REGIONAL CONSERVATION PLANNING STRATEGIES FOR BRITISH COLUMBIA: THE CASE OF THE SUNSHINE COAST

by

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ABSTRACT

The thesis takes a normative, yet pragmatic approach, in examining how the protection of habitat and ecological functions can be improved through changing current uncoordinated, sectoral decision-making processes into a holistic, cooperative approach to guide planning at the local level. In rapidly growing regions on the urban/rural fringe such as the Sunshine Coast, towns, rural areas and large wildernesses form a complex matrix of land uses across the landscape which require the integration of provincial and local government planning. Thus, a case is made for a decision-making process that generates a conservation strategy, integrating local and provincial planning at the scale of regional districts in British Columbia. The literature is reviewed to identify principles for a conservation strategy approach to decision-making which include: a consensus-based process, cross-sectoral government coordination, broad-based public involvement, and non-governmental partnerships for implementation.

Secondly, the literature pertaining to several regional approaches to conservation planning is reviewed including: parks system planning, landscape ecology and bioregional theory. From these two sources of literature, a hybrid model of the regional conservation planning strategy is formed. Using criteria derived from this hybrid model to evaluate the effectiveness of planning processes, the provincial conservation planning framework is evaluated. The policies of the Commission on Resources and Environment, the provincial government's Land and Resource Management Planning process and the Protected Areas Strategy are evaluated according to the criteria. Fourthly, conservation planning on the Sunshine Coast is examined, and a case study of the Sechelt Inlets Coastal Strategy is evaluated against the criteria. By evaluating both the provincial planning framework and the local case study, conclusions can be drawn on the need for regional conservation planning strategy processes in rapidly developing areas at the urban/rural fringe. Finally, recommendations are made for changes to provincial and regional district policies to facilitate more effective conservation planning for the Sunshine Coast Regional District and other regions in British Columbia.
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CHAPTER 1 - INTRODUCTION

PROBLEM CONTEXT

Over the past two decades, conflict over conservation and land use planning has increased dramatically. In particular, the harvesting of old-growth forests and the spread of suburban and industrial development along British Columbia’s south coast and southern interior have been the focus of political controversies which have increasingly polarized pro- and anti-development constituencies for each type of development. As a number of very high-profile protracted conflicts have arisen in response to resource extraction and development plans, many more local disputes receive continued regional attention without the possibility of resolution in sight.

While the Government of British Columbia is reluctant to delegate decision-making power to local communities in light of broader provincial interests, the provincial government has moved to encourage consensus-based sustainable land use planning through a number of forums and institutions. The B.C. Round Table on the Environment and Economy (B.C. Round Table) has provided a starting point for coming to a consensus on broad policy directions for the province while the B.C. Forest Resources Commission was given a mandate to research potential forest management and crown land planning strategies. As these non-partisan advisory bodies were developing policy recommendations, the Parks and Wilderness for the '90's planning process brought public input to government agencies developing a Provincial Parks and Wilderness Areas System Plan. In 1992, the Protected Area Strategy process was launched. Concurrently, the Ministry of Forests was undertaking the Old Growth
Strategy process which sought to define what old growth was, what economic and social values were placed on forests, and their ecological importance.

Finally, while these advisory bodies were making recommendations with implications for land-use and conservation planning for crown lands, the Government of British Columbia created the Commission on Resources and Environment (C.O.R.E.) in January, 1992 to undertake a provincial land use plan and prepare reports on several specific issues such as mining in the Tatshenshini/Alsek River watershed. C.O.R.E. has been mandated to create the provincial land use plan based on regions which are at the scale of the Ministry of Forest's huge forest regions. The Vancouver Island C.O.R.E. table struggled over broad land use planning for huge areas of crown lands while the settled coastal areas of Vancouver Island require much more intensive planning due to the great biological productivity of the coastal and lowland environment. As with the settlement areas on the east coast of Vancouver Island, many of the low elevation coastal areas of the Sunshine Coast are either private rural and residential land or crown lands with many competing uses. Given this existing pattern of competing uses along the coastline, the possibility of creating large protected areas is limited. In fact, less than one percent of the low-elevation Nanaimo Lowland and four percent of the Gulf of Georgia ecoregions ¹ are proposed to be protected by C.O.R.E. and the Protected Areas Strategy (P.A.S.), well below the provincial government's 12 percent goal for protected areas (C.O.R.E., 1994c; British Columbia. P.A.S. Office, 1993a). Further, Harding and

¹ The ecoregion is a basic ecological landscape unit developed by the Ministry of Environment Lands and Parks. The Protected Areas Strategy states as a goal that at least 12 percent of the province should be included in protected areas and that there be adequate representation of each ecoregion with that 12 percent. See British Columbia, Protected Areas Strategy Office. A Protected Areas Strategy for British Columbia, Victoria: Queen's Printer, 1993a.
McCallum (1994b) note several of the most endangered ecosystems (due to fragmentation by
development and lack of protected areas) are located in the coastal douglas fir and coastal
western hemlock biogeoclimatic zones which characterize the East Coast of Vancouver Island
and the Sunshine Coast.

As these provincial initiatives were being undertaken to address conflict over crown
land use planning, local governments have been pressured by urban development in fast-
growing communities, leading to site-specific conflicts over such issues as the creation of golf
courses, logging in community watersheds on crown land and logging and development of
private forest lands. The Sunshine Coast provides a classic example of how the interface
between crown land and rural and urban areas complicates conservation planning in many
regional districts along the Strait of Georgia and in the Southern Interior. Two related factors
increase the complexity for planning. Firstly, the rapid influx of urban residents is
heightening differences between how people use and view the role of public and private land
on the Sunshine Coast. Secondly, between this juxtaposition of land-uses and residents, there
is an increased likelihood for institutional problems over the division of land-use and
conservation planning responsibilities between local and provincial government. Given this
context, several conservation and crown land use conflicts have persisted on the Sunshine
Coast. Logging on crown land in the Chapman Creek community watershed, localized
conflicts over rapid residential development along coastal and watercourse areas and the
Sunshine Coast Regional District’s ongoing concerns over coastal resource use and the lack of
protected wilderness areas are examples of such conflicts. Clearly, it can be seen that the
juncture of the provincial and local government planning mandates often provides fertile
ground for conflict. Thus, the focus of this thesis is on the creation of regional conservation planning strategy processes to resolve these disputes and preserve habitats and ecological functions at the local and regional level.

PURPOSE

Given the problem context, the purpose of the thesis is to demonstrate how a regional conservation planning strategy can improve planning for the protection of habitat and ecological functions in the Sunshine Coast Regional District and in other rapidly growing regions on rural/urban fringes throughout British Columbia.

OBJECTIVES

The primary objective of the thesis is to evaluate regional conservation planning strategies possible in the British Columbia context by focusing on the following subsidiary objectives:

1) To review the literature pertaining to regional conservation planning strategies.
2) To evaluate existing provincial conservation planning institutions and determine how these can work jointly with regional districts in conservation planning.
3) To evaluate how the Sunshine Coast Regional District undertakes parks and conservation planning.

[2] The term "regional" is being used to describe areas such as the Sunshine Coast Regional District. Regions such as the Sunshine Coast are at the scale of most regional districts and Ministry of Forests' Districts in southern British Columbia while the "regions" which C.O.R.E. is using for its Provincial Land Use Strategy are closer to scale of the Ministry's of Forests' very large administrative Forest Regions.
4) To make recommendations on how the Government of British Columbia and the Sunshine Coast Regional District and other regional districts can undertake more effective conservation planning.

ASSUMPTIONS AND DEFINITIONS

The thesis is based on the assumption that conservation planning includes not only planning for protected areas, but also sustainable land use planning which seeks to maintain habitat and ecological functions over the entire land base. As the definitions of sustainable development vary widely and even the same definition may be interpreted differently by individuals, this thesis will not focus on the definition debate which could easily be the subject of a thesis unto itself.

Secondly, the application of the conservation planning strategy approach must be explained. The term, "conservation strategy" is broadly defined in the World Conservation Strategy of 1980 and its successor document, Caring for the Earth: A Strategy for Sustainable Living of 1991 as a means of integrating conservation and development and instilling a new ethic of sustainable living (IUCN, UNEP, WWF, 1991). More specifically, Caring for the Earth gives definitions of the words, "conservation" and "strategy" with "strategy" defined as:

A combination of communication and consensus building, information assembly and analysis, policy formulation and action planning and implementation to enable a society to conserve its natural capital and to achieve sustainability by integrating economic development and conservation of natural capital; and

Conservation defined as:

The management of human use of organisms or ecosystems to ensure such use is sustainable. Besides sustainable use, conservation includes protection, maintenance, rehabilitation, restoration and enhancement of populations and ecosystems (IUCN, UNEP, WWF, 1991, 210).
Richardson (1989, 30) notes there are many forms of conservation strategies and defines a conservation strategy as "identifying and addressing conservation and environmental protection issues in a comprehensive, integrated fashion rather than piece meal." These definitions allow for much flexibility in designing conservation strategies to address extremely varied landscapes, social systems and cultures throughout the world. However, in spite of the different forms of conservation strategies, the above definitions indicate that conservation strategies involve participatory, consensus-based planning for sustainable development which should be undertaken at various geographic scales.

Thirdly, the term "regional" is used in this paper to refer to "sub-regional" in the context of C.O.R.E.'s planning framework which has created large regions and proposes sub-regional planning processes. Thus, Provincial Forest Districts or regional districts such as the Sunshine Coast Regional District may be considered as regions unto themselves in the context of this paper.

Fourthly, while planning is likely to have as many definitions as planners, there is a common reference to the linkage of knowledge to the manner in which society prepares for future action. Forester (1989, 3) notes, "Planning is the guidance of future action" while Friedmann (1987, 48) concludes, "At the most basic level, planning was said to be an attempt to relate scientific and technical knowledge to actions in the public domain." As these definitions of planning are necessarily broad, for this thesis planning will be defined as the linking of knowledge of conservation in transforming public and private use and management of the land, lakes, watercourses and the coastal foreshore which are the basic mediums of
ecosystems. Given the above definitions, a *regional conservation planning strategy* will be defined as:

A consensus-based process of making broad long-term policies with a wide range of participants representing all sectors of government and society for parks and land-use planning for the protection of habitat and ecological functions within a region.

Thus, the literature relating conservation strategy processes for decision-making and regional perspectives on conservation planning is reviewed to derive the hybrid model of a *regional conservation planning strategy*.

**SCOPE**

The thesis evaluates the general provincial framework for conservation planning and the Sunshine Coast Regional District’s *Sechelt Inlets Coastal Strategy* as a case study. The provincial framework and the Sunshine Coast Regional District’s approach to conservation planning are evaluated as both provincial and local settlement planning are juxtaposed in the rapidly developing regions at the urban/rural fringe of British Columbia’s south coast and southern interior. However, the numerous provincial statutes and institutions directly and indirectly related to conservation planning are only summarily examined as they give context to the local case study of the Sunshine Coast.

Secondly, this thesis does not deal with changing the existing division of powers between the federal and provincial governments under the *Constitution Act* (1982) nor aboriginal land claims which will affect crown land ownership and planning jurisdiction at some date in the future upon settlement.
METHODOLOGY AND ORGANIZATION

In Chapter 2, the international and national experience with conservation strategies is reviewed to help create principles for a conservation strategy approach. From the principles of conservation strategy process, the general literature relating to consensus-based decision-making, public participation, cross-sectoral agency coordination, and non-governmental partnerships is reviewed in Chapter 3. In Chapter 4, the literature relating to perspectives on regional planning including parks system planning, landscape ecology and bioregional theory is reviewed to explain the need for linking a conservation strategy approach to regional planning. From the literature review above, a hybrid model of the regional conservation planning strategy is formed by combining the principles of a conservation strategy process with perspectives on regional approaches to conservation planning. The principles of a conservation strategy process and a summary of the perspectives on regional conservation planning are synthesized respectively at the conclusion of Chapters 3 and 4 to form a set of criteria for determining good conservation planning process. In Chapter 5, the provincial framework for conservation planning, including the Protected Areas Strategy and sub-regional Land and Resource Management Planning (L.R.M.P.), is also evaluated against these criteria to determine how well the provincial government's conservation planning policies support a regional conservation planning strategy approach. This evaluation is more qualitative in nature than that of the case study and is based on a review of the provincial government's policy documents and other professional and academic reviews.

In Chapter 6, these criteria are used to evaluate the case study, the Sechelt Inlets Coastal Strategy in the Sunshine Coast Region based on an examination of official
government minutes from meetings, subsequent local and provincial policy changes and interviews of key government and non-governmental stakeholders. Lastly, conclusions and recommendations regarding the S.C.R.D.'s approach to conservation planning and provincial institutional reform for conservation planning in areas such as the Sunshine Coast are made in Chapter 7.
CHAPTER 2
CONSERVATION STRATEGIES: FROM GLOBAL RECOGNITION TO LOCAL IMPLEMENTATION

In defining a regional conservation planning strategy model, the development of conservation strategies from the global to the local level is examined. From this examination, the literature points to the need for conservation strategy approaches at the local and regional levels.

GLOBAL RECOGNITION OF CONSERVATION STRATEGIES

The World Conservation Strategy (W.C.S.), completed in 1980 by the collective work of the International Union for the Conservation of Nature (IUCN), World Wildlife Fund For Nature (WWF) and the United Nations Environment Program (UNEP), forms the first internationally-recognized "conservation strategy." Unlike national parks systems plans which put a great emphasis on acquiring limited representative "islands" of major natural regions or ecosystems, conservation strategies address major social and economic factors affecting land use and ecosystems. For example, the W.C.S. requires that all major sectors of society must be involved in linking conservation and development by stating in its summary:

The World Conservation Strategy is intended to stimulate a more focused approach to the management of living resources and to provide policy guidance on how this can be carried out by three main groups:

- government policy makers and their advisors;

- conservationists and others directly concerned with living resources;

- development practitioners, including development agencies, industry and commerce, and trade unions (IUCN, UNEP, WWF, 1980, v).
The W.C.S. goes on to outline 20 major areas of required action, of which two deal with decision-making processes. The W.C.S. goes on to state, "Local Community involvement and consultation and other forms of public participation in planning, decision-making and management are valuable means of testing and integrating economic, social and ecological objectives" (IUCN, UNEP, WWF, 1980, 13). While the W.C.S. recognized the importance of local participation, it appears as just one element of the W.C.S. which otherwise focused on national conservation planning initiatives. Although the W.C.S. looked at the global level, it provided a framework for carrying out its principles for successively smaller geographic areas. Unfortunately, the W.C.S.'s call for the creation of national and regional conservation strategies was not heeded by major nations such as the United States and the former U.S.S.R., while in Canada, only some of the provinces have created conservation strategies (Nelson, 1991).

However, in the decade after the creation of the W.C.S., many scholars, environmentalists and government officials have begun to realize increasingly that conservation issues must be dealt with at smaller geographic levels to help protect habitat and ecological functions "on the ground." With regards to the W.C.S., Nelson and Eidsvik (1990, 67) state:

Stronger and more effective effort is, however, much needed at the regional and local level. Regional strategies must address the complex interaction between natural and human stresses on the ground. They must deal with the stresses and concerns in particular places-watersheds, natural or physiographic regions or urban regions where people attempt to both use and conserve resources ..."
The need for a regional approach is made more apparent as there is increased understanding of the complexity of biophysical systems and actual increases in complexity of human systems. Thus, although the adage, "To think globally, but act locally," has become somewhat of a cliché, there is a growing recognition that conservation strategies can be most concretely applied at the local and regional level.

During the intervening years between the 1980 W.C.S. and its 1991 successor, Caring For the Earth: A Strategy for Sustainable Living, the idea of "Sustainable Development" was popularized by the publishing of Our Common Future by the World Commission on Environment and Development (W.E.C.D.) in 1987. The W.E.C.D. defined sustainable development as development which "...meets the needs of the present without compromising the ability of future generations to meet their own needs" (W.C.E.D., 1987, 8). However, with the broadening public discussion on the relationship between sustainability and development, more and more divergent views of "sustainable development" arose from different sectors in society. It can be seen that as the broad concepts of sustainable development have been articulated over the past decade, the world conservation community has realized that concrete action "on the ground" must be taken at the local level.

CANADIAN RECOGNITION OF CONSERVATION STRATEGIES

Since work commenced on the World Conservation Strategy, a number of conservation strategies have been undertaken in many forms by national and international agencies. In Canada, provincial governments have been primarily involved in the preparation of conservation strategies while various line agencies of the federal government have undertaken
supportive policy initiatives such as Environment Canada’s State of the Environment Reports. In the forum of the Canadian Council of Resource and Environment Ministers (C.C.R.E.M.), the federal and provincial governments agreed that the W.C.S. should be implemented individually by each of the provinces and by individual departments within their respective jurisdictions (McCorkell-Hoy and McKechnie, 1987, 95). For its part, in 1982, the Federal Government published the report, The World Conservation Strategy: Federal Review which made 22 major recommendations for policy changes in various federal departments. Four years later, in 1986, the Federal Government published World Conservation Strategy - Canada: A Report on Achievements in Conservation which outlined policy actions taken since the W.C.S. came into being such as the Inquiry on Federal Water Policy, Federal Policy on Land Use, and the creation of the Canadian Heritage Rivers System (McKechnie and Pollard, 1986). In spite of this federal action, the distribution of legislative power between the federal and provincial governments under the Constitution Act makes the support of provincial governments vital in fulfilling the federal government’s conservation objectives. Yet, by 1990, only P.E.I. had completed a conservation strategy while Alberta, the Yukon and the North West Territories were the only other jurisdictions in which conservation strategies were likely to be completed (Manning, 1990, 26).

Canada’s response to the World Conservation Strategy and Bruntland Commission came from C.C.R.E.M. which created the National Task Force on the Environment and the Economy in 1987. The report of the Task Force recommended that "round tables" be created to help reach consensus in the development of strategies for achieving sustainable development (Manning, 1990, 27). Since 1987, round tables have been created in most
provinces, and have been effective in focusing the public’s and policy-maker’s attention on
the need for consensus-based strategies for sustainable development.

BRITISH COLUMBIA’S RECOGNITION OF CONSERVATION STRATEGIES

The British Columbia Round Table on the Environment and the Economy (B.C. Round
Table) was created in January, 1990 with "the mandate to develop a strategy for sustainable
development in British Columbia, to propose better ways of resolving conflicts over the
environment and the economy, and to increase public understanding of sustainable
development issues" (B.C. Round Table, 1992b, 3). The B.C. Round Table, an advisory body
composed of a wide cross-section of government, communities, industry and conservation
interests went about this task by developing recommendations on environmental and
development policies using a consensus-based approach to decision-making. Working on this
model, the B.C. Round Table accumulated a wide range of information on environment and
development issues while seeking public opinion by holding 26 meetings throughout the
province. During its first two years of existence, the Round Table published numerous papers
dealing with sustainable development, including an interim report, Towards a Strategy for
Sustainability in 1992 which made twelve major recommendations on steps required to reach
a sustainable society. The first four recommendations explicitly required greater involvement
of communities and local government as follows:

1. The Round Table recommends that the 'principles of sustainability' be applied
   in decision-making by all levels of government and by the private sector in
   British Columbia.

2. The Round Table recommends that participatory and consensus-based decision-
   making processes be included as an integral part of the planning and
management of the environment, economy and social systems in British Columbia.

3. The Round Table recommends that the Government of British Columbia encourage the establishment of local round tables as a means of involving the public in achieving sustainability.

4. The Round Table recommends that the Government of British Columbia review the balance of decision-making responsibilities among provincial, regional and local bodies and seek to enhance local and regional decision-making mandates, where appropriate (B.C. Round Table, 1992a, 18).

Thus, the B.C. Round Table recommends a strategy which addresses economic and social issues as part of the environment, realizing that these issues are inextricably linked at the provincial and local levels.

With this in mind, the B.C. Round Table has begun to promote local and regional round tables as a vehicle for discussing issues and making consensus-based recommendations for land use planning and resource allocation. In 1992, the Local Round Tables Task Force published, A Guide to Establishing A Local Round Table which supported the creation of local round tables which could deal with local and regional environmental issues. With regards to Local Round Tables, the Local Round Table Task Force states:

Local Round Tables can be said to represent 'communities'... [which] are defined broadly to encompass a collection of people with some form of geographic affiliation and with common concerns... The basis for organizing a local round table should be flexible to meet the needs of the community involved (B.C. Round Table, 1992c, 3).

Given this support, round tables have been created at the municipal level in Richmond and in rural regions such as Howe Sound and Anahim Lake and in much larger regions such as the Georgia Basin over the past two years. While support was growing for the creation of local round tables, the Government of British Columbia created the Commission on Resources.
and Environment (C.O.R.E.) in January, 1992 with former Ombudsman, Stephen Owen, as commissioner with a mandate to create a comprehensive land-use strategy for British Columbia. Given the importance of C.O.R.E.'s mandate for sustainable land use planning, C.O.R.E. and associated provincial conservation planning initiatives will be reviewed in Chapter 5.

CHAPTER SUMMARY

From the initial recognition of the need for a World Conservation Strategy at the global level, there has been a trend towards developing conservation strategies at the national and, in the case of Canada, at the provincial level where the legislative authority for most conservation planning lies. Moreover, at the provincial level, there has been a growing recognition that the local and regional levels are often most appropriate for melding concrete land-use planning with the broader policies derived through conservation strategy processes. Given this, the conservation strategy approach to decision-making is the focus of the literature review in Chapter 3. From this review, principles and criteria are developed for evaluating conservation planning processes. Secondly, in Chapter 4, three perspectives on regional approaches to conservation planning are examined to develop further criteria for evaluating the adequacy of the region used. Together, these two sets of criteria are utilized to evaluate the effectiveness of conservation planning at the provincial and local levels.
CHAPTER 3
TOWARDS A CONSERVATION STRATEGY PROCESS FOR DECISION-MAKING

INTRODUCTION: PRINCIPLES FOR A CONSERVATION STRATEGY PROCESS

The World Conservation Strategy provides a framework for more concrete planning at the smaller geographic scale to bring together diverse stakeholders in dealing with an increasingly complex planning environment. The literature on conservation strategies repeatedly documents that the process of reaching consensus is as important as the production of the document itself (McNeely, 1989; Sadler, 1990; IUCN, UNEP, WWF, 1991). This is true for a range of scales from broad provincial sustainable development strategies to local conservation strategies for habitat protection.

Mason and Mitroff (1981) have written of "wicked problems" which are complex problems complicated by six characteristics; interconnectedness, complicatedness, uncertainty, ambiguity, conflict and societal constraints. To deal with these problems, Mason and Mitroff (1981, 13) go on to give two recommendations for policy making:

1. There must be a broader participation of affected parties, directly and indirectly, in the policy-making process.

2. Policy making must be based on a wider spectrum of information gathered from a larger number of diverse sources.

Given that conservation planning has the characteristics of a wicked problem, it can be seen from the literature that a conservation strategy approach provides a method for
structuring a decision-making process. To deal with the wickedness of conservation planning at the global down to the local level, the literature points to four key inter-related principles for the conservation strategy process:

1. A Multiple-Stakeholder Consensus Process
2. Cross-Sectoral Agency Coordination
3. Broad-Based Public Involvement
4. Non-Governmental Partnerships for Implementation

In the literature related to these four principles for conservation strategy process and perspectives on regional planning (reviewed in Chapter 3), it will be shown that melding a good conservation strategy process and regional planning can best achieve protection of habitat and ecological functions. From the review of the literature related to the four principles of conservation strategies in Chapter 3 and perspectives on regional planning in Chapter 4, criteria are developed to evaluate the case study of the Sunshine Coast and the broader provincial framework for conservation planning.

MULTIPLE-STAKEHOLDER CONSENSUS PROCESS

Conservation Strategies and Consensus Processes

The first principle, a multiple stakeholder consensus process, is the most important principle as it relates to the other principles of conservation strategy processes. The World Conservation Strategy states that cross-sectoral decision-making and public participation are
part of the six national priority actions for implementing conservation strategies while *Caring for the Earth: A Strategy for Sustainable Living* advocates consultation and consensus-building as the first step in the creation of a conservation strategy.

Academic and professional authors are increasingly advocating a consensus-based approach in the face of protracted political conflict. McNeely et al. (1990, 56) comment, "The national conservation strategy process places government in partnership with NGO's, citizen's groups, universities, industry, financial institutions... It therefore provides an important (and generally non-threatening) forum for reaching national consensus about policies on the use of biological resources. Few better mechanisms exist." In Canada, Michael Kelly (1987) of the Environment Council of Alberta has noted the importance of bringing stakeholders together while the B.C. Round Table on the Environment and Economy (1992a) has advocated a multi-stakeholder consensus-based approach to achieving sustainable development in its report, *Towards a Strategy for Sustainability*. Stakeholder participation should include all major interests in order to create a successful conservation strategy. Although broadly-based public involvement is necessary, there is a need for ongoing involvement in reaching an agreement among the major stakeholders groups to build a commitment to a conservation strategy. Given this, the nature of conflict, the causes of conflict, and methods of productively managing conflict through principled negotiation are examined in the following section.
Literature on Consensus-Based Decision-Making

Nature of Conflict

In a liberal democracy, non-violent conflict among various groups over policy issues is natural, and conflict is necessary for constructive social change to take place. While conflict is quite normal, the interests of all the stakeholders are often threatened when conflict continues with no mutually-acceptable change in government policy being achieved (Susskind and Cruikshank, 1987; Deutsch, 1973). The approach and optimism regarding the use of consensus-based processes depend on one’s view of the fundamental causes of conflict.

Dorcey and Reik (1987) cite four major causes of environmental conflicts:

1. Cognitive conflicts are rooted in different understandings of the facts.
2. Value conflicts stem from different preferences about the outcome.
3. Interest conflicts occur when there are disagreements about the distribution of the costs and benefits.
4. Behavioral conflicts are rooted in personalities, experiences, and circumstances of the interested parties.

From the above, it can be seen that conflict among stakeholders stems from both substantive issues and procedural and personal issues. Procedural and inter-personal issues can cloud the substantive issues, to the point where they can be equally or more important than the substantive issues. To address these causes of conflict, the literature on consensus-based decision-making is reviewed below.

Consensus-Based Decision-Making

Included under the title of alternative environmental dispute resolution, consensus-based decision-making has been increasingly used by the public sector in the United States in
lieu of the traditional approach of drafting legislation awaiting court challenges (Wondolleck and Crowfoot, 1990; Susskind and Cruikshank, 1987). In British Columbia, the B.C. Round Table and the Commission on Resources and Environment have both heavily advocated and relied upon consensus-based approaches for advising on public policy and crown land-use plans respectively.

Susskind and Cruikshank (1987, 11) define consensus-building as a process which "requires informal, face to face interaction among specially chosen representatives of all 'stakeholder' groups; a voluntary effort to seek 'all-gain' rather than 'win-lose' solutions or watered-down political compromise, often with the assistance of a neutral facilitator or mediator." Cormick (1992) notes that consensus involves neither simple majority rule nor complete unanimity on all aspects of a conflict, but means "substantial agreement" on a package of items under negotiation. In short, consensus can be generally defined as agreement achieved through various types of consultation and negotiation in which stakeholders participate voluntarily to reach agreement over a group of issues to fulfil all stakeholders' core interests.

Preconditions for Consensus-Based Decision-Making

Susskind and Cruikshank (1987, 17) break disputes into two categories of distributional and constitutional rights disputes. The distributional dispute can be successfully negotiated as it involves such things as the allocation of resources, use of land and the creation of regulations and standards while constitutional or fundamental rights disputes are properly left with courts and national politicians to decide. As the distributional dispute often
involves a package of related items, there are possibilities for compromising on small items while achieving each stakeholders' fundamental interests.

A key to the stakeholder's willingness to negotiate will often depend upon the expectation of the benefits of negotiation over non-negotiation. Fisher and Ury (1981) state that each negotiator should develop a theoretical "Best alternative to a negotiated agreement" or "BATNA" to ascertain what a non-negotiated outcome would mean to the stakeholder that he or she represents. However, stakeholders may not wish to negotiate if they can confidently forecast a BATNA which is relatively good compared to any conceivable negotiated settlement. Aside from the degree of the stakeholders' motivation to enter into a negotiation, certain conditions for commencing a consensual process must be present. Susskind and Cruikshank (1987, 133) give several preconditions for successful unassisted negotiation including:

1. The number of actors and issues must be relatively small in number.
2. The stakeholders must be able to open channels of communication to promote joint problem-solving.
3. The uncertainty of unilateral action must be relatively high for all stakeholders.

Expanding upon this, the B.C. Round Table on the Environment and Economy (1991a, 25) lists a number of conditions which affect the willingness of stakeholders to support a consensus approach.

1. There must be an unresolved conflict or potential for conflict.
2. All key stakeholders must have an incentive to seek a decision by consensus.
3. All stakeholders must support the consensus process.
4. There must be a political will to see the process through.

5. The presence of a champion is a boon.

Therefore, it can be seen that the likelihood of success of a consensus process is dependent upon the type of issue, the stakeholders' real and perceived incentives, and external political support.

A Range of Consensus-Based Processes

The literature generally divides consensus-based processes into two broad groups; unassisted negotiation and assisted negotiation which includes facilitation, mediation, arbitration or involvement of other intermediaries. While the B.C. Round Table (1991a) and Dorcey and Reik (1987) found that unassisted negotiations were more commonly used, the broad scope and multi-sectoral approach of regional conservation planning strategies would likely require a form of assisted negotiation to help conduct a process involving widely divergent groups. However, the literature notes that unassisted negotiation and mediator-assisted negotiations are most frequently used in environmental planning (Bingham, 1986, Dorcey and Reik, 1987; Dunster, 1988; Wondolleck and Crowfoot, 1990; B.C. Round Table, 1991a). Regardless of the approach used, there are a number of procedural characteristics which are required for most successful consensus-based approaches whether they involve unassisted principled negotiation or a form of assisted negotiation. These characteristics for determining the success of principled negotiation will be examined to develop questions for evaluating consensus processes for regional conservation planning strategies.
Principled Negotiation Theory

Principled negotiation is central to most forms of consensus-based decision-making. Roger Fisher and William Ury (1981, xii) define principled negotiation as a method "to decide issues on their merits rather than through a haggling process focused on what each side says it will do and won't do. It suggests that you look for mutual gains wherever possible, and that where your interests conflict, you should insist that the result be based on some fair standards independent of the will of either side." It is widely agreed among practitioners and researchers of consensus processes that all stakeholders must voluntarily enter into the negotiations with the intention of meeting their respective interests instead of arguing positions (Fisher and Ury, 1981; Susskind and Cruikshank, 1987, B.C. Round Table, 1991a; Cormick, 1992). In an attempt to develop criteria to measure the factors necessary for successful regional conservation strategies, general characteristics relating to the structuring of consensus processes will be reviewed using Susskind and Cruikshank's three phase consensus-building model which includes:

1) Prenegotiation Phase

2) Negotiation Phase

3) Implementation or Post Negotiation Phase.

Using this model, the literature related to the major characteristics of successful consensus-based processes is outlined below.
Prenegotiation Phase

The preparation for negotiation is often as important as the negotiation itself. Within the prenegotiation phase, the literature provides for five key characteristics. The first characteristic is the identification of all stakeholders. The involvement of all parties is vitally important so that there is no omission from the process of a stakeholder group which might then work against an agreement in which its interests were not addressed. Although all relevant stakeholders should be identified and invited to participate in the negotiation voluntarily, Wondolleck and Crowfoot (1990, 85) report that reluctant, but powerful, stakeholders in public environmental issues sometimes have to be pressured politically to become involved. With respect to the number of stakeholders, Bingham (1986, 100) has found that there was no substantial difference in the resolution rate of environmental conflict whether 2 or 10 stakeholders were involved. Where there are numerous interests and the identification of stakeholders may be difficult (as is the case with conservation planning strategies), an assisted approach such as facilitation could be used to identify all the relevant stakeholders and bring them into the process (B.C. Round Table, 1991a). Dorcey (1986, 134) calls for increasing the opportunity for negotiation at all levels, and particularly at the lower levels of the governance hierarchy. Thus, increased representation of stakeholders at the local and regional levels could be achieved and possibly lead to a reduction in policy conflicts migrating up the governance hierarchy.

A second major characteristic of the prenegotiation stage involves the design of the process by the stakeholders themselves. In a study of 17 cases of consensus-based environmental decision-making, the B.C. Round Table (1991a and 1991c) has found that most
processes evolved through the direction of a few key people in each process without assistance. However, the failure to call upon assistance when needed can contribute to increased costs and length of negotiations. Thus, while many decisions can be made without costly intermediaries, most groups of informed stakeholders should carefully consider whether an intermediary is required.

The third major characteristic of the pre-negotiation phase involves the selection of appropriate representatives of the stakeholders (Wondolleck and Crowfoot, 1990, 83; Bingham, 1986, 114; Susskind and Cruikshank, 1987). The B.C. Round Table (1991a, 17) found that the involvement of the principals holding the decision-making power was a significant factor in the likelihood of success of the negotiation and the speed at which the negotiation was expedited. Yet, the B.C. Round Table (1991a, 19) also notes that government decision-makers are often concerned about limiting the discretion which the law provides them by entering into consensus agreements. Echoing this concern, Susskind and Cruikshank (1987) note that consensus-based agreements should be informal and subject to adoption by the formal decision-makers. However, the likelihood of meaningful participation is often dependent on the political commitment of the formal decision-makers. In an analysis of 161 negotiations on environmental policies and site-specific disputes in the United States, Bingham (1986) notes that negotiations with authority to make direct decisions have somewhat higher rates of agreement than do negotiations intended for the formulation of recommendations to a higher authority.

It is also often difficult to bring the principal decision-maker for each stakeholder to the table in regional processes, especially in large government departments and companies.
Conversely, in loosely formed local citizens groups there is quite often no clear leader. Given these problems, it is important that centralized government agencies give decision-making power to trusted local representatives with an explicit understanding of the agency’s interests. In the case of local citizen groups, it is important that the representatives be accountable to, and make regular communication with, their respective stakeholder groups. With respect to the role of the representatives, Susskind and Cruikshank (1987, 105) note, "Their [the representatives’] task is not to speak for their constituents, but to speak with them." Given these issues, the relationship of representatives and stakeholders should be made clear while government agencies should strive to guarantee that agreements will be implemented.

Access to information and other resources by stakeholders is the fourth major characteristic which affects the quality of a consensus process. There are often disparities in the various resources of participants in terms of staff, available time of the participants, expense money, and information. Dorcey (1986) notes that informing the bargaining process is one of the key requirements for facilitating successful negotiation while Bingham (1986) and the B.C. Round Table (1991a) note the provision of objective information through joint fact finding should be made a priority. In negotiations involving public agencies, funding can be provided to assist stakeholders with less resources, helping to "level the playing field" with respect to logistical costs. Susskind and Cruikshank (1987, 115) advocate joint fact-finding by commenting, "The point is that assumptions, opinions, and even values can change in the face of believable information; in order to achieve this important end, such assumptions must be identified and scrutinized." Therefore, the generation and sharing of information are important for creating consensus processes.
The bounding of the issues at the beginning of consensus approach is the fifth major characteristic of the prenegotiation stage. The stakeholders themselves must decide upon the scope of issues which are to be considered (Wondolleck and Crowfoot, 1990, 85; B.C. Round Table, 1991a). Although Bingham (1986, 118) notes that changing the scope of the issue may be required later in the process when the stakeholders' interests become more clear, the definition of the scope of the negotiation should be agreed upon at the outset of the process. Aside from framing the scope of and geography of the issues, the setting of an agenda with a deadline for conclusion of negotiation has been found to improve the efficiency of consensus-based processes by reducing the likelihood of prolonged negotiations (Dorcey and Reik, 1987; B.C. Round Table, 1991a, 25). The bounding of the issues by the participants, thus forms an important part of the process.

**Characteristics of a Successful Negotiation Phase**

As noted above, this review focuses on how the structure of the overall process affects the success of consensus-based decision-making within the context of regional conservation planning strategies. Thus, an examination of the negotiation phase, itself, is quite limited. In outlining a methodology for principled negotiation, Fisher and Ury (1981) note four key themes; *people, interests, options for mutual gain, and objective criteria.*

People: separate the people from the problem

Fisher and Ury place a greater emphasis on the "people" aspect of negotiations than other authors such as Susskind and Cruikshank (1987), Bingham (1986) and Cormick (1992),
and note that negotiators have the two major interests: the relationship with the negotiators and in the substance of the conflict which may become entangled. On the human side of negotiations, Fisher and Ury (1981) draw attention to the negotiators’ need to attend to the personal perception of the conflict, acknowledge the role of emotion, improve communication and actively build a relationship. Dorcey and Reik (1987, 20) concur in their study of negotiated environmental disputes in Canada and recommend "improving the interaction skills of participants" as one of the two most important methods of improving the productivity of negotiation.

Interests: focus on interests, not positions

The search for options for mutual gain forms the second phase of the actual negotiation process delineated by Fisher and Ury. The key to principled negotiation is identifying and negotiating to protect interests instead of positions which are likely to be mutually exclusive or even needlessly damaging to other stakeholders’ interests. By breaking down positions into packages of issues, there is a greater possibility that each stakeholder can obtain substantial fulfilment of its interests. Susskind and Cruikshank (1987, 121) have found that agreement is much more likely when there is a package of several issues whereby different scenarios can be created.

Options for mutual gain: generate a variety of possibilities

Unlike zero-sum victories achieved through a simple majority of votes, consensus is less easily envisioned as it involves negotiations and compromise in positions, often involving
several options and stakeholders in which there is no lone loser. Negotiation should focus on a package of items on which there can be some compromise on specific issues, but where there are enough options that stakeholders' main interests will still be addressed (Cormick, 1992). Fisher and Ury (1981) and Sloan (1992) go further by stating that "options for mutual gain" may be possible whereby each stakeholder can obtain more than they would in the absence of a negotiation.

Objective Criteria: decisions based on some objective standard

The creation of objective criteria forms an important part of both assisted and unassisted negotiations. Stakeholder's acceptance of the type and quality of data used helps give the stakeholders more confidence in the negotiation. Throughout the process, Fisher and Ury recommend that there be joint fact-finding to help create mutually acceptable objective criteria. With respect to the traditional approach of measuring options, Susskind and Cruikshank (1987, 114) state, "Advocacy science -my expert versus your expert- here operates at its worst... advocacy science tends to undercut the credibility of all technical evidence, whereas the point of joint fact-finding is to develop a shared base of knowledge." By agreeing on a set of objective criteria, there is avoidance of costly debates on the validity of data at the later stages of a process.

Implementation

The literature indicates that this part of a consensus-based decision-making process is often neglected with too little effort in planning for the who, what and how of implementation
(Wondolleck and Crowfoot, 1990; Bingham, 1986). With respect to the enforcement of agreements, Susskind and Cruikshank (1987, 131) note that agreements can be legally enforceable or more often they can be self-enforcing agreements that require a series of reciprocal actions. In enforcing agreements, clearly established processes of monitoring are very important with consequences for not meeting agreed-upon goals or targets. If the stakeholders have agreed upon objective criteria and methods of collecting and analyzing information during the negotiation, the task of monitoring is made much easier. The agreement should also include a mechanism for reconvening negotiations if the agreement involves an on-going policy or broad plan instead of a "one-time only" decision (Susskind and Cruikshank, 1987, 132).

From the above review of the literature, it can be seen that a consensus process is an integral part of a conservation strategy approach and forms the basis for the three other principles of conservation strategies; cross-sectoral agency coordination, public involvement, and establishing implementation partnerships.

CROSS-SECTORAL AGENCY COORDINATION

Conservation Strategies and Cross-Sectoral Agency Coordination

As the provincial, and to a lesser extent, the federal, governments hold responsibility for a wide range of conservation planning and environmental protection functions, it is important that these agencies coordinate their activities. Given this, it is not surprising that one of the World Conservation Strategy's six priority actions for national governments is "Improving the capacity to manage: legislation and organization." Caring for the Earth: A
Strategy for Sustainable Living also supports increased coordination under the principles for sustainable living of "Providing a national framework for integrating development and conservation" and the "review of the adequacy of legal and administrative controls, and of implementation and enforcement mechanisms, recognizing the legitimacy of local approaches." 3 In the Canadian context, Kelly (1987) calls for horizontal integration of resource management through an interdisciplinary approach to conservation strategies.

Literature on Cross-Sectoral Agency Coordination

Inter-agency coordination is a prerequisite for a conservation strategy approach as government agencies have the legislative mandate to manage resources and enforce laws on both private and public lands. The literature on inter-agency coordination points to the fact that coordination is best founded on mutual understanding of each various agency's technical issues and corporate cultures, and by focusing negotiations on a group of inter-related conservation issues normally under the purview of separate sectoral agencies.

The lack of coordination among government agencies partly stems from the reductionist sectoral view that has evolved with a complex industrial society. The reductionist view posits that the "environment," "society" and "economy" are equal parts instead of the social and economic systems being an integrated subsystem dependent upon the ecosphere (Rees, 1990; Hopwood, 1993). Flowing from this world view, the division of

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3 For full listing of the nine principles of sustainable living and their respective priority actions in Caring for the Earth: A Strategy for Sustainable Living (IUCN,WWF,UNEP, 1991), refer to Appendix 1.
provincial and federal governments into numerous agency divisions within "environmental," "social" and "economic" systems reflects this split between environment and economy and their increasing demands on the environment for resources. This sectoralization of government functions has also developed as methodology to study and undertake highly complex tasks. Although a profound, long-term change in our society's world view is required, immediate first steps can be taken to reduce sectoral divisions and improve coordination.

Multi-disciplinary, and ultimately transdisciplinary planning, should be encouraged to help improve sectoral agency coordination. Saha and Barrow (1981) note that unlike a multidisciplinary approach where experts in technical fields work on a project and meet occasionally in planning teams, a transdisciplinary approach involves a number of technical staff working on a project, having a broad understanding of the basic premises lying behind each sectoral discipline in addition to their own speciality. This approach is particularly useful in the development of conservation strategies given their complex and cross-sectoral nature. By taking a transdisciplinary approach with each agency participant gaining a more holistic understanding of other specializations, the cause of inter-agency coordination will be furthered.

A second concept, "social learning," also plays an important part in both inter-agency coordination and public involvement by both facilitating the transdisciplinary approach and improving the understanding of each agency and the constituents which it represents. Central
to "social learning" is the idea that group action is linked to increasing group knowledge instead of non-participatory sectoral learning. Social learning theory, comprehensively articulated in the early 1970's by Dunn (1971), Schon (1971), and Friedmann (1987) posits that action is linked to knowledge through iterative communication among small groups of people where knowledge is not gained through traditional research abstracted from the broader context of a situation. In this light, Friedmann defines social learning as "a complex, time-dependent process that involves, in addition to the action itself, political strategy and tactics (which tells us how to overcome resistance), theories of reality (which tells us what the world is like) and the values that inspire action" (Friedmann, 1987, 181). With this attention to context, it is realized that the agency representative or decision-maker cannot separate his or her values from the conclusions drawn.

While social learning and transdisciplinary planning provide alternative methods of participation for individual civil servants or government experts in a project, the overall relationship of agencies also discourages coordination. Mulford (1988) has formulated three models of coordination (see Figure 1) of rural development which include:

1. Mutual Adjustment
   Each agency focuses on its own clients and fulfilling the goals of its sectoral mandate. Differences of opinion with other agencies are resolved through adhoc bargaining. Informal committees are examples of mutual adjustment.

2. Alliance
   In this model, lying between the mutual adjustment and corporate models, agencies give up some of their autonomy to a coordinating body with representation from the different agencies in a negotiation process especially at the regional and local levels. Steering committees or coordinating councils are examples.
3. Corporate
In this model, there is a centralized hierarchy within which sub-agencies function within the bounds set out at the top of the hierarchy. Formal, immutable rules govern the action of a small number of agencies.

Of the above models, Mulford (Ibid., 68) recommends the alliance model for regional or local planning initiatives as it balances the need for some formal planning, but has a less formal hierarchical structure than the corporate model which places all organizations under one central authority. Exemplifying Mulford's alliance model, Wolfe et al.(1987) note the importance of facilitating "linked management" of existing agencies in the Fraser River Estuary Management Program (FREMP) without creating a completely new government coordinating body. Within the linked management model, Wolfe et al.(1987) identify three generic factors for creating successful coordination:

1. Management systems with political commitment.
2. Continuity of joint management for implementation.
3. Improved communications between agencies and the public.

In evaluating FREMP, Dorcey (1986) notes that there must be a leadership and accountability role amongst the agency participants to assist in agency coordination. Although the importance of the Fraser River Estuary and complexity of development and institutional issues has required a great deal of effort in planning for sectoral agency coordination, inter-agency coordination in most other areas of the province remains an issue.
Figure 1: Models of Agency Coordination
Source: Mulford (1988)
Although areas such as the Sunshine Coast do not have the same degree of development and institutional complexity, provincial agencies and regional districts expend less effort in coordinating their conservation planning. Thus, before engaging in public participation processes and consensus-based decision-making with non-governmental stakeholders, government agencies must gain a better mutual understanding of their respective technical disciplines and internal management regimes and establish processes for inter-agency communication.

BROAD-BASED PUBLIC INVOLVEMENT

Conservation Strategies and Public Involvement

The third main principle of the conservation strategy approach is broad-based public involvement. This principle is reflected in the World Conservation Strategy which presents "Building support for conservation through participation and education" as the fifth of six priorities for national action. Caring for the Earth: A Strategy for Sustainable Living sets out its seventh principle of sustainable living, "Enabling communities to care for their own environments" and includes the following priority actions in support of broadly-based public involvement:

1. Enhance participation in conservation and development.

2. Develop more effective local governments.

Although similar to the principle advocated in the World Conservation Strategy, Caring for the Earth emphasizes participatory processes at the community level instead of the national level. This emphasis reflects the global conservation community's increased
emphasis on "bottom-up" planning, based on the realization that concrete action for sustainability is best instituted at the local and regional level. Speaking to the need for public involvement in conservation strategies, McNeely et al. (1990, 56) state, "The first requirement for a successful NCS [national conservation strategy] is the participation of the widest possible range of actors in defining the issues and identifying the courses of action."

Similarly, but emphasizing the local level, Dunster (1990) concludes that building broad-based local support is necessary for creating and implementing forest sector conservation strategies. In a different view on the need for public involvement, Kelly (1987) notes that people do not necessarily trust the views of "experts," and thus they should be involved in order to gain better results as well as to increase public acceptance of the strategy.

**Literature On Public Involvement**

Since the 1950's there has been an increasing demand for greater direct public involvement in government decision-making, particularly in environmental planning. Increasingly, citizens were not simply satisfied with elected representatives making decisions for them and subsequently announcing their decisions. This move to participation has been partly attributed to a reaction against synoptic or strategic planning carried out by bureaucrats reporting directly to elected representatives who failed to represent many interests in an increasingly pluralistic society (Davidoff, 1965; Parenteau, 1988; Benveniste, 1989). Also, the public's growing consciousness of the complexity of government and the less direct role of elected representatives in formulation of policy, produced increased pressure to move from representative to participatory democracy at the community level (Parenteau, 1988).
In addition to increased pressure for participatory democracy, beginning in the 1960's, environmental activists became increasingly dissatisfied with representative democracy. This dissatisfaction helped foster the emergence of a new environmentalist world view among a significant part of the population. In a series of three annual studies of citizen attitudes towards the environment in Germany, the United States and Great Britain, Milbrath (1984) has found that increased support for societal changes required a shift to a "New Environmental Paradigm" which included; concern over human degradation of nature, economic growth vs. environmental protection, generalized compassion, risk adversity, belief in limits to growth and public participation. Similarly, O'Riordan (1976) defines two world views, the emerging "ecocentric mode," and the dominant "technocentric mode." Like Milbrath, O'Riordan (1976, 10) notes the importance of public involvement by stating:

"The call for participatory democracy is not new though it has taken on a new urgency in recent years. Participation here is regarded as a necessary mechanism in the design of a better community, for the participatory experience reflects the basic themes of environmentalism."

Commenting on the antecedents of modern western environmentalism, Parenteau (1988) notes the ascendance of well-informed special interest groups of private citizens by concluding, "The shift to the local level and the rising quality of participants in the public consultation process promote mediated cooperation among partners." While the division of society into two model world views oversimplifies the conflicting values underlying individual planning conflicts, these models help illuminate the need for public involvement in a conservation strategy approach.

Given the rationale of direct participation in environmental planning, the appropriate form of participation and processes for facilitating it are explored. Arnstein (1969) outlines a
model called the "ladder of citizen participation" which represents eight rungs of public involvement. These rungs are placed into three groups; non-participation, degrees of tokenism and citizen power and are illustrated in Figure 2. Non-participation is often characteristic of technocratic synoptic planning while the degrees of tokenism represent methods of taking public opinions into consideration without any devolution of authority to citizens. On the highest rungs of Arnstein's ladder under degrees of citizen control appear "citizen control," "delegated power" and "partnership" which give either joint or sole authority to make decisions jointly with, or independent of, elected representatives and civil servants. "Citizen control," can be described as a state where citizens assume complete control of a government function while the "partnership" and "delegated power" models of participation are where citizens share formal decision-making power with government agencies. At Arnstein's "partnership" rung of participation, citizens groups can contribute to policy formulation as stakeholders representing sectoral interests in negotiations.

Although meaningful public involvement is required, there is the question of when and what type of involvement? In answering this question, several authors have recommended a legislated right to participate in forestry, crown land and environmental planning in British Columbia via a range of processes from public hearings to community forest boards (Vance, 1990; Brenneis, 1990; Brenneis and M'Gonigle, 1992; Gunton and Vertinsky, 1991). If agencies are mandated to provide more meaningful public involvement, they will either

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4 Arnstein notes that "consultation" involves methods such as attitude surveys, public hearings and neighbourhood meetings. These are common approaches of municipal government planning in British Columbia. "Informing," on the other hand, involves more limited involvement, usually late in the planning process, with little opportunity for the public to change the outcome. Vance (1990) attributes this form of consultation to most planning at the B.C. Ministry of Forests' district level.
Figure 2: Ladder of Participation
Source: Arnstein (1969)
have to carry out separate involvement processes, or combine their existing mandated participation into a conservation strategy process. Thus, a conservation strategy process could act to coordinate, or, possibly, reduce duplication of the public involvement processes of separate agencies.

Secondly, with respect to the type of involvement, a conservation strategy approach should include both the consultation and the partnership rungs which Arnstein (1969) identifies in her ladder of participation. Partnerships could be achieved through the inclusion of citizens and other non-governmental organizations as stakeholders in the consensus decision-making process, while consulting could be utilized to assist the general public make informed comment on the strategy. It is argued that consulting, when used with the higher forms of involvement such as partnerships, does not constitute "tokenism" as it would be in the absence of opportunities for organized citizen group involvement as stakeholders in a consensus-based process. In fact, the use of consultation helps citizen groups and other stakeholders confirm the interests of non-aligned or less politically active members of the community while these individuals can become informed on the conservation strategy and offer comment which would not otherwise be conveyed to the stakeholders. Regardless of the particular arrangement for citizen group involvement, citizen groups should be included as stakeholders. Susskind and Cruikshank (1987, 246) note the importance of public involvement in creating a consensus-based process by stating:

Our view of why social reforms often fail is that they are imposed from above. In effect, the government attempts to instill new values. But a stubborn fact of human nature tends to intervene. Very few people can be convinced to change their underlying sense of right and wrong... in response to governmental edict. Thus, reforms emerge, and may even be institutionalized, but they nonetheless fail because
human nature is resistant. If the vehicle of reform fails to address such underlying motivations, it is doomed.

Thus, it may be appropriate to use several forms of participation to gain input from the various public interest groups as well as the less active citizenry to ensure better decisions and build support for the conservation strategy.

NON-GOVERNMENTAL PARTNERSHIPS FOR IMPLEMENTATION
Conservation Strategies and Non-Governmental Partnerships

Aside from the commitment to the principles of consensus process, cross-sectoral agency coordination and public involvement, conservation strategies require that governments forge implementation partnerships with non-governmental organizations and private individuals. While governments are expected to implement planning initiatives, non-governmental participation in the implementation of a plan has too often been neglected. By undertaking partnerships with non-governmental stakeholders, there is often increased community support for the protection of habitats and ecological functions. Furthermore, the involvement of non-governmental stakeholders and individuals can help protect habitats where governments do not have the resources or the political support to intervene. Caring for the Earth: A Strategy for Sustainable Living (1991) directly calls for monitoring of conservation strategies with several recommended actions including: (1) Promotion by partners and sponsors, (2) Adoption - formal undertakings by governments, organizations, communities and enterprises to implement the strategy, and (3) Implementation of the priority actions, at the international, national, and local levels. Thus, Caring for the Earth recommends monitoring and emphasizes the need for commitment of government and non-governmental institutions to
the process of implementing the strategy. Given this, Dunster (1990) advocates the involvement of forest industry and local communities in creating forest sector conservation strategies while McClellan (1990) reports that the Prince Edward Island Conservation Strategy relies heavily on the support of non-governmental organizations for implementation of the strategy.

Literature on Non-Governmental Partnerships

The major shortcoming of most strategies is that there is insufficient commitment to the implementation of the document. This concern is particularly acute with conservation strategies as they, by definition, are long-term, cross-sectoral documents with no single entity solely responsible for their implementation. Downs (1972) has explained the short-term commitment to environmental issues by developing a model termed the "issue attention cycle" which outlines typical stages in public and political awareness as follows:

1. The pre-problem stage
2. Alarmed discovery and euphoric enthusiasm
3. Realizing the costs of significant progress
4. Gradual decline of intense public interest
5. The post-problem stage

Although the issue-attention cycle is a very general model, it does have some import in the analysis of the conservation strategy approach. In the case of conservation strategies, the creation of the document by the stakeholders would likely fall into the "alarmed discovery and euphoric enthusiasm" stage while the implementation too often falls into the "realizing
the cost of significant progress" and "gradual decline of intense public interest" stages. The key, then, is for the design of an implementation process which helps establish a long-term commitment. To do this, citizens and non-governmental organizations must have an active role in managing both public and private lands and ecological resources. Private stewardship programs, co-management and state of the environment reporting are examined as methods for creating commitment through partnerships with government for the implementation of conservation strategies.

For protecting habitats, particularly on private lands, the literature points to the concept of private stewardship. Private stewardship refers to the management of private, communal and sometimes public land by non-governmental organizations and individuals for the preservation of its ecological function (Stewardship '94, 1994) and is based on two factors. Firstly, there are thousands of smaller areas of great ecological importance located on privately owned lands, especially at lower elevations and adjacent to water bodies. Purchasing such a multitude of sites is often not feasible nor required to protect many ecosystems. Also, governments do not have the administrative resources to protect ecological attributes on all crown lands, let alone, private lands (Hoose, 1981; Stokes et al., 1989). Secondly, the active education and voluntary participation of property owners in protecting the ecological attributes of their lands can provide the most long-lasting method of protecting landscapes. Concluding on the experience of voluntary conservation in Ontario, Hilts and Van Patter (1990, 27) note:

Finally, there is the relationship that exists between voluntary stewardship and land-use planning. While stewardship programs appear to complement land use planning, with voluntary programs having the ability to engender wider support and eventually lead to the adoption of planning controls, the opposite is not true.
Similarly in British Columbia, although the creation of development permit areas specifying additional regulations for the protection of habitat under the Municipal Act is increasingly being undertaken by municipalities, opposition towards, and disregard for, the regulations have often been encountered until grassroots support is built (Stewardship '94, 1994). Given this resistance, there has been growing movement towards the use of alternative mechanisms for the protection of landscapes at the local level. The utilization of a wide range of other instruments such as covenants and the purchase of property development rights by community land trusts and other non-governmental organizations has been extensively employed throughout the United States since the 1960's and, to a lesser extent, in Canada since the 1970's (Hoose, 1981; Brennen et al., 1984; Hilts et al., 1986; Stokes et al., 1989; Hilts and Van Patter, 1990).

Partnerships can also be used for monitoring specific resources and habitats as well as various ecological indicators. For example, fishermen have participated in monitoring fish stocks as part of larger co-management agreements (Pinkerton, 1989) while the Federal Department of Fisheries and Oceans' Salmon Enhancement Program pairs government resource managers with non-governmental organizations in improving habitat. In addition to partnerships for protecting habitats and monitoring certain species and ecological functions in a region, the establishment of a comprehensive conservation monitoring program is important. Although, State of the Environment Reports (SOER) have been utilized in Canada since 1986 (Sheehy, 1989), the first SOER for British Columbia and the Lower Fraser Basin were only created by the governments of Canada and British Columbia in 1993 and 1992 respectively. There have been even fewer SOER for smaller regions given the lack of government funding.
and personnel. However, the SOER for the Regional Municipality of Waterloo undertaken by the University of Waterloo (1987) is an exception and example of one of the most comprehensive SOER completed for a region (Elkin, 1990). Given the potential for this approach, Elkin (1990, 60) advocates linking conservation strategies to state of the environment reporting by stating: "It is important to stress that state of the environment reports and national conservation strategies are not different and conflicting approaches to the study of the same human situations. What is important is the interface between these tools [state of the environment reports and conservation strategies]." Thus, the measurement of specific ecological indicators such as water quality objectives, the listing of habitats requiring protection from development, enumeration of threatened and endangered species and evaluation of government commitment to the regional conservation planning strategy's objectives could be considered in SOER reports undertaken by non-governmental organizations.

In short, with increasingly limited government resources accompanied by greater demands for conservation planning, the creation of implementation partnerships for implementation can help realize the strategy's goals. Partnerships allow for the protection of private lands and more comprehensive monitoring than could normally be expected. Moreover, by linking partnerships for implementation to the participants in conservation strategy, the goals of the strategy can be diffused among the general population over a longer time period than could be expected by a conservation strategy based solely on government implementation.
CHAPTER SYNTHESIS: CRITERIA FOR CONSERVATION STRATEGY PROCESS

From the literature review, it can be seen that a multiple-stakeholder consensus process forms the key principle which directs the other three related principles of a conservation strategy approach. By involving the major governmental and non-governmental stakeholders, the other principles of public involvement, cross-sectoral agency coordination and non-governmental partnerships are furthered. Thus, the combined application of the principles of a conservation strategy process are required for effective conservation planning for the protection of habitat and ecological functions. The principles for the conservation strategy process are used as the first four criteria for measuring whether a planning process follows the model regional conservation planning strategy approach. From the literature relating to each of these criteria, subsidiary questions are derived to help answer whether the provincial framework for conservation planning and the case study, the Sechelt Inlets Coastal Strategy, satisfy the criteria.

The first criterion, multiple-stakeholder consensus process, is the most important of the four process criteria. From the review of the literature on consensus-based decision-making, several questions for ascertaining whether a conservation planning process meets this criterion are posed.

Does the process include representatives of all major stakeholders?

Is there negotiation on the process before the substantive issues are negotiated?

Is there sufficient third-party assistance, technical information and other resources provided to all stakeholders?

Are the stakeholders encouraged to undertake principled negotiation?

Is there an implementation agreement with stakeholder and political commitment?
The second process criterion, *cross-sectoral agency coordination* is vitally important as numerous provincial agencies and local governments are involved in conservation planning. To help ascertain whether this criterion is satisfied by a conservation planning process, the following additional questions should be answered.

*Is there a lead agency or prominent individual occupying a leadership role for the process?*

*Do the agency participants strive for a transdisciplinary approach?*

The third criterion, *broad-based public involvement*, must be included in a process to ensure that a full range of public interests and values are incorporated into a regional conservation planning strategy. Two additional questions help confirm whether this criterion is being fulfilled.

*Are major citizen group stakeholders involved in the decision-making process outlined under the first criterion?*

*Is there a consultation and information program for members of the general public, many of whom may have unique interests not represented by stakeholder groups?*

The fourth criterion, *non-governmental partnerships*, provides a means for evaluating the long-term commitment of those outside government to implementing conservation planning. The literature provides for two main questions to determine whether a process encourages non-governmental partnerships.

*Are there non-governmental stakeholders involved in conservation projects or are projects being proposed as a result of the process?*

*Is non-governmental assistance in monitoring and implementation proposed or being undertaken?*
CHAPTER 4
REGIONAL APPROACHES TO CONSERVATION PLANNING

INTRODUCTION: REGIONS AND CONSERVATION STRATEGIES

While the need for a conservation strategy approach has been demonstrated in Chapter 3, the rationale for undertaking a regional approach to conservation planning is explained in Chapter 4 to create a hybrid model of the regional conservation planning strategy. Thus, in addition to the four principles for a decision-making process for conservation strategies, the literature on three perspectives on the use of regions for conservation planning is reviewed. The three perspectives include: parks system planning (an institutional perspective), landscape ecology (a biophysical perspective) and bioregional theory (a sociological perspective).

Before examining these perspectives, the general literature on conservation strategies is summarized. As there has been growing recognition at the international level of the need for local and regional conservation strategies to complement national or provincial conservation strategies, planners have begun to realize the value of smaller regional conservation strategies which integrate land-use planning and resource management. This growing recognition is demonstrated in Caring for the Earth: A Strategy for Sustainable Living which places more importance on local and regional conservation strategies than the World Conservation Strategy. Caring for the Earth sets forth nine principles for sustainable living of which two deal with the need for local conservation planning.5 Of these, the fourth principle,

5 For full listing of the nine principles of sustainable living and their respective priority actions, refer to Appendix 1.
"Conserving the Earth's vitality and diversity" sets out priority actions for the protection of biodiversity which include:

1. Adopt an integrated approach to land and water management, using the drainage basin as the unit of management.

2. Maintain as much as possible of each country's natural and modified ecosystems.

3. Complete and maintain a comprehensive system of protected areas.

4. Support management of wild renewable resources by local communities; and increase incentives to conserve biological diversity.

The eighth principle, "Providing a national framework for integrating development and conservation"\(^6\) includes several priority actions relating to local implementation of conservation strategies which include:

1. Develop strategies for sustainability, and implement them directly and through regional and local planning.

2. Review the adequacy of legal and administrative controls, and of the implementation and enforcement mechanisms, recognizing the legitimacy of local approaches.

In elaborating on the latter principle, *Caring for the Earth* (1991, 66) states:

National [provincial and state in federal nations] strategies should be extended by regional and local-use plans enabling a society to translate the goal of sustainability into specific objectives and to integrate a wide range of decisions. Each plan should be a joint project of government and people who live in the region.

The general literature on conservation strategies also supports the creation of strategies at the regional level. Richardson (1989, 31), calls for the linking of conservation strategies to

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\(^6\) According to *Caring for the Earth: A Strategy for Sustainable Living*, the national framework approach should apply to provincial governments in federal countries such as Canada (IUCN, UNEP, WWF, 1991, 64).
concrete land use planning by stating, "The ideal complementary relationship would see the conservation strategy contributing some of the goals of the land use plan, and the plan as serving as one of the instruments for carrying out the strategy..." Similarly, Nelson and Eidsvik (1990, 71) comment on the need for integrating regional planning with conservation strategies by stating:

A more concrete framework for the preparation of conservation strategies is provided by the watershed or river basin... Catchment areas are natural units in which water, forests, wildlife and other resources can be understood in terms of limits and ecological characteristics....

In addition to the emphasis on linking land use planning to conservation strategies at the regional level, numerous authors note that protected areas form a core part of conservation strategies (McNeely, 1990; Nelson and Eidsvik, 1990). Although the above authors emphasize different roles for the conservation strategy, a conservation strategy process and concrete regional conservation planning are not mutually exclusive. In fact, the major benefit of developing a conservation strategy at the regional level is that most of the major stakeholders can be more easily brought together. From the literature, it can be seen that practitioners of, and scholars studying conservation strategies advocate the use of regions based on watersheds or other biophysical parameters with protected areas and complementary land-use planning being two of the most important aspects.
EVOLVING PERSPECTIVES ON REGIONAL PLANNING AND CONSERVATION

The theory supporting the creation of conservation strategies at the regional scale is based on the assumption that such regions present a balance between the local community and the larger state for planning. In this light, Lewis Mumford states:

In its recognition of the region as a basic configuration of human life; in its acceptance of natural diversities as well as natural associations and uniformities; in its recognition of the region as a permanent sphere of cultural influences and as a centre of economic activities, as well as an implicit geographical fact - here lies the vital common element in the regionalist movement. So, far from being archaic or reactionary, regionalism belongs to the future. (Lewis Mumford in Branch, 1988).

Although Mumford was commenting primarily on regional urban planning in the 1930's, he notes the importance of taking into account the inter-relationships of biophysical and socioeconomic factors. However, it was twenty-five years later, when Ian McHarg, writing Design with Nature (1969), advocated an ecological approach to urban development based on map overlays describing physiography, geology, hydrology, vegetation and soils as well as anthropogenic features.

At the national, provincial and the community levels, regions are often used as a base for planning and environmental management, but the term "region" remains difficult to define as there are many different types of regions and various scales of regions. Regions are usually defined by type according to a combination of the following: physiography, ecology, culture, economic activity, or political and administrative jurisdictions. Unfortunately, existing political and administrative regions often do not reflect the natural or human regions described above. This points to the question of which of these sets of characteristics should be used to define the boundaries and scale of a region for a regional conservation planning strategy? Related to this question, a range of disciplines, methodologies and theories linking
the region to conservation planning began to emerge in the 1970's. Three relatively recent perspectives on the use of regions for conservation planning, namely parks system planning, landscape ecology and bioregional theory are examined below to illustrate the need for a regional conservation planning strategy approach.

Parks System Planning

Beginning in the 1970's, the Canadian Parks Service began to define and delineate "Natural Regions" for its national parks system plan based on very large biophysical regions (Olsen and George, 1983). Using the concept of natural regions, the Canadian Parks Service has created thirty-nine terrestrial natural regions of which eight are entirely or partially within British Columbia. To complete the national parks system, at least one park (and preferably more than one park) should be located in each region to represent the typical biophysical aspects of that region.

Following national parks system planning nearly twenty years later, in the late 1980's, B.C. Parks divided British Columbia into a system of fifty-nine regional landscapes to facilitate the completion of a provincial parks system through the Parks Plan '90 process. B.C. Parks (1990b, 8) has defined regional landscapes by stating:

Regional landscapes are land and marine geographic segments of the province that are each reasonably distinct in terms of the occurrence and patterns of the major constituents of the natural environment. A regional landscape can be readily described by its general location (northern, southern, coast or interior), terrain appearance and typical landforms, typical vegetation, typical wildlife occurrences, presence of freshwater and saltwater bodies, and the general climate.
The provincial parks system framework provided for more numerous, yet smaller, regions containing fewer different ecosystems than at the national parks system level, thus allowing for more ecosystem representation within protected areas representing these smaller regions. In parks system planning theory, practitioners talk of "representativeness" whereby planners attempt to protect an area which is representative of a given region. In attempting to protect representative landscapes, planners also use the term, "of provincial significance" or "national significance" to indicate the importance of the site filling a gap in the system plan. However, at larger geographic scales such as those used at the national parks system level, the aggradation of these regions is so great that large parks and protected areas do not necessarily represent nearly all the ecosystems in the region.

Given this problem, the ecoregion/ecosection system was developed by the Wildlife Branch of the Ministry of Environment in the early 1990's. Within the 33 ecoregions in B.C., there are 105 ecosctions. Unlike biogeoclimatic zones which closely follow microclimatic differences related to elevation, the ecoregion system amalgamates related biogeoclimatic zones which are associated by similar elevation-related sequences in watersheds. Comparing the map of British Columbia's biogeoclimatic zones in Figure 3 to the map of ecoregions in Figure 4 it can be seen that British Columbia's division into ecoregions and ecosctions is based roughly on watersheds and mountain divides. By using the ecoregion/section system for developing the Protected Areas Strategy (P.A.S.) and

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7 The ecoregion classification system is based on the biogeoclimatic zone ecosystem classification system developed by Vladimar Krajina during the 1960's which has been used extensively by the Ministry of Forests since 1975 (Meidinger and Pojar, 10, 1991). As the name indicates, biogeoclimatic zones are based on dominant vegetation associations that are resultant from physiographic features and climatic conditions. The size and location of British Columbia's 14 biogeoclimatic zones are largely influenced by elevation and, thus, one large watershed may include numerous biogeoclimatic zones.
C.O.R.E.'s regional planning, the provincial government is attempting to delimit ecosystems within regions for the identification of protected areas for representation of the most ecosystems possible (Searle, 1993, 20).

However, although the ecosection/region system for analyzing the need for provincial parks is useful, the literature on parks planning points to several concerns over relying completely on this approach. Firstly, even if all ecosections (or natural regions) are represented, the parks system will not protect all ecosystems if the regions themselves, do not adequately cover all the variations of the ecosections. The inability to represent all the variants of ecosections is based in the fact that humans cannot even identify, and thus represent, all ecosystems. Adding to this difficulty, is the fact that ecologists have found that ecosystems tend to be in a state of flux (both natural and human-induced) instead of static equilibrium. Secondly, and more importantly, there is a growing consensus that surrounding land uses must be planned to protect the integrity of a park's ecosystems as incompatible adjacent land uses have often led to damage of parks via water and air quality degradation or endangerment of migratory animal species (McNamee, 1989, Morrison and Turner, 1994). Gardner (1990), notes that the representative "natural region" approach taken by the Canadian Parks Service does not support integration with adjacent land-use planning, and recommends that inter-agency coordination be brought into the national parks system planning process to create a range of methods for protecting parks and adjacent areas.

Given these shortcomings in parks system planning, the Canadian Environmental Advisory Council (CEAC, 1991, 43) advocates in the report, A Protected Areas Vision For
Canada, that an ecosystem management approach be taken with the following recommendations:

To ensure proper management of protected areas, protected areas agencies should:

- Identify appropriate ecological goals for each protected area and its adjacent lands, and develop strategies to achieve these goals.

- Adopt and promote an ecosystem management philosophy that recognizes the essential roles and contributions of all protected areas supporters as well as regional, local and other groups whose interests are affected.

- Substantially increase research on ecological relationships, and on the impact of activities in and adjacent to protected areas.

- Establish cooperative management regimes around protected area, including the designation of buffer zones and development of compatible land-use strategies, by working with local and regional residents.

- Improve consultation and cooperation with government agencies responsible for renewable and non-renewable resource activities to ensure that such activities are managed appropriately within the vicinity of protected areas.

Eidsvik (1985) notes this general philosophical shift among managers of protected areas from preservation of isolated ecosystems to an ecosystem management approach. Although protected areas have traditionally been seen as the focus of conservation and remain a key part of conservation strategies, they are not the answer to sustainable development in themselves.
Figure 3: Biogeoclimatic Zones of B.C.

Source: B.C. Ministry of Forests (1992)


Biogeoclimatic Zones of B.C.

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Biogeoclimatic Zones of B.C.

Source: B.C. Ministry of Forests (1992)

Figure 4: Ecoregions of B.C.
Source: B.C. Ministry of Environment, Lands and Parks (1992)
Nelson and Eidsvik (1990) conclude that the creation and management of protected areas is an important part of conservation strategies, but these will be threatened if compatible planning is not undertaken in the surrounding region or watershed. Thus, it can be seen that effective parks system planning should be based not only on ecological classification systems such as the ecosection approach which take into account watershed boundaries, but should also include complementary planning on public and private lands.

**Landscape Ecology**

Unlike the parks system planning methodology, landscape ecology is a scientific discipline which looks at protecting ecosystems over the entire landscape rather than preserving only pristine fragmented parks for representation of landscapes. Thus, the discipline of landscape ecology provides an example of how conservation planning is coming to rely on natural science disciplines which take holistic, less sectoral, views of biophysical systems at the regional level. Forman and Gordon (1986) define a landscape as ".. a heterogenous land area composed of a cluster of interacting ecosystems that is repeated in similar form throughout. Central to this concept is the existence of clusters of ecosystems found throughout the landscape." Zonneveld and Forman (1990) and Crow (1991) define landscape ecology as a new discipline which uses a transdisciplinary approach in integrating the numerous natural and social sciences, recognizing the importance of human activities on the landscape.
Silva Consultants Ltd. (1992, 7), has summarized three key principles for landscape ecology:

1. Time and Space: While disturbances to ecosystems affect the whole landscape for some time into the future, the effect diminishes with distance and time of the initial incident.

2. Heterogeneity: A landscape contains not only a variety of species, but also small ecosystems or "patches". As many organisms may require a variety of patch types, a diversity of patches is required for a healthy landscape.

3. Connectivity: The diversity of patches in an ecosystem must be connected so as to allow the movement of various organisms from one patch to another. Riparian corridors provide the single most important means for ecosystem connectivity. In addition to their importance to ecosystems, riparian zones are extremely important for many forms of recreation which places additional pressure on these zones.

Of Silva's key principles, connectivity is considered the most important by landscape ecologists (Forman and Gordon, 1986; Zonneveld and Forman 1990; Crowe, 1991). From smaller urban wildlife corridors to rivers systems, the importance of maintaining corridors at the regional level is being seen as increasingly important (GVRD, 1993; Adams & Dove, 1989; Zonneveld and Forman, 1990). The importance of corridors is based on the concept that isolated "islands of green" or parks of varying sizes cannot alone ensure the protection of ecosystems.

Fiedler et al.(1992) have noted that over the past decade ecology has taken on a new paradigm whereby undisturbed ecosystems are no longer viewed as being at constant balance or equilibrium, but are in various states of flux. Given this new view of ecology, many

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8 The Greater Vancouver Regional District has recognized the importance of ecological corridors in the Lower Mainland's regional landscape by designating wildlife corridors connecting Green Zone areas. See Creating Vancouver's Green Zone (G.V.R.D., 1993).
ecologists now emphasize the conservation of ecological processes and broader biospheric contexts instead of rigidly preserving a limited number of specific species or specific attributes of an ecosystem in perpetuity. Thus, landscape ecology increasingly involves the study of "patch dynamics" or the relationships of a matrix of local ecosystems at different states (Ibid, 73).

In the British Columbia context, Hammond (1991, 204) advocates a landscape ecology approach to forest planning in which preservation of biodiversity is undertaken throughout a continuum of geographic scales from the stand level to large watershed/landscape, but emphasizes the importance of planning at the landscape level. Hammond goes on to define a forest patch zonation system which includes ecologically responsible human use zones, landscape corridors and old growth protection nodes and large ecological reserve areas ranging in size from 12,000 to 100,000 ha.

In viewing the conservation of ecological systems through this new paradigm of ecology, there is a growing consensus that regional landscapes are the most appropriate level for study, management and protection. Conservation biologist, Reed Noss states, "The regional landscape (generally in the range of 1000 to 100,000 km²) is a convenient scale at which to integrate planning and management for multiple levels of [ecological] organization. It is at the scale of a constellation of national forests, parks, and surrounding private lands, or of a large watershed or mountain range" (Noss, 1992, 241). Similarly, Salwaser (1991) and Nelson (1991) advocate the creation of conservation strategies as a means of protecting biological diversity and process at the regional level, providing a "safety net" that goes well beyond the confines of individual parks and protected areas. Thus, landscape ecology
recognizes the need for protecting ecological functions at the regional level, which provides a balance between planning for parks and conservation planning at the national and provincial levels.

**Bioregional Theory**

While landscape ecology primarily provides a natural science methodology for managing ecosystems at the regional level with the recognition of human impacts, bioregional theory takes a less formal view in the study of natural regions. On one level, bioregionalism is related to classical anarchism, and thus supports the ideal of self-reliance and self-governance by regional residents (Aberle, 1985, Gardner and Roseland, 1989). On a second level, bioregional theory, argues that the relationship between natural and social regions has been closely related since the beginnings of humanity and that the ecological, economic and political crises facing societies throughout the world are often due to the decoupling of humans from their environment (Sale, 1985). Thus, bioregional theory focuses planning on regions which are delimited by biophysical, social and cultural characteristics defined by the region's own residents. Given this, Aberle (1985) recommends that aboriginal people be at the centre of defining and governing bioregions.

While bioregional theory is very philosophical and idealistic, it helps further the ideal of public involvement in conservation planning by illustrating the connection of ecosystems and peoples' sense of place. The theory supports not only a "bottom-up" definition of a region, but also "bottom-up" governance, which relates to the increasing call by individuals
and environmental non-governmental organizations for public participation, decentralization and sustainable development.

INNOVATIVE REGIONAL APPROACHES TO CONSERVATION IN CANADA

Given the review of general literature on conservation planning strategies, several initiatives in Canada are examined which illustrate the importance of the principles of conservation strategy processes and regional conservation planning.

The South Okanagan Conservation Strategy

Working cooperatively, the Nature Trust of B.C. and the Ministry of Environment drafted the South Okanagan Conservation Strategy (SOCS) in 1990, the first regional conservation strategy in British Columbia. In this strategy, the Nature Trust merged its South Okanagan Critical Areas Program with the Ministry of Environment's Okanagan Endangered Spaces Program in order to more effectively preserve animal and plant species in the region (B.C. Ministry of Environment, 1992). While the SOCS covers a small part of the Okanagan-Thompson Plateau Ecoregion, the SOCS does address the need for management strategies for private and public lands outside of protected areas and for preserving ecological processes which support individual species. In this regard, the SOCS contains a fundamental element of a conservation planning strategy by making recommendations for overall land use which maintain ecological process at the landscape or regional level.

The SOCS thoroughly inventories flora and fauna species in the local ecosystem and makes recommendations on a number of specific habitats. It, however, does not fully take
into account the institutional context or involve ongoing participation of government agencies and local communities which have important land-use planning functions. While the SOCS steering committee, composed of the Canadian Wildlife Service, the Nature Trust of B.C., Royal B.C. Museum, U.B.C. and the Ministry of Environment, does represent a number of organizations that study and/or protect wildlife, there is no permanent forum for involving other agencies and groups' activities which have the most effect on wildlife and habitats. Given this lack of wider involvement, three of the SOCS' seven objectives, "encouraging inter-agency cooperation," "encouraging balanced sustainable use of public and private lands and promotion of public awareness of habitats," will be difficult to fulfil.

The Royal Commission on the Future of the Toronto Waterfront

After many years of rapid population growth and degradation of the Lake Ontario shoreline, local concerns over federal policy regarding the waterfront led the federal government to create the Royal Commission on the Future of the Toronto Waterfront (Royal Commission) in 1988 (Williams, 1991, 25). Although the Royal Commission had the mandate to study only the waterfront of Metro Toronto, the Royal Commission's area of study was extended greatly to include the five Regional Municipalities centred on Metro Toronto at the request of the Ontario government (Royal Commission, 1990, 11). With this new role, the Ontario government entered into the regional study based on concerns that the land use in the entire region had adverse effects on adjacent ecosystems and particularly water

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9 For a full description of the SOCS' objective see p.7 of the South Okanagan Conservation Strategy (B.C. Ministry of Environment, 1992).
quality. By including land use and conservation planning in the entire Greater Toronto Area, the Royal Commission provides an example of the use of bioregions for a large planning strategy. In adapting bioregional theory to frame an actual planning strategy, the Royal Commission (1990, 22) uses a pragmatic, though limited, definition of a "bioregion":

The Greater Toronto Area [GTA] waterfront being investigated by the Royal Commission is part of a region that includes the watersheds of the rivers leading into Lake Ontario from the GTA. Anything that happens within this area is tied ecologically to the health of the waterfront. Therefore, to truly understand the waterfront itself, we must gain an understanding of the biological region, or bioregion, in which it lies.

The Royal Commission (1990, 22) goes on to note the importance of linking the biophysical region to the socioeconomic region by stating:

Most of the bioregion now falls within the commuter and economic orbit of Toronto. In this sense it is our home—the ecosystems in which we live, work and play.

Although the Royal Commission acted as a temporary advisory body, it made policy recommendations on a regional approach, supporting federal/provincial agency coordination for conservation planning, with an emphasis on water quality. Unfortunately, local governments were not formally part of the Royal Commission, but optionally participated in the study. Thus, the federal and provincial governments have committed themselves to adopt many of the Royal Commission's recommendations while only two of the five Regional Municipalities (Toronto and Durham) have begun to use the ecosystems approach in their planning (Williams, 1990, 28). The Royal Commission, however, provides an example of the bioregion concept being applied to a study of several watersheds occupied by a large community.
Greater Vancouver's Green Zone: An Example of a Regional District Initiative

The Greater Vancouver Regional District's Green Zone program which was developed out of the G.V.R.D.'s Creating our Future process (G.V.R.D., 1992 and 1993) is seen as an example of a local government effort to identify areas for preservation through a variety of governmental and non-governmental measures. The key to the Green Zone was the explicit realization by the G.V.R.D. that conservation must be linked to the broader region with the utilization of a range of planning functions and government bodies. In fact, the G.V.R.D. has linked the proposed Green Zone to a greenline around not only parks, but also agricultural land, many riparian habitat areas, mountain watershed areas and multiple-use recreation areas. Inside the greenline, the G.V.R.D. has recognized that conservation involves various forms of land protection aside from outright acquisition. Two Green Zone conferences were open to a wide range of individuals and governmental and non-governmental stakeholders, and thus provided a mechanism for the public to present information on what areas should be preserved in a range of forms such as parks, multiple-use forests, community watersheds, riparian habitat areas and farmland. Secondly, the Green Zone process emphasized coordination of the land use planning of the G.V.R.D.'s municipalities by requesting that member-municipalities create inventories and orientate municipal planning to the protection of lands designated as green zone. Thus, the G.V.R.D. has attempted to look beyond the numerous municipalities, provincial jurisdictions and various land tenures to protect habitat, ecological functions and outdoor recreation areas.
CHAPTER SYNTHESIS: CRITERIA FOR A REGIONAL PLANNING APPROACH

The literature related to three regional approaches to conservation planning, landscape ecology, bioregional theory and parks system planning points to several benefits of planning for smaller-scale regions. Firstly, using smaller regions based on a system of ecoregions and ecosections for shaping regional conservation planning strategies allows for better protection of ecosystems through improved representation in protected areas. Secondly, comprehensive planning of land use in watersheds allows for much more accurate determination of how land uses and resource practices affect protected areas and overall ecological functions. Thirdly, planning which takes into account the cultural and socioeconomic linkages in defining regions, helps bring together different stakeholders who are more likely to have some common interest in their region.

Thus, in addition to the first four criteria derived from the literature on conservation strategy processes in Chapter 3, the remaining criteria for a regional conservation planning strategy approach are related to the adoption and nature of a regional planning approach. Flowing from the literature on the three perspectives on the use of regions described in this chapter for a regional conservation planning strategy approach, three additional criteria are derived for evaluating the suitability of regions used for a conservation planning process.

The fifth criterion, utilize watershed boundaries for defining the region, has an historical basis in regional planning theory and is common to all three perspectives on regional planning for conservation. Parks system planning at the national level is based on the representation of natural regions, while in British Columbia it is now based on ecoregions and ecosections. Both of these approaches have incorporated watershed boundaries into their
biophysical classification systems. Similarly, landscape ecology emphasizes the use of
watersheds for bounding the study of the matrix of land uses affecting habitat and ecological
functions, while bioregional theory states that watersheds should be used in conjunction with
cultural attributes to define regions. From the literature on bioregional theory and landscape
ecology, a subsidiary question relating to the spatial orientation of the region emerges.

*Is the region based on a watershed (or basin) also shaped by the geographic limits of
a recognizable community?*

The sixth criterion, *integrate conservation and land-use planning*, is mainly derived
from the literature on landscape ecology and from critical scholarly and professional reviews
of parks system planning. Landscape ecology is based on the premise of researching and
planning for the protection of habitats and broader ecosystems in the context of the "real
world" landscape which includes protected areas and a variety of human land uses. In the
review of parks system planning, the literature points to the need to undertake compatible
land-use planning adjacent to protected areas and to link protected area planning to the
general planning in the region in which they are located. A subsidiary question to ascertain
whether conservation and parks system planning is being integrated with overall land-use
planning is:

*Are both private and public lands included in the planning process?*

The seventh criterion, *utilize an ecosystem classification system*, is derived from the
literature on landscape ecology and particularly from parks system planning. A system such
as the biogeoclimatic zone system dividing British Columbia into 14 zones and their
combined 124 subzones and variants provides a systematic framework for identifying ecosystems. The more recent ecoregion system with its 110 ecosections provides another framework based on associations of biogeoclimatic zones in watersheds at a more general level. Either of these systems should be used as a foundation for determining which habitats and landscapes are most threatened within the planning region. By doing this, areas of potential conflict and priorities for policy discussion can be formulated by the stakeholders in the planning process.
A brief description of recent provincial initiatives in conservation planning is required to give context for conservation planning at the local and regional district level. Within the provincial government, the need for a strategic approach to conservation planning became evident during the 1980's as conflicts over the creation of parks and utilization of resources increased dramatically. To address these problems, the provincial government launched a number of advisory commissions related to conservation planning. The first of these, the Wilderness Advisory Committee (W.A.C.), was created by the provincial cabinet in 1985 and reported on 26 study areas and made recommendations on protection of large areas by a variety of designations (British Columbia, W.A.C., 1986). Although the W.A.C. received submissions from over one thousand individuals and organizations and made numerous recommendations at its conclusion in 1986, it was several years until the provincial government moved to undertake comprehensive planning for provincial parks beginning with the Parks Plan '90 process in 1989.\(^\text{10}\)

After several years of increasing government indecision and public controversy over the creation of protected areas and forestry practices, the provincial government moved to create the B.C. Forest Resources Commission in 1989. The B.C. Forest Resources Commission (B.C.F.R.C.) was established as an independent provincial advisory body to the

\(^{10}\) The Parks Plan '90 process was eventually merged into the Protected Areas Strategy in May, 1992. See the following thesis section on the Protected Areas Strategy.
provincial government to make recommendations on forest planning policy. Within two years of its creation, the B.C.F.R.C. received over 1700 submissions from individuals and organizations through a series of public forums throughout British Columbia and commissioned numerous professionals and academics to write background studies on forest and conservation planning for crown land in British Columbia (B.C.F.R.C., 1991c). From this work, the B.C.F.R.C. recommended a major restructuring of forest planning and management based on a new province-wide crown land-use planning process based at the forest region and district level in its report, *The Future of Our Forests* (B.C.F.R.C., 1991c). Also in 1991, key representatives of a wide range of provincial environmental, professional and industry organizations reached consensus at the Dunsmuir II workshop and produced the *Dunsmuir Agreement* which recommended the creation of a provincial land-use commission to develop provincial sustainable land-use goals and regional plans (C.O.R.E., 1993c). In December, 1991, the B.C.F.R.C. commissioned a final major report, *Land Use Planning for British Columbia* (Ibid., 1991d), which further examined a provincial land-use planning process for crown lands in British Columbia, proposing small independent land-use commissions, reporting to the Provincial Cabinet.

**COMMISSION ON RESOURCES AND ENVIRONMENT**

Flowing from the recommendations of the B.C.F.R.C. and the Dunsmuir Agreement, the provincial government created the Commission on Resources and Environment (C.O.R.E.) in 1992 with a mandate which included making recommendations to cabinet on a provincial conflict resolution system, reports on specific resource management and planning issues, and
crown land-use planning based on large regions.\textsuperscript{11} The mandate and the role of C.O.R.E. was formalized by the passage of the \textit{Commissioner on Resources and Environment Act} in July, 1992. The commissioner’s mandate, defined in Section 4 of the \textit{Act}, emphasizes the importance of regional planning and community involvement by stating:

(1) The commissioner shall develop for public and government consideration a British Columbia-wide strategy for land use and related resource and environment management.

(2) The commissioner shall facilitate the development and implementation, and shall monitor the operation of:

(a) regional planning processes to define the uses to which areas of British Columbia may be put,

(b) community-based participatory processes to consider land use and related resource and environmental management issues and

(c) a dispute resolution system for land use and related resource and environmental issues in British Columbia.

C.O.R.E. is independent of the provincial line agencies, but advisory to government as Section 3(1) of the \textit{Act} states, "The commissioner shall advise the Executive Council in an independent manner on land use and related resource and environmental issues in British Columbia and on the need for legislation, policies and practices respecting these issues." To assist in making recommendations on planning to the provincial government’s line agencies and guide C.O.R.E.’s regional planning processes, in August, 1992, C.O.R.E. (1992) proposed a \textit{Land Use Charter} which laid out the fundamental principles for the substance and process

\textsuperscript{11} The regions selected were at the scale of Forest Regions not the Forest Districts as members of the B.C.F.R.C. had recommended in their comments on \textit{Land Use Planning for British Columbia} (B.C.F.R.C., 1991d).
of provincial land-use planning. From these principles and consultation with provincial agencies and comment from non-governmental stakeholders, C.O.R.E. derived 45 Land Use Goals for provincial land use and resource planning under the headings of resource lands, human settlement, protected areas, coastal and marine areas, transportation, energy, sustainable economic development, sustainable environment, outdoor recreation, cultural heritage and aboriginal peoples (C.O.R.E., 1994a). In outlining the major elements of a provincial land-use strategy, C.O.R.E. reflects the traditional separation of settlement planning from the provincial crown land and resource planning (see Figure 5). Yet, in regions such as the Sunshine Coast, settlement areas and crown lands subject to provincial resource agency responsibility are highly interconnected over wide areas.

C.O.R.E.'s Land-Use Planning

Land-use planning based on regions is central to C.O.R.E.'s mandate, with four regions, the Cariboo/Chilcotin, the West Kootenay, East Kootenay/Boundary and the Vancouver Island regions subject to C.O.R.E. regional processes. With these regions generally based on Forest Regions or agglomerations of several Forest Districts, mapping is at the scale of 1:250,000 to 1:500,000, with the finest level of mapping detail being 250 ha. blocks of land. (Brown, 1994). Thus, given the necessarily small scale for planning such large regions, C.O.R.E. (1994b) has developed eight very broad land-use designations for the Vancouver Island Region including: protected areas, regionally significant land, multiple resource use area (crown land), multiple resource use area (crown foreshore), multiple resource use area (private land), cultivation use area, settlement land and lakes.
Figure 5: Elements of a Provincial Land Use Strategy
Planning policies within these land-use designations, (particulary settlement land, cultivation-use areas and multiple resource-use areas) are very general and will require planning at the more local level. Given this, C.O.R.E. realizes the importance of sub-regional planning based on its province-wide Land-Use Goals and Land-Use Charter. Brown (1994) notes that planning must be undertaken through a hierarchy of regional scales from the large C.O.R.E. regions to local areas, respectively guiding broad provincial objectives to detailed site planning.

Of the four regional processes, the Vancouver Island Region will be used as an example for examining the C.O.R.E. regional planning processes as it was the only region with a plan completed at the time of writing, with biophysical and settlement patterns closely resembling those of the Sunshine Coast. The importance of conservation planning for private lands and foreshore areas along the East coast of Vancouver Island is borne out by the fact that the Vancouver Island Land Use Plan only recommends protection of less than 1 percent of the Coastal Douglas Fir biogeoclimatic zone and under twelve percent of the low elevation variants of Coastal Western Hemlock Zone which hug Vancouver Island’s settled east coast (C.O.R.E., 1994c) (see Appendix II). With respect to the limitation of protecting these populated coastal areas along the Strait of Georgia, C.O.R.E. (1994b, 118) states:

Representation in some ecosystems, however, remains low, particularly in the drier low elevation ecosystems in the north central and eastern portions of Vancouver Island. This is largely because good options for protected area representation of these ecosystems are scarce, due to past development and settlement... It is suggested that representation needs in these poorly represented ecosystems can be addressed, to a degree, through a number of initiatives, including: implementation of the PAS goal to protect special features; the negotiation of conservation covenants on key private lands; possible exchange of Crown lands for suitable private lands; and parkland acquisition through Regional Parks that include the goal of improving ecosystem representation.
Thus, it can be seen that the protection of these ecosystems is limited by the fact that they occupy some of the most heavily populated, fastest growing regions of the province and are largely located on private lands. Given this, a sub-regional approach focusing on the participation of individuals, local communities and private resource users is vital.

C.O.R.E.'s Regional Decision-Making Processes

Along with C.O.R.E.'s mandated role for provincial land use and conservation planning, C.O.R.E.'s second major role is the fostering of participatory cross-sectoral planning processes. While C.O.R.E. has a broad mandate for facilitating "shared-decision making" and establishing a "conflict resolution system" for British Columbia (C.O.R.E., 1992), the focus of this brief description will be on the use of these principles for regional land-use planning. For each region, a regional table representing major sectors in society was established by C.O.R.E. staff. In the Vancouver Island process, C.O.R.E. worked with dozens of groups with interests in provincial land-use, and through a series of meetings with these groups established 14 sectors which each represented numerous groups with similar interests. After creating this table of key sectors, C.O.R.E. guided the sector participants in developing a process design and subsequently, with the assistance of government agencies, provided technical assistance for general policy and land designation negotiations. However, while this process did bring together all the major stakeholders, the table only succeeded in developing a general policy statement, a 2020 Vision Statement and a number of sectoral scenarios. As the table was not able to develop a plan and specific policies in the time allotted, C.O.R.E. staff
used the information and policies generated by the table to recommend a land-use plan which it presented to the Cabinet and public in February, 1994 (C.O.R.E., 1994b).

Although C.O.R.E. (1994a, 62) notes that the Land Use Goals will be addressed by amending provincial policies, the question of the role of local government is highlighted by the statement:

However, the key question in relation to human settlement goals is the exact nature and effect of the goals on local governments. At the present time C.O.R.E. recommends that the Goals be considered advisory guidelines for local governments. C.O.R.E. recognizes the right of democratically elected local governments to make local land use decisions. However, C.O.R.E. recommends that the province follow the precedent of numerous other jurisdictions and set these Land Use Goals as goals for local government.

By this statement, C.O.R.E. indicates the importance it places on sustainable land-use planning at the local level, but suggests a top-down approach for ensuring that local planning must conform to the provincial Land Use Goals. However, C.O.R.E.’s recognition of the need for sub-regional and local planning points to possibly more appropriate arenas for local government involvement.

SUB-REGIONAL LAND AND RESOURCE MANAGEMENT PLANNING

While C.O.R.E. has been created to make recommendations on improving provincial policies and developing broad regional land-use plans, the line agencies of the provincial government have formed regional Inter-Agency Management Committees (I.A.M.C.) to address regional and sub-regional land use and resource management planning. I.A.M.C. are composed of senior regional managers of agencies involved in conservation, resource and land-use planning and who report directly to assistant deputy ministerial level. Two of the
key roles of the I.A.M.C. are guidance of sub-regional *Land and Resource Management Planning* and coordination of the implementation of the P.A.S. at the regional level.

The *Land and Resource Management Planning* (L.R.M.P.) process has been designated by the provincial government and C.O.R.E. as the principle sub-regional planning process for crown lands, having evolved over the last three years from the Ministry of Forests’ *Forest Land Management Planning* (See Figure 6). L.R.M.P. processes are being undertaken by regional and local office line agency staff in Inter-Agency Planning Teams (IAPT), supervised by regional I.A.M.C. and coordinated by the province’s Integrated Resource Planning Committee (I.R.P.C.) (British Columbia, I.R.P.C., 1994). While the exact relationship of sub-regional provincial planning processes such L.R.M.P. and C.O.R.E.’s regional processes has not been tested, C.O.R.E.’s regional plans are recognized to provide direction to subsequent L.R.M.P.’s while areas with completed L.R.M.P.’s will be used for development of subsequent C.O.R.E. regional plans (Owen, 1993). C.O.R.E. (1993c) suggests that sub-regional planning could be guided through a number of other flexible approaches such as local round tables, community resource boards created under provincial legislation or the extension of the scope of existing elected bodies such as regional districts. However, with the exception of several community pilot projects such as the Anahim Round Table and Slocan Valley Resource Management Plans, sub-regional planning has been left to the L.R.M.P. processes. Thus, the L.R.M.P. process, initiated by the regional I.A.M.C. of line agencies, is the principle process for providing stakeholder involvement at the sub-regional level.
Provincial Principles and Policies
- Provincial Land Use Strategy

Regional Strategies
- Regional Plans
- Basin Management Initiatives

Sub-regional Plans
- Land and Resource Management Plans

Local Plans
(as required)

Site Plans

Figure 6: Provincial Land Use Planning Hierarchy
L.R.M.P.'s have been initiated for crown land and resource management planning in twelve areas (usually consisting of one to several forest districts), representing 32 percent of the province, with planning generally at the scale of 1:100,000 to 1:250,000 (British Columbia, I.R.P.C., 1993d). As can be seen in Figure 7, the majority of L.R.M.P.'s are located in the less populated, northern parts of the province where crown land forms a greater part of the land-base, and there are smaller populations and less competition amongst interests in land use. Of these twelve processes, the Kamloops L.R.M.P. is the nearest to completion and will also implement the Protected Areas Strategy (as in all areas not subject to C.O.R.E. regional land-use planning) (Kriese, 1994). Giving direction to the L.R.M.P. process, the provincial government's primary policy document, Land and Resource Management Planning: A Statement of Principles and Process (British Columbia, I.R.P.C., 1993d) defines L.R.M.P. as "an integrated, sub-regional, consensus-building process that produces a Land and Resource Management Plan for the review and approval by government." The document outlines the following principles for L.R.M.P.:

**Participation**
- Public Participation
- Aboriginal Participation
- Government Agency Participation

**Dispute Resolution Process**
- planning for all crown land including provincial forests and aquatic land
- possible participation of local governments to give context to local planning for private lands

**Planning Area and Scale**
- planning for all crown land including provincial forests and aquatic land
- possible participation of local governments to give context to local planning for private lands
Figure 7: Major Land Use Planning Projects in British Columbia
Although the L.R.M.P. process is initiated by the regional I.A.M.C., there is provision for stakeholder involvement and the incorporation of existing community round tables and resource boards. By doing this, established networks of stakeholders can be utilized for undertaking L.R.M.P.'s., saving organizational resources. Another innovative approach of the L.R.M.P. process involves the creation of numerous smaller resource units based on biophysical and socioeconomic characteristics for which alternative scenarios are developed and negotiated upon, one-at-a-time. Lastly, the L.R.M.P. process allows for the integration of implementation of *the Protected Areas Strategy* and crown land-use planning.

**PROTECTED AREAS STRATEGY**

*The Protected Areas Strategy* (P.A.S.) has evolved rapidly over a short period of time from being strictly orientated towards a parks systems plan to being part of the province's overall land-use strategy. The P.A.S. has its beginning in the *Parks Plan '90* process which sought to meld public involvement, previous recommendations of the Wilderness Advisory Committee and B.C. Parks' analysis of representation and protection of unique special feature sites within a system of 59 *natural landscapes*.\(^\text{12}\) From this effort, 108 potential provincial park study areas for representation of the natural landscapes were selected while 539 other smaller special feature sites were identified (B.C. Parks, 1990b). Also, during 1991, the Ministry of Forests' *Wilderness for the 90's* process identified fifty-nine study areas for the creation of potential *wilderness areas* under the *Forest Act* (Searle, 1993). Given the

\(^{12}\) Refer to Chapter 4 on parks system planning for a brief description of the regional approaches used in the *Parks Plan '90* and the *Protected Areas Strategy*.  

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emerging overlap of these sectoral agency efforts, the Parks Plan '90 process was merged with the Ministry of Forests' Wilderness for the 90's process to create Parks and Wilderness for the 90's in 1991. During 1991, B.C. Parks and the Ministry of Forests conducted a public involvement process to solicit public input for additional information for further potential parks and wilderness areas, management of these areas, and the overall system planning process. At open houses and meetings in 104 communities, 11,000 people attended, while 3,500 written submissions were made to the two agencies, (B.C. Parks and Ministry of Forests, 1991) leading to the inclusion of some 295 preliminary additional study areas.

However, while work was continuing on parks and wilderness proposals by the two sponsoring agencies, the creation of C.O.R.E. presented the most important change in the direction of planning for protected areas. The P.A.S. created in May, 1992 to officially link Parks and Wilderness planning with the province's overall land-use strategy. The first comprehensive statement on this linkage, Towards a Protected Areas Strategy for B.C., identifies 112 large and 72 small study areas throughout the province based on the work of the previous planning processes. More importantly, the document states the relationship between protected areas and C.O.R.E. by noting:

Recommendations on whether to designate all or part of large study areas will be the result of comprehensive land and water use planning under the umbrella provided by the Commission on Resources and Environment... Where study areas are already being considered by local and sub-regional planning, that work will continue and may be enhanced by guidelines that evolve from the work of the Commission and from the Protected Areas Strategy... Small study areas, generally proposed as parks to meet recreation goals, tend to involve only site-specific land use issues. Most of these will be resolved through normal inter-agency referrals and review with interested parties (B.C. Parks and Ministry of Forests, 1992).
Thus, the provincial government had finally officially linked its protected area planning with broader crown land-use planning and other provincial strategies such as the Old Growth Strategy. Going further to explain the role of protected areas in British Columbia’s land use strategy, the province published in 1993, *A Protected Areas Strategy for British Columbia* (British Columbia, PAS Office, 1993a) which explains the role of the P.A.S. as setting the direction for protected areas policy, future legislation and the identification of study areas for C.O.R.E. and other sub-regional processes to consider for implementation. The P.A.S. recommends the designation and removal of future study areas based on the P.A.S.’s overriding goal of representation of ecossections and special features and proposes interim management guidelines for use of lands within these areas (Mitchell, 1994).

In undertaking these tasks, the provincial P.A.S. office mainly fulfils the function of cross sectoral agency coordination for protected areas. At the provincial level, the P.A.S. office provides a secretariat to an assistant deputy minister’s committee which also coordinates L.R.M.P. policy for the province and reports to the Cabinet Committee on Sustainable Development. Also, the seven regional Inter-Agency Management Committees (I.A.M.C.) who are responsible for guiding L.R.M.P.’s also guide Regional Protected Areas Teams (R.P.A.T.). R.P.A.T.’s, in turn, provide technical support for refining and designating P.A.S. study areas through gap analysis[^13] to the I.A.M.C. and C.O.R.E. as well as coordinate the limited public involvement in areas not subject to C.O.R.E. planning or L.R.M.P.’s.

[^13]: "Gap analysis" is defined as "systematic application of goals and criteria to determine what resources or values are currently protected and what needs to be protected" (British Columbia. PAS Office, 1993b, 6).
Although C.O.R.E.'s regional planning and the sub-regional L.R.M.P. processes are charged with implementation of the P.A.S., the work of the R.P.A.T. teams outside these areas has involved limited public involvement, allowing non-governmental organizations and individuals to make recommendations for "areas of interest." Of particular importance, it should be noted that the regions which do have the benefit of C.O.R.E. regional process or sub-regional L.R.M.P.'s are largely in the southern interior and mainland south coast where there are the greatest population densities and the greatest number of conflicting interests for the use of public and private lands. In the Thompson-Okanagan, for example, the Canadian Parks and Wilderness Society (CPAWS) undertook the first of a series of eight regional campaigns for protected areas. CPAWS notes the very limited amount of protected area currently allocated on an eosection and ecoregion basis, with less than 1 percent of the Thompson-Okanagan Plateau Ecoregion being protected and less than 6 percent remaining roadless (CPAWS, 1992). Because of the level of agricultural, forestry and urban development in this region, CPAWS recognizes that many smaller protected areas and semi-protected wildlife corridors are required.

From the above, it can be seen that the P.A.S. has evolved into a process for mainly providing assistance to those provincial agencies directly involved in comprehensive crown land use planning at the larger provincial regional level. Commenting on the P.A.S., Morrison and Turner (1994, 355) state:

Protected areas are an indispensable tool for preserving examples of much of British Columbia's natural diversity. Protected areas alone, however, are not enough. They will succeed in attaining their conservation objectives only if management of the surrounding land is compatible with those objectives... Other requirements are: comprehensive analysis of their ecological health; more active long-term management programs; regional strategies and greater cooperation with land managers beyond the
protected area boundaries; and the establishment of linkages between protected areas and buffer zones between protected areas and adjacent lands.

Given this, government is challenged to find appropriate methods of integrating the work of the P.A.S. with planning at both the provincial level and local levels in the most populated southern areas of the province.

**EVALUATION OF THE PROVINCIAL CONSERVATION PLANNING FRAMEWORK**

The evaluation of the provincial framework for conservation planning illustrates the need for alternative conservation planning processes at the local level for rapidly developing regions at the rural/urban fringe in British Columbia. Thus, the following evaluation is not the primary focus of the thesis, but instead provides the context for the case study of the Sunshine Coast Region. As the evaluation is not the primary focus of the thesis and is qualitative in nature, it is based on published policy documents and reviews of parts of the framework by other authors.

Within the provincial framework, C.O.R.E.'s regional planning, the sub-regional L.R.M.P. process and the P.A.S. (in areas not subject to C.O.R.E. or L.R.M.P. processes) are evaluated. As these are complex and rapidly evolving processes, the following evaluation is brief and based on policies which may have changed since the review of policy documents was undertaken. The evaluation of these processes is conducted by measuring whether provincial policies utilize or support principles which satisfy the criteria derived from the literature review. Given the rationale for each of these criteria in the literature, this
evaluation will help determine how well the processes support effective planning for the protection of habitat and ecological functions.

**Multiple-Stakeholder Consensus-Based Process**

The first criterion, *multiple-stakeholder consensus-based process*, is the most important of the four process criteria as the three following process criteria are dependent on it. In general, C.O.R.E.’s policies for the conduct of its large regional planning processes meet this criteria, but encounter difficulties in practice. The L.R.M.P. process is also based on the premise that all major stakeholders should be involved in a consensus process. The design of the L.R.M.P. process for incorporation of existing community round tables and resource boards provides a major improvement over previous government policies on public participation in resource planning (see Brenneis, 1990; Duffy, 1990; Vance, 1990; Gunton and Vertinsky, 1992). The P.A.S., when implemented through both C.O.R.E.’s large regional planning processes and the provincial government’s sub-regional L.R.M.P. processes, also relies on a consensus-based process. However, in the large provincial administrative regions or sub-regions not subject to either C.O.R.E. or L.R.M.P. planning, the P.A.S. recommendations of the Regional Protected Area Teams (RPAT) can be implemented by the provincial government’s regional Inter-Agency Management Committee (I.A.M.C.) without a consensus-based process. Thus, the P.A.S. alone can not be evaluated against the criterion of consensus-based process. Aside from the general review above, several questions for more specifically evaluating the effectiveness of the provincial framework in meeting the criterion are posed.
Does the process include representatives of all major stakeholders?

Both C.O.R.E.'s regional planning and the sub-regional L.R.M.P. processes place heavy emphasis on involving as many major stakeholders as possible. Due to the complexity and huge geographic size of C.O.R.E.'s regional processes, an extensive process of aggradation of the various interests into a few groups has been required. In the case of the Vancouver Island regional process, C.O.R.E. staff held meetings to allow the numerous diverse stakeholders to select representatives for the 14 sectors at the table. In the L.R.M.P. process, the size of the plan area can range in size from one forest district to an agglomeration of districts, but the smaller populations and more local nature have allowed for direct representation of more stakeholders (Kriese, 1994). Thus, the issue of accountability of the representatives can be less of a concern than in C.O.R.E.'s regional processes.

Is there negotiation on the process before the substantive issues are negotiated?

C.O.R.E.'s support of consensus decision-making is evidenced in the regional planning processes to a moderate degree. While the timeline for negotiations, the selection of representatives and the responsibility for drafting the final plan are vested in the C.O.R.E. staff, the design of the process for negotiation has been left mainly to stakeholder representatives who created various subcommittees and working groups (C.O.R.E., 1994b). L.R.M.P. policy lays out a formal format for line agency initiation, process organization and resource unit "scenario development", but allows for flexibility in designing the "building agreement stage" in which actual negotiation takes place (British Columbia, I.R.P.C, 1993d).
Is there sufficient third-party assistance, technical information and other resources provided to all stakeholders?

With respect to assistance to individual representatives, Susskind and Cruikshank (1987) note their concern regarding "advocacy science" and state that assistance should be limited to process and basic logistical assistance to the group to allow representatives to attend meetings and conduct effective negotiations. C.O.R.E. provides facilitators for the regional round tables and also provides technical assistance from line agencies for generating alternative plans for discussion. L.R.M.P. policy provides for existing line agencies to provide much of the actual research as their local staff have the expertise, resources and local knowledge. However, provision for external socioeconomic analysis undertaken by consultants is made by L.R.M.P. policy (British Columbia, I.R.P.C., 1993c). Also, the key policy document, Principles and Processes for L.R.M.P. (British Columbia, I.R.P.C., 1993d) states that assisted negotiation by external professionals should be an option. However, in practice, Ministry of Forests personnel are the main source of facilitators, in addition to providing other technical assistance due to the agency's presence in most small communities and the lack of funds to hire outside professionals (Cooperman, 1994b, Kriese, 1994).

Are the stakeholders encouraged to undertake principled negotiation?

C.O.R.E.'s Land Use Charter and other provincial policy statements promote the use of principled negotiation for both its regional planning processes and other provincial government planning. L.R.M.P. policy also states the importance of principled negotiation by referring to the principles of consensus processes provided by the Dispute Resolution Core Group of the B.C. Round Table on the Environment and Economy (British

Is there an implementation agreement with stakeholder and political commitment?

Both C.O.R.E.'s regional planning and L.R.M.P. process are advisory and rely on government for adoption and implementation. Although Susskind and Cruikshank (1987) recommend that consensus processes be advisory to government, there is some risk in this approach. In a survey of the Vancouver Island C.O.R.E. table representatives by the Outdoor Recreation Council of B.C. (O.R.C.B.C., 1994), one representative states:

Had we reached consensus, the Table’s recommendations would have been irresistible to government. As consensus was not achieved, politicians will not have a strong direction and will be more susceptible to being swayed by short-term political considerations.

Also, with respect to the advisory nature of C.O.R.E., there is concern that despite C.O.R.E.'s official advocacy of bottom-up planning, through regional and community involvement, the long-established pattern of top-down sectoral agency planning will continue. In a review of C.O.R.E., Sue Austen and Peter Tassie (1992, 13) state:

...there has been an accumulation of resentment between provincial and local governments. If any meaningful results are to be produced, there will surely have to be more give and take than there has been in the past, as the authority for Crown land allocation still rests with the province despite the suggested shared decision-making process.

Thus, if there is not strong government support of the process and acceptance of the consensus or even partial agreement reached through the regional round tables, the process will lose legitimacy. In the case of C.O.R.E.'s Vancouver Island process, the round table was
able to reach only partial consensus on general goals and policies. C.O.R.E. staff were left to write the final report and complete the land-use map based on information on the various interests and preferences generated by the stakeholders in the process (C.O.R.E., 1994b). However, although C.O.R.E.'s regional plans are recommendations to the provincial government, the broad-based involvement and amount of effort devoted to the processes necessitated that government and the stakeholders generally support the report's recommendations.

With respect to L.R.M.P.'s, the adoption of the plan rests with the regional I.A.M.C. and an Assistant Deputy Ministers' Committee of the participating agencies. While the government has the option to make changes in the L.R.M.P. developed by the stakeholders, the heavy representation of government agencies in the processes which receive authorization for the initial L.R.M.P. terms of reference and the Assistant Deputy Minister level would likely ensure a fairly high degree of government support.

Cross-Sectoral Agency Coordination

The second process criterion, **cross-sectoral agency coordination** is vitally important as numerous provincial agencies and local governments are involved in conservation planning. All three provincial processes support this criterion in both policy and practice. To help assess how well this criterion is satisfied by the provincial processes, the following questions should be answered:
Is there a lead agency or prominent individual occupying a leadership role for the process?

C.O.R.E. acts as a superordinate advisory body to the provincial cabinet and reports to the Cabinet Committee on Sustainable Development, thereby ensuring coordination of agency policy at the Ministerial level and at the top of the bureaucratic hierarchy. Also, there is a government representative on each regional round table to represent the line agencies and assist in providing technical assistance to the other participants (C.O.R.E., 1994b). The L.R.M.P. process involves all key provincial and federal agencies responsible for conservation and crown land-use planning in each plan area. The I.A.M.C. which has senior manager representatives of all major provincial resource and environmental agencies takes on oversight and leadership roles. The local Inter-Agency Planning Team (I.A.P.T.) is charged with the actual preparation of an L.R.M.P., but reports to the regional I.A.M.C. In the P.A.S., the R.P.A.T. also reports to the regional I.A.M.C. and the provincial Protected Areas Coordinating Team. Thus, the leadership role for the regional level P.A.S. planning appears less clear. In sum, the L.R.M.P. model provides the best arena for balancing leadership and individual agency autonomy as represented by the "alliance model" of coordination advocated by Mulford (1988). Given this, the P.A.S. most adequately reflects the criterion when protected areas planning is undertaken in conjunction with L.R.M.P.

Do the agency participants strive for a transdisciplinary approach?

The C.O.R.E. regional planning process emphasizes a transdisciplinary approach. As government agencies are represented by one representative at the regional round tables, the government representative must have a general understanding of the various disciplines and
specializations in the various line agencies. Also, the line agencies' personnel seconded for providing technical assistance to the regional round table must be drawn from a range of disciplines to prepare information for the stakeholders. More generally, C.O.R.E. has supported a transdisciplinary approach by the development of its Land Use Goals which are intended to guide provincial agencies and local governments in the formulation of their respective polices (C.O.R.E., 1994a). By seeking the participation of provincial and major federal agencies in developing shared land-use goals, each agency should be forced to review and better understand other agencies' policies and their technical basis to ensure that their goals do not conflict with other agencies' goals at a high level.

A transdisciplinary approach is supported more directly by the involvement of all major agency representatives in the I.A.P.T. working on the concrete policies in the L.R.M.P. process. Thus, social learning as discussed by Schon (1971) and Friedmann (1987) is fostered by assembling a group of diverse agency professionals who regularly meet together on a specific project. Unlike the C.O.R.E. regional planning processes, the various line agency representatives are directly involved in the multi-stakeholder consensus process and must gain a mutual understanding of their respective areas of expertise and jurisdiction when negotiating on policies with outside groups. In contrast to the C.O.R.E. and L.R.M.P. processes, the P.A.S. achieves a transdisciplinary approach in a much more limited way. The representation of disciplines in the staff members on the R.P.A.T. is limited in size and breadth. Unlike the C.O.R.E. and L.R.M.P. processes which take a broader, holistic approach to land-use and protected areas planning, the P.A.S. is primarily designed to make recommendations on one specific land use. To improve the integration of the P.A.S. with
other processes, the provincial P.A.S. Office has been incorporated into the provincial Land Use Coordination Office. Thus, the P.A.S. must be fully integrated with the regional and provincial processes to be able to fully undertake transdisciplinary planning when designating park study areas and actual protected areas.

**Broad-Based Public Involvement**

The third criterion, *broad-based public involvement*, is required to be included in a process to ensure that a full range of public interests and values are incorporated into a regional conservation planning strategy. Aside from the involvement of major citizen groups in a consensus process outlined under the first criterion, it should be asked:

*Is there a consultation and information program for members of the general public?*

C.O.R.E.'s regional planning processes do not provide for any broad-based public involvement prior to the initiation of the process or during the meeting of the regional round tables. Starting with the early aggradation of interest groups into a limited number of sectors by C.O.R.E., the process focuses on negotiation among key sectoral or stakeholder representatives. The stakeholder representatives are relied upon to transmit information on the substance of the processes to constituents in their respective organizations. While some sectors such as the local government sector and the outdoor recreation sector provided short monthly newsletters to affiliated interest groups and some interested individuals (A.V.I.A.M., 1994; O.R.C.B.C., 1994), the general public was not consulted nor involved in the process of drafting the plans. While the lack of general public involvement may be designed to prevent distraction of the representatives during sensitive negotiations, the public airing of a
completed plan to the general population does not support informed discussion. In this vacuum of general public knowledge about the process and plan, misunderstanding and misinformation can be spread.

L.R.M.P. policy allows for more public involvement in the planning process than does C.O.R.E. Although the I.R.P.C.'s Public Participation Guidelines (1993c) lay out a fairly specific groundwork for initial contact with the general public to seek out all major stakeholders, further participation of the general public is optional. The option of providing for broader public involvement is left to the I.A.P.T.’s perception of the level of understanding and interest of the general population (Ibid., 1993b). Also, as L.R.M.P.’s are undertaken at a more local level, the stakeholders can represent a greater proportion of the various interests and values in the general population and are more able to communicate with their constituents than representatives in the C.O.R.E. process. Lastly, with respect to the P.A.S., the general public has only been given two formal opportunities for involvement over the last three years. The first extensive province-wide opportunity was granted in the spring of 1991 under the Parks and Wilderness for the 90’s process. Since the P.A.S. was formed in May, 1992, the R.P.A.T. have been responsible for conducting research for the designation of protected areas. In the Lower Mainland Region, the R.P.A.T. has only offered one formal opportunity for the public to meet with agency personnel and to allow for the submission of nominations of "areas of interest" in March, 1994 (B.C., I.A.M.C., Lower Mainland Region, 1994). Aside from this limited involvement, the general public and interest groups have only been invited to help plan for single study areas in an adhoc manner through processes such as the Ministry of Forests’ L.R.U.P.
Non-Governmental Partnerships

The fourth criterion, *non-governmental partnerships*, provides a means for evaluating the building of long-term commitment of those outside government for implementation of the strategy. The literature provides for two main questions to determine whether a process encourages non-governmental partnerships.

*Is non-governmental assistance in monitoring and implementation proposed or being undertaken?*

None of the processes formally utilize or advocate the utilization of non-governmental assistance in monitoring implementation. No organized effort for involving stakeholders in monitoring for environmental standards or in the implementation of substance of the plan is proposed. While the C.O.R.E. regions are likely too large and diverse to allow direct involvement of the stakeholders' representatives, there could be policies encouraging the line agencies to solicit assistance from stakeholders at the local or sub-regional level. Similarly, the L.R.M.P. policy makes no provision for non-governmental assistance in monitoring, although the smaller geographic scale of the L.R.M.P. plan areas would make this more practical. With respect to L.R.M.P.'s, Jim Cooperman, a member of the British Columbia Environmental Network and the Kamloops L.R.M.P. committee, notes the desire for an ongoing forum by stating:

One of the best outcomes of the LRMP process has been the building of trust and cooperation between the various sectors concerned with forest land management. This new and improved relationship should continue. Land-use planning always exists on a continuum... I suggest that rather than disband the group at the end of the process, we should break into two permanent community resource boards [one in Clearwater and one in Kamloops] (Cooperman, 1994a).
Unfortunately, a forum for on-going public involvement in the monitoring and implementation of the L.R.M.P.'s is not provided. L.R.M.P. policy only makes reference to the need for public involvement for discussion of amendments (British Columbia, I.R.P.C., 1993d), but makes no specific provision for ongoing community and non-governmental partnerships. As the P.A.S. is primarily concerned with designating study areas, but is not involved with the management of parks, stakeholder involvement in monitoring would not be directly applicable. However, the P.A.S. when making recommendations on protected areas legislation, should encourage partnerships for monitoring.

Are there non-governmental stakeholders involved in conservation projects or are projects being proposed as a result of the process?

Neither C.O.R.E.'s regional plans and Land Use Goals nor the line agencies' L.R.M.P. policies make provision for the involvement of non-governmental stakeholders in the creation of demonstration projects. The only implicit reference to non-governmental participation is made with reference to the role of local governments in shaping development to preserve green space and natural features (C.O.R.E., 1994a, 56-63). The role of government to protect the environment from private interests is emphasized, but C.O.R.E. and L.R.M.P. policies do not encourage the use of proactive non-governmental organizational support for implementation. The 1993 P.A.S. policy document, A Protected Areas Strategy for B.C., makes no reference whatsoever to any non-governmental partnerships. Given the growing movement towards private stewardship by organizations such as the Nature Conservancy of Canada and the B.C. Nature Trust, the provincial government is missing an opportunity for protecting areas, particularly in the more settled parts of the province. Furthermore, by not
taking advantage of non-governmental assistance in the implementation of the various planning processes, government agency resources are further strained. In sum, this criterion is the least supported of the four process criteria for a regional conservation planning strategy approach.

Utilize Watershed Boundaries for Defining the Region

The fifth criterion, *utilize watershed boundaries for defining the region*, is important for shaping the substance of conservation planning. The C.O.R.E. regional plans are based primarily on the provincial government's seven environmental management regions. These regions usually include groups of watersheds feeding into basins, but do not include entire river basins. The Vancouver Island Plan is the exception in that it covers an entire island with many small watersheds draining into the ocean. L.R.M.P.'s are based primarily on forest districts or groups of forest districts which include numerous smaller watersheds and sub-basins. Similar to the C.O.R.E. process, P.A.S. planning is based on the seven provincial environmental management regions, but with boundaries substantially modified by realignment in accordance with major ecossection and ecoregion boundaries close to the administrative boundaries. As ecoregion boundaries are largely based on watershed boundaries unlike the biogeoclimatic zone system (see Chapter 4), the P.A.S. regions also largely follow watershed boundaries. From the literature on bioregional theory and landscape ecology, a subsidiary question relating to the spatial orientation of the region emerges.
Is the region, based on a watershed (or basin), also shaped by the geographic limits of a recognizable community?

Under the C.O.R.E. process, the general boundaries of the planning region are initially set by C.O.R.E. itself and are again based on the government’s large environmental management regions. The stakeholder representatives, however, in cooperation with C.O.R.E. staff have adjusted boundaries. The large geographic size and consequent diversity of communities in the regions presents a problem of defining any sort of a collective identity similar to that postulated by bioregional theory. In practice, for example, the small resource-based communities of northern and western Vancouver Island are grouped into the same region with very different metropolitan and urban areas of south-east Vancouver Island. In the Kootenay Region, the differences between the western and eastern parts of the region led to the splitting of the table into two smaller regional tables (O.R.C.B.C., 1993). With respect to L.R.M.P., the size of the plan areas are smaller than C.O.R.E.’s regions and are usually centred on one major town. Although L.R.M.P. have a more local orientation, the boundaries of the L.R.M.P. are often arbitrarily preset by the Ministry of Forests, using their forest district boundaries. In general, all three provincial policy frameworks largely utilize existing administrative regions which use groupings of smaller watershed boundaries. However, providing involvement of local communities in defining plan areas, could improve community support for the process.

Integrate Conservation and Land-Use Planning

The sixth criterion, integrate conservation and land-use planning, is vital for determining whether the process takes an holistic approach to the substance of the planning.
The C.O.R.E. regional planning processes make general recommendations for seven land-use designations with policies being consistent with the superordinate principles of sustainability contained in the *Land Use Charter* and *Land Use Goals* (C.O.R.E., 1994a). However, the large geographic areas and the generality of the land-use planning designations leave much room for interpretation by local offices of line agencies and local governments. At the other end of the geographic spectrum, provincial legislation for site-specific planning and management has been improved. The provincial government has introduced a number of policies such as the *Forest Land Reserve Act*, the *Forest Practices Code Act* and the *Stewardship of the Water of British Columbia* initiative to improve standards and coordination of environmental management among agencies.

Given the generality of C.O.R.E.'s regional planning, the provincial government has designated the L.R.M.P. process as the main forum for sub-regional planning at somewhat larger scales of 1:100,000. By following C.O.R.E.'s *Land Use Goals*, this process may prove very valuable for conservation of habitats and ecological functions. Although L.R.M.P. policy attempts to promote integration of land-use planning and conservation, L.R.M.P. is strategic in nature and relies on "resource units" which include general management regimes for land within the unit but do not provide for specific, designated land uses. In spite of this generalized approach to land use planning, the L.R.M.P. process provides the best provincial framework for satisfying the criterion of integrating of conservation and land-use planning.

In the C.O.R.E. regions and the L.R.M.P. areas, the integration of P.A.S. implementation and crown land-use planning addresses a major weakness of the past policies of sectoral resource management and separate parks systems planning. However, when being utilized in areas not
included in these planning processes, the P.A.S. process does not adequately link land-use planning and conservation. The only link between conservation and land-use planning in the P.A.S. (when working alone from the other processes) comes from interim management guidelines for "study areas" which restrict the amount of resource extraction and issuance of private tenures until the final determination of the boundaries of a protected area are made.

A subsidiary question to ascertain whether conservation and parks system planning is being integrated with overall land-use planning is:

Are both private and public lands included in the planning process?

As noted above, the C.O.R.E. regional planning processes make very broad policies for a number of land-use designations. However, from the Vancouver Island Land Use Plan (C.O.R.E, 1994b), it can be seen that the majority of private lands are located in one broad designation, "settlement lands." While there are general recommendations in the regional plans for conservation and habitat protection within the "settlement lands", the planning for private lands is largely left to local governments due to the small mapping scale of C.O.R.E.'s planning. At the sub-regional level, L.R.M.P. policy makes a vague provision for the participation of local governments who are largely responsible for regulating private lands. Also, the policy states that L.R.M.P. is designed to plan for crown land use and generally provide a context for local government planning (British Columbia, I.R.P.C, 1993d). There is no formal linkage of municipal and regional district planning for settlement lands and non-resource use of crown lands to sub-regional planning. In practice, the large, sparsely settled areas and lack of intense development in the areas already subject to L.R.M.P.'s may
contribute to omission of planning for settlement areas. However, the I.R.P.C. is studying the possibility of adapting the L.R.M.P. planning format for the more populated and complex regulatory environments of the south coastal areas of British Columbia (Truscott, August, 1994). In short, the L.R.M.P. process provides an innovative mechanism for crown land and resource planning, but, in its present form, would not effectively integrate local planning for private lands at the finer scale within areas such as the Sunshine Coast Regional District.

**Utilize an Ecosystem Classification System**

The seventh criterion, *utilize an ecosystem classification system*, should be fulfilled to ensure that the various landscapes and ecosystems of a region are studied and included for appropriate discussion by the stakeholders. Given the importance of preserving biodiversity by identifying and protecting threatened ecosystems as outlined in Chapter 4, it is important to note that C.O.R.E. and the P.A.S. both extensively use ecosystem classification systems in their analysis. More importantly, such systems should be used to guide the planning of the majority of land use outside protected areas. While the P.A.S. does not address land use outside of protected areas, the P.A.S. provides assistance to C.O.R.E. in identifying the proportion of ecosystems which are currently included and are proposed to be included in protected areas. However, from the experience of the *Vancouver Island Land Use Plan* (C.O.R.E, 1994b) the ecosection classification system has not been fully employed as a rationale for creating protected areas, leaving some ecosections grossly under-represented with well below 12 percent representation (see Appendix II). The provincial government has
committed that protected areas cover at least 12 percent of the province and each of the seven P.A.S. regions, but does not guarantee that at least 12 percent of each ecoregion is protected due to a large number of competing land uses in some areas (C.O.R.E., 1994b; British Columbia PAS Office, 1993a and 1993d).

L.R.M.P. policy does not make specific reference to the use of systematic ecosystem classification systems. However, the government is developing policies on resource analysis while the Coastal Task Force is developing an ecosystem classification for marine areas (Truscott, Sept. 1994). As the P.A.S. extensively utilizes the ecoregion classification system for proposing study areas for protected areas, this information is indirectly utilized in the L.R.M.P. process when it is used to implement the P.A.S. Also, the finer-scale biogeoclimatic zone system has been used by the Ministry of Forests in their management policy for several years (Meidinger and Pojar, 1991), and thus could be used by Ministry staff who play a central role in the L.R.M.P. process. However, given the lack of government policy for 12 percent representation of all ecoregions, the linkage of conservation and land-use planning and promotion of non-governmental partnerships outlined under the previous criteria are even more important.

CHAPTER SUMMARY

The recent provincial planning initiatives meet more of the criteria for a regional conservation planning strategy approach than previous government policies for conservation planning. In particular, the emphasis on multi-stakeholder consensus process is incorporated into the L.R.M.P. and C.O.R.E. policies. Also, all three provincial initiatives support cross-
sectoral agency coordination. The L.R.M.P. process is the most supportive of a transdisciplinary approach while C.O.R.E. allows for the strongest leadership. The criterion of broad-based public involvement is somewhat less well supported by the provincial initiatives, with the L.R.M.P. process most effectively utilizing broad-based public involvement of both stakeholders and the general public. Finally, the criterion of non-governmental partnerships is not adequately supported by the provincial framework in any substantive way.

With respect to the criteria related to regional planning approaches to conservation, the provincial framework does support the use of watershed boundaries, although seldom are intact basins included in planning areas. With respect to integrating land-use planning and conservation, both the C.O.R.E. and L.R.M.P. processes satisfy this criterion. However, the P.A.S., when used for direct planning of protected areas, does not support this criterion. Lastly, the P.A.S. extensively uses an ecosystem classification system. The C.O.R.E. regional processes also utilize the ecosystem classification system in conjunction with the P.A.S., while the L.R.M.P. process makes less direct use of an ecosystem classification system. None of the processes, however, guarantee a minimum level of representation of each ecossection in protected areas. Given the above, the L.R.M.P. process likely provides the best framework for supporting a regional conservation planning strategy approach for the protection of habitat and the conservation of ecological processes.
CHAPTER 6
THE SUNSHINE COAST

INTRODUCTION

Given the review of the literature, and an examination of the provincial government's framework for conservation planning in Chapter 5, conservation planning at the local regional district level will be evaluated. The Sunshine Coast provides a classic example of the need for an approach which includes both provincial and local government coordination of planning for habitat and ecological protection. The performance of an innovative cross-sectoral approach, the Sechelt Inlets Coastal Strategy, is examined and evaluated against the criteria for effective conservation planning developed in the literature review.

The General Setting of the Sunshine Coast Region

The Sunshine Coast Regional District lies to the north-west of the Greater Vancouver Regional District, occupying a 3879 km² area between Howe Sound and Jervis Inlet and the Strait of Georgia. The S.C.R.D. largely includes the watersheds of Jervis and the Sechelt Inlets, but also includes land draining into the outer coast along Georgia Strait and the western side of Howe Sound (see Figure 8). Within the S.C.R.D., 78 percent of the region’s land base is crown land located within the Sechelt Provincial Forest. At the lower elevations within five kilometres of the Strait of Georgia and Howe Sound, and in smaller pockets along Jervis and the Sechelt Inlets, the majority of land is private and non-provincial forest crown land. Generally, the settled areas of the region follow Highway 101 for approximately 90 kilometres along the outer coast of the Strait of Georgia from Howe Sound to the entrance of
Figure 8: The Sunshine Coast Regional District
Source: British Columbia, Ministry of Municipal Affairs, Recreation and Culture (1990)
Jervis Inlet. The most common uses of private land are rural and suburban residential followed by private managed forest and resource lands, with additional small urban commercial areas and a few large resource industrial areas. In the coastal foreshore, the main uses established by term-limited crown tenures include log handling and storage, private boat moorages, finfish and shellfish aquaculture, public wharfs and several large industrial loading/unloading facilities.

The Sunshine Coast Regional District (S.C.R.D.) is one of just a few regional districts in British Columbia undergoing a change from a mainly rural, resource-based economy to service-oriented suburban/exurban economy. Increasingly, people are seeking alternative "country" lifestyles and are moving to the Sunshine Coast as a retirement community, while others are commuting to Vancouver or relocating small, specialized footloose service businesses to their homes (Sunshine Coast Economic Development Commission, 1992). With this influx of permanent and seasonal residents, the pressure for residential and recreational development has increased steadily for several years. From 1986 to 1991, the population of the entire Sunshine Coast Region increased 24.0 percent to 20,785, the fourth highest rate of increase among British Columbia's 28 regional districts (Statistics Canada, 1993). With an estimated annual population growth rate of 4.3 percent annually to the year 2011 (S.C.R.D. Planning Dept., 1994), the current pressures on the land base will continue to remain, if not increase.

The rapid population growth accompanied by the migration, and the search for rural or wildland areas noted above has led to a diffuse population distribution. Unlike many regional districts where the majority of residents reside within an agglomeration of urban
municipalities as is the case with the Greater Victoria and Vancouver areas or in a few small isolated municipalities as is the case with more remote regional districts, over one-half of the population of the Sunshine Coast Region lives outside of the municipalities. With this distribution of population and complex matrix of rural, suburban, resource and wilderness land uses in a relatively small region, increasing conflict has arisen over the protection of habitat and general environmental quality.

**Summary of Local Threats to the Sunshine Coast Region**

While the Sunshine Coast Region is largely covered by crown land, the coastal and lower elevation areas represented by the Coastal Douglas Fir and drier sub-variants of Coastal Western Hemlock biogeoclimatic zones have the greatest diversity of uses, tenures and private development. Harding and McCullum (1994b, 237) note the Coastal Douglas Fir biogeoclimatic zone constitutes one of British Columbia’s four most endangered ecosystems.°

More specifically, the amount of the Sunshine Coast’s land base represented within "protected areas" has been the focus of concern for the S.C.R.D. for several reasons. Firstly, like the East Coast of Vancouver Island and Thompson-Okanagan regions, the total area devoted to protected areas is very small. Currently, only approximately 1850 ha.(0.48 percent) of the Sunshine Coast Regional District’s 3879 km² area is represented in protected areas. Secondly, there is poor representation of a number of ecosections in the provincial

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14 Harding and McCullum (1994b) base their assessment of endangered ecosystems on the percentage protected in parks and the percentage fragmentation of the non-protected lands by roads. Non-fragmented ecosystems are considered to exist when two-wheel drive roads are located further than 1 kilometre from an area of over 1000 ha. in size.
environmental management region (the Lower Mainland Region) in which the S.C.R.D. is located with a total of only 4.8 percent of the entire Lower Mainland Region being represented in protected areas (B.C., Lower Mainland Region, R.P.A.T., 1994). These ecossections, the "Southern Pacific Ranges," "Strait of Georgia" and "Georgia Lowlands," ecossections all have less than one percent representation in the S.C.R.D. Within the Strait of Georgia Ecossection, and the coastal edge of the Georgia Lowland Ecossection lies the threatened Coastal Douglas Fir Biogeoclimatic Zone of which less than one percent is protected throughout the Lower Mainland Region. The Strait of Georgia and Georgia Lowland Ecossections are two of the least represented ecossections in the provincial parks system. Thirdly, increasing outdoor recreational demand may jeopardize existing protected areas given the very small area devoted largely for both conservation and recreation purposes. Between 1987 and 1993, B.C. Parks reports the number of day-use party visits to the Sunshine Coast experienced an increase from 84,288 to 109,339 (B.C. Parks, 1987 & 1993).

With respect to the coastal foreshore, there has been increasing pressure not only for protection of natural habitat, but also overall water quality. Lambert (1994) reports that the British Columbia coast has one of the greatest diversities of marine invertebrates of any temperate coastal region in the world with about 6,555 species. While extensive development has occurred around the Georgia Basin and localized loss of habitat and chemical contamination have occurred, there is very little understanding of the impacts of these perturbations and future development on the larger region’s marine ecology (Lambert, 1994; Harding, 1994b). Furthermore, McPhee and Wolfe (1993) note that 72,000 ha. of the British Columbia coast are closed to shellfish harvesting primarily due to sewage contamination with
a "trend towards greater closures." In the Sunshine Coast Region, the Ministry of Environment, Lands and Parks (M.O.E.L.P.) in a study of water quality in Pender Harbour in 1992 and Sechelt Inlet in 1993 note that localized bacterial contamination from a relatively few permitted point sources and numerous non-point sources such as septic fields and vessel discharge are the primary water quality concerns (B.C., M.O.E.L.P., Water Quality Branch, 1993). With respect to its assessment of Sechelt Inlet, the M.O.E.L.P. (Ibid.,1993, 4) states, "Current water quality is adequate for designated water users in most parts of Sechelt Inlet," but proceeds to caution, "Natural characteristics of Sechelt Inlet give it a moderately high pollution potential. There will be continued pressures for residential, commercial and recreational growth, leading to increased conflicts with water uses and resources. Recommendations of the 1987 Sechelt Official Community Plan and the 1990 Sechelt Inlets Coastal Strategy ... should be supported."

The Local Government Framework for Conservation Planning

The following description of legislation and local institutions provides only a brief summary to give context for conservation planning in the Sunshine Coast Region. While general legislative powers and jurisdiction for conservation planning are examined, day-to-day management processes of local government are not explored in detail.

In the Sunshine Coast Region, the Sunshine Coast Regional District provides both regional planning functions for the entire region and local community planning for those areas outside of the Sechelt Indian Government District and the municipalities of Sechelt and Gibsons which occupy a total area of approximately 55km². Although the provincial
government abolished regional plans and regional district Technical Planning Committees composed of local governments and provincial agencies in 1983 through amendments to the Municipal Act, less formal regional planning has been exercised since that time. The S.C.R.D. undertakes regional planning activities involving the municipalities and provincial agencies under Section 787 of the Municipal Act which allows regional districts to undertake "regional district development services consisting of coordination, research and analytical services relating to the development of the regional district." While this section does not explicitly set out regional planning as a function, it allows for municipalities to voluntarily participate and fund region-wide planning. Speaking to this process of separating regional and local functions, Robert Bish (1991, 38) states, "The net result is a system of representation and voting rules that requires a relatively high level of consensus for general regional board activities while permitting sub-areas to decide upon and pay for services administered for their area by the regional board." The Development Services Committee of the S.C.R.D. Board has been created under Section 787 of the Municipal Act to guide regional planning affecting conservation such as the development of Regional Parks Plans under the Parks (Regional) Act, Integrated Watershed Management Plans and participation in other initiatives such as Ministry of Forest's Local Resource Use Plans. Also, under the Development Services function, the S.C.R.D. makes occasional recommendations on broader provincial initiatives such as the P.A.S. while routinely making recommendations on provincial resource agency referrals for specific projects.

The regional district's second major planning function, Community Planning, under Part 29, Division (1) of the Municipal Act provides for local land-use planning by individual
municipalities and regional districts for electoral areas not included within municipalities.

The main planning instruments for community planning are zoning bylaws and Official Community Plans (O.C.P.). With respect to conservation planning for the protection of habitat and ecological functions, the Municipal Act provides for several major planning tools. Firstly, the park dedication regulations under Section 992 of the Municipal Act allow municipalities to require dedication of land or money in lieu thereof from developers. When future park sites are identified in an O.C.P., the regional district or municipality can dictate where the park will be located. The second major tool for protecting land for habitat through local planning is provided by the designation of Development Permit Areas and Tree Cutting Permit Areas in O.C.P. under Part 29, Division (5) of the Municipal Act. Development Permit Areas can restrict the placement of structures or alteration of the land for geotechnical safety and habitat protection. Land-use and subdivision zoning under Part 29 Division (4) of the Municipal Act provides the third major tool for protecting land. By zoning for use, municipalities can restrict the use of land to protect ecological attributes of land to a certain extent and focus subdivision development in the most appropriate areas.

In addition to municipal and regional district planning, the Sechelt Indian Band was the first Band in Canada to receive any form of self-government. Under the 1986 Sechelt Act, the federal government has removed much of its jurisdiction derived from the Indian Act and vested it with the Sechelt Indian Band in a form of government with all of the legislative powers of a municipality and some of the powers of a province. Under the Sechelt Act, Indian Reserves have been redesignated as "Sechelt Band Lands" with greater Band control than was provided for under the Indian Act. The Sechelt Indian Government District has
formal jurisdiction over 33 "Band Land" areas containing approximately 1000 ha. and exercises municipal and provincial planning powers on its lands similar to those for municipalities.

From the above it can be seen that regional districts such as the S.C.R.D. have specific legislative mandates for community planning, mainly on private lands. However, S.C.R.D. participation in provincial resource management is usually advisory and often initiated by the S.C.R.D. itself due to community interest and local political pressure. Conversely, the provincial agencies such as the Ministry of Environment, Lands and Parks and the Ministry of Forests must approve many local planning initiatives. These agencies are often located in far-removed regional offices in Greater Vancouver and have very few resources to adequately enforce their regulations or assist in implementation of their requirements in O.C.P. Also, there is community concern over the "revolving door syndrome" whereby many provincial agencies' staff continually changes, leaving few technical people with local area knowledge (Reid, August, 1994). Thus, there has been a continuing pattern of S.C.R.D. dissatisfaction over the provincial agencies' policies and management for the protection of the environmental quality. Examples of this dissatisfaction and associated conflict have been borne out in a number of local-provincial resource and conservation planning processes. For example, the S.C.R.D. and the Ministry of Environment, Lands and Parks have been in ongoing conflict over water quality and logging with the Ministry of Forests and International Forest Products in the 64 km² Chapman Creek Community Watershed. Since 1990, with the creation of Chapman Creek Integrated Watershed Management Plan (IWMP) process, these groups and other agency participants have met regularly, but remain deadlocked with no mutually-
acceptable agreement being reached, having failed to come to a consensus on a plan which balances water quality protection and forest harvesting (Reid, June, 1994). Overlapping the Chapman Creek IWMP area, the Ministry of Forests' Tetrahedron Local Resource Use Plan (LRUP) has continued for three and a half years, but has just recently come to a consensus, recommending to the Lower Mainland IAMC that approximately 80 percent of the LRUP area be designated as a provincial park under the Protected Areas Strategy. In general, regional districts are most often involved in conservation planning in either local community planning or provincial planning for specific crown land-use problems and small areas such as individual watersheds or watercourses.

**THE SECHELT INLETS COASTAL STRATEGY: A CASE STUDY**

In contrast to the small-scale, relatively adhoc and sectoral planning described above, the S.C.R.D. has undertaken a regionally-based, cross-sectoral planning initiative to address coastal zone conservation in the Sechelt Inlets. This initiative, the *Sechelt Inlets Coastal Strategy*, is an example of an innovative approach to cooperative conservation planning in the face of diverse development pressures and is used as a case study. The evaluation of this case study provides an explanation of what should be done, and not done in smaller regions such as the Sunshine Coast to strategically plan for conservation.

**Background Issues Related to the Sechelt Inlets Coastal Strategy**

During the 1980’s, the Sechelt Inlets area (including Narrows and Salmon Inlets) experienced rapidly increasing aquaculture development, forest harvesting, outdoor recreation,
residential development and other resource extraction activities. These issues, also affecting other parts of the southern British Columbia coast, led provincial agencies, under the direction of the Ministry of Environment and Parks (1987) to develop the *Sunshine Coast and Campbell River/Johnstone Strait Coastal Resource Identification Study* (C.R.I.S.). The C.R.I.S. primarily provided a cursory inventory of coastal foreshore areas at a 1:200,000 scale in the Sunshine Coast Region classified as either "important" or "critical" according to general observation of the participating agencies. Thus, a small area might be designated as "critical" for shellfish habitat, traditional native use, log booming and as a yachting destination. In short, the C.R.I.S., provided for no planning framework nor did it make policies for the most appropriate use of the foreshore.

At the same time as provincial agencies were creating a better inventory of the coastal zone, political concern over the aquaculture industry spurred independent assessments of the coastal zone planning process such as the report, *An Inquiry Into Finfish Aquaculture in British Columbia* (Gillespie, 1986), and the report, *Aquaculture and the Administration of Coastal Resources* undertaken by the Ombudsman, Stephen Owen, in 1988. Of the three final recommendations in Owen’s 1988 report, two had broader implications for planning in the coastal zone:

1. A framework for integrated management of resources and activities in the coastal zone should be created...

2. Consensual dispute resolution (CDR) techniques, as outlined in this report should be recognized, promoted, and applied as official policy by all relevant Ministries, and should, as appropriate, be recognized and implemented through amendments to existing legislation (Owen, 1988, 99-101).
Local Support for Creating the Sechelt Inlets Coastal Strategy

Given the provincial attention to coastal zone problems and the recommendations of these reports, the SCRD hoped that the provincial agencies responsible for resource management and planning would undertake a coordinated planning approach to resource management and conservation in the Sechelt Inlets area. However, while provincial assessment guidelines for application for coastal zone development were improved to reflect some of the recommendations of the above reports on aquaculture applications (B.C. Ministry of Agriculture and Fisheries, 1987), no strategic conservation and resource planning was undertaken. This absence of strategic provincial planning and community concern over aquaculture and forestry practices was particularly acute in the Sechelt Inlets area which includes Salmon and Narrows Inlets, lying in the centre of the Sunshine Coast Region immediately north of Sechelt as shown in Figure 9. To address these concerns, the S.C.R.D. Board created the Foreshore Advisory Task Force (FATF) in May, 1987. Gordon Wilson, a S.C.R.D. elected representative, remained Chair of the FATF from its inception in 1987, calling meetings every several months in Sechelt with local regional district elected representatives, municipal councillors, provincial and local government staff and several members of the general public. With the creation of the FATF, local political and provincial agency support for a conservation planning process for Sechelt Inlets became focused.
Figure 9: The Sechelt Inlets Area
Source: Catherine Berris Associates (1988)
The Pre-Planning Process for the *Sechelt Inlets Coastal Strategy*

Shortly after its inception, the FATF saw the need for a conservation strategy approach to planning for the Sechelt Inlets and commissioned Catherine Berris Associates to undertake the *Sechelt Inlets Coastal Strategy Pilot Project* between August, 1987 and May, 1988 (see Figure 10 for Chronology). The *Pilot Project* essentially was designed as the first phase of the *Sechelt Inlets Coastal Strategy* and assembled important information from the disparate government agencies and other groups in the FATF. The objectives of the *Pilot Project* were to provide an information base of existing land status and uses, "analyze patterns of use and interest" and "inform the public about the planning activities being undertaken and obtain their input" (Catherine Berris Associates, 1988a, 1). To fulfil the first two objectives, Catherine Berris Associates and the S.C.R.D. relied heavily upon the use of GIS mapping for the creation of thematic map layers derived from the provincial government's C.R.I.S. mapping and other technical information gathered from provincial agencies. From these thematic overlay maps, areas with multiple interests and potential conflict were identified. To obtain public comments on planning and their general vision for the Sechelt Inlets area, a public forum was conducted in March, 1988. Also, the general public was given a formal opportunity to view a display of the background inventory maps and alternative strategy maps at the public forum and a week-long public display in Sechelt where questionnaires were completed by the public. The public forums and questionnaires were designed as a means of gaining public input for the transition between the information-oriented *Pilot Project* and the planning-orientated Phase Two, the *Sechelt Inlets Coastal Strategy* (FATF Minutes, January 22, 1988).
### FIGURE 10
**CHRONOLOGY OF THE SECHELT INLETS COASTAL STRATEGY**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>May, 1986</td>
<td>First Foreshore Advisory Committee meeting</td>
</tr>
<tr>
<td>May, 1987</td>
<td>Terms of reference for Committee transformed to create the independent Foreshore Advisory Task Force (FATF) with agency and other stakeholder representation</td>
</tr>
<tr>
<td>August, 1987</td>
<td>FATF approves the <em>Pilot Project</em></td>
</tr>
<tr>
<td>March, 1988</td>
<td>Public Open House for the <em>Pilot Project</em> and distribution of questionnaires to citizens</td>
</tr>
<tr>
<td>May, 1988</td>
<td><em>Pilot Project</em> finished and identifies existing and preferred uses by agencies and stakeholders</td>
</tr>
<tr>
<td>October, 1988</td>
<td>FATF approves Phase II - The <em>Sechelt Inlets Coastal Strategy</em> (S.I.C.S.)</td>
</tr>
<tr>
<td>October, 1988</td>
<td>Working Committee of the FATF created to draft the S.I.C.S., holding regular meetings</td>
</tr>
<tr>
<td>to Oct., 1989</td>
<td></td>
</tr>
<tr>
<td>February, 1989</td>
<td>FATF Public Forum introduces Working Committee and work completed.</td>
</tr>
<tr>
<td>May, 1989</td>
<td>FATF Public Forum to review the first complete draft</td>
</tr>
<tr>
<td>June, 1989</td>
<td>Working Committee Interim Report to the S.C.R.D., agencies and stakeholders</td>
</tr>
<tr>
<td>June, 1989</td>
<td>FATF Public Forum to review the draft document</td>
</tr>
<tr>
<td>October, 1989</td>
<td>Working Committee Interim Report, agreement on an amending process and other outstanding issues</td>
</tr>
<tr>
<td>January, 1990</td>
<td>Signing off ceremony cancelled due to one last designation disagreement for the Tuwanek area</td>
</tr>
<tr>
<td>April, 1990</td>
<td>FATF makes agreement on Tuwanek designation</td>
</tr>
<tr>
<td>May, 1990</td>
<td>FATF holds concluding meeting on the S.I.C.S.</td>
</tr>
<tr>
<td>June, 1990</td>
<td><em>Sechelt Inlets Coastal Strategy</em> signed by all stakeholders</td>
</tr>
</tbody>
</table>
In short, the *Pilot Project* provided a summary of the existing uses and identified the most ecologically sensitive areas as background information for future land-use designations.

The FATF initiated Phase Two of the *Sechelt Inlets Coastal Strategy* (S.I.C.S.) in October, 1988 to create general policies and designations of the foreshore and immediate uplands (see Figure 11). The S.I.C.S.’s objective was to provide a common vision, guidelines and area designations which all agencies and governments would utilize to guide their management decisions. To develop these designations and general policies, the FATF created a Working Committee with representation from five provincial agencies (the Ministries of Forests, Environment, Crown Lands, Agriculture and Fisheries, Municipal Affairs), three local governments (S.C.R.D., the District of Sechelt, and the Sechelt Indian Government District), two community citizen representatives, one industry organization representative, (the Council of Forest Industries) and the Federal Department of Fisheries and Oceans (FATF Minutes, October 6, 1988). While there were no organized non-governmental stakeholders represented with the exception of the Council of Forest Industries, some agencies took on an advocacy role. Most notably, the Ministry of Forests and the Ministry of Agriculture and Fisheries took on an advocacy role for the forest and aquaculture industries respectively (Reid, June, 1994; Truscott, August, 1994). Representing local citizens and community associations, two local citizen representatives, Trevor Kirby and Barbara Jackson, were delegated by the Working Committee to report back to the local communities and take concerns from the communities to the Working Committee table (Jackson, August, 1994).
Figure 11: The Sechelt Inlets Coastal Strategy Area Designation Map
Source: Catherine Berris Associates (1990)
Before the initiation of the S.I.C.S. Working Committee, the broader FATF agreed on terms of reference in which one of the goals of the S.I.C.S. was to reduce future repetitive conflict over development and conservation in the Sechelt Inlets (FATF Minutes, February 12, 1988). To achieve this, Catherine Berris Associates (1988b) prepared a Proposal for Services which called for a conflict resolution approach focused on the smaller Working Committee. In short, the Working Committee agreed that no policy would be made or map designation placed on the maps unless there was agreement of all the Working Committee representatives in attendance at the meetings.

From October, 1988 to October, 1989, the Working Committee met regularly to develop the S.I.C.S. with Catherine Berris Associates acting as facilitator/mediator. The Working Committee included all the agency representatives from the FATF and was designed as a "non-political" task-oriented group. Private meetings were held in Vancouver at the Offices of Catherine Berris Associates to facilitate the meeting of agency representatives from Victoria, Vancouver and the Sunshine Coast (Jackson, August, 1994). In contrast to the FATF, there were no politicians or members of the public, except the two citizen representatives. From the interviews of the Working Committee members undertaken for this study, most felt that this approach allowed for frank and open discussion. However, at the FATF meetings and Public Forums some individuals in the local community questioned the efficacy of the private meetings. In response to such criticisms, Gordon Wilson, Chair of the FATF, indicated the rationale for creating a separate Working Committee by stating in a local newspaper: "We couldn't get the technical issues dealt with and the government people were saying they are not interested in being abused by the public on the issues about which the
government representative can't comment." (The Coast News, November 21, 1988). Reflecting this, representative Joe Truscott of the Ministry of Agriculture and Fisheries in Victoria stated his concern over the difficulty of accomplishing work at the open FATF meetings because of political opportunism and harassment of some of the members (Truscott, August, 1994).

**Process for Drafting the Sechelt Inlets Coastal Strategy**

Using the March, 1988 Public Forum and *Pilot Project* mapping, Catherine Berris Associates drafted a preliminary designation map and policy statements. During the initial meetings, the representatives refined the "concerns," "trends," "overall vision" and "goals and objectives" sections. Subsequently, the Working Committee discussed the areas identified as having "multiple interests" under the *Pilot Project*. Eventually, through iterative discussions on the definitions of the designations and general policies and map designations, a complete first draft of the S.I.C.S. was prepared in May, 1989. Throughout the process, Working Committee minutes and the interviews showed that representatives repeatedly reported back to their respective stakeholder groups. In particular, the community representatives and the local government planners were in the most communication with local citizens and politicians while several of the provincial agency representatives (notably the Ministries of Crown Lands, Fisheries and Agriculture and Forests) and the C.O.F.I. representative were required to obtain data from their organizations with respect to tenures and possible land-use conflicts. During the drafting of the S.I.C.S from February, 1989 to October, 1989 the Working Committee reported back to four FATF meetings and Public Forums. While these meetings dealt with
day-to-day planning and resource issues, the Working Committee would be present and Catherine Berris would make a report on the progress of the S.I.C.S.

Both the S.I.C.S.'s substantive policies and designations as well as procedural policies relating to the enforceability and the implementation sections of the document were laboured over with the Working Committee negotiating on the amendment procedures at several meetings. Also, the legality of the enforceability of the S.I.C.S. caused concerns among some of the stakeholders. In particular, the District of Sechelt and the Federal Department of Fisheries and Oceans (DFO) were concerned that their legislative and policy-making powers not be hindered by the S.I.C.S. (Working Committee Minutes, June 7, 1989). The District of Sechelt's representative insisted that text notations on the supremacy of the Sechelt O.C.P. and bylaws be placed on the map and within the text of the document.

The major substantive difficulty reported by the participants was the designation of a log dump site at Tuwanek, a small community of approximately 200 residents at the northern edge of the District of Sechelt. While the Working Committee reached agreement on over 300 map units covered by the seven primary use designations and six subordinate "alert" designations, an irreconcilable conflict between the Tuwanek community and forest interests became apparent in the early spring of 1989. Trevor Kirby, representing the community, and the Ministry of Forests and C.O.F.I. representatives disagreed on the designation of the site at numerous meetings until the last Working Committee meeting in October, 1989 (FATF Minutes, October 4, 1989). At the October Public Forum, preceding the full FATF meeting, Tuwanek residents voiced their concern over having a Resource Management designation on the waterfront adjacent to their community which would allow log handling and other
resource activities. To allay their concerns, they wished to have no designation on the site whereas the Working Committee members wished to place the Resource Management designation on the site with secondary "community and recreation alerts" (FATF Minutes, October 4, 1989). However, with the Working Committee dissolved, the issue remained unresolved and a scheduled January, 1990 signing ceremony was aborted. In response to the lack of agreement, the FATF met in April, 1990. Where a compromise "agreement to disagree" was made whereby no primary designation was placed on the Tuwanek area waterfront. Instead, the location was designated an "area of conflict," leaving the standard regulatory and management regimes to prevail with only partial guidance provided by a subordinate "community alert" which stipulates community involvement in future decisions for the area (FATF Minutes, April 10, 1990).

The Product: The Sechelt Inlets Coastal Strategy

The S.I.C.S. was created to both inventory existing resource interests and made provision for future development based on the following vision statement:

To guide the future of the Sechelt Inlets so that it is a model for balancing development and use with a sustainable environment through the conservation of environmental resources, provision of recreational opportunities, and support of commerce, industry and settlement (Berris Associates, 1990, 6).

Under this overall vision, the Working Committee developed 18 objectives to guide the designation of uses and future planning in the Sechelt Inlets by all agencies and stakeholders. Seven primary designations (shown on the map in Figure 10) were developed. In addition to the primary designations, subdesignations were developed to detail more specific uses. For example, under the "Conservation" primary designation, a "Conservation 1"
subdesignation allowing for no human use except for very limited recreation is permitted while a "Conservation 2" subdesignation allows for more active recreation as a secondary use. Furthermore, the S.I.C.S. provided for six "alert" categories as an additional layer over the designations in contentious areas, denoting important secondary interests (Berris Associates, 1990, 11). Some of the representatives attribute the alert and subdesignation approach to helping reduce deadlocks in negotiations of the Working Committee by allowing more choices for prioritizing by the representatives.

The S.I.C.S. does not alter the broader institutional context or the legal responsibilities of the various signing agencies. This general concern for maintaining jurisdictional autonomy is most strongly evidenced by the first statement in the implementation section of the plan which states that the strategy does not override the jurisdiction of the participating agencies (Berris Associates, 1990, 21). Central to the S.I.C.S. is the assumption that the seven primary use designations of the foreshore and upland will reduce the number of disagreements between the various provincial agencies and local governments during future referral processes. Thus, the S.I.C.S. was designed chiefly to reduce conflict amongst the various government agencies, while accounting for public concerns.

However, in spite of stated reliance on the existing agency referral processes, the S.I.C.S. provides for policies on "Monitoring" and "Process for Changing Designations." The latter is the most important in that it provides that all agencies wishing to change a designation give 60-day notice to all members of the permanent FATF. Thus, if any of the agencies propose a designation change as a result of a policy change within their agency or development which does not conform to the S.I.C.S., there will be an opportunity to discuss
the merits of the change. The S.I.C.S. goes on to state the FATF will be the permanent forum overseeing the procedures for amendment and review of the FATF.

**Implementation of the *Sechelt Inlets Coastal Strategy***

The following summary of the implementation of the S.I.C.S. is mainly used to give context for the evaluation of the S.I.C.S. in the following section. The primary information sources used include a review of the minutes of the FATF, interviews of working committee representatives and an examination of a major conflict, the sinking of the H.M.S. Chaudiere in 1992.

From the interviews, most of the agency representatives responsible for approving projects and licences have utilized the S.I.C.S. in their review of applications or inter-agency referrals. While the regional managers and directors for the government agencies signed the S.I.C.S., many of the agencies’ local representatives felt there was senior agency support, but little interest in the S.I.C.S. A representative of the B.C. Lands section of the Ministry of Environment, Lands and Parks noted that he had hoped that all of the agencies had agreed to be more closely bound by the S.I.C.S., thereby reducing the number of referrals and time taken for the processing of development proposals (Sorken, August, 1994). For implementation of the S.I.C.S., B.C. Lands has created a file in its computer database whereby all tenures are flagged with a notation referring to the S.I.C.S. (Kokz, August, 1994). Also, Land Officers for the area use the S.I.C.S. for making recommendations on crown land applications. Similarly, the Ministry of Agriculture and Fisheries has had little opportunity to use the S.I.C.S. as there has been a decline in the aquaculture industry due to the broader
market conditions. In an extensive assessment of the water quality in the area, the Ministry of Environment Lands and Parks has supported the S.I.C.S.'s general policies and designations as a means of fulfilling its water quality objectives (B.C. Environment, Water Management Division, 1993). The Ministry of Forests takes the S.I.C.S. into consideration when it plans logging and log handling in the foreshore (Cattanach, August, 1994). The Department of Fisheries and Oceans makes more specific reference to the S.I.C.S. for all referrals on the Sechelt Inlets and has used the S.I.C.S. as a basis for denying and approving various applications (Russell, August, 1994).

At the local government level, the S.C.R.D. planning department always uses the S.I.C.S. as the basis for its recommendations for approval or denial of referrals from the provincial agencies (Reid, August, 1994). Also, the S.C.R.D.'s Draft Official Regional Parks Plan (S.C.R.D., 1991) has used the S.I.C.S. for supporting the creation of regional parks on some crown lands designated as "Recreation" and "Conservation." S.C.R.D. planning staff also utilize the S.I.C.S. when informal developer requests regarding rezoning are received. However, no formal applications for rezoning within the study area and outside of the District of Sechelt have been proposed since the adoption of the S.I.C.S. In the District of Sechelt, where most of the urban residential development is occurring in the Sechelt Inlets area, the planning department makes reference to the S.I.C.S. in commenting on applications for subdivision, rezoning and Official Community Plan (O.C.P.) amendments. However, the District of Sechelt uses the S.I.C.S. as a leveraging device, but has not used the S.I.C.S. as a basis for denial of a project (Buchan, August, 1994). Similarly, the community's O.C.P.
review committee has used the S.I.C.S. as a source of guidance for drafting a new O.C.P. for the District of Sechelt.

Aside from the routine use of the S.I.C.S. for guidance of agency resource management and local government planning, the FATF has continued to meet several times each year since 1991 as the need is perceived by the chair. These meetings have allowed both citizen and agency members to discuss a few of the larger or more contentious proposals. At the meetings, the FATF has made recommendations for denial and approval of several developments. While most of these issues were summarily agreed upon by the FATF, the sinking of the H.M.S. Chaudiere, a navy destroyer, by the British Columbia Artificial Reef Society has been the most contentious issue and a test of the implementation of the S.I.C.S. In October, 1992, the FATF convened a meeting to address public controversy and make a recommendation on the sinking of the H.M.S. Chaudiere.

Three groups of organized local community public opinion formed on the issue. A group of local business people supported the proposal, while citizens led by a group called Coastwatch and the Sechelt Indian Government District (S.I.G.D.) opposed the proposal. The S.I.G.D. objected on the grounds of concern over the ecological effects of sinking an old naval ship as well as concerns over its outstanding land claims in the area (FATF Minutes, October 30, 1992). In particular, there was disagreement regarding the asbestos being left on the ship, with both sides presenting conflicting scientific evidence. Although the FATF passed a recommendation that the proposal would be permitted under the "Recreation Use" designation in the S.I.C.S., it also recommended that existing environmental information be assembled and that the there be consultation between the S.I.G.D., B.C. Lands and
Environment Canada. The FATF also recommended that the native land claims jurisdictional issue be clarified (FATF Minutes, October 30, 1992). However, after the meeting, the required agencies granted approvals for the H.M.S. Chaudiere to be sunk, over the strong objection of the Sechelt Indian Government District. As the FATF had continued to emphasize a consensus approach to the implementation of the S.I.C.S., this major controversy in the plan area challenged the integrity of the implementation process. From the following evaluation of the S.I.C.S., general conclusions and recommendations will be made which address this issue as well as other weaknesses in the planning and implementation processes for the S.I.C.S.

**EVALUATION OF THE SECHELT INLETS COASTAL STRATEGY**

A more empirical evaluation of the S.I.C.S. than that for the provincial framework is undertaken based on the Working Committee and FATF minutes and interviews of the many participants involved. The evaluation focuses on the process for the creation of the S.I.C.S. and the scope of the document itself, based on the performance against the seven criteria derived from the literature review.

**Multiple-Stakeholder Consensus-Based Process**

The first criterion, *multiple-stakeholder consensus-based process*, is the most important of the four process criteria. In general, the S.I.C.S. satisfied this criteria. The Working Committee explicitly used a consensus approach and reached agreement on almost all of the policies and designations. Most of the representatives interviewed commented on
the importance of Catherine Berris in initiating and facilitating the consensus process and their willingness to follow the process. To help more closely examine this criterion, several questions should be answered.

*Does the process include representatives of all major stakeholders?*

The Working Committee provided representation of all of the major stakeholders. Unlike conservation planning for larger areas, there were few organized public interest groups, and thus most of the respondents felt that the two citizen representatives performed well in liaising with the various interest groups. With respect to the resource industry stakeholders, C.O.F.I. represented the forest companies in the area while the Ministry of Forests also took an advocacy position in supporting forestry interests. The Ministry of Agriculture and Fisheries also took on the responsibility of representing the interests of the private aquaculture operations (Truscott, August, 1994).

*Is there negotiation on the process before the substantive issues are negotiated?*

The terms of reference for the S.I.C.S. and the consultant's proposal for services provided for a consensus process and timeline for completing the S.I.C.S. which were accepted by the FATF. The Working Committee meetings were largely shaped by Catherine Berris Associates who facilitated the meetings. From the minutes of the meetings, it can be seen that the Working Committee immediately moved into discussing the substance of the S.I.C.S. and did not initially discuss the possibility of negotiation problems or the enforceability of the S.I.C.S. This shortcoming may have been responsible for the
continuation of the discussions for an additional eight months in the face of the lack of agreement over the Tuwanek designation. Due to the conclusion of the Working Committee process prior to the final agreement on this issue, further discussions were carried out over the longer time frame between the less frequent FATF meetings. Many of the participants voiced concern over this prolongation of the completion of the S.I.C.S.

Is there sufficient third-party assistance, technical information and other resources provided to all stakeholders?

The Pilot Project incorporated biophysical and land-use information for the S.I.C.S. with additional agency information being retrieved as necessary during the Working Committee meetings. Most of the participants felt that the information provided was adequate, but felt more biophysical information could have been provided, if it were not for limited government agency resources. The chair of the FATF, Gordon Wilson, and the Working Committee representative of the Ministry of Agriculture and Fisheries, felt there was far too little information on the biophysical capability of the area for supporting various resource uses (Wilson, August, 1994; Truscott, August, 1994). In general, much of the additional information was gained through the experiential knowledge of both agency members of the Working Committee and local non-technical knowledge of the areas gained through public involvement. Exemplifying this approach, the Working Committee chartered a boat and toured the Inlets to assist group understanding of the biophysical and use issues.

With respect to assistance to participation in the process, all respondents indicated that Catherine Berris Associates provided adequate to very good facilitation. Individual assistance was provided to the two citizen representatives for travel and other expenses. Due to the
predominance of agency representatives, the question of equality of resources for participation was not felt to be an issue. The two citizen representatives were reimbursed for only travel and associated expenses, but were generally satisfied (Jackson, August, 1994).

Are the stakeholders encouraged to undertake principled negotiation?

All of the stakeholder representatives understood that the Working Committee was to operate on a consensus process based on the premise of complete agreement to be achieved for every policy decision. Assisting the Working Committee in overcoming obstacles to discussion, Catherine Berris would seek to clarify the concerns, and occasionally would meet individually with the representative's broader stakeholder group to ascertain the concern (Berris, August, 1994). For example, although the Sechelt Indian Government District (S.I.G.D.) was included on the Working Committee and signed the final agreement, it did not send a representative to most of the meetings as it was heavily occupied in establishing self-government (Reid, August, 1994). To resolve concerns over the S.I.G.D.'s interests and the District of Sechelt's jurisdiction, Catherine Berris met privately and individually with the S.I.G.D. and the District of Sechelt's Municipal Council. Thus, the process relied on assisted negotiation.

Although some participants felt arbitrary positions were taken and motivated by "politics" at the FATF's Public Forums, most agreed that there was a sincere effort to honestly debate the policies based on interests at the closed Working Committee meetings. The use of primary designations with subordinate "alert" designations in areas with strong secondary interests facilitated compromises amongst a broader range of smaller issues. If
such an approach had not been taken for reducing an "all or nothing" environment for making decisions, consensus may have been much less readily achievable.

Is there an implementation agreement with stakeholder and political commitment?

The S.I.C.S. provides for an implementation agreement for review and amendment. However, the political commitment to the agreement is less strong in that the District of Sechelt and DFO placed clauses declaring the supremacy of their statutes, not wishing to be legally bound by the document. In addition to this concern, the implementation provision states, "This plan does not supersede the normal referral process where it is applied to adjudicate the agencies' permit, licence or approval applications" (Berris Associates, 1990, 21). Furthermore, the document provides for a 60-day notice clause for a public meeting of the FATF when an agency wishes to support a use or policy contrary to the S.I.C.S. However, while the agency must discuss their proposed amendment at a FATF meeting, the S.I.C.S does not require complete agreement and states, "An agreement based on consensus will be reached if possible" (Ibid., 21). These clauses have caused concern for several agency representatives who felt that stronger guarantees of compliance should have been placed in the document. The experience of the sinking of the H.M.S. Chaudiere without the consent of the Sechelt Indian Government District provides an example of this shortcoming. While the majority of the FATF members were of the opinion that the sinking was consistent with the S.I.C.S. designations, the Sechelt Indian Government District wished to obtain an independent environmental audit of the ship as a condition which it included in the FATF recommendation on the issue (FATF Minutes, October 30, 1992). However, before this recommendation was
acted upon or a standard referral was sent to the S.C.R.D., an approval from the B.C. Lands Regional Manager was given for the sinking of the ship (Elewonibi, 1992). While this is one example, the importance of the decision to the Sechelt Indian Government District and the general public controversy illustrates a weakness in support for implementation of the S.I.C.S.

Cross-Sectoral Agency Coordination

The second process criterion, *cross-sectoral agency coordination* is important as numerous provincial and federal agencies and local governments are involved in conservation and coastal area planning. In general, due to heavy representation of government agencies on the Working Committee, there was perceived to be adequate coordination by those interviewed. To help ascertain how adequately this criterion is satisfied by the S.I.C.S., the following additional questions should be answered.

*Is there a lead agency or prominent individual occupying a leadership role for the process?*

The S.C.R.D. played the role of lead agency by initiating the S.I.C.S. and bringing together local governments and the provincial agencies. The S.C.R.D. also provided the FATF as an on-going forum for implementation of the S.I.C.S. However, the subsequent FATF meetings have been infrequent and were largely dependent on Chairperson Gordon Wilson’s availability to call meetings (Reid, August, 1994). Thus, the S.I.C.S. has been used primarily by individual agencies in the course of their work in response to development proposals.
Do the agency participants strive for a transdisciplinary approach?

When asked if they gained a better understanding and appreciation of the other various technical disciplines, all of the participants agreed that they did gain more knowledge of each others’ fields of expertise. While some representatives said they already had an understanding of the other agency’s respective disciplines, the process did help them better understand the motivations of other agency representatives.

Broad-Based Public Involvement

The third criterion, *broad-based public involvement*, is required to be included in a process to ensure that a full range of public interests and values are incorporated into a regional conservation planning strategy. The S.I.C.S. process did not provide direct involvement of citizen groups or local environmental non-governmental organizations. However, the Working Committee included two citizen representatives who were charged with obtaining the views of several communities and other non-governmental interests. Barbara Jackson represented both broader community groups and recreation interests as there was no agency representative from B.C. Parks. Trevor Kirby, the other citizen representative, focused primarily on local neighbourhood associations along Sechelt Inlet and environmental interests. Given the small population of the plan area, the community representatives were able to meet with a large number of individuals who voiced opinions on conservation planning for the Sechelt Inlets (Jackson, August, 1994).

Also, the S.I.C.S. process provided for a consultation and information program for members of the general public through four public forums at the FATF meetings. While
these Public Forums were relatively short in duration, averaging less than two hours, the Working Committee did report on the progress of S.I.C.S. while the chair of the meetings allowed for public discussion. In surveying the minutes of the Public Forums, there was little recorded citizen criticism of the opportunities for public involvement. At a special meeting of the FATF to resolve the issue of conflict at Tuwanek in April, 1990, the FATF followed the recommendation of local community groups and opted not to place a designation on the site as requested (FATF Minutes, April 10, 1990). Also, in the interviews of the Working Committee participants, most felt that the public involvement was adequate, although one agency representative felt that the process was not a true "shared decision-making" process as advocated by C.O.R.E. due to the lack of direct public interest group involvement (Truscott, August, 1994). In short, however, it can be concluded that the process was able to provide adequate public involvement due to small size of the community and the local nature of the exercise.

Non-Governmental Partnerships

The fourth criterion, non-governmental partnerships, provides a means for evaluating the long-term commitment of those outside government to implementing the S.I.C.S. The S.I.C.S. only satisfies the criterion in a limited way by designating the FATF as the body responsible for overseeing implementation. However, it does not provide for specific non-governmental monitoring programs except by stating, "Informal observations by residents or others will be reported to the Chairperson of the FATF" (Berris Associates, 1990, 22). Also, the S.I.C.S. made no recommendations supporting non-government projects for habitat
protection or resource management. The heavy reliance on government representatives during the Working Committee process may have led to the lack of acknowledgement of non-governmental assistance in implementation. In the interviews, none of the agency respondents mentioned the use of non-governmental assistance. Thus, the S.I.C.S. failed to utilize the opportunities of greater public involvement in non-governmental stewardship afforded by the ongoing FATF meetings and smaller communities in the area.

**Utilize Watershed Boundaries for Defining the Region**

The fifth criterion, *utilize watershed boundaries for defining the region*, is based on the literature on bioregional theory and landscape ecology. Using a watershed in defining a contiguous region for planning lessens the possibility of uncoordinated planning and conflict from adjacent resource and urban land uses. However, the S.I.C.S. does not utilize watershed boundaries as it was designed as a coastal strategy with planning only extending 200 meters inland from the natural boundary of the ocean, leaving most of the 1850 km² Sechelt Inlets watershed outside of the planning area. While some Working Committee members and the FATF chair felt that inclusion of the entire watershed would have been beneficial, several of the agencies insisted on limiting the scope of the plan to the immediate upland (Wilson, August, 1994; Reid, August, 1994).

**Integrate Conservation and Land-Use Planning**

The sixth criterion, *integrate conservation and land-use planning*, is vital for determining if the planning process takes a holistic approach to conservation outside of
protected areas. The S.I.C.S. integrates conservation and land-use planning by creating a set of land-use designations to guide the planning and management of the foreshore and the adjacent upland based on the premise of sustainability. Also, the land and foreshore designations were applied to both crown land, private lands and short-term tenures. From the interviews, it could be seen that many of the agencies did use the S.I.C.S. to guide the approval of projects or land uses. However, as the S.I.C.S did not recommend the designation of protected areas and legally require the designation policies to be followed by the respective agencies, the full benefit of linking land-use planning and conservation was not achieved.

Utilize an Ecosystem Classification System

The seventh criterion, **utilize an ecosystem classification system**, must be fulfilled to ensure that the various landscapes and ecosystems of a region are studied and included in the decision-making process by the stakeholders. The S.I.C.S. was not based on an ecosystem classification. Within the provincial ecosection/ecoregion system, the plan area includes only two ecossections, the Strait of Georgia Lowlands and the Southern Pacific Ranges. However, use of the biogeoclimatic zone system with its numerous subvariants could have provided a much more detailed description of the smaller terrestrial ecosystems represented in the study area, allowing for more comprehensive analysis of rare or endangered habitats.
While the C.O.R.E., L.R.M.P. and P.A.S. processes have evolved largely over the last two years, the S.I.C.S. provides an example of an innovative local initiative undertaken prior to the creation of the current provincial planning framework. Although the S.I.C.S. provides a good example of a locally-based regional conservation planning process, the S.I.C.S. does not satisfy all the criteria for effective conservation planning for the protection of habitat and ecological processes. Also, one of the major resource management pressures, the proliferation of aquaculture operations, was dramatically reduced due to changing overall market conditions at approximately the same time as the S.I.C.S. was adopted.

The S.I.C.S. largely satisfies the four criteria based on the principles of the conservation strategy process. In particular, the criterion of a multi-stakeholder consensus process was met by the Working Committee. The Working Committee process also allowed for cross-sectoral agency coordination in the development of the S.I.C.S., although reliance on the standard agency referral processes for implementation was a weakness. The criterion of broad-based public involvement was fairly well achieved through the designation of two community representatives on the Working Committee and the FATF's Public Forums. Lastly, the criterion of non-governmental partnerships was not satisfied in spite of the small size of the communities and the interest shown by individuals and the community generally.

With respect to the criteria related to regional planning approaches to conservation, the S.I.C.S. does not use watershed boundaries, although the Sechelt Inlets are located in a large self-contained water body with one small entrance to the open ocean. The S.I.C.S. integrates land-use planning and conservation as well as designating conservation areas. However, it
does not formally designate future protected areas or use one of the major ecosystem classification systems. In short, the S.I.C.S. does not satisfy all of the criteria for a regional conservation strategy approach. However, it provides an example of an innovative local approach to conservation planning ahead of its time.
CONCLUSIONS

The thesis has examined the literature relating to conservation strategies and regional planning approaches to conservation to form a hybrid model, the regional conservation planning strategy. From the literature related to the principles of a regional conservation planning strategy approach, seven criteria have been created to help evaluate the effectiveness of the planning process for the protection of habitat and ecological functions. Conclusions are drawn for the institutional framework for conservation planning in British Columbia and for conservation planning in the Sunshine Coast Region through the evaluation of the Sechelt Inlets Coastal Strategy.

The Provincial Framework for Conservation

The recent initiatives in the provincial planning framework meet more of the criteria for a regional conservation planning strategy approach than previous government policies on conservation planning. However, there are weaknesses primarily related to the type and amount of public involvement and the amount of detail possible within the provincial planning framework. In the following, conclusions are drawn for C.O.R.E.'s policies for regional planning, Land and Resource Management Planning (L.R.M.P.) and the Protected Areas Strategy (P.A.S.).

C.O.R.E.'s general policies for a provincial Land Use Strategy involve the integration of conservation and land-use planning. C.O.R.E. is directly involved in the creation of very
large regional plans founded on policies such as its *Land Use Charter* and the *Land Use Goals*. From an analysis based on the criteria used for evaluation, several conclusions are drawn. With respect to the planning process, C.O.R.E.'s consensus-based approach to decision-making is frustrated by the complexity of the geography and size of population in the regions being planned. While consensus for broader, more general policies can be achieved for such large areas, agreement on concrete land-use decisions is very difficult. Associated with this challenge, there is difficulty in achieving participation of the broader public and maintaining communication between the regional stakeholder representatives and their constituents. Thus, many of the final recommendations to the provincial government must be made by C.O.R.E. staff.

With respect to the substance of the regional planning, C.O.R.E.'s regional planning integrates land use, parks system and conservation planning. The C.O.R.E. regional plans make very important broad recommendations on land use and the creation of protected areas based on sophisticated ecosystem classification systems. While the plan areas are based on amalgams of watersheds, much detail is missing from C.O.R.E.'s regional planning, especially in the more developed and settled areas of the province which often have the most threatened ecosystems.

The L.R.M.P. process provides an opportunity for integrating both local and provincial planning for the protection of habitat and ecological processes. Influenced by C.O.R.E. and the B.C. Round Table, the L.R.M.P. policies support consensus decision-making through involvement of both agencies and interest groups. The more local nature of L.R.M.P. process assists in allowing for better representation of a broader range of interests. However,
involvement of the general public in the creation of the plans is not fully supported, leaving this as an option to the government agencies designing each process. Moreover, ongoing involvement of non-governmental organizations in the implementation of the plans is not supported. The emphasis on integrating both general land-use planning and protected areas planning in groupings of watersheds or sub-basins is a major strength of the approach. Nevertheless, the planning at smaller map scales hinders more detailed planning for both private and crown lands. A modified form of the L.R.M.P. process, allowing for implementation of the P.A.S. and joint planning with local governments with broader community involvement in plan development and implementation would improve the process significantly.

The P.A.S. provides an excellent basis for analyzing the completeness of ecosystem representation at the provincial and regional levels. However, the P.A.S. does not provide for consensus processes or adequate public involvement for making decisions on the designation of protected areas. In areas not subject to regional or sub-regional planning, P.A.S. staff and the regional I.A.M.C.’s make protected areas designation decisions or rely on adhoc site-specific advisory forums. In either case, the linkage of land-use planning and conservation is not adequately supported. Also, the large P.A.S. regions used for a basis of analysis do not allow for the detailed recommendations required for protecting the ecosystems in the more developed and ecologically threatened areas of the province.
The Sechelt Inlets Coastal Strategy

Relative to the provincial government's L.R.M.P. and C.O.R.E. regional approaches, the S.I.C.S. has both advantages and disadvantages. With respect to the advantages, the small size of the region allows public involvement to be more meaningful as a larger proportion of the population is able to focus its attention on planning in areas within and nearby their communities. Also, with the larger scale of mapping at 1:50,000, a large number of fairly detailed designations could be accommodated, allowing for more options for reaching agreements and giving more certainty over the intended uses. With respect to the disadvantages, the small size of the planning area did not allow for inclusion of a large contiguous watershed. The S.I.C.S. also does not utilize an ecosystem classification system or make recommendations on the creation of protected areas. Finally, the S.I.C.S. does not encourage non-governmental partnerships for implementation and monitoring of the strategy. In summation, inter-agency coordination between provincial agencies and local governments at this intermediate scale can provide an effective forum for conservation planning, taking into account a broad range of local interests.

RECOMMENDATIONS

Given the above conclusions on the provincial conservation planning framework and the case study, the Sechelt Inlets Coastal Strategy, it is recommended that:

1. Sub-regional planning should be undertaken to form the basis for regional plans with C.O.R.E. and the provincial Land Use Coordination Office overseeing sub-regional
planning to ensure contiguity of plan areas and congruence of policies. Sub-regional planning should be based on moderately large sub-basins centred on population centres or traditionally settled regions.

2. The P.A.S. process should be continued to provide specialized support to the land use planning processes. The implementation of the P.A.S. should always be undertaken in conjunction with land-use planning. Existing Ministry of Forests’ local planning processes for making decisions on the designation of single P.A.S. study areas should be amalgamated into sub-regional processes.

3. Minimum levels of representation of all ecosections should be established instead of simply setting representation goals for the seven large P.A.S. regions and the province as a whole. Although the often-used 12 percent is an arbitrary number, it could also be used for determining the minimum amount of protected areas for each ecosection.

4. Public involvement in the provincial government’s regional and sub-regional planning processes should be improved to allow for participation of the general public at key points throughout the process. Regional Districts should work in partnership with provincial line agencies to improve general public involvement in sub-regional planning.
5. A modified form of sub-regional L.R.M.P. planning for small, more densely populated regions such as the Sunshine Coast, Eastern Vancouver Island and the Southern Interior should be created by the provincial government. This modified form of L.R.M.P. planning should give direction to all federal, provincial and local government conservation planning in the area.

6. The Sunshine Coast Regional District should act as a liaison between the provincial government, local governments, non-governmental interests and the general public in supporting the development and implementation of such a modified L.R.M.P. process for the region.

7. The Sunshine Coast Regional District should integrate its regional parks and community planning with this modified L.R.M.P. approach.
BIBLIOGRAPHY


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Richardson, Nigel. Land Use Planning and Sustainable Development in Canada. Ottawa: Canadian Environmental Advisory Council, 1989


Box 30. Check-list of actions

Chapter 1. Building a sustainable society
Action 1.1. Develop new strategies for sustainable living, based on the nine principles.

Chapter 2. Respecting and caring for the community of life
Action 2.1. Develop the world ethic for living sustainably.
Action 2.2. Promote the world ethic for living sustainably at national level.
Action 2.3. Implement the world ethic for living sustainably through action in all sectors of society.
Action 2.4. Establish a world organization to monitor implementation of the world ethic for living sustainably and to prevent and combat serious breaches in its observation.

Chapter 3. Improving the quality of human life
Action 3.1. In lower-income countries, increase economic growth to advance human development.
Action 3.2. In upper-income countries, adjust national development policies and strategies to ensure sustainability.
Action 3.3. Provide the services that will promote a long and healthy life.
Action 3.4. Provide universal primary education for all children, and reduce illiteracy.
Action 3.5. Develop more meaningful indicators of quality of life and monitor the extent to which they are achieved.

Chapter 4. Conserving the Earth’s vitality and diversity
Action 4.1. Adopt a precautionary approach to pollution.
Action 4.2. Cut emissions of sulphur dioxide, nitrogen oxides, carbon monoxide, and hydrocarbons.
Action 4.3. Reduce greenhouse gas emissions.
Action 4.4. Prepare for climate change.
Action 4.5. Adopt an integrated approach to land and water management, using the drainage basin as the unit of management.
Action 4.6. Maintain as much as possible of each country’s natural and modified ecosystems.
Action 4.7. Take the pressure off natural and modified ecosystems by protecting the best farmland and managing it in ecologically sound ways.
Action 4.8. Halt net deforestation, protect large areas of old-growth forest, and maintain a permanent estate of modified forest.
Action 4.9. Complete and maintain a comprehensive system of protected areas.
Action 4.10. Improve conservation of wild plants and animals.
Action 4.11. Improve knowledge and understanding of species and ecosystems.
Action 4.12. Use a combination of in situ and ex situ conservation to maintain species and genetic resources.
Action 4.13. Harvest wild resources sustainably.
Action 4.14. Support management of wild renewable resources by local communities; and increase incentives to conserve biological diversity.

Chapter 5. Keeping within the Earth’s carrying capacity
Action 5.1. Increase awareness about the need to stabilize resource consumption and population.
Action 5.2. Integrate resource consumption and population issues in national development policies and planning.
Action 5.3. Develop, test and adopt resource-efficient methods and technologies.
Action 5.4. Tax energy and other resources in high-consumption countries.
Action 5.5. Encourage “green consumer” movements.
Action 5.6. Improve maternal and child health care.
Action 5.7. Double family planning services.

Chapter 6. Changing personal attitudes and practices
Action 6.1. Ensure that national strategies for sustainability include action to motivate, educate and equip individuals to lead sustainable lives.

continued...
Chapter 7. Enabling communities to care for their own environments
Action 7.1. Provide communities and individuals with secure access to resources and an equitable share in managing them.
Action 7.2. Improve exchange of information, skills, and technologies.
Action 7.3. Enhance participation in conservation and development.
Action 7.4. Develop more effective local governments.
Action 7.5. Care for the local environment in every community.
Action 7.6. Provide financial and technical support to community environmental action.

Chapter 8. Providing a national framework for integrating development and conservation
Action 8.1. Adopt an integrated approach to environmental policy, with sustainability as the overall goal.
Action 8.2. Develop strategies for sustainability, and implement them directly and through regional and local planning.
Action 8.3. Subject proposed development projects, programmes and policies to environmental impact assessment and to economic appraisal.
Action 8.4. Establish a commitment to the principles of a sustainable society in constitutional or other fundamental statements of national policy.
Action 8.5. Establish a comprehensive system of environmental law and provide for its implementation and enforcement.
Action 8.6. Review the adequacy of legal and administrative controls, and of implementation and enforcement mechanisms, recognizing the legitimacy of local approaches.
Action 8.7. Ensure that national policies, development plans, budgets and decisions on investments take full account of their effects on the environment.
Action 8.8. Use economic policies to achieve sustainability.
Action 8.9. Provide economic incentives for conservation and sustainable use.
Action 8.10. Strengthen the knowledge base, and make information on environmental matters more accessible.

Chapter 9. Creating a global alliance
Action 9.1. Strengthen existing international agreements to conserve life-support systems and biological diversity.
Action 9.2. Conclude new international agreements to help achieve global sustainability.
Action 9.3. Develop a comprehensive and integrated conservation regime for Antarctica and the Southern Ocean.
Action 9.4. Prepare and adopt a Universal Declaration and Covenant on Sustainability.
Action 9.5. Write off the official debt of low-income countries, and retire enough of their commercial debt to restore economic progress.
Action 9.6. Increase the capacity of lower-income countries to help themselves.
Action 9.7. Increase development assistance and devote it to helping countries develop sustainable societies and economies.
Action 9.8. Recognize the value of global and national non-governmental action, and strengthen it.

Chapter 10. Energy
Action 10.1. Develop explicit national energy strategies.
Action 10.2. Reduce the use of fossil fuels, wastage in energy distribution, and pollution from commercial energy generation.
Action 10.3. Develop renewable and other non-fossil fuel energy sources.
Action 10.4. Use energy more efficiently in the home, industry, business premises and transport.
Action 10.5. Conduct publicity campaigns to promote energy conservation and the sale of energy efficient products.

continued...
Chapter 11. Business, industry and commerce
Action 11.1 Promote sustainability through dialogue between industry, government, and the environmental movement.
Action 11.2 Adopt high environmental performance standards backed up by economic incentives.
Action 11.3 Commit each business to sustainability and environmental excellence.
Action 11.4 Identify hazardous industries, and locate and operate them with stringent safeguards.
Action 11.5 Develop effective national and international systems for waste management.
Action 11.6 Ensure that all industries that are based on the use of natural resources use them economically.

Chapter 12. Human settlements
Action 12.1 Adopt and implement an ecological approach to human settlements planning.
Action 12.2 Develop more effective and representative local governments, committed to caring for their environments.
Action 12.3 Develop an efficient and sustainable urban transport policy.
Action 12.4 Make the city clean, green and efficient.

Chapter 13. Farm and range lands
Action 13.1 Undertake a national strategy for sustainability.
Action 13.2 Protect the best farm land for agriculture.
Action 13.3 Promote effective soil and water conservation through proper land husbandry.
Action 13.4 Reduce the impact of agriculture on marginal lands already in production.
Action 13.5 Encourage the adoption of integrated crop and livestock farming systems, and raise the efficiency of fertilizer use.
Action 13.6 Increase the productivity and sustainability of rainfed farming.
Action 13.7 Promote integrated pest management.
Action 13.8 Control the use of fertilizers, pesticides and herbicides through regulations and incentives.
Action 13.9 Promote international action to conserve genetic resources.
Action 13.10 Expand ex situ efforts to conserve genetic resources.
Action 13.11 Provide for in situ conservation of wild genetic resources (also see Chapter 4).
Action 13.12 Attempt to increase non-farm employment for small farmers and the landless.
Action 13.13 Switch from price supports to conservation supports.
Action 13.14 Promote primary environmental care by farmers.

Chapter 14. Forest lands
Action 14.1 Establish a permanent estate of natural and modified forest in every nation and manage it to meet the needs of all sectors of society.
Action 14.2 Establish a comprehensive system of protected natural forests.
Action 14.3 Establish and maintain an adequate permanent estate of modified forest.
Action 14.4 Increase the area of planted forest.
Action 14.5 Increase national capacity to manage forests sustainably.
Action 14.6 Strengthen community management of forests.
Action 14.7 Expand efforts to conserve forest genetic resources.
Action 14.8 Create a market for forest products from sustainably managed sources and use wood more efficiently.
Action 14.9 Set stumpage prices to reflect the timber's full value; charge licence fees that discourage exploitation of stands of marginal commercial value; and auction concessions competitively.
Action 14.10 Increase the capacities of lower-income countries to manage forests sustainably; and improve international cooperation in forest conservation and sustainable development.

Chapter 15. Fresh waters
Action 15.1 Improve the information base for sustainable water management.
Action 15.2 Undertake awareness campaigns and education programmes on sustainable use of water.

continued...
Implementing the Strategy

Action 15.3. Provide training in the management of human uses of, and impacts on, the water cycle.
Action 15.4. Manage water and demand to ensure efficient and equitable allocation of water among competing uses.
Action 15.5. Give greater emphasis to the drainage basin as the unit of water management (see also Action 4.5).
Action 15.6. Integrate the development of water resources with conservation of ecosystems that play a key role in the water cycle.
Action 15.7. Establish a cross-sectoral mechanism for integrated water management.
Action 15.9. Give local communities greater control over the management of aquatic resources and strengthen their capacity to use them.
Action 15.10. Strengthen mechanisms for more effective international cooperation to share information and experience on how to use water and aquatic ecosystems sustainably.
Action 15.11. Identify and protect aquatic species that are rare or threatened.

Chapter 16. Oceans and coastal areas

Action 16.1. Develop a national policy on the coastal zone and ocean.
Action 16.2. Establish a mechanism to coordinate the planning and allocation of uses of the coastal zone.
Action 16.3. Allocate marine resource user rights more equitably among small-scale, large-scale and sport fisheries, and giving more weight to the interests of local communities and organizations.
Action 16.4. Use an ecosystem approach for management of marine resources.
Action 16.5. Conduct information campaigns to raise the profile of coastal and marine issues; and include a strong marine component in environmental education in all countries.
Action 16.6. Promote marine protected areas.
Action 16.7. Conserve key and threatened marine species and gene pools.
Action 16.8. Place high priority on preventing marine pollution from land-based sources.
Action 16.9. Adopt procedures for effective prevention of pollution from ships and offshore installations, and for rapid response to emergencies such as oil spills.
Action 16.10. Ratify or accede to the United Nations Convention on the Law of the Sea (UNCLOS) and other international legal instruments and develop an effective regime for sustainable use of open-ocean resources.
Action 16.11. Expand and strengthen international cooperation, both regionally and among funding agencies and intergovernmental organizations.

Chapter 17. Implementing the Strategy

Action 17.1. Study the Strategy and consider its implications.
Action 17.2. Evaluate the implications of the Strategy for the policies and approaches of citizens' groups, NGOs, local communities, governments and international bodies.
Action 17.3. Promote the Strategy through broadly based national and international publicity campaigns.
Action 17.4. Promote the Strategy within government.
Action 17.5. Provide communities with the opportunity to prepare local strategies for sustainability.
Action 17.6. Organize governmental agencies to implement the Strategy.
Action 17.7. Undertake national and subnational strategies for sustainability.
Action 17.8. Build up the global alliance.
Action 17.9. Fund the transition to sustainability.
Action 17.10. Monitor and evaluate the Strategy and its targets.
## Appendix II: Ecosystem Representation in Protected Areas on Vancouver Island


<table>
<thead>
<tr>
<th>Ecosystem Classification (Ecosite and Biogeoclimatic subzone variant)</th>
<th>Area in Existing Protection (ha)</th>
<th>Percent in Existing Protection (%)</th>
<th>Area in Proposed Protection (ha)</th>
<th>Percent in Proposed Protection (%)</th>
<th>Area in Existing &amp; Proposed Protection (ha)</th>
<th>Percent in Existing &amp; Proposed Protection (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nanaimo Lowlands</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CDFmm</td>
<td>123,753</td>
<td>0.29%</td>
<td>180</td>
<td>0.15%</td>
<td>303</td>
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<tr>
<td>CWHmm2</td>
<td>2,214</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
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<td>CWHxcm</td>
<td>207,533</td>
<td>0.57%</td>
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<td>0.63%</td>
<td>1,508</td>
<td>0.89%</td>
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<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
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<td><strong>Subtotal</strong></td>
<td>341,542</td>
<td>0.45%</td>
<td>1,481</td>
<td>0.43%</td>
<td>3,031</td>
<td>0.89%</td>
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<tr>
<td><strong>Leeeward Island Mountains</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>AT</td>
<td>16,098</td>
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<td>0</td>
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<td>14,436</td>
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<td>0.00%</td>
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<td>3.25%</td>
<td>2,428</td>
<td>0.71%</td>
<td>13,586</td>
<td>3.94%</td>
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<td>MHHmm1</td>
<td>128,074</td>
<td>41.53%</td>
<td>586</td>
<td>0.46%</td>
<td>53,778</td>
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<td>MHHmm2</td>
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<td>0.25%</td>
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<td>75.65%</td>
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<td><strong>Subtotal</strong></td>
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<td>6,016</td>
<td>0.67%</td>
<td>144,435</td>
<td>16.10%</td>
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<td><strong>Windeward Island Mountains</strong></td>
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<td></td>
<td></td>
</tr>
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<td>0.00%</td>
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<td>70.12%</td>
</tr>
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<td>CWHvm1</td>
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<td>24.43%</td>
<td>11,107</td>
<td>5.37%</td>
<td>61,587</td>
<td>29.80%</td>
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<tr>
<td>CWHvm2</td>
<td>634,116</td>
<td>7.38%</td>
<td>16,966</td>
<td>2.68%</td>
<td>63,790</td>
<td>10.05%</td>
</tr>
<tr>
<td>CWHxcm</td>
<td>216,975</td>
<td>9.97%</td>
<td>4,568</td>
<td>2.11%</td>
<td>26,207</td>
<td>12.08%</td>
</tr>
<tr>
<td>MHHmm1</td>
<td>81,638</td>
<td>32.37%</td>
<td>1,360</td>
<td>1.67%</td>
<td>27,785</td>
<td>34.03%</td>
</tr>
<tr>
<td>MHHmm2</td>
<td>5,190</td>
<td>42.91%</td>
<td>426</td>
<td>8.21%</td>
<td>2,653</td>
<td>51.12%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>1,145,327</td>
<td>12.93%</td>
<td>34,427</td>
<td>3.01%</td>
<td>182,543</td>
<td>15.94%</td>
</tr>
<tr>
<td><strong>Northern Island Mountains</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT</td>
<td>2,327</td>
<td>86.29%</td>
<td>0</td>
<td>0.00%</td>
<td>2,008</td>
<td>86.29%</td>
</tr>
<tr>
<td>CWHvm1</td>
<td>198,781</td>
<td>3.80%</td>
<td>8,988</td>
<td>4.62%</td>
<td>16,536</td>
<td>8.32%</td>
</tr>
<tr>
<td>CWHvm2</td>
<td>157,750</td>
<td>5.36%</td>
<td>5,648</td>
<td>3.58%</td>
<td>14,102</td>
<td>8.94%</td>
</tr>
<tr>
<td>CWHxcm</td>
<td>59,238</td>
<td>0.09%</td>
<td>2,847</td>
<td>4.81%</td>
<td>2,909</td>
<td>4.90%</td>
</tr>
<tr>
<td>MHHmm1</td>
<td>128,362</td>
<td>9.42%</td>
<td>5,296</td>
<td>4.13%</td>
<td>17,386</td>
<td>13.54%</td>
</tr>
<tr>
<td>MHHmm2</td>
<td>21,155</td>
<td>20.85%</td>
<td>225</td>
<td>1.06%</td>
<td>4,636</td>
<td>21.91%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>567,613</td>
<td>6.09%</td>
<td>23,004</td>
<td>4.05%</td>
<td>57,568</td>
<td>10.14%</td>
</tr>
</tbody>
</table>
Ecosystem Representation in Protected Areas on Vancouver Island

<table>
<thead>
<tr>
<th>Ecosystem Classification (Ecosection and Biogeoclimatic subzone variant)</th>
<th>Area</th>
<th>Existing Protection</th>
<th>Percent in Existing Protection</th>
<th>Proposed Protection</th>
<th>Percent in Proposed Protection</th>
<th>Existing &amp; Proposed Protection</th>
<th>Percent in Existing &amp; Proposed Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAHWITTI LOWLAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CWHvh1</td>
<td>123,449</td>
<td>10,890</td>
<td>8.72%</td>
<td>13,151</td>
<td>10.65%</td>
<td>24,041</td>
<td>19.47%</td>
</tr>
<tr>
<td>CWHvm1</td>
<td>142,160</td>
<td>0</td>
<td>0.00%</td>
<td>10,519</td>
<td>7.40%</td>
<td>10,519</td>
<td>7.40%</td>
</tr>
<tr>
<td>CWHvm2</td>
<td>4,970</td>
<td>0</td>
<td>0.00%</td>
<td>263</td>
<td>5.29%</td>
<td>263</td>
<td>5.29%</td>
</tr>
<tr>
<td>MHHmm1</td>
<td>247</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>270,826</td>
<td>10,890</td>
<td>4.02%</td>
<td>23,933</td>
<td>8.84%</td>
<td>34,823</td>
<td>12.86%</td>
</tr>
<tr>
<td>TOTAL VI</td>
<td>3,222,499</td>
<td>333,539</td>
<td>10.35%</td>
<td>88,861</td>
<td>2.76%</td>
<td>422,400</td>
<td>13.11%</td>
</tr>
<tr>
<td>STRAIT OF GEORGIA</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>CDFmm</td>
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<td>311</td>
<td>73.35%</td>
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<td>311</td>
<td>73.35%</td>
</tr>
<tr>
<td>CWHxm1</td>
<td>19,513</td>
<td>882</td>
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<td>882</td>
<td>4.52%</td>
</tr>
<tr>
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<td>0</td>
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<td>1,193</td>
<td>5.98%</td>
</tr>
<tr>
<td>OUTER FIORDLANDS</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>CWHxm1</td>
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<td>0</td>
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</tr>
<tr>
<td>CWHxm2</td>
<td>23,417</td>
<td>0</td>
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<td>0.00%</td>
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<td>0.00%</td>
</tr>
<tr>
<td>CWHdm1</td>
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<td>258</td>
<td>15.41%</td>
</tr>
<tr>
<td>CWHmm1</td>
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<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>26,910</td>
<td>258</td>
<td>0.96%</td>
<td>0</td>
<td>0.00%</td>
<td>258</td>
<td>0.96%</td>
</tr>
<tr>
<td>TOTAL STG AND OF</td>
<td>46,847</td>
<td>1,451</td>
<td>3.10%</td>
<td>0</td>
<td>0.00%</td>
<td>1,451</td>
<td>3.10%</td>
</tr>
<tr>
<td>TOTAL PLANNING AREA</td>
<td>3,269,346</td>
<td>334,990</td>
<td>10.25%</td>
<td>88,861</td>
<td>2.72%</td>
<td>423,851</td>
<td>12.96%</td>
</tr>
</tbody>
</table>

NOTE: For analysis purposes, the Nahwitti Lowland Ecosection includes areas of the Hectate Depression and Queen Charlotte Strait Ecosections within the V.I. Regional Planning Area. The area for the Strait of Georgia and Outer Fiordlands refers to the area of these ecosections within the V.I. Regional Planning Area. Figures are for land surface area only, excluding water.