MARINE MAMMALS OF GWAII HAANAS: Developing a Theoretical Framework and Prototype Educational Resource Package for South Moresby/Gwaii Haanas

by

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We accept this thesis as conforming
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Abstract

This thesis describes the process of developing a theoretical framework for a prototypical education/resource package about marine mammals of the South Moresby area (Gwaii Haanas) of the Queen Charlotte Islands. The package, part of a joint South Moresby Park initiative between the Haida and the Canadian Parks Service, is intended for use in a Haida Gwaii Watchmen Training Program, one designed to build upon the role of the Haida as public educators.

Conversations with individuals living in the communities of Queen Charlotte City, Skidegate and Masset provided insight into the research questions, as well as the content and design of the prototypical resource package. In addition, informal interviews and observations with Haida Gwaii Watchmen on Gwaii Haanas deepened my insight into the form and function of a resource package suited to the needs of the Watchmen and to the unique surroundings at Haida ancestral village sites. Finally, informal interviews with whale researchers in the Gwaii Haanas Archipelago aided in strengthening the linkage between insights and understandings arising from the cultural and scientific traditions.

The writing of this thesis unfolds an evolution of curriculum development: the relationship between a research question, a research approach and the author's educational beliefs and values influenced by the natural, cultural, and political environment of Haida Gwaii. The culmination of this research process is a strong

recommendation that educational research and educational resource materials developed for Gwaii Haanas, remain sensitized to individual and cultural understandings which have evolved as part of a complex relationship between the Haida and the marine environment. A prototype package has been included with this thesis to provide concrete examples of a "sensitized" resource package, one that builds upon linking shared cultural knowledge and biological research through the input of the Haida, first-hand experience and the use of hands-on resource materials.

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The biological information contained within this resource package was greatly enriched through interviews and first hand experiences with whale researchers in the Gwaii Haanas Archipelago. The keen interest, knowledge and regard which these researchers had for all marine life was contagious. As well, conversations with marine mammal researchers Ian MacAskie and Andrew Trites allowed me to expand on other important themes in the resource package.

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Preface

Where the Land Meets the Sea: A Personal View of Education

During the time I spent on Haida Gwaii, there were more moments than I can recall when, at certain times during the day, I stepped into the zone between the land and the sea, and felt the stone and shell laden surface of the tidal edge through the soles of my shoes; when I heard the shrill calls of oyster catchers while crouching down to explore a beached kelp community or investigated a sudden, ever so small and silent movement among the barnacle encrusted rocks. At such times, my focus moved from the minute world of the intertidal to the expanse of water that opened in front of me.

And just as I stood in the intertidal zone at the sea's edge, so I stand in education and curriculum development. Education has invited me just as the zone between the land and the sea invited me. In education, as in the intertidal, there is always something to discover: small spaces to investigate, large expanses to contemplate. And, as in the intertidal, a diversity of perspectives and viewpoints exist, as unique as the design on each limpet shell I see. Indeed, there is much I have learned and can learn while attempting to remain open and sensitized. I ventured into education, knowing full well that, as in the intertidal, this is a place of constant motion and ever-shifting interpretation. Thus, no matter how many times I visit, it is never the same way twice.

With this writing, I have brought my experiences of the marine and education environments together, not to compare them, but to

attempt to further explore an evolving relationship which I experience between them.

CHAPTER 1:
Introduction to the Thesis

The purpose of this introduction is to set the context for this thesis. Thus, the first section is intended to provide the reader with some background to the natural, cultural and political features of the Queen Charlotte Islands, specifically the group of islands known as South Moresby. As well, the reader is introduced to two groups of people who have been integral in providing public education programming on South Moresby, namely the Haida Gwaii Watchmen and the Canadian Parks Service. The second and final section of this chapter attempts to describe this researcher's personal context in education which, having evolved with this research thesis, has provided further insight into the research process and the process of designing the *Marine Mammals of Gwaii Haanas* resource package.

The Context for *Marine Mammals of Gwaii Haanas*

Haida Gwaii, commonly known as the Queen Charlotte Islands, is perched on the edge of Canada's Pacific continental shelf and considered by many to be a unique part of our Canadian heritage, symbolic of some of Canada's west coast terrestrial and marine habitats. At the southern tip of this island archipelago is an area known as Gwaii Haanas or South Moresby, referred to as a naturalist's dream and a natural history laboratory (Islands Protection Society, 1984).

Biological Diversity

With more than 1600 kilometers of shoreline in the Gwaii Haanas/South Moresby area the islands and surrounding waters provide habitat for a tremendous variety of marine wildlife including populations of seabirds, coastal marine and riverine fishes, marine invertebrates and marine mammals. Among the species of seabirds which nest on these islands and feed in the highly productive waters of Gwaii Haanas are pigeon guillemots, black oystercatchers, ancient murrelets, petrels and murres. Within surprisingly short distances a wide range of fish habitats offer food and shelter for a diversity of fish species (Northcote, Peden & Reimchen in Outer Shores, 1989). Pacific herring and Pacific cod live in the plankton rich waters of the continental shelf. Shallow water dwellers such as the yellowtail rockfish feed on organisms which make up the diverse kelp communities, while halibut and sole occupy the soft, sandy bottoms of the ocean floor. Many of these fishes are themselves important species in the food chains of other predatory fishes, marine birds and mammals. Closer to shore, razor clams and butter clams lay just below the surface of the sand with their siphons penetrating the sandy substrata of the lower intertidal. The Dungeness crab, another inhabitant of this beach zone, buries itself in the sand, sometimes leaving only its antennae and eyes protruding. The low tide rushes over other sandy beach inhabitants such as the very large, many rayed sunflower star and the moon snail carrying with it a multitude of marine organisms which are food for gooseneck barnacles, lungworms and sand dollars. In many cases it is these minute

inhabitants of the marine environment which form the bulk of the diet of the largest marine mammals living in the North Pacific.

Cultural Heritage and Management of Gwaii Haanas

To the Haida people, Gwaii Haanas is home and has been so since their ancestors, "the first people", emerged from a clamshell thousands of years ago. Thus, Gwaii Haanas embodies the ways of the "old people" and the lives of the Haida today.

A tradition of connectedness to the ocean and the resources it provides is revealed amongst these islands and its people. It is carved into the cedar poles which now bear the weight of the years they have stood bordering the shores of the ancestral village sites. It is on the faces and in the hands of those who fished for cod and halibut, those who gathered herring roe on kelp or collected seaweed among the slippery rocks of the intertidal. It is embedded in the recollections of the Haida people, whose knowledge of the 'old ways' has been passed on to them by parents, uncles, grandparents, and great-grandparents.

Today, while Gwaii Haanas is perceived by many of its visitors as an opportunity for a unique wilderness experience, these islands and the surrounding waters support the continuity of the Haida culture where cultural activities as well as sustainable, traditional harvesting of resources take place. Maintaining the Gwaii Haanas area in its natural state while continuing a traditional way of life, the Council of the Haida Nation, which is the governing body of the Haida Nation, has designated and managed the lands and waters of Gwaii Haanas as the "Gwaii Haanas Heritage Site" (Gwaii Haanas/South Moresby

Agreement, 1990). In this way, the Haida Nation sustains Haida rights to and ownership over the islands while allowing for the enjoyment of visitors.

Among the many sites of natural and cultural heritage that exist in the Gwaii Haanas/South Moresby Archipelago are the ancestral village sites of Skedans, Tanu, Hotsprings, Windy Bay, and Ninstints (see Figure 1). Both Skedans and Tanu were declared National Historic sites in 1986. Hotsprings Island has the only known thermal springs in South Moresby. The thermally warmed rocks and mineral rich seepages on the island attract a host of plants and insects while a thermal meadow in the interior of the island is believed to be of considerable botanical significance. Windy Bay, on Lyell Island, remains one of the largest and most diverse forested watersheds in the archipelago (The Council of the Haida Nation and the Canadian Parks Service, 1990). Ninstints, on Anthony Island, contains the world's largest array of totem poles standing in their natural and cultural setting. In consultation with the Haida people, Ninstints was declared a UNESCO World Heritage site in 1981 (Gwaii Haanas/South Moresby Archipelago Information Package, 1991).

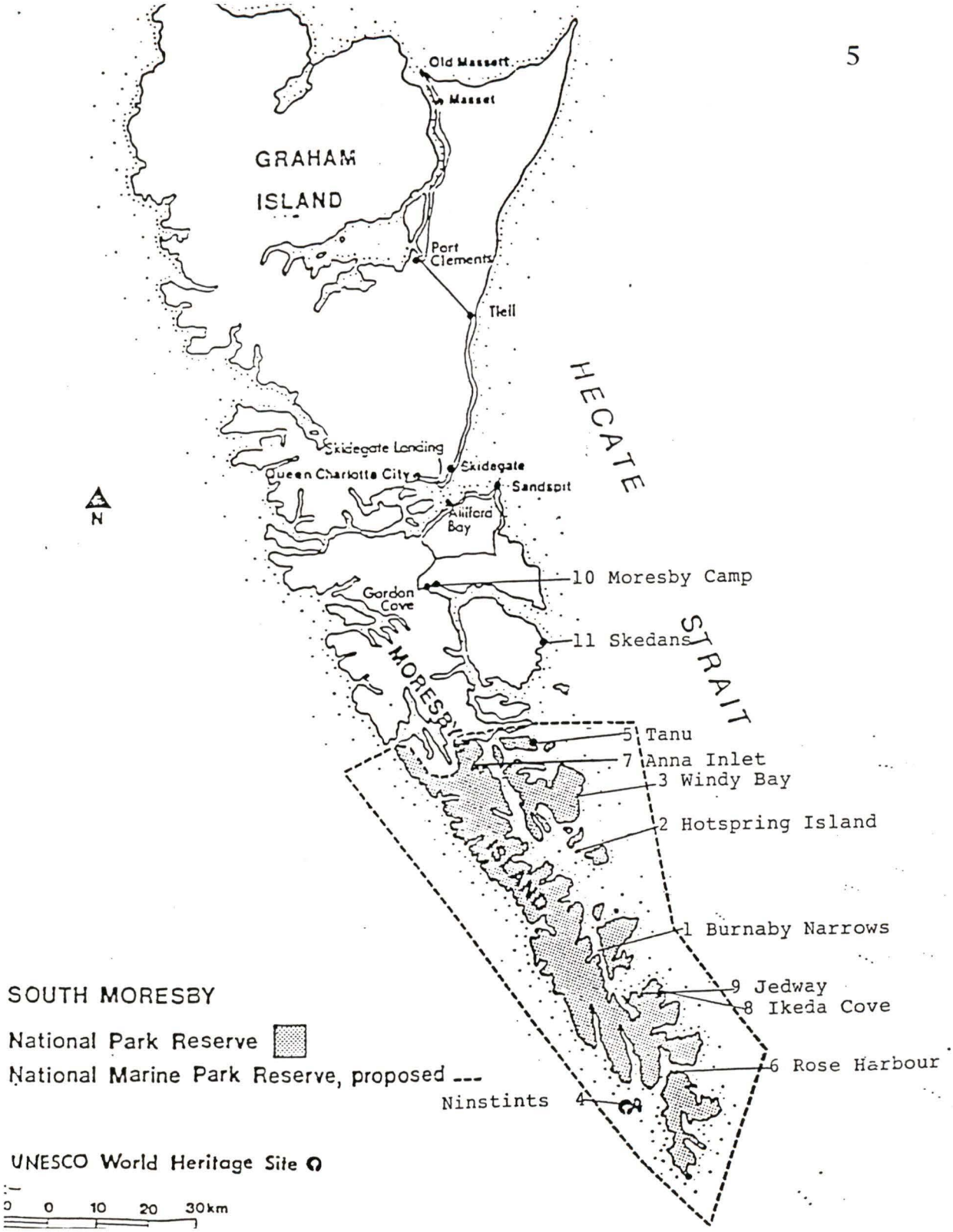

Figure 1. Map of Gwaii Haanas/South Moresby Archipelago. From *Gwaii Haanas/ South Moresby Archipelago Information Package* by the Canadian Parks Service and the Haida Gwaii Watchmen, 1991.

Park Status

The Canadian Parks Service first publicly recognized the "national significance" of the land and marine areas of Gwaii Haanas in the late 1970's and early 1980's when park reserve proposals were made (Environment Canada/Canadian Parks Service Report). Public awareness of the importance of preserving the Gwaii Haanas area as wilderness was given worldwide attention in 1985 with a blockage of logging operations on Lyell Island. In 1987, the Canadian government and the British Columbia provincial government announced a joint agreement to establish a national park reserve and a national marine park reserve in the Gwaii Haanas area. The Canada-British Columbia South Moresby Agreement was then signed in May 1988.

The establishment of a park in Gwaii Haanas is still pending and although the actual boundaries of the reserve remain to be finalized, the area may eventually include 1,470 square kilometers of land. Proposed boundaries for a national marine park reserve encompass 3,394 square kilometers of marine waters in the Pacific Ocean and Hecate Strait.

Haida Gwaii Watchmen

With the removal of many poles and houses from their context at the ancestral village sites on Haida Gwaii, Haida people took on the responsibility of watching over these sites to protect what remained of their ancestral heritage, and the role of Haida Gwaii Watchmen came into being. The Watchmen, comprised of both elders and youths from the Haida community, are hired by the Skidegate Band

Council to live in basecamps established at each of the five ancestral village sites in the Gwaii Haanas/ South Moresby area. Typically, each basecamp is occupied by one or two elders[1] and one youth each summer from June through to September. The facilities at the basecamps are designed solely to serve as seasonal residences for the Watchmen. In Gwaii Haanas, the Haida Gwaii Watchmen have been an integral part of the visitor's experience of the islands for the past 11 years. Living in these summer basecamps situated near their ancestral villages, the Watchmen are the natural interpreters of the islands and of the people that once lived there.

In 1991, the Canadian Parks Service and the Skidegate Band Council agreed to jointly manage the Gwaii Haanas area, specifically the lands and waters located within the boundaries of the proposed National Park Reserve, and to share in planning and operating the Haida Gwaii Watchmen program. As outlined in the 1991 Skidegate Band Council- Canadian Parks Service Contract Terms of Reference, the purpose of operating Watchmen basecamps is to provide the public with "information on cultural history and natural resources" of the South Moresby area and to ensure the "protection for sensitive cultural heritage and natural resources" of the islands. With this shared management agreement evolved a training program for the Watchmen intended to "expand the scope of services to be provided by the Watchmen" and "provide the training necessary to ensure a consistent quality of service" at the basecamps.

In its first two seasons running, 1991 and 1992, the Haida Gwaii Watchmen training program has taken place one month prior to the operation of the basecamps, and has extended over a three week

period. During this time the Watchmen have attended seminars and workshops about local coastal ecology, Haida culture, public speaking, park interpretation, small boat operation, and first aid. I was fortunate enough to experience one such presentation in May, 1992 in which John Ford, the coordinator of killer whale research in the Gwaii Haanas area, provided the Watchmen with a visual history of killer whale research in British Columbia as well as some of the findings and questions from current research efforts in Gwaii Haanas. Interest in Dr. Ford's presentation was evident from the discussion that followed in which the Watchmen asked a range of questions and shared their knowledge and experiences of killer whales of Gwaii Haanas.

The Need for Resource Materials

The idea for this thesis originated out of a need expressed by the Canadian Parks Service and the Skidegate Band Council to develop educational resource materials targeted to the Watchmen and the Watchmen training program about the marine environment of Gwaii Haanas. It was my understanding from discussions with Steve Suddes, acting Project Manager and Volunteer Coordinator for the Canadian Parks Service, that the development of such resource materials was necessary to ensure that the Watchmen would provide the public with a consistent quality of information about the marine environment. As well, from the point of view of Parks, this information would need to concur with accepted scientific concepts. Wildlife studies conducted in the South Moresby area were considered important sources of current and concise information

regarding marine life (S. Suddes, personal communication, 1991). The resource materials proposed in this thesis, then, were to include information about the marine mammals of Gwaii Haanas based in Haida culture, and in addition, include current information about marine mammals based on recent scientific research.

Following several discussions with Dr. Gloria Snively at the University of Victoria, and Steve Suddes, a Volunteer Agreement document and a Project Description document were created (see Appendix A). As broadly stated in these documents, my function as a Park volunteer would include the following: (a) conducting field research and gathering information for an education/resource kit dealing with the natural and cultural heritage of Gwaii Haanas, (b) providing professional advice and guidance to the Canadian Parks Service in the development of a theoretical framework, and (c) providing analysis and submitting recommendations regarding the content, approach, format, and preparation of a resource/education kit developed as part of the Haida Gwaii Watchmen training program. In addition, although not stipulated by the Volunteer Agreement, designing a prototypical resource package *Marine Mammals of Gwaii Haanas* in order to provide concrete examples of the recommendations outlined in this thesis, was considered to be a natural "next step" in the evolution of my fieldwork and data analysis.

Purpose of this Project

In carrying out the work of the Volunteer Agreement I was expected to fulfill a range of functions. Specifically, the purpose of

the project was to: (a) develop a theoretical framework for an education/resource package about marine mammals to facilitate the Haida Gwaii Watchmen as interpreters of the natural and cultural heritage of Gwaii Haanas,
(b) develop sample lesson plans for the package, (c) conduct field research to identify the needs and perspectives of the Haida Gwaii Watchmen and to consider the perspectives of other Haida and non-Haida people with respect to the content and design of the resource package, (d) begin the process of identifying and collecting resource materials for the package, (e) identify and describe the activities and findings of local killer whale research, (f) conduct a preliminary evaluation of the sample lesson plans, and (g) provide recommendations for the future development and implementation of the resource package.

From the moment of my involvement with this thesis and its corresponding research, the questions I asked myself were unending and, quite honestly, unnerving. Yet, somehow, by staying with the uncertainty of those questions, while holding onto something that seemed like sheer faith, the questions took on a deeper meaning and became fundamental to my understanding of and commitment to my work.

Main Question

A question I asked myself very early on in my research for this thesis is one I still ask: 'How can I go about designing resource materials for the Haida Gwaii Watchmen training program while

taking into account the needs and perspectives of the people directly involved with this program: the Haida, particularly the Watchmen, the Canadian Parks Service and myself?'

In turn, while asking this question and continuing with this research, I felt compelled to ask the following:

1. What are the needs and perspectives of the Haida Gwaii Watchmen, as well as other Haida and non Haida people, with respect to the content and design of education/resource materials developed for the Haida Gwaii Watchmen program?

2. What form and content of resource materials would meet the needs and perspectives of the Watchmen in a training session and at the basecamps?

3. What do individuals remember about traditional Haida uses of marine mammals?

4. What are individuals' personal experiences and knowledge of marine mammals?

5. What themes do the Canadian Parks Service and the Haida people consider important to stress in an educational resource package?

6. How will the evolution of the resource package be influenced by the political and cultural matrix of Haida Gwaii?

7. What are the linkages between biological research of marine mammals and the cultural knowledge of the Haida?

8. What is my role in the research and design of educational resource materials on Haida Gwaii?

Research Methodology and Time Line

The research for this project was planned and carried out in the spring of 1991 and through the fall of 1992. The field research began in late July, 1991, when I first made contact with individuals of the Haida community, and continued into early September, 1991. A second trip was made to Haida Gwaii in May, 1992 to conduct a preliminary evaluation of the *Marine Mammals of Gwaii Haanas* sample lesson plans.

In summary then, this project was conducted in three major steps: (a) field research, (b) development of a theoretical framework and sample lesson plans, and (c) preliminary evaluation.

Field Research.

Most of the data for this project was collected "on site" using informal interviews and observational techniques. Conversations with individuals living in the communities of Queen Charlotte City, Skidegate and Masset provided insight into the research questions asked by this researcher as well as the content and design of a resource package. Several meetings with Parks staff Steve Suddes and Liz Birss clarified the Canadian Parks Service vision of resource package development for Haida Gwaii. Haida elders were asked for their recollections of traditional uses of marine mammals by the Haida. As well, the elders' stories and personal experiences were recorded for possible inclusion in the package. In addition, informal interviews and observations with Haida Gwaii Watchmen on Gwaii Haanas facilitated the development of a theoretical framework and sample lesson plans suited to the needs of the Watchmen and to the

unique surroundings at the Haida ancestral village sites. Finally, killer whale researchers were contacted in the Gwaii Haanas area in August, 1991 and June, 1992 in order that information about local research activities and current findings could be properly addressed in the package. Data was recorded in a field notebook as soon as possible after an interview or observation. When possible, interviews were recorded on audio-tape.

It is essential to point out that the field research conducted on Haida Gwaii was made possible with the support and guidance of the Canadian Parks Service, in particular the staff at the Parks office in Queen Charlotte City. Although referred to as a "volunteer" research project, Canadian Parks Service personnel obtained funding to cover my field research expenses and, as well, paid for my air travel between Victoria and Haida Gwaii. I was very fortunate that nearly all of the equipment I required for this research, such as cameras, film, audio tapes, and data collection notebooks, were supplied by the Parks Service. In addition, I had access to top quality camping equipment and a very reliable research boat. As well, all services related to this research, including photocopying and film processing, were covered by the Parks Service. And finally, work space, an invaluable commodity in the Parks office in Queen Charlotte City, was most graciously made available to me for the entire duration of my field work.

Development of a Theoretical Framework and Sample Lesson Plans.

The development of a theoretical framework and sample lesson plans was based upon data collected during the first field season. The style and format of the *Marine Mammals of Gwaii Haanas* prototypical resource package has been adapted to the specific conditions for interpretation which exist in Gwaii Haanas while the package contents build upon themes which the Canadian Parks Service and the Haida considered important to stress.

As well, the process of identifying and collecting hands-on materials and compiling a list of additional resource materials was initiated and refined as part of this process.

Preliminary Evaluation.

For the purpose of this project, a preliminary evaluation of the Marine Mammals of Gwaii Haanas sample lesson plans was conducted in May and June, 1992. It was a goal of this evaluation to check the information contained in the *Marine Mammals of Gwaii Haanas* sample lesson plans for accuracy and completeness. A second goal was to determine the suitability of *Marine Mammals of Gwaii Haanas* for the Haida Gwaii Watchmen training program (e.g. Was the content, including themes and resource materials, relevant to the Haida people? Was the information presented in appropriate ways?). In carrying out these goals, certain individuals were approached regarding information they shared with me during the previous summer's field work while others were contacted for the first time.

Findings from this preliminary evaluation are presented in the final section of Chapter 3.

Future Development

In the spring of 1992, Steve Suddes of the Canadian Parks Service, sent to the Canadian Government a proposal for funding further development and field testing of the resource package. Unfortunately, the funding was not granted. It is critical and strongly recommended that the Canadian Parks Service Volunteer Coordinator immediately pursue further development of the theoretical framework and sample lesson plans so that a resource package can be readied for use by Watchmen in training and with visitors at the basecamps. The final chapter of this thesis provides recommendations which, it is hoped, will assist Parks Canada in proceeding with further development of the *Marine Mammals of Gwaii Haanas* resource package.

Limitations of the Project

Given the unique context for this project, I was faced with a range of what could be considered as limiting factors to the project development. These limitations have been elaborated upon in greater detail in later chapters of this thesis. The main factors were:

1. As I had not visited the Queen Charlotte Islands previous to my first data collection season, it was necessary to take the time to become acquainted with the residents of the islands, the location of schools, libraries and museums, and island life.

2. Despite many conversations with researchers of coastal native culture prior to my first field season on Haida Gwaii, my lack of experience with Haida people and Haida culture was a major factor.

3. My inexperience with the Gwaii Haanas wilderness determined my options for exploring the island shorelines in search of marine mammal remains or signs.

4. The time constraints place on this project no doubt limited my understanding of the personal, cultural, political and natural environments of Haida Gwaii.

5. Many natural limiting factors came into effect during my time in the South Moresby area, the most apparent being unpredictable weather conditions, the island geography and the tidal conditions.

The Personal Context for an Approach to Marine Education

During my first year of graduate school, I began reviewing my past experiences in an attempt to develop a deeper understanding and awareness of who I was as an educator. During this inquiry I became conscious of some of the expectations I had about education and how I had worked towards those expectations. As well, I learned to recognize certain skills I possessed as an educator. And finally, by looking back at my experiences, I identified an evolution in the approach I have taken to public education. The following discussion attempts to describe some of these understandings which, it is hoped, upon further reviewing this thesis, the reader will

recognize as meaningful features of this process of research and curriculum development .

Education and Experience

In the process of this review I first uncovered a series of experiences which led to my involvement in marine education. I recalled how marine life, particularly marine mammals, drew me to the west coast in 1987 with an opportunity to assist John Ford with his research of the acoustic behavior of killer whales in Johnstone Strait. The following year, working at the Vancouver Public Aquarium as an interpreter of marine natural history, I entered into another area of marine study, one known broadly as public education. Working closely with the public, marine mammal researchers, and gifted marine educators, I discovered a diversity of threads, of various colors and textures, which I used to draw the fabrics of marine ecology and public education closer together. For example, in my interpretive talks at the Aquarium, it was natural for me to draw from my experiences assisting with whale research in Johnstone Strait. More often than not during these talks, I told stories which carried the listeners and myself from a behavior just observed among the whales in the Aquarium habitat to the depths of Johnstone Strait and a moment in my experience when I observed a group of wild killer whales. From the public's response to my stories, often expressed in the form of questions and shared experiences, I felt it was valuable for me to bring concrete life experience to my interpretive role. At times, the experiences I related would include events that were personally quite exhilarating, such as observing a

group of killer whales in Johnstone Strait, while other experiences were quite "ordinary" in comparison. Yet, what made these interactions meaningful was not *what* the experiences were as much as *how* they were related. In other words, a willingness on the part of the individual participants, myself included, to make a personal connection through the sharing of personal experiences and understandings of the marine environment. It is important to note that, making such connections, especially in a group, required people to take risks, such as asking a question or giving a "wrong" answer. And to risk, people first had to know that it was safe to do so, in other words, that the learning environment for risk taking was rooted in mutual trust and respect.

Research and Education

It was through my experiences at the Aquarium that I recognized how current research activities could also be integrated into public education programs, both as personal experiences and accounts of the experiences of others. By practicing this in my own talks, I learned to transform research activities and findings from what might otherwise be interpreted as mere 'facts of interest' into concrete life experiences.

Encouraging public involvement in research efforts was another thread I explored, unknowingly at the time, while undertaking the organization of a volunteer program at the Aquarium. While collecting data on the nursing behavior of a newly born killer whale calf, or participating in the care and husbandry of sea otters oiled in the Valdez spill, volunteers not only developed deeper insights into

the social behavior of these marine mammals, they came to appreciate the role that clean marine ecosystems play in species' continued survival. It seemed to me that growing along with the volunteers' experiences of individual animals, was a personal commitment and a feeling of global responsibility to marine ecosystems.

The Task at Hand

Turning back to the main question of this thesis: 'How do I go about developing an education/resource kit for the Haida Gwaii Watchmen training program?', I recall how, in all of my discussions of this project with friends, I always added a qualification that expressed a dilemma I faced. Somewhere between "developing materials for the Haida Gwaii Watchmen training program" and "taking into account the needs and perspectives of the people" I would add "given my *inexperience* with the Haida people and their culture, with the marine environment of Haida Gwaii, with the training program, and with the Canadian Parks Service." The "inexperience" or lack of experience I was so careful to mention, was something I felt could potentially disable me in meeting project requirements. As well, still questioning my role as an educator, I approached this thesis full of uncertainties of what I might expect in the ever changing field of education and how I might adapt to these changes. At times my fear of the unknown overwhelmed me, preventing me from seeing and trusting my past experiences and the tools I carried with me. However, since my initial review of my involvement in education, I have come to recognize the true

significance of experience for me. I realize that I did not come to this project lacking 'experience'. Rather, I brought with me a host of experiences and understandings in education, in my relationships with people and with the marine environment. What has taken place, then, over the past two years is the recognition of the importance of change and the uncertainty that accompanies it: in the experiences I had and in my perception of those experiences. For example, while engaged in this research process I had to accept what felt like a constant shifting in my perception of what the *Marine Mammals of Gwaii Haanas* resource package should look like. In turn, the method of data collection that I used and the kinds of data that I collected in order to match my perception, have undergone substantial change.

In approaching this research question then, I have done so from my experiences, laying them out in this writing as interconnecting pieces of a living puzzle, as indicators of change in my approach to this thesis, as ways of demonstrating what I understand about these changes and about myself in education.

Equipped with information I had gathered from my library research of Haida Gwaii, and from discussions with people with their own understandings of indigenous cultures, I left Victoria in July 1991 and headed for what was to be my first experience with these islands, with the particular marine habitats they enshrined and with the people to whom the islands were home.

CHAPTER 2:
A Review of the Literature

Overview

A review of the literature illustrates the need to integrate marine related topics into formal and informal learning settings with specific recommendations for program planning, design, development and evaluation.

This review is divided into five sections and covers the following topics: (a) interpretation and informal learning environments, (b) marine education in Canada, (c) multicultural education, (d) marine mammals of Haida Gwaii, and (e) philosophic as well as practical possibilities of qualitative research.

The first topic deals with a long-standing debate over the role and nature of interpretation in Canadian Parks and Interpretive Centers. As well, the public's perceptions of interpretive programs and the implications of those perceptions for park managers and program developers, are discussed.

The second topic focuses on the need for marine education programs in both formal and informal settings with findings from research conducted in the classroom as well as in parks and marine reserves. Strategies utilized in two marine education programs here in Canada are included as concrete examples of how marine education has been integrated into informal learning situations.

This review then moves to another area of education relevant to this thesis by exploring cultural values and communication styles in classroom and societal settings.

Turning, then, to a discussion of marine natural history, the fourth topic provides a brief overview of marine mammals in British Columbia waters with specific reference to resident and non-resident marine mammal inhabitants of the Queen Charlotte Island Archipelago.

The final topic of the literature review focuses on factors which the researcher in education must consider when deciding upon a methodology he or she will use. This discussion will conclude with the "approach" I took to this research project, as defined in the literature, and my reasons for choosing such an approach.

Part 1: Interpretation and Informal Learning Environments

Defining Interpretation

For years people in Canada have visited facilities such as parks, museums, zoos, and aquariums and have participated in interpretation programs. Yet the concept of interpretation is still evolving and is a topic of considerable discussion (Foley & Keith, 1978; Peart, 1984; Peart, 1986). Representing the Association of Canadian Interpreters (A.C.I.), Peart (1978) noted that few Canadian agencies hiring interpreters and running interpretive programs have an approved, agreed upon definition of interpretation which provides a basis for the agencies programs. Even within the Association of Canadian Interpreters, Peart recognized that members defined interpretation differently. In response to the question, "Why worry about a definition?", Peart might ask: "How might individuals and organizations involved in interpretation be better able to define and

accomplish objectives of their programs if there existed a clear and concise definition of the nature and role of interpretation?"

In searching for a philosophical base for interpretation in Canada, Foley and Keith (1978) considered the aim of interpretation from the perspectives of the Parks Canada and the Canadian Wildlife Service. They listed the following four categories based on what people want to accomplish through interpretation: (a) interpretation as a resource management tool, (b) interpretation as a tool for attitude change, (c) interpretation as an educational tool, and (d) interpretation as a recreational/inspirational experience. The following is a brief discussion of each of these categories.

Interpretation as a Resource Management Tool.

Foley and Keith (1978) argued that organizations tend to focus on one or two of the categories outlined above, while paying little or no attention to the others. For example, in Canada, interpretation has largely been used (a) as a resource management tool to manage park visitors, (b) to gain public acceptance of major management policies, and (c) to increase public support for agencies directly involved with parks and reserves (Field & Wagar, 1973; Foley & Keith, 1978). A need exists, however, for managers and interpreters to evolve programs which encompass all of these features of interpretation.

Interpretation as a Tool for Attitude Change.

As stated by the Conservation Foundation (in Foley & Keith, 1978), "Any look ahead reveals that parks are preserved only by an understanding public and they are used in pleasure only by a

perceptive public. Hence, broad and deep environmental education is clearly a responsibility of the system". A key point here is the "responsibility" which the "system" takes in public education. Is it an aim of education to influence the individual's perceptions and understandings of the natural environment in any direction? Foley and Keith recommended that interpretation programs provide the public with opportunities to experience their natural heritage first-hand, as it is largely through personal experience that public awareness and understandings of the environment evolves. In the authors' view, given such opportunities, citizens will be better able to relate to the significance of conservation and the purposes of parks and reserves in the preservation of natural areas. As well, the public will be in a better position to "work out their own attitudes on conservation generally, and on the problems inherent in their wanting, simultaneously, the benefits of both conservation and economic progress" (Foley & Keith, 1978).

Interpretation as an Educational Tool.

Foley and Keith (1978) recommended that the Federal and Provincial Parks and Reserves become involved in "cooperative programming", both with educational institutions and private organizations. They have not proposed that interpretation, as an educational tool, take over the role of the teacher or curriculum developer, but rather that, through Parks, it provide the tools and the resources for schools and other facilities to develop their own outdoor environmental programs.

Interpretation as a Recreational/Inspirational Experience.

Foley and Keith (1978) noted that federal agencies have emphasized the recreational elements of interpretation while paying little attention to interpretation as an inspirational experience. However, with growing urbanization in Canada, people have expressed a desire to preserve natural areas so that they can maintain a "psychological balance" through contact with the natural world (Foley & Keith, 1978). "Without this opportunity to relate emotionally with the natural environment, Canadians would be deprived of a widely felt need to develop as individuals in the full context of their nature environment" (Foley & Keith). In Eddy's (1986) words, the role of interpretation as an inspirational experience can provide park visitors with an "environment of thoughts and ideas, and even experiences, from which they may 'see' their own very familiar world, perhaps for the first time."

In conclusion then, Foley and Keith (1978), and Peart (1978, 1984) have suggested that interpretive programs do not exist solely as tools for attitude change, as park management tools, or as educational or recreational tools, but that all of these features be viewed as "threads which are woven together to form a pattern unique to any [interpretation] program" (Foley and Keith).

Visitors and Informal Learning Environments

Working towards a clearer understanding of the role and nature of interpretation, authors such as Bitgood (1988), Field and Wagar

(1973), Peart (1986) and Screven (1986) explored informal and formal learning environments and the kinds of people drawn to them.

While informal learning settings were described as "relaxed places of learning" (Peart, 1986) where learning is nonlinear, self paced, voluntary, and exploratory (Screven, 1986), formal settings were considered to be more "traditional" (Bitgood, 1988), designed to provide minimal distractions and to focus the learner's attention on the instructional stimuli. Participants of informal learning settings are "leisure audiences" (Screven, 1986), free to interact with exhibits on a voluntary basis and on their own time (Peart; Screven).

Public audiences are diverse with respect to age, knowledge, interests, skills, motivation, attitudes, and preconceptions about what they see, yet they seem to also have a number of things in common. For example, they often come to informal settings with a family or in small groups of two or three; they are visually oriented, and attend to things that are novel, unique or appear out of context (Birney, 1988; Blud, 1990; Field & Wagar, 1973; Screven, 1986). The majority of visitors to outdoor recreation areas, such as parks, are repeat visitors who live in the immediate vicinity of the park (Field & Wagar).

Implications for Program Planning

Visitor Perceptions.

Several authors have stressed that park managers, policy makers and program developers need to be attentive to the kinds of people drawn to interpretive programs, and sensitive to the values, preferences, attitudes, and perceptions visitors hold (Field & Wagar, 1973; Hogan, 1985; Holm, 1990; Screven, 1986,1990). As well,

educational researchers, armed with deeper insights into visitor perceptions, need to be able to make knowledgeable, concrete recommendations concerning program planning. For example, from his observations of visitor interactions with museum exhibits, Screven (1990) recommended that in order to facilitate learning and interest, exhibits must start where the visitor is, not from where the specialist thinks the learner should begin. Thus, information about visitors should be gathered early in the exhibit or program planning stages (Screven). According to Screven, a visitor analysis can provide:

1. An understanding of visitor knowledge, attitudes, and expectations; and can identify visitor conceptions, either naive or alternative, concerning the exhibit's or program's potential content.
2. A basis for deciding on major goals and their priorities.
3. A point of departure for determining which messages are important and how to focus, organize, and convey those messages.

Screven's findings are supported by research which investigates participants and non-participants of interpretive programs. Morse (in Hogan, 1985) identified attitudes, motivations, and opinions of visitors to California State Parks. His findings revealed that, of 183 adult park visitors, 68 percent of the "nonattenders" had never heard of interpretive programs, and those who had, perceived interpretation to be a necessary function of the parks service, providing mainly educational activities. Those people who visited interpretive programs said they did so primarily because of the educational opportunity. As a secondary reason, 50 percent again responded with an education-related statement while only 25 percent said they visited interpretive programs because they are fun and

entertaining. One of Morse's recommendations was that park program planners and managers pay attention to the use and understanding of the words "interpretive programs" and the publics' perceptions of park interpretation.

In an earlier study, Hogan (1985) examined beliefs held by nature centre visitors and non-visitors about the existence of educational and recreational opportunities provided at a nature centre. Hogan found that people who chose to visit the nature centre were aware of the wide range of educational and recreational activities offered, such as hiking, bird watching, skiing, and workshops, while non-visitors believed nature centre activities were primarily educational.

Both Morse's and Hogan's findings indicate that the likelihood of a person visiting a nature centre is a function of the attributes of the centre modified by the person's prior knowledge of, and attitudes towards, those attributes. Hogan suggested that knowledge of visitors' beliefs about park nature centers would better prepare park managers to chose strategies for increasing visitation and participation in nature centre activities.

Social Groupings.

People tend to visit recreational areas as members of a group (Birney, 1988; Blud, 1990; Field & Wagar, 1973; Screven, 1986). These social groups are believed to influence the visitor's experiences: how they interact with exhibits or information, the learning that takes place and, ultimately, the effectiveness of the interpretation program (Screven, 1986). Blud (1990) suggested that interactions which occur between visitors may be as important as interactions

between the visitor and the exhibit. Birney's (1988) research of young students' perceptions of museums revealed that "sharing museums and talking with others is important." The students preferred to share information with others and appeared to associate new knowledge with an increase in the social value. Birney pointed out that the social environment of informal settings may actually influence what is learned and recommended that designers of interpretive exhibits or programs consider how the exhibit or program will stimulate learning within a specific social context.

Similarily, in parks, the social group may be an important vehicle for transmitting interpretive messages. For example, groups may facilitate the learning that takes place in interpretive programs by shaping information to the level of understanding of the various ages in the group; as well, group members may assume leadership roles and, by doing so, may themselves gain a better understanding of the information (Field & Wagar, 1973). Field and Wagar noted that the most popular exhibits in visitor centres were those which accommodated groups. Such exhibits provided groups with opportunities to "discuss information of interest among themselves and . . . set their own pace" (Field & Wagar). Interactions between strangers, which is not uncommon in parks, may also have important implications for learning and should be encouraged (Field & Wagar).

In summary, research conducted in parks and other informal education settings strongly suggests that an understanding of the people who participate in informal education programs, together with clearly stated program objectives, will help park managers and program planners (a) design interpretive materials suited to a

particular audience and setting, (b) determine directions and priorities of interpretive programs, (c) search for alternative approaches to reaching stated objectives, and (d) evaluate the effectiveness of interpretation (Field & Wagar 1973; Putney & Wagar, 1973; Screven, 1986).

Part 2: The Need for Marine Education

"Water: The Essential Ingredient"

(Goodwin & Schaadt, 1978)

In a timely account of the importance of marine and freshwater education, Goodwin and Schaadt (1978) emphasized that the way people relate to aquatic ecosystems is largely rooted in their perception of those systems. Studies conducted in Virginia and British Columbia revealed positive attitudes towards the marine environment and marine related issues among students and teachers. From a sample of Virginia's 10th-grade students, Fortner and Teates (1980) noted that a majority of students expressed positive attitudes towards marine issues. Their findings also revealed a strong relationship between students' attitudes towards marine issues and knowledge, with more positive and less variable marine attitudes associated with greater marine knowledge. Similarly, on Canada's west coast, Snively and Sheppy (1991) found that a majority of fifth and ninth grade students in three communities in British Columbia exhibited strong conservationist and protectionist positions regarding the marine environment and marine mammals. Canadian students

perceived the ocean as an environment to preserve for recreation or as a wildlife sanctuary (Lien & Walters, 1985).

In Canada, there is a strong public interest in the marine environment. In a study which involved interviews with 7,000 5th and 9th graders in every Canadian province, students favoured learning about the marine environment more than any other environment and marine mammals were the animals students most preferred to study (Lien & Walters, 1985). These findings were later supported among 5th and 9th graders in British Columbia (Snively & Sheppy, 1990, 1991). In addition, teachers in British Columbia indicated a strong desire to include marine topics in their classroom curricula (Snively, 1988; Snively & Sheppy, 1990, 1991). Yet education programs in Canada's schools and National Parks have never adequately reflected this public interest, nor have they addressed human dependency on oceans and marine resources as a major means of transportation and trade, a source of wealth and culture, and an environment for recreation and leisure (Fortner & Teates, 1980; Lien & Walters, 1985; Snively 1988; Snively & Sheppy, 1991).

Sources of Marine Knowledge

Lien and Walters (1985) found that Canadian students exhibited strong views regarding ocean environment preservation, but had little knowledge on which to base these views. Snively and Sheppy (1990) concluded that, despite the interest students in British Columbia had in learning about marine environments and their strong protectionist attitudes towards marine mammals and coastal habitats,

their knowledge of the ocean and the various ways in which humans interact with ocean resources was limited

It is interesting to note that educational research, conducted in schools across North America, identified public media as the publics' major source of information about the marine environment (Fortner & Teates, 1980; Lien & Atkinson, 1988; Snively & Sheppy, 1990, 1991). A study conducted among 5th and 9th grade students in three communities in British Columbia, revealed that students perceived television and movies to be the source of most of their marine information, followed by learning from aquaria, nature houses, and first-hand experiences (Snively & Sheppy, 1990). Fortner and Teates (1980) found a strong positive correlation between students' level of marine knowledge and the number of Cousteau specials watched on television. Among 5th grade students in British Columbia, 45% said they "rarely" or "never" learned about the ocean in their classes. The percentage was higher for 9th grade students, with nearly two-thirds (64%) reporting "rarely" or "never" (Snively & Sheppy).

The 1991 British Columbia Assessment of Science presented these information sources in a broader picture of students' science-related backgrounds. In the report it is noted that a large proportion of students in grades 3 through 10 had considerable experience in out of school science-related activities, including those mentioned above. A conclusion drawn from these findings was that students learned science while engaged in activities outside of the classroom and should, therefore, be encouraged to participate in such activities when they are available.

Marine Resource Networking

It is not encouraging to read that Canadian marine educators, teaching in formal and informal settings, have frequently conducted educational programs on faith, believing that they work, yet failing to understand how they work or how they could be improved (Lien & Atkinson, 1988). There are many reasons, proposed in the literature, why this is so. From a survey of teachers' perceptions of marine education programs and resource materials in British Columbia, Snively (1988) reported a lack of preservice and inservice training and a shortage of available teaching materials relating to the local marine environment as factors contributing to teachers feeling unprepared to integrate information about the ocean and related issues into their classroom curricula. Teachers indicated their desire for greater access to marine resource materials, including resource guides, student materials (other than textbooks), films, videotapes and activity kits. However, of the resource materials already existing, teachers knew very little. When asked to rate 61 marine films, 8 filmstrips, 5 kits, and 3 videos, teachers indicated they were unaware that these resources were available. Therefore, research into the range of marine topics that could be included in the school curricula would be one step in improving the design and use of resource materials. But in Snively's opinion, and in the opinion of Lien and Atkinson (1988), what is needed to foster marine education in British Columbia as well as in the rest of Canada, is an organized method of disseminating and effectively using information pertaining to the marine environment. Without an adequate information network, many marine programs and opportunities remain largely unknown or

inaccessible to marine educators and the general public, and the capacity for developing marine education in Canada remains limited (Lien & Atkinson, 1988; Snively, 1988)

Knowledge of Students' Interpretive Frameworks

Yet it is not enough to increase educators' awareness of and access to information pertaining to the marine environment and related issues. Values education and the development of problem solving skills have been identified as two major components of marine education (Snively,1988; Snively & Sheppy,1990).

In reporting a study which explored students' existing interpretive frameworks with regard to the ocean, including concepts, beliefs, opinions, and values, Snively and Sheppy (1991) stressed that student opinions may act as a bridge to new ideas and concepts encountered during instruction. With a knowledge of students' interpretive frameworks, as well as the tools for developing more comprehensive and interesting curricula responsive to the students' existing views of the ocean environment, teachers may be better prepared to facilitate these connections. Snively and Sheppy posed a number of questions for consideration: Are educators aware of students' opinions? How are educators aware of their own opinions and values towards the marine environment? How can researchers work together with teachers to help students identify their own opinions and to make informed decisions regarding marine issues? Is there a relationship between opinions and a tendency toward action? Elaborating upon this last question, the authors proposed that with an awareness of students' interpretive frameworks, teachers

would be better equipped to develop relevent instructional strategies and resource materials for students learning about specific marine concepts and marine issues, and to allow students to develop problem-solving skills while making informed decisions about marine issues.

Public Participation in Marine Issues

From their research of the relationship between Virginia students' marine related experiences and knowledge of and attitudes towards the marine environment, Fortner and Teates (1980) proposed that despite society's strong positive attitudes toward the marine environment, few people actually act on the assumption that their personal behavior will have an effect on the ocean. Instead, people rely on societal groups such as government agencies to take responsible action regarding marine resource management and related issues (Fortner & Teates, 1980; Snively & Sheppy, 1991).

Research into public attitudes and opinions regarding the marine environment suggests that in order for individuals or groups to feel they can participate in marine related decision making, there is a need to develop public education programs which provide opportunities for people to have first-hand experiences with the marine environment and marine-related issues and to develop the skills for problem-solving through direct experience within local community contexts, both inside and outside the classroom.

Using a timely example of a marine resource use issue here in British Columbia, Edgell and Nowell (1989) emphasized the value of developing problem-solving skills for effectively approaching

conflicts concerning the management of local resources. The authors explored the values and opinions of a sample population of urban residents in Victoria, British Columbia and those of the province's commercial fishermen concerning the management of harbour seals and sea lions along the British Columbia coast. They found that the two groups exhibited significantly different beliefs regarding the societies' relationship with nature. For instance, large seal and sea lion populations were unacceptable to commercial fishermen as the animals were considered primary predators of commercially important fish stocks, while control of marine mammals was unacceptable to a large segment of society. The two groups held strongly contrasting and mutually exclusive opinions and solutions concerning the conflict. In the authors' point of view, in order for a resolution to be reached, the opposing groups would have to be assisted in understanding the others' objectives, finding a common ground, and searching for acceptable alternatives to predator control. In turn, the facilitator or mediator for the process, in this case a wildlife manager, would have to have an awareness of the values and opinions possessed by the two groups, as well as the appropriate problem-solving skills to guide a resolution program. Thus, whether developing curriculum for educational purposes or public policy for management purposes, a knowledge of the issues, together with an awareness of existing values and opinions, and experience applying problem solving skills, are considered essential ingredients of informed decision making and responsible action.

Approaches to Informal Learning and Marine Education

As more pressure is placed on the marine environment, as demands for natural resources escalate, and as larger sections of society become involved in the debate over how those resources should be managed, it is increasingly important that information concerning the marine environment and resource management be integrated into public education programs. Marine environmental education can no longer be treated as a branch of science exclusively, for the ocean is deeply rooted in all aspects of society, including political, spiritual, economic and technological and, therefore, demands a multidisciplinary approach.

With the number and variety of marine related topics and marine resource use issues in British Columbia, a unique opportunity exists in this province to teach about the marine environment in an integrated way which brings local events and issues to formal and informal education programs and makes learning more relevant for the participant.

Documented case studies of informal marine education programs in Canada and marine-related curricula are sparse, although some evidence of their existence can be found in the literature. By applying educational strategies in response to specific marine management issues, these programs provide the public with opportunities to interact with the marine environment while developing a deeper awareness of marine habitats, marine organisms and management issues. The following discussion includes a review of two programs developed and conducted in Canada, and is intended

to highlight specific approaches taken to informal marine education in response to a marine management issue.

Case One: Robson Bight Visitor Information Program.

Each summer since 1987, a visitor information program has been conducted at the Robson Bight Michael Bigg Ecological Reserve (RBMBER), an area located in western Johnstone Strait along the Vancouver Island shoreline. Robson Bight is believed to include key habitats for a northern community of killer whales (*Orcinus orca*) (Johnstone Strait Killer Whale Committee, 1991). A visitor information program evolved out of a concern that human activity in the area of Robson Bight, such as whale-watching, might impact on the whales.

Visitors to the reserve, via privately owned boats or chartered vessels, are approached by interpreters (Information Officers) and provided with information about killer whales, whale habitats, the reserve, and appropriate whale-watching behaviour. Ideally, approaches are made after visitors encounter a group of whales so as not to disrupt the encounter or disturb the whales. The program offers visitors an opportunity to identify individual killer whales and pods with the aid of photo-identification keys, updated and used by killer whale researchers in the area, and to listen to any underwater sounds the whales might be making via a hydrophone (an underwater microphone).

Case Two: Newfoundland Fishermen and Humpback Whales.

On Canada's east coast, a public education program was developed in response to the problem of large whales, primarily humpbacks, colliding with in inshore fishing gear (Lien, Staniforth & Fawcett, 1985). Whale researchers believed the whales came inshore to feed on large concentrations of capelin, the primary food for humpback whales (Whitehead cited in Lien et al.). The problem, which first became serious in 1977, escalated, with a peak loss to fishermen totaling 3 million dollars in 1979. That same year, 15-20 whales died in fishing gear (Lien, et al.).

Lien and others saw that, to reduce the conflict and install proper management techniques, there was a need to develop a public education program which extended beyond simply educating the local fishermen. Public media, including newspapers and television, were used to reach the general public and a classroom curriculum package was developed for teachers (The Whale Research Group, 1984). Fishermen were exposed to the program through union and fisheries magazines and radio. In addition, posters were developed to teach fishermen how to identify individual humpback whales using the distinctive markings on the underside of the whales' tail or fluke and fishermen were trained in the delicate art of untangling whales from their fishing gear.

At present, Newfoundland has a whale curriculum designed to a grade 5 level which is prescribed by the Ministry of Education. A whale curriculum for Robson Bight, although not specifically stated as a recommendation of the Johnstone Strait Killer Whale Committee,

would be an important step in furthering public access to information about killer whales, whale habitats and management issues in both informal and formal learning environments.

Both the visitor information program at Robson Bight and the Newfoundland education program involved the public in a process of learning combining features of the local marine environment and marine related issues with educational materials suited to that environment. Teaching and learning strategies were chosen for their appropriateness to particular user groups and learning environments. The following discussion illustrates the application of several of these strategies using examples taken from the two case studies.

Attitude Assessment.

Lien (1980) and Lien et al. (1982, 1983) (cited in Lien et al., 1985) conducted a series of interviews and surveys to find out how fishermen in Newfoundland felt about the whale entanglement problem. These studies revealed the fishermens' suspicions of the claim of the "endangered marine mammal". In the fishermens' view, they were seeing more and more whales all the time since the ban on whaling in Canada in 1972. They were angry and frustrated with the situation and circulated a petition requesting that the ban be lifted. A hunt, they felt, would decrease the number of whales, reduce damage to fishing gear, and would "put the 'fear of man' back in the whales" (Lien et al. 1985).

Differences between the fishermens' attitudes towards the whales and management policy, held many implications. If the fishermen

were not given an opportunity to see the problem in a larger context, they could neither be expected to trust management decisions nor to understand how it could be in their best interests (and the whales) to release an entrapped whale alive. Therefore, identifying the fishermens' attitudes towards the whales was essential for responsible fisheries management, sound whale conservation, and insightful education program planning.

Active Participation.

Active participation is believed to be important in both formal and informal learning situations (Bitgood, 1988; Jernstedt, 1980; Lien & Atkinson, 1988; Peart, 1986). By participating in the learning process, the individual manipulates information to challenge and question new knowledge and to solve new problems (Jernstedt, 1980). For example, once the Newfoundland fishermens' attitudes were identified, their active participation in the education program about humpback whales, was vital to the program's success (Lien et al., 1985). To accept a management plan, fishermen first had to see that humpbacks were not a plentiful whale and understand why it was important for them to let a humpback go alive. As a step towards furthering this understanding, fishermen were encouraged to help field researchers count whales. Those who participated learned how to use identification keys to tell the different whale species apart and to identify individual whales. Lien et al. noted that the fishermen were surprised to find fewer humpbacks in Newfoundland waters than they thought they would. Once back from these whale counts, the fishermen became engaged in public discussions using

their findings to present concepts of whale distributions, migrations, and dependence on bait.

Tilden (cited in Hanna, 1975) wrote: "Interpretation will be meaningful if it relates what is being displayed or described to something within the personality or experience of the visitor." Teaching the fishermen about whale conservation, without addressing their needs and perspectives, could have proven to be quite a challenge for marine researchers and educators. By addressing their needs and involving them in a learning process, fishermen took a personal interest in whale identification, while information about whale biology, conservation and management proved relevant to their business (Lien, et al.).

Hands-on Manipulation and Direct Experience.

Lien (1989) noted that one of the greatest challenges facing marine-park educators is bringing the largely unseen marine environment to life for the visitor. Indeed, most of the materials and methods suggested for marine education programs were designed for use in museums and visitor centres. Thus, the practicality of using such materials in marine/park interpretation programs is somewhat questionable.

Grant (1982) suggested a variety of "technologies" adapted for marine interpretation. However, many of these technologies would be complicated to use or expensive to purchase and maintain. Denning (1991) noted a growing public interest in interactive media such as computers and videodisks which accompany museum

exhibits. As well, videos and films have been a popular educational media in museums and schools (Blud,1990; Lien and Atkinson,1988).

In contrast to formal education, where the instructional strategies frequently consist of lectures and textbooks, informal learning situations often involve direct contact or concrete experiences with objects or events (Bitgood, 1988). Research in museums suggests that exhibits which allow the handling of objects are popular among visitors (Blud, 1990; Koran, Morrison, Lahman, Koran,& Gandara, 1984). Koran et al. found significantly more visitors entered a gallery when objects could be manipulated (i.e. animal skins, shells, and fossils) than when the same gallery, with identical materials, exhibited the objects in glass cases which did not permit manipulation. In another study, visitors were observed to spend more time at interactive exhibits and prefer them to static exhibits (Fazzini, Thier & Linn, cited in Blud, 1990). In response to research findings, many museums have replaced passive displays, such as objects behind glass, with interactive exhibits (Blud, 1990). It is now widely accepted that exhibits which can be physically handled and experimented with are more effective in promoting learning than static or passive exhibits (Blud, 1990), contributing to heightened curiosity, interest, motivation, and the development of exploratory skills (Koran et al.).

Variety of Materials and Processes.

Not only has material manipulation been targeted as an effective feature of informal learning, it was reported in the 1991 British Columbia Assessment of Science that a variety of materials and

processes of investigation are vital to participant interest in and use of the materials. The development of a variety of resource materials to educate the public about killer whales at Robson Bight, was a recommendation made following an assessment of human impacts on killer whales (Johnstone Strait Killer Whale Committee, 1991). This recommendation specified that resource materials should be comprehensive to a large and varied audience, and education methods should be "flexible" and "relatively fast to implement" to be "tailored to involve the very people who interact with whales and the public at large" (Johnstone Strait Killer Whale Committee, 1991). The resource materials used in the Robson Bight Visitor Information Program have included slides, written pamphlets, photographs, a hydrophone, and tapes of killer whale vocalizations.

Personal Contact.

Several authors have emphasized the importance of personal contact when distributing the message of the park, reserve or museum (Contor, 1984; Foley & Barkley, 1981; Lien, 1988). In the words of Foley and Barkley, "the best media . . . for ensuring that the public is receiving the correct message is a trained interpreter . . . . The interpreter can react to the response of the people and check to ensure that the message has been received." Lien and Atkinson (1988) evaluated a newly opened aquarium which allowed visitors to experience the exhibits without the guidance of an interpreter. Their observations suggested that the aquarium's goal, to arouse peoples' awareness of ocean conservation, was lost in its design. This goal, which dealt with public attitudes towards the marine environment,

required "social teaching" through a live interpreter. More precisely, attitudinal goals demand a "central social figure", a person respected to express the views of the educational facility (Lien & Atkinson). Information Officers at Robson Bight have served as this "social figure" by meeting with members of the public on an individual or group basis, addressing their interests, concerns and questions about killer whales, and facilitating their understanding of peoples' role in the preservation of whales and their habitats.

Eddy (1986) suggested the "fullest approach to interpretation involves the shaping of attitudes and values that carry beyond the park experience." Although it is not an objective or desire of this thesis to *shape* the attitudes and values which the Haida Gwaii Watchmen or any other member of the public hold regarding the marine environment and marine mammals, the learning which takes place in the presence of an interpreter/educator, can and should extend beyond the interpretive experience to permeate the lives of the participants and their relationship with the marine environment. As an example, Lien et al. (1985) reported an encouraging extension of the Newfoundland Fishermen and Whale program. What came as a welcomed surprise for the educators after the conflict between whales and fishermen was no longer a crisis situation, was how several of the Newfoundland fishermen continued to send in their sightings of humpback whales. Perhaps this is what Freeman Tilden (cited in Hanna, 1975) meant when he wrote, "the chief aim of interpretation is not instruction, but provocation."

In summary then, the literature as a whole has emphasized a two-pronged approach to marine education: the need for an integrative approach bringing marine issues, of local as well as global concern, with roots in the political, spiritual, economic and technological aspects of society, into both formal and informal learning situations, and a participant centered approach sensitive to individuals' evolving views and perceptions of the marine environment. Accordingly, the prototype resource package, *Marine Mammals of Gwaii Haanas* , was developed as part of an effort to integrate marine education into the Haida Gwaii Watchmen Training Program. Given the nature of the context in which this research was carried out, the content and design of the prototype resource package has touched on cultural, political, spiritual, and economic aspects of peoples' relationship with the marine environment of Haida Gwaii. In turn, the package has combined current and historical marine related issues with cultural traditions, beliefs, values, and concerns. By far the greatest challenge and reward of my involvement with this project was engaging in the social milieu of Haida Gwaii while cultivating a relationship of mutual honesty and respect with the people with whom I spoke.

Part 3: Teaching and the Multicultural Classroom

Defining a Problem

Classroom teachers have expressed frustration and concern with what appears to be a communication problem between themselves and Native students. They have found it difficult to use their question and answer methods of assessing Native students'

understanding of a lesson because often, the students have refused to speak in class. On the other hand, the students have said that their teachers talked too much, presented information too quickly and did not leave any time for them (the students) to talk in class (Kleinfeld, 1972; Nakonechny & Anderson, 1982; Philips, 1983; Scollon & Scollon, 1981).

Interethnic communication is a concern not unique to education. Social workers, economic planners, lawyers and employers have also indicated the centrality of communication in problems of discrimination and stereotyping (Scollon & Scollon, 1981). This section of a literature review explores cultural diversity in verbal and non-verbal communication styles and its implications for educators and curriculum developers.

Teachers in Interethnic Classrooms

In a study of Cherokee classrooms, Dumont (cited in Kleinfeld, 1972) defined three classes of teachers. The first group of teachers, as defined by Dumont, were "nice" to the native students, but had given up any attempt to teach them. The second group placed a high value on learning, but had no understanding of cultural differences in their classrooms. This group described the native students as apathetic. The third group of teachers worked *within* the framework of cultural differences while teachers and students, together, created an "intercultural classroom" (Dumont). Kleinfeld proposed that the "hallmark" of these latter classrooms was verbal dialogue between the teacher and the student which was distinct from the "silent

classroom" of some formal teaching situations (Wax, Wax & Dumont, cited in Kleinfeld, 1972).

A Delicate Balance of Social Harmony and Task Achievement

Among native Athabaskan and Inuit students, "social harmony" has been identified as a value which traditionally takes precedence over task achievement. In a learning situation, then, the task is not considered separate from the relationship of the people performing it (Albert; Wax et al. cited in Kleinfeld, 1972). Kleinfeld stated that the teacher's interpersonal style may be crucial to native students' positive response to learning and an appropriate interpersonal style may be a more necessary condition for learning than for students who are used to separating the learning task from the interpersonal relationships.

From her observations and interviews with teachers and students in all-native and integrated classrooms in Alaska, Kleinfeld found that those teachers who valued their relationships with students and assumed the role of personal friend rather than "specialized professional", were able to elicit a high level of participation in the classroom. Among other things, these teachers emphasized the importance of developing relationships outside the classroom as a means of creating a bond within. Simply remembering the names of students and saying hello to them in the halls seemed to make a difference. These teachers communicated personal warmth to their students through a number of verbal and non-verbal channels such as smiling, touch and close or "personal distance" rather than "formal distance" when talking with a student.

Yet, as Kleinfeld (1972) and others have noted, a high level of personal warmth alone was not enough for "effective" teaching in the all-native or integrated classroom. Indeed, a fundamental problem teachers faced with native students was communication (Kleinfeld; Philips, 1983). Teachers said they found it difficult to assess whether the native students understood the lesson because they often refused to speak in class. As well, teachers were unsure how much they should demand of native students: whether they should adjust requirements or demand equal academic performance for all students (Kleinfeld). Kleinfeld suggested that teachers must not only share with their students a high level of personal warmth, but must demand from them a high quality of academic work within the realm of the students' capabilities. The author stressed that such "active demandingness" must only be used after a rapport was established between teacher and student. Thus, those teachers who "shed the barrier of formality", who were able to "approach [students] like people" they knew, and who appealed to interpersonal values rather than purely academic values, nurtured a supportive classroom environment where native students were motivated to participate and were unafraid to speak.

Cultural Groundings for Language

From her observations of native children of the Warm Springs Reservation in Oregon, Philips (1983) argued that pre-school native children were encultured in modes of verbal and non-verbal communication that were different from those of anglo middle-class children; and that this difference made it difficult for the native child

to comprehend verbal messages conveyed through the ways public schools organize classroom language. Philips noted in the education system a "shared developmental sequence in the preschool enculturation of children is assumed, when in fact that developmental sequence may be culturally diverse in ways as yet unacknowledged by curriculum developers." Nakonechny and Anderson (1982) called this "developmental sequence" a sociolinguistic system which the child, while learning a first language, developed by watching and interacting with parents, relatives, neighbors and friends. This sociolinguistic system involved the child in learning the values of the culture at the same time as she or he learned the grammar of the language.

> The child thus aquires a sociolinguistic system--a knowledge of how to speak appropriately with in his or her community - when to speak as well as when to stay silent; what to talk about, with whom, when, where, and in what manner.....she/he learns how to request, command, insult, tell jokes, question, show respect, indicate closure, and introduce a topic in ways appropriate within the contexts provided by the community.

This "system" becomes part of the individual's collective identity, from which she or he has been given nurturing at home and in the community. The authors described how language, and its cultural groundings, is inextricably linked to the individual's reality system and rooted in her or his sense of self worth. Thus, if the native language is questioned, whether in the classroom or other learning environments, one's self concept and culture are also put into question.

Communication Across Cultures

Scollon and Scollon (1981) recognized that differences in sociolinguistic systems emerged not only in our education system, but in our legal, employment, production and social service systems. The authors noted that these differences created problems, such as discrimination and ethnic stereotyping, when members of different ethnic groups came together to communicate. Through exploring face to face conversations between Athabaskan people and "speakers of English", the authors considered differences in communicative style in detail.[2] In reporting their observations, Scollon and Scollon strongly suggested that much of the miscommunication between members of different ethnic groups occured because of "fundamental differences in the *values* placed on communication itself," as well as "differences in *interpretation* caused by differences in the values placed on interpersonal face relations" (italics mine). In other words

> [i]t is the way ideas are put together into an argument, the way some ideas are selected out for special emphasis, or the way emotional information about ideas is presented that causes miscommunication. . . . The greatest cause of interethnic communication problems lies in the area of understanding not *what* someone says, but *why* he is saying it.

From their research, Scollon and Scollon (1981) recognized that both the "speaker of English" and the Athabascan held culturally different expectations of conversation which included different views of the purpose of talking and how this purpose should be accomplished (the structure of the discourse). To illustrate this concept, the authors related some fascinating accounts from their own

research. One reason, they noted, that the "speaker of English" engaged in conversation was to present a view of him or herself to the listener and, in turn, to have the listener present a view of him or herself. In talking then, each participant would present his or her own view of the world and, in the process of doing so, may have these views altered by the views of the other participants. Athabaskans, however, clearly held the individuality of others in very high regard and carefully guarded one's own individuality. Consequently, while the "speaker of English" viewed a conversation as an opportunity for questioning or confirming one's own view of the world, the Athabaskan considered it a potential threat to one's individuality because of the possibility of negotiating one's point of view. Therefore, Athabaskans avoided participating in conversations, especially upon first meeting a person, except when the point of view of all participants was well known. Thus, with these cultural values placed on communication, Scollon and Scollon noted that the "speaker of English" often left the conversation feeling that the Athabaskan was reserved while the Athabaskan felt that the "speaker of English" talked too much. The authors summarized their findings by stating that these conversations resulted in each group ethnically stereotyping the other and, because further encounters tended to replicate themselves, these stereotypic attitudes became more deeply entrenched in later interactions (Scollon and Scollon).

Implications for Teachers and Curriculum Developers

With understandings reached through ethnographic research of intercultural communication, as well as direct experience with other

cultures both inside and outside the classroom, curriculum developers and teachers may establish a foundation for designing and implementing programs which consider language, cultural values and communication styles, while concurrently evaluating those frameworks of communication presently in use. In a guide compiled for teachers of Native students at the secondary level, Nakonechny and Anderson (1982) described one such foundation. First, the authors discussed possible barriers to the active participation of native students in classroom discussion. An example they used was classroom talk. The authors noted the standard form of teacher-student talk was the initiation-response-evaluation chain which began with the teacher asking a question, followed by the student's response. They found that native students confronted by this kind of classroom talk could fail to comply with its unspoken rules, either because the students did not know what was expected of them or they felt awkward using a form of expression to which they were not accustomed. In other words, for native students, the classroom talk could be sociolinguistically inappropriate. The authors have provided the following concrete examples of what they called sociolinguistic mismatches:

1. The native student, not to mention the majority of adolescents, did not like to be singled out to talk in front of the whole class

2. Many native students complained that their teachers talked too much.

3. Teachers did not allow for reaction and pause times. For example, when a native student wanted to respond to a question

asked in class, the pace of the classroom question-and-answer volley was too rapid.

4. The teacher was in complete control of the topic which inhibited the students' motivation to actively participate in classroom discussion.

From their experiences working with native and non-native peoples in a range of learning environments, Nakonechny and Anderson (1982) proposed the following strategies for circumventing communication mismatches in the integrated secondary classroom using "teacher-centered" and "student-centered" talk.

Teacher-Centered Talk.

1. Teacher Directions The authors emphasized the importance of stating instructions clearly using straight-forward language. Diagrams are suggested as useful tools for providing further clarity of instructions

2. Lecture and Discussion While lecture and discussion form the basic instructional approach in the secondary classroom, Nakonechny and Anderson (1982) emphasized that teachers of integrated classrooms must consider the needs of all of the students. In the authors' view

> [t]hose of us who are relatively well-read have internalized organizational structures of thought that have evolved through traditions of European literacy. . . . Native students who do not use this European organizational scheme may make contributions that don't seem to 'fit' the teacher's line of thought. These students' contributions need to be taken seriously if their attempts to integrate the teacher's knowledge with their personal experience is to be successful. Unless their

attempts are encouraged they will not participate in group discussion.

3. Informal Tone Native students appreciate moments of "spontaneous warmth - interest in their after school life, a touch of humor. . . a pat on the shoulder."

4. Classroom Pacing Teachers often fill up pauses between questions and answers with "filler-talk". All students, native students in particular, would benefit from a relaxed classroom pace which allowed time for reflection.

5. Grouping Working in small groups is a powerful strategy for circumventing communication mismatches. Native students generally feel more comfortable expressing themselves among a few of their peers rather than in a presentation to the whole class. Small group discussions structured around well-defined tasks, would provide an informal and less pressured context for students to share their knowledge and brainstorm new ideas with one another.

6. Teacher's Role Teachers should spend time with each group to monitor progress and provide additional information or questions when necessary. By "actively listening" to the students' talk, teachers would develop a better understanding of the students' knowledge and skills and ways to support each student in extending his or her own understandings.

7. Peer Instruction Often students find its easier to explain things to one another than to a teacher. Teachers could choose to instruct the whole class in a skill or concept, then allow the students to work in groups and help each other work through the learning task.

Student Centered Talk.

1. Exploratory Talk Barns (cited in Nakonechny and Anderson, 1982) used this term when describing student problem solving in small groups. He described this talk as comprised of hesitations, false starts and interruptions. Barns viewed Exploratory Talk as the natural vehicle for thinking out loud and coming to an understanding of a problem.

2. Brainstorming Nakonechny and Anderson (1982) noted that this strategy was a creative way to build an "information pool" around a particular topic or issue. The authors likened brainstorming to a "verbal jam session" where everyones' knowledge and opinions are taken into account. In their view, this particular strategy would get the more verbally introverted students to join in. The authors concluded that the key to a brainstorming session involved writing down all of the students' contributions on the chalkboard without any evaluation attached.

Beliefs, Cultural Values and Science Teaching

While Nakonechny and Anderson (1982) stipulated that language and discourse styles had to be accepted in a learning situation for further development of communication strategies, Snively (1991) described how accepting native students' beliefs and values during instruction was vital to the students' assimilation of certain "scientific" concepts. Snively conducted a study among 6th grade native and non-native students in a small coastal community in British Columbia which looked at students' beliefs and orientations with regard to the seashore. One student, with a spiritual orientation

towards the sea, believed in supernatural animals that gave people advice. The Thunderbird was this student's family crest which meant that, after death, his relatives transformed into killer whales or the Thunderbird. The values and beliefs which this particular student held regarding the sea and animals contrasted those frequently presented in classroom curricula. Thus, instruction could have been a barrier to this student's learning . However, with the student's preferred orientation accepted in classroom curricula, instruction actually facilitated learning, while meeting the student's needs and promoting feelings of self-worth (Snively).

Snively (1991) recommended that classroom curricula and instruction support students in identifying their preferred orientations and values among their peers; provide students with opportunities to articulate their own orientations and defend their ideas in small group situations; and encourage students to reinterpret new information in the context of their preferred orientations.

As teachers, curriculum planners and facilitators, Snively concluded that we can further a learning environment supportive of a variety of orientations by finding out what is going on in the native communities, seeking help from native teachers and the community where possible, and integrating concrete and real life situations into the curricula. Therefore, the author recommends that we not overlook the history of personal experience and knowledge which native and non-native peoples bring to the classroom or learning situation as sources of insight when choosing topics for inquiry more relevant to the context of the individual.

Native Oral Tradition

Several authors stressed that oral traditions must be respected as a central component of communicative style among indigenous cultures (Scollon & Scollon, 1981; Snively, 1991). Snively encouraged teachers and students to consider how traditional beliefs and values could be correlated with western scientific thought. What might be learned by doing so? Snively noted that native oral tradition, together with western scientific thought, can "provide a broader perspective on the natural environment than can either by itself. As well, by exploring oral traditions, education programs in informal and formal settings could open up to a range of perspectives and viewpoints about a phenomenon in a way which, not one, but many perspectives were considered and respected.

> As science educators we must not forget that our overall task is not simply to present science concepts-- as if this were a detached task--but to present an authentic view of science, and to set science education in a social and cultural context (Snively, 1991).

In summary, authors and researchers of interethnic communication in the classroom and in society have emphasized the value inherent in communicating between cultures which will only be realized when one is willing to recognize and accept cultural differences in discourse systems used and perspectives held. Therefore, a "solution" to cross-cultural miscommunication generally agreed upon in the literature, was not to eliminate these differences, but to cultivate a deep and genuine respect for individual and ethnic communicative styles.

Part 4: Marine Mammals of Haida Gwaii

A large body of the literature pertaining to marine mammals living along the British Columbia coast and in the waters surrounding Haida Gwaii comes from census data, whaling catch records, biological research, and individual sightings. This section of the Literature Review has been included to provide the reader with a general overview of the marine mammals of Haida Gwaii, from the frequently seen to the rarely sighted. As well, this section was included to give the reader a sense of the sheer expanse of resource possibilities from which the *Marine Mammals of Gwaii Haanas* prototype resource package has emerged.

The harbour seal is a common marine mammal throughout British Columbia coastal waters. In South Moresby small groups of harbour seals typically rest on the intertidal shores of islets or float in the thick canopy of the kelp forests which provide a relatively calm place for a seal in the often inclement North Pacific Ocean. The kelp supports a diversity of coastal water fishes, including sculpins, flatfishes, rockfishes, greenlings, smelts and perches which form part of the varied diet of the harbour seal (Olesiuk & Bigg,1988). As well, octopus and squid are frequently eaten (Fisher; Spalding cited in Searing, 1987). At certain times of the year, spawning salmon from certain rivers and estuaries also constitute an important part of the harbour seal diet (Olesiuk & Bigg).

As with the harbour seal, Steller sea lions are year round residents of the South Moresby area. Aerial censuses conducted during the breeding season indicate that the population in British Columbia

consists of about 7,000 animals (Olesiuk & Bigg, 1988) of which approximately 20% are found in or near the proposed South Moresby National Marine Park Reserve (S.M.N.P.R.). (Searing, 1987). During June and July, the majority of Steller sea lions gather on rookeries to bear their young and to breed. There is one rookery within the proposed S.M.N.P.R. located at Cape St. James off the southern tip of Moresby Island. This string of islands, called the Kerouard group, is the largest Steller sea lion rookery in British Columbia. In the last census, taken in 1982, 1130 sea lions including 432 pups were counted on the Kerouard Island rookery (Bigg in Olesiuk & Bigg 1988). In addition to a breeding colony, several winter and year-round haulout sites occur in the South Moresby area. Steller sea lions disperse to these sites outside of the breeding season (Olesiuk & Bigg)

California sea lions have been seen in small numbers at Cape St. James (Bigg cited in Searing, 1987). However, Olesiuk and Bigg (1988) noted only adult and subadult males ventured north from the pupping and breeding rookeries in California and Mexico during the winter months and tended not to travel further north than central Vancouver Island.

On route to and from their breeding and pupping grounds on the Pribilof Islands in the Bering Sea, northern fur seals pass through British Columbia waters and coastal marine waters of northern Hecate Strait in the late spring and again in the early winter. The seals are described as opportunistic feeders seeking out local concentrations of food. Thus, where the seals aggregate during their migrations along the coast can change each year depending on the availability of prey

species. When moving through British Columbia waters, fur seals feed largely on Pacific herring and hake (Bigg, 1990).

Several sightings of the northern elephant seal have been made in the South Moresby area although little is documented on the use of the area by this seal (Olesiuk & Bigg, 1988). Adults are rarely seen hauled out in British Columbia., but are instead found resting vertically in the water, their long, pendulous snouts and large heads extending above the water surface, vaguely resembling floating logs (Olesiuk & Bigg).

Little is known about the distribution and abundance of whales, dolphins and porpoises inhabiting the South Moresby area. Until very recently, few studies of cetaceans have been conducted in South Moresby, thus little documented information is available. In a report prepared for the Canadian Parks Service, Nichol and Heise (1992) described the historical and present day occurrence of whale species hunted commercially in the Queen Charlotte Archipelago using whaling catch records from the area and recent sighting reports collected by researchers at the Vancouver Aquarium, weather-observers at the Cape St. James Lightstation and interested members of the public. These recent sighting reports indicate that gray whales have been one of the more commonly sighted species along the eastern shores of Graham and Moresby Islands as well as in Skidegate Inlet in the spring. Humpback whales, usually milling around in waters nearshore and at the entrance to harbours and inlets, were also frequently sighted by boaters. The smaller minke whales have been spotted inshore, although the solitary habits and long dives of these whales have made observations difficult. Only occasionally

have reports of other large whales, such as the blue and fin whales, been made in the area. Dall porpoise and harbour porpoise have frequently been spotted close to shore, but also inhabit the open waters. Dall porpoise are characterized by the spray of water or "rooster tail" left behind the swimming animals, while the more methodical swimming harbour porpoise can usually be identified by their distinctive triangular shaped fins. Pacific white-sided dolphins are offshore inhabitants of the islands. Travelling in large groups of maybe 100 or more, these dolphins are one of the most acrobatic cetaceans that one might spot from a boat or a plane.

The presence of killer whales among the Island Archipelago can be traced back through Haida oral history to a time when these whales were believed to inhabit underwater villages of the Ocean People and were revered as the most powerful of all supernatural beings by Haida people. Today killer whales are an integral part of Haida oral history, are represented by carved figures on house poles, hold a place of honour on blankets and ceremonial dress, and are still considered to be an animal of great power and cultural significance.

Field research of killer whales is relatively new in the Island Archipelago. For the field researcher, there is a great deal to learn about the natural and cultural history of killer whales of Haida Gwaii. Research inquiries into the number of killer whales present in the area, their distribution, the size of their family groups, and their feeding behaviour continue to tantalize those dedicated to understanding the whales complex social system. Field surveys conducted by researchers in 1990 and 1992, revealed sightings of killer whales in all coastal areas of Haida Gwaii. During these surveys,

researchers identified 46 transient killer whales, most which were previously known from other areas of British Columbia and Alaska, as well as a new community of "offshore-type killer whales" (Ford, Ellis & Nichol, 1992) not previously identified. These whales resemble the resident killer whales which live off Vancouver Island and the British Columbia coastline, but appear to live in large pods and have different vocalizations from the known residents (Ford, Ellis & Nichol).

The killer whale has become a focal marine mammal of the *Marine Mammals of Gwaii Haanas* prototype package for the place of prominence this particular whale species holds in Haida oral tradition, including past and present day art forms, in research of marine mammals and marine habitats, and in my own background experience and personal interests in marine research and public education. It is not surprising, therefore, that the format proposed for the resource package strongly reflects these three areas of interest.

Trends in Marine Mammal Management, Research and Education in British Columbia

During the first half of this century, seal and sea lion populations were greatly reduced with massive kills for predator control and commercial harvesting. Harbour seals were heavily hunted along the British Columbia coast, with a bounty offered between 1913 and 1964 by the Department of Fisheries and Oceans for each seal killed. This cull reduced populations to about half the historic levels (Olesiuk & Bigg, 1988). Large numbers of Steller sea lions were killed in the South Moresby area during a 20 year period from 1947 to 1966 (Bigg

1985). These management practices satisfied the fishermen whose primary concern was the animals' impact on commercially important fish stocks, such as salmon. Both seals and sea lions had a reputation for interfering with fishing gear and snatching fish from nets or line.

With seal and sea lion populations greatly reduced as a direct result of the bounties and commercial kills, culling was brought to a halt in the late 1960's. For the past two decades, seals and sea lions have received some protection under amendments made to the Fisheries Act.

The management of marine mammal populations in British Columbia, including seals and sea lions, is no less important an issue today than it was 60 years ago. However, balancing management policies with the diverse interests of the various parties involved has perhaps become more of a challenge recently than in the past. Perhaps it is for this reason that a major trend in the management policies concerning marine mammals in British Columbia has involved moving away from population control using culling programs towards the collection of biological information.

Research of marine mammals in Canadian waters focuses on the distribution, abundance and diet of species, where the current documented information is sparse at best. Researchers have indicated that without such information, collected over many consecutive seasons, little can be determined with regard to the present state of marine mammal populations in Canadian waters or the degree to which animals and humans might impact upon one another. In the case of the seal/fisherman conflict described above, research has provided all interested parties with information

concerning the actual impact seals are having on important fish stocks and fishing gear.

With an evolving public interest in the marine environment and a greater public involvement in issues of marine preservation, there exists today strong public support for protecting and preserving marine areas and wildlife. Also, with greater recognition of indigenous cultures, indigenous peoples all across Canada are calling for preservation of their traditional hunting and fishing grounds and, as well, the right to manage these areas. Not only is the proposal for a National Park and National Marine Park Reserve in the South Moresby area an important step towards preserving wilderness areas in Canada, it has resulted in groups of people working cooperatively to influence management practices and to create opportunities for public education on Gwaii Haanas. Indeed, the development of educational resource packages is a step towards furthering public understanding of marine mammals and marine habitats through the linkage of biological research, local marine issues, cultural values and beliefs, and personal experience.

Part 5: Adopting a Research Approach

The question of which approach one chooses to take to research is one which may not present itself explicitly, but is no less there implicitly, requiring thoughtful consideration. Authors have noted that a variety of approaches to research in education exist in the literature and what has been called "qualitative research" means something different to different people (Jacob, 1988). Consequently, these approaches have alternatively been called qualitative,

ethnographic, participant observational, case study, symbolic interactionism, phenomenological, and constructivist, to name just a few (Erickson, 1986; Jacob, 1988; van Manen, 1989). To deal with this variety, Erickson has chosen to lump all of the approaches together, referring to them as a "family" of approaches. On the other hand, Jacob has argued that much confusion surrounding the nature of qualitative research results from discussing it as if it were *one approach*. This confusion, according to Jacob, could be clarified "by recognizing that qualitative research comes in many different varieties" or "research traditions".

My interest in this discussion of approaches to research in education is best expressed in the form of several questions: Why is one approach or tradition of qualitative research chosen over another? Should one and only one approach be followed or can we, as researchers in education, select and utilize features from a wide range of approaches? What might such an "approach" look like?

In the opening chapter to his book, Researching the Lived Experience, van Manen (1990) addressed the first of these questions, stating, "Why then should one adopt one research approach over another?" A research method or approach to human science research, van Manen noted, is "only a way of investigating certain kinds of questions." The questions which one formulates are in turn influenced by the methods or approach to research with which one identifies. Van Manen defined this relationship between question and method as a "dialectic" which involved each of the elements in a process of continual change influenced by the other and by the environment in which the dialectic took place. To the question, 'Why

adopt one approach over another?', van Manen pointed out that the choice should reflect and indeed harmonize with the "deep interest" of the educator or researcher.

Deliberation As Inquiry

Using a naturalistic model of curriculum development, Walker (1971) identified the interchange between one's "deep interest" and the approach one adopted to curriculum development as deliberation. Deliberation, Walker explained, is a process by which the curriculum developer makes a series of design decisions based on his or her beliefs and values about what exists and what is possible in education as well as other information gathered during research. This system of beliefs and values, which comprise the curriculum's platform, serves to "guide the curriculum developer in determining what he should do to realize his vision."

A schematic diagram of the main components of Walker's model is found in Figure 2. In this model, the "platform", which is the system of beliefs and values the curriculum developer brings to his or her task, forms the base on which further work rests. Platform principles along with the research data are the raw materials used in deliberation. It is upon these components which, in Walker's view, the curriculum design ultimately depends.

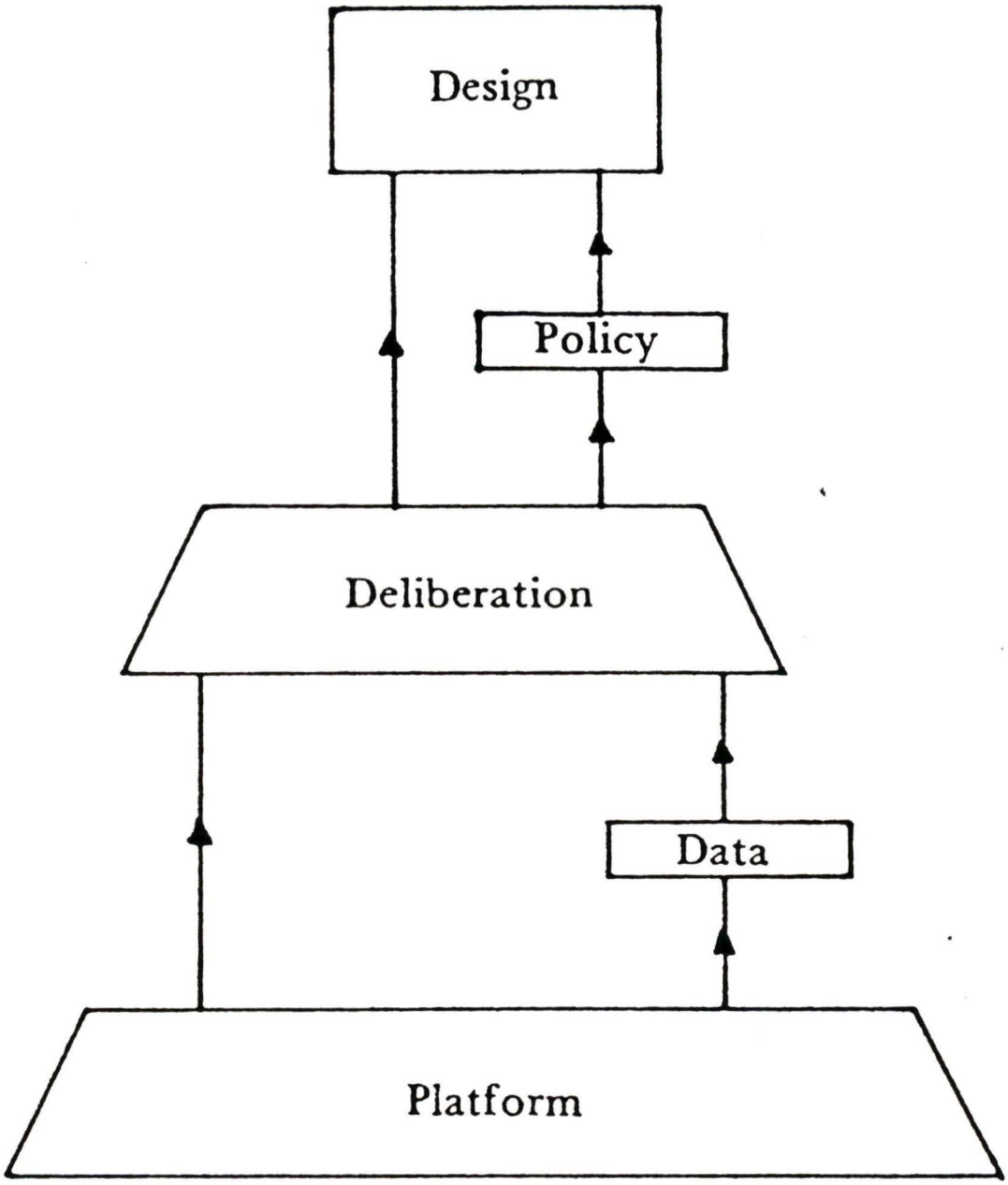

Figure 2. A Schematic Diagram of the Main Components of the Naturalistic Model proposed by Walker.
From A Naturalistic Model for Curriculum Development by Decker F. Walker, 1971, School Review 80.

Erickson (1986) has fine tuned the concept of curriculum platform and deliberation by contrasting it with a purely intuitive approach to inquiry. Fieldwork in the human sciences, Erickson noted, is frequently conceived of as an almost "mystical process" in which the researcher engages, free of preconceptions, "with an intuitive sense of relevant research questions and of conclusions regarding pattern." However, as the author pointed out, there is no warrant for the conception that the researcher arrives in a particular setting with a "*tabula rasa* mind, carrying only a toothbrush and hunting knife." Rather, he or she brings to that setting his or her own "frames of interpretation" or "schemata" with the task of becoming more aware of the views and perspectives of others while developing a deeper awareness of his or her own culturally learned frames of interpretation. Erickson noted:

> When we consider fieldwork as a process of deliberate inquiry in a setting we can see the participant observer's conduct of data collection as progressive problem solving, in which issues of sampling, hypothesis generation and hypothesis testing go hand in hand. Fieldworkers' daily presence in the setting is guided by deliberate decisions about sampling and by intuitive reactions as well. When and where these observers go, whom they talk to and watch, with whom they participate in daily activities more actively and with whom they participate with a more distanced observational stance--all these involve strategic decisions about the nature of the key research questions and working hypotheses of the study.

Using a deliberative approach to fieldwork then, the researcher evolves a relationship between the research questions and data collection while paying attention to the details of their experiences and the experiences of those around them. Van Manen (1990) wrote,

"From a phenomenological point of view, to do research is always to question the way we experience the world in which we live as human beings . . . . To know the world is profoundly to be in the world in a certain way, the act of researching--questioning--theorizing is the intentional act of attaching ourselves to the world, to become more fully part of it." Thus, there is a feature of intentionality in educational research where, by stating research questions explicitly and seeking data deliberately, the researcher finds himself or herself engaged in a dynamic process in which questions and methods are explored through lived experience. Such intentionality of research, Erickson (1986) explained, need not place shackles on intuition or inquiry, but has the potential to liberate the curriculum developer in evolving his or her unique approach to a research question.

A Naturalistic Model for Curriculum Design

The above discussion of "approach" to educational research as a constantly evolving relationship between the curriculum's platform, the question or questions which the curriculum developer asks, and the nature of that which is the focus of the research has resonated with my own experiences while engaged in the process of curriculum development on Haida Gwaii. For me, Walker's naturalistic model loosened the restraints and extended the boundaries which a classical approach to educational research can impose, and allowed me to explore a relationship between my own views and beliefs about education and curriculum design and the choices I made. Perhaps most importantly, the model enabled me to document the "dialectic" between the questions I asked and the method or approach I forged

to curriculum design which has formed the backbone of this writing. Several key features of Walker's model allowed such an exploration. Firstly, the model takes into account the body of understandings, beliefs and values, what Walker called the curriculum's platform, which the researcher brings to the research setting . Taking this "history" into account became an important feature of my research as I began to realize how the process of curriculum research and design was influenced by my own interests and values concerning education. Indeed, by being open and expressive about my personal history in education and with people, I was able to be involved in the lives of the Haida and non-Haida people in a way which was less contrived or premeditated, and more fully present in the moment.

Secondly, the position of the platform in this model became as important to me as its inclusion. As noted earlier in this writing, Walker recognized that the platform was not isolated from the other two components of the curriculum design process, but that the system of beliefs and values which comprised the platform were used, along with the information encountered in the research, to make decisions about the curriculum's design. Thus, the design ultimately depended on the curriculum's platform and the "new" information which the designer discovered. This relationship between the three components of the curriculum process, as defined by Walker, offers a number of alternatives to the researcher. In one sense, the model provides the researcher with a means of specifying, in explicit and precise terms, the curriculum's design. Thus, in contrast to a purely prescriptive approach to curriculum design where learning experiences are devised to meet the desired learning outcomes or objectives (as is the

way with classical forms of curriculum development), Walker's naturalistic model represents a descriptive process in which the researcher can specify the curriculum design by the decisions that went into producing it. These decisions, then, offer the researcher more than a design blueprint; they serve to identify potentially effective features of the curriculum, and to justify these features based on design decisions. Thus, the naturalistic model supports a feature of qualitative research which involves keeping detailed records of the phenomenon of research, including the insights and understandings gained by the researcher during this process of documentation.

Another important feature of the naturalistic model and the relationship it proposes between curriculum design, platform and deliberation, is the grounding of the curriculum design in educational practice. One of the main criticisms of the classical approach to curriculum design has been the lack of connection between curriculum research and the actual phenomenon of practice, what Carson(1986) has referred to as the "conversational relation" of doing research. To illustrate this gap as it exists in research of classroom teaching, Carson chose the traditional data gathering technique of interviewing in which questions are chosen to elicit information from the informant concerning a specific topic. While this information, Carson noted, might have great relevance for those with a specific use for it (i.e. interviewers, educational theorists, and administrators), its abstracted and fragmented form has often been of little use to the practitioner whose interests and concerns lie in the unique context in which he or she teaches. I decided very early on in my own research

that the *Marine Mammals of Haida Gwaii* resource package would have to be meaningful to the Haida Gwaii Watchmen in order for the Watchmen to use the resource materials. Thus, while conducting the research for this thesis, I had to remain sensitive to the particular cultural, political, and ecological contexts of Haida Gwaii, and the materials and objects that went into an educational package had to reflect the personal contexts of those individuals with whom I spoke. In other words, it was an intent of this research to move away from formulating broad generalizations concerning the development of curriculum for public education programs and, instead, to pay attention to the particular human experience of which I was a participant, and to explicate my understandings about these experiences and what they meant to the design of a curriculum package for Haida Gwaii.

Finally, the naturalistic model provides a refreshing view of that 'final draft' or 'product' of the curriculum development process, which, for this thesis, is a curriculum prototype. As Walker pointed out, educators and researchers alike are accustomed to perceiving curricula as "objects produced by curriculum projects." Thus, there is a tendency for grant agencies, government agencies and educational institutions to devise standards for the curriculum development process which value the final "product" rather than the process, and for curriculum designers to focus every resource, including every ounce of their energy, into developing these physical materials. From a phenomenological perspective, the linkage between the "means" of doing research and the "results" cannot be broken without a "loss of all reality to the results" (Marcel cited in van Manen, 1990). Walker

(1971) likened the curriculum's design to an automobile's design in that both involved "a set of abstract relationships embodied in the designed object." Considering the naturalistic model, then, in light of this product-based view of curricula, "the theoretically interesting output of the curriculum development process is not a collection of objects, not a list of objectives, not a set of learning experiences, but a set of design decisions" which were made in a dynamic process of deliberation (Walker) (for a schematic diagram of the dynamic process involved in researching and designing the *Marine Mammals of Gwaii Haanas* prototype package, see Appendix B).

Initially, the framework for the development of a resource package for the Haida Gwaii Watchmen training program prescribed by Parks Canada followed a means/end scheme. However, by paying close attention to the details of each conversation or event in which I was engaged, while avoiding the temptation to draw conclusions or form opinions, I found I could press on to deeper insights into the individuals perceptions, values, and concerns, as well as his or her needs and desires in relation to the resource package. At the same time, I was able to develop a better understanding of my own needs and perspectives with respect to designing a resource package for the Haida Gwaii training program.

Participant Observational or Interpretive Research

Participant observational research or interpretive research were terms readily used in the literature to refer to an "approach" which was primarily qualitative. Carson (1986) distinguished the

interpretive branch of qualitative research from a classical or quantitative approach on the basis of validity:

> Quantitative method rests its justification on objectivist grounds independent of the meaning given to it by the participants. Qualitative methods find no such externally available certainty of explanation, but continue to press for better interpretations of meaning (Carson, 1986).

Erickson (1986) used the term "interpretive" to refer to the "whole family" of approaches to participant observational research, including ethnographic, participant observational, qualitative, case study, phenomenological, and constructivist, with the view that, while each of these approaches could be considered independently from the others, each bears a key "family" resemblance in elucidating "the meaning people create in life." Erickson noted that the central aim of interpretive research is to explore "*immediate and local meanings of actions* " as defined by the people involved in them, and the relationship that exists between these local meanings and the ecological circumstances of actions. Additional features of participant observational (or interpretive research) and phenomenology, and their application in this thesis, are discussed in the following points:

1. Participant observational research enables the researcher to consider the "commonplace" as problematic, to "*make the familiar strange* and interesting again through systematically documenting what is happening and reflecting on these events" (Erickson cited in Erickson, 1986). Van Manen identified a similar idea of phenomenological research as "establishing a renewed contact with original experience." "Turning to the phenomena of lived experience," Merleau-Ponty noted, "means relearning to look at the world by re-

awakening the basic experience of the world" (cited in van Manen, 1989). In a sense, experiencing Haida Gwaii "as if for the first time" was not difficult for me as I was immersed in a geographical and a cultural setting which were very new to me, and I was introduced to individuals whose culture I had never personally experienced. Yet, in another sense, I made a conscious attempt during the course of the research, to be aware of the understandings, viewpoints, and assumptions I carried with me to Haida Gwaii, which could cause me to interpret a conversation or other phenomenon without fully experiencing it. By learning to look at the world as if for the first time, "we" (researchers, curriculum designers, teachers, etc.) open ourselves up to seeing that which appeared, upon first glance, to be hidden, to, as Heidegger described, "follow certain paths 'woodpaths', towards a 'clearing' where something could be shown, revealed, or clarified in its essential nature" (cited in van Manen, 1989).

2. Participant observational research allows the researcher to develop specific understandings of an event or human experience through documenting "*concrete details of practice*" (Erickson, 1986). Walker argued that the classical approach to educational research was not an adequate representation of the practice of teaching or curriculum development, but that it distorted important aspects of these practices by focusing on teaching and learning objectives. "In most cases," Walker noted, "when teachers or subject matter specialists work at curriculum development, the objectives they formulate are either a diversion from their work or an appendix to it, not an integral part of it." A major concern of participant observational research, Erickson noted, is "particularizability rather

than generalizablitiy," attention to the world of lived experience, the life-world or Lebenswelt where individuals are living in the midst of the current moment, reacting to the moment which has just past with an expectation of the next moment to come. Thus, from the participant observational approach, "the search is not for abstract universals arrived at by statistical generalization from a sample to a population, but for concrete universals, arrived at by studying a specific case in great detail . . . ." A research approach which focuses on details of practice provides the teacher or researcher with more insight into the question 'What is happening in this particular situation?' and is important if he or she is trying to understand the viewpoints of the people involved or trying to implement change.

3. Participant observational research enables the researcher to consider "*local meanings*" of events by listening to individuals experiences and viewpoints (Erickson, 1986). To illustrate this feature, Erickson used an example where direct questioning as a method of data collection was appropriate in one setting, yet considered rude and offensive in another. In my fieldwork experience on Haida Gwaii, paying attention to local meanings was instrumental in allowing me to develop relationships with Haida Watchmen, Canadian Parks personnel and other residents of the Islands. As well, by attending to individual local meanings, I developed a great deal of insight into individual "meaning perspectives" (Erickson, 1986) such as the meaning the research project *Marine Mammals of Haida Gwaii* held for certain individuals in the Canadian Parks Office in Queen Charlotte City and for certain

Haida Gwaii Watchmen, and how those "meaning-perspectives" changed over time (if at all).

4. Participant observational research allows for the cooperative input of all interested individuals in the research process. In Carson's (1986) view, qualitative research can change the relationship between those persons who carry out the role of the "researcher" and those in the role of the "practitioner", allowing all participants an opportunity to engage in a "cooperative investigation into significant educational questions" and to collect data jointly (Erickson, 1986). For the participants, then, such a collaborative research effort could serve to disassemble the traditional mindset that reinforces the "researcher"/"practitioner" dichotomy and separates the act of teaching from that of research (Carson).

Erickson pointed out that involving informants directly in the research process is one way of establishing and building trust and rapport among all participants. A mutually rewarding relationship between researcher and participant is essential, Erickson said, if the researcher is to develop insights into the participants point-of-view. This topic of collaborative research is one which I will discuss in more detail in the concluding remarks of this thesis paper.

This final section of a review of the literature describes how, in choosing one model over another or one approach over another, we as researchers, program planners, interpreters and teachers, make choices based on our views and values regarding education, our field experiences, and the nature of that which is researched. In short, I found that while one model, Walker's, predominated in this research,

aspects of others, such as participant observational and phenomenology, supported a more comprehensive approach, encouraging a wider receptivity and sensitivity on my part. A naturalistic model and a participant observational or interpretive approach to research were chosen for this discussion as the means of describing in theory what I experienced in practice. Indeed, a very important discovery of this literature review process was how these "approaches", as well as others, enabled me to link theory and practice. For example, both the literature and my experiences on Haida Gwaii challenged me to enter into a process of deliberation as a means of investigating the questions I asked. The literature also affirmed what I have learned from my own experience: that the nature of the deliberative process is not one which takes a means/end approach to solve a particular "problem" or produces a final "product". Rather, when approaching educational research as a process of deliberative inquiry, the researcher is faced with opportunities to more fully understand what it means to ask her or his research question(s) within the context of a research project, and to consider this meaning in the larger context which comprises one's lived experience.

CHAPTER 3:

Evolution of an Approach to Data Collection

Overview

This chapter is divided into five sections. The first takes a close look at an approach to data collection which evolved with my experiences on Haida Gwaii. The second details conversations with individuals regarding the content, design and development of *Marine Mammals of Gwaii Haanas* . The third explores my encounters with killer whale researchers in the Gwaii Haanas area and the implications which local whale research holds for education/resource materials. The fourth is an overview of how the field research component of this project influenced the development of a theoretical framework and the design of the prototype package. Finally, the fifth section presents findings from a preliminary evaluation of several sample lesson plans contained in the prototype package.

Defining the Research Process

> Let us note that "methodological" and "logical" are not synonyms. Good methodological practice is not always a logical matter. It is, in truth, usually an empirical matter. Effective methodology is largely determined by what works. (Spiker, 1966)

In his paper, Spiker describes research methods and techniques as the tools or the means of the research whose *appropriateness* and *meaning* are determined at least to some extent by the questions, purposes, and problems which guide the research. In other words,

there is a process that characterizes each research effort, one which can provide unique and concrete insights into the method of research used, the problems faced, the choices made by research participants, the "purpose" which both evolves with and guides the research process, and, finally, the "results" or outcomes of the research (Willems, 1969).

The following discusses deeper insights into the various "tools" and "means" used in the research component of this project, as well as their "appropriateness and meaning" for *Marine Mammals of Gwaii Haanas*.

A Research Context

Most of the data for this research, from a total of four months spent on Haida Gwaii, was gathered during a three-week period while visiting four of the five Haida Gwaii Watchmen basecamps on Gwaii Haanas, and during several visits to the village of Masset on Graham Island. During that time, I met and spoke with many individuals residing in Queen Charlotte City, Skidegate, and Masset, who provided me with guidance during my introduction to the Haida culture, both past and present day, and supported the purpose of my field work. Several of these individuals were Haida elders, some of whom were, and are, Haida Gwaii Watchmen. It was the elders with whom I spent the majority of my field time, initially because they were considered the primary resource people for information about Haida cultural history. However, the time I spent with the elders and the relationships that developed deepened my understanding of the "tools" and the "means" which were appropriate for my particular research endeavor. Therefore, the following discussion focuses on some of these relationships in an effort

to clarify how they influenced my approach to data collection and to a theoretical framework design.

Starting Out

This research project was recognized by the Canadian Parks Service, the University of Victoria and myself as a unique opportunity to learn about Haida culture first-hand from the elders, the last living source of information about Haida cultural history. Initially, interviews were held with the elders as the means of meeting the Canadian Parks Service objectives to gather first-hand knowledge of traditional uses of marine mammals of Gwaii Haanas. However, appropriate ways of gathering this information proved to be more problematic than I had anticipated.

It was not long after I began speaking with the elders that I became frustrated with the question/answer approach of the interview as a method of data collection. Although in western cultures the interview is considered an appropriate and often expected means of data collection, it frequently proved to be an inappropriate approach with the Haida people. Explaining why this was has not been a simple task. Over the past year, I have spent countless hours reviewing tape recordings and written notes of my 'interviews' with elders and/or Haida Gwaii Watchmen. However these documents represent a mere fraction of the actual time spent in conversation with elders. In the same way, I have reread field entries made very soon after each of my encounters in which I described my perception of the encounter and how I felt about it. It was difficult, if not impossible, to recover from these two sources what I thought and felt when an elder could not answer a question or

completely declined from the conversation in which we were engaged. Neither was it my objective to try to recreate those lived experiences here. Instead, I have chosen to describe those experiences that define the source of my misgivings with a data collection method and which have, in turn, furthered my understanding of the method which evolved. I conduct a review here in order to provide the reader with a sense of *my* need for change in an approach to data collection (one not fully recognized at the time), the decisions I made while engaged in a process of change, and the kinds of understandings I came to then, which are unfolding still, with this writing.

I should note that my recognition of the data collection process was often not in sequence with my experiences. That is, it was only later, upon further reflection and revisiting certain people, that I became aware of changes in my method and how experience had influenced my decisions and the approach I took. For the sake of the reader, as well as my own understanding of my question, I have chosen to document the evolution of data collection as I have come to understand it.

First Encounters

A typical first encounter at a Watchmen basecamp involved meeting the Watchmen and introducing myself and the project. In a situation where the Watchmen had not been told about myself or my project prior to my arrival, as was the case at three of the four basecamps I visited, I took care to identify myself, explain the purpose of my research and the need for an education/resource training package. During these introductions the Watchmen often asked me questions concerning my mode of travel, the length of my visit, and my

association with the Canadian Parks Service. Initially, I was concerned with the possible implications these explanations had for my field research, such as the time they took away from data collection. As well, although I could barely comprehend it at the time, I was concerned with how the lack of any prior notice of my arrival or my project affected my relationship with the Watchmen. It was clear to me that my unexpected arrival at the basecamps, together with my association with the Parks Service, confirmed certain suspicions the Watchmen had regarding the Canadian Parks Service involvement in Gwaii Haanas. Indeed, it is possible that any or all of these factors had profound implications for the research process. These implications will be discussed in Chapter 5.

In most cases introductions led to further discussion and, finally, an interview. Interviews took a variety of forms and were influenced by a number of factors.[3] At the time I perceived these factors as impediments to the interview process; however, for the Haida Gwaii Watchmen, they were part of a daily routine at the basecamps. They included constant interruptions: frequent visits by tourists and local people, unscheduled tours of the old village sites, radio telephone calls throughout the day and into the evening, meals to be prepared, and chores to be done. Rarely was there ever enough time to ask a series of questions, but more often individual questions were asked throughout the day and became part of informal discussions. Similarly, my conversations with visitors to the basecamps were precluded or shortened by unpredictable weather and timelines. Often, my questions and the ensuing responses were left 'hanging' and I found myself

constantly trying to anticipate situations that were more conducive to the 'interview.'

Another factor that influenced the form 'interviews' took was the interviewee's personal preparedness. Among the elders, what I am calling "preparedness" was, more specifically, the individual's ability or willingness to answer the questions I asked. In an attempt to accommodate the person I was 'interviewing' and the situation at hand, I asked questions at what I thought were appropriate times: during informal discussions, over coffee or a meal. At Skedans, the times I felt I could ask questions were when I took walks with Charley through the tall grass of the old village site or, in the early evening, sat beside him on an old drift log to look out on the calm waters of Skedan's south bay. I also tried to ask questions which related to the topic of discussion so as not to cause any unnecessary breaks in the conversation or in the elder's train of thought. If an elder showed signs of tiring from my questions or other events of the day, I let the questioning go for the time being. My questions were twofold. Some dealt with the traditional acquisition and uses of marine mammals, such as for food, clothing, tools, and hunting strategies; others concerned oral history and mythology.

On many occasions elders said they did not know the answers to the questions I asked. Sometimes this response was more general, that they knew nothing about the topic I was studying. At other times these same elders appeared hesitant to respond to my questions and may have avoided a particular round of questioning by changing the subject. If a specific question was answered, it was done so in a few words only,

certainly nothing like the richly detailed stories I had experienced with these elders outside the interview format.

Any mention of recording an elder's memories by tape recorder or field notebook clearly deterred some individuals from elaborating or repeating a recollection. Some elders did not want to tell a particular story or recall an event for fear of sounding like "an old Indian fool" among their own people. When this was the case, I did not document the elder's recollections until much later in the day when I took an hour or more to make notes in my field book.

While at the basecamps I grouped all of the factors discussed so far as restraints to the interview process and to the progress of my project. However, at the time of this writing, I consider them to be part of what affected change in an approach to data collection.

A Question of Focus

By the time I arrived at Windy Bay, the second of four basecamps visited, I was well into the second week of the three I had been granted in the Gwaii Haanas/South Moresby area. By this point, I had begun to seriously question the approach I had taken to data collection. The elders showed reluctance towards my project and, possibly, my line of inquiry. I became frustrated with not knowing which approach would be more appropriate to use and that the time in which I had to learn such things was rapidly running out. Discussions with non Haida people at Windy Bay and Haida elder, Wesley Pearson, illuminated for me, in a very concrete way, the source of my misgivings.

One evening, while Wesley prepared a meal of his famous fish and chips for his close friends Tom and Susan and their hungry crew on

board the "Maple Leaf", I spoke with Susan, a resident of Rose Harbour, about my project and the obstacles I was facing in data collection. We talked about what it might be like to have a stranger from another culture enter your home and ask you questions about your grandparents and great grandparents such as what they did, where they lived, and what they knew, without first showing an interest in you and your life. Susan pointed out that the elders might be intimidated by my university background, my style of questioning, and my specific interest in the history of their people. "There is a really good chance that they don't remember the kinds of things you are asking them about," Susan said, "and possibly they were never told." Susan shed some more light on my dilemma by describing what she perceived to be a difference in "focus" held by the Canadian Parks Service and the Haida people. "The focus of the Parks Service is on the past and traditional Haida ways. The Haida focus is on the here and now, not on the past. They are concerned about what's happening in their present lives, the lives of their children and their grandchildren. If you try to ask them about things that took place over one hundred years ago, without showing an interest in what's happening now, you are going to have problems" (S. Cohen, personal communication, August 2, 1991). The conversation with Susan that evening did not simply provide me with a series of points to be entered into my field notebook, but caused me to take a longer look at the kinds of conversations I had engaged in with elders. For example, I found myself giving further thought to some things Wesley Pearson had said to me the day before concerning the focus of my project.

Wes told me he did not know anything about one hundred years ago, which I found hard to accept given his gift for story-telling and the experiences he shared with me. More important, perhaps, was that he did not want to dig up the history of the Haida people. He expressed concern with making "public" information about old Haida ways of hunting. "The public would call the Haida barbarians for killing birds like they did," he said, "or they might go out and try some of these traditional hunting methods themselves, if they were told how." He was worried about the impact people were having on the whales at present, especially with increasing tourism in the area. "If I tell them where the whales are then everyone will be bugging the whales and the whales will leave this area for good" (W. Pearson, personal communication, August 2, 1991).

Wes and Bubbi were genuinely interested in the people who visited the islands. Over many summers of greeting visitors at the basecamps, they have formed close friendships, especially with those people who return to Windy Bay year after year. While sitting on the wooden benches in front of the long house where, for years, Wes has engaged visitors in stories and experiences of the islands, I was given an opportunity to see what was important to Wes. "The public aren't interested in learning about birds or mammals," they are interested in "the whole feeling here, the greeting they get when they come to Windy Bay, the way they are treated, the way they are welcomed here. That's what you should be studying" (W. Pearson, personal communication, August 2, 1991).

My tendency to focus the 'interview' questions on past Haida ways, and the expressed desire of certain elders to talk about the present,

created an uncomfortable situation for me. I agonized over possible ways of ameliorating the situation. At the same time I questioned how I would continue with the research if the elders were unwilling or unable to answer the questions I asked, and whether it was even desirable to do so.

Neither did I expect or want to be part of the politics of the islands. At the time, I perceived my involvement to be relatively minuscule. Yet, with every move I made, I was involved. The political atmosphere of Gwaii Haanas, including the current involvement of the Canadian Parks Service in the Gwaii Haanas area, was clearly on the minds of the elders I spoke with at the basecamps. It was impossible for me not to at least try to understand what seemed to be a profound conflict of interests. Several elders told me they were not sure what the Parks Service was up to and this made them suspicious. As I stated earlier, the lack of any introduction to myself or my project prior to my arrival at the basecamps seemed to confirm certain suspicions. To these elders, the plans for making Gwaii Haanas/South Moresby a National Park was the government's method of taking over what was rightfully Haida land. While I was walking with Charley through the old village of Skedans, Charley made it clear to me that Skedans was not a park and that it should never be a park: "It is Haida land," Charley said. " It belongs to the Haida, it always has, there's no question. In the name it says this: Haida Gwaii means Haida Land." When I asked Charley what he would like to see happen (referring to the involvement of the Parks Service and Canadian government in Gwaii Haanas/South Moresby) he replied, "For them to leave us alone" (C. Wesley, personal communication, July 18, 1991).

Shifting Focus

Many times, during the three weeks I spent on Haida Gwaii with the "answers" not forthcoming, I felt a need to revisit my original question: 'How do I develop a prototype for an educational training package for the Haida Gwaii Watchmen program, while taking into account the needs and perspectives of the Haida, the Canadian Parks Service and my own?' It had been one thing to ask this question while I sat at my desk in Victoria, yet quite another once I became personally involved with the individuals who had a vested interest in the South Moresby area.

While trying to come to some understanding of this question and the approach I was taking to data collection, I saw how, in the very way I was asking the question, I had set myself up to look for an answer or answers. While searching for answers, I made a method, and a *correct* one at that, my focus. Just as a mathematician works with a data set until it is in a form which is suitable for a particular equation, so I tried to gather data which suited the particular formula I was using. In making "method" and "results" focal points of the project, I had shut myself off from what was happening beyond the method, something much more fundamental in the experiences I had. For example, from my interviews with elders like Wes and Charley, I came to realize that by using what I thought was the *right* approach I was missing everything the elders were giving to me in place of the very specific information I was seeking. By turning my attention to my question instead of methods and results, I found myself more willing to let experience guide my approach rather than use an approach to shape the experiences I had.

Time Spent in the Elders' Presence

As I was more willing to let experience guide my approach, I became sensitized to features of my experiences with certain elders which were previously inaccessible to me when I used 'interview' as the main form of data collection or when I focused on a final product. The day I spoke with Nora and Henry, I became more aware of the present lives of the elders: I paid more attention to the environment in which we spoke (their home), what they were engaged in before, during and after we spoke, and what was talked about outside of the interview format (i.e. interests, concerns, perceptions). I recognized the importance of taking the time, however much time it took, to be in the presence of the elders and how taking such time made all of the difference to the relationships which formed and the experiences I had. In turn, while evolving other ways of being with the elders, there was a shifting in the approach I took to data collection. By revisiting past experiences and conversations, with the aid of field notes, I will describe my encounters with three Haida elders in order to further illustrate my understandings of a research approach.

The Vitality of the Present: A Visit with Nora Bellis.

After running some errands in town, Barb contacted Nora Bellis and Henry Geddes, two elders we hoped to visit that day in their homes in New Masset. We went to Nora's house first as Henry was not free until later that afternoon. Nora's home was tucked behind her daughter and son-in-law's house, in a corner of their property where Nora's grandchildren played. Dressed in a black polyester gown painted with deep purple and red flowers and wearing knitted cotton slippers on her

feet, Nora greeted us at the door and led us into the large main room which contained her kitchen and living space. I remember standing in the middle of this room, captivated by Nora's crocheting which graced every cushion and seat cover, and by her other 'projects in progress' which seemed to occupy every available surface. One project was a hand woven cedar hat which, when held to the light, revealed a painted eagle crest. Another was a large cardboard box filled with hats Nora had made in every color of wool imaginable. These hats Nora proudly displayed.

With a bit of rearranging we were all seated and Barb Wilson explained to Nora the purpose of our visit. All the while Nora rested one elbow on Barb's knee, held Barb's hand snugly in her own and tilted her head slightly to one side to hear every word that was spoken. At that moment I felt as I had the very first time I was in an elder's presence: anticipation with being part of something, excitement with having a memory shared and seeing a story unfold, and unsettledness when something like resistance was felt.

Nora recalled how her father had hunted fur seals when he travelled to Alaska. With the sale of the pelts he earned enough money to open his own store. In Nora's words 'Whole tribes would go out in big canoes to hunt the fur seal. I don't think they ate the meat really, just hunted for the skin. . . . The fur seal skin was the most expensive.' Nora paused, then told us that her sister liked to eat the meat of the common seal. 'I didn't like it,' she stated. 'I was spoiled' (N. Bellis, personal communication, September, 5, 1991).

After what might have been twenty minutes spent listening to recollections of her family's use of local seabirds and marine mammals,

Nora showed signs of tiring with our questions and began to apologize for not knowing the "answers". I was ashamed with a sudden awareness of having moved from a form of inquiry which involved Nora and her needs at present into one which more readily satisfied what I considered to be the needs of the project. Yet, at the same time, I knew that something about this situation was different. With Nora, I came to realize that I could be more open to the present, vital lives of the people with whom I was working. And, most critically, this openness, resulting from a close attention to the lived lives of the elders, brought together and fortified both respect and trust between us. This "new" awareness even permeated my relationships with the non elders, as I became more fully present to suggestions regarding my project. Where before I had been disabled by technique, now I was enabled by personal connection.

The Importance of Story.

"Tell me a story," Charley Wesley said as we sat together in the one-room cabin at Skedans one evening, warming our hands around cups of tea. I remember how I felt right then, how unexpectedly intimidated I became in this elder's presence. Was this something that was expected of me? Certainly I was not a story-teller. Yet this was all Charley asked of me during the seven days I stayed with him and his family at Skedans.

In the time I spent with Charley and in the presence of other elders, I learned how, through the telling of stories, the elders pass on knowledge of their history which had been passed to them in story by their grandparents and great grandparents. The story-tellers breathe

life into every story they share, recalling details with the care and precision of a crafts person, bringing people and events to life even for a non Haida such as myself, raised in a suburb of Toronto. Here, in the presence of the elders, I was able to experience another form of learning that I was not familiar with or ever really able to appreciate when my focus was on method and results rather than experience.

At the basecamps stories often arose with an event such as an approaching storm, the appearance of an animal, or upon finding and using a particular material or object. Stories were also shared during tours of the ancestral village sites. One day, Charley and I were walking along the path of a well-used deer trail as we did every day, when, above our heads, we heard the familiar hollow sounding 'flap' of a raven in flight which caused us both to look up. 'In the old days,' Charley began, 'the Haida believed that when Raven flew overhead and called, he brought messages of what was to come' (C. Wesley, personal communication, July, 1991).

On another day at Skedans, while watching me practice preparing some bull kelp for kelp "rope,"[4] Charley recalled a time as a faller when he needed to tie up some log saws. 'There was no rope around, so I used a piece of kelp to make the saws secure. The other men on my crew came around and saw the strange rope I had used and asked me where I found it. When I told them what it was, they didn't believe me. It was as strong as any rope' (C Wesley, personal communication, July, 1991).

The stories Charley and others told me only sometimes carried answers to the specific questions I asked about marine mammals. Yet, these stories always put forth the interests, concerns, understandings,

and perspectives of the Haida people in a context of the past bound with the present. Although I may not have known it at the time, such a context was more valuable to me in my understanding Haida culture and the movement of this research than any number of specific answers I may have been looking for. Again, these insights would not have been forthcoming had I not learned the value of simply being there. As I noted in a field entry for July 25th, 1991:

> Everything takes time and it has to be the right time to ask questions. Sometimes, Charley answers my questions without me actually having to ask them. These are the most rewarding times. I get better "answers" the more I wait. It does not happen on request.

The more time I spent in the presence of an elder, sitting with Nora Bellis in her living room, with Charley and Caroline in the cabin at Skedans, and walking with Charley amongst the remnants of the old village of Skedans, the deeper my understanding became of the kinds of exchanges of information the elders engaged in. I came to recognize and appreciate these exchanges as chapters of the elder's life, his-story, both past and present, and how I could be a part of those exchanges or dialogues with minimal disturbance to their natural rhythms and flows.

A Conversation of the Elders.

Meeting Henry late one afternoon, I found myself in the presence of an elder who loved to talk! Henry showed no hesitation when it came to relaying stories he had been told or with having any of those stories recorded on paper or on tape. In fact Henry was quite accustomed to students such as myself, teachers and other researchers, wanting to sit with him in his kitchen and listen to the stories he told. During the

summer of 1992, I learned that individual members of the Council of the Haida Nation were also recording Henry's stories of the 'old people' in an effort to establish an archives of Haida language and history (Vince Collison, personal communication, June 2, 1992).

At the time, I suspected that my subject of interest, marine mammals, would present some problems for Henry, as my past experiences with the elders seemed to indicate that little information of marine mammals remained in Haida oral history. No sooner had this thought entered my mind than Henry showed me otherwise. His stories told of the 'old peoples' ' beliefs in the power contained within nature, in the animals, the rocks, the vegetation, the ocean and the air and of how this power could either be beneficial or harmful to an individual, depending on his or her intention. Many of the stories described in detail a relationship that the 'old people' had with the natural and the supernatural worlds.

Similar to what took place with Nora earlier that day, the interaction with Henry began when Barb provided a brief introduction to the project which set the stage for a question/answer style of information gathering. However, this 'interview' did not proceed as expected. Henry, who I mentioned was quite accustomed to the kinds of questions visitors asked, immediately asserted his own format for information exchange. The following excerpt is from the beginning of the 'interview' when, I feel, Henry made his format clear:

Barb: Maybe what we'll do then is I'll let you ask him questions?

Julie. Okay.

Henry: Wait a minute. Before we start on that part of it, about the killer whales....

Julie: Yes.

Henry: I could tell you, people here believe strongly in reincarnation and this is how this whole thing got started. I could tell you a story if you want.

Julie: I would love if you did.

Henry: Do you have the tape recorder working now?

Julie: Yes.

Henry: This happened on the west coast. . . .

Henry told us about two brothers who were taken to the underwater village of the Ocean People located near the Haida village of Tiaan on the west coast of Graham Island (see Appendix E). This story told of the Haida belief in human-animal transformation and reincarnation and of how the killer whale became a Haida crest. Henry said that many such stories exist and went on to tell another:

> There were a couple of old people that were out at sea when the fog set in. They didn't know where they were. There was no wind and it was flat calm. . . . So his wife said, 'You always talk about the people out there that nobody sees, that you've got friends out at sea.' So he stood up and he hollered and he talked until two big killer whales came up right along side of the boat, lifted it up on their backs and carried it to shore.

Henry noted that there were instances like that one all the time and some of them were quite comical.

> At Naden Harbour, just about where the lodge is, there used to be a whaling station there. This is Naden Harbour and the whaling station used to be right in here (pointing to a map). This is Stanley Creek here. And right in there (pointing to Naden Harbour on the map) is a reef.

Henry went on to tell us about a woman from Naden Harbour who married a man from Cape Ball:

> One day, the couple and his family went to visit the woman's family at Naden Harbour. While approaching the harbour, they joked about the odd looking smoke that rose from the village. Hearing about this the woman's father made the whole harbour dry up as his visitors were leaving and the people turned into killer whales. Flopping around in the shallows, the whales dug deep holes there which can still be seen today. After some time had passed the woman's family visited the woman and her husband at Cape Ball. When they were ready to leave they went out in a line, one following the other, and the father(?) turned them into rocks. To this day the rocks are still there. When there is a big tide one can see them all laying facing out. Killer whales.

My reason for including this 'interview' with Henry is to draw the reader's attention to a time in my experience when I was aware of allowing an elder to pass information on in his own way rather than through a method which I imposed.

Without feeling that I was showing disrespect or perhaps forfeiting his trust, I found that I could ask Henry questions in between the stories he told if I needed something clarified or elaborated. There were times when a question or series of questions seemed to break the flow of the storytelling, as Henry would sometimes have to pause to jog his memory for the answer. But Henry would always answer the questions and, often, after picking up on his previous train of thought, would begin another story. Henry told me that it was the telling of stories which sparked his memory. One story, he said, reminded him of another story which, upon telling it, reminded him of another, and so on. With Henry that afternoon I felt I had finally come closer to a way

of being with the elders which took into account their needs and desires, as well as my own, and the requirements of this project.

Van Manen (1990) writes, "To be aware of the structure of one's own experience of a phenomenon may provide the researcher with clues for orienting oneself to the phenomenon." I realized that my approach to research, specifically the stated purpose and research questions, was not really a matter of gathering specific information from elders, but of being present, of listening, staying open to another, perhaps deeper "organization" that could be experienced only when time and space was offered and attention given. Van Manen refers to the "essence of the question" as the "opening up, and keeping open, of all possibilities." In being "open", Van Manen says, " we find ourselves deeply interested (inter-esse, to be or stand in the midst of something) in that which makes the question possible in the first place." We "live" the question, we "become" the question. Husserl's words, "back to the things themselves", rang true. When I no longer made a 'method' or 'product' my focus, I discovered certain things inherent in the environment and in my experiences which were previously inaccessible to me.

Observation as a Data Collection Tool

As should be evident from the experiences described thus far, the interests, concerns, and perspectives of the individuals I spoke with often emerged during "contact" time outside the interview format. Thus, the informal discussions, story-telling sessions and demonstrations in which I was engaged, both directly and indirectly, told a great deal about past and present Haida life. These were the times when my skills as a listener and an observer were my main data

collection tools. Over the course of my research my own awareness of the relevance of such "extra-interview" data to my thesis heightened along with a sensitivity and attentiveness to informal situations. In addition, as stated previously in this paper, taking the time to be in the elders' presence influenced the relationships that evolved and provided further insight into the of design a resource package.

In many ways, being the observer was less complicated than being the interviewer. Yet, as with interviewing, observation, used as a data collection tool, was only appropriate in certain situations.

During my first summer on Haida Gwaii there was considerable variation in the way observations were carried out. For example, at Skedans and Tanu, where tours of the old village sites were conducted throughout the day, I often followed along with tour groups and observed the interactions that took place. In the evenings and during the day when no tours were conducted, I took part in whatever was happening at the basecamp when it was appropriate to do so. At Skedans Charley engaged me in tasks such as cleaning freshly caught fish, tending to the salmon smoke house, or fetching water. In Queen Charlotte City and the villages of Skidegate and Masset, my activities consisted of visiting with people in their homes and at their workplaces, attending special events at the museum on Second Beach, taking part in school events, and participating in informal education program meetings such as "Vision Quest".

Observations at Skedans and Tanu.

Following along with tour groups at Skedans and Tanu was an invaluable learning experience for me which, at some level, deepened

my understanding of my research question and of a resource package designed for Gwaii Haanas. First of all, becoming a member of the tour groups allowed me to introduce myself and my research to the public, to engage in informal conversations with them, to hear what they thought of the Haida Gwaii Watchmen Program and to receive feedback regarding my project. Such opportunities were otherwise rare, given the strict time lines to which most visitors adhered. In several cases those individuals with whom I spoke approached me after the tour to talk further about my research and to ask questions or express concerns regarding the 'future' of Gwaii Haanas. It is important to note that, even though identifying visitors' interests and perspectives in regard to the Haida Gwaii Watchmen Program and the marine environment was not a stated purpose of this research, the time I spent talking with visitors evolved my understanding of the design and the role a resource package could have.

In addition to contacting visitors, I was able to observe the interactions between the public and the Watchman. I listened to the questions visitors asked and observed the responses given. I was made aware of several stories of "old Haida ways" that did not necessarily emerge during casual conversation or interviews with the Watchmen. I recognized a range of situations and physical factors that an education/resource package would have to endure if it were used at a basecamp, such as unpredictable weather conditions and time constraints imposed by the visiting public. Perhaps my most revealing observation during tours was of a clearly individualized style of teaching of one elder and Watchman. Having evolved over many years of greeting visitors to Haida Gwaii, this "style" was completely

appropriate to the unique surroundings at the basecamps, the knowledge and interests of the public audience, and the needs and perspectives of this individual Watchman. While describing some of my observations of tours at Skedans, I will make special reference to this individual teaching style in preparation for further discussion of my insights into a prototypical package for the Haida Gwaii Watchmen training program.

A Personalized Teaching Style

During the seven days that I stayed with Charley and Caroline Wesley at Skedans, Charley greeted every visitor from the earliest morning arrivals to the early evening stragglers. Groups of people arriving by float plane, kayak, sailboat and motorboat were led to the one room Watchmen cabin where, on cold and rainy days, they took turns warming themselves by the wood stove. While at the cabin each visitor was asked to sign a guest book which held the only written record of the number of visitors to Skedans that year. Then, with a captive audience, Charley began his tour of the old village site along well worn deer paths through the tall grass of Skedans south bay.

For the last 10 years Charley has guided tours at Skedans from July 1st through to early September. On days of poor weather Charley may have only one tour to lead, while on an "average" day he has led as many as a dozen. In 1991 Charley's granddaughter, Mandy, helped her grandfather with the tours. This drew praise from the visitors who loved Mandy's youthful insights and interest in her cultural heritage.

Charley's sincerity for his heritage could be heard in his descriptions of the features of the village site and his recollections of the 'old people.'

Sensitive to the interest level of the group he led, Charley structured the duration and content of each tour to accommodate the group's specific needs. For example, I never observed Charley attempt to get all of the information about the village site across in any one tour. Rather, by answering questions and addressing visitor interests, Charley tried to give the group what they wanted. If attention and interest was high, a tour sometimes lasted 45 minutes or more as Charley included details of the unique features of poles or the construction of a house. If attention was low, the length of the tour was shortened considerably and the group was allowed to explore on their own. In every case Charley was a patient teacher, taking time to answer each question he was asked, often weaving in stories to contribute to the visitors' experience of the place.

To every tour Charley brought the book *Those Born at Koona* by John and Carolyn Smyly; he frequently referred to it while describing both historic and present day features of the village site. Of the four Watchmen basecamps visited as part of this research, Charley was the only Watchman to use a reference book on tours. From my observations, Charley used this book to facilitate his re-telling of the history of the old village of Skedans and, in doing so, contributed to the visitors' overall experience and understanding of the site. When asked why he used the book, Charley said that he found the information to be pretty accurate. The following passage from my field notebook was written after I first toured the village of Skedans with Charley. I include it here to illustrate Charley's use of *Those Born at Koona* as part of his personalized teaching style:

> Charley began the tour of the old village of Skedans while resting on the trunk of a blown down spruce tree. The tour arose from the pages of the book *Those Born at Koona* which Charley held in his hands. Flipping through the book's pages, Charley pointed out the village site maps which illustrated the layout of each of the houses and poles in relation to one another and to the shoreline. He led me to a grassy area where the Chief's house once stood and, with his finger, traced out the large depression in the ground where the lowest level of the house would have been. Then, furthering my visual image, Charley referred to several diagrams in the book which illustrated the likely location and construction of the house. We walked on a little further and then paused as Charley moved his hand across another of the book's pages to rest at a sketch of a carved wolf kneeling on all fours. 'This' Charley said, 'is a horizontal memorial pole carved for a person of high ranking who died.' The body, Charley explained, would have been placed on the wolf's back for a period of time and then removed and put into a burial box. The pole was likely used only once then left, perhaps becoming a childrens' plaything. 'There,' Charley said, and I turned around to find this very wolf crouched in the tall grass, a tree now solidly rooted in it's back. (Field entry, July 18th, 1991)

Although it was difficult to tell how much of the book's text Charley used for his tours, the well worn pages were a clear indication of its use by both Charley and visitors.

Story-telling was another feature of Charley's tours. Often inspired by a question or a feature of the surroundings, Charley told stories, some of which were specific to the site of Skedans while others told, in general, about old Haida ways. One such story described a once common occurrence in the transactions between the old Haida and European fur traders:

> Sea otter skins were traded for guns. The trader would hold up the gun and the natives would pile the skins up to the height of the gun. That's how much the gun was worth. So the next time the traders came they brought guns which had longer shafts. When these guns were put on end the Haida had to pile up more furs to reach the height of the gun. At that time, one pelt went for 200 dollars or more (C. Wesley, personal communication, July 26, 1991).

From my observations of Charley's tours, this particular story was the only one in which he made reference to marine mammals. However, Charley's descriptions of pole figures often included information about marine mammal crests. The focus of the tours, as well as the conversations in which Watchmen and visitors engaged, tended to revolve around the village site and traditional Haida culture. Therefore, while tours were not a vital source of factual information about marine mammals they allowed me to observe the Watchmen at the village sites and to identify some of their needs and perspectives regarding resource materials.

Discussions Involving the Resource Package

My observations at the basecamps, coupled with my deepening insights into the Watchmens' needs and perspectives in regard to resource materials, were supported and broadened during informal conversations with Haida and non Haida who were not Watchmen. The proceeding discussion includes conversation excerpts which emphasize some practical approaches to resource material content, design and development. Each of these conversations expresses a unique focus: the use of particular regalia; the form and function of a resource package;

and the role of the Watchmen in various stages of resource material development. While it is these foci which I articulate here, it is important that the reader be aware of their inter relatedness; that is, how each has influenced the design of the prototype and each assumes the importance of the needs of the user.

Regalia: An Entry Point for Discovery

"Did they *use* [italics added] it for anything?" asked Hilary Stewart, author and illustrator of a number of books on coastal native art and technology, in response to my description of the dolphin skull I had found recently while exploring a small islet in the South Moresby Archipelago. This skull, although by far my most memorable intertidal discovery, raised a question: 'What meaning would an object such as this hold for a Haida elder?' My conversation with Hilary arose on board the charter vessel "Darwin Sound" for which she was a resource person during its tour of the Gwaii Haanas Archipelago.

Hilary explained that, to the 'old people', an object or material was only important if it had a use. To the elders objects such as halibut hooks held meaning and stories because, historically, the halibut was the most important food source for the Haida. Indeed, today this great fish is still taken in the waters which surround Haida Gwaii; however, the traditional wooden hooks have long been replaced with metal. If one was fortunate enough to come upon a wooden hook, whether preserved in a museum display or on the pages of a resource book, one would have the opportunity to uncover some of the history of the 'old people' who lived and worked the waters of Haida Gwaii years ago. Some of the old wooden hooks still hold evidence left from the halibut

that was once held captive on the bone or iron barb. With a closer look one might discover that hooks were sometimes composed of two different types of wood and speculate, along with the experts, why this was so.

From my observations at the basecamps, stories of the wooden hook and traditional fishing practices were not prevalent. However, such stories might have arisen if an artifact, such as a wooden halibut hook or a historical photograph of a hook, were made available. With such an artifact in hand, both Watchmen and visitors could be involved in a thorough investigation of the hook, searching for clues to a captive halibut and discussing how the hook was used to catch fish.

Hilary emphasized the importance of including illustrations and historical photographs in an education/resource package, especially if the actual object were unavailable. A historical photograph of an old village site could be quite effectively used to illustrate the layout of the village as it was 100 years ago, and subsequent changes dating from that time. As well, a photograph might spark the memory of an elder or help a young Watchman recall a story or teaching he or she was once told. Indeed, my observations of public tours supported Hilary's recommendation. I remember how Charley used *Those Born at Koona* to emphasize this idea of "change" in the village of Skedans. The long removed or decayed wooden planks and beams of the long houses whose foundations have sunken into the soft mossy substrate, and the more subtle melding of the carved images on the poles that remain, stand in striking contrast to a photograph of the way the village once stood. Hilary suggested that a *Marine Mammals of Gwaii Haanas* resource package should include, along with inquiry questions, such as:

'What did these whiskers signify?' and 'Were they used for anything else?', an illustration or photograph of the long, stiff sea lion whiskers that were once placed in the crown of a ceremonial headdress. As artifacts incorporated into educational materials, both the wooden halibut hook and the sea lion whiskers would become, in Hilary's words, 'entry points for discovery: ways of getting people excited about things they may or may not already know.' As well, in Hilary's view, such artifacts were more likely to be used by the Watchmen in a training program and as a resource with visitors at the basecamps because of their relevance to Haida cultural history.

A Resource Booklet: The Form and Function of a Resource Package

I was able to talk with Guujaaw, a prominent member of the Haida community, during my second visit to Haida Gwaii in the summer of 1992. At the time I didn't know what to expect from our meeting, as I had previously made several attempts to meet with him, but with no success. Armed with several questions and hopes of conducting a preliminary evaluation of the prototype resource package, I briefly reviewed the thematic sections of each sample lesson plan with Guujaaw and described some of the hands-on materials that I hoped to include. Guujaaw's first question dealt with package presentation. For example, would the resource materials be housed in a binder, arranged in a box, or presented in booklet form? He noted that 'There have been educational materials developed in the past and they sit in their boxes in the schools and libraries and never get used.' I asked him about the kind of "presentation" he thought the Watchmen would use. He proceeded to walk to the stacks of resource materials for the Canadian

Parks Service and selected a thin booklet published by the University of British Columbia Press. The large colour photograph on the front cover depicted a river teeming with spawning sockeye salmon. Inside was a display of photographs and etchings, both historical and modern, intermingled with short blocks of text. The combination of pictures and text illustrated Guujaaw's point: the layout of the booklet was visually appealing, the text was both brief and easy to read and the photographs and etchings were informative and attractive. Another attractive feature of this booklet was its modest length, a mere 15 pages.

> A teaching kit is useful with lesson plans, etc. But a box (which contains the kit contents) should not be the main thing. Something that is simple to look at and use, like a booklet. Something that the Watchmen can access and can take home to study on their own. . . . Don't include a lot of paper or separate pamphlets or loose articles. Maybe include those things for people who want to know more about a certain subject (Guujaaw, personal communication, June, 1992).

This idea intrigued me and I began to imagine various designs of a booklet for *Marine Mammals of Gwaii Haanas*.

Moving onto another feature of the package, I asked Guujaaw some questions regarding Haida historical use of marine mammals.

> J: I've included pictures of killer whale fins in the package so the Watchmen can talk to the public about the ways that individual whales can be distinguished from one another. Do you think the 'old people' recognized individual whales?
>
> G: Yes. Place names were chosen and crests designed after the whales. The poles are evidence of this. On the poles you can see the individual markings on the fins. One kind of marking is the split that runs down the fin. This is a Raven-finned Killer Whale. There is a dress that is in the museum with this fin on it. It is called Raven-finned Killer Whale because the split makes the fin look like a

Raven's beak. There are also 5-finned Killer Whales and 2- finned Killer Whales.

Leafing through several books of Haida art and history, Guujaaw provided me with specific examples of the markings to which he referred.

G: There are killer whales carved with a white stripe across their fin, such as this pole at Skidegate shows (pointing to photograph), and killer whales with a hole carved in their fin such as at Cumshewa. At Yaku village, two poles still stand with Raven-finned Killer Whales. So the Haida definitely identified individual whales.

Reminded of a story that was passed on to him by his elders, Guujaaw told me about a woman who dreamt that she was sitting on shore when a killer whale, with a big hole in its dorsal fin, surfaced in front of her. The woman reached with her hand through the hole and followed through with her body as the whale swam away.

G: But, your kit is not only about killer whales is it?

J: No, but killer whales are in several sections. Another section identifies marine mammals commonly seen in the Gwaii Haanas area, with maps, and photographs and information. Do you think maps are useful to include?

G: Yes. You should have old place names on the maps.

My encounter with Guujaaw provided a very practical example of the form the resource materials could take and inspired discussion of what a resource booklet could offer the Watchmen as a learning medium and a teaching tool. For example, a booklet could be used to explore relationships between traditional Haida stories and recollections

of killer whales, historical photographs of whale figures on village poles, and present day representations in Haida art. Inquiry questions such as, 'Did a relationship exist between the particular markings carved or painted on the Killer Whale crest figures and Haida social customs?'; 'What was the significance of a 2 or 5-finned Killer Whale?'; and, 'Is the Killer Whale represented differently in present day art?', could be included in the text accompanying the stories and photographs to further stimulate user curiosity. As well, killer whale photo-identification shots and current research findings might reveal some fascinating relationships between what researchers have learned about killer whales of Haida Gwaii and those insights and understandings of the Watchmen and their ancestors. In addition, a simply designed booklet format might, as Guujaaw suggested, provide a medium for learning outside of the formal training that would be more conducive to the particular learning styles and learning environments with which the Watchmen are familiar (i.e. in the home, with family members). Finally, individual Watchmen might find a booklet a useful resource tool to incorporate into their interpretive talks and tours at the basecamps. However, it is not recommended that all of the topics covered in the resource package be included in a booklet form. Rather, the booklet should present certain topics in some depth.

Involving the Watchmen: A Conversation with Diane Richardson

Working full-time as a teacher at the Queen Charlotte Secondary School in Queen Charlotte City, Diane Richardson has been actively involved with many aspects of the natural history of the islands, including education and research. As well, she has been an integral

resource person for local natural history events and an active member and volunteer researcher for the Laskeek Bay Conservation Society, a local group of people who conduct field studies of the Island's nesting seabird populations. The following conversation with Diane took place during a hectic lunch hour at the school in Queen Charlotte City. Diane's insights into the design of a resource package proved to be most helpful as they always addressed the main participants and users of the materials.

J: I am really interested in involving local people in this [education/training package] as much as possible. . . .for example, to talk about the story of "Raven and the First People". Golie might be willing to say [the story] in Haida and I thought I might ask some [school] children to say it in English.

D : Again, you're going to have to look at who this kit is for. What's the user group. It's my understanding that the kit is for the Haida Gwaii Watchmen to use and to do interpretation wherever they are. . . .So [the Watchmen] have got to know that kit really, really well and because of that fact, you're first intent is to write that kit for the Watchmen so they can use it, keeping in mind that they are going to be using this kit with people from off island who don't have any understanding of the Queen Charlotte Islands. . . .You almost have to build up your research basis on the topic [historical interactions between Haida and marine mammals] first before you can impart that topic and that's a problem. So: 'What is the interaction with the marine mammals (at present)?' being your focus and bringing in little bits about what you know about the past, because there isn't much out there with regard to the use of marine mammals in the past. If you just look at information from the past you're going to get a real sketchy picture. What are people going to want to hear when they come [to the old village sites]? Are they going to want to know about the ancient Haida perspective or system or are they going to want to know what happens today?

J: People on charter boats told me they are interested in the past, while [an elder] told me people are interested in the Haida and what's happening today.

D : I think you have to look at who is going to be using this [kit]. It's sort of like the [school] kids' writing. [We ask ourselves] 'What are we writing for? ' There has to be an audience. 'Who is the audience going to be?' Sometimes the kids in grade 8 will write for the kids in grade 2. Its got to be written so [the Watchmen] can use that information and read it out again. You're going to have to look at what your audience wants.

J: My main audience are the Haida Gwaii Watchmen.

D : They are using that information to interpret to a greater audience.

J: So I really have two audiences.

D: You do. The first audience is the Haida Gwaii Watchmen. . . . It has to be written for them so that it's very easy for them to interpret and you're going to have some people in your extended audience that may have Masters degrees and university educations so they're going to have an understanding and background already. . . . My feeling is there should be things in that kit that the Haida Watchmen will not interpret, but that will be available as an information base for those people who want to look at things in more depth or even an annotated bibliography so that people might say, 'Wow, that's really interesting what you've told me. I want to learn more about it.' I think the extended audience is going to get a feeling for the place from the Haida Gwaii Watchmen, that is [the Watchmens'] main goal, is it not? We're giving them arbitrary information to pass on.

J: How useful would it be for the Watchmen and the public to have a whale skull as part of the kit and go over the biology of the animal?

D : I think [the public] are already going to have a major tactile experience by being [at the old village site]. . . . I think you have to go to the user group here and see what they want. You don't have to go to the Watchmen necessarily, but they are going to have a really good idea of what questions the people are asking them, and if you're telling me that people want to know about present day, well then that's where I would make my focus.

J: That is what this summer was all about, listening to the kinds of questions the public asked and watching the interactions between the Watchmen and the public.

D: So what sense do you have?

J: From the people I talked with, I wanted to see how interested they were in the killer whale research. None of them knew it was going on and I didn't really find there was much interest in it or even in the bird research. They were really interested in, as you say, having this experience with this Haida person at this old village site. That was what they were there for. And there's such a range of [visitors]. The kayakers I spoke with were interested in the marine mammals they saw while approaching Skedans. The Watchmen at Tanu said they are interested in the animals using the area.

D : It's the same in a class. You've got to look at your whole audience and the thing is to make it something that's general enough with maybe specific angles. . . . By the sounds of it, you've got a big heterogeneous group out there that you want to try to hit and, with the direct teaching, it's got to be right down the middle, middle with content, middle with the way it's going to be written. I don't know if you can nail it down to any specific concerns that they would have. To be [at the village site] and have that experience, like you say, that's probably 99.9 percent of it.

It might be easier to get the present day stuff than historical stuff. The historical stuff is going to come out in songs, dance, crests and stories. That's the way of the past. That's where you can use the skill of the Watchmen and their knowledge base. I don't think this kit should be 'Okay, Watchmen. You have got to learn this kit because you've got to tell these people about it.' [The Watchmen] have got to bring something to the use of that kit as well. . . . Some people want to know biology, some people want to know historical perspectives, user groups, or impacts of whaling, etc. Other people might want to have stories about the whales, other people might want to see a song or a dance that goes with the whales, or personal experience that the (Haida) have had with whales and I think that these are the things that the [Watchmen] need to bring to the content.

J: That's a good thing for me to remember. It's not my role to cover that.

D: No and it has to be something that they feel comfortable with and they will have to go back into their culture and ask themselves: 'What do I know about marine mammals?' And that's part of the orientation process that they should be going through when they are Watchmen. They need to see how to get oriented to the kit.

I think your hands-on materials are already there. I think you could include an annotated bibliography for the people who want to do more research, but give the Watchmen a process that they can go through or information that they can use to augment their telling of what's going on in the situation. If it's marine mammals that they are talking about, then maybe they'll want to tell a story, bring a song and a dance in, but also include in that kit information about whale biology so those questions can be answered as well.

J: What methods do you think would be most useful when orienting the Watchmen to the materials (in the kit)?

D : Go through it and say: 'This is what's available in this kit. What can you bring to these materials?' Have them evaluating the kit and they might say: 'Oh ya, I can do a dance having to do with marine mammals' and each of the Watchmen are different, they are each going to bring something different to the kit. I think they have to have a basic understanding of the kit. I don't think they can have all of the knowledge to interpret for everyone, but if someone were to ask the question about whale biology, direct them to the book. 'Don't think you (the Watchmen) have to have all the information. Don't feel you have to know this kit inside out. You don't and you won't. So here's a process.' And maybe have some kind of schematic drawing so that, if someone asks you (the Watchmen) a question about biology, here are the resources that you can direct them to. If they want to have information about the whaling, here's another resource that you can pass onto them. I see it more as [the Watchmen] being in the librarian role.

Reviewing this conversation, I identified three main questions which Diane encouraged me to look at closely. Our discussions, in which these questions were addressed, further clarified for me what the *Marine Mammals of Gwaii Haanas* prototypical package might look like and, quite importantly, why it might look a certain way and have certain

functions. The questions were: Who will the education/resource materials be written for? What will the focus of the materials be? How could the materials be designed to be useful to the Watchmen? In no way was it a function of my conversation with Diane, or other people with whom I spoke, to provide me with answers to questions such as these. Instead, when thinking about the design of education/resource materials, it was most fruitful to consider the variety of suggestions made and viewpoints held by individuals who held a vested interest in Gwaii Haanas. While many of the suggestions were quite specific and unique, one viewpoint was common: *Marine Mammals of Gwaii Haanas* had to be relevant for the Watchmen and adaptable to the kinds of natural, cultural, political, and personal environments of the islands and its people.

In Diane's view, a way to ensure both relevancy and adaptability of the resource materials would be to involve the Watchmen directly in all stages of resource development:

> [The Watchmen] have got to bring something to the use of the kit. . . . People might want to have stories about the whales, other people might want to see a song or a dance or hear a personal experience that the [Haida] have had with whales. I think that these are the things that [the Watchmen] need to bring to the content. That's where you can use the skill of the Watchmen and their knowledge base (D. Richardson, personal communication, August, 1991).

Another way to ensure relevancy of materials, as suggested by Diane, would be to include current day issues and perspectives in the content (i.e. local marine mammal research activities and findings) and encourage the Watchmen to contribute a historical perspective. In

other words, rather than using explorers' accounts of the 'old people,' integrate the knowledge of the Haida themselves as they interact with the package materials.

In Diane's view, for an education/resource package to be usable to the Watchmen, there had to be a clear procedure for them to follow:

> Give the Watchmen a process that they can go through or information that they can use to augment their telling of what's going on. Maybe have some kind of schematic drawing.

The activities of a package should be designed to familiarize the Watchmen with the resource materials by first simply encouraging hands-on manipulation of these materials. A schematic diagram could provide the Watchmen with a useful overview of the contents of the package and, if desired, a procedure to follow for familiarizing oneself with the contents.

> That's part of the orienting process that they should be going through when they are Watchmen. They need to see how to get oriented to the kit. (D. Richardson, personal communication)

As Diane pointed out, the Watchmen would be the primary users of the education/resource materials and they were also the key resource people at the basecamps. Thus, the design and content of the materials should support the Watchmen in these roles. In Diane's words,

> I don't think [the Watchmen] have to have all of the knowledge to interpret for everyone, but if someone were to ask the question about whale biology. . . .[d]irect them to a book. . . . My feeling is there should be things in that kit that the Haida Watchmen will not interpret, but that will be available as an information base for those people that want to look at things in more depth. . . . I see [the Watchmen] being in the librarian role.

Keeping with the spirit of Diane's insights would be the inclusion of an annotated bibliography plus resource books for both the Watchmen and visitors to use when looking for specific information about marine mammals as well as traditional and present day uses by native and non native people.

My own belief that the Watchmen should be key evaluators of the education/resource materials was given credence by Diane, who stressed that an evaluation should be part of the Watchmens' orientation to the resource materials (i.e. during the training session) and an ongoing feature of the kit:

> Go through it and say: 'This is what's available in this kit. What can you bring to these materials?' Have them evaluating the kit.

Thus, the skills of listening to the Watchmens' questions and comments and observing their interactions with the resource materials *as they become oriented to those materials* will be as important to the over all usefulness of *Marine Mammals of Gwaii Haanas* as they were for the data collection component of this project. In other words, the process of developing education/resource materials for the Haida Gwaii Watchmen Program must not be considered "wrapped up" with the concluding sections of this thesis, but should become an ongoing part of an interaction between the individual or group and the materials themselves. It is this process which will, to some degree, determine the relevancy and usefulness of the recommended materials.

Encounters with Killer Whale Researchers

For three fieldwork days in 1991, I stayed at the killer whale research base camp on Huxley Island in South Moresby and accompanied the researchers on two of their data gathering days. Then, in 1992, I spent one week on board the research vessel "Pacific Crown" in search of the illusive killer whales. The purpose of these encounters with whale researchers was to gather first-hand information about activities, findings and unanswered questions of the currently running killer whale research program in Gwaii Haanas with the intent of including this information in the prototype resource package *Marine Mammals of Gwaii Haanas.*

I conducted informal interviews with the researchers while keeping three primary focuses in mind. My main interest was in exploring the possibility of involving the Haida Gwaii Watchmen in local whale research. In particular, I wanted to know: To what extent had the Watchmen been involved in past research efforts and was there potential for further involvement? My line of questioning went as follows: 'How has local killer whale research been introduced to the Watchmen?'; 'Have attempts been made to involve the Watchmen in the research (i.e. reporting whale sightings)?'; 'Have you heard of or made contact with the Haida Gwaii Watchmen boat?'; 'How feasible would it be to set up hydrophones at each of the basecamps?'; 'Will the Watchmen have access to a photo identification booklet of the killer whales found in this area?' The responses I received to these and related questions clearly indicated the researchers' enthusiasm for creatively generating a comprehensive communication network and collaborative working relationship with the Watchmen as key resource

people. However, it was suggested to me that, given the infancy of killer whale research in Gwaii Haanas, some of the ideas for involving the Watchmen in local research efforts (such as providing hydrophones at the basecamps) were less feasible than others (such as involving the Watchmen in data collection).

My second focus involved addressing, with the researchers, some of the Watchmens' questions and concerns regarding local whale research. One such concern was expressed to me more often than others: 'Why do we need whale research in the Charlottes?' It became clear to me that the resource materials developed for Gwaii Haanas would have to address this concern in a way which honestly represented the views and perspectives of the Haida Gwaii Watchmen, the Canadian Parks Service, researchers, and the public. Otherwise, feelings such as distrust of the "system" and of outsiders would find support and reduce the usefulness of resource materials and educational kits for the Watchmen program. One evening in August, 1991, while staying at the research base on Huxley Island, I asked one of the researchers, Linda Nicole, why it is useful to gather information about killer whales in the Charlottes:

> It's always interesting to know what the size of the population is. Right now we know that the size of the killer whale population that inhabits the coastal waters of British Columbia is about 360 animals, which is not very big considering the amount of coastline we have. Well, now we move out to the Queen Charlottes and we discover there are some other groups that are living out here and we realize we don't know anything about them. Do they [come] into the Queen Charlottes from offshore international waters or do the spend their lives in offshore waters of British Columbia? So we need to photograph the individuals to determine how many pods there are and increase our understanding of the population size and scope of the whales in British Columbia. I also think it is of some interest to visitors to know who the individual animals

> are who inhabit the waters of the Queen Charlottes, perhaps why they come here. Do they come here to feed on specific salmon runs? Do they come here to feed on specific seal haul out areas? Is this a key part of their range or is it a place they pop into every once in a while? So that's what we're really after, to know if this is an important part of the range and how big a proportion of the total population this will turn out to be (L. Nichol, personal communication, August 11, 1991).

In a presentation to the Watchmen in May, 1992, of killer whale research along the British Columbia coast and in the Gwaii Haanas area, researcher John Ford approached the question: 'What is the point to killer whale research in the Gwaii Haanas?' from a conservation standpoint. The following points were discussed:

1. Human Impact: Even though the whales have been returning to these waters year after year it is possible that, at some point, they will stop returning. If this happens, it may be too late to try to understand how human activity impacts the whales (i.e. fishing, waste disposal, logging, whale watching). Right now we don't know what the impact is, but we are learning that their movement patterns seem to be strongly dictated by the movements of the salmon (timing and location of salmon runs) so we can predict, given our involvement in commercial and non-commercial fishing, that human impact on the whales could be significant. Learning more about the whales and their environment now, we humans have the potential to change our activities in ways that reduce the impact we might have

2. Pollution: Whales, as well as other marine mammals, concentrate toxic compounds in their blubber, so compounds like PCBs are a threat to them. Oil spills, such as the Valdez spill, are a good example of the wide ranging impact human activity can have which is

not always immediately apparent. Noise pollution from boat traffic is another potential hazard to the whales. What would it mean if the whales couldn't hear each other over the noise of boats, tankers, and drilling?

3. Human/Whale Conflict: In Prince William Sound killer whales were being shot at for taking cod from fishermens' long lines. This incident has involved one pod in particular. By coming to understand what the whales are feeding on we have learned that they are not a threat to the commercially important fish. Indeed, human impact is by far the greater threat.

4. Whale-watching: The impact of whale-watching may not be as great in the Charlottes as it is in other areas along the British Columbia coastline. In fact, you are lucky to see any killer whales while visiting these islands. However, humpbacks, grays and minkes are frequently spotted and, in order to reduce our impact on these whales, we must understand something about their behaviour and habitats.

In order that concerns regarding local whale research efforts could be properly addressed in a resource package, I took the time to collect information about research activities and findings while paying particular attention to the purpose and intent of the research.

A third focus of my encounters with researchers involved the killer whales themselves and gathering first-hand information about feeding, resting, playing, travelling, and vocalizing behaviour as well as habitat use. This focus proved to be more challenging than the other two as killer whale sightings by researchers in the 1991 and 1992 field seasons in the Gwaii Haanas area had been few and far between. I was,

however, very lucky to have been present on one "whale day" in August, 1991. On this day, the whale researchers encountered a group of killer whales in Skincuttle Inlet and observed them as they moved along vertical walls of bedrock, around dense beds of kelp, and passed a number of potential "snacking bars" (seal haulouts). That evening I asked Linda Nicole to describe some of her observations of killer whale behaviour and use of certain habitats in the Gwaii Haanas area:

> J: When you go out in your boat in the morning is there a particular place you go looking for killer whales? Do you have an idea where their hang out spots are? Could you describe some of those places?
>
> L: As far as transient killer whales go, since they tend to feed on marine mammals and since there tend to be quite a few seals here, it seems logical that a place that transients would travel passed are these seal haulouts which we call snack bars. So, as part of our job, we've been running around identifying all of these seal haulout sites or the potential transient snack bars and that becomes our route. . . . As far as the resident pods go, or the fish-eating whales, that's really hard to predict and my sense of it is that these whales spend their lives off shore in Hecate Strait perhaps in the open Pacific and perhaps come inshore following salmon. . . . So when we are looking for residents we run along the outer shore of Juan Perez and Skincuttle and listen with our hydrophones because the residents are extremely vocal and we can track them by sound if they happen to be around that day.
>
> J: When you talk about transients feeding at seal haulouts, do the seals have a chance with a transient killer whale?
>
> L: Well, the seals have one of two choices. If they're smart they will stay on the rock that they are on because that is probably their best bet, and some seals do that. They definitely crawl up on the rocks or stay high up on the rocks that they are on. Sometimes, however, they are on nice slippery sloping areas where the whales can actually lunge at them and try and wash them off the slippery seaweed and, since seals aren't very agile on land, this can be particularly hazardous for them. So, in that case, [the seals] like to hang out right in the kelp beds right in front of their haulout sites where the sound

of the kelp rustling in the water will dampen the effect of their [movement]. The transients, who are hunting silently (without using their sonar) listen and see if they can see anything in the water. Perhaps [the whales] won't notice [the seals] because of all the other kelp activity that's going on.

J: So, the transients actually go into the kelp bed looking for seals?

L: Yes, they go in as close as they can to the haulout site, right inside the kelp bed in hopes of finding a seal that has plunged off, perhaps in response to seeing [the whales]. [The seals] will lurk right at the edge, hoping not to be noticed.

J: Do the transients echolocate at all when they are searching for seals?

L: No. They appear to hunt silently. . . . If they did use their sonar or vocalized underwater the seals would hear them immediately and have a much better chance to get away. This is also true for porpoises that [killer whales] feed on as well as sea lions. But once [the whales have] killed something then they will often begin to vocalize just briefly while their feeding. We often like to think they are giggling and laughing over their plunder. Sometimes you will hear sonar at that time too and I suppose that perhaps [the whales] take a bite out of something and it will begin to float away so they will use their sonar to track it down again quickly because they are not concerned about other animals knowing that they are there.

J: Have you seen killer whales use kelp in any other way besides at hunting grounds?

L: Well, sometimes [when] you see them, they seem to be playing with the kelp. Killer whales have very sensitive skin and I think we've observed this with one transient group up here, travelling throughout a kelp bed and obviously right through a kelp forest, I guess allowing the stalks and the fronds to rub against their bodies. Two of the juveniles came up to the surface and sort of rested with their blowholes exposed and their dorsal fins draped with this kelp, and so sort of playing and enjoying the feel of the kelp is something they like to do.

Implications for Resource Materials

Because of the influence research has had on the lives of the people living on Haida Gwaii a research component was included in the *Marine Mammals of Gwaii Haanas* prototype package. From my field experiences, research, in general, was part of what people talked about, what they had concerns with, and what they asked questions about. As well, the prototype package explores linkages between biological research and cultural understandings which, together, could provide a range of perspectives and viewpoints of phenomenon involving marine mammals. Therefore, activities and findings of local research, including those research questions which continue to baffle killer whale researchers, should be an evolving part of the resource materials and a Haida Gwaii Watchmen training program. Each training program should provide opportunities for discussing the purpose and intent of local whale research, and any changes made to this purpose from previous years. As well, whale researchers and Haida Gwaii Watchmen should be brought together at this time to share personal interests and concerns about local research of killer whales.

Resource materials should include both the Watchmens' and the researchers' personal accounts, experiences and observations of killer whales and other marine mammals in the Gwaii Haanas area. In addition, while actively manipulating resource materials, the Watchmen should have the opportunity to reflect on local whale research and to become familiar with the purpose and use of certain research tools, such as a hydrophone and an identification booklet.

In summary, the activities and findings of local whale research should be incorporated into an educational resource package as tools for

public education and whale and habitat conservation. By linking biological research with cultural understandings and public education, a resource package could attempt to support public awareness of and concern for marine life and the complex web of relationships which connects all forms of life, not simply marine inhabitants, with the marine environment.

Implications of Field Research for the *Marine Mammals of Gwaii Haanas* Resource Package

My conversations with Haida and non Haida people as well as my experiences within the natural and cultural splendor of Haida Gwaii had both guided and inspired me in a process of designing a prototypical framework for a *Marine Mammals of Gwaii Haanas* education/resource package. As a participant in this process I believe that the resource package should: (a) encourage the Haida Gwaii Watchmen and, indeed, all users to participate in a dialogue with other Watchmen and visitors about the local marine environment and marine mammals, while bringing to this dialogue their own understandings and perspectives; and (b) challenge each participant to explore and question the ideas and information presented, to express his or her own interpretations of these ideas while drawing from personal understandings and experiences, and to question further while searching for personal meaning.

The following section describes, in detail, features which I feel are integral to the design and development of the *Marine Mammals of Gwaii*

Haanas resource package based on my field work experience on Haida Gwaii. A discussion of these features is divided into two broad areas: Themes of Design and Learning and Teaching Strategies, and provides concrete examples of these features as they were applied in the prototype resource package.

Themes of Design

Dialogue Involving People and the Education/Resource Package.

While carrying out the research for this thesis, it became clear that the more I was willing to spend time in the presence of the people with whom I spoke, the more likely were trust and respect to be part of the relationships that developed. I propose that personal contacts and connections, such as those made during the research and design of a prototype resource package, can and should be vitally felt with the use of on site educational materials.

The prototype resource package was designed to involve all of its users in a sharing of personal stories, experiences and perceptions. Such exchanges were believed to be essential if the package was to stay finely tuned to the current and evolving situation on Gwaii Haanas including the needs and perspectives of the Watchmen and the kinds of conversations in which they engaged one another and visitors.

Application in a prototype package:

1. The stories "Raven and the First People" and "The Brothers of Tiaan", both Haida cultural narratives, were included to be shared with the Watchmen in the spirit of Haida oral history, with its tradition of passing information on to succeeding generations.

2. Several personal stories and experiences regarding marine mammals of Haida Gwaii were included to encourage the Watchmen to exchange experiences with one another (i.e. Henry Geddes experiences hunting northern fur seals off the west coast of Graham Island and my own experiences while observing a group of killers whales in Skincuttle Inlet).

Involvement of Watchmen and Other Local People.

As users of the education/resource package, Watchmen and other local people should be encouraged to contribute to the development of the package. For example, a Watchman might suggest that a dance, which traditionally accompanied the "Raven and the First People" story, be included in the resource package, and offer the name of a person to contact. Several Watchmen might share stories of the Killer Whale or relate a song their ancestors sang while hunting seals. Others may wish to contribute their skills and knowledge as carvers, weavers, or fishermen in the form of a demonstration or a story. All of these suggestions would be essential for the on-going growth of the package.

Application in a prototype package:

1. Stories told to me by Henry Geddes, elder of Masset, about the 'old peoples' ' belief in the supernatural powers of killer whales have been included, as well as Golie Hans' retelling of the story "Raven and the First People" in her Skidegate dialect.

2. Time has been incorporated during or after each activity to receive feedback from the Watchmen (i.e. what they thought of an activity and what they would change or do differently).

The Present Day Bound with the Past.

As indicated in my research findings, many of the elders with whom I spoke were clearly concerned with what was happening in the present day. Yet, it was also clear that, for these people, the past and the present were intimately entwined. In respecting the views of the elders, the information presented in a resource package should be largely rooted in the present day and should reveal, at some level, the complex relationship which exists between past and present on Haida Gwaii.

Application in the prototype package:

1. In Unit 1, "Killer Whales and Gwaii Haanas", historical photographs of Haida poles were included so that the Watchmen might investigate ways in which killer whales were traditionally represented in Haida art. This investigation has formed the basis of a Watchmen inquiry into an identification technique presently used in the biological research of these mammals.

Linking "Traditional" Knowledge with Research Findings.

Not only was there a linkage of the past with the present, much could be learned from connecting Haida knowledge and experiences of the local marine environment with the understandings of researchers (and educators). The activities found in a resource package should support such connections.

Application in package:

1. Two fascinating descriptions of the northern fur seal have been included: Henry Geddes' recollections of hunting this elusive animal 40 years ago and Ian MacAskie's 'hunt' for the animal while onboard a Canadian research vessel in the 1960's. These descriptions reveal an interweaving of the past with the present as well as the traditional with the conventional understandings.

Respecting of Politics.

When this research was conducted, no universal written form of the Haida language (Skidegate and Masset dialects) had yet been developed; instead, many different versions existed. I was advised not to use any of these other forms for my purposes, but to wait until such a time that a single written form existed.[6]

Application in package:

1. In several cases where a Haida word was originally used, for example in an interview or traditional story, a space has been inserted in place of the word itself.

Use of Traditional Materials.

One feature believed to be quite important to the usefulness of the package as a whole, lay in the relevancy of the resource materials for the Watchmen. Applying her insights into Haida cultural history to the kinds of hands-on materials contained within an education package, Hilary Stewart said, 'It was only important [to the 'old people'] if it had a use' (personal communication, August 13, 1991). This theme could be

creatively applied to educational resource materials. For example, if the Watchmen did not know what the 'old people' used sea lion whiskers for, the presentation of sea lion whiskers in a ceremonial headdress as depicted in a historical photograph might spark their memory and enable them to more easily make an association with the old ways. Finding out what the whiskers were used for could hold great meaning for a young Watchman.

Application in prototype package:

1. In the section, "Killer Whales and Research", the Watchmen and the facilitator ask the question, "Did the 'old people' make distinctions between individual killer whales?" and, with the aid of historical and present day photographs, brainstorm ways they might have done so. This activity was included to provide the Watchmen with some familiar information (contained within the photographs) and to challenge them to relate their understandings of the past and present day methods of distinguishing individual killer whales.

Hands-on Materials and First-hand Experiences.

Hands-on objects are important tools to include in a resource package if the participants are to find meaning in the materials and information presented. The hands-on materials should be the first thing the Watchmen pick up and look at, about which they ask questions, share their knowledge and formulate their own ideas.

As one step towards supporting first-hand experiences using some of the resource materials contained in the package, the Watchmen should

be encouraged to document their experiences of marine mammals of Gwaii Haanas during their summers at the basecamps.

Application in the prototype package:

1. The hands-on materials should be organized in such a way that they are found, manipulated, and investigated before an encounter with the explanatory written "text".

2. Hands-on materials, such as photo-identification pictures and sighting sheets, have been included for the Watchmen to use while gaining research experience, identifying individual killer whales and documenting marine mammal sightings in the Gwaii Haanas area.

Ongoing Evolution of Materials.

In keeping the materials fine-tuned to the natural, cultural, and political environment on Gwaii Haanas, information contained within a resource package should evolve with less relevant content replaced or adapted to that deemed more appropriate by the Haida people.

Learning and Teaching Strategies

During my informal interviews with Haida and non Haida people and my observations while on Haida Gwaii, I became sensitized to certain strategies used by "learners" and "teachers", adults and children, both inside and outside the classroom. Many or all of these strategies have been considered repeatedly in the educational literature, yet their implications for the design and development of a *Marine Mammals of Gwaii Haanas* prototype resource package became much more vital

when coupled with my experiences of Haida Gwaii. The following strategies will be discussed with regard to a resource package: (a) group learning, (b) peer teaching, (c) use of hands-on materials, (d) learning from direct experience, (e) story-telling, (f) brainstorming, (g) identifying and emphasizing prior knowledge and skills, and (h) multi-sensory representations of concepts or ideas.

Group Learning and Peer Teaching.

Learning in a group and peer teaching have been identified as useful instructional strategies in both mono-cultural and multi-cultural settings. Findings from research indicate that the learner feels more comfortable when working as part of a group and is more likely to make some contribution to the groups' task, whether this involves attempting to answer a question, participating in group discussions, or reporting the groups' findings to other groups. Although I did not personally observe a group learning situation among the Watchmen, my experiences of council meetings, public talks and an unveiling ceremony were evidence of the spiritual and physical closeness within the Haida communities. As well, conversations with several individuals on Haida Gwaii revealed the need to provide opportunities for people to work together in cooperative learning environments. Therefore, an attempt was made to integrate group learning strategies into all of the proposed activities for a resource package.

Hands-on Materials and Learning from Direct Experience.

As noted earlier, all of my background readings in the educational literature and my conversations with teachers in Queen Charlotte City,

emphasized hands-on materials and first-hand experiences as essential components of education programs. However, it was my interactions with Haida elders that transformed this idea into concrete examples. For instance, in the previous chapter I described Charley's use of the resource book *Those Born at Koona* and Henry's continual reference to his maps while telling stories. These observations provided me with examples of the importance of hands-on objects and first-hand experiences in a teaching-learning situation. At Windy Bay, Wesley Pearson emphasized the importance of first-hand experience while telling me about the 'old peoples' ' use of seabirds and sea mammals: 'The best thing for you to do,' Wes said, 'would be to go out and experience these things for yourself. That's the only way you're going to find out how they were done' (personal communication, August 1, 1991).

Indeed, I came to recognize that the most powerful learning environments, for both the Watchmen and the visiting public, were the old village sites. Therefore, some of the objects contained in the education/resource package were specifically designed to enhance experiences at these village sites. Other hands-on materials were included to give the user a sense of a primary experience. For example, although it may not be possible for the Watchmen to assist whale researchers on board their research vessels, they could get a sense of the researcher's experiences on a "whale day" through use of slides, audio tapes and hands-on equipment. Handling and testing out a hydrophone (an underwater microphone), using photo-identification shots of killer whales to identify individual whales, listening to tape recordings made of killer whales in the Gwaii Haanas area, and keeping

written records of actual whale sightings, were among the activities included in the prototype resource package to enhance the Watchmens' experience.

Story-telling.

As previously mentioned, story-telling had long been used as a medium for information exchange in addition to its function as an oral record of history among the Haida people. Although few elders remain to tell the stories of the 'old people' (and some of them believe the youth of today are not interested in listening to their elders speak) stories were still being told on Haida Gwaii in an atmosphere of dignity and pride. Therefore, this form of sharing personal knowledge and experience, among elders and youth alike, was a strategy included in this prototype package.

Brainstorming as a Method of Identifying Prior Knowledge and Skills.

For reasons previously mentioned, the task of identifying the Watchmens' prior knowledge and skills was a challenge of my fieldwork. Brainstorming was one of the strategies used in the prototype package to identify the Watchmens' prior knowledge. For instance, in reviewing the marine mammals found in the Gwaii Haanas Archipelago, the Watchmen and the training session facilitator might brainstorm what they know about each of the animals, such as where the animal is usually found, what it eats, etc. All of the ideas, once expressed, could then become the basis for a discussion of several more complex concepts, such as the importance of habitat, whether the

animal was seasonally migrant or resident, and current conflicts and/or interactions between people and marine mammals.

Multi-Sensory Representations of an Idea or a Concept.

As well as emphasizing tactile and oral learning experiences, the materials and activities of the *Marine Mammals of Gwaii Haanas* prototype package were designed to support and strengthen visual learning. Whenever possible an idea or concept would be further investigated through visual representations such as slides, diagrams and manipulative objects.

In summary, then, it is recommended that the Themes of Design and Teaching and Learning Strategies discussed above be used as the tools for further developing the *Marine Mammals of Gwaii Haanas* resource materials.

A Preliminary Evaluation

Objectives

During May and June, 1992, I returned to Haida Gwaii to evaluate the first draft of the *Marine Mammals of Gwaii Haanas* lesson plans. My three main objectives were to:

1. Fill in any "blank spots" in the information collected during the previous summer's field work. Most of this information was quite specific and required re-contacting individuals regarding information they had originally contributed. For example, to find out the location of a reef and a rock formation in a story about a family from Cape Ball, I

revisited the elder who told me the story originally as few other people, if any, would be able to recall those details.

2. Check the information gathered during the previous summer's field work for completeness and accuracy, and check that my interpretation of this information closely matched the intended meaning.

3. Review the content (materials and activities) of the package and receive input concerning any revisions that should be made.

In addition to these objectives, I kept four key questions in mind to guide the evaluation process:

1. Is the information contained within the package accurate? (i.e. Are people quoted accurately? Is the information that was collected from other sources correct? Is the information representative of the individual's viewpoint?)

2. Does the presentation of the materials (i.e. the layout of the lesson plans) meet the needs of the Haida Gwaii Watchmen program?

3. Do these materials reflect the views and concerns of the Haida people?

4. What revisions do people suggest with respect to (a) the content, and (b) the design of the package?

Evolution of a Methodology

Prior to conducting an evaluation of the prototype resource materials I chose to consult with Nancy Turner, ethnobotanist and faculty member in the Environmental Studies Program at the University of Victoria, regarding her insights into an evaluation methodology. Over

the course of my research I frequently visited with Nancy to exchange experiences conducting research within the Haida culture. Nancy's boundless wealth of personal experience with indigenous peoples, her reverence for the elders with whom she has formed close friendships, and her dedication to her work always left me feeling both inspired and enlightened. This latest visit was no exception. After I summarized the objectives of the evaluation for her, Nancy described an approach she found to be quite fruitful when consulting with an elder or "informant" regarding data she had collected. In her words this approach involved "re-presenting the 'datum' itself as the basis for asking related questions" and, when possible, reapproaching individuals regarding information they had previously contributed (N. Turner, personal communication, 1992). In evaluating the resource materials for this project, it was not an objective to check the consistency of information given, for example, whether a story shared by one individual matched the same story told by others. Rather, my primary concern was with representing that information in a resource package as accurately and as completely as possible.

During my meeting with Nancy I saw how once again her experiences and insights into indigenous cultures shed light on my own. As a result I considered a number of her suggestions in the evaluation of the *Marine Mammals of Gwaii Haanas* prototypical resource package. Firstly, the people who participated in the evaluation included individuals with whom I had spoken during the previous summer, as well as others who were approached for the first time. While the former group was reapproached regarding information they had shared with me previously, the latter group was contacted for their responses

to more general content and design features of the kit. All responses were recorded in a field notebook and, when appropriate, onto a cassette tape. Secondly, I felt that face-to-face contact was just as important in the evaluation of the package as it had been during the process of data collection. Therefore, neither written questionnaires nor telephone evaluations were seriously considered. In one case, a telephone evaluation was attempted with an individual who did not appear to want to meet with me in person. Not only was this attempt difficult, it was very frustrating. As this individual had no prior exposure to the package, the evaluation attempt was limited to my ability to describe certain features of the package to him. In another case, when it appeared that a telephone evaluation would be my only option, I pursued a face-to-face meeting and eventually, with much effort and time, a meeting did take place. Finally, before meeting with certain individuals I developed a "sample interaction" of the types of questions I wanted to ask and how I wanted to ask them. For instance, before I revisited Henry Geddes to ask him about certain words and ideas that I needed clarified or elaborated upon, I came up with an outline for asking certain questions based upon Nancy's suggested approach. For example, instead of asking Henry explicitly about the location of the set of rocks described in a story he told me a year earlier, my questioning went something like this: 'Henry, the last time we talked you told me about several killer whales that stranded in a bay near Tow Hill, I think. I have forgotten where this bay is. You pointed it out to me on one of your maps'.[5] Re-presenting the information as a basis for asking related questions aided both Henry and myself in revisiting certain stories together.

Reviewing the Content and Design of the Package.

An evaluation of the content and design of the prototypical resource package took place in two stages. The first stage was intended to evaluate the main theme and purpose of each of the five sections of the package. The second stage involved taking a closer look at each of these sections, including suggested activities and resource materials. I was interested in learning whether or not the themes and purposes I had chosen were ones the Haida would choose for themselves and to what extent the activities and resource materials were relevant for the Haida Gwaii Watchmen. As a guide for myself I constructed a simple framework which included many of the components of the package mentioned above, as well as a list of possible evaluation questions. A sample of this framework is outlined in Table 1.

Table 1
A Sample Framework for a Preliminary Evaluation

Theme	Activity/Resource	Questions
Killer Whales and Mythology	*Haida story-teller with translator *Story of "Raven and First People" *Tape of Henry Geddes *Exchange of stories with Watchmen	*Is it desirable to tell these stories to visitors? *How should traditional stories be related in this package?

Restrictions to the Evaluation Process

Using the methodology for checking and reviewing the content and design of the prototypical education/resource materials I was able, to some degree, to satisfy the three main objectives of the evaluation

process. However, I feel that a much more rigorous evaluation will be necessary following further development of the package.

At the time of this preliminary evaluation several factors seemed to limit the depth and breadth of the process. I feel that I would have obtained more comprehensive data if I had been able to reach more of the people with whom I had intended to speak. For example, due to the rapid turnover of Canadian Parks Service employees, in particular those individuals who coordinated and supervised this volunteer effort, I had very limited access to those individuals who were familiar with the work I was doing. As well, other factors came into play such as lack of time, illness and, less frequently, resistance to meeting with me in person.

A second factor which likely influenced the completeness of the evaluation was the lack of any hands-on materials for the evaluators to manipulate. Evaluators of the package asked, "How are you going to present these materials?"; "How are you making the materials hands-on?"; and "Is there any equipment that the Watchmen will actually be able to use?" Although these questions were addressed in the instructions which accompanied the package, I felt that if I had been able to provide some of the actual hands-on components for manipulation, discussion would have moved beyond the components themselves to how they might be used by the Watchmen, and other materials that should be included.

Finally, this evaluation did not include the Haida Gwaii Watchmen as it was felt that a much more rigorous evaluation should take place once the actual hands-on materials were included. At such a time it is hoped

that some of the questions and comments presented here, will be considered in greater depth.

Feedback

The feedback I obtained from this preliminary evaluation dealt with specific features of package content as well as two broader topics: material presentation and teaching and learning strategies. The following list provides a summary of the suggestions that were made:

Specific Features of Content.

1. Involve the Watchmen and other local people in the use and development of the package as much as possible (i.e. encourage the Watchmen to be involved in the collection of killer whale sighting data).

2. Introduce the Watchmen to the people conducting killer whale research in Gwaii Haanas as part of their orientation to the education package.

3. As part of the package contents include pictures of sea lion whiskers as they were used on Haida ceremonial headdress, Haida armor made from sea lion skins, and cloaks of sea otter skins.

Presentation.

4. Present contents of package in booklet form for Watchmen to peruse and study independently.

5. Organize materials of package in such a way that the hands-on objects can be explored before entering into a unit or lesson.

6. State objectives and instructions clearly and simply.

Teaching and Learning Strategies.

7. Promote and strengthen oral, visual and tactile learning styles through the use of materials such as maps, photographs, slides, audio tapes, and other hands-on objects.

8. Include cooperative learning strategies, such as group learning and peer teaching, in lesson plans.

9. Uncover the Watchmens' prior knowledge and perspectives about a topic, such as killer whales, through brainstorming and visual representation.

10. Aid the Watchmen in their understanding of a concept or idea by presenting a visual representation of the idea or concept using diagrams, slides or photographs.

11. Provide the Watchmen with an overview of each lesson (i.e. what they are going to do and what they are expected to know).

12. Incorporate specific learning skills which the Watchmen will develop while using the materials contained within the package (i.e. map skills).

Recommendations for Further Evaluation

The preliminary evaluation of *Marine Mammals of Gwaii Haanas* involved checking the information gathered in the previous summer's field research for completeness and accuracy, filling in any 'blank spots' in the information collected, and reviewing the package content for any changes that could be made. In meeting the first two objectives Henry Geddes and Golie Hans were contacted for their knowledge of Haida history, while Guujaaw, Jenny White, and Diane Richardson reviewed parts of the package and made suggestions regarding specific features

of content and design. It is strongly recommended that a second evaluation of the package take place once the prototype is "complete" and ready for use at the Haida Gwaii Watchmen training session. Given the design of the package, a second evaluation should be an informal and continuous part of the participant's experience, both initially during the training session and later at the basecamps. In the training session, a facilitator should be actively involved in the evaluation process, taking care to observe the Watchmens' use of the materials while noting their questions and responses with regard to the materials. If the Watchmen are to participate in the ongoing evaluation of the materials at the basecamps, it is imperative that they see their feedback being integrated into the package.

Through this type of ongoing evaluation, both the Watchmen and facilitator may assess: (a) where there were difficulties understanding certain concepts or using certain materials, (b) whether or not objectives were met, (c) which activities were enjoyed and which were not enjoyed, (d) which materials were used and which were not useful, (e) the degree to which a particular activity or resource material would be appropriate for use at the basecamps (i.e. would certain hands-on materials more likely be used by the Watchmen than others? Why?), and (f) which "skills" were developed and strengthened and which skills needed further development.

A second recommendation from this preliminary evaluation is for the involvement of the following individuals and groups in future evaluation processes:

- Haida Gwaii Watchmen

- Haida elders
- Coordinator for the Haida Gwaii Watchmen Program
- The Council of the Haida Nation
- Skidegate Band Council
- school teachers and other education resource people in Queen Charlotte and Masset
- curator for the Queen Charlotte Island Museum
- Public Program Coordinator for the Canadian Parks Service
- visitors to the Gwaii Haanas/ South Moresby area

CHAPTER 4:
Marine Mammals of Gwaii Haanas
Prototype Education/Resource Package

Overview

As the previous chapter illustrates, my interactions with Haida people, teachers, Parks personnel, and other residents of Haida Gwaii brought forth a multitude of ideas and suggestions for a resource package for Gwaii Haanas, which, in turn, influenced my own understandings of what a package should look like and what its function should be. This chapter briefly reviews several design and content features of a prototype resource package for Gwaii Haanas and outlines several sample lesson plans proposed for the *Marine Mammals of Gwaii Haanas* resource package.

Content and Design Features of a Resource Package

It was strongly suggested by both Haida and non Haida people that a resource package be simple and concise and that its contents include clear and easy to follow instructions for materials' use. The package contents and design needed to reflect a multidimensional landscape, including cultural, political and natural features of the Gwaii Haanas area while taking into account the needs and perspectives of Haida people. As well, in order to accommodate the intended use of this package, the design of the lesson plans had to suit a training program format while the content had to blend with the main focuses and functions of the Haida Gwaii Watchmen program. It was also recommended that the contents of an education

package be primarily hands-on, with written information kept simple and brief. As it was not clear how much time would be allotted to a training session on marine mammals, or who would facilitate the session, the lessons needed to be flexible and adaptable so that the hands-on materials could be experienced separately, in any order, with little preparation needed. However, it should be noted, a background knowledge of and experience with marine mammals and research on the part of the facilitator would surely strengthen the presentation and use of the materials contained within the package.

While some components of the sample lesson plans are common to educational programs (i.e. the itemizing of concepts, materials, and activities), other components have been created to suit a particular user group (the Haida Gwaii Watchmen) and a particular learning environment (Haida Gwaii). For the sake of illustration, a review of the sample lesson plans will begin with a brief explanation of these latter aspects.

Components of Sample Lesson Plans

Inquiry Questions.

A series of questions were provided as advanced organizers at the beginning of each lesson to supplement the lesson overview and as a possible aid for the participants' inquiry. The intent of these questions was to focus the participants' thinking on the main ideas of each lesson and to arouse interest and further thought about the subject matter.

Background Information.

As it was not clear whether the facilitator for these materials would be required to have understandings and knowledge of marine mammals, background material was provided with each lesson.

Evaluation.

Evaluation of package materials would be an ongoing process, taking place after each activity or lesson plan. As well, evaluation would be a collaboration involving the Watchmen and facilitator, determining where improvements in design and content could be made. For example, following an activity which contains a traditional story, the Watchmen and facilitator might address the following questions: Is the story familiar to any of the Watchmen? How should traditional stories be presented in this package? Are there other stories or experiences which the Watchmen could contribute to this activity?

Application at the Basecamps.

One key objective of the evaluation process would be to assess the transferability of the activities and materials contained within this kit to a Watchmen basecamp setting. A question or series of questions regarding transferability, included within each lesson, were intended for discussion with the Watchmen. For example, how might a traditional song, story or dance be incorporated into the visitors' experience of the old village sites? Is it desirable to present certain stories, songs or dances to visitors?

Additional Resource Materials.

When appropriate, a list of resource materials has been included at the end of each lesson to encourage each participant to further her or his inquiry into certain ideas presented and to research other areas of interest. Additional resource materials might include: (a) transcripts of a story, song or interview; (b) a list of pertinent resource books, research articles and newspaper clippings; and (c) photographs and maps.

Sample Lesson Plans

The *Marine Mammals of Gwaii Haanas* prototype resource package was organized into two units: "Killer Whales and Gwaii Haanas" and "Connections between Marine Mammals and People". The following outline illustrates the proposed format and content for a resource package by way of sample units and lesson plans. In addition, these samples show stylistic possibilites for the further development of the prototype package. For a listing of additional lessons see Appendix F.

Unit Outline

Unit 1: Killer Whales and Gwaii Haanas

Lesson 1: Traditional Haida Representations of Killer Whales

- Activity 1: Distinguishing Features of Killer Whales in Haida Carving
- Activity 2: Traditional Stories About Killer Whales

Lesson 2: Photo-identification: A Method of Whale Research

- Activity 1: A Brief Historical Overview of Killer Whale Research
- Activity 2: Distinguishing Individual Whales
- Activity 3: Distinguishing Family Groups or Pods

Lesson 3: Current Killer Whale Research and Haida Gwaii

- Activity 1: Introduction to Killer Whale Researchers
- Activity 2: A "Whale Day" in Skincuttle Inlet
- Activity 3: Review of Marine Mammal Sighting Sheets

Lesson 4: Killer Whales and Haida Mythology

- Activity 1: Killer Whales in Mythology
- Activity 2: "Raven" and Haida Gwaii
- Activity 3: "The Two Brothers of Tiaan"

Unit 2: Connections Between Marine Mammals and People

Lesson 1: Fur Seals: Through the Eyes of the Hunter and the Researcher

- Activity 1: Recollections of Fur Seals
- Activity 2: Seals and People

Unit 1: Killer Whales and Gwaii Haanas

Overview

Traditionally the Haida distinguished individual killer whales, as is evident in the carved figures on poles as well as in other forms of Haida art. A discussion of the ways in which killer whales were distinguished by the 'old people', as well as the purpose this served, forms the basis of this inquiry, one which leads to an investigation of an identification technique used by whale researchers in the Gwaii Haanas area. The final lesson of this unit explores cultural perceptions of killer whales and other animals of Haida Gwaii through the use of historical photographs, stories and personal accounts.

Lesson 1: Traditional Haida Representations of Killer Whales

Inquiry Questions: Did the Haida traditionally make distinctions between individual killer whales? Why would identification of killer whales be of interest to the Haida people? What stories indicate that the 'old people' made these distinctions?

Further Inquiry: Why are killer whales (and other whales) identified today?

Concepts

1. Traditionally Haida people distinguished individual killer whales for reasons which may have been associated with clan representation.
2. Traditional Haida stories and crests describe certain distinctions Haida people made regarding killer whales.

Objectives

A main objective of this lesson is to discuss any memories and insights the Watchmen may have of how and why the 'old people' distinguished individual killer whales. Historical photographs are reviewed and traditional stories are shared to expand upon this discussion.

Materials

*historical photographs of poles depicting killer whale carvings
*audio tape of Henry Geddes describing his clan crest

Background Information

Henry Geddes, elder of Masset, affirms that the Haida distinguished between individual killer whales. The killer whale that represented Henry's clan, the Eagle clan, was carved on poles with a greyish-white stripe around the base of its dorsal fin. Killer whales helped members of the Eagle clan when they needed it. Henry pointed out that there were other killer whales which had different markings. If one looks closely at the numerous historical photographs of the Haida village sites, one can discover a range of forms which the killer whale crest took. For example, the killer whale crest on the mortuary pole in figure 3 was carved with two fins, each characterized by a perforated round hole. The killer whale crest in figure 4 was given the name Raven-fin by the 'old people' because of its resemblance to a raven's beak (note the top of the pole, which is an extension of the whale's dorsal fin, is split lengthwise). Sometimes, a whale was carved with a smaller whale in its mouth.

Figure 3. Pole at Skidegate village with two-finned killer whale crest. Note the single round perforation in each fin.
From the British Columbia Archives and Records Service
R. Maynard, photographer.

Figure 4. Memorial pole. The lengthwise split in the upper part of this pole represented a Raven-finned killer whale.
From British Columbia Provincial Museum Archives. Newcombe, 1913.

Activity 1: Distinguishing Features of Killer Whales in Haida Carvings

Brainstorm with the Watchmen their memories and knowledge of the how killer whales were distinguished by the 'old people.' After all of these memories have been shared and, if desired, recorded on blackboard or paper, hand out the photographs included with this lesson. Encourage the Watchmen to look at these photographs carefully. What other distinctive features can be identified from these photographs? Write down any "new" features. Encourage further discussion, including memories, personal interpretations and questions, of the meaning these markings might have held for the Haida people. Consider the following exploratory questions: Why were killer whales carved having two or five fins? What meaning or symbolism did a circular hole in the fin hold?

Activity 2: Traditional Stories

Tell the Watchmen the following story as told to me by Guujaaw:

> A woman once dreamt that she was sitting on the shore and a killer whale surfaced in front of her. The whale had a big hole in its dorsal fin. Upon seeing this, the woman reached with her hand through the hole in the whale's fin and followed through with her body as the whale swam away.

Is this story familiar to any of the Watchmen? Allow time for their responses. Are there other stories which describe how killer whales were distinguished from one another and why?

Application at Basecamps

Discuss how stories, such as those presented in this lesson, might be incorporated into the visitors' experience of the old village sites and whether or not it is desirable to do so.

Lesson 2: Photo-identification: A Method of Whale Research

Inquiry Questions: Why was biological research of killer whales initiated in British Columbia? What is the purpose of photo-identification?

Concepts

1. Research of killer whales was initiated in British Columbia in response to public concern over the live capture of whales for aquaria and how these captures might impact wild populations.
2. In order to find out how many killer whales lived along the British Columbia coastline, researchers learned how to identify individual whales.
3. Killer whales can be distinguished from one another by unique markings on their dorsal fins and saddle patches.
4. Researchers take photographs of individual killer whales to learn more about the social structure of killer whale family groups (pods) and communities, and the number and distribution of whales in British Columbia waters.

Objectives

By observing photographs of killer whales taken by researchers, the Watchmen will be asked to devise a method for distinguishing between individuals and family groups of killer whales. At several points during the lesson, the Watchmen will be asked to express their questions and concerns regarding killer whales and research techniques.

Materials

*slide series: A Brief Historical Overview of Killer Whale Research in British Columbia

*six to eight sets of photo-identification photocopies

*resource book: *Killer Whales of British Columbia*

Background Information

The study of killer whales in British Columbia began in 1970 in response to public concern regarding the live capture of whales for aquaria. A question asked at the time was: How many whales are living off the coasts of British Columbia and Washington? Researchers associated with the Pacific Biological Station in Nanaimo distributed questionnaires to individuals associated with lighthouses, ferries, fishery patrol boats, fishermen, and other people living along the coast. With the aid of the publics' responses to these questionnaires, researchers were able to estimate, quite accurately, the size of the killer whale population in British Columbia.

Inspired by these preliminary research findings, researchers started observing wild killer whales more closely and discovered that individual killer whales could be recognized by nicks and scratches on their dorsal fins and on the greyish white "saddle patch" on the whale's back. Researchers took pictures of this area and composed a photographic record of every killer whale spotted in British Columbia and Washington. Figure 5 shows an identification picture taken of a killer whale in Haida Gwaii. Note that the markings on this whale are very obvious. What might have caused such markings?

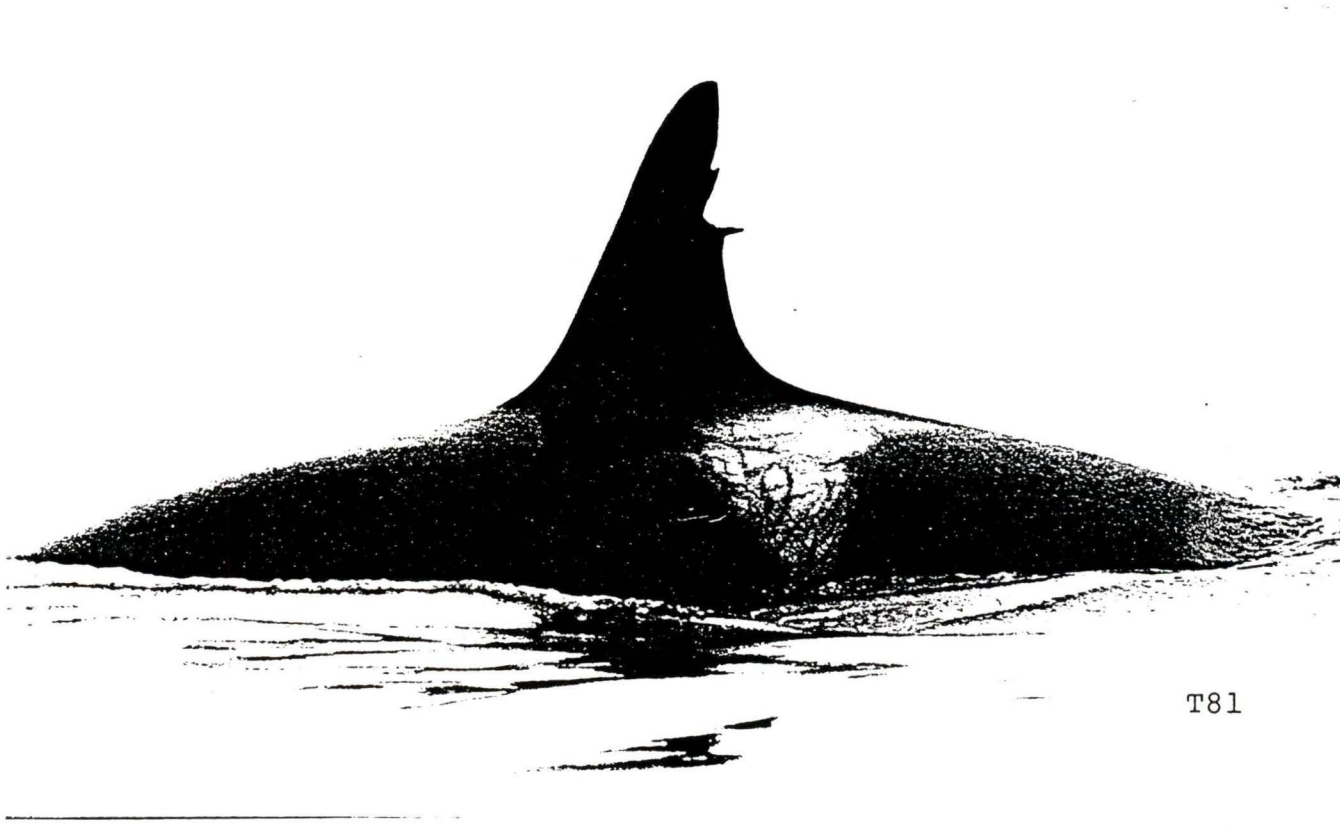

Figure 5. Killer whale photo identification shot depicting the kinds of "natural" markings researchers use to identify individual killer whales.
From *Killer whales of the Queen Charlotte Islands* by J. Ford, G. Ellis and L. Nichol, 1992.

The markings on the whales serve as a sort of fingerprint enabling researchers to recognize individual whales year after year. Over many years, researchers have collected valuable information about the lives of the whales including how far they travel, what they eat, and who the members of their families are.

Activity 1: A Brief Historical Overview of Killer Whale Research

Present the slides and commentary "A Brief Historical Overview of Killer Whale Research in British Columbia". After the presentation, allow time for Watchmen to respond with questions and personal observations. The following questions could be considered: Why was killer whale research initiated in British Columbia? How might the current killer whale research in Gwaii Haanas contribute to what is known about killer whales living along other parts of the British Columbia coastline?

Activity 2: Distinguishing Individual Whales

Hand out the sets of photo-identification shots. There should be one set of photocopies for groups of two to three Watchmen. Explain that these pictures are photocopies of the actual photographs which researchers took from their research vessels. Ask the Watchmen if they have ever seen or used such photographs before. Do they recognize any of the whales in the photographs? Working in groups, ask the Watchmen to try to distinguish one whale from another using the information available in their set of photographs. Things to look for include nicks and scratches on the dorsal fin and saddle patch as well as their shape and size.

Background Information (continued)

Over the twenty or more years of observing killer whales in the wild and carrying out photo-identification work, researchers have constructed a catalogue of photographs of each killer whale identified along the British Columbia coast. Catalogues have also been compiled for Washington and Alaskan whales. As well, researchers are continually trying to sort out family lineages as such information reveals a great deal about the social and reproductive behavior of killer whales. The lineages for killer whales photographed off of the British Columbia coast, as they have been determined so far, are contained within a booklet entitled, *Killer Whales in British Columbia* by M. Bigg, G. Ellis, J Ford, and K. Balcomb.

Activity 3: Distinguishing Family Groups or Pods

Review the book *Killer Whales in British Columbia* with the Watchmen. Point out several family groups and briefly explain how researchers came to group the whales in this way. Explain that each set of photo-identification shots contains part or all of a family group or "pod" of killer whales (each set is a different family group). To challenge the Watchmen in their identification work, some sets contain duplicate photographs. Using the same sets of photo-identification shots and the same Watchmen groups, ask the Watchmen how they would: (a) determine the number of individual whales represented in the family group, and (b) distinguish males from females. What other information might be learned by taking photographs of killer whales year after year in various parts of the Pacific Ocean?

Provide time for any questions, concerns and insights the Watchmen might have regarding killer whales and photo-identification.

Application at Basecamp

Ask the Watchmen for feedback on the photo-identification shots, (i.e. would such photocopies be useful when talking with visitors at the basecamps? Is there something that would be more useful? How might the book *Killer Whales in British Columbia* be used as a resource tool at the basecamp?)

Additional Resource Materials

*References:

Bigg, M., Ellis, G., Ford, J., & Balcomb, K. (1987). Killer whales. A study of their identification, genealogy and natural history in British Columbia and Washington State. Nanaimo: Phantom.

Lesson 3: Current Killer Whale Research and Haida Gwaii

Inquiry Questions: Why is killer whale research being conducted in Haida Gwaii? Who are the researchers and which is their vessel? What are the researchers doing; what tools are they using; what are they finding out? How might the Haida Gwaii Watchmen become involved in local killer whale research?

Concepts

1. The islands and waters of Haida Gwaii provide important feeding, resting, and socializing areas for killer whales.
2. Observations of killer whales in the Gwaii Haanas area contribute to what is being learned about killer whales living in other parts of the Pacific Ocean.
3. Researchers use a variety of equipment and have developed certain skills to study killer whales in their natural environment.
4. Each one of us comes with our own perceptions of killer whales. These perceptions vary from person to person and culture to culture.
5. Observations of killer whales, gathered from personal experience and research findings, can be used when talking with visitors about the marine mammals of Haida Gwaii.

Objectives

It is important that the Watchmen have an opportunity to familiarize themselves with the people who have conducted research of killer whales in Gwaii Haanas in the past and those who will continue the research in the upcoming field season. As part of an exchange of personal experiences of killer whales and whale

research, the Watchmen will observe slides taken from a whale research vessel in Skincuttle Inlet and will have an opportunity to manipulate several pieces of equipment used by killer whale researchers. As well, this lesson explores how the Watchmen can become involved in local whale research.

Materials

*slide series 1: Introduction to the whale researchers
*slide series 2: A "Whale Day" in Skincuttle Inlet with transcript
*tape recording of resident and transient killer whale vocalizations
*various research equipment, including a hydrophone, tape recorder, binoculars, whale sightings record sheets, identification booklet, and stopwatch

Background Information

Surveys for killer whales were carried out in the Haida Gwaii Archipelago in 1990, 1991 and 1992. Two surveys took place around Langara Island in 1990 and 1991. Two more surveys took place in the waters surrounding Gwaii Haanas in 1991 and 1992. In the 1991 survey of the Gwaii Haanas area, a research base was established on Huxley Island while most of the research was conducted from a zodiac. In the 1992 survey, researchers were not restricted to a land based camp, but instead conducted all of their work from an old fishing boat converted home.

Research of killer whales in the Gwaii Haanas Archipelago has revealed a "new" community of killer whales, in other words, whales that researchers have not previously photographed or identified. For

some people, this discovery may raise the question: Why is it important to learn more about killer whales in the Charlottes? Researchers have tried to answer this question. They say that whales provide clues to the state of the marine environment. If the whales are healthy (i.e. they continue to travel, eat, and reproduce as they have in the past) it is a good indication that the ocean is also healthy. As well, by learning about the killer whales of Haida Gwaii, researchers will be more likely to understand changes in whale populations living along the coast of British Columbia and, in turn, express that understanding to the public and to policy makers when management decisions are made regarding the marine environment, whales, and human activity.

Activity 1: Introduction to Killer Whale Researchers

Using slide series 1, introduce the Watchmen to the people who conducted killer whale research during the 1991 and 1992 field seasons, the site of their research camp, as well as the people and the vessel continuing the research in 1993. If possible, invite one or more of these people to attend part of the Watchmen training session so they can meet with the Watchmen personally.

Activity 2: A "Whale Day" in Skincuttle Inlet

With the accompanying slide series 2, transcript and sounds, walk the Watchmen through a day of collecting information on a group of killer whales in Skincuttle Inlet as experienced by this researcher. The first half of this presentation reviews the tools and techniques which researchers use to locate and photograph killer whales. At a

designated break in the slide presentation, hand out the research equipment included with this lesson and allow time for the Watchmen to familiarize themselves with these materials and to make comments or ask questions before continuing with the slides. The second half of the slide presentation focuses on the behaviour of a group of killer whales in Skincuttle Inlet, including the whales' use of kelp and shallow water beaches for resting, socializing and hunting. The following questions may be considered: How common is it to spot killer whales in Gwaii Haanas? Where are the whales often seen and why? Have any of the Watchmen observed killer whales hunting? How do they hunt?

After the slide presentation allow time for a discussion of personal experiences and observations of whales and other marine mammals.

Activity 3: A Review of Marine Mammal Sighting Sheets

Hand out copies of the Marine Mammal Sighting Record (see Figure 6). Review these records with the Watchmen and address their questions or suggestions.

Application at Basecamp

Discuss how the Watchmen might like to be involved with the killer whale research conducted locally (i.e. keeping a written record of whale sightings, contacting researchers via VHF radio). Brainstorm how the equipment contained within this section and local research findings could be used when talking with visitors about killer whales. To aid this discussion, review the research equipment with the

Watchmen. How might the photo-identification book be used at the basecamp?

VANCOUVER AQUARIUM RESEARCH

MARINE MAMMAL SIGHTING RECORD

Date _____ 19____ Time _____

Species _____

Location _____

Lat/Long _____ Depth _____

Wind speed ____ kts Sea state _____ Vis ____ nm

No. in group _____ ± ____ No. of bulls____ No. of calves____

Comments (Please note behaviours or activities, direction of travel, and any unusual markings on body or dorsal fin*) :

_____

_____

_____

_____

_____

_____

Photos? _____ Videos? _____ U/W recording? _____

Observer _____ Phone no. _____

Vessel/Address _____

* If uncertain of species identity, please note body shape and size, presence or absence of dorsal fin, body colouration, and any other distinguishing features. Use back of form for sketches or further details.

Please return to: Marine Mammal Research, Vancouver Aquarium, P.O. Box 3232, Vancouver, B.C. V6B 3X8

Figure 6. Marine Mammal Sighting Record distributed in 1991 and 1992 in the Gwaii Haanas area by killer whale researchers. From Marine Mammal Research, Vancouver Aquarium.

Additional Resource Materials

*Guidelines for Whale Watching (source: Bigg, et al, 1987 in Bibliography)

*transcript of an interview with Linda Nichol, a researcher for the 1991 field season (source: this author)

*copy of the 1992 research report: *Killer Whales of the Queen Charlotte Islands*, prepared for South Moresby/Gwaii Haanas National Park Reserve, Canadian Parks Service (source: Canadian Parks Service, Queen Charlotte office).

*newspaper article, "New killer whale superpod discovered" (source: The Vancouver Sun, Wednesday, May 6, 1992) (see Appendix C).

*Reference:

Lien, J., Staniforth, S., & Fawcett, L. (1985). Teaching fishermen about whales: The role of education in a fisheries management and conservation problem. In J. Lien & R. Graham (Eds.), Marine parks and conservation (pp. 231-239). Saint John's: National and Provincial Parks Association of Canada.

Lesson 4: Killer Whales and Haida Mythology

Inquiry Questions: What function or purpose did spiritual stories have for the 'old people'? What was the 'old peoples" perception of power? How are animals and plants portrayed as having supernatural power in Haida mythology? Which animal was considered to have the most power?

Further Inquiry: In what ways could an individual gain power?

Concepts

1. Myths are stories which often develop from and tell about a person's experiences in the (super) natural world.
2. Myths provide explanations of natural phenomenon.
3. Myths express cultural beliefs and perceptions regarding the (super) natural world.
4. Everything in nature is believed to be a potential source of power which can be beneficial or harmful to the person encountering it.
5. Distinctions are not made between the natural and the supernatural worlds, myth and reality, or humans and animals.
6. The Haida word for "Power" is also the word used for all supernatural beings of which the killer whale is considered to be the most powerful.

Objectives

Spiritual stories are shared as expressions of individual and cultural knowledge and perceptions of the natural world. Both Watchmen and facilitator will discuss how stories might be used as teaching tools at the basecamps.

Materials

*written story of the origin of rocks near Tow Hill (told by Henry Geddes)

*tape recording of "Raven and the First People" (told by Golie Hans)

*transcript of "Raven and the First People" (Haida and English translations) (see Appendix D)

*tape recording and transcript of "Two Brothers at Tiaan" (told by Henry Geddes) (see Appendix E)

*photographs and drawings of Raven

*copies of "The Woman Who Was Kidnapped by the Killer Whales" (by D. Ellis and Solomon Wilson)

*map of Haida Gwaii (hand drawn by H. Stewart)

Background Information

Haida elders have translated their word for "myth" as "it's like a parable in the Bible." Myths are narratives or personal stories which develop out of a person's experiences.

There are stories that explain natural phenomena and people's beliefs about them. One story tells of how people who drowned or were lost at sea were taken to an underwater village of the Ocean People (supernatural beings under the sea) where they were fitted with dorsal fins and became killer whales. Thus, whenever killer whales appeared in front of a village, the people of that village stopped what they were doing and thought about those people who had recently drowned. It was believed that killer whales were really humans returning to their village to inform people about what had happened.

There is a story about a woman at Yaan who was baking bread. A group of killer whales came to that village every day and when they came, the woman dropped all of the bread and sugar she was carrying and she said to them, 'don't come up this way again, you make it real hard for us.' Her husband had drowned recently and she believed that was why killer whales kept coming to her village.

Activity 1: Killer Whales in Haida Mythology

Relate the story which explains why killer whales passed by the old villages. Ask the Watchmen to share stories they have which describe natural phenomena. If an extension of this activity is desired, share the story of the origin of the rocks near Tow Hill and point out the location of these rocks using the map provided.

Background Information (continued)

To the Haida everything in nature is a potential source of power. The Haida word for "power" is also the word used to refer to all supernatural beings, including killer whales. Killer whales were believed to be the most powerful of all supernatural beings. While Raven represented the manipulative side of power, the killer whale represented the solemn side.

Activity 2: Raven and Haida Gwaii

Play the tape recording of the story, "Raven and the First People", spoken in the Skidegate dialect (see Appendix D for English translation). Hand out photographs which depict Raven as a (super) natural being (see Figure 7). Compare peoples' perceptions of Raven

today with those held in the past. Are there other songs, dances, stories, or personal experiences that should be included with this theme of animals and Haida mythology?

Background Information (continued)

Killer whales were thought to live in underwater villages located near prominent landmarks such as Nee Kun, Cape Ball, and Tiaan. The whales were given names which were claimed by people who owned land near these landmarks and were often held by lineage chiefs. The killer whale crest is considered the oldest crest among the Haida people.

The power possessed by supernatural beings could influence a person's life in positive or negative ways depending on the person's intention. Positive experiences involved acts of kindness between people and supernatural beings. For example, in one story a man found a killer whale lying on the beach with a whale rib caught between his teeth. After the man removed the rib, the whale gave him ten whales. In another story, told by Henry Geddes, a man and his wife became lost at sea in their boat. The woman said to her husband, 'You always talk about the friends you have out there that nobody sees.' So the man stood up and started to talk. When he did this two big killer whales came up along side of the boat, lifted it up and took the man and the woman to shore.

The story "Two Brothers at Tiaan", told here by Henry Geddes, describes the experiences of two Haida youths who were disrespectful to a beautiful marine bird and to the supernatural beings who lived in the ocean.

Figure 7. The Raven and the first men, yellow cedar sculpture by Bill Reid.
From *Bill Reid: beyond the essential form* by K. Duffek, 1986, Vancouver: University of British Columbia and Museum of Anthropology. Copyright 1982 by University of British Columbia and the Museum of Anthropology. Reprinted by permission.

Activity 3: Two Brothers at Tiaan

Using the transcript or audio-tape, relate the story "Two Brothers at Tiaan", as told by Henry Geddes (see Appendix E). Discuss the plants and animals in this story and their supernatural qualities. How are the animals in this story, as well as in other stories, frequently depicted as protecting humans from forces of nature? Hand out copies of "The Woman Who Was Kidnapped by the Killer Whales" to further the discussion of the supernatural power of killer whales and its influence on humans.

Application at the Basecamps

How might Raven's presence at the basecamps assist the Watchmen when talking with visitors about the supernatural features of animals of Haida Gwaii?

Additional Resource Materials

*References:

Boelscher, M. 1988. The curtain within. Haida social and mythical discourse. Vancouver: University of British Columbia Press.

Smyly, J., and Smyly, C. 1973. Those born at Koona. Vancouver: Hancock House Publishers.

Swanton, J. R. 1905. Contributions to the ethnology of the Haida. American Museum of Natural History Memoir 8(1)

Unit 2: Connections Between Marine Mammals and People

Overview

During my visit to Haida Gwaii I saw, so clearly, Haida connectedness with the natural cycles of the Islands and I experienced the strength of this connection in the words and in the lives of the people with whom I spoke. One Haida woman told me that, when she was very young, she was taught to respect the food she gathered and to respect in turn the earth that provided that food. Historically, the Haida expressed reverence for the earth in the way food was gathered and prepared: for each thing that was taken from the natural environment, whether fish, kelp, tree bark, or marine mammal, something had to be given back in return so that there would be enough to harvest the following year. Today these traditions of food gathering, reveal a sensitivity and respect for the earth as provider and continue to be a way of life on Haida Gwaii. This unit begins to explore this reverence as it is expressed in the individual's and the culture's relationship with the marine environment, from the past to the present day.

Lesson 1: Fur Seals: Through the Eyes of the Hunter and the Researcher

Inquiry Questions: What was the fur seal used for traditionally? How was the seal hunted?

Further Inquiry: What was the sea lion and common seal used for traditionally? Describe past and present day conflicts between seals and people.

Concepts

1. Fur seals were hunted mainly for their fur, the only meaty part of the animal being in the shoulder region.
2. Traditional methods of hunting fur seals were adapted to the seals' behavior and to the marine environment.
3. Fur seals were often spotted by the hunter in a "teapot" or "jug" position.
4. A sleeping fur seal was often easy prey for the hunter.

Objectives

This lesson is designed for participants to consider traditional as well as scientific knowledge and experience while exploring peoples' connections with marine mammals of Haida Gwaii. Fur seal behavioural biology is explored through the personal accounts of a hunter and a researcher. As well, the Watchmen will be asked for their insights and perspectives of historical and current conflicts between seals and fishermen.

Materials

*tape-recording of Henry Geddes' recollections hunting the northern fur seal

*picture cards to accompany Henry Geddes' recollections hunting the northern fur seal along with a description on the back of each card (i.e. fur seal in a typical sleeping posture, Makah youth stalking a sleeping fur seal, fur seal harpoon head, fur seal migration routes)

*map showing winter and summer migration routes of the northern fur seal

*photocopies of newspaper clippings and Newcombe's reports which document seal/human conflict as well as traditional and commercial uses of sea lions

*a sketch of fur seals by one early explorer, Georg von Langsdorff

Background Information

Several elders with whom I spoke, indicated that fur seal meat was largely preferred over sea lion or spotted (harbour) seal. Some said that spotted seal was almost immediately rejected by the body after the meat was swallowed.

Henry Geddes recalled hunting fur seals in the early summer when, feeding on herring and smaller fish, the seals moved north along the west and east coasts of the Charlottes en route to the Pribilof Islands. Often five or six men would go out in a single boat to hunt the seals. Once caught, the seals were skinned on the boat and only the skins, with as much of the blubber left on them as possible, were kept. The only "meaty" part on the seal, which was often kept and later eaten, was the shoulder. One time, Henry

recalled, the group of men on his boat returned with over seventy seal skins.

Remembering how he used to spot fur seals in the water from a long way off Henry explained, 'They looked like a cluster of birds and their flippers were always on the move. They sleep on their backs and their chest sticks out of the water. Just their nose pops up out of the water every once in a while for air.' Does the photograph in figure 8 match Henry's description?

Figure 8. Sleeping fur seal.
By G. Ellis, Pacific Biological Station, Nanaimo.

In the late 1950's and continuing into the mid 1970's, a long term biological research project of northern fur seals was initiated on behalf of the governments of Canada, Japan, Russia and the United States. Although each of these countries had a vested interest in the seal's coat, which had long been a source of great monetary value, there was a growing concern with the number of commercially important fish that the seals were eating. Therefore, the objectives of the research were to determine the migration routes of the northern fur seal, the size of the seal populations, and the impact the animals were having on commercially important fishes. Findings from that research, as well as from ongoing research carried out by biologists at the Pacific Biological Station, indicate that the diet of northern fur seals consists mainly of small schooling fishes such as herring and pollock. However, because of the difficulty in estimating the number of seals wintering off the British Columbia coast, it has not been possible to determine the total amount of fish consumed by fur seals in British Columbia waters.

One of the Canadian biologists involved with the northern fur seal project was Ian MacAskie. Among the resource materials which accompany this lesson, you will find excerpts from Ian's book, *The Long Beaches* in which he describes his observations of the northern fur seal.

Activity 1: Recollections of Fur Seals

Listen to the tape of Henry Geddes recalling his observations of fur seals in the waters surrounding Haida Gwaii. Pass around photographs and illustrations of fur seals to supplement Henry's

descriptions and review the descriptions on the back of each photograph. Ask the Watchmen for their observations and experiences of fur seals as well as other seals (i.e. When were fur seals last spotted by the Watchmen?; Where was this and at what time of year?)

Activity 2: Seals and People

Review the newspaper articles which document historical and current conflicts between seals and people. Do seals or sea lions cause problems for fishermen on Haida Gwaii? What solutions or options exist?

Application at Basecamps

Review the resource materials with the Watchmen and discuss how they might be used at the basecamps.

Additional Resource Materials

*transcript of Henry Geddes' recollections of seal and sea lion bounties (source: this author)

*References:

MacAskie, I. (1979). The long beaches: A voyage in search of the North Pacific fur seal. Victoria, British Columbia: Sono Nis Press.

Newcombe Family Papers. Add Mss. 1077. British Columbia Archives and Records Service.

Olesiuk, P., & Bigg, M. (1988). Seals and sea lions on the British Columbia coast. Nanaimo, British Columbia: Department of Fisheries and Oceans.

Trites, A. (1990). The Northern fur seal: Biological relationships, ecological patterns and population management. Unpublished master's thesis, University of British Columbia.

CHAPTER 5:
Summary of Recommendations for a Research Process and Resource Material Development

Overview

During the period of fieldwork and writing for this project, I watched a number of processes emerge and evolve. One process included the experiences I had and decisions I made while conducting field research on Haida Gwaii, while another process involved separating myself somewhat from these experiences and assessing the approach I was taking to data collection and analysis. I liken this latter process to an intellectual interplay between my beliefs about the nature of education, my experiences on Haida Gwaii, and my research decisions. Lastly, and perhaps most challenging, was the process of *writing about* my Haida Gwaii experiences in a way which honestly represented this research interplay. One thing that evolved from experience and reflection was personal meaning. I came to more deeply understand myself, the questions I asked, the risks I was willing to take and the things in which I believed in the area of curriculum development.

This chapter is divided into three sections. The first section reviews further insights into my personal curriculum[7] which evolved as part of the research process for this thesis. The second section takes a closer look at a critical part of the context for this research, namely negotiation of entry. The third section contains recommendations for conducting future research projects with the

Canadian Parks Service, including resource package design and qualities of resource materials.

Insights Into My Personal Curriculum

As the reader might recall from the introduction to this paper, I briefly discussed why it was important for me, as an interpreter and a volunteer coordinator, to bring concrete experiences to my interpretive talks. Thus, in educational programs, I encouraged personal interactions with the public where trust formed a basis on which conversations could develop. Over the course of this research, my recognition and understanding of what is important to me in public education and interpretation has evolved to include educational research and curriculum design. As well, as I have gained a deeper insight into my personal curriculum, I have become aware of the role it has played in this research process. What follows are examples in an attempt to illustrate this point.

My Voice

While attempting to meet the criteria of other groups involved with this research project, such as the Canadian Parks Service, there were many times when I felt disconnected from my own research and writing. For example, before I started to trust my insights and value my beliefs, I often tried out other individual or group perspectives and took them on as if they were my own. The more I attempted this, the more I detached myself from experiences which were *mine*, and the greater became my frustration with the outcome. An important consequence of this thesis was a stronger sense of

what it meant to present another person's voice as honestly as possible while keeping each voice, my own included, distinct.

Keeping the "I" in Curriculum Development

Just as important as my own voice in the writing of this thesis was keeping that voice (i.e. my experiences) integrated in the resource materials. For example, I experimented with writing vignettes to accompany specific resource materials and included personal stories and experiences in the curriculum. In so doing, I hoped to do several things: (a) build upon a curriculum that was rooted in concrete life experience; (b) encourage other users to explore personal stories together; and (c) foster a personal connection between myself and the curriculum materials, a connection that might otherwise be lost in the shuffle to produce a "product".

My Role

This linkage between myself and curriculum was vital to how I viewed my "role" in curriculum development. My role in this project was initially defined for me by the "Canadian Parks Service Volunteer Project Description", in which it is stated that volunteers provide "professional advice and guidance to the Canadian Parks Service" and, in addition, "conduct field research, gather information, provide analysis and recommendations regarding the content, approach, format and preparation of resource/education kits developed as part of the Haida Gwaii Watchmen training program." In other words, my role was not only that of a volunteer, but that of a researcher, a curriculum designer and, to some degree, a

curriculum developer as well. Nonetheless, having fulfilled the roles that were defined for me, I came to recognize the involvement I sought in this research project. I attempted to be a resource person, turning over what had been shared with me and sharing it with other people; a facilitator, guiding the users of this package as they individually oriented themselves to ideas and materials contained within the kit; and a co-participant, taking part in the evolution and use of the materials. Thus, with every step I took in developing the kit materials, I did so with a certain self-consciousness, aware that I was as much a user of the materials as I was a researcher, a designer and a developer.

With these understandings, I was compelled to take a closer look at the central research question of the thesis, namely: How could I go about designing resource materials for a training program while accounting for the needs and perspectives of the Haida, the Canadian Parks Service, and myself? I wished to revisit what I originally sought when I first asked myself this question and to consider its relevancy throughout the thesis' evolution. By reasking the question I was not simply anticipating how I was to accomplish project requirements. Rather, I was continuing an inquiry into my own beliefs and values in education. The insights just described guided me in my approach to meeting project requirements.

Further Insight into a Research Project

For a long time during the research and write-up of this thesis, I was determined to understand what it was about my experiences on Haida Gwaii that made this research an often uncomfortable process for me. Before listing my recommendations for further volunteer research projects with the Canadian Parks Service, I will discuss a feature of my research which, at least initially, set the stage for the difficulty I had.

Background to a Problem

Designing a resource package was not simply a matter of gathering information about a relationship between marine mammals and Haida people in order to create a suitable curriculum design. It involved a great deal of commiserating with the people with whom I worked and attending to individual viewpoints (viewpoints rooted in the cultural, political, and ecological features of Haida Gwaii) in a way which was open to perspectives often different from my own and from others. The relationships that grew between myself and these people were personal to a degree, but all contained a sense of formality. I recognized this formality as a feature of the context in which I worked. In turn, this context was complicated by several factors. Firstly, few Parks staff or Haida Gwaii Watchmen had received any formal introduction to myself or to my project prior to or throughout my first field season. Thus, my presence on the islands and in the Parks office was little understood. Secondly, Park's staff members had had no previous experience working with volunteers or with volunteer programs such as the one in which I

was engaged. Finally, during the critical period of field research, there was considerable turnover of Canadian Parks Service staff in the position of Project Manager/Volunteer Coordinator.

While each of these factors challenged project development, none were considered unique. Rather, they were indicative of a political climate which I had to assess and, to a large degree, accept as part of the context of the project. Nonetheless, I will discuss a feature of educational research which has implications for the further development of this project and for future volunteer research efforts on Haida Gwaii.

Negotiation of Entry

In my volunteer engagement with the Canadian Parks Service, I realized one of the things that was not made explicit in the context which encompassed my research was, what Erickson (1986) called, "negotiation of entry in the field setting." Erickson noted that in the "ideal" field situation, the researcher would be able to observe anywhere at anytime and interview anyone about any topic. But, in reality, such a situation may not be in the best interests of those involved in the research setting. Thus, in educational research, particularly in the area of human science research, those who take responsibility for the research should negotiate what Erickson has referred to as "issues of special interest" with those individuals or groups whom the research involves. For example, all of the people likely to be affected by the research should receive a full explanation of the purpose of the research, the kinds of information desired, how this information might be used, and who would use it. In addition,

individuals should also be informed of potential risks or added burdens to them as a result of the research. For example, if the researcher intends to be present in a given situation as a participant observer, individuals need to know that their actions and comments will be recorded. Erickson noted that "the very process of explicit entry negotiation with all categories of persons likely to be affected by the research" can enable research access "under conditions that are fair both to the research subjects and to the researcher" and establish "the grounds for building rapport and trust."

Even after the field work has been completed, negotiation of entry must be reinterpreted with every additional contact made with the people and the research site (Erickson, 1986). My own experience of this was most revealing during my second summer on Haida Gwaii when I reconnected with elders Charley Wesley, Wesley Pearson and Henry Geddes. I recognized that careful negotiation of entry was essential, and, this time, it was completely up to me to ensure that the negotiation was explicitly made. I was heartened by the kinds of responses my re-visits inspired and relieved at knowing that, to some extent, I had managed to step into unknown territory between a degree of professionalism created in the research context and my own desire for friendship and personalism in each interaction. For example, I spent one morning with Charley and his family in their home in Skidegate village where, once again, we warmed our hands around cups of hot coffee while revisiting memories of the last couple of years at the basecamps, exchanging personal perceptions of local events, and predicting what the future would bring. As well, one cold June evening, I revisited Henry

Geddes in his home in Masset, and was pleased with how we were able to pick up where we had left off a year earlier with Henry's maps, his stories of his ancestors, and what felt like the simple pleasure of each others' company. Then, soon after visiting with Charley and Henry, Wesley Pearson recognized me in the local grocery store and, although he had long forgotten my name, Wes all too clearly remembered the day that I descended upon him and Bubbi at their basecamp at Windy Bay. Within the short space of time that comprised our supermarket reunion, Wes shared another story with me which represented for me the importance of the informal nature which research can take with careful and consistent negotiation of entry into the field setting.

I expect that careful negotiation of entry will continue to be influential in my relationship with certain groups and organizations on Haida Gwaii. To provide an example in addition to those just described, I was asked by Canadian Parks Service personnel to present an overview of the *Marine Mammals of Gwaii Haanas* prototype to the office staff once the materials were available. Thus, I emphasize negotiation of entry here as I have come to understand its role in my own research inquiry, and as I realize its relevancy to the further development and use of the *Marine Mammals of Gwaii Haanas* resource package.

Recommendations for Conducting Future Volunteer Research Projects with the Canadian Parks Service

The following recommendations, based on my experiences negotiating entry to the research settings on Haida Gwaii, are

directed to future volunteer research projects with the Canadian Parks Service:

1. A clearly defined period of time should be set aside specifically for introducing and discussing future volunteer research proposals and objectives with all interested parties (i.e. Haida Gwaii Watchmen and Program Coordinator, Skidegate and Masset Haida Band Councils, Canadian Parks personnel, and teachers).

2. Volunteer researchers should be present at this introductory meeting and then reintroduced to the individual Watchmen at the basecamps.

3. Those people studied, especially the focal research subjects, should be as informed as possible of the purposes and activities of the research project, including any extra work that will be expected of them (Erickson, 1986).

4. Those people studied should be protected as much as possible from psychological and social risks of the research effort, especially in the case where the researched information is intended for use in the local setting (Erickson).

5. A clearly defined agreement should be drawn up by all research participants which guarantees the strict protection of information gathered at the research site whereupon, only under special circumstances stipulated in the agreement, can the information be used for specific purposes.

6. Research time should be invested into establishing a basis for mutual trust and rapport between focal participants in the research (i.e. Haida Gwaii Watchmen, researchers and the Canadian Parks Volunteer Coordinator).

7. The researcher should identify the specific values, perceptions, needs and perspectives held by focal groups and individuals.

8. Focal research subjects should be directly involved in the research effort where genuine partnership is fostered and participants work together to determine research questions and to collect data.

9. Resources should be invested into developing a network of information sharing among members of the Skidegate Band Council and the Masset Band Council, Museum staff at Second Beach, teachers and cultural assistants at Queen Charlotte Secondary School, Canadian Parks Service personnel and volunteer researchers.

Each of these recommendations makes some reference to a disparity that can exist between the researcher and the research subjects in the human sciences. While my own research was primarily carried out in traditional ethnographic fashion, I became aware of the strong possibilities for taking down the barriers that existed between the researcher and focal research subjects. An excellent way of doing this would be to include those individuals most likely affected by the research in several or all stages of research development (Erickson, 1986; Payne, 1990). In my own research, I could not adopt this kind of approach due to a number of constraints which ranged from the very concrete (time) to the very abstract (political, cultural and personal issues). Instead, in the design of the resource package I included activities which required the collaboration of all participants and users as it was in the resource package that I found the freedom to do so.

I would like to see a collaborative effort integrated directly into future resource packages developed in cooperation with the Canadian Parks Service on Haida Gwaii. For me, the importance of collaborative work in educational research lies in reaching a deeper understanding of the kinds of ethical questions I found myself asking prior to and during fieldwork, questions such as "Who is this research going to benefit?" and "How might the research make certain people feel at risk?" "Taking a collaborative approach to research, what meaning might the research question, the process or approach to the research, and the 'outcome' of that process or approach, hold for those focal individuals with whom the research is conducted?" More specifically, "What implications might a collaborative approach to the design and development of resource materials have for the Haida Gwaii Watchmen and a training program?" A training program that involved Watchmen, facilitators, Parks personnel, and researchers, working together to formulate questions of interest and to plan approaches to specific problems and concerns would certainly stand in contrast to a more traditional form of training with its focus imposed from the employer's or program designer's conception of what was important. In my own research, I was constantly reminded that the Haida people were the informed experts when it came to the marine environment of Haida Gwaii. Turning back to the research approach then, I conclude that, in this case, educational research should evolve as a medium in which each individual, and her or his claim to traditional knowledge, finds recognition and respect, and through which individuals and groups

can make their concerns and ideas both visible and audible in research.

Recommendations for Resource Package Design

In my conversations with both Haida and non-Haida individuals, the topic of resource package design inspired a great deal of thought and discussion. The following recommendations were emphasized by those people with whom I spoke as features which should be considered when designing resource materials for the Haida Gwaii Watchmen program. The design of the resource materials should: (a) build upon a role which the Haida Gwaii Watchmen seem to most naturally fill while at the basecamps: that of interpreter and resource person. The resource package should be a tool which the Watchmen could use while evolving this role; (b) allow the Watchmen opportunities to develop their own skills (i.e. story-telling) as well as any new skills they acquire while using the materials; and (c) give the Watchmen the opportunity to explore the resource materials on their own, outside of the formal training session. Such an opportunity could be created with a simply designed, easy to use resource booklet, which the Watchmen could take home with them to further investigate some aspect of the *Marine Mammals of Gwaii Haanas* resource package. As well, a booklet designed to appeal to a range of ages would more likely have its contents considered and shared with other family members.

Recommended Qualities of Resource Materials

The following recommended features of educational resources are pertinent for the *Marine Mammals of Gwaii Haanas* resource package as well as future resource packages developed in cooperation with the Canadian Parks Service. The resource materials should: (a) be readily adaptable to the natural, cultural, personal and political climate of Haida Gwaii, (b) reflect current day understandings, concerns and perspectives of the Haida people, (c) integrate both local and global marine issues, (d) encourage all users to participate in the evolution of the materials (e) incorporate information from first-hand sources (i.e. encourage the Watchmen to provide a historical perspective of Haida interaction with marine mammals), (f) respect the beliefs and values of the user, (g) include traditional and present day experiences and stories, (h) reflect parallels between traditional knowledge and scientific thought, (i) support the Watchmen as carvers, story-tellers, fishermen and resource people, (j) contain concise, straightforward instructions with each activity, (k) include hands-on, manipulatives, and (l) include a resource list or annotated bibliography as well as a selection of resource books.

Suggested Resource Materials for Unit 2

The following list includes suggestions for resource materials that should be considered for Unit 2: Connections Between Marine Mammals and People:

1. A set of marine mammal identification cards describing each species of marine mammal living in the Gwaii Haanas area should be

included in Unit 2. The front of each card should display an enlarged photograph of the marine mammal species with both sexes and age classes represented. The flip side of each card should provide a map detailing migration routes (when applicable) and distribution. Text should be brief and include the following information: common name, Haida name (Skidegate and Masset dialect), Latin name, morphology, behaviour, habitat, diet, predators, range, traditional and commercial uses, and status. To adequately represent the range of marine mammal species that inhabit in the Gwaii Haanas area, the marine mammal cards should include both frequently sighted species, such as the gray whale and the harbour seal, and infrequently sighted species, such as the elephant seal and the killer whale. The intention of these cards would be to: (a) provide a simple resource tool, both in a training session with the Watchmen and at the basecamps with visitors, for quick and accurate identification of marine mammals of Gwaii Haanas; and (b) aid in discussions of local marine mammal species.

2. A set of four or five picture cards should accompany Henry Geddes' recollections of hunting the Northern fur seal. For example, one card should include a picture of a sleeping fur seal, another should depict a map of fur seal migration routes, while another should present a sketch of a fur seal hunting spear. The flip side of each card should present a short description of the Northern fur seal as provided by Henry Geddes, elder of Masset, and Ian MacAskie, marine mammal researcher.

3. A map depicting the general distribution of marine mammals of Gwaii Haanas should provide specific information (when

applicable) pertaining to sightings, migrations routes, haul out sites, and rookeries. The following list contains some of the information which should be included on this map:

-the sea lion rookery and Ecological Reserve at Cape St. James
-key seal haul out sites (identified by Haida Gwaii Watchmen and marine mammal researchers)
-fur seal migratory routes (summer and winter)
-fur seal breeding areas
-killer whale sightings
-gray whale and humpback whale migratory routes and sightings
-sightings or general distribution of porpoise, minke whales, elephant seals, etc.

The purpose of such a map would be to provide an overall view of the occurrence and distribution of marine mammals in the Gwaii Haanas area. As well, the map could be an ongoing interactive resource tool on which the Watchmen can record their marine mammal sightings while at the basecamps.

4. A second map should detail all of the winter village sites and summer camps on Gwaii Haanas that were once occupied by the "old people". Such a map would only be possible with the collaboration of many people, including individuals within the Haida communities as well as government agencies. Once started, however, the map could be used by the Watchmen to further explore connections between the "old people" and marine mammals of Gwaii Haanas. The following questions could be considered: What were some of the activities that took place at these sites? How might the

seasonal occupation of these sites have been connected to the presence or absence of marine mammals?

Recommendations for a Watchmen Training Program

As the Haida Gwaii Watchmen will be the primary user group of the resource package, they will ultimately decide which resource materials are appropriate to the kinds of conversations in which they engage each other and the public. Thus both the training program and the resource package should be designed to facilitate a collaborative approach to curriculum and program development. Based on my experiences on Haida Gwaii, a training program should: (a) introduce the Watchmen, as well as other users of the resource package, to its major themes, concepts and materials; (b) provide opportunities for the Watchmen to familiarize themselves with the contents of the resource package by encouraging hands-on manipulation of the resource materials; (c) involve a facilitator interacting with the Watchmen and the resource materials, observing the Watchmens' use of the materials, and noting their reactions and questions; (d) inspire discussion of how these and other resource materials might be used with visitors at the old village sites; (e) involve the Watchmen and facilitator working collaboratively to revise the written materials, ensuring that the content and design of these materials addresses themes and issues that are both relevant and up-to-date; are suited to the range of learning and teaching styles used among the Watchmen (i.e. should there be fewer written materials, more activities ?); and are complete and accurate; and, finally, (f) encourage the Watchmen to bring their knowledge and

skills to the content and design of the package (i.e. songs, dances, stories, personal experiences).

Guidelines for Further Development of the *Marine Mammals of Gwaii Haanas* Resource Package

In designing the resource package prototype, I have attempted to meet a need of the "Canadian Parks Service Volunteer Project Description" that pertains to recommendations regarding resource materials designed for the Watchmen training program. It would be a shame for such a foresightful Park's initiative (and for public education in general) if these recommendations and sample lesson plans could not evolve towards their intended use in the Watchmen training program and visitor education on Gwaii Haanas. The following recommendations are key steps in this evolution. It is hoped they will assist Parks Canada in proceeding with further development of the *Marine Mammals of Gwaii Haanas* resource package.

Development of Lesson Plans and Resource Materials.

It is recommended that the next step in the evolution of the resource package involve: (a) expanding upon the lesson plans and resource materials contained within the prototype package, (b) developing lesson plans for Unit Two: Connections Between Marine Mammals and People, and (c) producing good quality, professionally illustrated and designed, durable resource materials.

While the prototype has provided a proposed structure for the further development of a resource package, several areas of marine

mammal biology, research and education were not included in this framework because I preferred to cover a few topics in detail rather than many topics in general. Some of the topics which were not covered, but which should be considered for their appropriateness to the resource package, include: (a) the social behaviour of killer whales, (b) killer whale biology, (c) adaptations of marine mammals to the marine environment, (d) local surveys of seal and sea lion populations, (e) seasonal cycles of marine mammals, (f) the relationship between the seasonal movement of marine mammals and the "old people," and (g) marine mammal conservation.

Pilot Testing at the Watchmen Training Session.

Following further development of the lesson plans and resource materials the prototype package should be pilot tested as part of the Haida Gwaii Watchmen training program. The purpose of this pilot test would be to: (a) receive the Watchmens' input regarding the written information and the hands-on materials contained within the package; (b) have both Watchmen and facilitator address the following questions: Which activities were enjoyed and which were not? Which materials were useful and which were not? To what extent would an activity or material be useful at the basecamps? Why or why not? How should traditional stories be related in the package? Is it desirable to share certain stories with visitors at the basecamps? If not, which ones?; (c) identify where the Watchmen or workshop facilitator had difficulty understanding certain concepts or using certain resource materials; and (d) revise written and hands-on

materials contained within the package based upon findings of the pilot test.

Pilot Testing at the Haida Gwaii Watchmen Basecamps.

A second pilot test of the revised resource package should be conducted at all five basecamps on Gwaii Haanas as this would provide invaluable information regarding the suitability of the resource materials for a range of (a) natural conditions (Are the resource materials adequately protected from rain, sand or intense sun?), (b) social conditions (Are the resource materials used by the Watchmen or family members apart from interactions with visitors?), and (c) educational and interpretive conditions (How do Watchmen and visitors interact with the resource materials?).

Distribution.

An important "final" step in the development of *Marine Mammals of Gwaii Haanas* will be its distribution to those facilities and organizations which have expressed an interest in the resource materials. The resource package has already drawn interest from educators at the Queen Charlotte City school, the coordinator of "Vision Quest", the curator at the Queen Charlotte Island Museum, and a member of the Council of the Haida Nation in Masset. Teachers at the Queen Charlotte City School are enthusiastic to integrate interactive, hands-on educational materials and activities about the marine environment into their curriculum. Inspired by the natural learning environment of the islands, yet faced with the realities of organizing field trips, teachers are searching for creative ways to

bring marine education into the students' school experience. Thus, teachers have requested access to a copy of the *Marine Mammals of Gwaii Haanas* resource package for their classroom and field programs. Also inspired by the educational potential of the resource package, the coordinator of "Vision Quest", a program designed to bring First Nations youths from all over British Columbia together with Haida elders on a cultural and educational retreat, has proposed greater collaboration between Canadian Parks Service and Vision Quest educational programs. Such collaboration would increase opportunities for information sharing and reduce the likelihood of redundancy in educational research and program development. In addition, the curator at the Queen Charlotte Island Museum has offered several marine mammal skeletal parts for use as hands-on manipulatives in the resource package. In turn, the package would make an important contribution to the museum's collection which has begun to include interactive materials. Finally, a member of the Council of the Haida Nation has asked that audio-recordings contained in the package be donated to the archival collection of Haida language and knowledge in the village of Masset.

In addition to these groups, copies of *Marine Mammals of Gwaii Haanas* should be distributed to (a) each of the five basecamps on Gwaii Haanas, (b) the Canadian Parks office in Queen Charlotte City, (c) the Haida Gwaii Watchmen Office, (d) the Skidegate Band Council, (e) the University of Victoria, and, finally, (f) all National Parks. The proposal for distributing the package to all National Parks is in concurrence with a Canadian Parks Service mandate. As well,

feedback from each of these sites and organizations would prove invaluable to the further evolution of the resource package.

Summary of Conclusions

What I have concluded from my experiences on Haida Gwaii is not something new, but something old. That is, education programs and facilities, including the Haida Gwaii Watchmen training program and resource materials, should facilitate peoples' connections with the marine environment. Thus, people should be encouraged to explore their interests, ideas and concerns regarding the marine environment and related issues while engaged in educational programs. In the case of Haida Gwaii and the Watchmen, connections may include one person's experiences while hunting fur seals, another's interest in the particular species of whale that passed by the basecamp a week ago, and yet another's concern with the impact research practices and whale-watching might have on local marine mammal populations. While supporting personal connections with the marine environment, resource materials should provide opportunities for individuals and groups to experience the environment and to explore their specific interests first-hand. There are a number of ways this could be done quite feasibly on Gwaii Haanas. For instance, the Watchmen are on the islands throughout the South Moresby area from early June to, in some cases, late September. What better vantage point for them to spot whales, dolphins, porpoise, seals and sea lions and to keep a record of their sightings. While previous attempts were made to encourage the Watchmen to record marine mammal sightings, there was no follow-up system in place for checking that these records

were used and used properly. I propose that a "Whale Sighting Program" be created and that sighting journals, along side the visitor logbook, become a permanent feature at each basecamp. These journals should be reviewed annually by the researchers or educational facilitator with the Watchmen in the training session, and replaced at the basecamp in time for the next season. To increase the likelihood of the Watchmen recording their sightings and to enhance their first-hand experience of the marine mammals living in the surrounding waters, I strongly recommend that each basecamp also be equipped with a portable or permanent hydrophone (an underwater microphone). The logistics of implanting a network of hydrophones in the South Moresby area would most certainly be complex and perhaps impossible in some exposed areas. But, nestled in the protected south bay of Skedans or secured off a rocky head at Tanu, a hydrophone would spark the imagination of both visitors and Watchmen while promoting discussion and thought about the marine life of Haida Gwaii. Until such an idea is considered, a hydrophone should be included as a resource item in a *Marine Mammals of Gwaii Haanas* resource package.

Each of these recommendations encourages the development of resource materials which require the extension of one's experience with the marine environment beyond the "training" period, beyond the manipulation of the physical objects and beyond the accomplishment of specific learning objectives, to learning that takes place within, and has direct connections to, the living marine environment.

In summary, identifying the needs and perspectives of the Haida Gwaii Watchmen, as well as other Haida and non-Haida people, in regard to the design and content of a resource package for Gwaii Haanas was a stated purpose of this research. When I finally hand over a prototype package and my recommendations for resource material design and content to the Canadian Parks Service, it will signify some kind of end to two and a half years of research and writing. When all of that is done, I hope that the process does not feel complete. Rather, I hope that the process becomes part of what will evolve with the use of the *Marine Mammals of Gwaii Haanas* resource package, that is, part of an ongoing interaction between the individual or group and the materials themselves. As well, I hope at that time, I still have the need to stay in touch and remain sensitized to the needs and perspectives of the users of the materials, the Haida Gwaii Watchmen, and to once again consider the nature of my relationship with the evolving curriculum of Haida Gwaii.

Footnotes

[1] Elders are individuals in the native community who are highly regarded and respected for their wisdom. Therefore, an elder is not necessarily an old person.

[2]Scollon and Scollon (1986) defined "Athabaskan" as anyone "socialized to a set of communicative patterns which have their roots in the Athabaskan languages" but do not necessarily speak any Athabaskan, and "speakers of English" as "anyone whose communicative patterns are those of the dominate, mainstream American and Canadian English-speaking population."

[3]I hesitate even to refer to these 'forms' as interviews as only rarely did they resemble a typical or even "ideal" interview format, that is, with an interviewer who asks questions and an interviewee who provides responses. For lack of a better word, however, I have chosen to use the word interview to refer to the multiple forms the interviews took. The single quotes indicate the too inclusive sense of the word.

[4]Bull kelp was used by the old people to secure their boats and for fishing line.

[5]From my first visit with Henry in 1991, I observed how he used maps while telling stories. It often appeared as if the events and the people in his stories arose from the surface of the maps which he

stretched out on the table in front of him. I had hoped that mentioning the maps would assist Henry in reviewing certain stories.

[6]I was told this would happen by the fall of 1992; as yet, I have not received any word.

[7]For the purpose of this thesis, I refer to a body of personal meaning in education, which includes my beliefs, my role as an educator, my relationships with people, and my connection to the marine environment, as my personal curriculum.

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Appendix A

Canadian Parks Service Volunteer Agreement

Canadian Parks Service
Volunteer Agreement

Promissory Agreement

VOLUNTEER PROJECT NUMBER: V91-004
PROJECT TITLE: Haida Gwaii Watchmen Resource Education Kits

I/We Professor Gloria Snively, representing the Faculty of Education, University of Victoria, of Victoria in the Province of British Columbia, hereinafter called "the Volunteer", do hereby agree with Her Majesty the Queen in Right of Canada, as represented by the Minister of the Environment, to provide the above services, on a voluntary basis, as more specifically described in the Volunteer Project Description dated May 6, 1991, attached to and forming part of this agreement, to the satisfaction of the Minister's officers in the Canadian Parks Service, and in accordance with and subject to the terms and conditions hereunder.

CONDITIONS

It is understood and agreed that:

1. In this agreement,

   "Minister" means Minister of Environment for Canada

   "Director General" means Regional Director General, Canadian Parks Service, Western Region;

   "Superintendent" means Superintendent, Gwaii Haanas/South Moresby National Park Reserve.

2. The Volunteer will act as an independent operator and no employer-employee relationship between Her Majesty and the Volunteer is created of contemplated or implied by this agreement.

3. Compensation:
   The Volunteer will be compensated under this agreement, including insurance purchase costs if applicable, as follows :

   a. No compensation, salary or wages will be provided for time devoted by volunteers, agents or associates in fulfilling the terms of this agreement;

   b. Reimbursement for project expenses pre-authorized in advance by the Superintendent and as outlined in the attached Resources and Reimbursement checklist.

4. Material, equipment or services to be provided by Her Majesty for the Volunteer's use under this agreement include:

   a. Use of material that does not constitute a loan, such as:

   film, stationary, drafting supplies and other materials;

b. Informal loan: (e.g. binoculars, bicycle)

tape recorder, photographic equipment, miscellaneous outdoor equipment and protective clothing including rain gear;

c. Formal loan:
(loan agreement to be attached to this promissory agreement - i.e., material valued over $1000 of material borrowed for longer than 90 consecutive days)

Not applicable

d. Permission to ride in a government vehicle:

Volunteers under this agreement will not be permitted to drive government vehicles unless authorized in writing by the Superintendent.

5. Anything, other than expendable materials, provided by Her Majesty for the Volunteer's use under this agreement shall be delivered to the Director General or Superintendent upon completion of the services, or as required, in as good condition as when received, fair wear and tear excepted. The borrower would be responsible in the case of damage or loss due to negligence.

6. Project Termination:
The voluntary services described herein may be discontinued at any time at the discretion of the Director General or Superintendent.

7. If appropriate, the Volunteer will submit a detailed report on the project to the Director General or Superintendent:

a) on completion of the project; or

b) within two (2) weeks after a written request by the Director General or Superintendent for such a report.

8. Products and copyrights developed by volunteers under this program are the property of the Crown.

9. Insurance Protection:

Canadian Parks Service will inform the Volunteer what insurance coverage, if any, s/he should carry during the volunteer term.

The Canadian Parks Service provides volunteers with $1,000,000 coverage for third-party (public) liability including passengers in aircraft but excluding volunteers who operate aircraft.

If the volunteer operates under this agreement a motor vehicle owned or rented by him or her, s/he shall, throughout the full term of the operation of this vehicle relative to this agreement, take out and maintain contracts of insurance to indemnify the Volunteer against all legal liability respecting personal injury of or death to persons, or the loss of or damage to property resulting from said operation. (This usually has been obtained as part of the vehicle's license purchase.) Canadian Parks Service may reimburse the cost to the volunteer for such a business rider on his insurance. To be reimbursable, insurance costs must be listed under "compensation" in this agreement.

The volunteer shall assume responsibility for material that he borrows from Canadian Parks Service. Parks may reimburse the cost of insuring the borrowed material.

10. This agreement may not be transferred without the written consent of the Minister or his or her authorized delegate.

11. If the "Volunteer" is an organization, the names and members who will provide the service under this agreement are:

Organization:

University of Victoria - Faculty of Education

Dr. Gloria Snively - Faculty Advisor

Ms. Virginia Collins - Graduate Student

Ms. Julie Kimmel - Graduate Student

11. The Volunteer will complete the work detailed on the attached "Volunteer Project Description" form.

CANADIAN PARKS SERVICE
VOLUNTEER PROJECT DESCRIPTION

REGISTRATION: V91-003
LOCATION: Gwaii Haanas/South Moresby National Park Reserve
PROJECT TITLE: Haida Gwaii Watchmen Resource Education Kit
COST CENTRE: 9784 (Visitor Activities)

PROJECT MANAGER: S. Suddes VOLUNTEER COORDINATOR: S. Suddes

PROJECT DURATION: Commencing May 7, 1991 and continuing until March 31, 1992

Project description in effect until June 30, 1991. A review and update to this agreement and project description will be completed by June 30, 1991.

GENERAL FUNCTION

Volunteer will provide professional advice and guidance to the Canadian parks Service, in the development of a theoretical framework for education/resource kits dealing with the natural and cultural heritage of Gwaii Haanas/South Moresby National Park Reserve. Volunteers will conduct field research, gather information, provide analysis and submit recommendations regarding the content, approach, format and preparation of resource/education kits developed as part of the Haida Gwaii Watchmen training program.

SKILL LEVEL:

Volunteer organization brings experienced, professional advice and capability for the design and testing of educational resource materials. Participants include a senior faculty advisor with the University of Victoria's Faculty of Education, plus two graduate students.

TASK ANALYSIS:

This project demands a high degree of skill and academic training in education theory and defining education/curriculum needs. Product will be an integral part of the Parks Service's Haida Gwaii Watchman training program.

Requires field work with resource specialists including Canadian Parks Service staff, contractors and others. Under the direction of the project manager, Volunteer will be required to coordinate efforts with professional educators associated with QCI School District #50.

EVALUATION:

Product will consist of two prototype education/resource kits:

1. Nesting Seabirds
2. Marine Mammal/Kelp forest interaction

RESOURCES AVAILABLE FOR THE VOLUNTEER:

See attached Resources & Reimbursement Checklist

BENEFITS FOR THE VOLUNTEER:

BENEFITS FOR THE PARKS:

-
-
-

* Attach Resources and Reimbursement Checklist

Appendix B

Schematic Diagram showing the Dynamic Process of Deliberation which Influenced the *Marine Mammals of Gwaii Haanas* Prototype Resource Package

Figure 9 illustrates my understanding of the process of deliberation which led to the design of the prototype package and this thesis. It is important to note that this was not a unidirectional process. Rather, this diagram is meant to illustrate how each aspect of the process (represented by the five ellipses) influenced and was in turn influenced by every other aspect. For example, my perception of a research method and results was influenced by the Canadian Parks Service mandate and objectives for the project as well as by my experience of Haida Gwaii and the changes in my experience. In addition, the lowercase words represent (a) *experiences* I had during the period of data collection and research, and (b) the features of the deliberative process in which *change* took place. Again, each of these sub components influenced and was influenced by the other sub components within the same ellipses.

Finally, even during the kit design and thesis writing, any newly acquired information and understandings were, as much as possible, "checked" with or related back to each of the other stages, this being necessary for understanding the process as a whole.

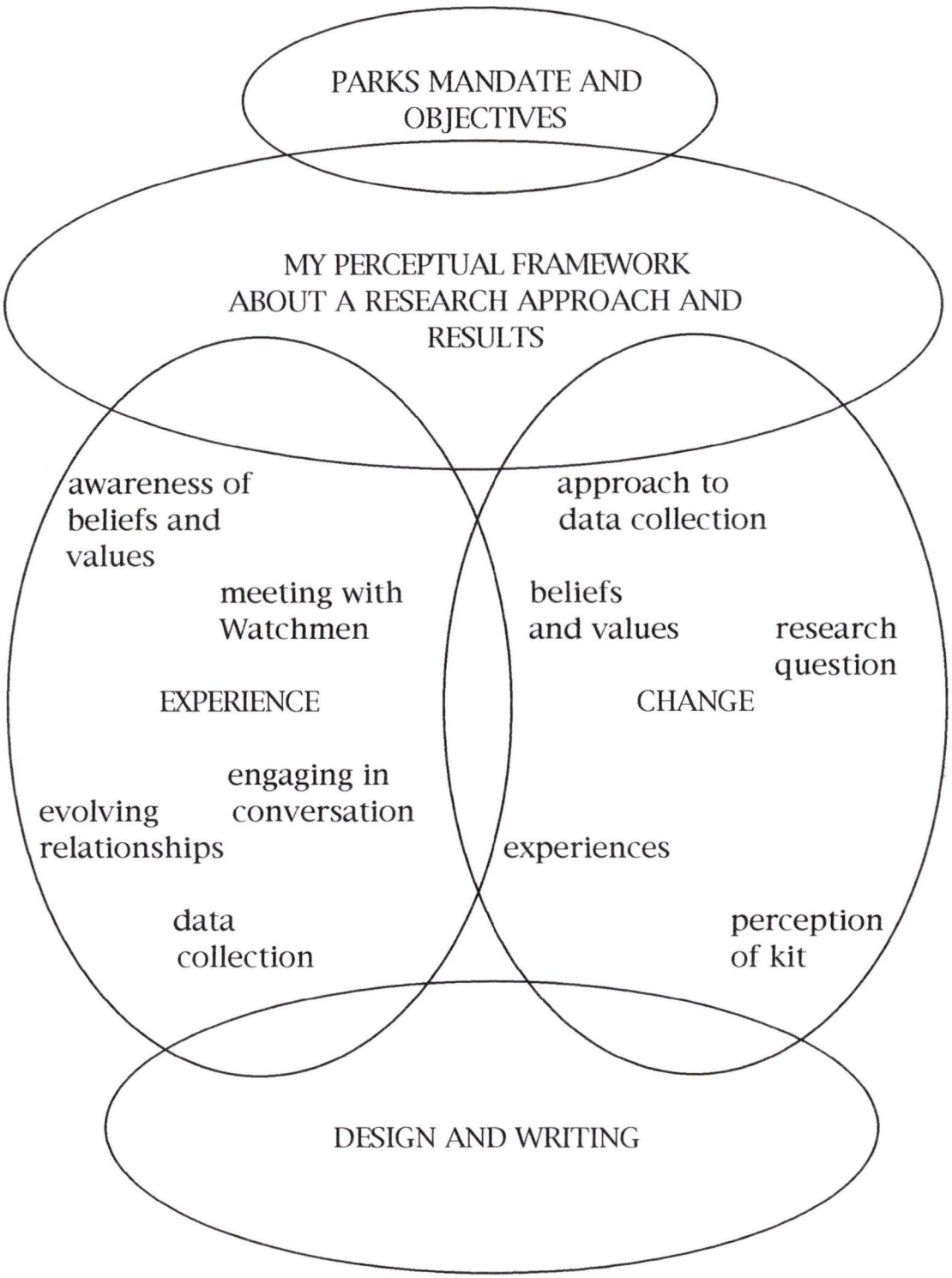


Figure 9. A Schematic Diagram Showing the Dynamic Process of Deliberation Which Influenced the *Marine Mammals of Gwaii Haanas* Prototype Resource Package.

Appendix C

Newspaper Clipping:

"New Killer Whale Superpod Discovered"

MARINE LIFE

New killer whale superpod discovered

DAWN HANNA
Vancouver Sun

A new community of killer whales has been discovered off the coast of the Queen Charlotte Islands.

Researchers from the Vancouver Aquarium and the Pacific Biological Station in Nanaimo identified the whales through sightings, mostly during the summers of 1990 and 1991, although some reported sightings go back to 1955.

Long-time killer whale researcher John Ford, of the aquarium, said Tuesday the find came as a surprise.

"We know a great deal about killer whales, mostly based around Vancouver Island and the B.C. mainland coast," Ford said. "We were so confident in our understanding of killer whales that we published a catalogue of all killer whales for B.C.

Finding surprises researchers

"Then along came the Queen Charlottes."

What researchers found were "superpods" of killer whales that resembled the so-called resident killer whale pods of the south coast. Only problem was, residents had not previously been seen in that area.

And none of the known resident whales were in the new community found by the researchers.

Ford explained there are two types of killer whales, residents and transients.

Resident whales feed primarily on salmon and live in pods of six to 50 animals. They are found mostly in the waters off southern Vancouver Island, as well as the northern end of the island and the mainland coast as far north as southeastern Alaska.

Transient whales, which feed almost exclusively on marine mammals such as seals and sea lions, live in smaller pods of one to five whales. They are found all along the coast.

Ford said the new "off-shore" whales, as they have been dubbed by researchers, appear to be fish-feeding and live in pods of 25 or more animals. Their dorsal fins are similar to residents' fins, which tend to be more rounded at the top than those of the transient whales.

The off-shore whales' vocalizations are different from those of the known residents as well, Ford said.

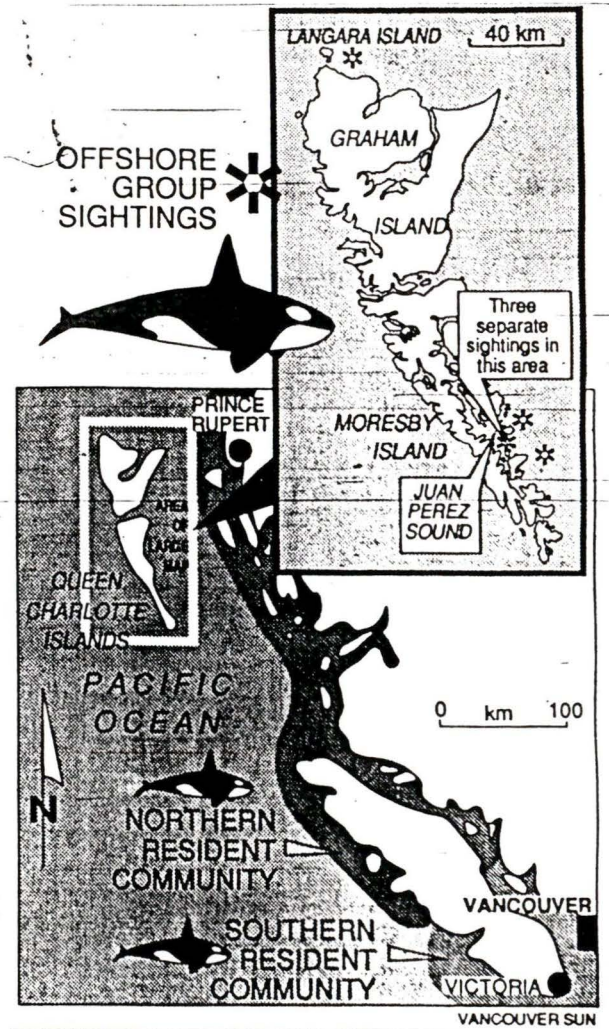
So why haven't these whales been found earlier?

"It's difficult just to get out and get to these places. The logistics are just overwhelming," Ford said.

By working with the Langara Fishing Lodge and the Canadian Parks Service, researchers were able to get out on the water to get photographs to identify the whales by their distinctive markings.

Ford said it's important to know more about these killer whales because they can be keyholes to a look at the over-all marine environment.

"Whales are kind of an indicator species, they are the top of the food chain for the most part. So, if whales show any evidence of a downturn in their productivity, then there is likely something in that food chain that is affecting them," he said. "They're part of the environment and unless we know more about what we're doing to it, we won't learn."



VANCOUVER SUN

Living kelp forest to enchant future Vancouver Aquarium visitors

DAWN HANNA
Vancouver Sun

A 1½-storey giant kelp forest with all its accompanying marine wildlife will be the centrepiece of a new Vancouver Aquarium exhibit called Pacific Canada.

The idea is to replicate for visitors what they would see if they took an underwater dunk in the Queen Charlotte Islands.

But how do you get people to be as fond of kelp as they are of killer whales?

"There will be huge floor-to-ceiling windows and when you see a living kelp forest in an atmosphere like that, it's almost like an enchanted forest," said aquarium interpreter Elin Kelsey. "When people come and see all the things that go on, they get really excited about it."

Aquarium education coordinator Nancy Baron said the exhibit will be like a film set. Instead of seeing just the above-water "stars" of the show, like B.C.'s beloved killer whales, people will be able to meet all the supporting players — the herring and salmon — and the technicians behind the scenes — the kelp, tiny shrimps and sea anemones.

"It's all connected," Baron said. "Herring lay their eggs on kelp, salmon, in turn, feed on the herring and killer whales feed on the salmon."

People have to learn to love kelp, she said, because a single break in the food chain would have devasting effects at all levels.

Sea otters, which are an important part of the kelp forest ecosystem, will not be part of the exhibit, Kelsey said, out of consideration for the otters' endangered status and the sensitive coating on its fur.

The Canadian Parks Service has contributed to the planning stage of Pacific Canada and also supports research being conducted in the Queen Charlottes on the killer whale population.

The entire project, exhibit and research, is slated to cost $6.6 million and should be completed by 1997.

Appendix D

Story of "Raven and the First People"
Transcribed in Skidegate Dialect by Golie Hans,
with English version by Martin Reid

Xuuya 7ud kyuu k'al

gwaayaay k'aaysk'uu guu gaayhla hid yuu7an tlasda 7iijan dluu, tladaGaw yuujuu sGun k'atsiidXaayaagan. Xuuya KaaGuungs, danXan uu ll t'iihls gans 7asing ll k'uud Guustlaayaa gan.

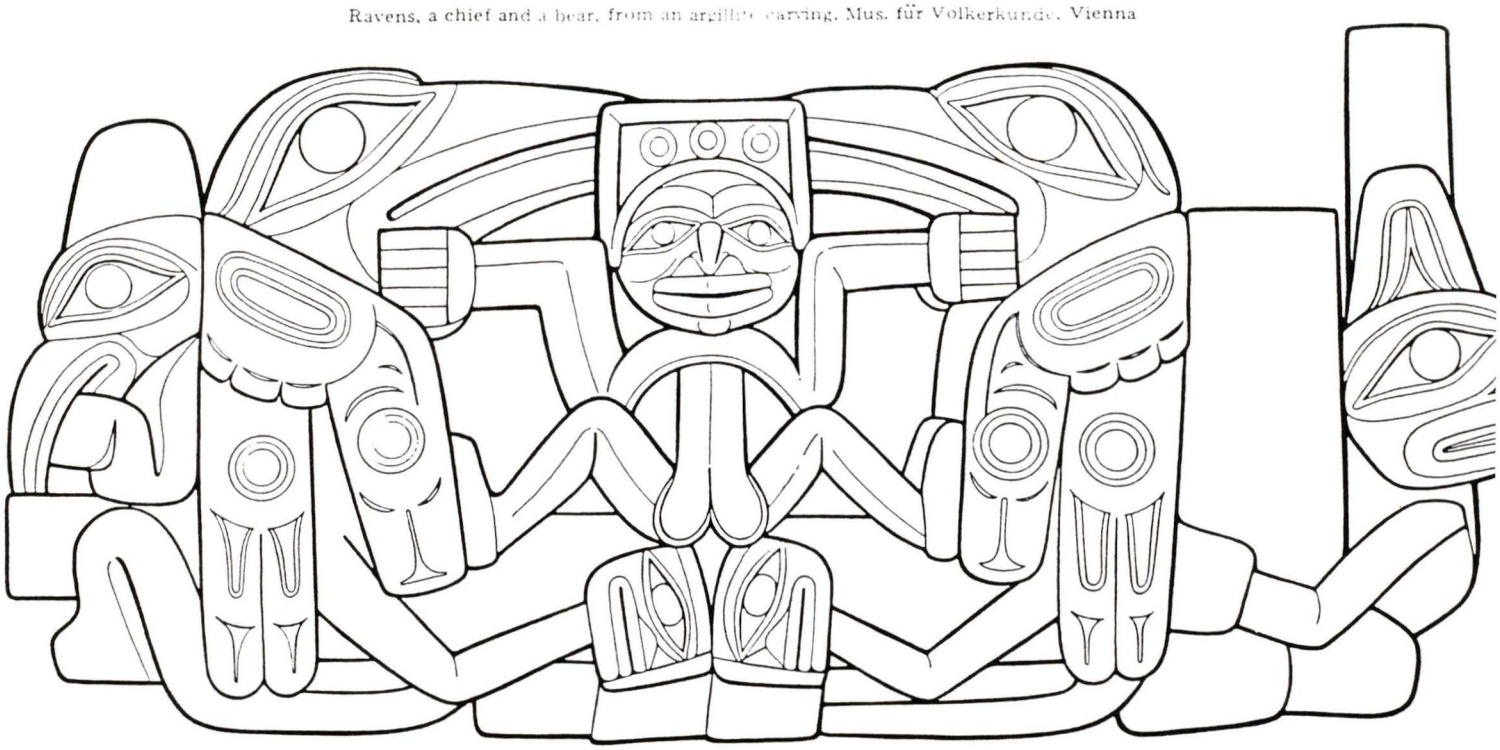
k'uung Kwaanaa gaay dluu, Gandlaay Xiidgii 7iijaa gan. Xuuya uu hid gwangs kawdii uu Naay kun 7ungud 'laa hidaa gaay dluu,kyuu 7ud sgyaal 7ud taaXaw 7ud gaabuu 7ud guudingaay 7ud st'yuu 7ud GalGuuhlk'an 7ud naaw 7ud sGiida 7ud k'uust'aan 7ud tsa7am 7ud Gawduu7al 7ud gyuudaana 7ud sk'a7am 7ud Gaagang. 7ud tsiina gud 7iilaa Gid Kwaan uu 'laa kyangaa gan. danXan uu gina wadluuXan 7ud 7agang 'laa k'uu sk'isldaayaa gan, dluu gam gina 7isdaa hlangaay kyangGaa Gangaa gan.

tsiiXwaay Gii 'laa Kaaguungs, kyahl 7asing Kaajing saagii 'laa 7isdaa gan kihl t'alging 'laa kyaa gangGangaa gan. ll Xidguu gina k'il t'amjuu 'laa guudangaa gan

gam gina 'laa Kinggang, kawdii uu kyuu k'al7yuujuu t'aajaay Gisdaa kyangGaa gan

kyuu k'al uu taajaay Gisdaa Xuuya gaay 7isdaayaa gan dluu, kahlii Gaa gina 7isis 'laas daa 7agang sGaa'laa gan. ll sk'isdlyaay gaw as dluu, kyuu k'al Gaa gina 7isis wadluuXan 'laa taa hlingaa Gang gan, huu7ad uu 7ussii gwaayaay guu gina Xan 7aada gaa 7yuu7an hlingaa gan ll 7anagungaay Gaa. gan uu gam k'iiwaay k'al 7ud 'laa xids gan 'laa 7isGwii daa Gangaa gan, wa7ii'laa kiilang 7ud 'laa stlang Gangs gan uu gam 7ussii gwaayaay guu huustluu gina kil haana Gangaagan. Gaayuu waay Gaa tsiina Kwaans 7ussii uu 7an gwaayaay guu XaaydaaGaay tla 7isGaasas 7ussii taa Gaa sis, Gaa 'laa k'aa gawaa gan. ll hlGwaagaa kawdii uu kiiwaay k'al Giisdaa laa 7istlaXaa Gawaa gan.

Ravens, a chief and a bear, from an argillite carving, Mus. für Volkerkunde, Vienna

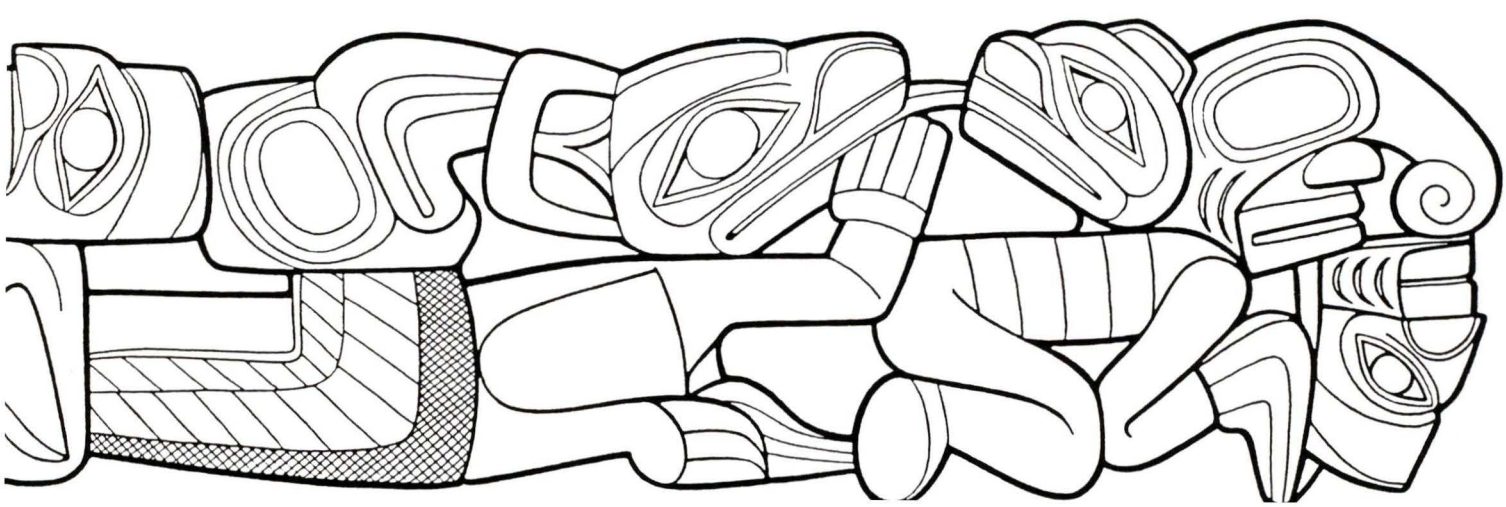


the Bear Mother and Father and Nanasimgat are the best examples. These stories telling the adventures of supernatural beings, enhanced by magical power, deal mostly with marriage alliances and access to wealth. But journeys into the underworld or into the celestial realm tell us also about the cosmological world of the Haida.

Richness of both the mythology and the accompanying artistic representation of these themes in Haida art have been universally acclaimed now and it is with the hope that, someday, these stories will reach some Haida children, that I undertook to edit a selection of Haida myths from Marius Barbeau. These myths are still celebrated today with the same vigor as in the past. The Raven is far from being silent. Things continue to change. As long as the Haida people were in control of these changes, their destiny was in good hands. Haida people today are drifting in a current in which they have no control, or very little.

THE RAVEN AND THE FIRST PEOPLE

The great flood which we read about in the Bible also covered the land of the Haida, *Haida Gwai*, which we now call the Queen Charlotte Islands. For many months only the very peak of the highest mountain could be seen above the stormy seas, and on top of it the Raven perched, wet, hungry and bored.

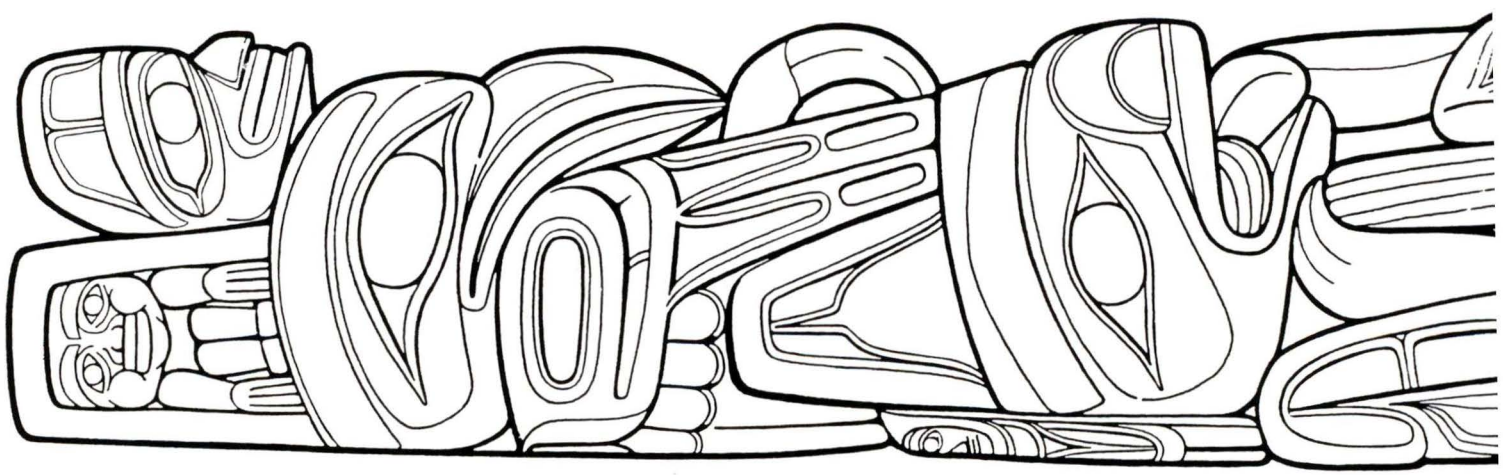


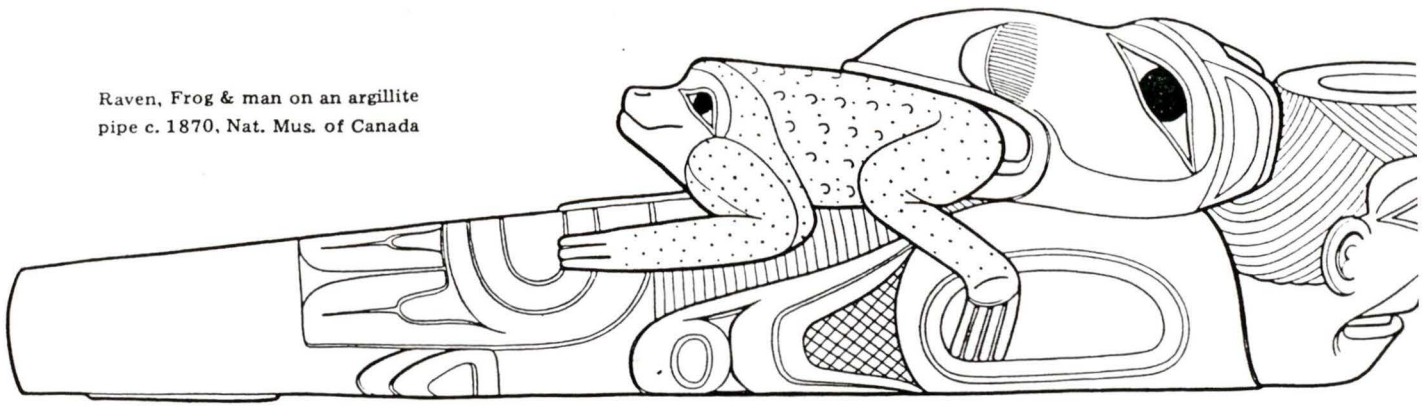
Then one day the water began to fall, and at last even the thin strip of sand now known as Rose Spit lay dry. The Raven flew there and found it covered by clams, cockles, rock oysters, crabs, scallops, sea cucumbers, abalone, red turbans, sea urchins, mussels in their dark blue mantle, and fish of all kinds left behind by the falling water. For a long time, he did nothing but eat, gorging himself on these delicacies. But at last even his gluttony was satisfied and he began to think of the other things he liked doing, playing tricks, changing things so the world would not settle down to a boring routine.

There certainly was not much to play with or change on this deserted beach, with no companions except the rapidly expiring sea creatures left stranded there. The Raven walked along getting more bored and restless by the minute.

He had almost decided to fly away to some more interesting spot even if it meant leaving all this lovely ripe food behind, but decided there must be something more on this beach. So he continued his stroll, calling out in frustration now and then.

"This is a fine place for food," he said, and "I must say that the big bright ball, the





Raven, Frog & man on an argillite pipe c. 1870, Nat. Mus. of Canada

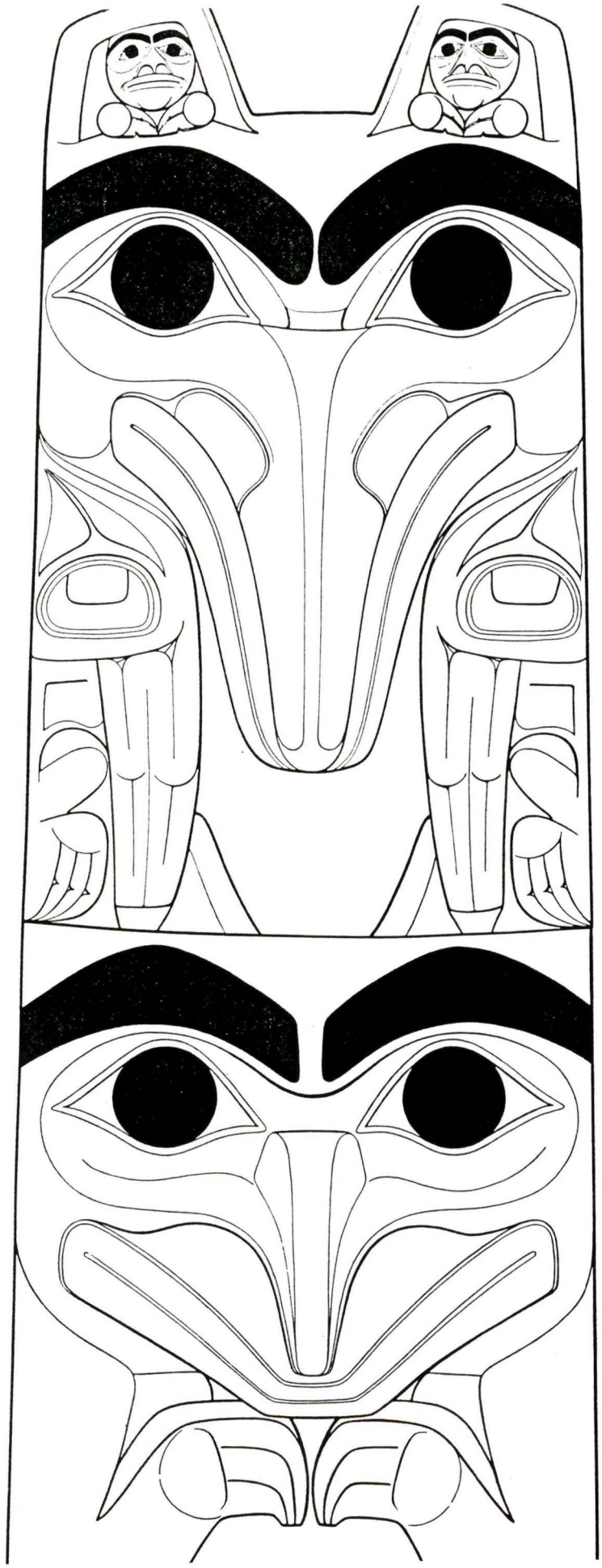
Sun, I stole from the old man and hung up there in the sky is a big improvement. But there certainly is not much to do here." He threw back his head and called to the empty sky in his loudest voice, "Isn't there anybody anywhere?" Almost immediately he heard an answering cry. Well, not so much a cry as a little squeak, which seemed to come from far beneath him. At first he saw nothing, except a remarkably large clamshell half buried in the sand.

"I have seen lot of clams in my time," he said, "but the most noise they have been able to make was a sort of a squishy sound. So this is at least a different kind of clam." He leaned closer and saw that the shell was an old one and that its original occupant had long since departed. It was now filled with a mass of squirming creatures all trying to hide from the enormous black shape that seemed intent on destroying them.

If the Raven had not eaten so much so recently, the little creatures might have become part of his dinner, and the world would have been a much different place. But his curiosity at the moment was much stronger than his appetite. So instead of picking up the shell and dropping it on a rock to break it open, he very gently, using his most charming and seductive voice, a lovely bell-like croon, certainly one of the most beautiful sounds in the world, which seems to come from the roots of the mountains, from the wellsprings of the sea, from the caves where the winds are born, he coaxed the little creatures to come out of their shell. He told them of the land that waited for them, covered with great red cedar trees from which they could build their big houses and seagoing canoes, and in time tall totem poles to commemorate their great deeds. He sang of the restless seas, which every year would bring the salmon to the

Raven & the first people, from a wood carving by Bill Reid. Museum of Anthropology, University of British Columbia

The Raven & the first people by Bill Reid, back side



rivers and be the home of the great whales, the porpoises, the seals and sea lions, the sea otters and all the fish, which would feed them through their time on earth.

So with much hesitation, afraid but unable to resist, they finally came out.

Very strange creatures they were: two legs like the Raven, but no shiny feathers on their bodies or wings. In fact no wings at all, just long thin appendages which moved constantly. Except for their shiny black hair on their round heads, they were naked, quite the strangest creatures the Raven had ever seen — these first people — who were to become Haida.

For a long time the Raven amused himself with his new playthings, teaching the men and women all kinds of clever tricks: how to build the beautiful Haida canoes which took them on fishing and sea hunting trips, and, as they grew in numbers, to visit and trade or go to war with their neighbors.

He watched the children grow up and have children of their own, and the old people die. He watched some of them become chiefs and some slaves, and he saw the chiefs prove how great they were by building great houses,

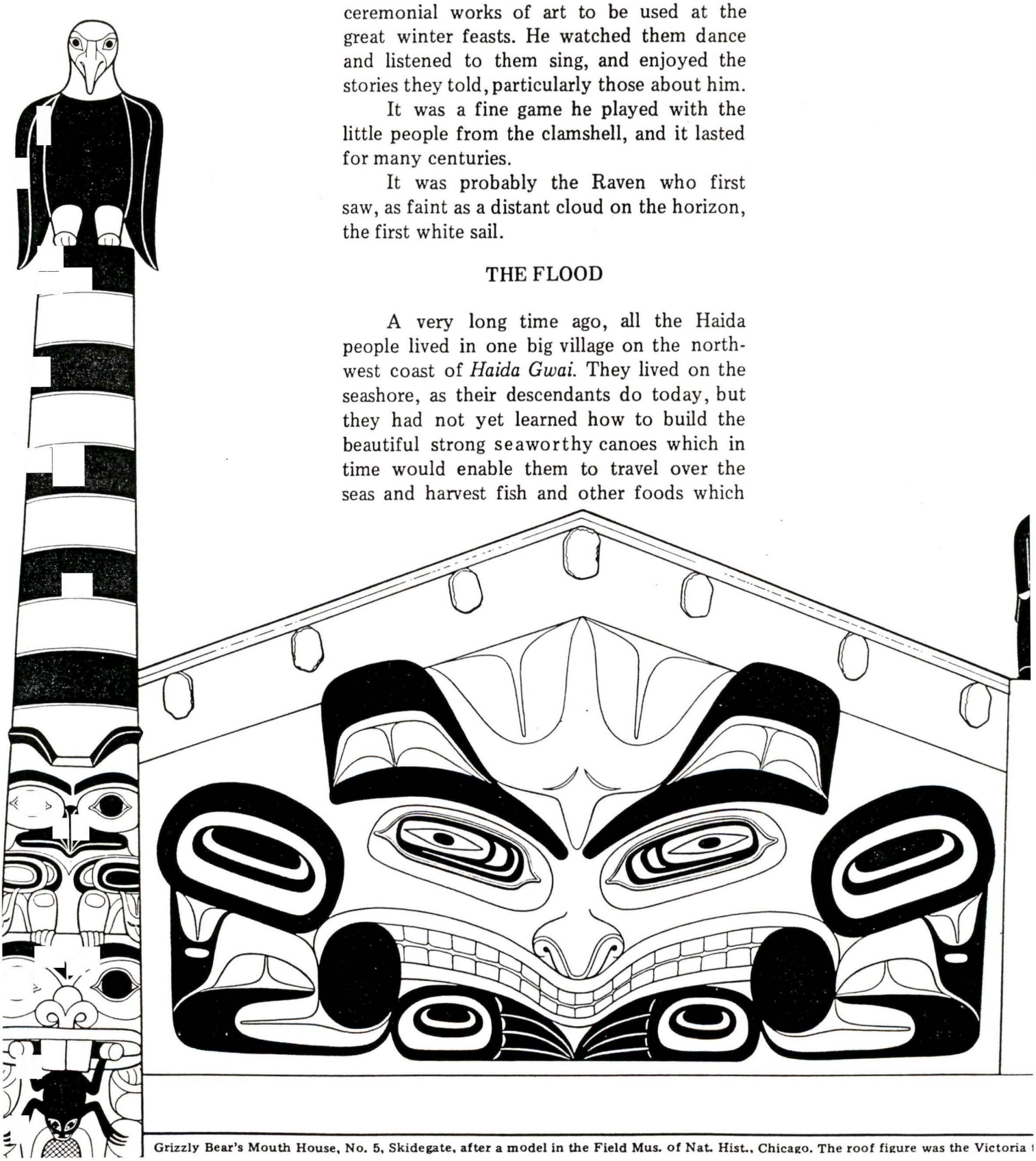
beautifully decorated with carvings telling of their heraldic pasts, and filled with exquisite ceremonial works of art to be used at the great winter feasts. He watched them dance and listened to them sing, and enjoyed the stories they told, particularly those about him.

It was a fine game he played with the little people from the clamshell, and it lasted for many centuries.

It was probably the Raven who first saw, as faint as a distant cloud on the horizon, the first white sail.

THE FLOOD

A very long time ago, all the Haida people lived in one big village on the northwest coast of *Haida Gwai.* They lived on the seashore, as their descendants do today, but they had not yet learned how to build the beautiful strong seaworthy canoes which in time would enable them to travel over the seas and harvest fish and other foods which



Grizzly Bear's Mouth House, No. 5, Skidegate, after a model in the Field Mus. of Nat. Hist., Chicago. The roof figure was the Victoria

Appendix E

Story of "Two Brothers at Tiaan"
told by Henry Geddes of Masset

Two Brothers at Tiaan
(retold by Henry Geddes, elder of Masset)

People here believe strongly in reincarnation. This is how the whole thing got started. This happened on the west coast.

We have a duck out here, you see them once in a while. They're awfully pretty. And when the sun's shining, the coloration is pretty hard to describe. They're so beautiful. In Haida we call this duck ----------. It's some kind of puffin. These boys were throwing stones at it because they wanted it so badly. They hit it and broke its wing so they went and got a canoe and they started chasing it. It was going out all the time and as it got further out the fog rolled in.

The boys couldn't go anywhere, but there was a bunch of kelp there so they tied onto it. They had a cedar mat that [the "old people"] used to make to put over their canoes, so they got under it and they were crying. Well, this went on for quite a while and you could hear somebody say, "The Respectable and the Rich One wants to see you." The two boys looked at one another. They were somewhere between six and nine years old, I guess. They were brothers. Again, this thing came up and repeated what it said before. It said, "The Wealthy and the Rich One wants to see you."

The third time they heard this the older brother said, "I'm going to look overboard and see what's going on." He looked down and he saw a little cod swimming down and he could see, right from the canoe, a nice road going down. So he told his younger brother, "You stay here. I'm going to go and see what's down there." As he

stepped onto the kelp he hollered back to his younger brother, "It's alright, you can come!"

They followed this path to a big village, ahhh, with beautiful totem poles that they had never seen before. There was a huge Indian house with beautiful totem poles, and while they stood there admiring it they heard (in Haida) "....." which means: the Wealthy One wants to see you. When they walked into the house there was a young fellow lying there. He was pretty sick. His father asked the two boys, "Why did you do that to him?" and the boys answered, "Because we wanted him so badly. We wanted to catch him and look after him, he's so pretty. We didn't mean to hurt him." The older brother was told to turn around to the fire so that his back was facing the fire. There were lots of dorsal fins in one corner of the house, all standing up. The father of the sick boy asked one of his nephews to get one of the fins. He warmed it up in the open fire and he speared the older bother with it, in the back. The younger brother could see, right away, the quivering in his brother's back and then his brother was frolicking around like a killer whale. The younger brother did not want this. Right away, he wanted to go back and see his mom and dad. That's all he wanted to do.

He had something that they used to sharpen things on, a stone with a hole in it like that with some kind of root line on it. This root line used to be made of kelp. In the olden days, the people would dry the kelp and it would get really strong. They also used sea lion gut sometimes and spruce root a lot. So he had this stone tied around his neck. He turned it around to his back and when they got his size of fin that was going to suit him, they tried it on him and

when it hit this thing it would shear off. They tried all sides. Finally, the Wealthy One said " This one isn't any good. Let him go." The boy went outside and he was crying. His brother was gone.

There was this old lady sitting by the roadside. She said to the boy, "Why are you crying?", and he said, "I want my mom and dad." "That's impossible" the woman said, "You can't go back." Again the boy said "I want my mom and dad", and he cried. Finally, she said to the boy, "Follow this road and it will go up a hill, right up a hill. Keep on going, don't turn back, just keep on." So the boy did this and when he came to the top he was walking around and all of the sudden he could feel himself falling. He hit something that was really soft and then it was raining, a warm rain. And you know what it was?. He was being reborn. He could hear somebody say, "Oh, it's a little boy". He never lost consciousness, he died but he didn't actually die.

As the boy was growing up he used to have real rough times [in his village]: if you had a hard winter people starved because there was no way of getting food. A lot of people starved that way. There was a mat laying down and he told his mother and father, "I'm going to go underneath there and if you know I'm having a hard time, don't ever pull it up or look at me, just leave it." He would be there for quite a while. When he came out he said, "At a point over here, if you go there you'll see four big sea lions."

This started happening all the time. As long as people wanted food it was given to them. That was his brother that turned into a killer whale.

At one time, the boy was having a hard time under the mat and his parents could see this. It used to be halibut that he would bring in or something else, and it would happen in the same place. But, this particular time that he was having a hard time, he came out from under the mat and he was exhausted. He said, "They killed my brother. He's lying out at the point there." When they went out to the point there was a big killer whale laying there. They didn't know what to do with it at first. They knew they had to put it up like well-to-do-people in olden days. They got a big cedar box, cut the whale up and put him in it, then put the box up on a big cedar pole. They put planks across. This is why we have a Killer Whale Clan. It comes from this reincarnation story. The Haida strongly believe in that.

Appendix F

Proposed Lessons for Unit 2:
Connections Between Marine Mammals and People

To give the reader a sense of the direction which further development of Unit 2 might take, an overview of two proposed lessons has been included here.

Lesson 2: Marine Mammal Identification and Distribution

Inquiry Questions: Which marine mammals are commonly seen throughout the year; which marine mammals are only seen at certain times of the year? How can we distinguish one species of marine mammal from another (i.e. a Dall porpoise from a harbour porpoise) by describing what the animal looks like, where it lives, how it moves, and what it eats?

Concepts

1. A variety of marine mammals live in the Haida Gwaii area throughout the year while others are only present at certain times of the year.
2. Marine mammals can be identified by unique feeding and social behavior, by patterns of movement, as well as by physical characteristics.

Objectives

Through the use of marine mammal picture and information cards and a detailed marine mammal sighting map, participants will explore both physical and behavioral features of marine mammals which inhabit the waters of Haida Gwaii.

Lesson 3: Movements of Marine Mammals and People

Inquiry Questions: What was the purpose of summer camps and winter villages (i.e. what activities were carried out at these sites)? How did the location of certain summer camps, the seasonal occupation of these sites, and the activities that took place reflect the presence or absence of certain marine mammals?

Concepts

1. Summer village sites were located near important food gathering areas while winter villages provided shelter from violent winter storms.
2. The Haida calendar reveals that, traditionally, the names given to each month of the year reflected specific events in nature which in turn corresponded to the seasons.

Objectives

An objective of this lesson is to explore historical connections between marine mammals and Haida people from the perspective of seasons. This investigation will take a close look at historical migration patterns and abundance of marine mammals of Haida Gwaii (part of an investigation of lesson 2) and whether the patterns of movement of the old people, specifically their use of summer camps and winter village sites, reflected the former.

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Developing a Theoretical Framework and Prototype Educational Resource Package for South Moresby/Gwaii Haanas

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September 22, 1993
(Date)