSEN

	Janzen %	Bennett %	Swiss Valley %	Ministik /Elk Island %	Total %
Yes	46	43	50	87	53
No	54	57	50	13	47
(n)	(56)	(21)	(14)	(15)	(106)

Chi-Square 8.64 $p<.05$ d.f. 3

ranking of environmental features according to grade taught, and given the strong differentiation in the grade taught composition of the site users it implies that the differences between teachers according to the site chosen were attributable to differences other than the grade taught between teachers at the various sites.

Teachers did vary significantly, however, according to grade taught in relationship to the importance of site staff (Table 39). Almost half (49%) the Kindergarten-Grade 3 teachers ranked the services provided by site staff as the most important factor when selecting a field trip site. This level of response was greater than for teachers as a

Table 39

SITE STAFF SERVICES MOST IMPORTANT WHEN SELECTING A FIELD TRIP DESTINATION, ACCORDING TO GRADE TAUGHT

	Kindergarten to Grade 3 %	Grade 4 to 6 %	Junior High %	Total %
Yes	49	37	21	40
No	51	63	79	60
(n)	(53)	(27)	(24)	(106)

Chi-Square 5.68 $p<.1$ d.f. 2

whole (40%) or for Grade 4-6 teachers (37%) and more than twice as frequently as for Junior High teachers (21%).

The determination of the importance hierarchies that teachers have of the respective sets of site features, provided a reference point for assessing the relative strengths of individual site features in attracting teachers for field trips. In other words, for teachers in general, greater weight should be attached to those environmental features rated important, and less emphasis be given to facilities, even those rated as important, and similarly for site staff services. This general rule can

be relaxed somewhat when the youngest grade levels are being discussed.

Another purpose served by the importance of hierarchies of site characteristics is in the internal validation of the site evaluation parts of the survey. Despite the framing of the questions on those topics, it is conceivable that when teachers responded, they were rating their degree of satisfaction with a given set of site attributes, rather than assessing its strength in drawing them the site, which was what these questions were intended to uncover. Although in general, attributes that satisfy users are reasons for choosing a given site, there is a distinction between satisfaction and site attraction. Features which may be sought, and an important factor when selecting a site, may be found to be unsatisfactory once on-site.

A test was performed on the data to confirm that teachers had interpreted the questions correctly, and responded accordingly: that is, they were evaluating site factors in terms of reasons for selecting a field trip site, and were not responding in the sense that one set of site characteristics was more satisfactory overall than the other types of site features. It was hypothesized that if respondents were assessing a given set of site features from the point of view of satisfaction, they would have

responded with more than expected frequency to an earlier question that the particular set of site features were either "as good as" or "better than expected."

For example, responses of those who considered environmental features "more important" than other categories of site features were compared with those who thought the other two categories of site features were more important, in relation to whether the site environmental features measured up to their expectations (Table 40). Teachers who considered environmental features "most important" over other categories of site features as a reason for choosing the site had not significantly more frequently responded that the environmental features "as good as" or "better than expected" than those who did not consider environmental features more important (95% vs. 88%). Similarly there was no significant difference between those who considered facility developments "more important" and the frequency that facility developments were considered "as good as" or "better than expected" (94% vs. 93%), nor was there for site staff services (71% vs. 80%). In other words, there was no association between the importance of a set of site features as the reason a site was chosen and the degree of satisfaction with those same site featu

Table 40

THE RELATIONSHIP BETWEEN SITE FEATURES CONSIDERED IMPORTANT REASONS FOR CHOOSING A SITE, AND LEVELS OF SATISFACTION WITH THE SITE FEATURES

1. Environmental features were "as good as" or "better than expected"

A. Environmental features were more important than other site features when choosing a site

	Environmental features more important	
Expectations about environmental features	Yes %	No %
As good as, or better	95	88
Not as good	5	12
(n)	(56)	(51)

Chi Square 1.42 N.S. d.f. 1

Table 40, continued

2. Facility developments were "as good as" or "better than expected"

B. Facility developments were more important than other site features when choosing a site

Expectations about facility developments	Facility developments more important: Yes %	No %
As good as, or better	94	93
Not as good	6	7
(n)	(32)	(75)
Chi Square .64 N.S. d.f. 1		

Table 40, continued

3. Site staff services were "as good as" or "better than expected"

C. Site staff services were more important than other site features when choosing a site

Expectations about site staff services	Site staff services more important: Yes %	No %
As good as, or better	79	80
Not as good	21	20
(n)	(42)	(65)

Chi Square .32 N.S. d.f. 1

9. Summary of the findings

The concept of place utility provided the theoretical background to the evaluation of site features. Place utility embodies the principle that site features are not inherently important. Instead the importance of site features is determined by their significance to the site user. Using the literature on environmental education field trip sites as a guide, an enormous number of

potentially important site features were classified into three sets of site characteristics--environmental features, facility developments and services or programs provided by the site staff.

The procedure followed in the analysis of teachers' evaluations was similar for each set of site features. Teachers' perceptions of features found at the site were listed as ranked frequency distributions. This provided a useful checklist of features commonly found at field trip sites. Where significant, variations in teachers' perceptions of site features were analysed on a site to site comparison. Secondly, site features were ranked according to their relative importance to teachers when selecting a field trip site. Again, where significant, variations in the degree of importance attached to particular site features as reasons for choosing field trip site were analysed.

In the area of environmental features, the most frequently reported perception of the field trip sites was that it was representative of the local natural environment. The most important environmental feature when selecting a field trip destination was that there was a wide variety of fauna and flora at the site. There were significant variations in the importance of this feature both according to site chosen and according to grade

taught. However because of the grade composition of users of the sites that had the greatest degree of difference, in all probability the variation was primarily due to influence of grade level.

In terms of facility developments, the most widely held perception was that the field trip sites had good access roads. The presence of nature trails and indoor teaching areas were also frequently noted. When a field trip site is being selected, nature trails and designated fieldwork study areas were the most important type of facility developments for teachers in general, since they were the facility developments most frequently referred to with no significant variations between teachers.

The two most frequently reported site staff services were the availability of materials and equipment on-site and that the site staff conduct the environmental education program. For most teachers, the most important site staff service when selecting a field trip destination was that the site staff conducted the environmental education program. There were variations in teachers' rankings both by choice of site, and by grade taught. As before, the major differences between certain sites corresponded to differences in the grade composition of user groups, and implied that the grade taught factor was primarily responsible for the differences. Teachers with early

elementary students most frequently considered that the site staff conducting the program was the most important site staff service, but the frequency declined significantly among teachers with higher grades.

In the overall hierarchy of the relative importance of sets of site features when selecting a field trip destination, environmental features were ranked ahead of site staff services and facility developments. The importance attached to the role of site staff varied according to grade taught, with early elementary teachers significantly more frequently emphasizing its importance. Environmental features were more important to some site users, particularly Ministik/Elk Island users, than they were for users of other sites, but the importance of environmental features did not vary with grade level taught.

The assumption that questions about site features as reasons for choosing a site had been correctly understood by respondents was not rejected. If respondents had (incorrectly) interpreted these questions as dealing with satisfaction with these features, it might be expected that those who had rated a given set of site features "highly important" would more frequently have been in the "highly satisfied" group. In fact, for each of the categories of site features, there was no difference between those

considering a given set of features "highly important" and those who did not, in the degree of satisfaction with that set of site features. It is reasonable then, to consider teachers' responses as valid indicators of site features that were important in the field trip site selection process.

CHAPTER 8

CONCLUSIONS

1. Research Objectives

The thesis was a study of destination attraction, in which the process by which teachers chose an environmental education field trip site, was examined. The attraction of a field trip site was investigated in terms of teachers' responses to site features, factors that affected teachers' perceptions of site variables and their relationship to the selection of a site for the field trip.

Five sites used for environmental education field trips were studied--the John Janzen Nature Centre, the Bennett Centre, Swiss Valley, Ministik Hills and Elk Island National Park. Therefore teachers' responses to site variables were analyzed according to this first independent variable, namely which of the five sites they had chosen for their field trip.

These sites were selected because they each represented a different set of site characteristics. When teachers' perceptions of site variables were compared according to which of the sites they used, it was found

that apparently dissimilar environmental quality, amenity levels, and site staff programming involvement, were nevertheless perceived less differentially by teachers using the sites. This finding substantiates the position of Husbands (1983), the attraction is not an innate characteristic of a place, but arises from individuals' perceptions of site attributes.

The second objective of this thesis was to identify significant influences on perceptions of site features attributable to selected characteristics of teachers taking environmental education field trips. The most significant of these influences was the grade taught by a teacher, which became the second major independent variable used in the data analysis. Other characteristics of teachers that were thought to be significant factors in field trip site selection were the objectives of a field trip, and teachers' preferences for environmental education field trip settings.

The research design attempted to minimize the influence of distance to sites as a factor in site selection. It was assumed that a site was being chosen because of its site features and that no site in the study was at a locational disadvantage compared to any of the four other sites. Therefore the third objective in the research was to investigate the distance school groups were

willing to travel for a half or full day field trip. Teachers' views were sought on whether the site they chose was located no further away than it was desirable for their class to travel.

The fourth objective of the research was to outline variations in teachers' perceptions of site characteristics in detail. Perceptions of three categories of site variable, environmental features, facility developments, and site staff services were measured and their influence in attracting school groups for environmental education field trips was assessed.

2. Summary of the Findings

The findings of the research indicate that there were significant variations in teachers' objectives, preferences for field trips and constraints on choice when field trip sites were being considered. Teachers also differed in their response to site variables, and their relative importance in choosing an environmental education field trip site. These variations in the data are summarized according to the two main independent variables used in the data analysis--teachers by site used, and teachers by grade taught (Table 41).

Table 41

VARIATIONS IN TEACHERS' FIELD TRIP PREFERENCES, OBJECTIVES, CONSTRAINTS, AND RESPONSES TO SITE VARIABLES.

Research Issue	Variable	Teachers By Site	Teachers By Grade
Objectives	Sensory/Awareness development	n.s.	sig.
Preferences for Settings	Environmental education centre	sig.	sig.
Constraints	Range of Alternatives considered	sig.	sig.
	External contraints	n.s.	n.s.
Sources of Information and Their Influence	From site staff	sig.	n.s.
	Personal knowledge of site	sig.	n.s.
	Personal knowledge influential in site choice	sig.	n.s.
Perceptions of Distance in Relation to Distance Travelled	Perceptions of travel distance thresholds	n.s.	n.s.
	"right distance"	not tested	sig.
	"as far as wanted class to go"	not tested	sig.
	"less than class could travel"	not tested	sig.
Perceptions of Site Features			
Environmental features			
	Variety of flora and fauna	sig.	not tested
	Body of water for programs	sig.	not tested
	Few signs of human impact	sig.	not tested
	Large area	sig.	not tested
Facility developments			
	Indoor teaching/ instruction area	sig.	not tested

Table 41 (continued)

VARIATIONS IN TEACHERS' FIELD TRIP PREFERENCES, OBJECTIVES, CONSTRAINTS, AND RESPONSES TO SITE VARIABLES.

Research Issue	Variable	Teachers By Site	Teachers By Grade
Perceptions of Site Features	Water and sanitation	sig.	not tested
Site staff services and programs	Materials and equipment available on site	sig.	not tested
	Field manuals for the site	sig.	not tested
	Site related materials for indoor use	sig.	not tested
	Teacher in-service	sig.	not tested
	Teacher conducts own program	sig.	not tested
Relative Importance of Site Features	Variety of flora and fauna the most important environmental feature	sig.	sig.
	Good access road to site the most important facility development	sig.	n.s.
	On-site staff conduct program.	sig.	sig.
	Overall, the environmental features most important	sig.	n.s.
	Overall, the site staff services most important	n.s.	sig.

a. Objectives of Environmental Education Field Trips

Sensory/awareness development was the most important educational objective in taking an environmental education field trip and was common to teachers at all sites.

There were significant differences in the importance of sensory/awareness when teachers were compared according to grade taught. It was significantly more important for Kindergarten-Grade 3 teachers.

b. Preferences for Settings

Most teachers in the survey considered an environmental education centre as their unconditional preferred choice. There were significant variations between teachers both according to site chosen and grade taught. Kindergarten-Grade 3 teachers, and users of Janzen Nature Centre were much more in favour of this type of setting than other teachers.

c. Range of Alternatives Considered

Most teachers had considered a very limited number of alternatives, when choosing a field trip site. There were significant differences between teachers who chose Janzen and those using the other sites. Kindergarten - Grade 3 teachers differed from teachers of other grade levels and were much less likely to consider alternative sites.

d. Availability of Resource Material

Teachers as a whole were evenly divided on the availability of resource material describing possible field trip sites. There were significant differences between teachers by site, and by grade taught, in this regard, but it was apparant that this reflected the concentration of Kindergarten-Grade 3 field trip groups at just one of the sites--Janzen.

e. Sources of Information and its Relative Influence on Site Selection

Information about a field trip site sent by the site staff was most frequently mentioned as the source of information about sites. However, teachers generally relied more on the recommendations of their colleagues when choosing field trip sites. Elk Island users were significantly different from teachers using the other sites in the influence of personal knowledge of the site on their choice. Familiarity with an area through personal recreational use may predispose teachers to planning their field trip there.

f. External Constraints and Distance Factors

The research indicated that there were no significant external constraints restricting teachers' choice of sites.

Most teachers reported that the location of the site they visited was not further than it was desirable for their class to travel. The distances travelled to field trip site corresponding to teachers' perceptions of this acceptable distance threshold. This finding indicated that all five field trip sites were "within range" for most teachers, with one important exception. Kindergarten-Grade 3 as a group regarded approximately 7 miles as being the limit of desirable travel distance. Clearly sites like Janzen or Bennett, with their more central location in the river valley bisecting Edmonton are at an advantage for field trip groups made up of these early grades. From the standpoint of the research design, distance effects on site selection had only partially been controlled for in the study.

g. Perceptions of Field Trip Site Features

The five sites studied contained quite contrasting environmental features, facility developments and site staff programs, yet there was a considerable degree of conformity in what these represented to teachers. There were variations in perceptions between users of the five sites in the variety of fauna and flora at the site, the presence of a body of water for programs, the human impact on the site, and the size of the area. In terms of the facility developments, the only significant differences

between teachers' perceptions according to the site they used, were the availability of an indoor instruction/ teaching area and water and sanitation facilities.

There was greater variation in perceptions of site staff services and programs. There were significant differences between teachers' perceptions according to the site they used in such matters as the availability of materials and equipment on site, field manuals for the site, and site-related materials for in-class use. The practice of holding a teacher in-service, and the role of site staff or of teachers in conducting the program also varied by site.

h. The Relative Influence of Site Features in Attracting Environmental Education Field Trip Groups

The thesis confirmed the observation of Lattart and Barnes' (1979) that "even when people perceive objects similarly, they may differ in the values they assign to them." Thus it was found there were differences in the importance placed on particular site features. Such variations could be according to teachers' choice of site, or according to the grade they taught, or both. There were significant variations in the importance to teachers both by grade and by site chosen of the variety of flora and fauna as a reason to select the site. A good access road to the site was the only kind of facility development that

was an important reason for choosing a site, where there were significant differences between teachers according to which of the sites they had chosen. The only site staff service that was an important reason for choosing a site where there were variations in teachers' responses was in relation to the on-site staff conducting the environmental education program, by teachers both by grade taught and site chosen.

Overall, environmental features were ranked ahead of site staff services and facilities as the most important site characteristics when choosing a site, though there were significant differences between teachers depending on the site chosen. Kindergarten - Grade 3 teachers differed significantly from other teachers in that about half of them thought site staff services were the most important site features when a field trip site is being selected.

3. Survey Limitations

A number of constraints applied to the research findings due to the research design used. The major limitation was the small sample size in the survey. This sometimes resulted in cell sizes of response categories falling below a critical number and restricted the analysis of the data. A larger sample would have been helpful in clarifying the degree of independence of the "teacher

according to site chosen" variable. Because of the grade composition of classes who used Janzen (practically all were Kindergarten-Grade 3) and Swiss Valley (entirely Junior High), where variations according to site were attributable to users of those sites, the primary influence was most likely due to the grade taught variable. Where variations according to site were due to differences between Bennett or Ministik/Elk Island users, it might be supposed that these differences were due to factors other than grade taught. A larger number of teacher respondents would have allowed analysis of the data "according to site, by grade taught" that would elaborate on the relationship between each of the independent variables and any dependent variables.

It could also be argued that a pre-visit survey could have preceded the post-visit survey that was carried out, to assess more properly the choice situation facing the decision-maker. Beyond the considerable operational difficulties such a survey would have entailed, especially in identifying teachers who at that point were considering field trip sites, in many respects that would have created an artificial distinction, since many of the teachers were repeat visitors to the sites.

4. Future Research Directions

The issue of repeat visitors as opposed to first time visitors could be the basis of further study of teachers' responses to site variables. Another dimension that might be investigated is between teachers who had experience of a number of sites, and those who were familiar with one particular site, and the effect this has on teachers' perceptions of the site. Either one of the additional studies suggested would enlarge on the approach followed by this thesis. Namely, individuals' spatial decision- making can be understood through recognizing that the external world is perceived differently by individuals, that the values attached to objects in reality are subjectively determined, and that a connection can be traced between such perceptions and observed spatial behaviour.

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APPENDIX

THE QUESTIONNAIRE

ATTRACTION OF SITES FOR ENVIRONMENTAL EDUCATION FIELD TRIPS:

A Survey of Teachers Involved in Environmental Education in Edmonton and Area

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February 1984

THE FIRST SECTION OF THE QUESTIONNAIRE IS ABOUT THE DESTINATION YOU CHOSE FOR AN ENVIRONMENTAL/OUTDOOR EDUCATION FIELD TRIP

Q-1 What was the destination of the environmental/outdoor education field trip? (Circle the number of your answer)
(If you took a field trip to more than one of the destinations listed, circle only the site of the most successful field trip)

1 JOHN JANZEN NATURE CENTRE
2 BENNETT CENTRE
3 SWISS VALLEY FIELD STUDY CENTRE
4 MINISTIK HILLS FIELD STUDY CENTRE
5 ELK ISLAND NATIONAL PARK

Q-2 How far from the school is the destination chosen for the field trip?

_____ MILES
_____ TRAVEL TIME

Q-3 Do you think the distance from the school to the destination of the field trip is: (Circle the number of your answer)

1 FURTHER THAN YOU WANTED TO TAKE YOUR CLASS
2 ABOUT AS FAR AS YOU WANT YOUR CLASS TO TRAVEL
3 ABOUT THE RIGHT DISTANCE FOR THE CLASS TO TRAVEL
4 LESS THAN THE CLASS CAN COMFORTABLY TRAVEL
5 SO SHORT THAT THE CLASS COULD HAVE TRAVELLED MUCH FURTHER

Q-4 What other destinations did you consider for the environmental education field trip? (Please list them all. If no other site was considered write 'NONE' and go to question 6)

1 _____
2 _____
3 _____

Q-5 Which of the alternative sites you considered have you previously taken environmental education field trips to?

1 _____
2 _____
3 _____

THIS SECTION DEALS WITH THE SOURCES OF INFORMATION ABOUT ENVIRONMENTAL/OUTDOOR EDUCATION FIELD TRIP DESTINATIONS

Q-6 How did you first hear about the field trip destination which you visited? (Circle the number of your answer

1 FROM OTHER SCHOOL STAFF

2 BY WORD OF MOUTH FROM OTHERS OUTSIDE THE SCHOOL SYSTEM, WHO ARE ACTIVE IN ENVIRONMENTAL AND OUTDOOR EDUCATION

3 FROM SCHOOL BOARD OR DEPARTMENT OF EDUCATION RESOURCE MATERIAL (specify) _____

_____

4 FROM OTHER GOVERNMENT AGENCIES' AND DEPARTMENTS' RESOURCE MATERIAL (specify) _____

_____

5 FROM A.T.A. RESOURCE MATERIAL (specify) _____

_____

6 FROM ATTENDING E.O.E.C. MEETINGS/CONVENTIONS

7 PREVIOUS PERSONAL KNOWLEDGE OF AREA/SITE

8 FROM INFORMATION SENT BY SITE STAFF

9 OTHER (specify) _____

_____

Q-7 Which of the above sources of information was most influential in selecting the field trip destination? (Write the number of the relevant category in the space provided)

[ ] MOST IMPORTANT

[ ] SECOND MOST IMPORTANT

Q-8 Is there enough resource material available describing potential environmental education field trip destinations? (Circle the number of your answer)

1 YES

2 NO

Q-12 Which of the following types of physical environment do you prefer for the kind of environmental education programs you carry out with your class on field trips? (Write your "1st choice", "2nd choice", "3rd choice" in the rank column)

RANK	TYPE OF ENVIRONMENT
____	1. UNSPOILT WILDERNESS
____	2. BACK COUNTRY OF PUBLICLY-OWNED LAND
____	3. BUSH COUNTRY OF PRIVATELY-OWNED LAND
____	4. AREA EXTENSIVELY RESHAPED FROM NATURAL STATE, BUT LAND USES ARE FEW
____	5. AREA PRIMARILY PLANNED AND USED FOR OUTDOOR RECREATION
____	6. AREA PRIMARILY PLANNED AND USED FOR URBAN RECREATION
____	7. NATURE CENTRE AND ADJOINING AREA, SPECIFICALLY DESIGNED FOR ENVIRONMENTAL/OUTDOOR EDUCATION
____	8. OTHER ENVIRONMENT TYPES (Describe) _____

IN THIS SECTION, I WOULD LIKE YOU TO EVALUATE THE IMPORTANCE OF FACILITY DEVELOPMENT IN CHOOSING AN ENVIRONMENTAL/OUTDOOR EDUCATION FIELD TRIP DESTINATION

Q-13 Which of the following facility developments are found at the field trip destination?

(Circle number as appropriate)

		YES
(1)	Good access road to site	1
(2)	Garbage disposal service	1
(3)	Water and sanitation services	1
(4)	Constructed sleeping facilities	1
(5)	Food service and eating facilities	1
(6)	Indoor teaching/instruction areas	1
(7)	Nature trails	1
(8)	Designated sites for field work study	1
(9)	Building with displays, educational exhibits or audio-visual presentations	1
(10)	Other. (List as many site facility features as you think are significant _____	

IN THIS SECTION I WOULD LIKE YOU TO ASSESS THE IMPORTANCE OF ENVIRONMENTAL FEATURES IN CHOOSING AN ENVIRONMENTAL/OUTDOOR EDUCATION FIELD TRIP DESTINATION

Q-9 Which of the following applies to the field trip destination?

(Circle number as appropriate)

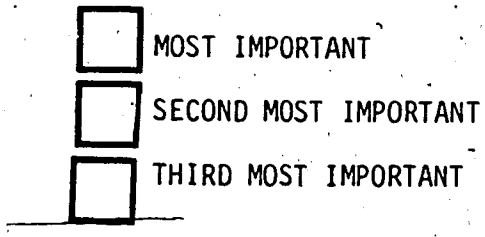
		YES
(1)	Area of site is large, greater than 160 acres	1
(2)	Site contains a wide variety of fauna and flora	1
(3)	Site is representative of the local/regional natural environment	1
(4)	Site has few signs of human impact.	1
(5)	Site can be used for environmental education programs without being disturbed by other users of the area.	1
(6)	Site is by a body of water, that is used as part of the program	1
(7)	Site provides good examples of environmental themes e.g. ecological processes like succession, or geological history	1
(8)	Other. (List as many environmental features of the site as you think are significant)	

_____

_____

_____

Q-10 Which of the above environmental characteristics are most important when selecting a field trip destination? (Write the number of item in appropriate space)



☐ MOST IMPORTANT

☐ SECOND MOST IMPORTANT

☐ THIRD MOST IMPORTANT

Q-11 Thinking back on the environmental features of the field trip destination, were they:

1 NOT AS GOOD AS YOU EXPECTED

2 ABOUT WHAT YOU EXPECTED

3 BETTER THAN YOU EXPECTED

Q-14 Which of the facility developments in Q-13 are most important when selecting a field trip destination? (Write number of item in appropriate space)

☐	MOST IMPORTANT
☐	SECOND MOST IMPORTANT
☐	THIRD MOST IMPORTANT

Q-15 Thinking back of the facility developments at the field trip destination, were they:

1 NOT AS GOOD AS YOU EXPECTED
2 ABOUT WHAT YOU EXPECTED
3 BETTER THAN YOU EXPECTED

Q-16 What changes or additions could be made to the facility developments at the site to improve the field trip experience?

IN THIS SECTION, YOUR INPUT IS SOUGHT ON WHETHER THE ROLE OF ON-SITE STAFF IN THE PROVISION OF PROGRAMS IS AN IMPORTANT CONSIDERATION IN CHOOSING A FIELD TRIP DESTINATION.

Q-17 Which of the following on-site staff services and programs are available at the field trip destination?

(Circle number as appropriate)

		YES
(1)	On-site staff conduct program	1
(2)	Program activities are demonstrated by on-site staff, but teacher primarily conducts program.	1
(3)	Materials and equipment are available on-site	1
(4)	Literature, field manuals etc. are available that were produced specifically for a field trip to the site.	1
(5)	Teacher conducts program, following a program set up by on-site staff	1
(6)	On-site staff have little influence on teacher, who conducts own program unassisted	1
(7)	Before the field trip, on-site staff conduct in-service orientation	1
(8)	Pre and post visitation site-related material for in-classroom use are available	1
(9)	Other. (List as many other staff services and programs as you think are significant)_____	

Q-18 Which of the above staff services and programs are most important when selecting a field trip destination? (Write number of item in appropriate space)

☐ MOST IMPORTANT

☐ SECOND MOST IMPORTANT

☐ THIRD MOST IMPORTANT

Q-19 Thinking back on the on-site staff services and programs at the field trip destination were they:

1 NOT AS GOOD AS YOU EXPECTED

2 ABOUT WHAT YOU EXPECTED

3 BETTER THAN YOU EXPECTED

Q-20 What changes or additions could be made to the on-site staff services and programs at the site to improve the field trip experience?

_____

_____

_____

IN THIS SHORT SECTION, I HAVE SOME QUESTIONS ABOUT THE MULTI-DIMENSIONAL CHARACTER OF ON-SITE ENVIRONMENTAL EDUCATION ACTIVITIES AND PROGRAMS

Q-21 How important were the following aspects of field trip activities? (Circle the number of your answer to each objective)

(1) Learn outdoor skills

1 NOT AN IMPORTANT OBJECTIVE
2 AN IMPORTANT OBJECTIVE
3 A VERY IMPORTANT OBJECTIVE

(2) Awareness/sensory development

1 NOT AN IMPORTANT OBJECTIVE
2 AN IMPORTANT OBJECTIVE
3 A VERY IMPORTANT OBJECTIVE

(3) Learn field techniques

1 NOT AN IMPORTANT OBJECTIVE
2 AN IMPORTANT OBJECTIVE
3 A VERY IMPORTANT OBJECTIVE

(4) Carry out ecological studies

1 NOT AN IMPORTANT OBJECTIVE
2 AN IMPORTANT OBJECTIVE
3 A VERY IMPORTANT OBJECTIVE

(5) Learn about environmental/resource management issues

1 NOT AN IMPORTANT OBJECTIVE
2 AN IMPORTANT OBJECTIVE
3 A VERY IMPORTANT OBJECTIVE

(6) Other (List any further objectives in taking the environmental education field trip that you think are important) _____

_____

_____

Q-22 Which of the following factors do you think are significant obstacles to taking your class on field trips? (Circle number(s) of your answer)

1 COST OF TRANSPORTATION
2 LIMITATIONS CAUSED BY SCHOOL BUS COMPANY SCHEDULES
3 LACK OF ADMINISTRATIVE SUPPORT FOR FIELD TRIPS
4 LACK OF APPROPRIATE TEACHER PREPARATION AND ORIENTATION
5 LACK OF CURRICULUM FLEXIBILITY
6 LACK OF INFORMATION ABOUT SUITABLE SITES FOR FIELD TRIPS
7 DIFFICULTY OF BOOKING SITES YOU WOULD LIKE TO VISIT
8 ABSENCE OF WORTHWHILE PLACES TO GO
9 STUDENTS CANNOT DEAL WITH THE FIELD TRIP SITUATION EFFECTIVELY
10 OTHER (Specify) _____

_____

Q-23 Which of the above factors creates the biggest obstacle in taking a field trip? (Write the number of item in appropriate space)

[ ] MOST DIFFICULT
[ ] SECOND MOST DIFFICULT
[ ] THIRD MOST DIFFICULT

IN THIS SECTION, I WOULD LIKE TO KNOW THE REASONS FOR CHOOSING THE ENVIRONMENTAL/ OUTDOOR EDUCATION SITE THAT YOU VISITED

Which of the following reasons were important in the decision to visit the field trip destination chosen: (Circle the number of your answer)

Q-24 The choice of sites is limited by Board policy

1 NOT AN IMPORTANT REASON
2 AN IMPORTANT REASON
3 A VERY IMPORTANT REASON

Q-25 Parts of the class curriculum refer specifically to the site

1 NOT AN IMPORTANT REASON
2 AN IMPORTANT REASON
3 A VERY IMPORTANT REASON

Q-26 Travel time to the site was less than for alternative destinations

1 NOT AN IMPORTANT REASON
2 AN IMPORTANT REASON
3 A VERY IMPORTANT REASON

Q-27 Overall were the environmental features of the site, rather than the facility developments and on-site staff services, a significant influence on your decision

1 NOT AN IMPORTANT REASON
2 AN IMPORTANT REASON
3 A VERY IMPORTANT REASON

Q-28 Overall were the facility developments, rather than the environmental features and on-site staff services, a significant influence on your decision

1 NOT AN IMPORTANT REASON
2 AN IMPORTANT REASON
3 A VERY IMPORTANT REASON

Q-29 Overall were the on-site staff services, rather than the environmental features and the facility development at the site, a significant influence on your decision

1 NOT AN IMPORTANT REASON
2 AN IMPORTANT REASON
3 A VERY IMPORTANT REASON

Q-30 Please add any other reasons for choosing the site, and describe them as "important" or "very important"

_____

_____

_____

THIS LAST SECTION REQUESTS GENERAL DEMOGRAPHIC OR "PROFILE" INFORMATION ABOUT YOU AS A TEACHER

Q-31 What is your age? _____ YEARS

Q-32 How many years teaching experience do you have? _____ YEARS

Q-33 What is your education training and subject background? (Circle number of your answer)

1 NON-SPECIALIZED, GENERAL

2 SPECIALIZED, SCIENCE AND BIOLOGY

3 SPECIALIZED, PHYSICAL EDUCATION

Q-34 What environmental/outdoor education in-service training sessions and conferences, if any, have you attended in the past 3 years?

_____

_____

_____

_____

Is there anything else you would like to share about the kinds of destinations chosen for environmental/outdoor education field trips? If so, please use this space for that purpose.

Your contribution to this research is greatly appreciated. Thank you for taking the time to complete it. The results will appear in a thesis entitled "The Attraction of Destinations for Environmental/Outdoor Education Field Trips", and will be available from the University of Alberta in 1984.