

**RIC Report 006  
Discussion Document**

**Analysis and Conclusions Regarding  
Culture, Recreation and Tourism  
Resource Inventories in  
British Columbia**

for

**Culture, Recreation and Tourism Task Force  
of the Resources Inventory Committee**

by

**The Economic Planning Group  
Westland Resource Group  
Lgl Limited**

MAY 14, 1992

**Canadian Cataloguing in Publication Data**

Economic Planning Group.

Analysis and conclusions regarding culture,  
recreation and tourism resource inventories in  
British Columbia [computer file]

(RIC report ; 006)

Available through the Internet.  
Issued also in printed format on demand.  
ISBN 0-7726-3788-1

1. Tourist trade - British Columbia.
2. Recreational surveys - British Columbia.
3. Cultural property - British Columbia -  
Inventories. 4. Recreation areas - British  
Columbia - Inventories. I. Westland Resource Group.  
II. L.G.L. Limited, Environmental Research  
Associates. III. Resources Inventory Committee  
(Canada). Culture, Recreation and Tourism Task  
Force. IV. Title. V. Series: RIC report (Resources  
Inventory Committee (Canada)) ; 006.

G155.C3E262 1999

338.4791711

C99-960064-8

# Preamble

This report is submitted to the Resources Inventory Committee (RIC) by the Culture, Recreation and Tourism Task Force.

The Resources Inventory Committee consists of representatives from various ministries and agencies of the Canadian and the British Columbia governments. First Nations peoples are represented in the Committee. RIC objectives are to develop a common set of standards and procedures for the provincial resources inventories, as recommended by the Forest Resources Commission in its report *The Future of Our Forests*.

To achieve its objectives, the Resources Inventory Committee has set up several task forces, including the Culture, Recreation and Tourism Task Force. The terms of reference for the Task Force are to review the current status of resource inventories and make recommendations for the future. This is the full report of that work.

Funding of the Resources Inventory Committee work, including the preparation of this report, is provided by the Canada-British Columbia Partnership Agreement on Forest Resources Development: FRDA II – a four year (1991-1995) \$200 million program cost-shared equally by the federal and provincial governments.

Contents of this report are presented for discussion purposes only. A formal technical review of this document has not yet been undertaken. Funding from the partnership agreement does not imply acceptance or approval of any statements or information contained herein by either government. This document is not official policy of Forestry Canada nor of any British Columbia Government Ministry or Agency.

For additional copies and/or further information about the Resources Inventory Committee and its various Task Forces, please contact:

The Executive Secretariat  
Resources Inventory Committee  
840 Cormorant Street  
Victoria, BC V8W 1R1

Phone: (604) 381-5661  
FAX: (604) 384-1841

# Summary of Findings and Recommendations

## What Inventories Exist?

- The review of "what exists" in the way of culture, recreation and tourism inventories identified 38 separate inventories dealing with one or more of these topics. There is no single, comprehensive inventory that records culture, recreation and tourism information for the province.
- These inventories vary significantly in terms of geographic coverage, resource focus, level of detail, format, and output. They have been compiled by a range of agencies including all levels of government, consultants, associations, clubs, crown corporations, universities, and museums.
- These inventories tend to reflect the mandate of the owner agency and include information which relates directly to agency objectives. This has resulted in overlaps and gaps in data collection.
- There is a general lack of awareness within the culture, recreation and tourism communities regarding what inventory information exists.
- There is little consistency in the way information is collected and standardized. Although this has not hampered their original purpose, it has resulted in a lack of comparability among inventories.

## What is Needed?

What is needed is a comprehensive approach to inventorying culture, recreation and tourism resources which reduces overlaps and maximizes the sharing of common information. Specific features or considerations to be addressed by the inventories are as follows:

1. Basic common characteristics of culture, recreation and tourism inventories are that they must answer the questions:
  - a) what is the resource?
  - b) where is it located?
2. Culture, recreation and tourism inventories must address key resource descriptors including:
  - a) resource size
  - b) resource age
  - c) resource ownership
  - d) resource use
  - e) resource users/stewards
  - f) state of development
  - g) access.

3. The inventories should support assessment of resource:
  - a) significance
  - b) capability
  - c) suitability
  - d) sensitivity
  - e) vulnerability.
4. Culture, recreation and tourism inventories must present features data which are free of interpretation and judgement to the greatest extent possible.
5. The inventories must have high integrity and include information on:
  - a) quality of attribute data
  - b) quality of locational data
  - c) sources of information
  - d) ownership of information
  - e) status of information
  - f) cartographic standards.
6. Culture, recreation and tourism have a diverse range of users who require information for a variety of purposes. The inventory system should be capable of linking to:
  - a) market information
  - b) financial information
  - c) economic information
  - d) community information
  - e) other non-economic factors.

## **How Do We Get There?**

The design of practical and effective culture, recreation and tourism inventories requires a number of considerations. The key issues are described below.

7. Separate but coordinated inventories should be established to serve the unique purposes of culture, recreation and tourism.
8. Common data requirements must be identified and inventoried in a cost-effective and efficient manner.
9. A Geographic Information System (GIS) with data base and analytical reporting capabilities is the preferred tool to store, analyze and display inventory data. It should address the following:
  - a) identification of attributes and the definition for attribute data
  - b) compatibility with the other RIC inventories.

10. The development of standards is a crucial component of inventory design. The following must be addressed:
  - a) a common map base to facilitate the exchange of information among inventories
  - b) comparable map scales for data collection, i.e. suitable for culture, recreation and tourism are:
    - 1:20,000 (local)
    - 1:250,000 (regional)
  - c) standard terminology along with a common resource classification system.
11. It is essential that local, regional and provincial concerns be addressed in the inventory design, data collection, and use.
12. Consideration should be given to the creation of a neutral agency to coordinate all RIC inventory programs.
13. Culture, recreation and tourism inventories should be undertaken in a manner consistent with other inventories supported by RIC in terms of reliability, geographic coverage, and funding.
14. Culture, recreation and tourism inventories should make use of the two existing major GIS-based inventory systems – namely the Forest Recreation Inventory and the Coastal Tourism Resource Inventory.
15. Inventory systems should be designed to meet existing requirements, but be flexible to allow for future needs and modifications.
16. Access to information is a crucial issue for land-use planning.
  - a) Culture, recreation and tourism inventory information should be "user friendly" and readily available to the public.
  - b) Information should be available to the full range of users in a variety of formats, including paper copies and user access terminals.
  - c) Users should be denied access to sensitive or confidential information.
17. A pilot program should be developed to test implementation of inventories which would specifically address the recommendations addressed above.

# Table of Contents

- 1.0 Introduction
    - 1.1 Background
    - 1.2 Objectives
    - 1.3 Scope
    - 1.4 Definitions
    - 1.5 Methodology
    - 1.6 Inventory Considerations
  - 2.0 What Inventory Information Exists?
    - 2.1 Inventory Catalogues
    - 2.2 Major Inventories
    - 2.3 Specialized Inventories
    - 2.4 Non-Standardized Inventories
    - 2.5 Summary Observations
  - 3.0 Who is Involved in Culture, Recreation and Tourism Inventories?
    - 3.1 Resource Managers
    - 3.2 Resource Users
  - 4.0 For What Purpose is Inventory Information Used?
    - 4.1 Current Inventories
    - 4.2 Inventory Uses
    - 4.3 Effectiveness
    - 4.4 Summary Observations
  - 5.0 What Inventory Information is Needed
    - 5.1 Inventory Improvements
    - 5.2 Inventory Information Requirements
    - 5.3 Inventory Formats
    - 5.4 Level Of Detail
    - 5.5 Map Scales
    - 5.6 Desirable Inventory Features
    - 5.7 Future Requirements
    - 5.8 Vital Inventory Information
  - 6.0 Observations and Conclusions
    - 6.1 General Observations
- Appendices

# 1.0 Introduction

## 1.1 Background

The Forest Resources Commission report, "The Future of Our Forests," released in April, 1991 was highly critical of the general status of resource inventories in British Columbia. The report suggested that existing inventories are not adequate to meet the changing needs of an expanding client base. These needs include inventory support for land and water allocation, native land claims negotiations, and resource management.

In response, a Provincial Forest Resources Inventory Committee (the name was subsequently changed to the Resource Inventory Committee – RIC) was established to review the status of current resource inventories and develop mechanisms for rectifying problems. As part of this process, the Committee established seven task forces to address different kinds of resource inventories including: Geology and Soils; Timber; Biodiversity; Wildlife Habitat and Livestock Range; Fisheries Habitat; Water and Watersheds; and Culture, Recreation and Tourism.

The Culture, Recreation and Tourism Task Force is intended to make recommendations to RIC pertaining to culture, recreation and tourism inventories both in the short and long term. The focus will emphasize the status of current inventories, the needs of present and future users, standards and procedures required, linkages and interfaces with other inventories, and other recommendations for future inventories, including data storage, interpretation and dissemination.

## 1.2 Objectives

The mandate of RIC is outlined in the following two objectives and six activities.

### RIC Objectives

1. Determine what information is vital for effective land management, at what levels of detail, and for what purposes.
2. Define how this inventory information can most efficiently be acquired in a manner that minimizes duplication, promotes cooperative data collection, and encourages broad application and long term relevance.

### RIC Activities

1. Determine the resource inventory information that is being or has been collected, by whom, to what standards, using what procedures, and at what costs.
2. Identify the information products that will be most needed by resource managers and associated inventory users.

3. Develop, where appropriate, common standards and procedures for the collection, storage, analysis, interpretation, and reporting of inventory data.
4. Test these standards and procedures in the field.
5. Encourage their application, including training and extension, in both government and private data collection programs.
6. Cost a staged completion of a coordinated multi-resource inventory of the forest land base over a ten year period of time.

The above activities will be carried out over the next three years in a staged fashion. The involvement of committees, task forces and working groups, natives and non-government organizations (NGO's), various levels of government and B.C. ministries is intended to ensure a broad representation and base of information, opinion, and data.

The Culture, Recreation and Tourism Task Force has the following three basic objectives:

1. To determine the culture, recreation and tourism inventory information that is being or has been collected, by whom, to what standards, using what procedures, and at what cost.
2. To identify the information products and associated inventory needs most needed by resource managers and decision makers.
3. To develop common standards and procedures for the collection, storage, analysis, interpretation, reporting, and dissemination of inventory data.

The first objective has been addressed in a companion report entitled "A Review of Existing Resource Inventories in British Columbia Dealing with Culture, Recreation and Tourism". It is summarized in Chapter 2 of this report. The second objective comprises the main focus of this report. The third objective will be addressed in subsequent work.

The specific Terms of Reference for the Culture, Recreation and Tourism Task Force are as follows:

**Overall Goal:**

To develop a multi-resource integrated inventory:

- to support, primarily, land and water use planning, resource management, and native land claims negotiations; and
- to meet public information needs.

**Specific Objective:**

To move towards design and implementation of a Culture, Recreation and Tourism inventory by specifically identifying what to inventory (and how).

**Activities:**

1. Determine the culture, recreation and tourism inventory information that is being or has been collected, by whom, to what standards, using what procedures, and at what costs:

- Review existing inventories and report on the following:
    - Purpose
    - Structure
    - data collection
    - public feedback
    - data classification
    - data output
    - clients
    - inventory uses
    - relationship to other inventories
    - quality and standards
    - provincial coverage
    - scale
    - costs
    - data accessibility and dissemination
    - "user friendliness" of data
    - problems, deficiencies, issues
    - legislative mandates for collection of inventory
    - other relevant criteria being used by other RIC task forces.
  - Examples of existing inventories identified by the Terms of Reference include:
    - Ministry of Forests
    - Recreation Inventory
    - Ministry of Tourism and Ministry Responsible for Culture
    - Heritage Resource Inventory; Tourism Resource Inventory
    - B.C. Parks
    - Parks Values Inventory
    - Canadian Parks Service
    - Canada Land Inventory Recreation Capability
2. Identify the information products, and associated inventory needs most needed by resource managers/decision makers, educators/recreationalists and tourists, including:
    - identify current and future clients of culture, recreation and tourism, inventory information
    - identify client needs (purpose why collected)
    - identify processes in which inventory information will be used
    - identify technical standards and research needs
    - identify staff and training needs
    - identify appropriate technology
  3. Analyze and compare the outcomes of 1 and 2 above, and make recommendations on the following:
    - necessary adjustments to existing programs
    - new inventory programs needed
    - new inventory approaches
    - new uses of inventory data
    - integration and coordination with other inventories
  4. Where appropriate, develop common standards and procedures for the collection, storage, analysis, interpretation, reporting, and dissemination of inventory data.

5. Submit a report on Task Force findings to RIC, by May 15, 1992.
6. Present the report at a RIC retreat May 27 and 28, 1992, to be held at Mesachie Lake.

### 1.3 Scope

The topics of culture, recreation and tourism are incredibly broad in their meaning and scope. Within the RIC context, they form a distinct "catch-all" inventory grouping. They are distinctly different from the other six task force topics because they are not typically defined in physical terms (the way timber, soil, or geology would be). In fact, there is a distinct people-focus and/or market demand element which is unlike the other task force topics. Furthermore, there are distinct differences among the three topics of this Task Force which makes categorizing the issues difficult.

In any event, the following comments are meant to inform the reader about the scope of this report.

- ***The focus is mixed.*** The audience of this report is a mix of stakeholders which includes members of RIC, resource managers, and resource users. This infers an audience that is generally informed or knowledgeable about the topic. As such, the overall focus of the report is intended to be analytical, logical, and concise.
- ***The level of detail varies.*** The level of detail presented is intended to be sufficient to document the subject, while striving to be brief and concise.
- ***Users of the report will include government and non-government representatives.*** Government readers will likely be resource managers dealing with issues involving the three topics of culture, recreation and tourism. These agencies typically design inventory programs and manage the information. Non-government readers will tend to be from agencies that "use" resource based inventory information.
- ***The geographic focus is very broad.*** The original intent of this project was to deal solely with crown land. Subsequent re-focus has intended the results of this analysis to be relevant to the entire province, including private land.
- ***The inventory review covers all government jurisdictions.*** The research for this report covered inventory products and needs from federal departments, provincial ministries, and crown corporations, plus regional and local governments.

### 1.4 Definitions

The following definitions have been created to outline the scope of the topics covered in this report

#### **Resource Inventory:**

***Any itemized list, map or report dealing generally with resource based features, areas, and values.***

This definition includes a range of "inventories" from manual lists of categorized information, and data bases, to computer-based geographic information systems. These

inventories involve more than raw data and require some descriptive classifications or parameters. The common feature is that they can be related to land use and/or management.

### **Tourism:**

*The "tourism industry" is the sum of all the businesses and amenities that directly provide goods, services, or experience to travelers.*

Tourism "occurs" when people travel outside their usual place of residence for at least one night. It is noted that no universally accepted definition of tourism exists and there is no Standard Industrial Classification for tourism. Depending on the agency "defining" tourism, it may include business travel, it may include a distance-from-home requirement, or it may involve an overnight stay away from home. In place of a concise definition, tourism for the purposes of this inventory, relates to the activity of travelling, and it includes the businesses or resources that cater to travelers.

### **Outdoor Recreation:**

*The physical, cultural, or spiritual experiences associated with biophysical and cultural, resources, and both natural features or constructed amenities.*

Outdoor recreation features are aspects of the landscape which provide the opportunity settings for outdoor recreation activities.

### **Culture:**

*The mix of characteristics that constitutes a society's way of life.*

Cultural resources include aspects of the land considered important for continuation of a people's traditional way of life, or significant as evidence or remainder of their history. It also includes such "developed" cultural pursuits as performing arts, visual arts, museums, and film. In a more general sense, it also includes language, beliefs, customs, traditions, and heritage. (It is noted that archaeology is not included in this report as it is being addressed by the Geology and Soils Task Force.)

## **1.5 Methodology**

This project has been conducted in three phases. The first phase was a cataloguing of existing culture, recreation and tourism inventories. The second phase involved collection of data from current and potential users of inventory information. The third phase involved analysis and review of these inventories and data, and the formulation of conclusions and recommendations.

The following steps were undertaken:

### **Catalogue of Inventories:**

- Devised a list of inventory evaluation criteria to allow features of existing inventories to be recorded.
- Reviewed a variety of sources to access culture, recreation and tourism inventories.
- Compiled the analysis of 25 inventories into a draft report.
- Presented the draft report to the Culture, Recreation and Tourism Task Force for comments.
- Included another 13 inventories in the catalogue and revised the report.

### **Inventory Users Data Collection:**

- Identified a number of users and potential users of inventories and categorized them according to their culture, recreation and tourism focus.
- The list included federal government departments, provincial government ministries, crown corporations, regional governments, consultants, universities, media, tourism industry associations/operators, resource industries, non-government organizations, and native organizations.
- Prepared a questionnaire dealing with the issues that needed to be addressed. This included questions dealing with existing inventories used, purpose, effectiveness, improvements, formats, level of detail, and future changes.
- A total of 83 persons were contacted. Fifty-five surveys were completed by telephone or returned by mail or fax.

### **Analysis and Review:**

- The results of the Catalogue of Inventories were summarized and conclusions drawn from the results.
- The user questionnaires were categorized, summarized, and analyzed.
- Conclusions and recommendations were prepared and described in a draft report.
- The draft report was presented to the Culture, Recreation and Tourism Task Force for review and comments.
- Comments were incorporated into the final report presented to the Resource Inventory Committee.

## **1.6 Inventory Considerations**

There are a number of features or principles that can be used to guide the inventory process. Generally, the Culture, Recreation and Tourism Task Force felt that the inventory should:

- be ownership free;
- have the capability to be decentralized;
- be tied in with the land use planning process and support the process's needs;
- facilitate good land use decisions;

- be standardized and comparable to the other task force inventories;
- be widely trusted and credible;
- be free of subjective interpretation;
- be developed with commonly accepted goals and through an effective consultative process;
- be easily understandable; and
- have "equal footing" with other inventories.

Furthermore, work done for the Timber Task Force (*Some Characteristics of a Good Inventory*, Kim Iles and Associates, December, 1991) was tabled for consideration by the Culture, Recreation and Tourism Task Force. This report is relevant because it is based on the experience of an extensive, province-wide resource inventory. It identifies the following inventory features or characteristics as desirable:

- keep it simple
- provide complete provincial coverage
- be responsive to user needs
- provide training to inventory users
- over-design the system to allow future needs to be incorporated
- strive for statistical accuracy
- create flexible categories
- allow for the recalculation of raw data
- store information in a manipulable database
- maintain quality control procedures
- be verifiable by outside agencies
- be compatible with other geographic information systems
- maintain historical/out-of-date information
- develop quick, responsive reporting capabilities.

## 2.0 What Inventory Information Exists?

*The objectives of this chapter are to identify and summarize existing inventory information. Although no standardized or province-wide inventory is currently available, numerous inventory projects have been undertaken which focus partially or wholly on Culture, Recreation and Tourism resources.*

*These inventories vary significantly in terms of geographic coverage, resource focus, level of detail, format, and output. They have been compiled by a range of agencies including all levels of government, consultants, associations, clubs, crown corporations, universities, and museums. These inventories tend to reflect the mandate of the owner agency and include information which relates directly to agency objectives.*

*These objectives differ extensively between, for example, a government ministry and a privately funded association. This factor is largely responsible for the variations reflected in the calibre and scope of the inventories. For ease of review and analysis and to reflect these variations, the inventories included in this report have been divided into four categories.*

*The following discussion provides an overview of the key features of each of the four categories of inventories identified, beginning with those which are the most standardized and sophisticated and concluding with those which are the least standardized and least sophisticated. More detailed information on the inventories is contained in the supporting report entitled "A Review of Existing Resource Inventories in British Columbia Dealing With Culture, Recreation and Tourism." Tables summarizing key features of these inventories are included in this chapter.*

*A total of 38 inventories have been summarized for inclusion in this report. While it is believed most of the major and many of the more specialized inventories have been accounted for, it is also acknowledged that many locally compiled inventories are not included.*

### 2.1 Inventory Catalogues

Inventory catalogues is the name used to refer to systems with the ability to integrate inventory information from a range of sources. At present, there are two systems in the province which have this capability and include, or have the potential to include, Culture, Recreation and Tourism inventory data. These are the Corporate Lands Information Strategic Plan and the Resource Mapping Inventory.

Although not inventories per se, these systems provide a structure within which inventory information can be compiled and retrieved. These systems have the mandate and potential to address the Culture, Recreation and Tourism inventory recommendations resulting from this project.

The Corporate Land Information Strategic Plan or CLISP, is the most significant provincial government initiative to date to facilitate the sharing of land related information across government. It has been designed to assist with integrated resource management, referrals, or conflict resolution. Although CLISP is currently being developed independently of the RIC initiative, it sets the government standard for compiling and recording land information. As a

result, inventory systems recommendations generated by RIC should reflect or complement the standards and structural framework being established by CLISP.

CLISP has three key components. The first component is the supporting organizational structure which will allow land related information to be shared between systems. The second component is the physical means by which ministries or user agencies will be able to locate and access land information. This is being achieved by a computer-based system called the Land Information Infrastructure (LII). This system will provide a GIS-like functionality giving agencies with GIS capability the ability to order or "browse" all available land related data in the context of a spatial view. The third component is the Land Information Management Framework (LIMF) which provides direction for people who produce, use, and maintain the LII.

The second inventory catalogue available in B.C. is the Resource Mapping Inventory. Managed by the Surveys and Resource Mapping Branch of the Ministry of Environment, Lands and Parks, this inventory contains all the maps and reports produced by provincial agencies responsible for biophysical issues. The inventory lists over 200 reports and 9,000 individual map sheets depicting information ranging from terrain to wildlife capability. Maps generated as a result of some of the other inventories discussed in this report are included among those listed in the Resource Mapping Inventory.

## **2.2 Major Inventories**

The term "major" has been used to describe sophisticated, resource focused, inventory systems. To be considered major, an inventory has to cover the whole province and reflect a high degree of accuracy and standardization. Four of the major inventories reviewed for this project are digitized while one of the remainder has the potential to be digitized. These inventories include:

- Recreation Features Assessment – Ministry of Environment, Lands and Parks (MELP)
- Canada Land Inventory (CLI) – MELP
- Forest Resources Inventory – Ministry of Forests (MoF)
- Forest Tenure Administration System (FTAS) – MoF
- Forest Recreation Inventory – MoF
- Satellite Account – Ministry of Tourism (MoT)

The following observations can be made regarding these major inventories:

- All inventories categorized as major were developed, and are managed, by provincial government agencies.
- With the exception of the Canada land Inventory, which also pre-dates the other major inventories by several years, each of the inventories in this category are updated on a regular or ongoing basis.
- Geographic coverage is relatively extensive but reflects the mandate of the managing Ministry. For example, the Parks inventory covers most of B.C.'s park area while the MoF inventories cover all of B.C.'s forest lands.

- The information generated by these inventories is primarily geared to be used as a tool by ministry staff for achieving ministry objectives. However, information in major inventories is not confidential and is also available for use by all potential user agencies.
- Four of the six major inventories have GIS capability. These are the three managed by MoF and the Canada Land Inventory.
- The MoF inventory systems can accommodate a number of GIS products including PAMAP, Terrasoft, and Intergraph IGDS. The Canada Land Inventory can accommodate GIMMS, ARC-INFO, SPANS, and PC-DATA.
- With the exception of the Satellite Account, the major inventories include information on biophysical features, recreation features, and cultural/historic features. Attribute and feature information is also included in the MoF inventories. The Satellite Account provides economic impact information only.
- The most common map scale, used by half of the major inventories, is 1:50,000. The CLI uses 1:125,000 or 1:250,000, while the Forest Resource Inventory uses 1:20,000.
- Two of the five computerized inventories are considered user friendly. Two of the others are considered not very friendly with one of these (the Satellite Account) requiring knowledge of a complicated, internally developed methodology. The fifth inventory is classified as user friendly for operators familiar with GIS.
- The operating costs of a GIS system are high and vary according to the scope of information they encompass. The Forest Resource Inventory, for example, costs approximately \$3 million annually to operate and includes all forest resources. The Forest Recreation Inventory, which focuses on the recreation element of forest resources, has an annual operating cost of \$250,000.

## 2.3 Specialized Inventories

The majority of Culture, Recreation and Tourism inventories in the province have been grouped into the category of "specialized inventories". These inventories may cover all or part of the province. They may or may not be digitized. They are likely to have a specific Culture, Recreation and Tourism focus. Most of these inventories are based on, or use, assessment criteria unique to that particular inventory. Twenty-seven (70%) of all the inventories reviewed have been classed as specialized. These include:

Ministry of Tourism:

- British Columbia Product Guide
- Natural Resource Based Tourism in Northwestern British Columbia
- Natural Resource Tourism Mapping – Kamloops Resource Management Area
- Coastal Tourism Resource Inventory

Ministry of Environment, Lands and Parks:

- Parks Data Handbook
- Backcountry/Tourism Resource Inventory
- Oil Spill Response Information System

- Watershed Coding System
- Stream Atlas
- Cadastral Mapping
- Wildlife Biophysical Habitat Inventory
- Potential Wildlife Viewing Sites – Wildlife Watch
- Angling Guide Database
- B.C. Lakes Database
- Stream Information Summary System
- Detailed Look at Streams
- Small Lakes Information Management

Other Provincial Government:

- Historic Sites Review – Phase I
- Old Growth Forest Inventory
- Photolog
- Vancouver Island Coast Heritage Tourism Study – Heritage Conservation Branch
- 1991 Heritage Designated Sites Registry – Archaeology Branch

Other:

- Canadian Heritage Inventory Network (CHIN) – Heritage Canada
- Outdoor Recreation Maps of B.C. – Outdoor Recreation Council of B.C.
- Lower Mainland Trails – The Federation of Mountain Clubs of British Columbia
- Scenic and Recreation Values of the Travel Corridor of Northeastern B.C. – Faculty of Forestry, UBC.
- Recreation Opportunities Inventory – B.C. Hydro

A review of the above inventories produced the following key observations:

- Thirteen of the specialized inventories are managed by the Ministry of Environment, Lands and Parks while four are managed by the Ministry of Tourism. Of the remaining ten inventories, six are managed by government agencies, one by an association, one by a university and one by a crown corporation.
- As with major inventories, the specific objective of the specialized inventories tends to reflect the mandate of the managing agency. A relatively consistent objective of these inventories is to compile information on various components of B.C.'s tourism resources.
- Of these specialized inventories, three are establishing a standard for the future compilation of inventory information.
- With four exceptions, all of these inventories have been developed since the mid 1980s while almost one-third have been initiated in the last two years.
- Most established, specialized inventories are updated on an ongoing basis.

- Just under half of the specialized inventories cover all of B.C. (i.e., all B.C. streams or all of B.C.'s heritage sites). The remainder cover a specific geographic area such as the Vancouver Island/Coast Economic Development Region.
- Six of the 27 inventories are considered partly or wholly confidential. Most of the confidential information relates to sensitive cultural or environmental sites.
- The key users of specialized inventory information are the managing agencies, in most cases, government ministries. Other potential users include other government ministries, industry, special interest groups, and the general public.
- Six of the specialized inventories have a GIS structure/capability. Five of these are operated by Ministry of Environment, Lands and Parks and one by the Ministry of Tourism. Reports and maps are the most common format of these inventories.
- Information on biophysical features is the focus of 12 of the specialized inventories. The focus of the remaining inventories is on tourism products and facilities, heritage sites or legal status.
- 1:250,000 is the most frequently used map scale followed by 1:50,000.
- Of the six GIS specialized inventories, three are considered user friendly and three are considered somewhat difficult to operate.

## **2.4 Non-standardized Inventories**

The majority of the remaining inventories in B.C. not specifically identified in this report, fall under the category of non-standardized inventories. Such inventories tend to be local in scope although they may cover the whole province. The information included in these inventories is largely gleaned from independently conducted, site specific studies. No consistent standards are used and information is not digitized. This category encompasses all the locally generated and focused heritage, ethnographic and tourism inventories throughout the province. Key observations regarding these inventories include:

- The objectives of these inventories are to identify specific types of Culture, Recreation and Tourism resources within a defined, usually very localized, geographic area.
- Accuracy, completeness and currentness vary with each inventory and generally reflect the skill levels and commitment of the managing agency. The quality of a non-standardized inventory is not necessarily indicative of the quality of the resource.
- Users of this inventory information are most likely to be specialists or local organizations although government also makes use of some of this information especially as it relates to heritage and ethnographic resources.
- Non-standardized inventories are most frequently presented as a report and/or list. While maps are included as a component of some of these inventories, they are generally not detailed enough to allow for digitizing.
- Information on built structures is the most common focus of these inventories.

The following charts (Exhibit 1) list the features of the 38 inventories reviewed. The chart records information on:

- objectives

- year started
- updates
- coverage
- access restricted
- users
- structure
- data format
- categories
- map scales
- user friendliness
- operating costs

Inventory	Features						Features					
	Objectives	Year Started	Updates	Coverage	Access Restricted	Users	Structure	Data Format	Categories	Map Scales	User Friendliness	Operating Costs
<b>Inventory Catalogues:</b>												
Corporate Land Information Strategic Plan	To enhance the sharing and exchange of land related information across government in order to support integrated resource management and referrals resolution	1989	Ongoing	All of B.C.	Some information confidential. Users need access to appropriate terminal	All government agencies involved in land-use decisions	Computerized system which allows access to database and mapped information	Still developing formula/data exchange standards which will be compatible with the draft National Standard for Canada	NIA	Can incorporate date captured	N/A	N/A
Resource Mapping Inventory	To compile maps and reports on biophysical resources	1965	Ongoing	Varies by topic	No	Resource ministries, Companies, Special Interest Groups	Database	NIA	Covers biophysical information on agriculture, habitat, forest, landbase, soils, vegetation, wildlife, etc.	1:250,000 1:50,000	Easy to access	30 staff
<b>Major</b>												
Recreation Features Assessment	To provide information to assist in the preparation of Parks Master Plans	Varies from park to park	Every 5 year	44 major provincial parks	No	Regional park managers, Other Parks staff	Maps, reports	N/A	Areas with recreation potential Biotic Physical geographic Water oriented Cultural historic Miscellaneous	1:50,000		
Canada Land Inventory	To enable governments to make informed resource allocation decisions based on knowledge of biophysical features	1965	Not done for 5 years	Two-thirds of Province	No	Resource ministries, Developers, Resource Companies, universities	GIS Digital magnetic tapes	GIMMS ARC-INFO SPANS PC-DATA	Seven ranges of capability for: forestry agriculture recreation ungulates waterfowl	1:125,000 1:250,000	Not very friendly	Very little or no updating done
Forest Resources Inventory	To provide an accurate, up-to-date ecologically-based inventory of forest resources	1988	Every 2 years for active map sheets. Every 5 years for inactive map sheets	All TSAs	No	Ministry of Forests, Other Ministries, Federal Government, Companies, General Public	GIS Database	PAMAP Terrasoft Intergraph IGDS	Attributes such as: species age height crown closure, etc.	1:20,000	Relatively easy for technical people but difficult for non-technical people	\$3m/year
Forest Tenure Administration System (FTAs)	To list all reserves, sites, trails, and accompanying facilities and structures in the province's forest lands	1989	Ongoing	All B.C. provincial forests	No	Ministry of Forests, Forestry Industry, General Public	GIS Database	N/A	Recreation features activities feature significance management classes management codes ROS codes	1:50,000	Accessible throughout province, menu driven, quite easy to operate	\$20,000
Forest Recreation Inventory	To identify every recreation feature (capability) on all crown land	1981	Ongoing. 20% update of district land annually	All crown land with about half of province's Forest Districts having complete biophysical resource information	No	Forest Districts, Outdoor Rec. Council, Heritage Branch, Tourist Operators, Recreational Public	GIS	Intergraph IGDS Terrasoft PAMAP FIR QUICKMAP	Features such as biophysical, visual, historic etc. Significance sensitivity Present/potential use Present state Management code	1:30,000	Very friendly	\$250,000/year

		Features					Features					
Inventory	Objectives	Year Started	Updates	Coverage	Access Restricted	Users	Structure	Data Format	Categories	Map Scales	User Friendliness	Operating Costs
Satellite Account	To provide a detailed credible database of tourism economic impact information which can be used for micro and regional analysis	1990	Plans to update	All of B.C.	Raw data is confidential, aggregated data is not	Min. of Tourism, Min. of ELP, Min. of Finance and Corporate Relations	Database		Economic impact numbers for: <ul style="list-style-type: none"> <li>• accommodation</li> <li>• food and beverage</li> <li>• recreation/amusement</li> <li>• other tourism industries</li> </ul>	N/A	Not very friendly, uses an internally developed methodology	< \$250,000
<b>Specialized:</b>												
BC Product Guide	To assist travel counsellors in providing tourist information to visitors by compiling detailed information about BC's tourism potential	Unknown	Annual	All of B.C.	No	B.C. travel counsellors, Ministry staff, Consultants, General Public	Manual	N/A	All categories of tourism products such as: <ul style="list-style-type: none"> <li>• aircraft charters</li> <li>• attractions</li> <li>• cycling</li> <li>• fishing</li> <li>• guest ranges</li> <li>• wildlife viewing</li> </ul>	N/A	N/A	Unknown
Natural Resource Based Tourism in Northwestern BC	To provide insight into resource-based tourism in N.W. BC and to develop a strategic tourism resource model (STRM) which provides detailed inventory and resource planning information	1991	Project just completed	Northwestern BC	No	Tourism Industry Min. of Tourism Min. of ELP, Min of Forests	Report Maps	N/A	Biophysical factors: <ul style="list-style-type: none"> <li>• landforms</li> <li>• climate</li> <li>• vegetation</li> </ul> Human factors: <ul style="list-style-type: none"> <li>• land status</li> <li>• access</li> </ul> Human Resource factors: <ul style="list-style-type: none"> <li>• ie. forestry</li> </ul> Tourism Zonation information	1:250,000	N/A	N/A
Natural Resource Tourism Mapping - Kamloops Resource Management Area	To assemble and generate mapped inventory information on front, mid and back country tourism resources in the Kamloops Resource Management Area and Wells Gray Park	1991	Just completed	Kamloops Resource Management Area and Wells Gray Park	Some sensitive, cultural, environmental and economic information is confidential	Min. of Tourism Other policy/ decision makers Tourism Industry	Text Maps	N/A	<ul style="list-style-type: none"> <li>• biophysical factors</li> <li>• human factors</li> <li>• natural resource factors</li> <li>• visual quality</li> <li>• lands status/tenure</li> <li>• access</li> <li>• Recreation opportunity spectrum, etc.</li> </ul>	1:250,000 1:253,400 1:50,000		Overtime project
Coastal Tourism Resource Inventory	To identify high capability coastal tourism areas and to identify and map important natural and cultural tourism resources.	1991	Just completed	B.C. Coast	Some sensitive, cultural, environmental and economic information is confidential	Min. of Tourism Other policy/ decision makers Tourism Industry	GIS Maps Summaries	SPANS	<ul style="list-style-type: none"> <li>• Oceanography</li> <li>• Shoreline type</li> <li>• Shoreline configuration</li> <li>• Climate</li> <li>• Mammals</li> <li>• Birds</li> <li>• Fish/Shellfish</li> <li>• Vegetation</li> <li>• Heritage/Culture</li> <li>• Scenic</li> <li>• Access</li> <li>• Land status</li> <li>• Existing use</li> </ul>	1:250,000	Quite easy to use, adaptable	\$150,000 - \$200,000

Inventory	Features						Features					
	Objectives	Year Started	Updates	Coverage	Access Restricted	Users	Structure	Data Format	Categories	Map Scales	User Friendliness	Operating Costs
Canadian Heritage Inventory Network (CHIN)	To provide an inventory of all archaeology and heritage sites in the province	Mid 1980s	As required	All of B.C.	Yes	Ministry staff, Archaeologists	Database	Flatfile coordinates	<ul style="list-style-type: none"> <li>• location</li> <li>• type of site</li> <li>• status/condition</li> <li>• description</li> <li>• artifacts</li> <li>• age</li> <li>• bibliography</li> </ul>	1:50,000	Not very friendly. Menu driven but older style interface	Unknown
Vancouver Island Coast Heritage Tourism Study	To identify strategies for improving, developing and managing heritage tourism in the Vancouver Island/Coast Region	1990/91	Project just completed	Vancouver Island/Coast Economic Development Region	No	<ul style="list-style-type: none"> <li>• Heritage Conservation Branch</li> <li>• Min. of Tourism</li> <li>• Tourism Industry</li> </ul>	Report Map Database	Dbase III plus QUICKmap	<ul style="list-style-type: none"> <li>• category</li> <li>• theme</li> <li>• level of development</li> <li>• type of operation</li> <li>• heritage value</li> <li>• potential for development</li> <li>• location/access</li> </ul>	1:250,000 1:125,000		Overtime project
1991 Heritage Designated Sites Registry	To compile data on all recorded provincial and municipal heritage designations prior to February, 1991	1991	Project just completed	All of B.C.	No	<ul style="list-style-type: none"> <li>• Heritage Conservation Branch</li> <li>• Archaeology Branch</li> <li>• Communities</li> <li>• Special Interest Groups</li> </ul>	Report/list		Location Name Authority	N/A	N/A	Overtime project
Historic Sites Review Phase I	To make recommendations on alternative approaches to providing effective government assistance to historic sites of provincial interest	1991	Project just completed	All of B.C.	No	Heritage Conservation Branch Archaeology Branch Communities Special Interest Groups	Report	N/A	Heritage Properties Branch Sites, BC Heritage Trust Sites, Other Crown sites, Federal sites, Undeveloped sites	N/A	N/A	Unknown
Old Growth Forest Inventory	To determine amount and type of old growth forest in different ecological zones in BC	1991	Just started project			Min. of Forests Min. of ELP Sierra Club WCWC Forest Licenses	Map Datafiles Reports		<ul style="list-style-type: none"> <li>• tree species</li> <li>• age/height</li> <li>• biogeoclimatic zones/subzones</li> <li>• Ecoregions/ecosections</li> <li>• interpretive land base information</li> </ul>	1:250,000 (satellite images) 1:20,000 (maps) 1:40 (maps)		Unknown
Photolog	To compile a visual record of all BC highways for use in highways planning, accident reconnaissance and signage	1965	Annual	All BC highways	No	MoTH head office, MoTH regional staff, Other Ministry staff, Other interested users	Video	N/A	Photos	N/A	N/A	\$100,000/yr
Outdoor Recreation Maps of B.C.	To provide information on outdoor recreation opportunities in B.C.	1976	Currently "on hold" so no updates	Ten specific areas such as North Okanagan, and Peace River/Liard Region	No	Outdoor recreationists	Maps	N/A	<ul style="list-style-type: none"> <li>• campgrounds</li> <li>• outdoor recreation activities</li> <li>• water oriented activities</li> <li>• attractions</li> <li>• visitor services</li> </ul>	1:100,000	N/A	

	Features						Features					
Inventory	Objectives	Year Started	Updates	Coverage	Access Restricted	Users	Structure	Data Format	Categories	Map Scales	User Friendliness	Operating Costs
Parks Data Handbook	To maintain annual statistical records for all BC provincial parks	Unknown	Annual	All BC provincial parks	No	Min. of ELP staff, Min. of Tourism, Tourism Operators	Database Manual	N/A	N/A	N/A	N/A	< 1 FTE
Backcountry Tourism Resource Inventory	To identify opportunities for commercial backcountry recreation on Crown Land demonstrating high capability for specific activities	1987	Not updated	Kootenays, Whistler-Pemberton, Peace, Cariboo (includes provincial forest)	No	Crown Lands regions, Other ministries, Private sector investors, Public groups	Maps (Mylars) Reports	N/A	Relevant biophysical characteristics such as: • snow depth • tree cover • slope • constraints (wildlife habitat)	1:50,000	N/A	N/A
Oil Spill Response Information System	To provide information for oil spill response decision making	1991	Still loading data	Will be all of BC Coast. Currently 4% complete	Partly	Oil spill cleanup, Min. of ELP	GIS with relational database	ARC/INFO	• physical oceanography • shoreline geomorphology • biological resources • land use • logistic factors • heritage and archaeological resources • recreation & tourism • human use of resources	1:40,000	Very good	Unknown (too early)
Watershed Coding System	To provide a map base of all BC stream channels and watersheds to government users so they can manage program information for specific needs	1985	No set schedule yet	All of BC	No	Min. of ELP, DFO, Min. of Forests, Forest companies, Consultants, native bands, UBC/UVIC	File Management System: • Dictionary • Maps (will be translated to GIS)	Intergraph (will be translated to ARC/INFO)	• length • distance • elevation • location • NTS map reference • hierarchial positions	1:50,000	Dictionary - easy Atlas - not as easy	1 FTE
Stream Atlas	To provide a standardized and centralized information base for the collection and display of aquatic resource information	1987	Ongoing	All of BC	No	Min. of ELP, DFO, Consultants, Native bands	Maps Tables Summary Reports	ARC/INFO QUICKMAP	Stream data: • length • distance • location ... Lake data: • area • perimeters • depth ...	1:50,000	Not very friendly	\$100,000/yr
Cadastral Mapping	To provide an inventory of legal descriptions on land tenure	Mid 1980s	As required	All of BC	Yes - permission required	Min. of ELP, Developers	GIS	Arc/INFO	• boundaries • lease/license/tenure • ownership • type of tenure	1:20,000	Common GIS software	Unknown

Inventory	Features						Features					
	Objectives	Year Started	Updates	Coverage	Access Restricted	Users	Structure	Data Format	Categories	Map Scales	User Friendliness	Operating Costs
Canadian Heritage Inventory Network (CHIN)	To provide an inventory of all archaeology and heritage sites in the province	Mid 1980s	As required	All of B.C.	Yes	Ministry staff, Archaeologists	Database	Flatfile coordinates	<ul style="list-style-type: none"> <li>• location</li> <li>• type of site</li> <li>• status/condition</li> <li>• description</li> <li>• artifacts</li> <li>• age</li> <li>• bibliography</li> </ul>	1:50,000	Not very friendly. Menu driven but older style interface	Unknown
Vancouver Island Coast Heritage Tourism Study	To identify strategies for improving, developing and managing heritage tourism in the Vancouver Island/Coast Region	1990/91	Project just completed	Vancouver Island/Coast Economic Development Region	No	<ul style="list-style-type: none"> <li>• Heritage Conservation Branch</li> <li>• Min. of Tourism</li> <li>• Tourism Industry</li> </ul>	Report Map Database	Dbase III plus QUICKmap	<ul style="list-style-type: none"> <li>• category</li> <li>• theme</li> <li>• level of development</li> <li>• type of operation</li> <li>• heritage value</li> <li>• potential for development</li> <li>• location/access</li> </ul>	1:250,000 1:125,000		Overtime project
1991 Heritage Designated Sites Registry	To compile data on all recorded provincial and municipal heritage designations prior to February, 1991	1991	Project just completed	All of B.C.	No	<ul style="list-style-type: none"> <li>• Heritage Conservation Branch</li> <li>• Archaeology Branch</li> <li>• Communities</li> <li>• Special Interest Groups</li> </ul>	Report/list		Location Name Authority	N/A	N/A	Overtime project
Historic Sites Review Phase I	To make recommendations on alternative approaches to providing effective government assistance to historic sites of provincial interest	1991	Project just completed	All of B.C.	No	Heritage Conservation Branch Archaeology Branch Communities Special Interest Groups	Report	N/A	Heritage Properties Branch Sites, BC Heritage Trust Sites, Other Crown sites, Federal sites, Undeveloped sites	N/A	N/A	Unknown
Old Growth Forest Inventory	To determine amount and type of old growth forest in different ecological zones in BC	1991	Just started project			Min. of Forests Min. of ELP Sierra Club WCWC Forest Licenses	Map Datafiles Reports		<ul style="list-style-type: none"> <li>• tree species</li> <li>• age/height</li> <li>• biogeoclimatic zones/subzones</li> <li>• Ecoregions/ecosections</li> <li>• interpretive land base information</li> </ul>	1:250,000 (satellite images) 1:20,000 (maps) 1:40 (maps)		Unknown
Photolog	To compile a visual record of all BC highways for use in highways planning, accident reconnaissance and signage	1965	Annual	All BC highways	No	MoTH head office, MoTH regional staff, Other Ministry staff, Other interested users	Video	N/A	Photos	N/A	N/A	\$100,000/yr
Outdoor Recreation Maps of B.C.	To provide information on outdoor recreation opportunities in B.C.	1976	Currently "on hold" so no updates	Ten specific areas such as North Okanagan, and Peace River/Liard Region	No	Outdoor recreationists	Maps	N/A	<ul style="list-style-type: none"> <li>• campgrounds</li> <li>• outdoor recreation activities</li> <li>• water oriented activities</li> <li>• attractions</li> <li>• visitor services</li> </ul>	1:100,000	N/A	

Inventory	Features						Features					
	Objectives	Year Started	Updates	Coverage	Access Restricted	Users	Structure	Data Format	Categories	Map Scales	User Friendliness	Operating Costs
Wildlife Biophysical Habitat Inventory	To provide a comprehensive characterization of wildlife habitat, suitability and capability plus terrain and soils of BC and to make wildlife habitat management recommendations	Mid 1970s	Ongoing	All of BC	No	Regional wildlife staff, Consultants, Public (environment lobby groups)	GIS Maps Reports	PAMAP Terrasoft	<ul style="list-style-type: none"> <li>• vegetation</li> <li>• climate</li> <li>• biogeoclimatic zoneations</li> <li>• terrain</li> <li>• soils</li> </ul>	1:250,000 (regional and TSA planning) 1:50,000 (most common) 1:20,000 (special projects)	Requires some experience	Unknown
Potential Wildlife Viewing Sites (Wildlife Watch)	To list all potential wildlife viewing sites in a region	1989	Will be done periodically	All of BC except for small area of North Peace	Some information on sensitive areas is confidential	Min. of ELP, General Public	Summaries Reports	Wordprocessing program	<ul style="list-style-type: none"> <li>• site number</li> <li>• management unit</li> <li>• name of site's location</li> <li>• tenure</li> <li>• access</li> <li>• facilities</li> <li>• wildlife</li> </ul>	1:250,000	N/A	Unknown
Lower Mainland Trails	To identify trails and their owners, zones, condition, where described and adopters	1987	Ongoing	Lower Mainland	No	Trail Committee, Member Clubs	List	Lotus	Owners, zones, condition, published information on description and location, adopters	N/A	N/A	None
Scenic and Recreation Values of the Travel Corridor of Northeastern BC	To identify/assess values of BC's "Golden Circle" travel corridor to assist planners and policy makers in making appropriate protection, park planning and infrastructure	1974		Golden Circle area of Northeastern BC	No	Min. of Parks	Text Maps Photos		<ul style="list-style-type: none"> <li>• visual resource</li> <li>• geology</li> <li>• vegetation</li> <li>• wildlife and fisheries</li> <li>• history</li> <li>• water quality</li> <li>• land use</li> <li>• climate</li> <li>• existing facilities</li> <li>• Communities</li> </ul>		N/A	N/A
Recreation Opportunities Inventory	To inventory recreation resources and provide recreation information for 33 of BC Hydro's reservoir areas	1988	Currently updating	33 of BC Hydro's reservoir areas	No	BC Hydro	Text Maps		Text: <ul style="list-style-type: none"> <li>• location</li> <li>• land status</li> <li>• generation facilities</li> <li>• recreation perspective, opportunities, developments</li> <li>• use</li> <li>• development potential</li> <li>• issues</li> </ul> Maps: <ul style="list-style-type: none"> <li>• recreation sites</li> <li>• park areas</li> <li>• campsites</li> </ul>		N/A	Overtime project

Inventory	Features						Features					
	Objectives	Year Started	Updates	Coverage	Access Restricted	Users	Structure	Data Format	Categories	Map Scales	User Friendliness	Operating Costs
<b>Non-Standardized Inventories:</b>												
Heritage Inventories	To compile information on BC's history and assist the heritage community in making heritage preservation decisions. To establish an overall inventory of provincial historic sites	Various	Ranges with each individual inventory	Select areas throughout BC	No	Heritage Conservation Branch, Heritage Trust, Local heritage groups, Special Interest Groups, Min. of ELP	Reports Lists	N/A	<ul style="list-style-type: none"> <li>• buildings</li> <li>• native resources</li> </ul>	N/A	N/A	N/A
Saanich Heritage Structures	To identify structures for which heritage merit should play an important part in the (land-use) decision process	1992	Project just completed	District of Saanich	No	District of Saanich, Heritage Conservation Branch, Public	Report	N/A	<ul style="list-style-type: none"> <li>• age</li> <li>• use</li> <li>• owners</li> <li>• other historical information</li> <li>• architectural features</li> </ul>	N/A	N/A	Unknown
Ethnographic Inventories	To provide information which will enhance awareness, and encourage protection of BC's ethnographic resources	Various	Ranges with each individual category	Select areas throughout BC	Some site specific inventories are required	Anthropologists, Other specialists, Native bands	Reports Maps	N/A	N/A	N/A	N/A	N/A

## **2.5 Summary Observations**

### **Many Culture, Recreation and Tourism inventories exist.**

Our inventory scan turned up 38 inventories which either wholly or partially address inventory information. It is anticipated that numerous other locally generated inventories exist. Counting local and regional agencies, there are probably "hundreds" of Culture, Recreation and Tourism inventories in existence.

### **Many potential users of Culture, Recreation and Tourism inventory information do not know what inventories exist.**

The majority of existing inventories have been created by various government ministries and departments as management tool for helping them meet their mandate or objectives. The sophistication of these inventory systems and the quality of the information they contain, varies significantly. While much of this information is available to the public, most non-government, (and even some government agencies), are unaware that the information exists. In addition to government generated inventories, a number of private associations, universities, industry operators, native bands, and a crown corporation also manage inventories. Generally, these inventories are in a less sophisticated format than those produced by government. These inventories are also more likely to be more "product specific" For example, B.C. Hydro's inventory deals with recreation sites in reservoir areas only while inventories produced by local tourism associations focus on tourism resources within a specific geographic area. This general lack of awareness regarding the type of inventory information which already exists, combined with agency concerns regarding inventory ownership and development, has lead to some duplication and overlap. As a result, tourism operators, for example, may be aware of one inventory sponsored by a certain agency, but not of another which records the same or complementary information. One of the most significant features of existing inventories is that they have been initiated for a range of different reasons. As a result, there is a lack of consistency in the type of information compiled, the geographic focus, the level of quality etc.

### **Existing inventories cover a wide variety of topics.**

The inventories reviewed in this report cover a wide variety of topics within the spectrum of culture, recreation and tourism as a whole, as well as within each one of these inventory components. For example, the Forest Recreation Inventory addresses all recreation resources in B.C. forests but gives limited attention to tourism facilities or cultural resources. The Association of Mountain Clubs has a recreation inventory that only includes hiking trails in the Lower Mainland area. Although a few of the inventories reviewed cover all three of these resource categories for a specific area there is no one inventory which records culture, recreation and tourism information for the province.

### **Existing inventories vary as to the type of resource information they record.**

In addition to covering a range of topics within culture, recreation and tourism generally, the type of information topics covered between, for example, two tourism inventories, varies noticeably. While some inventories focus on recording resource location information, others focus on the quality of these resources or use levels etc. The ability of an inventory system to incorporate information ranging from the location of land/resource features to the suitability,

capability, use and quality of these features, will be important if the inventory is going to meet the needs of the range of users.

**Existing inventories share few common standards.**

A significant feature of existing inventories is the almost complete lack of any common or consistent standards regarding the type of information collected or the format used for recording the information. It appears that agencies managing the inventories have collected and recorded the information in whatever manner met their needs. Only the Ministries of Environment, Lands and Parks; Tourism; and Forests have collected information in a manner suitable for inclusion in a GIS system. It is anticipated that much of the information recorded in the other inventories would have to be reinventoried to ensure consistent and accurate coverage.

**Resource-based inventories have existed for many years.**

Resource-based inventories have been prepared and used as a planning tool for many years. The Canada Land Inventory (CLI), for example, was a detailed and extensive inventory exercise which involved categorizing much of the province (and the remainder of Canada) according to its land-use capability. In addition, numerous surveys of various aspects of B.C.'s resources have been undertaken by specialists such as geologists, biologists, etc.

**Current inventories are not effective planning tools.**

Most inventories provide lists and possibly descriptions of existing tourism, recreation and/or culture resources. However, few provide up-to-date information regarding proposed resource management activities. This limits the ability of agencies to use the information for planning purposes. For example, if an outdoor adventure operator is trying to identify areas to offer wilderness tours, it would be useful to know where proposed resource extraction activities will be occurring so that area could be avoided.

**Despite the number of existing inventories, numerous inventory information gaps remain.**

The level of coverage of culture, recreation and tourism inventory information varies drastically both between regions of the province and among the various components which comprise each of these three areas. More densely populated areas appear to have more detailed inventory information available while much more limited inventory information is available for more remote and less populated areas – despite the fact the "resources" in these areas may be more significant. The level of information available for components of each of these sectors also varies.

**Several inventories appear to be "setting the standard".**

A number of the inventories currently in use, or being developed, serve as the standard, (or claim to be establishing the standard), for the compilation of tourism, recreation or culture inventory data. Because there is a lack of consistency among these inventory systems it is important that they be reviewed in the context of this project.

The systems which are being used, or established, as an inventory standard include:

- Coastal Tourism Resource Inventory – Includes a methodology designed to establish a standard for describing natural resource information from a tourism perspective.
- Natural Resource Based Tourism of Northwestern British Columbia – Includes reference to a strategic tourism resource model (STRM) which can provide detailed tourism inventory and resource planning information for district-level and land-use exercises.
- Canadian Heritage Information Network – This system has been in operation for almost two decades and serves as the inventory system for recording archaeological information.
- Argus – Developed by the Royal B.C. Museum this inventory system is being established as the standard for recording the historic contextual information not accommodated by CHIN.
- Heritage Conservation Branch – The Heritage Conservation Branch has received funding from sustainable development to develop a GIS system based on the MoF model to serve as the inventory system for recording heritage site information.
- Archaeology – The Archaeology Branch is currently working on establishing standards for the recording of native/ethnographic information.

### 3.0 Who is Involved in Culture, Recreation and Tourism Inventories?

*A total of 83 agencies were contacted to participate in the Inventory User Needs Survey. Of these, six indicated culture, recreation and tourism inventory information is not relevant to their agency, 22 did not respond, and 55 completed a survey. The 55 who responded fall into the following categories:*

Federal Government	7	13%
Provincial Government	20	36%
Local/Regional Government	7	13%
Association	8	15%
University	3	5%
Tourism Industry	2	4%
Other Industry	3	5%
Consulting Companies	4	7%
Crown Corporations	1	2%
	<hr/> 55	100%

*Agencies interviewed identified their specific tourism, recreation and/or culture focus as follows:*

Tourism	22	40%
Recreation	13	24%
Culture	5	9%
Tourism and Recreation	8	15%
Tourism and Culture	3	5%
Recreation and Culture	1	2%
Culture, Recreation and Tourism	3	5%
	<hr/> 55	100%

*Of the 55 responding agencies, over one-third are wholly involved with tourism, one-quarter with recreation, and one in four with culture. The remaining agencies deal with culture, recreation and tourism as components of their overall mandate. Among these latter groups, some have a department or individual solely responsible for relevant issues while the others deal with such issues on an ad hoc or more generalized basis.*

*A review of the analysis focus of responding agencies indicates a clear distinction between agencies involved in "managing" resources and agencies who "use" resources. The following examination of the mandate/objectives of resource management agencies and user agencies outlines their perspectives.*

### 3.1 Resource Managers

Agencies representing all levels of government use culture, recreation and tourism resource information as part of their resource management function. These include (for example):

- Tourism Canada
- Forestry Canada
- Parks Canada
- Department of Fisheries and Oceans
- Ministry of Tourism
- Ministry of Environment, Lands and Parks
- Recreation and Community Services Branch
- Heritage Conservation Branch
- Heritage Trust
- Royal B.C. Museum
- Ministry of Forests
- Ministry of Economic Development, Small Business and Trade
- Economic Development Commissions
- Regional Districts
- Planning Departments
- B.C. Hydro

Of all the agencies who completed a survey, 65% are involved in resource management. The scope of these agencies' resource management responsibilities is largely reflected in their name, i.e. Parks Canada manages all of Canada's national parks. For some government ministries or departments, responsibilities for the management of resources are divided. Thus, the Ministry of Environment, Land and Parks has branches responsible for overseeing wildlife resources, fisheries resources, etc. Despite the diversity of resources overseen by these various agencies, responses to the question of agency mandate were similar for each and generated the following types of answers:

- protect the resource
- promote or enhance the resource
- conserve the resource
- manage the resource
- encourage economic development using the resource
- encourage appreciation/awareness of the resource
- market the resource
- improve the resource
- facilitate development of the resource

- set priorities for the resource
- undertake planning activities related to the resource
- encourage sustainable development of the resource
- map and describe the resource
- provide information about the resource
- develop programs based on/using the resource
- fund initiatives related to the resource.

### **3.2 Resource Users**

Virtually all non-government agencies who responded to the survey can be described as users of tourism, recreation and/or culture resources. These agencies include:

- tourism associations
- universities
- operators
- consulting companies
- tourism, recreation or culture organizations/clubs
- industry (non-tourism, recreation or culture focused)

The mandate of these organizations and their involvement in culture, recreation and tourism varies as follows:

Tourism Associations:	Promote and develop the tourism industry of a specific geographic region.
Universities:	Undertake academic research.
Operators:	Use resources to sell an opportunity and create employment.
Consultants:	Provide consulting/information services to clients regarding development feasibility, market potential, inventory, impact assessment, programming interpretation, and research.
Organizations/clubs:	Serve as an umbrella group to oversee the particular needs of their members.
Industry:	Involved in promoting an economic opportunity and generating employment in a manner which indirectly or partially involves use of resources

## 4.0 For What Purpose is Inventory Information Used?

*Due to the broad scope of the culture, recreation and tourism topic, there is a wide range of inventory information collected. Also, there is an equally wide range of purposes to which inventory information is put.*

*This chapter attempts to answer the question "For what purpose is tourism, recreation and/or culture inventory information used?" or "Why do you need inventory information?" This focus is intended to assess the range of uses.*

*It is also necessary to understand what inventory information is currently being used by the various agencies. Our analysis separated inventory users into several categories. A brief description of each is provided.*

### 4.1 Current Inventories

#### What inventory information do you currently use?

**Federal government departments** collect and/or use a variety of culture, recreation and tourism inventory information. The emphasis on tourism, recreation or culture varies by department, although the most common focus is on recreation. Often this is a byproduct of the ministries' primary focus. For example, the Department of Fisheries and Oceans is responsible for monitoring and maintaining fish stocks. One of their objectives in undertaking these responsibilities is to enhance the recreational fishing sector.

**Provincial government ministries** also collect and/or use a broad range of culture, recreation and tourism inventory information. This includes data on a variety of biophysical features and attributes. A great deal of unmapped database information is also collected, particularly describing tourism facilities and cultural sites/amenities. Although not strictly "inventory" related, many provincial agencies also generate, demand, or resource use information.

**Local and regional governments** use inventory information which documents land use within their boundaries. This includes heritage inventories, census reports, and land capability analysis. They also use a variety of "user" information from tourism surveys and recreation reports.

**A range of other agencies** use culture, recreation and tourism inventory information. These include consultants, university staff and students, industry associations, tour operators, tourism business operators and resource companies. The inventory information used varies by agency but typically involves biophysical mapping, databases and user-type surveys.

## 4.2 Inventory Uses

### What use is made of the inventory information?

Culture, recreation and tourism inventory information is used for a variety of purposes.

**Federal and Provincial agencies** are using inventory information to help them meet their mandates. From a tourism perspective, this includes land use planning, integrated resource planning, community planning, product development, and market development. In terms of recreation, the resource information is used to manage, promote, and protect recreational resources. The main cultural focus is towards heritage where inventory information is used to promote awareness of heritage and to encourage protection of heritage resources.

**Local governments** use culture, recreation and tourism inventory information for land use planning and to make land use decisions regarding private or public sector development projects. The information provides background material for development strategy formulation or referrals to other agencies.

**A number of other non-government agencies** regularly use inventory information for a variety of purposes. Resource based companies use the information to minimize impact on recreational and/or cultural resources. Tourism developers use biophysical information to assist in planning their facilities. Recreational agencies use inventories to prepare maps and other publications to serve their members.

Agencies involved with outdoor recreation use inventory information to determine an area's potential for recreation. It is also used as a tool to assist in the conservation of outdoor recreation resources and to enhance interpretation. Universities use inventory information to examine resource issues, review conflicts, and assess areas of overlapping interest. Consultants are generally working for private or public sector clients and require inventory information to help assess the viability of investment decisions in the case of private sector development or to provide direction to government agencies making resource assessment and allocation decisions.

## 4.3 Effectiveness

### How effective are existing inventories?

Persons contacted as part of this project were asked how effective they felt current inventory information was in meeting their needs. A range of replies were given, but the overall consensus was that existing inventories are not very effective.

Of the agency representatives contacted, approximately 80% stated that existing inventories were "not very effective". The remaining 20% indicated that current inventory information was either "adequate" or was "not needed" to meet their agency's mandate.

The reasons given for this lack of effectiveness vary considerably, but can be grouped into the following categories:

- Inadequate geographic coverage;

- Lack of credibility due to the interpretation or judgement applied by the sponsoring agency;
- Information too general or not sufficiently detailed to be useful;
- Lack of familiarity with what is available and how to access the information;
- No central agency to house the information and provide access;
- Lack of standards and linkages between systems;
- Mixing or overlapping of information regarding physical features, their significance, and their capability to sustain use;
- Inconsistent application of information between various users.

There does not appear to be any significant difference between the opinions of resource managers (government) and inventory users (industry, associations, or the public). The only issue more consistently brought up by user groups had to do with access to the information and the level of detail available.

## 4.4 Summary Observations

### **Survey respondents use a wide range of tourism, recreation and/or culture inventory information.**

With the exception of a few non-government organizations and clubs, most agencies surveyed use tourism, recreation and/or culture inventory information. The type of information used varies with each organization, although federal and provincial government agencies are most likely to make primary use of internally generated information and secondary use of inventories generated by other departments of government. This information is largely resource oriented. Local or regional governments and non-government agencies are more likely to make use of any relevant information available to them. This might include formal government generated information but is just as likely to include information lists, reports, strategies, photographs, etc. The inventories used by these agencies provide resource information as well as user, trend, potential, value, and other non-resource information.

### **Inventory features vary significantly.**

The inventories used by responding agencies vary significantly in terms of scope, focus, quality, format, and content. The geographic scope of available inventories ranges from coverage of the whole province to coverage of a municipality. Focus can be as specific as 'heritage schools' or as broad as all tourism resources in a given area. Quality and format vary from typed lists with handwritten updates to sophisticated, high capacity, multi-use GIS systems. However, the most significant variation occurs in the area of content with inventories providing information on a broad range of culture, recreation and tourism related subjects including, for example:

- Archaeological/heritage sites
- ethnographic information
- demonstration forests
- biophysical features

- tourism infrastructure/plant
- landscapes
- stock harvests/statistics
- open spaces
- hiking trails
- use/density statistics
- zoning
- climate
- geology
- value

**Government agencies use more sophisticated inventory information than do non-government organizations.**

Whether it is because government agencies generate much of the existing inventory information or are more aware of access opportunities, it appears they are more likely to make use of higher quality, standardized and computerized inventories than are non-government organizations. While some non-governmental organizations do access this kind of inventory information, they are also more likely to use informal inventory information such as strategies, reports, lists, and photographs.

**Inventory information serves a variety of purposes.**

Agencies use culture, recreation and tourism for many reasons, all of which correspond directly to the mandate or objectives of the user agencies. Generally, government agencies use inventory information as a tool to assist them in the management (preservation, protection, promotion, assessment) of the resource for which they are responsible. Non-governmental agencies put inventory information to a much broader range of uses. These include using inventory information to aid them in marketing activities, academic research, business opportunity assessment, meeting government regulating requirements, protecting a specific resource, or identifying interpretation opportunities. These two perspectives have in common the requirement for detailed and specific information about the resources.

**Existing inventories are not effectively meeting user needs.**

With the exception of a few highly focused user groups, the majority of respondents (80%) stated that existing culture, recreation and tourism inventories are not very effective in meeting their needs. Reasons for this lack of effectiveness range from lack of detail and provincial coverage to data credibility and lack of standards. It also stems from changing needs of inventory users.

## 5.0 What Inventory Information is Needed?

*Chapters 2,3 and 4 of this report deal with the issues of "what inventory information exists..., who uses it..., and why do they use it?" In fact, a key focus of this research is to determine "What inventory information is needed?"*

*The following analysis deals with a series of issues relating to this topic. Addressed in this section are issues dealing with:*

- *inventory improvements*
- *inventory information requirements*
- *inventory formats*
- *level of detail*
- *map scales*
- *desirable inventory features*
- *future requirements*
- *vital inventory information.*

### 5.1 Inventory Improvements

#### **How could existing tourism, recreation or culture inventories be improved to better meet user needs?**

This question generated a range of suggestions from survey respondents. In fact, virtually all respondents had at least one, and sometimes several, suggestions for improving existing inventories. Generally, the comments centered around the theme of standards, integration, coordination, and consistency.

An illustration of the range of comments and suggestions follows: (These are in generally descending order of their frequency of mention.)

- One "neutral" agency should have the responsibility to collect, store, and retrieve inventory information.
- Standardize the systems and the inventory content.
- Provide information on use, values, and economic implications.
- Coordinate the inventorying activities.
- Ensure consistency in the application of criteria.
- Improve the detail available at the regional level.
- Require information on capability of the land for various tourism, recreation or cultural pursuits.
- Keep inventory data current and up-to-date.
- Improve training of those collecting inventory information.

- Put all information into GIS format to allow overlays of data.
- Generate information on investment opportunities.
- Incorporate the development plans of resource agencies.

Generally, the user groups are the most concerned about access to information, compiling the information in a centralized agency, and maintaining "neutrality". Private sector user groups tend to be the most interested in user or demand information citing the usefulness of this information in facilitating investment decisions. Another issue of particular importance to user groups is the ability to access information on the future development plans of resource agencies (again, to help in making investment decisions).

## 5.2 Inventory Information Requirements

### **What kinds of tourism, recreation or culture information would be most useful to your agency?**

Due to the diversity of the topic (i.e., culture, recreation and tourism) a broad range of inventory information was identified by respondents as being the most useful to their agency. The information preferences identified fall into two categories – general features of an inventory and specific information requirements for their agency.

Information regarding resource capacity and demand were the data needs most frequently cited although biophysical resources/physical features information is also considered important. In addition, information which could be used for evaluation and ranking or which provides information on economic performance, is also rated highly.

The range of suggested kinds of inventory information (in descending order of importance or frequency of mention) follows. The first category lists general information requirements and the second lists specific information requirements.

#### **General Features:**

- Facility/resource capacity and demand information
- Descriptions of products, features, and facilities
- Economic information
- Ability to evaluate significance or importance
- Details on what other agencies are doing
- Demographic and market information
- Information on urban facilities
- Locational information on features and facilities
- Information on land and facility use

**Specific Information:**

- Heritage, archaeological, or cultural information
- Recreation areas delineating activities
- Tourist accommodations and attractions inventories
- Proposed resource extraction activities.

Generally, it is tourism related users that require information on facility use and market demand. These users are also the most likely to require economic information and information on occupancy, attendance, etc. This information is required in order to make investment decisions. Managers and/or users of cultural resources require information on all aspects of heritage, native issues, and archaeology. In particular, several respondents indicated the need for more information on the cultural and/or historic context of these resource features. Managers and/or users of recreation resources most frequently identified data on carrying capacity, resource attributes, and user demand as key information requirements.

### **5.3 Inventory Formats**

**What form or format of inventory information would be most suitable?**

The overwhelming preference (cited by over 95% of survey respondents) is for inventory information to be available in map form. This preference holds for those persons primarily interested in tourism, recreation or culture.

Maps have been the traditional way to record and interpret spatial, physical information, and strong preference is given to maintaining this capability. Given the advancement in mapping technology, there is also a widely held recognition that computer based mapping provides an improvement over traditionally drafted maps.

Also ranking high in terms of preference or suitability are reports and databases. These inventory formats were stated as preferable by approximately two-thirds of respondents. In fact, most respondents also mentioned that both maps and reports/databases are preferable.

Those agency representatives who deal with inventory issues on a daily basis suggested that computer mapping which allows overlays of other agency's material would be ideal. This would allow for graphic, or three dimensional depictions of data, and would also allow the retrieval of inventory data in the most suitable map scale.

### **5.4 Level of Detail**

**What kind of detail would be most useful?**

There is a very strong preference for inventory information to be available at the "local" level. Virtually all resource managers and inventory users feel they need detailed information at the local level. For some uses, such as heritage site mapping or planning for a tourism

development, site specific information is required. The requirements for local detail cross the boundaries of culture, recreation and tourism.

Regional levels of detail are considered to be almost as important as local level information. Only a few respondents did not specifically mention regional detail as being important. This could be because it actually is not important, or because regional information can be created from local information by aggregating up. Again, there is no apparent difference among the tourism, recreation or culture representatives regarding preference for this level of detail.

Less than one-third of agency representatives specifically mentioned that inventory information is required at the provincial level. However, comments were made that this overview level of detail could be produced for agencies who require it by aggregating regional information.

## **5.5 Map Scales**

### **What map scales are preferable?**

The map scales required are directly related to project/study focus and the level of detail needed. The most frequently mentioned map scale was 1:50,000, cited by approximately one-half of respondents who actually specified a map scale. Only about one-quarter of respondents mentioned the 1:250,000 scale.

About one-half of the agencies contacted indicated that their work needs to be done at a more detailed scale. The most common scale requirement was 1:20,000, although several agencies doing site specific work require even more detail.

Generally, local planning departments, heritage organizations, and developers tend to need the more detailed, site-specific information. The resource management agencies tend to need a range of scales, depending on their topic and the issues to resolve. It appears that map scales that allow both local planning and the ability to see the "big picture" are important.

## **5.6 Desirable Inventory Features**

### **How important are various inventory features?**

Respondents were asked to rank a number of inventory features in terms of their importance. Ranking was done on a 1 (of no importance) to 5 (very important) scale.

Most of the features ranked were deemed to be of significant importance (i.e., a score of 4 or 5). In terms of overall importance, common standards scored the highest (combined 4s and 5s) at 96%, followed by timeliness of data (94%), user friendliness (88%), ease of access (86%), and GIS based (85%).

The distribution of responses are tallied on the following Exhibit.

## Exhibit 2 Inventory Features Ranking

Features	Degree of Importance					
	Least 1	2	3	4	Most 5	DK
Complete BC Coverage	2%	14%	10%	27%	43%	6%
Timeliness of Data		2%	6%	35%	59%	2%
Public Access	2%		20%	18%	51%	8%
Ease of access		2%	8%	19%	67%	4%
User friendliness	2%	2%	6%	25%	63%	2%
GIS based	4%	2%	10%	20%	65%	8%
Common Standards	2%		2%	32%	64%	2%
Training availability	4%	6%	28%	28%	30%	4%
Modem Access	6%	15%	27%	23%	23%	6%
Map output	2%	4%	8%	22%	61%	2%
Report output	2%	4%	15%	31%	48%	--

## 5.7 Future Requirements

### Are future requirements for inventory information likely to change?

The vast majority of respondents (over 90%) indicated that their future requirements for inventory information are going to change or are in the process of changing. Those agency representatives not expecting their requirements to change are typically agencies for which inventories are only a small part of their mandate. A few other agency spokesmen indicated that they were unsure of their future requirements.

A consistent theme regarding future changes dealt with the issue of being able to integrate or overlay other features or attributes information onto their inventories. This requirement was felt to be important for culture, recreation and tourism inventory purposes and infers that computer based and GIS oriented information will be required. This requirement is also based on the fact that more people are requiring more land for more reasons. It is expected that this demand will continue to increase, as will resource conflicts.

Another issue requiring change in the way inventory information is collected and used, is the public's increasing demand to be informed. The involvement of the public in land use issues will likely continue to increase, thereby producing a requirement for more information that is easier to understand.

Another anticipated change is the need to be able to relate user (or demand) information to resource (or supply) information. This also includes requirements for socio-economic or benefit-cost information. In terms of private sector investment and public sector resource management decisions, this issue will likely increase in importance.

## 5.8 Vital Inventory Information

### **What Culture, Recreation and Tourism information is vital for effective land management?**

One of RIC's two overall objectives is to answer the question about what information is vital for effective land management. Consequently, respondents to the Culture, Recreation and Tourism questionnaire were asked the same question (as it relates to Culture, Recreation and Tourism).

Responses to this question fall into two basic categories. One category outlines the overall features or characteristics of the inventory. This relates to the uses to which the inventory can be put. The second category outlines the specific elements of the inventory. This relates to what information is actually collected.

The first category contains three elements or considerations.

#### **Inventory Considerations:**

1. Resource Features – The inventory needs to be able to record the locations and descriptions of natural features and man-made amenities/structures.
2. Resource Capability – The inventory should match the features with markets. This would require information on demographics, preferences, trends, and future outlook. It would also deal with the issues of resource sensitivity and carrying capacity.
3. Resource Suitability – This characteristic would allow the inventory to rank the features of significance. It would deal with the issue of competing uses, permitted uses, and potential uses. It could also address the issue of "value" of the resource.

**Specific Inventory Requirements: (as mentioned by survey respondents)**

1. Tourism:
  - Accommodation
  - Attractions
  - Viewscapes
  - Marinas
  - Developable land
  - Golf courses
2. Recreation:
  - Trails
  - Wetlands
  - Estuaries
  - Wildlife viewing
3. Culture:
  - Heritage sites
  - Historic trails
  - Native sites

## 6.0 Observations and Conclusions

*The analysis of this project has led to a number of observations and conclusions. These have been addressed below. The format used describes the issue (in italics), presents discussion of the issue, followed by a conclusion. The following are all considered significant issues and are not prioritized.*

### 6.1 General Observations

1. *Culture, Recreation and Tourism are distinct topics and all three are broadly based.*

In many ways, the combination of these topics is somewhat artificial. Although there are numerous overlaps, the three topics of Culture, Recreation and Tourism are uniquely different. The information collected is different among the three and is used for different purposes.

What these three topics have in common is a distinct difference from the topics of the other six task forces. The other task force topics are all biophysical; they tend to represent physical aspects of the landscape and have a strong connection to the land and land use decision making. Culture, recreation and tourism are aspects of land use and are more commonly thought of as pursuits or activities that take place on land.

Conclusion: Separate but coordinated inventories should be established to serve the purposes of culture, recreation and tourism.

2. *Many agency representatives do not know what inventory information exists.*

The scan of available culture, recreation and tourism inventories turned up 38 separate products. These are, by and large, provincial in scope. Local and regional inventories probably number in the "hundreds". Most of these inventories were produced by a single agency for a specific purpose. Since there is no central focus for this information, knowledge about those programs is generally available through an informal network of contacts..

Conclusion: A directory or catalogue of Culture, Recreation and Tourism information should be prepared. The catalogue should be distributed to interested departments, ministries, and non-government agencies and updated regularly.

3. *Inventories have evolved or have been designed to suit the immediate needs of the sponsoring agency and are not multi-purpose.*

Typically, inventories have been developed as single issue projects, designed by one agency to meet a specific requirement. Although this may have met the objective of the agency, it has created data gaps as well as data overlaps with other agencies. With an increasing need by many agencies for more and better resource information, cooperation among agencies will improve results and their cost-effectiveness.

Conclusion: The development of new inventories should be coordinated through a central agency.

4. *Existing inventories are not viewed as being particularly effective.*

There is a high level of agreement among resource managers and inventory users that currently available inventory information is not very effective. The most common reasons for this lack of effectiveness are: a lack of confidence in the accuracy of the data; lack of consistent standards; incomplete provincial coverage; and a lack of knowledge about what actually exists. Other issues of concern deal with the level of detail, linkages with other systems, and the judgmental factor used by inventory codes.

Conclusion: The specific needs of the users must form the basis of the inventory's design.

5. *Inventories as an analytical tool.*

At a basic level, inventories are lists, descriptions, and tabulations of physical information. Of interest to users is the ability to assess what the information means. This infers that some level of interpretation needs to be applied to the information. This could involve, for example, an assessment of the significance or relative importance of inventoried features. This requires evaluation and judgement on the part of the inventory staff.

Conclusion: Culture, recreation and tourism inventories should be capable of including data which may be used to measure resource significance and sensitivity.

6. *Inventories as a management tool.*

The main objective of this review is to determine what culture, recreation and tourism information is necessary for effective land management. A step in the process is to record features and their relative significance. Another element of the process is to determine capability of the resource to sustain use. This could reflect carrying-capacity issues, or could deal with market or economic issues. In any event, measures of land use capability are critical to evaluations of suitability of the land for various uses.

Conclusion: Include the ability to assess resource suitability and capability as part of the inventory system.

7. *The potential role of Geographic Information Systems in culture, recreation and tourism inventories is very significant.*

Based on the survey of existing inventories and user needs, it is clear that Geographic Information Systems (GIS) are the appropriate technology for development and maintenance of culture, recreation and tourism inventories. However, few users expressed a requirement for GIS data. Rather, most users expressed a requirement for more readily available, more reliable, and more complete inventory data. This requirement could be satisfied by conventional hard copy map and report products. In fact, most users have limited or no access to GIS. (Also, there will always be a need for hard copy products for presentations, for decision-making, and for archival purposes.)

GIS will likely be the most efficient and cost-effective means to produce maps and reports. It also has the potential benefit that GIS data may be used in analyses. However, it should be emphasized that data to be used for analyses must be structured appropriately and requires more rigorous compilation than data used only for "inventory" purposes (i.e., to address the basic question: "what's out there?").

Currently there is limited use of inventory information for analytical purposes. Most users and potential users have limited access to inventory information and therefore have never pursued how it might be used or incorporated into analyses. Where culture, recreation and tourism related GIS systems currently exist (i.e., Ministry of Forests), they are for specific purposes and are not intended to be comprehensive. As a consequence, there is limited experience regarding how culture, recreation and tourism inventory information should be structured.

The level of effort required to implement a Province wide inventory is significant and would involve: standards development; preliminary design; prototyping, and pilot projects; acquisition of hardware, software and digital map bases; staffing and training system development; data compilation and loading; user documentation and user training; and subsequent maintenance.

Given this situation, it is important to not be too ambitious in implementing GIS technology for culture, recreation and tourism inventories. It is likely that recent GIS projects will be learning experiences rather than systems that will serve long term requirements.

Conclusions:

- a) Priority should be given to definition of standards for attribute data.
- b) Pilot projects will be important to confirm that the inventory design, content, and presentation are appropriate.
- c) Many users require information about resources that falls within the scope of one of the other RIC Task Forces. There will be a need for compatibility with the other inventories.
- d) There are no constraints regarding what GIS software or hardware should be used. Computer mapping and computer aided design (CAD) software could also meet minimum inventory requirements. The requirement is for a graphic display package capable of producing maps that is coupled with a database. An important selection criterion is the ability to exchange data with other inventory systems.

8. *There is a need for a broader range of information than is typically collected in a land-based inventory.*

To be of use to the tourism industry, information required includes facility capacities, (number of rooms, boats, attractions,...), performance information (occupancy, attendance,...), and economic information (revenues, employment,...). Recreation also requires "utilization" information and comparable statistics. Culture also addresses a number of issues (i.e., beliefs, language, religion,...) that are not typically land-based. Therefore, the ability to collect, integrate and manage very different types of information is of critical importance.

Conclusion: The inventory system design should be flexible enough to accept new related data such as market, financial, and economic information.

9. *It is critical that the Task Force know who is using/will use tourism, recreation or culture information before establishing operational guidelines and standards.*

Although government is currently the greatest user of culture, recreation and tourism inventory information, survey results indicate that the potential for non-governmental organizations to make more effective use of such information is significant. Because the

inventory information needs of these two groups are quite different, it is important that the range of end users be confirmed prior to finalizing operational guidelines and standards.

Conclusion: Given the range of potential uses and users of tourism, recreation and/or culture inventory information, the full spectrum of groups identified during the survey process needs to be served by the system which is eventually set up. While this suggestion has notable implications for issues such as data requirements and access opportunities, targeting a broad range of user groups will be the key to maximizing the system's relevance and cost effectiveness.

*10. There is a critical need for the development of inventory standards.*

Currently, inventories are maintained by different agencies, at different locations, with different geographic coverage and level of detail, and with different scope in terms of content. It seems likely that this situation will continue. Nonetheless, there appears to be common desire to be able to easily integrate this information for various purposes. There also is a desire to use the inventory information for purposes other than that which the agency responsible for developing the inventory intended. These objectives can only be achieved through common standards:

Conclusions: Ignoring for the moment, requirements that potentially may be imposed by initiatives such as CLISP, standards must address several areas:

**Map base:**

Culture, Recreation and Tourism inventories will likely be in many locations and require integration with other resource information. One of the most basic factors influencing confidence in the data is the registration of information from different maps, i.e., when information is lifted from one map and overlaid on another, how well are the spatial relations preserved. Obviously, road-side facilities must be adjacent to roads; marinas must be beside the water; etc. When this does not happen, users lose confidence in the inventory. The best solution is that a common map base be used by all inventories. Other solutions are possible but involve more effort. In this context "map base" refers to the precise spatial position of the coastline, rivers, roads, etc. and not the map projection, coordinate system, or other map properties that are easily modified using GIS.

**Map scales:**

The map scale used for data compilation determines the spatial accuracy of the data and limits the scales at which the data may be used. Generally a location or boundary can never be entered more accurately than  $\pm 0.2$  mm. at scale. Data compiled at large scales (i.e., 1:20,000) can be used at smaller scales (i.e., 1:250,000) relatively easily. However the reverse is not true. Therefore the key question is how detailed should the greatest level of detail in the inventory be. Most users expressed a requirement for data at 1:50,000 scale. However, there are no immediate plans to develop 1:50,000 scale digital map bases for the Province.

**Resource classification:**

Typically, users will be interested in information about specific types of resources or will need some breakdown of the types of resources in an area (i.e., recreation may be

subdivided into recreational boating, hiking, and camping, etc.). It will be helpful if all agencies' definitions are the same and a common classification scheme is used by all inventories.

**Size of resources:**

"Size" is a loose concept. It includes considerations such as spatial extent, how much resource is there, and intensity of use. Generally, most users will want information about size, use levels, etc.

**Importance of resources:**

"Importance" is also a loose concept. For some types of resources, importance is defined in economic terms. In other cases, the criteria may be aesthetic or in terms of "value to society". Most users will want to be able to obtain a simple map which illustrates "most important" to "least important" locations of a specific type of resource.

**Age of resources:**

Age of resources should be of interest to many users because it pertains to rate of development. It also will have importance to the cultural inventories.

**Vulnerability to other resource developments:**

Information on vulnerability is critical to protection decision making and assessment of land use conflicts. "Very important" and "very vulnerable" resources are the focus of protection; "low importance" and "low vulnerability" resources generally receive lower priority. Vulnerability will likely be different for different types of resources.

**Variability of resources:**

Some resources are seasonal operations or show distinct patterns of timing. Others may vary substantially from year to year in terms of location or availability. It is important to most users to know that a particular resource may not be present one year but be there the next, or may vary in location by several kilometres.

**Ownership/management of resource:**

A basic requirement is information about who owns or is responsible for a particular resource.

**Quality of information:**

Undoubtedly, the resource information in inventories will vary in quality. There is a desire to use the inventory information for decision making. Some of these decisions will likely have important consequences (economic and otherwise). It will be important to provide the user with some feedback on level of confidence in the information.

**Source of information:**

A basic requirement for most users to have any confidence in data, and to facilitate the maintenance of inventory data, is information on where the information about a specific resource came from, and where a user should go to check or update this information.

**Ownership of information:**

Ultimately there must always be somebody or some agency responsible -for maintaining a specific block of information. Frequently significant effort has been invested in development of databases. The Task Force/RIC will need to determine who "owns" the information, who has the rights to update information, and who should be contacted to report errors or updates.

**Status of information:**

In the normal course of operations of an inventory, some information is in draft form, other information is current and suitable for release, and other information may be considered obsolete or incomplete. There should be a method for tracking the status of information. This will be important to ensure that users do not accidentally gain access to inappropriate information.

**Cartographic representation standards:**

Cartographic representation refers to many factors including the types of symbols, colours, line styles, and fill patterns used to display data; how data are labelled; and, map scale, projection, coordinate system, annotation, and legend. Cartographic representation is frequently contained in GIS data files. Exchange between GIS systems is frequently complicated if different cartographic standards are employed.

*11. The option exists to either build on the work that has been conducted to date or to start anew.*

There are two detailed and thorough resource inventories currently in operation in the province, one deals with recreation and the other with tourism. These are the Forest Recreation Inventory and Coastal Tourism Inventory. Both have had considerable effort devoted to their development.

Conclusion: A culture, recreation and tourism inventory system should be based on these two inventory processes.

*12. The issue of neutrality or lack of bias is of critical concern.*

Who "controls" the culture, recreation and tourism inventory information is a critical issue. Because issues of resource significance and land capability or suitability are judgemental, it becomes important how and where the information is housed. This issue could be a real problem if the agency responsible is not qualified or capable to fairly evaluate the resource. The issue could become a perceived problem if the agency responsible is not viewed by others as "neutral".

Conclusion: Consider the appointment of a central inventory agency to manage inventory process.

*13. Linkages with other inventories and initiatives will be essential.*

It is impractical to consider culture, recreation and tourism inventories existing without linkages to other inventories and computer/GIS/database initiatives. There are three main areas where linkages with other systems are expected:

- sharing of digital map bases
- data exchange with other inventories
- computer infrastructure

The implementation of culture, recreation and tourism inventories using GIS will require a series of digital map bases covering the entire Province and adjacent marine waters. Likely there will be a requirement for three series of map bases: provincial (about 1:1,000,000), regional (about 1:250,000), and local (1:20,000 to 1:50,000) scales. The cost of acquiring digital map bases will be large and probably not be affordable unless shared with others.

A list of information required/expected from other inventories should be developed while a list of other inventories with requirements for culture, recreation and tourism data should also be identified. Data compilation standards should be reviewed with the other inventories to confirm expectations and information needs. It is possible that levels of detail may be greater or less than desired. Either situation poses problems for the user and would limit potential use.

There is a major initiative by B.C. Lands to develop a Province wide computer infrastructure that would tie together GIS and other databases at various locations and in different formats. This concept, the Land Information Infrastructure (LII), would provide a common means for a user in one location to access and query information from any Ministry at any location (subject to access restrictions) without worrying about details of hardware, software, format, etc. This initiative is under the auspices of the Corporate Land Information Strategic Plan (CLISP) of Crown Lands.

While there is no absolute requirement for existing or new Provincial information systems to participate in the LII, there would be considerable resistance to non-participation. When completed, the LII should simplify access to GIS and database information for most users although there will also be some additional burden of effort and complexity in maintaining databases in a manner that is appropriate for the LII. This is expected to impose a requirement for highly skilled professionals to serve as database and systems administrators.

#### Conclusions:

- a) Share map bases among the other inventory agencies to maintain linkages, and compatibility, and to reduce costs.
- b) Culture, recreation and tourism inventories should not attempt to maintain duplicate information to other agencies, but should share it as other agencies will want relevant information in return.
- c) Recognize the need to interface with the Land Information Infrastructure (LII).

#### 14. *An inventory system needs to be able to meet short-term and future in information requirements.*

With the exception of only a few agencies indirectly involved in tourism, recreation and/or culture, the majority of respondents to the User Needs Survey indicated that they expect their need for culture, recreation and tourism inventory information to change in the future. This observation has important implications for an inventory system in terms of technological considerations, information/data requirements, and access opportunities. Given that cost-effectiveness and maximizing system relevance are key objectives of this inventory initiative,

it is critical that design decisions be based on the need to maximize the system's ability to adjust to changing user requirements.

Conclusion: A culture, recreation and tourism inventory system should be designed from the outset so that changing user needs can be accommodated.

*15. Ease of access should be a priority feature of a culture, recreation and tourism inventory system.*

To ensure that the full range of potential users can benefit from tourism, recreation and/or culture inventory information, it is important that access to such information be available at numerous locations throughout the province. Many of the most critical land-use decisions are made outside of the Lower Mainland and Victoria. Having quick and easy access to culture, recreation and tourism inventory information was identified as an important inventory feature by most survey respondents. Generally, providing such access makes sense and will maximize the benefit of inventory information to regional government and non-government organizations involved in tourism, recreation and/or culture. The actual centres and agencies where this information will be available will need to be confirmed by RIC following consideration of the recommendations of all the Task Forces.

Conclusions: As a minimum, hard copy information and user access terminals for accessing on-line data should be available to a full range of users throughout the province.

*16. A tourism, recreation and culture inventory system should provide users with access to all available culture, recreation and tourism information except that which can be considered sensitive.*

To maximize the benefit of tourism, recreation and culture inventory information to land-use, resource allocation, development, and other decision making processes, users should have access to the full range of available culture, recreation and tourism inventory information. However, two key qualifications need to be considered. First, survey respondents expressed concern that not all users be able to access specific information regarding the location of sensitive cultural, heritage, or environmental sites. Uncontrolled use of this kind of information has resulted in accidental or deliberate damage being done to such sites. Second, most users should not have access to sensitive economic information such as non-aggregated operational revenue data.

Conclusions:

- a) Users should have access to the full range of available, relevant culture, recreation and tourism inventory information.
- b) Descriptive information regarding sensitive cultural, heritage, and environment sites should be available, although locational. information should be generalized in order to prevent uncontrollable activity from occurring on these sites.
- c) Any economic information available through the culture, recreation and tourism inventory system should be inputted and available in summary form only.

*17. Staffing will be an important consideration for the inventory program.*

It is clear that implementation of culture, recreation and tourism inventories using GIS has staffing implications. New responsibilities/positions will be created:

- data entry (graphic and attribute);
- system administration and support;
- database administration;
- user support and training; and,
- GIS analysis, report, and map production.

While it is likely that existing staff can be readily trained in attribute data entry and report production, the other responsibilities generally require substantial training (ranging from 6 months for graphic entry to several years for systems administration and support). Existing information systems personnel, particularly database professionals, may be trained or may take on some of these responsibilities without training. However, new staff will likely be required. Generally, the positions will require highly skilled individuals, preferably with experience.

Conclusion: The Culture, Recreation and Tourism inventory should be adequately supported in terms of staffing.

*18. The likely costs to be incurred will require a thorough design stage.*

The breadth of the topic covered by this analysis requires that any new inventory system be carefully designed and implemented. The information requirements of literally dozens of agencies (government and non-government) will be affected. Many of these agencies have regulatory roles requiring accurate information. Great care will need to be exercised in the delivery of an effective system.

Conclusion: Develop a pilot project to test implementation of an inventory which would deal with tourism, recreation and/or culture.

# Appendices

- A: Glossary of Terms
- B: Contact List
- C: Existing Inventories Questionnaires
- D: Inventory User Questionnaire
- E: Inventory Attribute Glossary

# Appendix A

## Glossary of Terms

**Attribute:** A distinctive, descriptive characteristic associated with a spatial feature. For example, a species type and population density may be associated with a bird resource polygon. Many attributes may be associated with a single spatial feature.

**Base Maps:** Maps that generally depict planimetry – natural and man-made physical features; topography – contours and spot heights; and cadastral information – legal boundaries and lot lines.

**Biogeoclimatic Zones:** Zones of the province determined by similar climatic, vegetation and soils features.

**Biophysical Mapping:** Maps that provide information on natural resource features such as soil, terrain, vegetation, climatic and aquatics.

**Cadastral Maps:** These maps are an assembly of Land Title Office plans and Land Act plans which show subdivisions of district lots, surveyed road and highway rights-of-way, railway and power rights-or-way, and place names. They do not show contours.

**Computer Assisted Design and Drafting (CADD):** A software system that manages graphic information. While related to GIS, CADD systems deal with the creation and display of visual data rather than with the underlying physical/spatial reference of the data.

**Commission on Resources and Environment (CORE):** An independent committee established to report jointly to the public and cabinet on new ways of managing B.C.'s natural resources and of resolving disputes. CORE will develop and support the implementation of a provincial resource strategy and regional local processes for making resource management decisions.

**Corporate land Information Strategic Plan (CLISP):** The B.C. government plan to establish an overall strategy and concept for the coordination of land-related data, applications and supporting technologies within the B.C. government.

**Data Base Management Systems (DBMS):** The primary means of managing non-graphic information of government. Applications may include a DBMS, or they may be built on top of a DBMS, utilizing the ability of a DBMS to efficiently organize and access data.

**Data Model:** A descriptive model incorporating the spatial and attribute information stored in a GIS. Typically, a classification scheme groups geographic features with similar attributes as entities and then describes the relationships and interactions between the various entity types. The data model also includes a spatial or topological description. For example, whether a particular type of feature is represented as point or polygon data.

**Digitizing:** Refers to the process by which spatial information is captured into a digital mapping format. Usually this involves manual tracing of linework and point locations from

source maps using a digitizing tablet. Other methods for digital data capture include scaling conversion using specialized scanners and conversion software. Data may also be loaded by other methods including from geographic coordinates in computer files, by downloading from an electronic device that records positions, and from word-processor mailing, lists of addresses and postal codes.

**Dissolve:** A GIS function that provides the ability to merge adjacent polygons on the basis of specified rules relating to common attributes. The result is new, larger polygons with attributes that are newly assigned, or derived from the source polygons. This function is most useful in the generation of new classification schemes.

**Feature:** A geographic object about which a GIS maintains spatial and attribute information. Features are represented by geometric entities (points, lines and polygons). Examples would be trails, archaeological sites, tourist accommodation areas, shoreline units etc.

**Geographic Information Systems (GIS):** GIS describes a branch of computer technology, primarily software, that deals with the management and analyses of spatial information. GIS software is available for microcomputers through to mainframes and with a range of capabilities ranging from simple display systems to complex analytical systems capable of handling very large data sets.

**Government Land Information Data Exchange Unit (GLIDE):** An arm of the Ministry of Environment, Lands and Parks responsible for producing the policies, procedures, standards and guidelines contained in the Land Information Management Framework (LIMF). GLIDE liaises with ministries planning, initiating, developing or operating land-related systems.

**Labels:** Descriptive information which is associated with a graphic feature. Labels are constructed from information stored in the attribute database and are automatically updated with the database. The link to the attribute database differentiates labels from annotation. Labels may be considered "intelligent" annotation.

**Land Information Infrastructure (LII):** Provides those data, applications and technologies that will enable the exchange and sharing of land-related data among ministries. It includes a physical system, consisting of hardware, software and data, as well as a system specification and development plan.

**Land Information Infrastructure Repository (LIIR):** A facility for documenting the information resources of the LII. Similar to a library or databank it contains all necessary information to identify what data or systems are available in the LII and where they are.

**Land Information Management Framework (LIMF):** The operating policy for LII – it provides the necessary policy, procedure, standards and guidelines that will direct and enable land information sharing within the province.

**Land Information Strategic Committee (LISC):** The committee responsible for coordinating and implementing CLISP. LISC reviews and endorses government land-related information systems submissions and proposals prior to review by Treasury Board. It acts as an interagency committee, encouraging cooperation and consistency in land-related data sharing across government.

**Layers** (also called **Levels, Overlays or Themes**): Sets of data which, while referring to the same geographic area of mapsheet and related through a common coordinate system, each deals with a specific type of information. For example, one layer might represent the shoreline, another water bodies and a third roads. Information in layers may or may not be associated attribute information in the database (i.e. may or may not contain features).

**Lithographic Mapping**: Printed maps which often use many colours and tints to depict different natural, man-made, or administrative features on a map.

**Metadata**: Data which describe other data. For example, the ranking of data quality, the date of and operator responsible for the last updating, and estimates of data accuracy and precision, are data which describe other data.

**NAD27** and **NAD83**: Refer to the North American Datum of 1927 and 1983 respectively. All mapping, both computerized and manual, is based on a definition of the shape of the Earth, i.e. the parameters of the Earth's spheroid. NAD27 refers to a set of parameters defining the Earth's spheroid for mapping of the North American continent that was the result of an international conference in 1927. These parameters are the basis of most available mapping including the current National Topographic Series maps. However, with the availability of satellite technology it became apparent that these parameters required updating. Accordingly, a new set of parameters was developed at a conference in 1983. These parameters, are referred to as NAD83 and by international agreement have been adopted as the basis for mapping of North America.

**National Topographic System of Mapping**: A national system used to divide Canada for mapping purposes. The largest divisions are 4° latitude by 8° longitude quadrangles. These quadrangles can subsequently be divided into mapsheets with scales ranging from 1:500,000 to 1:1,000.

**Orthophoto Maps**: These maps are comprised of an assembly of air photographs that have been brought to an accurate scale over the entire format by projection through special equipment. They can be used as bases for large scale mapping in place of conventional fine work.

**Planimetric Maps**: These maps are prepared from vertical air photographs tied to existing ground control such as triangulation stations, highways and railway surveys, cut base lines and other ground surveys.

**Point**: A geometric entity having no area or length. These are typically "spot" observations such as a locations where a legal sample is collected, the location where an cultural site is found or a spot measurement of water temperatures.

**Polygon**: A closed geometric entity used to graphically represent an area with homogeneous or associated attributes. Polygons are almost always features. Polygons have geometric properties including a surface area and perimeter and topological properties including inside/outside and adjacency.

**Quadtree**: A class of hierarchal data structures based on the principle of recursively decomposing an image (thematic map) into mutually exclusive quarters (quads) until a region is homogeneous or a specified level has been reached. This data structure facilitates storage in "tessellation" based systems allowing cell size to vary across a mapsheet and provides

more detail only where required. Each cell is associated with map features and the related attributes. Tydac SPANS is an example of a quadtree based GIS.

**Raster:** A method of representing spatial information by partitioning the map coverage into a regular pattern of rectangular cells. Each cell has the same area and is associated with map features and the related attributes. Geographic features are defined by the cells comprising them.

**Recreation Opportunity Spectrum (ROS):** Six categories with describe the mix of recreation activities, settings and experiences, found in a particular area of provincial forests.

**Resource Inventory Committee (RIC):** A committee appointed by the provincial government to review the status of current resource inventories and develop mechanisms to rectify problems. RIC oversees the seven resource task forces.

**Terrain Resource Information Management (TRIM):** A major B.C. Ministry of Environment, Lands and Parks program that is producing new 1:20,000 scale, digital mapping of the Province from new aerial photography. The project will complete approximately 7,000 map sheets.

**Topographic Maps:** These maps show drainage features, relief, culture such as place names, roads, railways etc., cadastral features such as administrative boundaries, land lot surveys, and land status to date of publication.

**User Access Terminal (UAT):** UATs are software components running on a variety of hardware platforms which allow users and user application programs to gain access to GIS information.

# Appendix B

## Contact List

<b>A. Culture, Recreation and Tourism Inventory Survey Contacts</b>	
<b>Inventory Name</b>	<b>Contact</b>
<b>Inventory Catalogues</b>	
Corporate Land Information Strategic Plan (CLISP)	Hally Hofmeyr – Ministry of Environment, Lands and Parks (MELP)
Resource Mapping Inventory	Mary Redmond – MELP
<b>Major Inventories</b>	
Recreation Features Assessment	Roger Norrish – MELP
Canada Land Inventory	Bob Louie – MELP
Forest Resources Inventory	Rick Brand – Ministry of Forests (MoF)
Forest Tenure Administration System	Ted Murray – MoF
Forest Recreation Inventory	Kamill Apt – MoF
Satellite Account	Sylvia Waterer – Ministry of Tourism (Mof)
<b>Specialized Inventories</b>	
B.C. Product Guide	Ministry of Tourism
Natural Resource Based Tourism in Northwestern B.C.	Sylvia Waterer – MoT
Natural Resource Tourism Mapping – Kamloops Resource Management Area	Pieter Bekker – MoT
Coastal Tourism Resource Inventory	Pieter Bekker – MoT
Canadian Heritage Inventory Network (CHIN)	John McMurdo – Ministry of Municipal Affairs, Recreation and Housing (MARH)
Vancouver Island/Coast Heritage Tourism Study	Brian Melnyk – MoT
1991 Heritage Designated Sites Registry	Cliff Hewitt – MoT
Historic Sites Review – Phase I	Cliff Hewitt – MoT
Old Growth Forest Inventory	Ministry of Forests
Photolog	Glen Church – Ministry of Transportation and Highways (MOTH)
Outdoor Recreation Maps of B.C.	Karen Hodson – Outdoor Recreation Council of BC
Parks Data Handbook	Ministry of Environment, Lands and Parks
Backcountry Tourism Resource Inventory	Al Ixfevre – MELP
Oil Spill Response Information System	Don Howes – MELP

Watershed Coding System	Tom Webber – MELP
Stream Atlas	Stu Hawthorn – MELP
Surveyor General Cadastral Data	Ministry of Environment, Lands and Parks
Wildlife Biophysical Habitat Inventory	Larry Lacelle – MELP
Potential Wildlife Viewing Sites (Wildlife Watch)	Liz Stanlake – MELP
Lower Mainland Trails	Anders Ourom – The Federation of Mountain Clubs of B.C.
Scenic and Recreation Values of the Travel Corridor of Northeastern B.C.	Peter Dooling – UBC
Recreation Opportunities Inventory	Colin Gurnsey – B.C. Hydro
<b>Non-Standardized Inventories</b>	
Saanich Heritage Structures	Brian Melnyk – MoT
Heritage Inventories	Brian Melnyk – MoT
Ethnographic Inventories	Richard Inglis – Royal B.C. Museum

## B. User Needs Survey Contacts

<b>Federal Government</b>	
Brian Tutty	Biologist – Department of Fisheries and Oceans (DFO)
Brad Mason	Habitat Inventory Coordinator – DFO
Tom Bird	Recreational Fisheries Division – DFO
Bill Henwood	Parks Canada
John O'Neill	Tourism Development – Industry, Science and Technology Canada
Elaine Teske	Communications – Forestry Canada
Colin Heartwell	Planning and Strategic Initiatives – Western Economic Diversification
<b>Provincial Government</b>	
Craig Strickland	Marketing/Trade Sales – Ministry of Tourism (MoT)
Peter Maundrell	Development – MoT
Jennifer Nicol	Sustainable Development – MoT
Pieter Bekker	Sustainable Development – MoT
Jim Majchor	Community and Regional Planning – MoT
Bob Schuring	Attractions – MoT
Brian Melnyk	Heritage Conservation Branch – MoT
Patrick Frey	Heritage Conservation Branch – MoT
Colin Campbell	Heritage Conservation Branch – MoT
Cliff Hewitt	Heritage Trust – MoT
Richard Inglis	Research and Interpretation – Royal B.C. Museum
Don Howes	Environmental emergency Services – Ministry of Environment, Lands and Parks (MELP)

Roger Norrish	Park Planning – MELP
Craig Wightman	Fisheries Division – MELP
Fred Thiessen	Recreation Branch – Ministry of Forests (MoF)
Ted Murray	Recreation Branch – MoF
Frank Ullmann	Recreation Branch – MoF
Chuck Dary	Small Business Development – Ministry of Economic Development, Small Business and Trade (EDSBT)
Jim Cameron	Regional Manager – EDSBT
Linda Beltrano	EDSBT
Russell Irvine	Recreation and Community Services – Ministry of Municipal Affairs, Recreation and Housing
<b>Crown Corporations</b>	
Colin Gurnsey	Social and Environmental Resources – B.C. Hydro
<b>Municipal/Regional Government</b>	
Jim McManus	Planning Department – Regional District of Alberni-Clayoquot
Greg Fletcher	Planning Department – Skeena-Queen Charlotte Regional District
R.D. Whetham	Planning Department – Regional District of East Kootenay
Martin Gruysse	Regional District of Kootenay-Boundary
Kent Sedgewick	Planning Department – City of Prince George
S. Fancy	Vancouver Economic Development Office
Walt Lengerke	Comox Valley Economic Development Commission
<b>Universities</b>	
Don Mitchell	Anthropology Department – University of Victoria
Peter Dooling	Faculty of Forestry – University of British Columbia
Peter Williams	Centre for Tourism Policy and Research – Simon Fraser University
<b>Associations</b>	
Greg Meredith	North by Northwest Tourism Association of B.C.
Barry Parker	First Nations Tourism Association
Gordon Finlay	Cariboo Tourism Association
Ray Pillman	Outdoor Recreation Council of B.C.
Dick McMaster	B.C. Fishing Resorts and Outfitters Association
Joss Penny	B.C. Motels, Campgrounds and Resorts Association
John Davis	Sport Fishing Institute of B.C.
Sharon Chow	Sierra Club
<b>Industry</b>	
Phil Winter	PTC Phototype Composing Ltd.
Kelly Gesner	The Fama, Group
Susan Craven	Fletcher Challenge
John Mikes	Canadian River Expeditions

<b>Consulting Firms</b>	
Hal Kalman	Commonwealth Historic Resource Management Ltd.
Bjorn Simonsen	The Bastion Group
Donald Benn	Juan de Fuca Recreation Consultants
Julie Paul	ARA Consulting Group

# Appendix C

## Inventory Questionnaire

**Inventory Name:** \_\_\_\_\_

**Owner Agency:** \_\_\_\_\_

**Contact:** \_\_\_\_\_

### ***General Inventory Information:***

1. What are the overall objectives of the inventory (what is it intended to do)?  
\_\_\_\_\_  
\_\_\_\_\_
2. When was the inventory initiated (year)? \_\_\_\_\_
3. Why was the inventory initiated (for what purpose)? \_\_\_\_\_  
\_\_\_\_\_
4. How frequently is the inventory data maintained/updated (periodic, ongoing, annually...)? \_\_\_\_\_
5. How recently was it last updated (year)? \_\_\_\_\_
6. How complete is the information in the inventory (percentage complete in meeting objectives)? \_\_\_\_\_  
\_\_\_\_\_
7. Is there a legislated mandate for the collection of inventory data? \_\_\_\_\_  
\_\_\_\_\_
8. Is the information in the inventory confidential and/or subject to restricted access?  
Please explain? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. Is this inventory used for "referrals" decision-making? (used to make regulatory decisions?) \_\_\_\_\_  
\_\_\_\_\_
10. Who are the main users of the inventory (percentage use by user category - i.e. 50% Ministry staff; 50% industry) \_\_\_\_\_  
\_\_\_\_\_

## **Inventory System**

11. What geographic area(s) is the inventory expected to cover (all of B.C., coastal areas, Vancouver Island etc.)? How complete is the current coverage? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
12. Provide a general description of the structure of the inventory program (GIS, Database...) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
13. What inventory program hardware is used (i.e. IBM/AT-compatible, Macintosh, Unix workstation, or other). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
14. What type of data is used in the inventory (points, lines, polygons, images)?  
\_\_\_\_\_  
\_\_\_\_\_
15. What categories of information are recorded in the inventory (types, units of measurement)? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
16. What map scale is used for data capture? \_\_\_\_\_
17. Are the data represented precisely or in summary form (i.e. are there "statistical units" like census tracts or is the location of each data point/object recorded)?  
\_\_\_\_\_  
\_\_\_\_\_
18. Do you have documentation/manuals describing the system? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
19. What geographic inventory data format is used (i.e. PAMAP, AutoCad, Terrasoft, ARC/INFO etc.)? \_\_\_\_\_  
\_\_\_\_\_

20. Is this inventory linked to any other inventories? Explain? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

21. Provide a general description (assessment of the flexibility of your inventory system to accommodate changes/additions). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

22. What quality control/verification measures are in place to ensure the integrity/accuracy of the inventory? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Operations**

23. Describe the procedures used to collect inventory data (sources of info, who does what)? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

24. Describe the types of data output produced by the system (reports, maps, summaries, charts etc.). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

25. Who uses the output? \_\_\_\_\_  
\_\_\_\_\_

26. How much did the inventory system cost to develop (dollars, staff time)? \_\_\_\_\_  
\_\_\_\_\_

27. How much does the inventory system cost to operate annually (dollars/staff FTEs)? \_\_\_\_\_  
\_\_\_\_\_

28. Please provide a general assessment of the user friendliness of the system.

---

---

---

---

---

29. Describe any problems, shortcomings or negative features of the inventory.

---

---

---

**Technical Issues (Optional)**

30. Describe the type of system used (i.e. GIS, CAD, Database with digital coordinate of standardized place names). \_\_\_\_\_

---

31. What is the map base (or other control) used to georeference data (i.e. based on TRIM – Terrain Resource Information Management System...new Crown Land 1:20,000 map system being developed as the provincial standard)? \_\_\_\_\_

---

32. Is the cartographic representation of data abstracted (i.e. are areas represented as point locations versus specific site markings)? \_\_\_\_\_

---

33. Is the inventory currently being used to derive statistical results? \_\_\_\_\_

---

34. Is it possible to identify the source or any specific information in the inventory?

---

35. Describe the format of "attribute" or "tabular" inventory data (i.e. Oracle, DBase, Paradox, ASCII flat files etc.). \_\_\_\_\_

---

36. What data exchange formats are supported (i.e. many GIS/Cad/Database systems have priority formats)? \_\_\_\_\_

---

37. Is it NAD83 or NAD27? (North American Data 1983 or 1987 - Many maps based on surveyors information collected during the 1800's. Since 1983 the coordinate grids of latitude and longitude lines have been corrected to be more accurate). \_\_\_\_\_

---

38. What map projection is used? \_\_\_\_\_

---

39. What coordinate system is used (i.e. UTM, latitude/longitude, or other. UTM Universal Transverse Mercator)? \_\_\_\_\_

---

40. What type of data model is used (i.e. arc-node, raster/quadree, polygon, "spaghetti" or ad-hoc)? \_\_\_\_\_

---

# Appendix D

## Tourism Recreation and Culture Inventory Task Force Inventory User Survey

*The Tourism, Recreation and Culture (TRC) Task Force is one of seven taskforces struck by the Provincial Resource Inventory Committee. The Task Forces are all reviewing resource inventories that could be used to assist in land use planning. The TRC Task Force is contacting a number of users of tourism, recreation and/or culture resource information. We are trying to identify who uses this information and for what purpose. Your responses to the following questions will help the Task Force develop better criteria for tourism, recreation and culture inventories.*

**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**Agency:** \_\_\_\_\_ **Phone:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

1. How is your agency involved with tourism, recreation and/or culture? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What land based Tourism, Recreation or Culture inventory information do you currently use? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. For what purpose is Tourism, Recreation or Culture inventory information used? (What use is made of the information?) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. How effective would you say that existing Tourism, Recreation or Culture inventories are in meeting your needs? (Very effective, somewhat effective, or not very effective)

---

---

---

---

5. How could existing Tourism, Recreation or Culture inventories be improved to better meet your agency's needs? \_\_\_\_\_

---

---

---

---

6. What kind(s) of Tourism, Recreation or Culture inventory information would be most useful to your agency? (Describe) \_\_\_\_\_

---

---

---

7. What form or format of inventory information would be most suitable? (Maps, reports, computer files...) \_\_\_\_\_

---

---

---

8. What level of detail would be most useful? (Provincial, regional, local) \_\_\_\_\_

---

---

---

9. What map scales would you prefer? (1:xxx) \_\_\_\_\_

---

---

10. How important are the following features of a TRC inventory? (Please circle the appropriate number with 5 being "very important" and 1 being "of no importance." DK means "Don't Know.")

Features	Degree of Importance					
	1	2	3	4	5	DK
Complete BC coverage	1	2	3	4	5	DK
Timeliness of data	1	2	3	4	5	DK
Public access	1	2	3	4	5	DK
Ease of access	1	2	3	4	5	DK
User Friendliness	1	2	3	4	5	DK
GIS based	1	2	3	4	5	DK
Common standards	1	2	3	4	5	DK
Training availability	1	2	3	4	5	DK
Modem access	1	2	3	4	5	DK
Map output	1	2	3	4	5	DK
Report output	1	2	3	4	5	DK

11. Are your agency's needs for Tourism, Recreation or Culture inventory information expected to change in the future? If so, how? \_\_\_\_\_

---



---



---



---

12. What Tourism, Recreation and Culture inventory information do you feel is vital for effective land management? \_\_\_\_\_

---



---



---



---

13. Do you have any other comments on the issue of Tourism, Recreation or Culture inventories? \_\_\_\_\_

---



---



---



---



---

# Appendix E

## Inventory Attribute Glossary

### Features and Attributes from Coastal Tourism Resource Inventory Project

\* Note: The following are indicative rather than an exhaustive listing.

#### Physical Oceanography

1. Exposure
  - primary exposure regimes – secondary exposure regimes
2. High Current Areas
3. Depth
  - drying banks
  - 20m. contour

#### Shoreline

1. Shoreline type
  - estuaries -lagoons
  - mudflats
  - sand beaches
  - pebble, gravel, sand/gravel beaches
  - areas with numerous small beaches
  - cobble beaches
  - rock platform with sand or gravel veneer
  - rock platforms (indicators of tide Pools)
  - steep rock cliffs (less than 2 metres)
2. Shoreline length of unit

#### Shoreline Configuration and Feature

1. Detailed shoreline configuration
  - islet clusters
  - shoreline crenulation
2. General shoreline physiography
  - Large fjord

- Inlet
  - Archipelago
  - large island
3. Features
    - major rivers
    - other rivers
    - waterfalls (into ocean)
    - hotsprings (at ocean)
    - coastal trails
    - trail heads

### **Clim**

1. Mean annual precipitation
2. Mean July temperatures

### **Mammals**

3. Whale concentrations
  - Species
  - level of abundance
  - seasonality
  - special interest
4. Seal and sea lion concentrations
  - Seasonality
  - number (high = 22+, medium 25 – 200)
5. Sea otter distribution
6. Other unique habitats
  - major herring spawn
  - rivers with salmon escapement
7. Grizzly bears

### **Birds**

1. Bird colonies, failed breeders, juvenile and moulting sea ducks, and migratory and overwintering birds, unique or highly desired species
  - species with rank as to desirability
  - type of concentration (colony, migratory, overwintering, moulting)

- seasonality
- numbers

### **Fish and Shellfish**

1. Concentrations of sport fish
  - Species
  - local importance
  - total landings
  - month
2. Shellfish
  - Species
  - size of beach
  - PSP or pollution contamination

### **Vegetation**

1. Old growth forests
2. Marine plants

### **Heritage Resources**

1. Native heritage sites
  - Visibility
  - access to site
  - availability of interpretive information
2. Eurosiso-Canadian Heritage Sites, Museums and Culture Centres
  - Resource-type
  - theme (exploration, transportation and communications, settlement and communities, economic development, military and government)
  - level of development
  - tourism potential

### **Scenic Resources**

1. Degree of alteration
2. Degree of depth
3. Terrain height
4. Features
5. Slope

## **Access**

1. Air
  - jet capable airport
  - other air strips
  - float plane bases
  - helicopter bases
2. Road
  - Highways
  - other paved roads
  - main resource roads
3. Rail
  - routes with passenger services
4. B. C. Ferry
  - ferry terminals
  - routes

## **Land Status and Use**

1. Municipalities
  - Boundaries
  - population
2. Indian reserves
3. Parks
  - National, Provincial, Regional
  - facilities
4. Ecological reserves
5. Heavy industries
6. DND lands and waters
7. Fish farms
  - species
8. Major water discharge

## **Existing Tourism Use**

1. Sportsfish lodges

- number of units
  - season
  - company name and address
2. Sportsfishing overnight charters
    - number of units
    - season company name and address for each vessel
  3. Sportsfishing day charters
    - range of number of boats per community
  4. Sportsfishing areas
  5. Marinas/small craft harbours
    - size of facility
    - type of facility
    - services offered
    - name
    - address
  6. Coastal cruising
    - number of units
    - type of vessel
    - season
    - name and address
    - important anchorages
  7. Scuba diving
    - operators' name and address
    - capacity
    - season of operation
    - location of dive sites
  8. Kayaking
    - average size of groups
    - season
    - name and address
    - tour areas
    - staging areas
  9. Coastal accommodation

- Facilities
  - campground, hotel, motel, lodge
  - units
  - season
  - name and address
10. Other miscellaneous activities (i.e. windsurfing, surfing, horse-back riding, etc.)

## **Features and Attributes from Interior Tourism Resource Inventory**

### **Landscape Features**

1. Mountains
  - high altitude
  - moderate altitude
  - low altitude
2. Hills
3. Valleys
4. Plains
5. Lakes
  - Large
  - Small
  - Chains
  - Tarns
6. Rivers
  - Flatwater
  - Whitewater
  - unrunable

### **Slope**

- range of % slope, gentle to extreme
- range of height, minimal to very high

### **Climate Features**

1. Moisture regime, very wet to very dry
2. Temperature
3. Snow

- depth for four months, inadequate to deep

4. Visibility

- good to poor, % flying days

**Vegetation Features**

1. Biogeoclimatic zones

**Settlement**

1. Communities

- population range

2. Resorts

3. Land status

4. Spatial requirements

- hectare range

**Access**

1. Air

- jet airport
- maximum fixed wing flight time from other airports
- heli-bases maximum flight time

2. Ground

- Railway
- road

3. Marine

- small boat marinas

**Fish and Wildlife**

1. Wildlife capability

2. Fish and wildlife viewing opportunity

3. Fish capability

**Recreation**

1. Capability

2. Features

- national and provincial importance

## **Visual Quality**

1. Visual resource significant to tourism
  - pristine, intact, partially intact, altered

Note:

A feature is described as an object to be mapped, i.e. whale.

An attribute is specific information about the feature, i.e. species, abundance, location/distribution.

## Recreation Inventory Glossary

Biophysical Features	Sub-features	Biophysical Features	Sub-features
A. Aquatic	A <sup>1</sup> Sport Fish A <sup>2</sup> Aquatic Habitat A <sup>3</sup> Fish Run & Observation A <sup>4</sup> Edible Aquatic Foods	M. Waterbody	M <sup>1</sup> Frequent Small Waterbodies M <sup>2</sup> Small Surface Waters M <sup>3</sup> Large surface Waters
B. Beaches	B <sup>1</sup> Fine Textured Beach B <sup>2</sup> Sand Beach B <sup>3</sup> Pebble Beach B <sup>4</sup> Cobble Beach B <sup>5</sup> Rubble Beach B <sup>6</sup> Beach, Texture Unknown	P. Prehistoric Sites	P <sup>1</sup> Habitation or Campsites P <sup>2</sup> Rock Art P <sup>3</sup> Prehistoric Trails P <sup>4</sup> Resource Utilization Sites
C. Cultural	C <sup>1</sup> Cultural Site C <sup>2</sup> Pastoral Landscape C <sup>3</sup> Vacant Land C <sup>4</sup> Man-made Feature	Q. Topographic Features	Q <sup>1</sup> Regional Topog. Patterns Q <sup>2</sup> Local Topog. Patterns Q <sup>3</sup> Shorelands
D. Hydrologic Feature	D <sup>1</sup> Hydrologic	R. Rock Formation	R <sup>1</sup> Exposed Bedrock R <sup>2</sup> Exposed Internal Rock R <sup>3</sup> Mineral Deposit R <sup>4</sup> Fossils R <sup>5</sup> Volcanic
E. Vegetation	E <sup>1</sup> Alpine/High Sub-alpine E <sup>2</sup> Transitional E <sup>3</sup> Coniferous E <sup>4</sup> Deciduous E <sup>5</sup> Mixed Forest E <sup>6</sup> Forest Parkland E <sup>7</sup> Non-forested E <sup>8</sup> Wetland Vegetation	S. Springs	S <sup>1</sup> Thermal Springs S <sup>2</sup> Freshwater Springs S <sup>3</sup> Mineral Springs
F. Waterfalls, Rapids	F <sup>1</sup> site-specific Waterfall F <sup>2</sup> Waterfall Landscape F <sup>3</sup> Rapids & Chutes	T. Trails	T <sup>1</sup> Unmanaged Trail T <sup>2</sup> Active MoF Trail T <sup>3</sup> Inactive MoF Trail
G. Glaciers, Icefields	G <sup>1</sup> glaciers, Glacial Features G <sup>2</sup> snowfield & Icefield	U. Harbour	U <sup>1</sup> Harbours
H. Historic Site	H <sup>1</sup> Historic Site H <sup>2</sup> Monument H <sup>3</sup> Historic Route H <sup>4</sup> Historic Native Legend Site	V. Visual Resource/ Landscape Features	V <sup>0</sup> Unqualified V <sup>1</sup> High Sensitivity V <sup>2</sup> Moderate Sensitivity V <sup>3</sup> Low Sensitivity V <sup>4</sup> High Sensitivity with low absorption capability V <sup>5</sup> High Sensitivity with medium absorption capability V <sup>6</sup> High Sensitivity with high absorption capability V <sup>7</sup> Moderate Sensitivity with low absorption capability V <sup>8</sup> Moderate Sensitivity with medium absorption capability V <sup>9</sup> Moderate Sensitivity with high absorption capability
J. Coastal Features	J <sup>1</sup> Estuary J <sup>2</sup> Tidal Marsh J <sup>3</sup> Lagoon J <sup>4</sup> Tidal Flat J <sup>5</sup> Rock Platforms & Ledges J <sup>6</sup> Spits & Hooks J <sup>7</sup> Points J <sup>8</sup> Tombolo J <sup>9</sup> Pocket Beaches	W. Wildlife	W <sup>1</sup> Upland/Aquatic Birds W <sup>2</sup> Small Mammals W <sup>3</sup> Large Mammals W <sup>4</sup> Marine Mammals W <sup>5</sup> Wildlife Diversity
L. Landform	L <sup>1</sup> Glacial Ice Melting L <sup>2</sup> Glacial Ice Moving L <sup>3</sup> Periglacial L <sup>4</sup> Moraine, Ridges & Cirques L <sup>5</sup> Karst L <sup>6</sup> Avalanche Tracks, Talus, Scree L <sup>7</sup> Landslides L <sup>8</sup> Canyons, Escarpments, Hoodoos L <sup>9</sup> River & Stream Deposits	X. Miscellaneous	X <sup>1</sup> Miscellaneous Feature

**Feature Related Recreation Activities**

a. angling	n. nature study
b. boating	o. orienteering
c. canoeing	p. viewing
d. kayaking/rafting	q. wildlife viewing
e. scuba/skin diving	r. gathering/collecting
f. water skiing	s. horseback riding
g. swimming	t. trail bike riding
h. beach activities	u. four-wheel driving
i. camping	v. snowmobiling
j. hunting	w. snowshoeing
k. caving	x. skiing (downhill & cross-country)
l. hiking	y. icefishing
m. mountaineering/climbing	z. other

**Feature Significance**

A	Very High	<ul style="list-style-type: none"> <li>• unique features not common in BC</li> <li>• very attractive for recreational, educational, and/or scientific use</li> <li>• provincial significance</li> </ul>
B	High	<ul style="list-style-type: none"> <li>• unique features not common in the region</li> <li>• very attractive for recreational use</li> <li>• primary importance to BCFS Rec'n Program</li> <li>• regional significance</li> </ul>
C	Moderate	<ul style="list-style-type: none"> <li>• features common throughout the region</li> <li>• moderate ability to attract recreational use</li> <li>• secondary importance to BCFS Rec'n Program</li> </ul>
D	Low	<ul style="list-style-type: none"> <li>• features very common throughout the region</li> <li>• limited ability to attract recreational use</li> <li>• limited importance to BCFS Rec'n Program</li> </ul>

**Management Class**

0	Area of recreational, educational, scientific or heritage value appropriate to manage exclusively for these values.
1	Consultation with BCFS Recreation Staff is mandatory prior to making resource decisions affecting the land unit.
2	Normal forest management practices are adequate to maintain recreational values.

**Visual Quality Objectives (VQO) – Management Code**

	Approved		Recommended
01	Preservation	06	Preservation
02	Retention	07	Retention
03	Partial Retention	08	Partial Retention
04	Modification	09	Modification
05	Maximum Modification		

**Recreation Opportunities Spectrum (ROS)**

1	P	Primitive
2	SPNM	Semi-Primitive Non-Motorized
3	SPM	Semi-Primitive Motorized
4	RR	Roaded Resource
5	R	Rural
6	U	Urban

## Sample Culture Inventory Attributes

1. Territorial Exploration Activities:
  - 1.1 Maritime – Coastal Region
    - 1.1.1 Native Population Entry, Occupation and Movements
    - 1.1.2 Asian Entries
    - 1.1.3 Nationalist Entries and Initial Mapping
    - 1.1.4 British and Canadian Geographic Consolidation: Administrative Surveys, Mapping
  - 1.2 Continental Region
    - 1.2.1 Native Population Entry, Occupation and Movements
    - 1.2.2 Fur-Trade Based Exploration, Discoveries and Mapping
    - 1.2.3 Colonial Period Exploration, Mapping and Surveys
    - 1.2.4 Provincial Exploration, Surveys and Mapping
    - 1.2.5 Canadian Government Surveys and Mapping
    - 1.2.6 Corporate Surveys
    - 1.2.7 Scientific Surveys
2. Settlement:
  - 2.1 Native Occupation/Settlement Patterns
    - 2.1.1 Coastal region cultures
    - 2.1.2 Interior region cultures
  - 2.2 Post-Contact Settlement
    - 2.2.1 Pre-Confederation Settlement Frontiers
    - 2.2.2 Settlement Patterns, Early Provincial Period, 1871-1885
    - 2.2.3 Settlement Patterns of the National Resource Boom, 1886-1914
    - 2.2.4 Interruption: The Era of the Great War, 1914-1918
    - 2.2.5 Post-War Consolidation, 1919-1939
    - 2.2.6 World War 11: Population Movements
    - 2.2.7 Post-War Expansion Period, 1946
    - 2.2.8 Urbanization Processes, General
    - 2.2.9 Rural and Regional Development Patterns, General
    - 2.2.10 Immigration, 1871-1950
3. Economic Activities and Technologies:
  - 3.1 Pre-Contact Native Economic Activities
    - 3.1.1 Major Coast Native Cultural Groups
    - 3.1.2 Major Interior Native Cultural Groups
  - 3.2 Fur Trade Sector
    - 3.2.1 Maritime-Coastal Operations
    - 3.2.2 Continental Operations
  - 3.3 Fisheries and Maritime Harvesting Sector
    - 3.3.1 Pre-Confederation period, 1790s-1871
    - 3.3.2 Post-Confederation Period, 1871-1945
    - 3.3.3 Post-World War H, 1945 -
  - 3.4 Forestry Sector
    - 3.4.1 Native Forest Exploitation and uses; Prehistoric, Proto-Historic, Post-Contact
    - 3.4.2 Pre-Confederation Period, 1790s-1871
    - 3.4.3 Post Confederation Period, 1871-1945
    - 3.4.4 Post-World War 11, 1945-1965

- 3.5 Mining and Smelting Sector
  - 3.5.1 Native quarrying and extraction; pre-historic, proto-historic, post-contact
  - 3.5.2 Early Euro-Canadian-American mineral discoveries and extraction
  - 3.5.3 Fraser River and Cariboo Gold Rushes, 1858, 1860s
  - 3.5.4 Bonanza in the Kootenay Region, 1890s-1914
  - 3.5.5 Klondike Gold Rush, 1898
  - 3.5.6 Other Mineral Extraction and Processing to 1945
  - 3.5.7 Post-World War H Mining and Processing
- 3.6 Energy Sector
  - 3.6.1 Natural forces: domestic animal, water and wind
  - 3.6.2 Hydro-electricity: beginnings, expansion and exports
  - 3.6.3 Hydrocarbons
  - 3.6.4 Other forms
- 3.7 Agriculture Sector
  - 3.7.1 Beginnings: Pre-Confederation Period, 1790s – 1871
  - 3.7.2 General Agricultural Expansion: Early Provincial Period, 1871-1914
  - 3.7.3 Growth and Consolidation, 1914-1945
  - 3.7.4 Modern Agriculture, Post-1945
- 3.8 Manufacturing and Other Industries
  - 3.8.1 Natural Resource-related manufacturing
  - 3.8.2 Agriculture product-related manufacturing
  - 3.8.3 Clothing and household goods manufacturing
  - 3.8.4 Foundries, equipment and tools manufacturing
  - 3.8.5. Building materials production
  - 3.8.6 Design and Construction industries
- 3.9 Finance and Commerce Sector
  - 3.9.1 Financial Institutions
  - 3.9.2 Investment and Risk Management
  - 3.9.3 Trade and Commerce
- 3.10 Services and Amenities Sector
  - 3.10.1 Government/Institutional Services
  - 3.10.2 Health Care and Social Services
  - 3.10.3 Utilities and Amenities
  - 3.10.4 Hospitality Industries
- 3.11 Organized Labour
  - 3.11.1 Labour Organizations: beginnings, leadership, issues
  - 3.11.2 Labour relations with Government
  - 3.11.3 Significant Strikes, Conflicts and Resolutions
- 4. Transportation, Communications and Related Technology:
  - 4.1 Maritime Transportation and Communications
    - 4.1.1 Natives: Coastal Cultural Groups
    - 4.1.2 Pre-Confederation Period, before 1971
    - 4.1.3 Early Provincial Period, 1871-1914
    - 4.1.4 Post-World War I Period, 1914-
  - 4.2 Inland Waterways Transportation and Communications
    - 4.2.1 Natives: Inland Cultural Groups
    - 4.2.2 Fur Trade Waterways
    - 4.2.3 Colonial Period to 1885
    - 4.2.4 Post-Railway Period, 1885-1945

- 4.3 Overland: Trails, Road, Highways, Bridges and Tunnels
  - 4.3.1 Native Trail Systems
  - 4.3.2 Fur Trade Brigade Trails
  - 4.3.3 Colonial Government Trails, Wagon Roads and Bridges: The work of the Royal Engineers
  - 4.3.4 Road Travel in Early Provincial Period, 1871-1914
  - 4.3.5 Road Travel after 1914 and Impact of Motor Vehicles
- 4.4 Railways
  - 4.4.1 The advent of the Railway, 1885-1886
  - 4.4.2 The Coming of the CPR
  - 4.4.3 The Railway Boom Period, 1890-1920
  - 4.4.4 Railway Consolidation and Reorganization, 1920-1950
  - 4.4.5 Railway Technology, 1880s-1950
- 4.5 Air Travel
  - 4.5.1 Pioneering Flights in the Province, 1900-1914
  - 4.5.2 Development of Air Industry, 1914-1939
  - 4.5.3 World War II and Beyond
- 4.6 Telecommunications
  - 4.6.1 Technology of transmission media
- 5. Socio-Cultural Dissemination and Expression:
  - 5.1 Education Systems
    - 5.1.1 Native societies: training in skills and leadership
    - 5.1.2 Education systems before Confederation
    - 5.1.3 Provincial Education Systems, 1871-
  - 5.2 Religious Institutions
    - 5.2.1 Native ceremonies, beliefs, world-views, societies
    - 5.2.2 Christian Missions: beliefs, values, social organization
    - 5.2.3 Christian Denominations, Sects, Cults and Training
    - 5.2.4 Non-Christian Faiths
  - 5.3 Ethnicity
    - 5.3.1 Major Native Cultural Groups
    - 5.3.2 British Cultural Groups
    - 5.3.3 Continental European Cultural Groups
    - 5.3.4 Scandinavian Cultural Groups
    - 5.3.5 Central European Cultural Groups
    - 5.3.6 Asian Cultural Groups
    - 5.3.7 Middle Eastern Cultural Groups
    - 5.3.8 Remaining Cultural Groups (African, Caribbean, Central and South American)
  - 5.4 The Arts and Popular Culture
    - 5.4.1 Architecture
    - 5.4.2 Visual Arts
    - 5.4.3 Performing Arts
    - 5.4.4 Literature and Film Arts
    - 5.4.5 Crafts, Folk Art, Tradition, Fictions, etc.
    - 5.4.6 Radio and Television
    - 5.4.7 Special Events, Festivals
    - 5.4.8 Miscellaneous: unique persons, places, things, curios

- 5.5 Science and Technology
  - 5.5.1 Physical and life sciences
  - 5.3.2 Applied sciences
  - 5.5.3 Social and behavioral sciences
  - 5.5.4 Technology
- 5.6 Social and Humanitarian Movements
  - 5.6.1 Social and Collective Rights Movements
  - 5.6.2 Humanitarian Movements
  - 5.6.3 Volunteerism.
  - 5.6.4 Environmental Conservation
  - 5.6.5 Museums and Art Galleries
- 5.7 Recreation and Leisure
  - 5.7.1 Sports
  - 5.7.2 Leisure Activities
- 6. Political-Legal Systems and Military
  - 6.1 Native Policy
    - 6.1.1 Coastal Cultural Groups
    - 6.1.2 Interior Cultural Groups
    - 6.1.3 Native-White Relations
  - 6.2 Pre-Confederation Government And Legal-Judicial System
    - 6.2.1 Fur Trade Period, 1790s-1850s
    - 6.2.2 Colonial Period, 1843-1871
  - 6.3 Confederation and Provincial Government Structure and Powers
    - 6.3.1 Confederation and Provincial Constitutional and Legal Powers
    - 6.3.2 Structure and Function of Government
  - 6.4 Provincial Government Politics
    - 6.4.1 Leadership
    - 6.4.2 Governments and Political Parties
    - 6.4.3 Civil Service and Government Departments
    - 6.4.4 Provincial Relations
  - 6.5 Municipal Government
    - 6.5.1 Provincial Legislation
    - 6.5.2 Municipal government functions, services, works and amenities
    - 6.5.3 Municipal government leadership
  - 6.6 Federal Government and Military
    - 6.6.1 Military: Events, Wars, Defence Installations, Operations and Research
    - 6.6.2 Coastal/Navigational Aids, Controls, Harbour Management, Communications Systems
    - 6.6.3 Law Enforcement, Crime and Criminal Justice
    - 6.6.4 Other Federal Government Departments and Services