Commercial Marina Management in Southwestern Coastal British Columbia:
An Analysis of the Associated Economic Geography
of the Marine Based Recreation System

by

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ABSTRACT

This thesis examines an important subsector of coastal marine tourism- the commercial (privately-owned) marina industry in southwestern coastal British Columbia. The subsystem of the commercial marina industry is discussed in light of the recognition of marina operators as a key 'stakeholder' group in the overall marine tourism system. An ideal model which outlines the significance of the marina operator as a decision maker in the coastal zone region of the tourism/recreation sectors is developed. This model is then used as a framework for identifying the integral components of the economic subsytem of the commercial marina industry and examining the subsystem from the **suppliers'** (marina operators') perspective.

The decision-making paradigms of commercial marina operators are analyzed in order to reveal the value of understanding economic, geographic, political, ecological, social, and cultural factors. These paradigms are significant as they provide insight into the type of management strategies adopted by commercial marina operators. In addition to discussing the management framework adopted by commercial marina operators, this thesis identifies and analyzes marina operators' attitudes and opinions towards marine tourism pressures in southwestern coastal BC, government intervention, industry regulations, environmental quality, wildlife conservation, and coastal zone management.

In conclusion, commercial marina operators in southwestern coastal BC are currently confronted with several significant issues and problems. It is essential that

these issues are recognized and addressed by all members of the marine tourism industry in order to sustain the viability of BC's commercial marina industry.

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DEDICATION

To Grandpa Ben and Grandma Ella
With Love

CHAPTER 1

INTRODUCTION

1.0 THE COASTAL ZONE

The coastal regions of British Columbia are world renowned for their breathtaking, awe-inspiring natural beauty and ambience. The unique combination of marine and terrestrial resources of the coast provides numerous opportunities for those who inhabit and visit the region. Similarly, BC's coastal resources offer a desirable place to live as evidenced by the rapid population growth in southwestern coastal BC (British Columbia Round Table on the Environment and the Economy, 1993).

This study focuses on an important subsector of coastal marine tourism- the commercial (privately-owned) marina industry. Specifically, it identifies and analyzes marina operators' attitudes and opinions towards-marine tourism pressures in southwestern BC, government intervention, industry regulations, environmental quality, wildlife conservation and coastal zone management. In addition to revealing problems within the commercial marina industry and searching for answers to these issues, this study focuses on marina operators as important decision makers and key 'stakeholders' within the marine based recreation system. It is necessary to begin with a brief description of what is meant by the terms 'coastal zone', 'leisure and recreation' and 'coastal zone management' within its jurisdictional setting. The significance of marine tourism in the coastal regions of southwestern BC supports the rationale and purpose of the study. The conceptual base for the study is based on the literature relating to the

significance of marina operators as decision makers in the coastal zone region of the tourism/recreation sectors. A description of the organization of the economic subsystem of the commercial marina industry is provided in addition to an overview of marina development in southwestern coastal BC and an assessment of the jurisdictional context of marina developments. A thorough analysis of the study results reveals the problems and issues confronting marina operators in southwestern coastal BC. Finally, a summary of the recommendations made by marina operators' regarding the management of the coastal zone and the commercial marina industry is provided.

Before detailed consideration can be given to the significance of recreation and marine tourism in the coastal zone, the concepts and terminology used to define 'the coastal zone', 'tourism','leisure' and 'recreation' must be identified and discussed. As exemplified in the following quotations, definitions of the 'coastal zone' vary according to the nature of the problem addressed by managers, scientists, researchers, and legislators.

> The coastal zone is the band of dry land and adjacent ocean space (water and submerged land) in which ecology and use directly affect ocean space ecology, and vice versa. The coastal zone is a band of variable width which borders the continents, the inland seas, and the great lakes. Functionally, it is the broad interface between land and water where production, consumption, and exchange processes occur at high rates of intensity. Ecologically, it is an area of dynamic biogeochemical activity, but with limited capacity for supporting various forms of human use. Geographically, the landward boundary of the coastal zone is necessarily vague. (Ketchum, 1972)

> The coastal zone is a region of transition between two environments, the land and the sea. [It] has been defined as that part of the land affected by its proximity to the sea and that part of the ocean affected by its proximity to the land (Johnston, Pross, McDougall, and Dale, 1975).

> ... the approximate distance inland from the coast... is set at fifty miles, measured from the mean high water mark.... Similarly, the region is taken as extending some fifty

miles offshore-this distance being close to the average distance at which many shore-based activities take place, such as recreational boating, sport fishing, or "day-fishing" by commercial vessels (Johnston, Pross, McDougall, and Dale, 1975).

(1) seaward, the territorial sea of the United States, and (2) landward, the tidal waters on the landward side of the low water mark along the coast, the Great Lakes, port and harbour facilities, marine recreational areas, and industrial and commercial sites, dependent upon the seas or the Great Lakes (Johnston, Pross, McDougall, and Dale, 1975)

The coastal zone is the dynamic area where the land meets the sea. It includes coastal waters and the adjacent shorelands; areas which strongly influence one another. It is composed of open waters, estuaries, bays, inlets, lagoons, marshes, swamps, mangroves, beaches, dunes, bluffs, and coastal uplands (U.S. Department of Commerce, 1988).

What constitutes the coastal zone depends upon the purpose at hand. From both the functional and scientific viewpoints, the extent of the zone will vary according to the nature of the problem. The boundaries of the coastal zone should extend as far inland and as far seaward as necessary to achieve the objectives of management. (OECD, 1993a)

It is evident therefore, that a specific, restricted definition of the 'coastal zone' is not useful. Thus, for management purposes, the definition of the 'coastal zone' should be broad and flexible as to incorporate appropriate geographical, institutional, economic, social, cultural, and ecological considerations (Hildebrand, 1975). Managers and scientists must not only consider the economic and physical values of the coastal zone but must allow intrinsic values as well as ecological, social and cultural values associated with the coastal zone to be recognized (Hickman and Cocklin, 1992). Currently, this aim of maintaining the essential qualities of all valued components of the coastal zone represents one of the greatest challenges facing coastal zone managers and planners.

The concepts of 'tourism', 'leisure' and 'recreation' are broad in scope and as with the 'coastal zone' cannot be precisely defined (Mathieson and Wall, 1982).

A review of the literature reveals that the definitions of tourism, leisure and recreation are relative- depending on "the particular concern and perspective of each individual theorist" (Gilbert, 1990; Phelps, 1988; Smith & Mitchell, 1990). Although the use of the terms 'tourism', 'leisure', and 'recreation' have led to a number of complex meanings, an attempt to clarify the theoretical roots of the applied terminology is beyond the scope of this thesis. As a result, this research adopts Mathieson and Wall's (1982) generally accepted definition of leisure

> "as a measure of time: it is the time remaining after work, sleep and necessary personal and household chores have been completed. It is the time available for doing as one chooses. Leisure may thus be defined as 'discretionary time'."(1982).

Thus, "an activity of leisure time undertaken by choice and for pleasure would constitute recreation" (Phelps, 1988). Although recreation and tourism may be viewed as separate concepts, it is also argued that they are elements of the more general phenomenon of leisure (non work) behaviour (Mathieson and Wall, 1982).

The basic elements and features of recreation and tourism are of interest to geographers both on the one hand in terms of spatial behaviour and on the other general environmental implications. Loosely defined, tourism can be viewed as "a range of choices or styles of recreation expressed either through travel or a temporary short term change of residence" (Mathieson & Wall, 1982). The use of land and marine resources by tourists and recreationists create patterns of movement at a variety of scales over a period of time. As a result, these patterns of location and spatial distribution are essential components of locational analysis and economic geography (Harvey, 1969; Smith 1981; Haggett, 1990; Johnston, 1991).

Resource managers and conservation geographers are also interested in the effects of tourism and recreation on land and marine resources and the surrounding ecological environment (O'Riordan, 1981; Mitchell, 1989; Rees, 1990). Physical geographers are interested in the topography, geology, hydrology, and climatology of the coastal zone. For example, some geographers analyze the physical features of certain coastal regions to try and determine why they are considered ideal tourist destinations while others apply quantitative tests to determine impacts on water quality and pollution levels (Mathieson & Wall, 1982; Miller 1987; Smith & Mitchell, 1990).

One of the major activities in the coastal zone is leisure boating. Consequently this study examines the coastal zone with special emphasis on leisure and tourism activities. For the purpose of this research which is exploratory in nature, holistic definitions of the 'coastal zone' and 'marine tourism' are more useful and are therefore used. The adoption of broad flexible definitions of these terms allows one to examine the economic and physical components of marine tourism in the coastal zone as well as the ecological, social and cultural values associated with these activities **as a system.**

1.1 COASTAL ZONE MANAGEMENT: THE JURISDICTIONAL CONTEXT

1.1.1 Defining Coastal Zone Management

Although the management of coastal resources has been of great concern to government managers and planners, scientists, and academics (e.g. Ketchum, 1972; Johnston & Pross, 1975; Scott, 1978; Dorcey, 1981; Bish & Sproule-Jones, 1981; Coccossis, 1985; Chasis, 1985; Archer & Knecht, 1987; Beatley, 1991) for three

decades, confusion still exists in the literature as to what defines "coastal zone management (CZM)".

Ditton et al. (1977) define "coastal management" as "the piecemeal, uncoordinated efforts of public (government) or private (business) sectors to allocate coastal resources". Johnston & Pross (1975) acknowledge coastal zone management as a "special kind of resource management". To reinforce this argument they quote O'Riordan's (1971) definition of resource management as:

> a process of decision making whereby resources are allocated over space and time according to the needs, aspirations and desires of man within the framework of his technological inventiveness, his political and social institutions, and his legal and administrative arrangements.

In contrast to Johnston & Pross (1975) who believe that the coastal zone should be managed as a single resource, Bish & Sproule-Jones (1983) have adopted the term "governance" instead of "management". They argue that each individual coastal resource use requires its own different set of governing institutional management guidelines and that the governance of each individual resources use is complex, as it involves both government (non-market) and market activities (Windsor, 1989). This definition is significant as it recognizes the interactions between numerous coastal zone resource uses.

Currently, there is no universally accepted approach for coastal zone management. Different authors have argued for different goals and the adoption of several diverse approaches for coastal zone management (Windsor, 1989).

Ketchum (1972) views coastal zone management as a "management" function which involves:

1) developing and understanding the coastal zone **as a system**

2) using this knowledge to create a dynamic plan for its best use

3) implementing and enforcing that plan

Ketchum also acknowledges the significance of coastal zone development in addition to the preservation of the coastal zone when he argues that:

> Complex mechanisms will be necessary to regulate and promote compatible uses and to determine which parts of the coastal zone should be set aside for exclusive uses. For example, industrial development and preservation are not compatible, but both are desirable uses of the coastal zone system.

Coccossis (1985) identifies the conflict between development and preservation in the coastal zone. He argues that coastal zone management must incorporate three major goals:

1) integrated and pluridisciplinary approach

2) management approach

3) action

According to Coccossis (1985), an integrated and pluridisciplinary approach to coastal zone management must be based on the goal that:

> development of these areas (coastal zone) should not be in a conflict with environmental protection. On the contrary, development and protection are interdependent and should be approached in a comprehensive way. This suggests

> an integration of environmental and socioeconomic parameters early in the planning process in every step or level of decision making...

Due to increasing competition for the limited supply of land and marine resources within the coastal zone, conflict among coastal zone users is intensifying. Dorcey (1986) maintains that management of the coastal zone is essentially "a process of conflict resolution and that bargaining is a preferred mechanism in this regard" (Windsor, 1989). He argues that "bargaining" refers to "strategic management," "integrated resource management," and "multiple use management". The need for a conflict resolution approach for coastal zone management has been supported by Alley (1983) who recognizes that coastal zone management in British Columbia has been marked by numerous resource-use conflicts.

Clearly, it is evident that no clear consensus exists as to what defines the coastal zone and coastal zone management. As a result, many coastal nations are currently struggling with the problem of adopting an effective coastal zone management strategy and establishing the appropriate bounds of jurisdictional management. The following section examines the similarities and differences between coastal zone management approaches adopted by Canada and the United States. Both countries have long coastlines, a variety of issues and Federal/ Provincial/State jurisdictions.

1.1.2 Government Initiatives

Making decisions about land, water and coastal zone use are complex processes. Government agencies are pushed and pulled by a variety of interest groups. Furthermore

government agencies themselves may have conflicting responsibilities that make land and marine use decision making difficult. Ideally, CZM legislation and programs attempt to reconcile these problems by providing guidelines to help resolve the conflict of interests. In order to illustrate how this is done, the CZM frameworks of the United States and Canada are discussed.

The basis for U.S. coastal zone management is established in legislation which in turn reflects the public's perception that it is a significant problem requiring government intervention. In 1972 the United States Congress enacted the Coastal Zone Management Act (CZMA) because of the need to protect all resources of the coast (Day and Gamble, 1990). The CZMA is based on a federal-state partnership which establishes a national framework for coastal management and encourages states to address their goals. Specifically, the act "recognized the need to protect important ecological, cultural, historical, and aesthetic values of the coastal zone, recognizing that living marine resources, wildlife, wetlands, and open spaces had been seriously impaired by development pressures and threatened by burgeoning shoreline development" (Day and Gamble, 1990). U.S. Congress also enacted four national CZM policies in its CZMA:

1) to preserve, protect, develop, and restore coastal resources

2) to assist the states in developing and implementing programs that meet specified national standards

3) to encourage special management plans that protect nationally significant natural resources and improve protection of life and property in hazardous areas while insuring reasonable coastal dependent economic growth

4) to encourage local, state, and federal agencies to develop public participation programs for achieving the purposes of the act (Day and Gamble, 1990)

The National Oceanic and Atmospheric Administration (NOAA) is the agency responsible for managing the CZMA and ensuring that state coastal zone management plans conform with the criteria outlined in the Act (Day and Gamble, 1990). The NOAA also has the power to withhold federal funds, withdraw federal approval of state CZM programs, and evaluate state programs. It is the federal government's responsibility to ensure that federal activities affecting the coastal zone comply with the standards of state programs (Godschalk, 1992).

Before the 1972 CZMA was introduced, many states had already passed several laws regulating coastal zone uses but only a few states were implementing effective coastal plans. However, local governments were given control over the conservation and protection of coastal resources across the state and as a result, local development policies evolved with very little planning at the regional level (Godschalk, 1992). In contrast, the CZMA was designed to increase the cooperation between all levels of government in order to adopt effective coastal zone management procedures. In particular, Congress specified that at a minimum, states must:

- protect fish, wildlife, and natural wetland resources
- minimize the loss of life and property from coastal hazards
- establish guidelines for siting major energy, fisheries, recreation, ports, and transportation facilities
- assure that local regulations do not restrict public access and recreation
- redevelop urban waterfronts and ports
- preserve and restore historic, cultural, and aesthetic coastal features
- consult and coordinate actions with federal agencies

- encourage public and local government participation in coastal management decision making

- establish comprehensive conservation and management plans for living marine resources, and siting of pollution control and aquaculture facilities

(Day and Gamble, 1990)

Throughout the United States, approximately 29 CZM programs have been approved by the federal government and as a result states have been given a large amount of flexibility in the way they address coastal issues (Day and Gamble, 1990). It is recognized that each state program differs from one another in the way local governments are involved in the planning and implementation process. In some states, local governments are not involved in the decisions regarding the protection, conservation, and development of coastal resources, whereas in other states such as Washington and California, local governments are intensely involved in coastal zone program implementation and regulation (Godschalk, 1992).

In Canada the federal and provincial governments' policy to coastal zone management can be described as a 'piecemeal approach" (Day and Gamble, 1990) whereby the legislative responsibility for planning and managing coastal resources is divided between the federal and provincial governments. The provincial governments have the power to delegate land use planning authority to municipal and regional governments in addition to jurisdiction over civil and property rights. In contrast, the federal government has jurisdiction over the protection and conservation of marine and inland fisheries, shipping and navigation, international issues, and interprovincial issues (Day and Gamble, 1990). The provincial governments also have the responsibilities of

coastal land and resource management except for national parks, coastal and freshwater defense structures, and the federally governed lands and resources of the northern territories. As a result of the overlapping responsibilities of both the federal and provincial governments in several coastal and marine areas, there is a tremendous need for cooperation and integrated coastal zone management efforts. Yet indications are that this has been ineffective due to a lack of communication between both levels of government.

Environment Canada attempted to devise a national approach to CZM during the 1970s when it appointed a coastal zone coordinator and organized a national conference (Day and Gamble, 1990). However, the federal government failed to implement the recommendations of the conference and legislative goals for coastal zone management were not created. Due to a lack of funds and the fragmented, ineffective federal initiatives and incentives, the capability of the provincial governments in obtaining an integrated planning and management approach for the coastal zone have been extremely limited. Currently, those federal institutions involved in CZM include Environment Canada, Department of Fisheries and Oceans, Energy, Mines, and Resources Canada, Parks Canada, Transport Canada, and Public Works Canada (Day and Gamble, 1990). The Canadian Coast Guard which was amalgamated with the Department of Fisheries and Oceans in 1995 has an important role in Canada's coastal regions (Department of Fisheries and Oceans, 1998). The Coast Guard's duties and responsibilities include: conducting scientific studies and projects, maintaining aids to navigation, search and rescue, fisheries patrol and research duties, marine pollution monitoring and clean-up,

and channel sounding (Department of Fisheries and Oceans, 1998). However, there is no government agency that deals exclusively with the coastal zone and is legally responsible for the management and development issues regarding Canada's coastal regions. Thus, as the conflicts over coastal zone resources intensify, it is essential that Canada implement a lead agency to coordinate federal and provincial coastal initiatives. Activities in the coastal zone are increasing in number and intensity. On Canada's Pacific coast, the population is increasing, ports and marine traffic are growing and recreation particularly in the form of tourism continues to expand rapidly. How significant then is marine tourism in BC in creating pressures within the coastal zone?

1.2 THE SIGNIFICANCE OF MARINE TOURISM IN BRITISH COLUMBIA

British Columbia is characterized by extensive mountain regions, spectacular coastline areas, numerous rivers and freshwater lakes. This resource abundance provides many recreational and tourism opportunities to both visitors and residents (ARA Consulting Group, 1991). BC's marine tourism sector is clearly dependent on maintaining the quality of both the physical and ambient scenic resources. Due to increases in lodges, resorts, and marina developments and a boom in adventure tourism and recreation, BC's recreational boating industry, a subsector of BC's marine tourism industry has experienced an enormous period of growth over the last twenty years (ARA Consulting Group, 1991). As such, it is recognized that these natural resources are an important asset to BC's tourism industry.

In BC, the recreational activity in the coastal zone with the largest demand is sportfishing (Department of Fisheries and Oceans, 1985). However, the marine tourism sector also incorporates other activities such as recreational boating- which includes sail and power cruising, kayaking, scuba diving, marina activities, and wildlife viewing (ARA Consulting Group, 1991). BC's marine tourism operations are a diverse service industry which incorporates commercial operations (privately-owned enterprises) as well as those services and facilities which are managed by groups or government agencies (ARA Consulting Group, 1991). Moreover, marine tourism in BC shares and overlaps with other users of the coastal zone.

Commercial operators are generally classified according to the type of recreational activities that they provide such as charter operations, marinas, fishing lodges and resorts that offer a variety of marine based activities which may include whalewatching, scuba diving, sportfishing, power cruising, and sail cruising (ARA Consulting Group, 1991). The marine based facilities and services provided by government agencies include: public wharves and docks administered by the Small Craft Harbours Branch (which involves both federal and local levels of management), floats and buoys supplied by the Federal Department of Transport, and provincial marine parks (Dearden, 1990; ARA Consulting Group, 1991).

Coastal marine tourism in British Columbia is constrained by three major physical factors: accessibility, climate, and topography (Dearden, 1990). Except for the east coast of Vancouver Island and the Fraser delta region surrounding the urban center of Vancouver, steep rugged shorelines and deep narrow fjords dominate the majority of

BC's coast. As illustrated in Figure 1.1, there is no north to south coastal highway, therefore, access to these coastal areas other than by boat or float plane, is severely restricted and often impossible (Dearden, 1990). Cool wet summers and extreme winter storms which frequent the north Pacific coast restrict a large majority of marine based and land based recreational activities to the summer. However, in southwestern BC, the Strait of Georgia and the Southern Gulf Island region represents an anomaly. Situated in the rain shadow of the Olympic mountains of Washington State and the coastal mountains of Vancouver Island, the region experiences lower levels of precipitation and longer periods of warm dry, sunny weather (Dearden, 1990; Wood & Sadler, 1992). Consequently, this "cool Mediterranean" climate provides the ideal conditions for numerous marine and land based recreational opportunities (Wood & Sadler, 1992).

Southwestern British Columbia is the population core of the province encompassing the cities of Vancouver, Victoria, and Nanaimo while located in the adjacent Puget Sound region of Washington State are the urban regions of Bellingham, Seattle, and Tacoma (British Columbia Round Table on the Environment and the Economy, 1993). As a result, the majority of marine based recreational activities occur in the relatively sheltered waters of the southern Georgia Strait region which is close to these urban centers (Figure 1.2). Subsequently, the majority of facilities and services provided by the marine tourism industry are also concentrated within the lower Georgia Strait region (Dearden, 1990). The combination of a relatively warm dry climate, an accessible coastline, spectacular coastal scenery, high incomes in the region, and a close proximity to three major urban centers contributes to the extremely high levels of

recreational marine activities in the calmer waters of the Strait of Georgia, particularly around the southeastern coastal area of Vancouver Island and the Gulf Islands.

However, due to the rapid growth and popularity of recreational marine recreation in southwestern coastal BC several problems and issues have arisen. These include:

1) Increased competition for geographical space among coastal zone users
2) Overcrowding at marinas - decrease in moorage space with close proximity to major urban centers
3) Decrease in accessible coastline and waterfront property
4) Decrease in the quality of the surrounding terrestrial and marine environments
5) Lack of a coordinated coastal zone management regime

1.3 THESIS PURPOSE

This thesis focuses on one important subsector of coastal marine tourism-the commercial (privately-owned) marina industry. It identifies and analyzes marina operators' attitudes and opinions towards marine tourism pressures in southwestern BC, government intervention, industry regulations, environmental quality, wildlife conservation, and coastal zone management. In addition to revealing problems and probing for answers to these issues, it identifies the critical factors influencing the decision making framework of commercial marina operators as important members of the marine based recreation system. Given that previous studies have focused mainly on the marina **users**, the management problems confronting the **suppliers** of commercial marinas within the marine tourism industry have been neglected. As a result, there is a real and urgent need to understand the problems and issues confronting operators of

commercial marinas as they clearly represent a key 'stakeholder' group in the marine tourism industry.

1.4 RATIONALE FOR THE STUDY

Figure 1.3 provides evidence that the increase in population within the Georgia Basin region of British Columbia is having considerable impacts on the boating trends of the region. Due to the increase in the overall boat population, an increase in annual weekend boat days and an increase in the transient boat population, the popularity of marine tourism in coastal BC is growing rapidly (British Columbia Round Table on the Environment and the Economy, 1993). Therefore, effective management regimes are essential for regulating the impacts, coordinating the requirements of various interest and stakeholder groups, and ensuring the sustainability of the coastal region as a multiple resource system. Recent growth in the recreational boating market has resulted in the publication of several functional, "user-friendly" marina guides that identify the location and outline the services of public and private moorage facilities in southwestern coastal region of BC and Washington State (BC Ministry of Tourism, 1991; Vassilopoulos, 1994; Fox, 1995, 1996) However, there is very little evidence of a comprehensive study that describes, compares, and evaluates the contribution of privately-owned marinas and the types of facilities and services they provide for the region. Given that commercial marinas have a large impact on the success marine tourism in British Columbia and are an important stakeholder group, it is clear that this exploratory study of their value and contribution as a service industry is required.

FIGURE 1.1: SOUTHWESTERN COASTAL BRITISH COLUMBIA

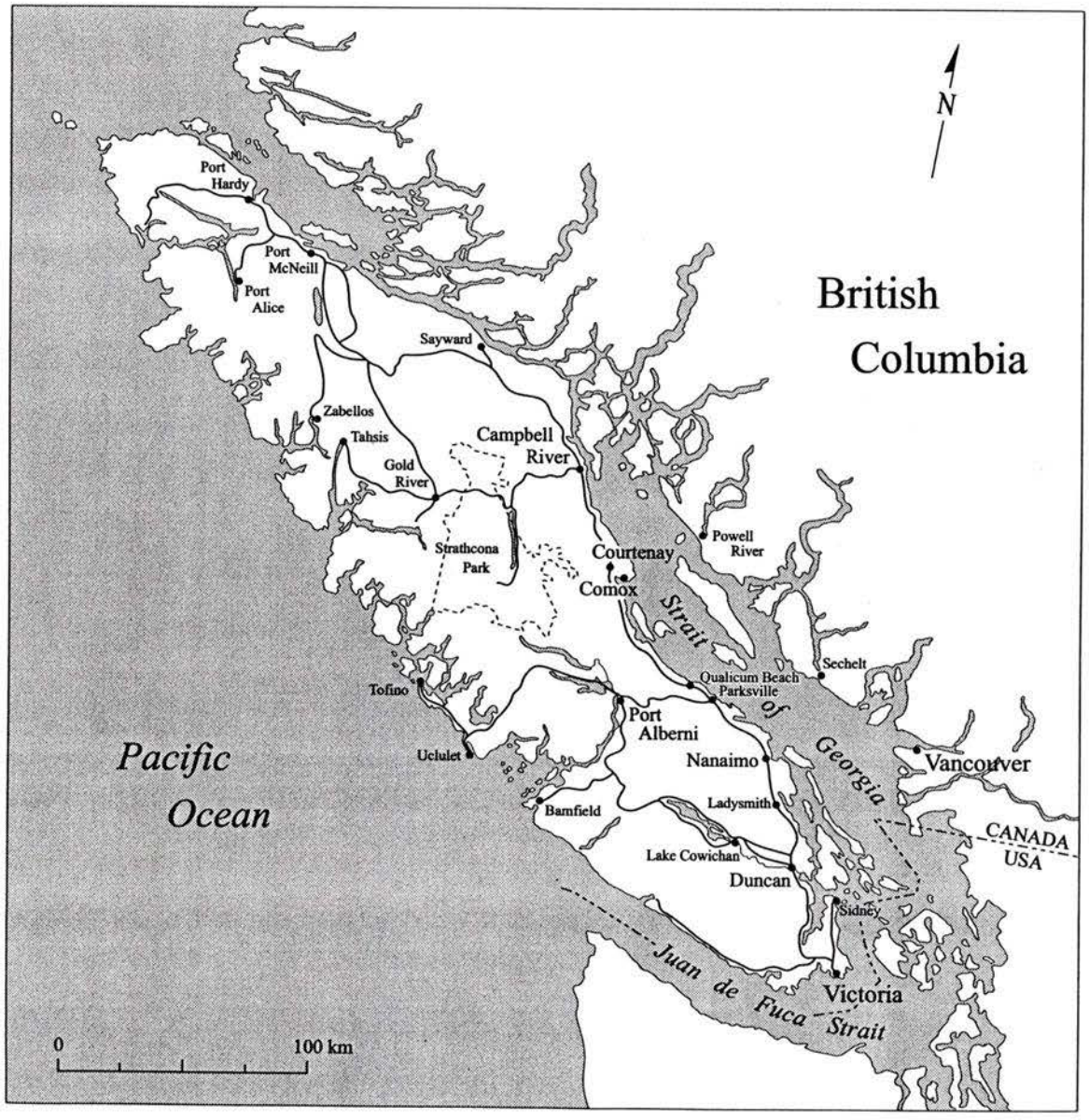
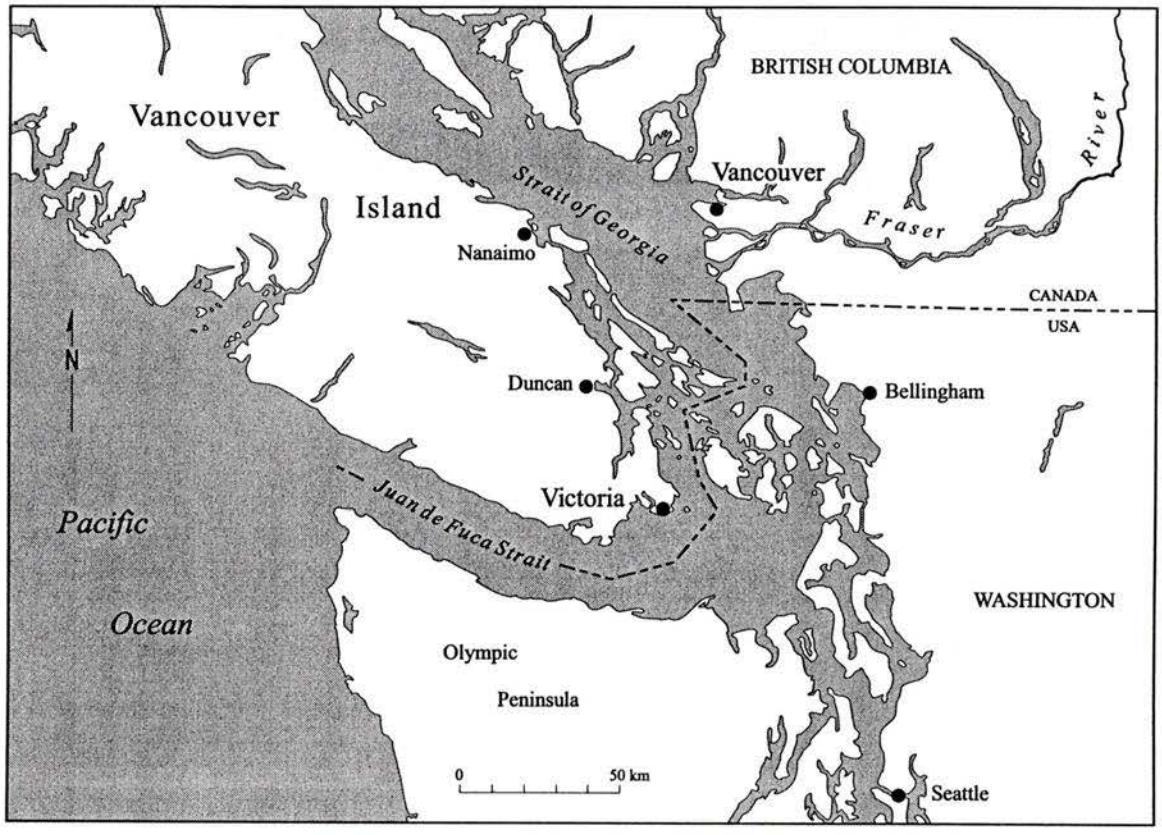


FIGURE 1.2: GEORGIA STRAIT REGION



Several researchers have been concerned with the impacts of tourism on the Georgia Basin-Puget Sound region and have undertaken studies to determine the demand and supply of recreational boating facilities (Lea & Associates, 1966; Washington State, 1968; Clark, 1969; Mos & Harrison, 1974; Woods, Gordon & Company, 1974; Alley & Ferguson, 1976; Harrison, 1979; Rhodes, 1979; Pfister, 1979; Eby & Associates, 1979). When examining the economic impacts of recreational boating in BC, Shaffer et al. (1977) revealed that boating expenditures generate significant incomes and jobs for residents.

In 1991, the BC Ministry of Tourism published a report entitled *Marine Tourism in British Columbia: Opportunity Analysis* (ARA Consulting Group, 1991) which presented a detailed profile of the marine tourism industry and identified growth opportunities. Yet despite these initial studies, the scope and contributions of BC's commercial marinas and their significance in BC's marine tourism industry still remains poorly understood. Although boaters' attitudes and preferences to marina facilities and tourism pressures have been identified, these studies are now twenty to thirty years old. In contrast, marina managers' attitudes and opinions towards the marina industry have **never** been identified and recorded in a comprehensive study and no recent effort has been made to forecast future facility requirements within the region (Lea & Associates, 1966; Wolferstan, 1971; Mos & Harrison, 1974; Meyer & Harrison, 1976; Small Craft Harbours Branch, 1979; Rhodes, 1979). Further, as it will be discussed in Chapter Two, the recreational boating and coastal tourism literature indicate that an urgent need for this study exists.

1.5 FOCUS AND IMPLEMENTATION OF THE GENERAL PROBLEM

It is evident that:

1) There are significant pressures on all activities in BC's coastal regions, especially marina operations, generated by an increasing population and rising incomes.

2) BC's commercial marina industry contributes significantly to British Columbia's marine tourism industry and BC's economy but it has been poorly documented (ARA Consulting Group, 1991).

3) An abundant supply of commercial marinas exists to serve recreational boaters within the Georgia Basin-Puget Sound region.

4) The factors influencing the geographical distribution and economic vitality of commercial marinas are unclear.

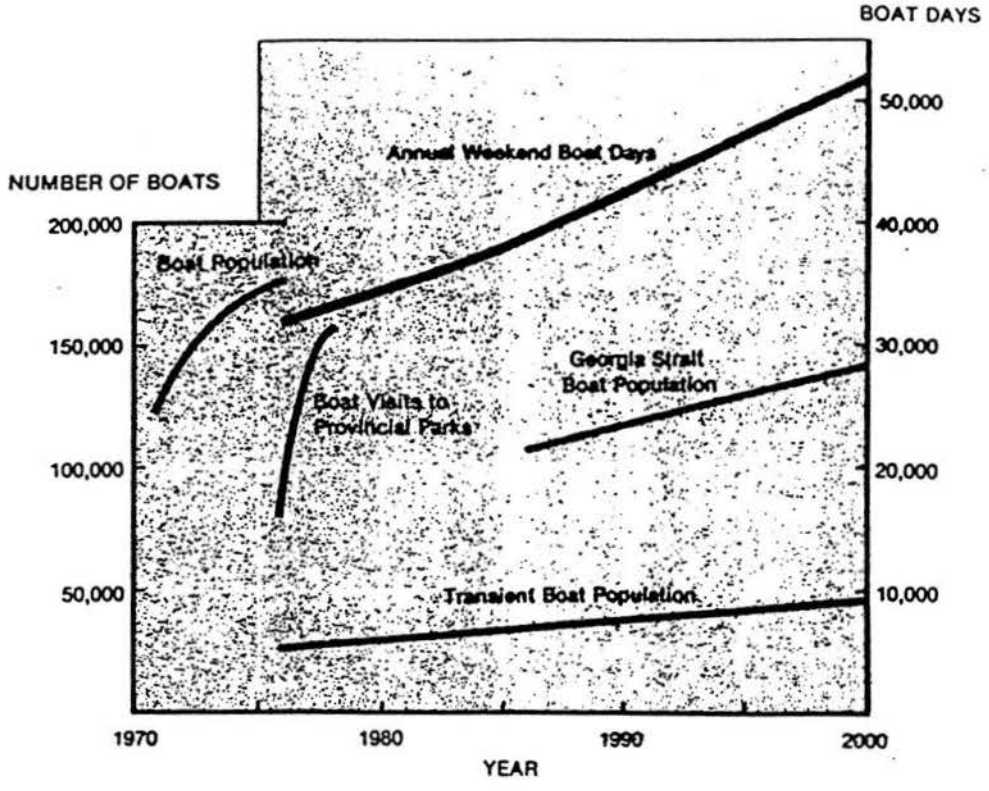
Revealing the issues and problems confronting the commercial marina industry and understanding how operators think such matters should be resolved could assist in the creation of viable management guidelines. A geographical analysis of this sector will be useful for managers, planners and those individuals interested in recreational boating and coastal zone management in general.

1.6 SPECIFIC QUESTIONS

This research attempts to answer the following specific questions:

1) What are the specific tourism pressures affecting commercial marinas located in the coastal regions of southwestern British Columbia?

FIGURE 1.3: BOATING TRENDS IN SOUTHWESTERN COASTAL BRITISH COLUMBIA



This figure must be treated with caution. Problems and inconsistencies may arise when interpreting the incomplete data relating to the boat population and boat visits to provincial parks.

Source: Dearden, P. 1990. "Pacific Coast Recreational Patterns and Activities in Canada", in *Recreational Uses of Coastal Areas*, Fabbri, P.(ed.), Netherlands: Kluwer Academic Publishers:111-123.

2) Specifically, have the number and size of boats moored at marinas increased thereby resulting in overcrowding at marina docks?

3) What are the levels of competition for locational space with marinas and other coastal zone users?

4) What are the three most important issues/problems currently confronting the commercial marina industry in southwestern BC?

1.7 THESIS OVERVIEW

This thesis will describe the general concept of marina location as a leisure facility. It will then focus on and analyze the problems confronting commercial marina operators located in the coastal regions of southwestern BC.

Specifically this thesis

- examines marina managers' attitudes towards tourism
- determines trends in their orientation towards coastal zone management legislation and regulations.
- suggests a viable level of marina operators' input into sustainable CZM practices

Chapter Two reviews the research literature as it relates to the significance of marina operators as decision makers within the economic subsystem of commercial marina operations. It makes possible the formulation of a conceptual model of the commercial marina operators decision making situation and thereby provides a general framework for the specific questions raised in section 1.6. Chapter Three describes the study area and reviews the history of marina development in southwestern British Columbia as well as the jurisdictional context of marina developments. Chapter Four

outlines the methodology of the questionnaire that was used to determine and explore the opinions of commercial marina operators with regards to tourism pressures, government regulations, environmental concerns, and coastal zone management. Chapter Five provides a detailed analysis of the results of the study followed by a discussion of the key findings and their significance. Chapter Six summarizes implications of the results of this thesis and examines the impact of this study on future research and the development of public policies relating to marine tourism and coastal zone management. More importantly, however, this thesis concludes with the recommendations made by marina operators, significant stakeholders in the future development of the coastal zone.

CHAPTER 2

MARINA LOCATION: A CONCEPTUAL BASE

This research focuses on those commercial marinas located in the Georgia Basin region of British Columbia; however, it is also hoped that the findings and implications will be useful for marina management generally. The following review of the salient literature regarding coastal tourism, recreational boating, and the economic geography of the service sector, specifically the leisure group, sets out the issues and resources and the nature of the system involved. It also provides a conceptual framework for the goals and objectives of the empirical study. The review initially discusses general economic geography concepts and locational theories, then focuses on specific coastal tourism studies, tourism planning regimes, and analytical reports of the social, cultural, economic, and environmental impacts of tourism. Location theory, based on classical economic thought which is directed to producers and least cost optimizing, provides the general market context for understanding the reorientation of contemporary economic geography towards producers (i.e. suppliers of services) in the leisure subsector. An assessment of the coastal tourism and tourism planning literature and the impacts of tourism will, in turn, provide the specific issues and the basis to a conceptual model of the marina operators as key decision makers in the coastal zone setting.

2.0 LOCATION THEORY AND ANALYSIS: UNDERSTANDING THE SERVICE SECTOR AND THE REORIENTATION OF ECONOMIC GEOGRAPHY

Generally, the majority of decisions regarding the location of firms are based on an economic paradigm of a spatial equilibrium derived from minimizing costs and maximizing revenues (Jones, 1987). Theoretical locational models such as those developed by von Thunen, Weber, Losch, and Christaller describing the intensity of activity and spatial patterning are derived from classical economic theory (Smith, 1983). Similarly, models developed by Ohlin, Hoover, Isard, Greenhut, Yokeno, and Vickerman are based on economic concepts such as cost minimization, profit maximization, efficiency in scale and spatial organization, and of course, spatial competition (Smith, 1983).

Economic location theory also describes and explains the service sector; that is, the distribution, location, competition and viability of restaurants, hotels and shops in urban regions (Jones, 1987). In this study, the commercial marina industry is considered a subsector of the service industry as it demands very specific site requirements (e.g. harbours and anchorages) and is oriented to a particular market sector. However, it is inadequate to analyze the marina industry solely from a classical theoretical, least-cost economic perspective as the significance of ecological, cultural, and social values also require attention.

With the increased sensitivity towards ecological and social effects of tourism, it is no surprise that more recent conceptualizations incorporate the application of suboptimal, 'alternative' or 'ecological' decision making models for understanding the

economic geography of firms and industries (Murphy, 1983; Hickman & Cocklin, 1992). This trend clearly indicates a change in orientation. For example, Murphy, (1983) argues that an ecological model can extend the decision making beyond the managers and those members of the business sector to incorporate the long term **values** of local residents. Modifying the traditional economic based paradigm to incorporate cultural, social, and environmental values also allows local community amenity interests to be represented equally and in some cases considered more important than economic values. Although the process of incorporating these alternative values into decision making frameworks is occurring at a very slow rate, managers are beginning to understand the benefits of acknowledging these additional values when striving for economic success.

Where a subsector of the service providers relies heavily on amenity values as well as the usual economic factors, clearly the value of the 'ecological' dimension must therefore be considered in addition to the basic prerequisite of making a profit and staying in business.

2.1 THE CONTEXT OF MARINA OPERATIONS-INCREASED ACTIVITY THROUGH POPULATION GROWTH AND TOURISM IN THE COASTAL ZONE: PROBLEMS AND RESPONSES

A large majority of the world's population lives in coastal cities and communities and therefore, the demand for public beaches and recreation facilities is extremely high. However, rapid development and competing uses of coastal zone resources particularly through tourism, have reduced the amount of shoreline accessible to the public. Many coastal tourism development regimes are concerned with improving public access and

'developing' the shoreline through hotels and marina complexes while neglecting important ecological, social and cultural values (Mathieson & Wall, 1982) and local preferences. In several local communities, the large-scale tourism and recreation developments advocated by international developers and some regional planners are not readily supported (Hickman & Cocklin, 1992). In some cases local residents prefer small-scale, low-impact development confined to those areas with existing settlements (Hickman & Cocklin, 1992) Hickman and Cocklin (1992) suggest that institutional arrangements for coastal tourism planning and management should be more sensitive to the views of the local community when engaging in plans encouraging tourism development.

Tourism in the coastal zone is significant because it is attracted to the natural beauty of the coastal scenery; however, through agglomeration of tourist resorts and facilities it can overload the system and through the provision of a wide range of marine and land-based recreational opportunities conflicts with other users can occur (Smith & Mitchell, 1990). Recent emphasis on coastal tourism is also important because of its potential impacts on the unique ecological interface between the land and the water (Smith and Mitchell, 1990).

Miller (1987) outlines several impacts of coastal tourism on the fragile ecological environment of the coastal zone. In addition to the ecologically sensitive marine and wildlife resources that are being destroyed, several cultural, historic and aesthetic values of the coastal zone are being damaged and lost (Miller, 1987). It is clear that many of these coastal zone attributes are being lost as a result of poorly or unplanned tourism

developments (Miller,1987). In an attempt to minimize these impacts, tourism must adopt a holistic planning regime which considers social, environmental, and economic values (Miller, 1987). Others have also argued for the adoption of a holistic model of coastal tourism development (Bacon, 1987; Hickman and Cocklin, 1992). While describing how wetlands in the Caribbean have been destroyed from coastal tourism developments, Bacon (1987) also stresses the importance of a holistic tourism planning methodology for evaluating the potential visitor use of the coastal wetland area in relation to conservation needs. In order to maintain these conservation needs, coastal tourism planning must consider all values across the water and land and along the coastline (Hickman & Cocklin, 1992).

Coastal tourism research generally encompasses four main interlinked topics: environmental impacts and planning, employment and migration patterns within the coastal zone, the impacts of tourism markets on the development of coastal areas, and the importance of tourism as related to economic growth (Mathieson & Wall, 1982; Farrell, 1985; Miller, 1987; Chow, 1988; Smith & Mitchell, 1990; Hickman & Cocklin,1992).

Coastal tourism literature has effectively addressed coastal zone employment and migration patterns, environmental impacts and planning, the impacts of tourism markets on the development of coastal areas, and the importance of tourism and its impacts on economic growth. However, significant issues have been overlooked. For example, the problems and concerns of privately-owned (commercial) marina developments have been severely neglected and overshadowed by the concerns involving large-scale urban port developments. This in turn has led to an overall lack of understanding of the commercial

marina industry. Clearly, the management of commercial marina developments is becoming more complex and more difficult as marine tourism increases. Thus, it is important for marina operators to recognize how their decisions affect the scale and location of marina developments which in turn affects the quality of the surrounding terrestrial and marine environments. Marina operators and coastal zone managers must have a clear indication of what the policy choices are in regards to the ways in which commercial marinas must be managed and planned in addition to the interests and needs of the marine tourism industry and the needs of the coastal zone's natural environment (Fawcett and Marcus, 1991). It is essential that managers, government agencies, planners, scientists, and the public obtain an effective means of regional and global marina planning and communication. Otherwise, rapid commercial marina expansion will continue to develop in a chaotic manner and impose a significant amount of stress on coastlines throughout the world. Fortunately, the tourism planning literature offers some general insights into what must be considered when comprising coastal zone management policies that outline the requirements and guidelines for marina developments.

2.2 TOURISM PLANNING DEVELOPMENT

Tourism has the ability to change society and its environment quickly and radically (Murphy, 1983). A survey of the tourism planning literature indicates the that numerous planning models have been developed to manage the change brought about by tourism (Gunn, 1979; Mathieson & Wall, 1982; Murphy, 1983, 1985, 1988; Culpan,

1987; Inskeep, 1987; Pearce, 1987; Haywood, 1988; Hickman & Cocklin, 1992; Flood, Cocklin & Parnell, 1993; Getz, 1986, 1993). It is clear, however, that several authors agree that tourism planning over-emphasizes the importance of economic benefits while ignoring ecosystem values and community needs (Gunn,1979; Mathieson & Wall, 1982; Murphy, 1983, 1985). In reaction to the over-emphasis of economic values in tourism planning models, alternative theoretical frameworks have been developed (Gunn, 1979; Murphy, 1983, 1985, 1988; Getz, 1986; Inskeep, 1987; Haywood, 1988). From these modifications it is evident that managers and planners should adopt an "ecological model of tourism development" to ensure the inclusion of social, cultural, environmental criteria as well as 'the continued appreciation of economic conditions" (Murphy, 1983: 181). Hickman and Cocklin recognize "the need to develop approaches to eliciting the views of the public" (1992: 273). Furthermore if tourism is to be viewed as a "community industry, a corporate enterprise that represent[s] the interests of the whole community", a community based approach that encourages public participation and community involvement should be adopted (Murphy, 1983: 181; Haywood, 1988, Hickman and Cocklin, 1992). Although the significance of social impact assessments and public participation in coastal tourism planning have been recognized, "direct action strategies" of local communities have been neglected (Flood, Cocklin & Parnell, 1993). Direct action strategies generally arise when communities are affected by changes in their environment and when government agencies fail to respond to the demands of the public affected by such changes. In many cases, community action is a response to perceived threats or where conflict situations are associated with community action.

Those individuals involved in community action groups need to be confident that the actions of their group can succeed in overcoming the problem situation so that an improved condition is the result (Flood, Cocklin, and Parnell, 1993). As a result, there needs to be more interaction between local community action groups, government authorities, resource managers, and planners, to increase understanding and to avoid unnecessary conflicts.

In many parts of the world, governments are promoting tourism, particularly the development of large scale beach resorts, to help achieve the economic benefits of modernization. However, as a result of poor planning and a lack of development policies, the development of beach resorts in Asia Pacific for example, have been plagued by socioeconomic and environmental problems (Smith, 1992). Consequently, resort growth continues at a rapid and uneven rate while the negative environmental and social impacts are more apparent. For example, the construction of many hotels has caused the displacement of many local beachfront owners; access to public beaches has become difficult, and original community groups have been relocated to areas with very little access to amenities. While the quality of the beach has been degraded by increased pollution associated with an ineffective wastewater treatment plant and increased boat use, streams and the sea have also been polluted, and in some areas agricultural sources have been removed to provide room for the growth of the resorts (Smith, 1992).

Preservation and conservation represent two critical elements that must be considered when planning, managing, and evaluating the impacts of tourism development. An ecological model of tourism development must be implemented if the

perpetual supply of current recreational and tourist amenities are to remain. Lack of a formal local plan to guide and regulate resort development could be disastrous as the future success of tourism developments depends on a thorough analysis of the social, cultural, ecological and economic impacts. This is supported by Smith who argues that "anticipation of the consequences of urbanization needs to be integral with planning so that the quality of the tourism product is preserved or, preferably, enhanced. Reactive planning procedures that attempt to remedy problems as they arise will not meet this objective as established development patterns are usually difficult to change " (1992).

A comprehensive local tourism development plan is also crucial for determining local resident values and strengthening resident participation (Murphy, 1983). Instead of allowing national or regional goals to guide the future of tourism management and planning, the ecological paradigm places the responsibility in the hands of local communities (Murphy, 1983, 1985). It is hoped that comprehensive local tourism plans will replace traditional planning models that apply national tourism policies based solely on economic criteria to local ecosystems (Murphy, 1983; Getz, 1986).

2.3 IMPACTS OF TOURISM

Historically tourism research has been concerned with the "more tangible, quantifiable impacts, such as economic impacts" (Mathieson & Wall, 1982). It was not until the 1970s when interest widened that the social and environmental impacts of tourism were documented (Mathieson & Wall, 1982).

Recent economic literature focuses on tourism impacts at three geographic levels: local, regional, and international and can be divided into four distinct areas: 1) analysis of the economic benefits of tourism 2) development of new techniques to assist in the analysis of travel data 3) measurement of secondary economic impacts 4) analysis of the economic costs of tourism (Mathieson & Wall, 1982). Subsequently, three related techniques have been developed to measure the economic impact of tourism: the multiplier process, input-output analysis, and local impact studies that use a variety of 'ad hoc' procedures (Ryan, 1991).

Before the early 1980s, studies of the environmental impacts of tourism were rare (Mathieson & Wall, 1982). Although Wall and Wright (1977) examined the impacts of recreation on the environment, there was very little information published regarding the ecological impacts. As large scale global tourism developments continued to increase during the 1980s and early 1990s and its negative ecological impacts became more apparent, researchers began to develop methods for determining and managing the ecological impacts (Ryan, 1991). These include: the development of holistic and ecologically-based planning models, consideration of carrying capacity, environmental impact studies, the encouragement of 'soft tourism', zoning, the establishment of 'honeypots', policies of dispersion, restrictive entry policies, and the promotion of 'green policies' (Getz, 1983; Murphy, 1983; Kendall & Var, 1984; Liu, Sheldon & Var, 1987; Gartner, 1987; Farrell & McLellan, 1987; Krippendorf, 1987; Ryan, 1991).

Mathieson and Wall (1982) categorize the social and cultural impacts of tourism into the three research categories: 1) the tourist 2) the host 3) relationships between the

tourists and the hosts. While a large number of studies focus on the negative social and cultural impacts of tourism, the positive impacts are undermined (Ryan, 1991). Several frameworks have been developed to measure the social impacts of tourism (Doxey, 1975; Plog, 1977; Butler, 1980).

Because the type and scale of change induced by tourism is not always predictable, managers, planners, scientists, communities, and those individuals affected by the potential change should be familiar with the influential ecological, social, cultural, and economic variables.

The overview of the literature thus far identifies many of the issues associated with a region:

1) of poor jurisdictional definition

2) experiencing growth problems

3) which is the focus of different values

It provides a basis for designing the conceptual framework of the research project and is a source for the specific questions for marina operators.

2.4 CHARACTERISTICS OF COMMERCIAL MARINAS

"[M]arinas play a significant role in the life of most boat owners. To some folks, such marine facilities represent frustrations, exorbitant expenses, and unmet commitments. Other owners see just the opposite. They relate well to the professionals who assist them in deriving more from their recreational boating time."

(Ralph Naranjo, 1988)

Ralph Naranjo's comments exemplify the subjectivity that is involved when attempting to define what constitutes a marina. More simply, a marina is 'a place with moorings for pleasure yachts" (Sykes (ed.), 1982). Yet there is no clearly defined boundaries as to what defines the specific places where marinas are to be situated and the type of moorings they must provide. Consequently, the definitions of marinas are as varied and diverse as the types and facilities offered by the marinas themselves. For the purpose of this thesis a 'commercial marina' refers to those saltwater mooring places that are privately owned and cater to other boat users.

Generally, boaters are attracted to marinas on the basis of (1) location and (2) general site characteristics. With regards to location, a marina should be within close proximity to a popular recreational boating area and the boat owner's home. Fortunately, the coastal regions of the Georgia Basin region are dominated by numerous sheltered bays and inlets, spectacular coastline scenery, and a relatively protected inland sea which are all of great interest to recreational boaters who enjoy exploring the coast. In addition, the majority of British Columbia's population lives in the southwestern coastal region which encompasses the urban centers of Vancouver, Victoria, and Nanaimo. As a consequence, the majority of BC's commercial marinas are situated in this region whereby they are readily accessible and commercially viable. In addition to location, marina sites must be situated in a well protected area of water of good depth with adequate access from the sea and land. They must also complement the surrounding natural and man-made environments.

Marina classification is normally based on the type of moorage and the quality of facilities and services provided to the boat owner. Numerous guidebooks have been published to assist boaters in determining the marina that is best suited for their permanent and transient boating needs (Vassilopoulos, 1996; Fox, 1995). Commercial marina operations may range from the basic, no frills marina, which offers limited casual float/buoy moorage with no facilities or amenities - to the popular medium-sized marinas that provide adequate dock space for permanent and transient moorage as well as essential services including water, repair services, electricity, fuel, and supplies. Over the past five years, the popularity of deluxe five-star (luxury) resort marinas has increased. In addition to providing the essential services, they offer a variety of extra services and facilities which may include showers, laundry facilities, telephone, cable, accommodation, restaurants, pubs, stores, pumpout station, tackle shop, recreational facilities (tennis courts, swimming pool, clubhouse), post office, car rental, and parking (Vassilopoulos, 1996; Fox, 1995). It would be unrealistic to state that one type of marina is superior to another as each marina offers its own ambience and experience.

The following is an unranked summary of the major criteria boat owners consider when choosing an appropriate marina for their transient and permanent moorage needs (Naranjo, 1988).

- aesthetic issues
- appropriateness of available slip/mooring
- construction quality of marina docks and floats
- cost

- other issues i.e. privacy and location
- protection from wind/sea/current
- security concerns
- shoreside facilities
- social atmosphere

These criteria are significant to marina operators because they allow target or niche markets to be determined on the basis of individual boaters' preferences. Ideally, marina operators implement management guidelines and development policies to ensure that those facilities provided by the marina correspond to the specific market demand. The majority of marina operators should attempt to incorporate these criteria into their models of development and design to create an effective and efficient business operation. It is also clear that in the development of coastal zone management requirements, the particular characteristics of marina criteria need to be understood.

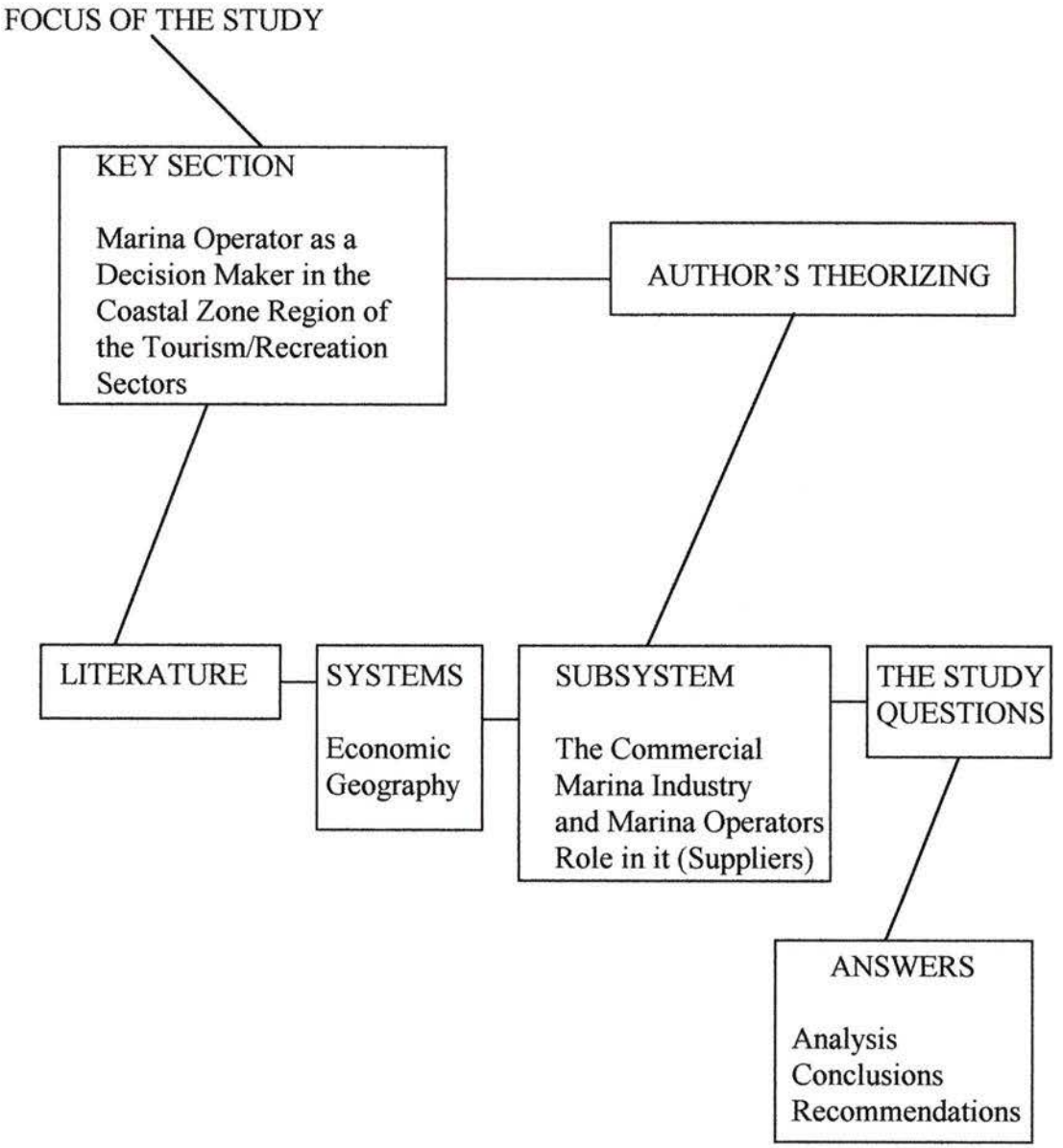
A comprehensive review of the tourism, recreation, and coastal zone management literature provides the necessary background and framework for this study. Numerous studies have attempted to reveal the attitudes and preferences of recreational boaters and tourists. However, not one study has focused specifically on the significance of marina operators as important decision makers in the coastal zone region of the tourism/recreation sectors. In addition to revealing the important components of marina operators' decision making paradigms, this study recognizes the roles and responsibilities of marina operators as resource managers and key 'players' in the management of the coastal zone.

2.5 THE MARINA OPERATOR AS A DECISION MAKER IN THE COASTAL ZONE REGION OF THE TOURISM/RECREATION SECTORS: A FRAMEWORK

Marina operators represent a key 'stakeholder' group in British Columbia's coastal marine tourism industry. From an economic perspective, they constitute a significantly high percentage of the suppliers of the numerous essential marine services that are continuously made available to commercial and private boaters. As a result, the decisions of marina operators are affected by those values and opinions derived from their experiences in the operation of their commercial marina businesses. In order to understand the decision making paradigm of marina operators, one must reveal the underlying values and factors affecting their choices and actions. Subsequently, one must understand how these decisions affect the users and other suppliers involved in the economic subsystem of the commercial marina industry.

In theoretical economic terms marina operators should act like rational profit seeking individuals. As such, their decisions are guided by profit (utility) maximizing and cost minimizing behaviour (Varian, 1990). However, in reality it is very likely that political, environmental and social factors also influence their decision making behaviour, the 'behaviourial dimension'. As previously stated, one of the goals of this research is to identify those factors influencing the decision making paradigms of marina operators in southwestern coastal British Columbia and develop a preliminary model ranking these factors according to their significance (Figure 2.1).

FIGURE 2.1: MARINA OPERATOR AS A DECISION MAKER IN THE COASTAL ZONE REGION OF THE TOURISM/RECREATION SECTORS: A FRAMEWORK

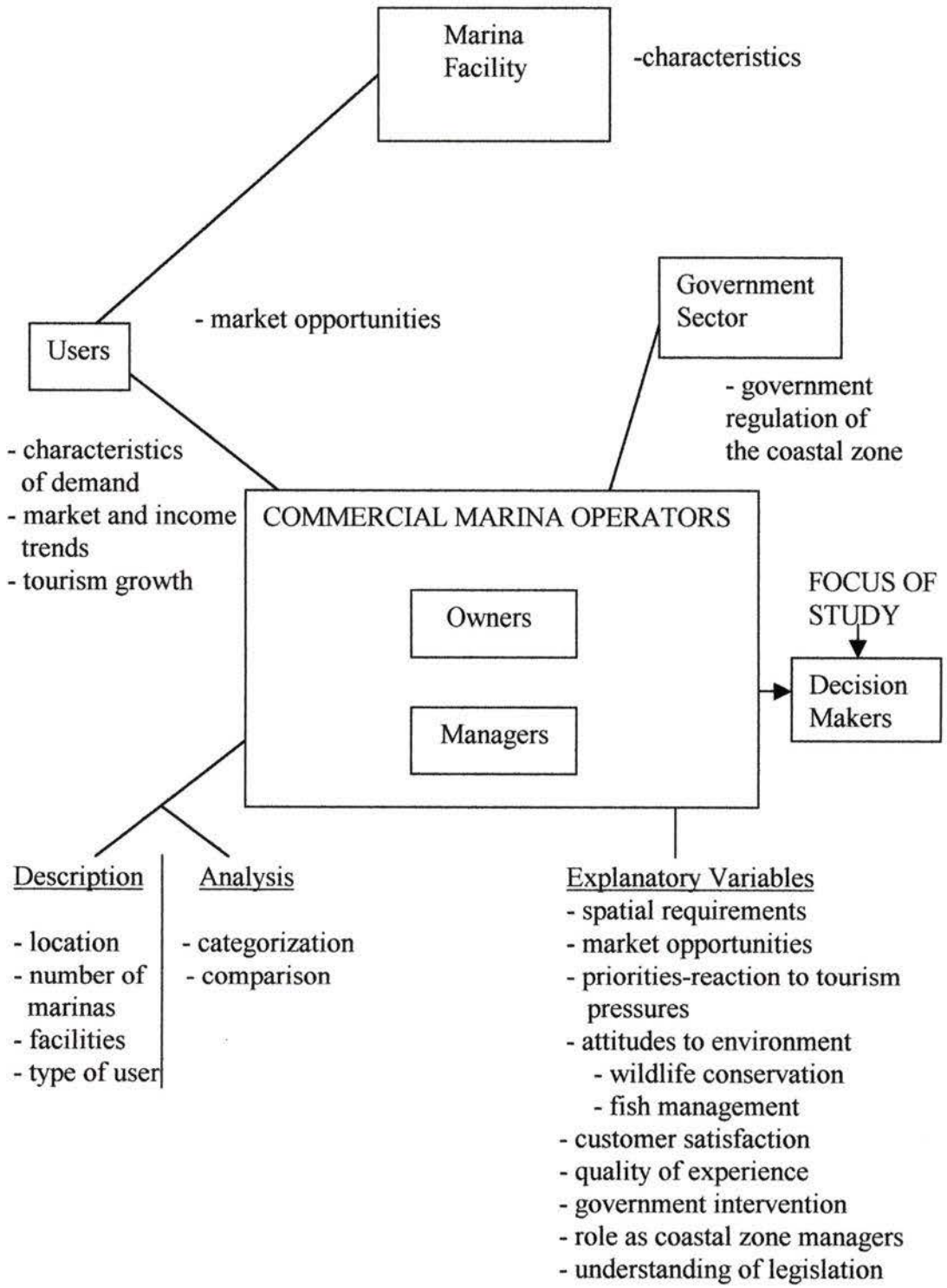


The decisions of marina operators not only affect the users of commercial marinas but other participants in the economic subsystems of British Columbia's marine and tourism/recreation industries. These participants may include regional, provincial or federal government representatives, the owners and customers of sportfishing resorts, coastal tourism operations such as whalewatching tours and kayaking outfitters, and float home owners. Similarly, the decisions of these coastal zone users may in turn, have significant impacts on commercial marina operators. This indicates that there is an interdependence among all coastal zone users and suppliers. In order for the system to function in an efficient, fair and environmentally compatible manner the decision making paradigms must be revealed. Decision making paradigms and their component factors are significant because they have the ability to illuminate specific issues and problems with the management policies of commercial marinas set within the context of the economic geography of the region and long run sustainability. As a consequence, the component factors are also valuable to this thesis as they help to explain marina operators' actions when dealing with issues such as coastal zone management, government regulation, tourism pressures, and environmental management.

2.6 ORGANIZATION OF THE ECONOMIC SUBSYSTEM OF THE COMMERCIAL MARINA INDUSTRY

Figure 2.2 highlights the integral components of the economic subsystem of the commercial marina industry. From an economic perspective, commercial marina operators represent the suppliers of marinas and their corresponding services and facilities. Commercial and recreational boaters represent the users of marinas and

FIGURE 2.2: THE COMMERCIAL MARINA INDUSTRY: AN ECONOMIC SUBSYSTEM OF THE LEISURE SERVICE SECTOR



therefore comprise the demand side of the subsystem. The users of commercial marinas are dependent on the suppliers of moorage space and essential services. Similarly, the suppliers are dependent on the needs and demands of their customers. Thus, an inter-dependent relationship exists between commercial marina operators and boaters. Since both location (i.e. marina site) and ambient qualities are present there is a very significant, underlying geographic dimension to the phenomenon. Numerous demand studies have been undertaken to determine boaters' attitudes and preferences towards marina facilities and tourism pressures. Several guidebooks have also been published over the years outlining the location and types of marinas available to boaters who tour the region. Yet very few studies of the commercial marina industry have been undertaken from a supply-side perspective.

From this perspective, the decision-making paradigms of commercial marina operators are significant because they reveal the value of understanding economic, geographic, political, ecological, social, and cultural factors. These paradigms are also important as they provide insight into the type of management strategies adopted by individual commercial marina operators. External factors such as government regulation, tourism pressures, and boater demand also affect the level of moorage supply and the type of services offered by marinas. Consequently, the specific niche market of an individual marina is also affected by the type of decision-making model adopted by it operator and its exposure to those external factors previously identified.

2.7 GENERAL QUESTIONS

This research attempts to answer the following general conceptual and policy interest questions:

1) What are the significant factors that influence a marina operation?

2) Does the quality of the ecological environment affect the success of a commercial marina operation?

3) What are commercial marina managers' attitudes towards coastal zone management legislation? With respect to CZM, what level of public participation do marina managers prefer?

4) What types of environmental management legislation do marina managers support?

5) What level of government intervention do commercial marina managers support?

6) What are the alternatives to government regulation?

2.8 OVERVIEW OF RESEARCH METHOD AND DESIGN

In order to understand the commercial marina industry from the suppliers perspective focusing on marina operators as decision-makers, information was generated from two main sources: personal observations undertaken by the author and a mail-out questionnaire. The personal observations are a useful validity check. The focus of the study however, is on the questionnaire responses and their "objective" analysis rather than a qualitative interpretation per se. A case study approach has been adopted to facilitate both descriptive and explanatory cross case comparisons and analysis (Yin, 1981). Chapter 4 outlines the research strategy, sampling procedures, and quantitative analysis in greater detail.

CHAPTER 3

THE GEORGIA BASIN-PUGET SOUND REGION

The Georgia Basin-Puget Sound region comprises the straits and coastal land mass from Campbell River and Powell River to the north, Olympia, Washington to the south, Hope, BC and the Cascade Mountain Range to the east (British Columbia Round Table on the Environment and the Economy, 1993)(Figure 3.1). Geographically, the "Georgia Basin" refers to the area on the British Columbia side of the Canada/US border, and "Puget Sound" refers to the area on the Washington side (British Columbia Round Table on the Environment and the Economy, 1993). Situated in the heart of the region are the terraced coastal lowlands of the Gulf Islands and San Juan Islands which are considered to be one of North America's most beautiful regions (Wood & Sadler, 1992).

Surrounding this archipelago are the two major urban centers of Seattle and Vancouver and the smaller cities of Nanaimo, Victoria, and Bellingham. The mild climate, spectacular coastal scenery, and a relatively high quality of life have transformed the region into one of the fastest growing areas in North America (British Columbia Round Table on the Environment and the Economy, 1993). For example, Table 3.1 illustrates the population growth for BC, Greater Vancouver and the Lower Mainland, Greater Victoria, and Nanaimo. This high rate of population growth and high incomes have resulted in the coastal marine tourism industry experiencing a boom whereby the number of commercial and recreational vessels increased within the region. As a result, many significant ecological, economic, social and cultural qualities of the region are

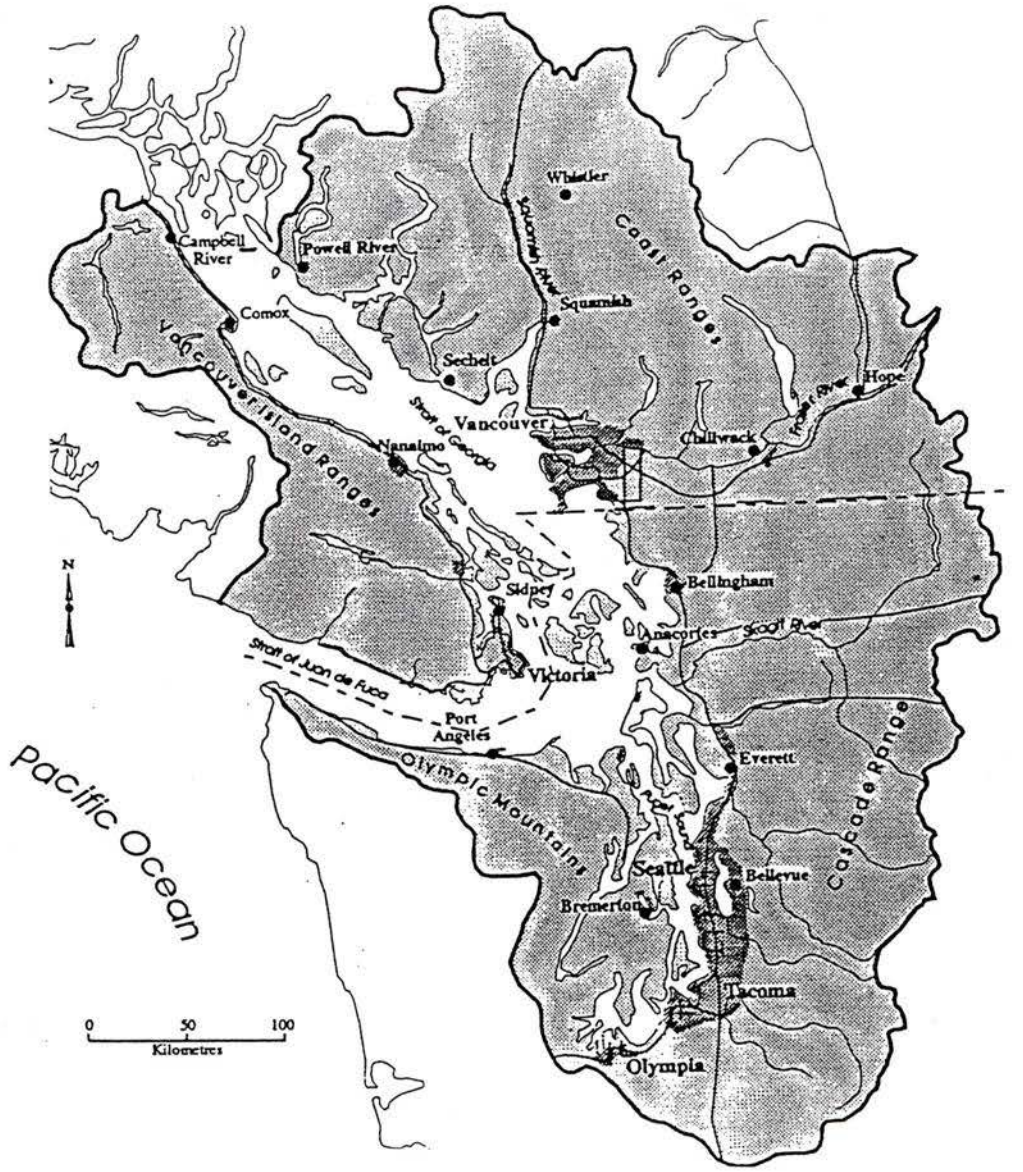
threatened. Perhaps the greatest challenge confronting its inhabitants is determining how to manage the rapid population growth and coastal developments so that the adverse social, environmental, and economic impacts and costs are minimized and the high quality of the coastal environment is maintained (British Columbia Round Table on the Environment and the Economy, 1993). This chapter will identify the specific pressures on the coastal zone in BC and thereby develop the specific research questions relevant to this region.

TABLE 3.1: POPULATION GROWTH

	1987	**1991**	**1996**
BC	3,064,600	3,379,800	3,855,140
Lower Mainland/Greater Vancouver	1,611,541	1,816,962	2,068,339
Greater Victoria	222,882	254,891	297,408
Nanaimo	61,936	72,867	85,131

Source: Summary Statistics 1987-1996, Government of British Columbia, 1997.

FIGURE 3.1: THE GEORGIA BASIN/PUGET SOUND REGION



Source: British Columbia Round Table on the Environment and the Economy. 1993. *Georgia Basin Initiative: Creating a Sustainable Future.* Victoria: Government of British Columbia.

3.0 THE STUDY AREA

British Columbia's Georgia Basin region is well known for its spectacular coastlines, breathtaking scenery, and mild climate. Due to the nature of the topography the region has been referred to BC's "inland sea" (Wood & Sadler, 1992). The protected waters, sheltered bays and secluded harbours of the Georgia Basin provide ideal conditions for recreational boaters who enjoy touring the coast. The majority of BC's commercial, saltwater marinas are situated within this coastal region.

In order to obtain a clear and definite idea of the opinions and concerns expressed by all commercial marina operators in southwestern coastal BC, the study area was expanded to include the west coast of Vancouver Island and the area south of Alert Bay and north of Campbell River on the Island and Powell River on the mainland (Figure 3.2).

For the purpose of this research, the study area is divided into four regions (Figure 3.3).

Region A- Southern Vancouver Island and the Southern Gulf Islands

Region B- Vancouver Lower Mainland, Howe Sound and the Sunshine Coast (including Powell River and Pender Harbour)

Region C- Central Vancouver Island (including Nanaimo)

Region D- Northern Vancouver Island, Desolation Sound (including the northern Gulf Islands), and north of Desolation Sound

FIGURE 3.2: THE STUDY AREA

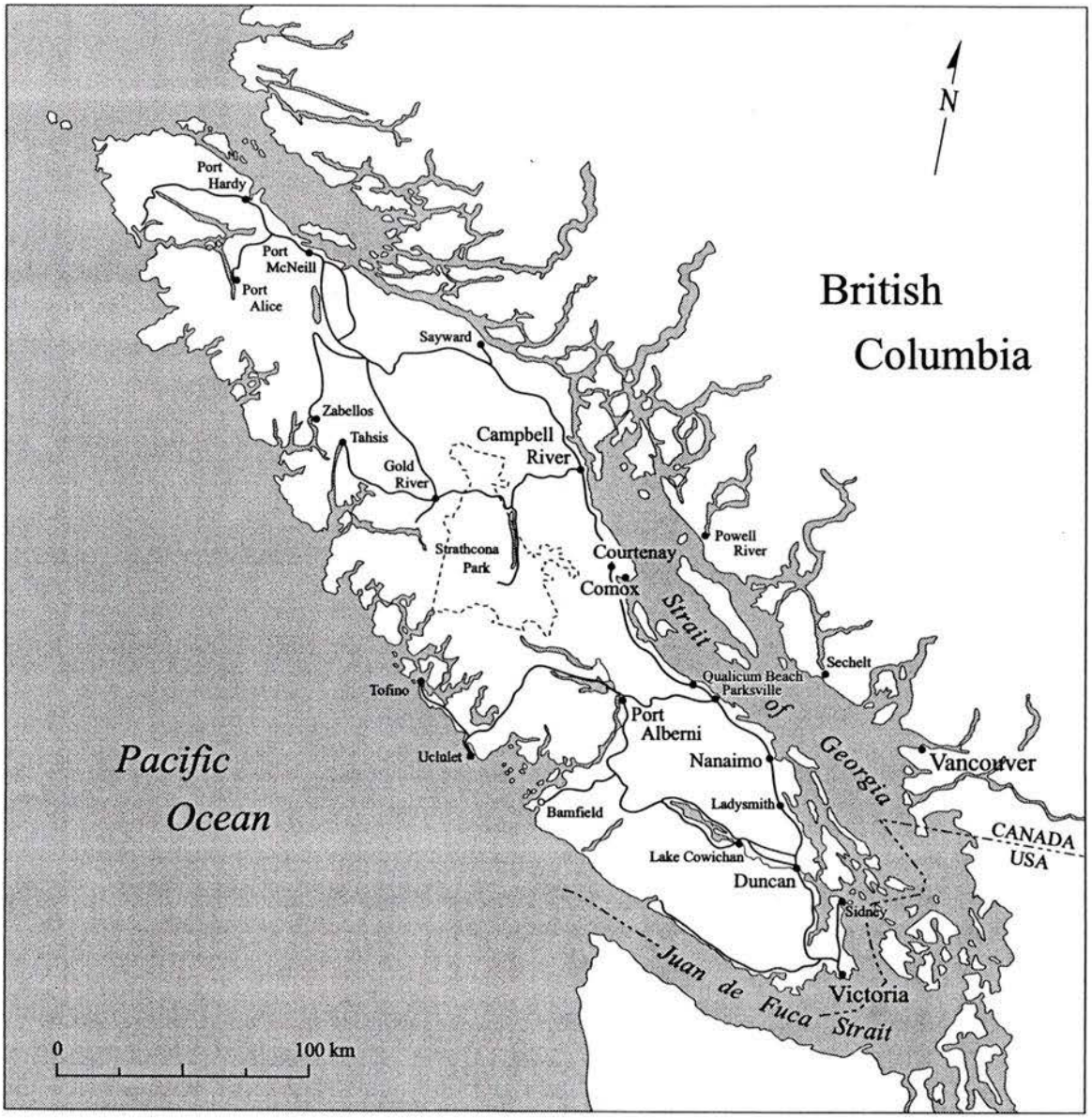
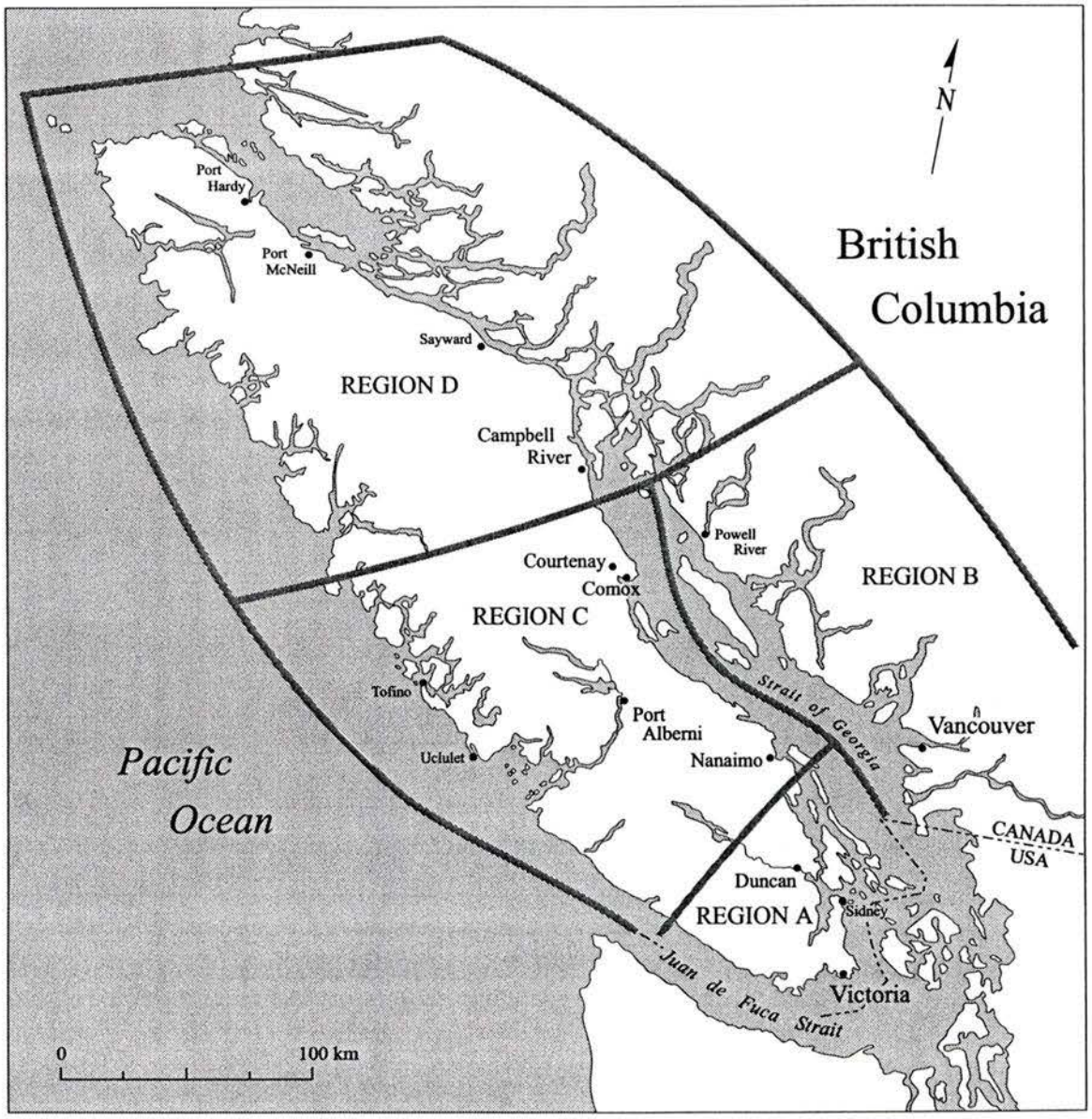


FIGURE 3.3: THE FOUR REGIONS OF THE STUDY AREA



3.1 MARINA DEVELOPMENT IN SOUTHWESTERN COASTAL BRITISH COLUMBIA: AN OVERVIEW

Historically, Federal wharves were originally established in the coastal regions of British Columbia for the purpose of servicing commercial vessels (Eby & Associates, 1979). However, as a result of extreme moorage shortages, the number of recreational boaters using the wharves increased rapidly during the 1960s and conflicts began to arise between commercial and recreational boaters. Instead of banning the use of Federal wharves by the general public, the Federal Government decided to establish the "Marina Assistance Policy" (MAP) in 1965 (Eby & Associates, 1979). The purpose of MAP was to provide assistance for the development of private and public facilities that would satisfy the needs of recreational and commercial boaters (Eby & Associates, 1979). Initially, the Federal Department of Public Works was responsible for its operation. However, when the Federal Department of the Environment created the Small Craft Harbours Branch (SCHB) in 1976, the administration duties of MAP were soon transferred to this agency (Eby & Associates, 1979). It was expected that the development of the SCHB would help to ensure an efficient and effective approach to the provision of harbour facilities for recreational boating.

According to Eby & Associates (1979), "between 1970-1975, 25 marinas received MAP assistance, accounting for the creation of 6000 new berths and 15 additional launch ramps". Under MAP, assistance was given to both public and private marina developers under a 50-50 cost sharing basis (Eby & Associates, 1979). The development of these new marina facilities helped alleviate the problems associated with the shortage of

permanent and transient moorage supply. However, as a result of the Federal Government's budget cutbacks, the Marina Assistance Policy no longer exists.

Benton's (1984) study entitled *Recreational Moorage 1984* revealed that from 1979 to 1984 moorage supply in British Columbia's coastal waters increased 17% from 22,870 to 26,715 berths. The Northern Coast of British Columbia experienced the greatest net percentage increase of +64% while Vancouver's Lower Mainland had the least (+5%) (Table 3.1). The table also indicates that the Greater Victoria region had the greatest absolute increase in numbers of berths (783) while the Northern Coast experienced the smallest increase in berths (268). Benton categorizes moorage supply into three classes of suppliers: marinas, resorts, and clubs. Table 3.3 demonstrates that in 1984 marinas comprised 22,207 berths (Benton, 1984).

Although an official enumeration of the current number of commercial marinas is not available, from a variety of sources it is estimated that approximately 200 commercial (privately-owned) marinas currently (1998) operate in the coastal regions of British Columbia (Dearden, 1990; BC Ministry of Tourism, 1991; Vassilopoulos, 1994; Fox, 1995). However, the current overall level of new marina development in the coastal regions of British Columbia has slowed down. This may be due to a combination of the following factors:

- higher economic costs and smaller profit margins
- fewer appropriate sites for marina development
- decreasing number of available foreshore leases
- declining boater demand for new marinas

TABLE 3.2: COMPARISON OF MOORAGE SUPPLY IN BRITISH COLUMBIA'S COASTAL WATERS 1979 AND 1984

REGION	TOTAL NUMBER OF BERTHS 1979	TOTAL NUMBER OF BERTHS 1984	% CHANGE
Lower Mainland	10,231	10,729	+5
Sunshine Coast	1,704	2,100	+23
Gulf Islands	883	1,222	+38
Greater Victoria	4,514	5,297	+17
SE Vancouver Island	2,902	3,296	+14
SW Vancouver Island	650	969	+49
North Vancouver Island	1,566	2,414	+54
Northern Coast	420	688	+64
TOTAL COASTAL WATER BERTHS	22,870	26,715	+17

Source: David H.J. Benton, October, 1984.

TABLE 3.3: MARINA MOORAGE SUPPLY, 1984

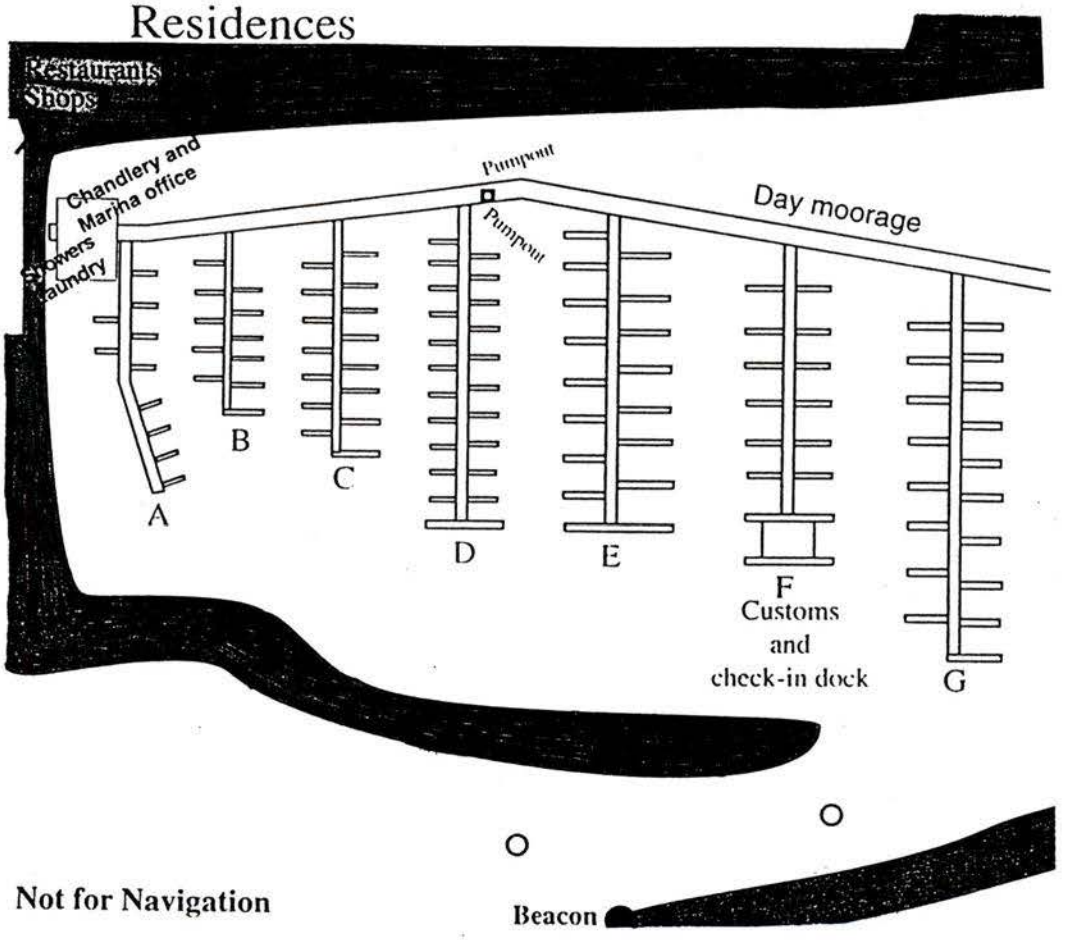
REGION	TOTAL BERTHS
Lower Mainland	9,305
Sunshine Coast	1,682
Gulf Islands	467
Greater Victoria	4,716
SE Vancouver Island	2,827
SW Vancouver Island	933
North Vancouver Island	1,790
Northern Coast	487
TOTAL NUMBER OF BERTHS	22,207

Source: David H.J. Benton, October, 1984.

3.2 THE JURISDICTIONAL CONTEXT

Marina developments are significant because they utilize both land and marine resources (Figure 3.4). As indicated in Chapter 2, the majority of marinas are designed to incorporate significant moorage space for pleasure boats in addition to the provision of a variety of services and facilities. Generally, the types of facilities and services depend on the needs and desires of recreational boaters who frequently visit the marina. Due to the diverse nature of marina developments jurisdictional authority is also varied and complex. Figure 3.5 summarizes the government agencies and the corresponding legislation and approvals which are most likely to have control over commercial marina developments.

FIGURE 3.4: AN EXAMPLE OF A MARINA DEVELOPMENT
(illustrating land and marine resource use)



Source: Vassilopoulos, P. 1994. *Docks and Destinations.* Vancouver: Seagraphic Publications Ltd.

FIGURE 3.5: LIST OF AGENCY APPROVALS FOR MARINA DEVELOPMENT PROJECTS

AGENCY	LEGISLATION	DESCRIPTION
FEDERAL		
Department of Fisheries and Oceans	Fisheries Act	Approval for activities that impact fish and fish habitat including deposit of deleterious substances. Requirements for the provision of fishways, canals, fishscreens or guards and the flow of water and information.
	CEPA	Ocean disposal
Transport Canada	Navigable waters Protection Act	Permit for activities in, around, under and over navigable waters for commerce, transportation or recreation.
	Canada Shipping Act	
Department of Indian and Northern Affairs	Indian Act	Approval for activities on lands under jurisdiction.
Department of Energy, Mines and Resources	Explosives Act	Use and transport of explosives.
Canadian Environmental Assessment Agency (CEAA)	Canadian Environmental Assessment Act (CEAA)	Requirement for impact assessment, and environmental protection. Administration of public review panel.
Environment Canada	Fisheries Act	Section 36 Water Quality.
	Canadian Environmental Protection Act (CEPA)	Environment and human health, toxic substances, water/air quality standards.
	Canadian Wildlife Act	Permission for activities affecting wildlife and wildlife habitat in wildlife areas.

	Migratory Bird Conventions Act	Approvals for activities affecting migratory birds and their habitat.
	International River Improvements Act	Approval of work affecting water quality and environment of rivers flowing outside Canada.

AGENCY	LEGISLATION	DESCIPTION
PROVINCIAL		
Ministry of Environment, Lands, and Parks:	Water Act	Approval for short term use, storage and diversion of water. Approval of alterations and work in and about a stream.
	Water Management Act	Permit the discharge of emission of effluent, waste or contaminants into air, land or water. Restrictions regarding solid and toxic wastes.
	Land Act	Regulation of the sale, lease and license of occupation, right-of-way, special use permits, easements, map reserves and permission to construct on crown lands.
	Environment Assessment Act	Requirements for impact assessment and environmental protection.
	Canadian Shipping Act	Pleasurecraft sewage discharge.
Ministry of Agriculture, Fisheries and Food	Soil Conservation Act	Permit for the removal of soil from an ALR. Regulations to prevent and control soil erosion.
	Agricultural Land Commission Act	Approval to use land in ALR for other than farm use.
Ministry of Health	Health Act	Approval of construction camps. regulations for potable water supply, sewage disposal, sanitation and food supply operations.

Ministry of Attorney General	Fire Services Act	Approval for more than 22.5 litres of fuel storage on-site and on-site fuel dispensing.
Ministry of Municipal Affairs, Recreation & Housing	Heritage Conservation Act	Approval to excavate or alter sites of archaeological or historical significance.

REGIONAL/ MUNICIPAL		
Regional/Municipal Governments	Municipal Act Regional and Municipal Bylaws	Permits for construction. Approval of zoning or re-zoning. Regulation of set backs, development densities, local land use and building codes. Permits for clearing. Collection of taxes.

Source: BC Ministry of Environment Lands and Parks, Department of Fisheries and Oceans, March, 1995

Author's Footnote:

The ultimate authority concerning marinas lies with the Provincial Governments (as indicated in the Lands Act and foreshore leases) and would apply to unorganized areas. In areas with municipal status (such as the Capital Regional District), it would be the concern of local zoning requirements and other parties with an interest as specified in Figure 3.5. It must be recognized that there are anomalies to these government regulations. For example, private docks are not the responsibility of the Federal, Provincial and Municipal governments.

3.3 AN ASSESSMENT

Clearly, as illustrated in Figure 3.5, a significant number of agencies and approvals are required for marina development projects. Ideally, from a legislative and policy perspective, jurisdictional authority requires the collaboration and co-operation of all three levels of government: federal, provincial, and municipal/regional. In reality, however, communication among all three levels is often very poor or non-existent and as a result the quality of jurisdictional approvals, regulations, and planning arrangements are frequently ineffective. From the service suppliers' perspective (i.e. the marina operators) it is highly likely that the fragmented design of those agencies and approvals which have jurisdictional authority over marina developments makes the initiation and subsequent operation of a commercial marina an extremely challenging, frustrating, and expensive task. The survey of marina operators attempts to focus on major issues such as the fragmentation of jurisdictional responsibility among Federal, Provincial, and Municipal governments.

In Canada, the problems regarding the management of the coastal zone were not anticipated in the original constitutional arrangements. Therefore coordination and integration among all levels of government has been difficult. The capabilities of the Federal, Provincial, and Municipal governments in developing an integrated planning and management regime for the coastal zone have been extremely limited. Currently in Canada, there is no single agency responsible for the management of the coastal zone, nor is there a national framework (legislation) for coastal zone management.

In order to ensure the sustainablity of the coastal zone, an effective integrated coastal zone management policy and strategy should be adopted by all levels of government. There needs to be a greater understanding of all stakeholder groups and the interests they represent within the coastal zone. However, before a framework can be established, the viable options and alternatives must thoroughly be examined. For example, governments and stakeholder groups must decide if they prefer total government regulation of the coastal zone, no government regulation of the coastal zone, a consultative body of stakeholder and interest groups, or a coastal zone agency comprised of representatives from all levels of government and all coastal zone user groups. Stakeholder groups must also identify and evaluate their own problems and issues before any attempt can be made to integrate individual interests into a coordinated approach to coastal zone management.

Currently, marina operators located in southwestern coastal BC are exposed to numerous problems and issues.

These include:

1) rapid population growth in the Georgia Basin-Puget Sound Region;
2) a significant increase in marine traffic and tourism within the region;
3) a decrease in the quality of marine and terrestrial environments due to large-scale developments and urbanization;
4) spatial competition among coastal zone users;
5) a significant decrease in the amount of land and marine space available for future marina expansions and developments; and
6) increasing operating costs.

CHAPTER 4

RESEARCH DESIGN: DATA COLLECTION AND FIELD VERIFICATION

4.0 RESEARCH DESIGN

The goal of the study was to describe the characteristics of the marina industry and analyze a subgroup of the leisure services sector-focusing on marina operators as decision makers. The analysis of the marina industry of BC (Chapter Five) utilizes quantitative data gathered from two main sources: a mail-out questionnaire and personal observations undertaken by the author. During February of 1997 questionnaires were mailed to a total of 145 commercial marina operators located in the coastal regions of southwestern British Columbia. This represents approximately 72.5% of the total number of privately-owned and publicly owned marinas within the coastal regions of BC. A copy of the questionnaire is attached as Appendix A. From October 1996 to April 1997 the author visited 20 marinas to develop an understanding of the context of commercial marinas within the subsystem of BC's marine tourism industry and to determine whether the questionnaires were relevant.

4.1 METHODOLOGY

The research strategy adopted for this study integrates the formats of both 'descriptive' and 'explanatory' cross case comparisons (Yin,1981). The case study was chosen for this study because it allows the phenomenon to be studied in its "real-life context" (Yin, 1981). As there is no fixed method for building explanations with case

study research, the researcher must act like a detective and thereby constantly make decisions regarding the relevance of various data (Yin, 1981). A combination of a descriptive and explanatory case study approach is appropriate for this research because it allows for a detailed description of the studied phenomenon, an accurate rendition of the facts, alternative explanations of the facts, and a conclusion that supports these facts to be incorporated into the final thesis report (Yin, 1981). A cross case comparison approach has been applied in order to examine the data in more divergent ways and to counteract the tendency of reading prematurely into the data thereby creating false conclusions as a result of biases (Eisenhardt, 1989). This approach has also been useful for this research because it enabled pattern identification and analysis of characteristics among each of the individual cases.

Although this research is a case study of a particular region and subsector of the leisure services "industry", the number of observations is thought to be large enough to validate wider general conclusions and recommendations.

It is recognized that the case study approach has been criticized in a number of ways (Yin, 1981; Eisenhardt, 1989). For example, many critics argue that the case study approach suffers from a lack of rigour, a lack of internal and external validity, and excess bias from the researcher (Miles, 1979: Stoecker, 1991). Yin (1981) also notes that the cross case comparison approach has been criticized for its tendency to oversimplify the researched phenomena whereby the data are turned into isolated pieces of irrelevant information. Consequently, while this research acknowledges these weaknesses, the benefits are an increase in internal and external validity while also decreasing researcher

bias by collecting information from multiple primary and secondary data sources. Ideally, longitudinal information would give a more thorough understanding of the temporal dynamics of the commercial marina industry such as business success and failure rates but this is beyond the scope of this research.

4.2 QUESTIONNAIRE APPROACH

Primary Data

The focus on marina operators as decision makers required the collection of original primary data. This was necessary to reveal the critical issues and problems confronting commercial marina operations in southwestern coastal British Columbia **as they see them**.

The intention was:

1) to gain insight into the critical underlying factors influencing the decision making paradigms of marina operators;

2) to ascertain their position and significance as 'key stakeholders' in the marine based recreation system; and

3) to determine whether identifiable patterns or subgroups are evident in the responses.

A major strength of the questionnaire approach is its ability to translate research objectives into specific questions to obtain answers which provide the necessary database for analysis (Frankfort-Nachmias & Nachmias, 1996). Although there are several benefits of mail-out questionnaires, there are also numerous drawbacks (Oppenheim, 1966, 1992; Frankfort-Nachmias & Nachmias, 1996).

The *advantages* of mail-out questionnaires include (Oppenheim, 1992):

- low cost of data collection and processing;
- ability to reach respondents who reside at widely dispersed addresses, abroad or remote geographical regions; and
- avoidance of interviewer bias.

The *disadvantages* of mail-out questionnaires include (Oppenheim, 1992):

- low and slow response rates;
- unsuitable for respondents of a very limited educational background, language difficulties, poor literacy;
- lack of personal introduction by the researcher;
- no opportunity for the researcher to offer explanations, correct misunderstandings, and probe for additional information;
- no control over the order in which questions are answered, no follow-ups on incomplete responses and questionnaires; and
- lack of opportunity for the researcher to collect additional assessments based on personal observation.

Several measures were adopted to counteract the problems associated with mail-out questionnaires. To help increase response rates, various procedures were undertaken. For example, a cover letter was included with the questionnaire to (i) identify the researcher, (ii) explain the purpose of the research, (iii) outline why it is important that marina operators answer the questionnaire, and (iv) confirm to the respondents that the information provided will be kept confidential and that their anonymity will be protected (Frankfort-Nachmias & Nachmias, 1996). In addition, the questionnaires were individually addressed to the marina operators and a return envelope with the appropriate postage was included. To encourage response for marina operators, a small incentive of

the chance to win a gift certificate for two for dinner in either Victoria, Nanaimo, or Vancouver if the questionnaire is returned was offered. Commercial marina operators were also reminded that participation in the research is voluntary and that all survey data would be treated as confidential and destroyed immediately upon the completion of the thesis. Anonymity of the respondents was protected by using code numbers rather than names to identify the results obtained from individual participants. In no way have the names of commercial marina operators been attached to any of the results.

Nevertheless, mail-out questionnaires are limited in scope as they make it difficult for the researcher to collect additional information and assessments based on personal observation. To counteract this weakness I visited 20 commercial marinas located in southwestern coastal BC to conduct personal observations. These data were systematically recorded and incorporated into a subsection of this chapter and the analysis section presented in Chapter 5. Ideally, I would have liked to conduct personal interviews with marina operators. However, due to the financial and temporal constraints of this research together with the wide geographic distribution of respondents this was not feasible.

The questionnaire consists of four folded sheets i.e. eight pages. It was devised with the intent of collecting information on six specific issues whereby the operators of marinas were considered the focus group. In order to encourage participation, the time required to complete the questionnaire is approximately 15 minutes.

The questionnaire is structured from the simpler background information questions in Section A to the attempts to understand attitudes to the more controversial

issues such as government regulation and coastal zone management legislation (Sections D, E, and F). A conscious effort was made by the researcher to use words understandable by all marina operators. Simpler wording was used to help avoid misunderstandings and prevent confusion surrounding any of the questions.

The questionnaire explores marina operators' attitudes and opinions towards:

- marine tourism pressures in southwestern BC;
- government intervention;
- industry regulations;
- wildlife conservation;
- environmental quality; and
- coastal zone management.

Personal Observations

From October 1996 to April 1997, I visited 20 marinas to develop an understanding of the context and significance of commercial marinas within the subsystem of BC's tourism industry. The data that I collected were also used to determine the relevance of the questionnaires that were distributed to marina operators.

Marina developments along the coast of southwestern BC vary greatly in size and the type of facilities and services that they provide to boaters. All marinas offer moorage space for recreational or commercial boats. However, while some marinas may only offer dock space or buoys, others can be described as resort/destination marinas which provide several amenities such as restaurants, showers, pubs, fuel dock, dry land storage, shops, swimming pool, etc. As indicated in several guidebooks, marinas can be

classified according to their size and the type of facilities and services that they offer (Vassilopoulos, 1996; Fox, 1995).

The majority of marinas that I visited in Vancouver, Victoria, and Nanaimo were large (100+ berths) and were generally used for permanent boat storage although a small proportion of berths were available for transient boaters. In contrast, most marinas located in the Southern Gulf Islands were resort/destination marinas as they offered several additional amenities such as accommodation, pubs, shops, grocery stores, swimming pools, etc. From what I observed, the marinas in the Southern Gulf Islands were not as large as those situated in the urban centers of Vancouver, Victoria, and Nanaimo. Marinas in the Southern Gulf Islands attract transient boaters from Canada and the United States who tour the region during the summer months.

Similarly, marinas located in the Northern Gulf Island and Desolation Sound region are generally smaller in size compared to the larger home-based permanent storage marinas in the larger cities. A large majority of these marinas operate in conjunction with the sportfishing industry. They attract customers from all over the world and are generally considered destination/resort style operations. Several of the marinas located in this region are occupied by commercial fishing boats. This indicates that the marina industry and sportfishing industry are strongly interrelated in this geographical area.

After visiting several marinas I began to recognize the importance of location for marina developments. My observations indicate that boaters generally prefer a marina which is located in a sheltered bay or inlet and is easily accessible by land and water. I

observed that those marinas which were easily accessible were extremely busy and often overcrowded in contrast to those marinas located in remote areas where access was difficult and business was slower. I also observed very low vacancy rates at most marinas in Vancouver, Victoria, and Nanaimo. This could be a result of the fact that a larger population of boat owners permanently moor their vessels in these areas. In contrast, marinas located outside of these urban areas seemed to have higher vacancy rates. Generally, most marinas seemed occupied but not dangerously overcrowded whereby boaters' safety was jeopardized.

My observations of marinas in southwestern coastal BC reinforce the marina industry's significance as an economic subsystem of the leisure service sector (as outlined in Chapter 2). Given that past studies have neglected the importance of marina operators as key 'stakeholder' group in BC's marine tourism industry, there is a real and urgent need to understand the problems and issues confronting the marina industry from the **suppliers perspective**. Therefore, my personal observations are an important and useful validity check. This is not a qualitative oriented study as it focuses directly on the quantitative data collected from the mail-out questionnaire.

Secondary Data

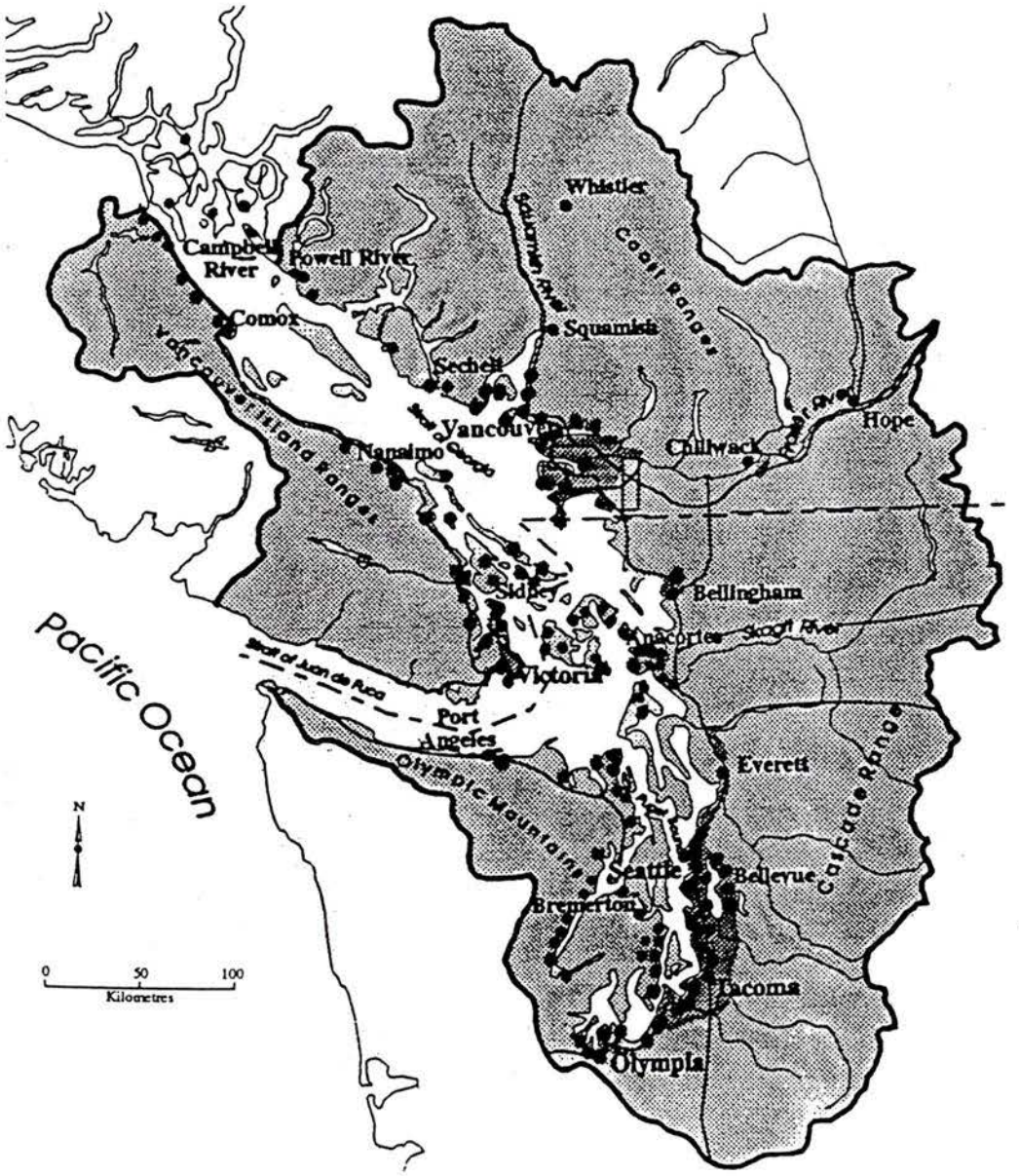
The collection of secondary data involved an intensive review of the relevant literature in order to develop a clear understanding of the present boating trends and marina developments within the coastal regions of southwestern British Columbia. Unlike the primary data, this data was not analyzed. Inventories, satellite photos, and

published data documenting the current number and location of commercial marinas (Figure 4.1) and the types of services and facilities offered by these marinas provided the factual information for Chapters Three and Five.

4.3 SAMPLING PROCEDURES

An attempt was made to survey the entire population of commercial marina operators whose businesses are located within the Georgia Basin region as well as those located on the west coast of Vancouver Island and in the area south of Alert Bay and north of Campbell River on the Island and Powell River on the mainland. A pre-test was conducted in early February 1997, to determine potential problems and weaknesses with the structure, content, and wording of the questionnaire. Initially, it was expected that approximately half of the questionnaires would be delivered in person by the researcher to the marina operators and the other half would be mailed out. By delivering some of the questionnaires in person the researcher hoped that this would help 'put a face to the research' and therefore, increase the response rate. However, due to financial and temporal difficulties, particularly of access, all questionnaires were mailed to a total of 145 marina operators. Table 4.1 shows the breakdown of this distribution by geographical area.

FIGURE 4.1: LOCATION OF COMMERCIAL MARINAS IN THE GEORGIA BASIN/PUGET SOUND REGION



Source: British Columbia Round Table on the Environment and the Economy. 1993. *Georgia Basin Initiative: Creating a Sustainable Future.* Victoria: Government of British Columbia.

TABLE 4.1: QUESTIONNAIRE DISTRIBUTION

	Frequency	% of Sample
Southern Vancouver Island and the Southern Gulf Islands	37	26%
Vancouver Lower Mainland, Howe Sound and the Sunshine Coast (including Pender Harbour and Powell River)	48	33%
Central Vancouver Island (including Nanaimo)	35	24%
Northern Vancouver Island, Desolation Sound (including the Northern Gulf Islands), and north of Desolation Sound	25	17%
TOTAL DISTRIBUTION	145	100.0

As previously outlined, a brief, introductory letter explaining the purpose and goals of the research was attached to individual questionnaires. Each marina operator also received an addressed and stamped envelope in which to return the completed questionnaires. Returned questionnaires were collected up until the end of April 1997.

By April 30,1997, 53 usable questionnaires were returned; a return rate of approximately 37%. This rate was surprisingly higher than the expected return rate of 10%, as the questionnaires were mailed out during the winter (off season). As previously mentioned, the possibility of achieving a high (greater than 70%) response rate is a major problem of mail-out questionnaires (Li, 1981; Sproull, 1988). Generally, most researchers consider a 35% to 40% response rate an acceptable rate (Sproull, 1988). However, depending on the nature of the subject matter of the questionnaire and those surveyed, response rate figures of 40% to 60% are sometimes typical (Oppenheim, 1966). Table 4.2 illustrates the distribution of returned questionnaires by geographical area.

TABLE 4.2: DISTRIBUTION OF RETURNED QUESTIONNAIRES BY GEOGRAPHICAL AREA

	Frequency	% of Sample
Southern Vancouver Island and the Southern Gulf Islands	16	30.2
Vancouver Lower Mainland, Howe Sound and the Sunshine Coast (including Pender Harbour and Powell River)	19	35.8
Central Vancouver Island (including Nanaimo)	7	13.2
Northern Vancouver Island, Desolation Sound (including the Northern Gulf Islands), and north of Desolation Sound	11	20.8
TOTAL DISTRIBUTION	53	100.0

4.4 LIMITATIONS

Oppenheim (1966) outlines two ways to determine whether a response bias has been introduced: (1) compare respondents with non-respondents and (2) compare early respondents with late respondents. To determine whether a geographic location bias was introduced into this research, the marina operators who responded to the questionnaire were compared to those who did not respond. Although an attempt was made to distribute the questionnaires to all commercial marinas within the study area, the data collected from those marina operators whose businesses are located in and around the Central Vancouver Island region tends to be proportionately under-represented (Table 4.2). Therefore, the results tend to be more representative of those marinas located in the regions of the Vancouver Lower Mainland and Southern Vancouver Island.

Ideally, a follow up letter should have been mailed to each operator to determine if a questionnaire was received. However, due to temporal and financial constraints this did not occur. Notwithstanding these shortcomings, it is felt that the rate of response fits with return ratios acceptable for analysis and interpretation. Furthermore, it is a good indication that the marina operators as a whole thought the survey and its questions made sense and were of benefit to answer.

The next chapter outlines the results obtained from **53** marina operators located in southwestern coastal British Columbia. For analytical and discussion purposes, it is divided into three main sections:

1) characteristics of BC's coastal commercial marina industry

2) major (general and specific) issues confronting marina operators

3) significant variations within two major subgroups of the data set

CHAPTER 5

DATA ANALYSIS

The marina operators' responses to the questionnaire provide the necessary information base for a comprehensive qualitative and quantitative description, analysis and discussion. These responses can also be compared to my own observations. Section 5.1 describes the general characteristics of the commercial marina industry of southwestern coastal British Columbia; Section 5.2 identifies and examines the major issues currently confronting commercial marina operators while Section 5.3 describes the significant internal variations of two major subgroups in the data set: (1) data as categorized by membership in marina associations and (2) data as categorized by geographical location.

5.0 CHARACTERISTICS OF THE COMMERCIAL MARINA INDUSTRY IN SOUTHWESTERN COASTAL BRITISH COLUMBIA

5.0.1 Basic Goal and Operations

The majority of British Columbia's privately-owned coastal marinas are located around the urban centers of Vancouver, Victoria, and Nanaimo. According to those marina operators who responded to the questionnaire, the **primary purpose of most commercial marina operations is to serve the needs of recreational boaters** (Table 5.1). Furthermore, a significant percentage of these users are tourists. Out of the total number of commercial marinas surveyed, a small proportion (13.2%) of commercial marinas operate for the primary purpose of permanent boat storage, while only 5.7% of

commercial marinas cater specifically to the needs of the sportfishing industry. Generally, permanent boat storage and sportfishing are considered to be secondary purposes of operation and exist in conjunction with the primary purpose of providing recreational services for recreational boating (Table 5.1). This may be a result of the overlaps that exist whereby all recreational boaters need a place to store their boats when they are not using them and sportfishers need a place to moor their boats as well as pick up and drop off their clientele.

TABLE 5.1: THE PRIMARY PURPOSE OF THE MARINA OPERATION (n=53)

	Frequency	% of Sample
Recreational Boating	26	49.1
Permanent Boat Storage	7	13.2
Recreational Boating and Permanent Boat Storage	7	13.2
Sportfishing and Recreational Boating	4	7.5
Sportfishing	3	5.7
Sportfishing, Recreational Boating, and Permanent Boat Storage	3	5.7
Other	3	5.7
TOTAL	53	100.0

The majority (81.1%) of the commercial marinas operate on a year-round basis (see Table 5.2). Only 18.9% of the respondents indicated that their marinas are seasonal. Several key factors may influence the reasons why most marinas operate full time, while a smaller proportion operate only on a part time basis. Although recreational boating is not restricted to a particular season in southwestern British Columbia, most boaters prefer to tour the coast during the summer when the climate and sea conditions are

appropriate. Thus, marine tourist traffic is heavier during the summer peak season and as a result marina business is usually steady. For those marinas located in remote areas, it might only be feasible to operate during the summer months when more boaters generally have more time to travel farther away from the crowded and popular boating destinations which are generally within a close proximity to the urban centers of Vancouver, Victoria, and Nanaimo.

Many smaller commercial marinas operate as destination resort marinas and therefore cater specifically to the needs of transient boaters. When the boating season slows down during the winter, these marinas shut down temporarily for a few months as it is uneconomical to remain open. In contrast, the majority of those commercial marinas that operate year round are designated as both destination resorts and permanent boat mooring/storage facilities. Boater demand requires that these home-based marinas operate year round, offering maintenance and servicing facilities. Although it has been economically feasible for these marinas to remain open on a full-time basis, rising operating costs and increased government regulation are currently making it difficult for many operators to earn a steady profit (see comments p.87-88).

TABLE 5.2: YEAR-ROUND (FULL TIME) MARINA OPERATION (n=53)

	Frequency	% of Sample
Yes	43	81.1
No	10	18.9
TOTAL	53	100.0

While the total number of commercial marinas located in southwestern coastal British Columbia has increased over the past twenty years there is a significant variation

in size of operation, 56.6% of the marinas surveyed contain less than 100 berths (including both permanent and transient moorage berths); 28.3% of commercial marinas are considered to be of moderate size as they encompass 100-300 berths, while only 15.1% of commercial marinas contain 300 berths or more (Table 5.3).

TABLE 5.3: MARINA SIZE (as indicated by number of permanent and transient moorage berths)

	Frequency	% of Sample
Less than 100 berths	30	56.6
100-300 berths	15	28.3
Greater than 300 berths	8	15.1
Total	53	100.0

In all four geographical areas, the majority of marinas operate on a modest scale and contain 100 berths or less (Table 5.4). The area defined as Central Vancouver Island (including Nanaimo) recorded the largest percentage (57.1%) of moderately sized marinas with 100-300 berths, while most of the larger mega-resort type marinas are situated in the region of Southern Vancouver Island and the Southern Gulf Islands. This can be contrasted with the Northern Gulf Islands, Desolation Sound and north of Desolation Sound where 90.9% of marinas contain less than 100 berths and there are no large scale marinas with 300 berths or more (see Table 5.4). Climate, accessibility, population density, economic costs and benefits are clearly some of the important factors that have affected operators decisions in determining the appropriate size of their marinas. Length of time of operation is also probably a factor. The largest marinas having been in operation for several decades close to the main urban centers of Vancouver and Victoria have had time to expand.

In contrast, marinas located in the Northern Gulf Islands, Desolation Sound and north of Desolation Sound are generally smaller, seasonal in operation and more recent in origin.

TABLE 5.4: MARINA SIZE BY GEOGRAPHICAL LOCATION OF COMMERCIAL MARINA (As Indicated By Number of Permanent and Transient Moorage Berths)

	Geographical Location of Marina			
	Southern Vancouver Island and the Southern Gulf Islands (n=16)	Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	Central Vancouver Island (including Nanaimo) (n=7)	Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)
Less than 100 berths	62.5% (10)	42.1% (8)	28.6% (2)	90.9% (10)
100-300 berths	12.5% (2)	42.1% (8)	57.1% (4)	9.1% (1)
Greater than 300 berths	25% (4)	15.8% (3)	14.3% (1)	0% (0)

5.0.2 Factors Influencing Decision Making

The factors described above not only affect marina operators' decisions regarding location (ie. proximity to urban centers), marina size, and the types of facilities and services provided but set the operational context which influences the overall decision making paradigm of marina operators. This decision making matrix is clearly significant as it represents the essential framework whereby operators define, formulate and effect their management policies and marina operation guidelines. Marina operators represent

a key 'stakeholder' group in the coastal zone therefore, it is important to understand the main elements of their decision making framework. The following section focuses on the strengths of marina operators' responses to fundamental factors which are known to influence decision making.

To elucidate the characteristics of this decision making matrix commercial marina operators were asked to indicate the significance of five major factors influencing their marina operations. A very high proportion of marina operators (84.9%) acknowledge that economic factors are significant in influencing their marina operation (Table 5.5). While this is the factor with the strongest response, the majority of commercial marina operators also consider political (60.4%) and ecological factors (71.7%) to be significant influences on their marina business (Table 5.5). However, social and cultural factors are considered insignificant. Although most marina operators are aware of the social and cultural dynamics within the region surrounding their marina community, they do not consider these two factors as major forces in determining the structure of their management policies and decision making models.

As one would expect for entrepreneurs managing and operating a business, economic factors are viewed as significant (84.9%). Consequently, there is considerable strength and consistency in the responses. Interestingly, responses also show that ecological factors (including very significant and significant)have the second strongest response and consistency (71.7%) while political factors are also significant (60.4%). What emerges from these results is that marina operators are a business group with a strong ecological orientation.

TABLE 5.5: FACTORS INFLUENCING MARINA OPERATION (%) n=53

	Economic	Political	Ecological	Social	Cultural
Extremely Significant	43.4% (23)	30.2% (16)	22.6% (12)	5.7% (3)	0% (0)
Significant	41.5% (22)	30.2% (16)	49.1% (26)	34% (18)	9.4% (5)
Neutral	9.4% (5)	22.6% (12)	18.9% (10)	37.7% (20)	54.7% (29)
Insignificant	0% (0)	5.7% (3)	1.9% (1)	9.4% (5)	15.1% (8)
Extremely Insignificant	0% (0)	3.8% (2)	1.9% (1)	3.8% (2)	9.4% (5)
No Response	5.7% (3)	7.5% (4)	5.7% (3)	9.4% (5)	11.3% (6)

5.0.3 Growth Indicators

The growth of boating activity is seen in that boat size and the total number of boats moored at marinas have increased at those marinas located in the coastal regions of southwestern British Columbia (Table 5.6 and Table 5.7). Of the marina operators who were surveyed, 64.1% indicated that the size of permanent and transient sail and power vessels moored at commercial marinas had increased. Only a very small percentage (9.4%) noticed a decrease in boat size (Table 5.6). In addition, 56.6% of commercial marina operators revealed an increase in the number of boats moored at their marinas (refer to Table 5.7). 15.1% of marina operators indicated that their marina had experienced a decrease in the total number of boats.

Clearly, the continuous population growth in the Georgia Basin region together with an expanding tourism demand have led to an increase in marine traffic and marine tourism services in the coastal regions of southwestern British Columbia. The results

summarized in Tables 5.6 and 5.7 are strong evidence that the suppliers of marinas are currently experiencing a higher level demand for moorage space than they have in the past. The combination of larger boats, an increase in the total number of boats in the region together with the general population growth will undoubtedly create a shortage of moorage space in the near future.

TABLE 5.6: BOAT SIZE (including permanent and transient sail and power vessels moored at marina) (n=53)

	Frequency	% of Sample
Increased Significantly	15	28.3
Increased Moderately	19	35.8
Remained Unchanged	14	26.4
Decreased Moderately	5	9.4
Decreased Significantly	0	0
	53	100.0

TABLE 5.7: NUMBER OF BOATS MOORED AT MARINA (n=53)

	Frequency	% of Sample
Increased Significantly	10	18.9
Increased Moderately	20	37.7
Remained Unchanged	14	26.4
Decreased Moderately	7	13.2
Decreased Significantly	1	1.9
No Response	1	1.9
	53	100.0

5.0.4 Intra-Industry Contacts

Marina operators represent a key 'stakeholder' group in British Columbia's marina tourism industry and users of the coastal zone. Therefore, to be an effective group it is important that they are aware of each others' perspectives and needs. This

involves making an effort to communicate with other operators in the industry. Although marina operators directly compete with one another for business, their primary goals are generally the same; to supply moorage for boaters. Contact with other owners and operators is essential for maintaining a viable efficient industry and for having an effective input into government policy and regulations. The majority of commercial marina operators (94.3%) are aware of group cohesiveness because they maintain contact with other operators (Table 5.8). From the total of 53 commercial marina operators who responded to the questionnaire, only 1 indicated that contact was never maintained.

TABLE 5.8: CONTACT WITH OTHER COMMERCIAL MARINA OPERATORS (n=53)

	Frequency	% of Sample
Frequently	12	22.6
Occasionally	38	71.7
Never	1	1.9
No Response	2	3.8
TOTAL	53	100.0

Clearly, informal contacts must predominate because the majority of operators (64.2%) are not members of marina associations (Table 5.9). These associations include the British Columbia Marine Trades Association, Vancouver Island Marina Operators Association, BC Association of Ports, Harbours, and Marinas, NW Marine Trade Association Seattle, and the International Marina Institute.

TABLE 5.9: MEMBERSHIP IN MARINA ASSOCIATIONS (n=53)

	Frequency	% of Sample
Yes	17	32
No	34	64.2
No Response	2	3.8
TOTAL	53	100.0

When asked if commercial marina operators owned more than one marina, 90.6% of the respondents replied with a 'No'. Only 3 operators out of the total of 53 indicated that they owned more than one marina (refer to Table 5.10). As discussed in section 5.2, rising economic costs and tighter government legislation have made it extremely difficult for marina operators to operate one marina and virtually impossible to operate multiple marinas (see comments p.87-88).

TABLE 5.10: OWNERSHIP OF MORE THAN ONE MARINA (n=53)

	Frequency	% of Sample
Yes	3	5.7
No	48	90.6
No Response	2	3.8
TOTAL	53	100.0

5.1 ISSUES CONFRONTING COMMERCIAL MARINA OPERATORS

5.1.1 General Issues

The main issues currently challenging commercial marina operators in southwestern British Columbia are shown in Figure 5.1 and are summarized as follows:

- increasing market demand for geographical space (including land and marine) within the coastal zone region;

- increasing pressures on marina facilities and services due to the continual growth of marine traffic and tourism in the region;
- politics of regulation (over-regulation of the commercial marina industry from all levels of government); and
- increasing operating costs (higher taxes, maintenance costs, cost of fuel, licensing, expansion costs).

Generally, competition for locational space among marina operators and other coastal zone users is minimal (Table 5.11). However, as this question was complex and perhaps difficult to understand, many marina operators did not respond. From those that did, 13.2% experience intense competition with sportfishing resorts. It is evident that sportfishing resorts represent the strongest competition for marina operations. This can be compared to other coastal zone users such as float houses, kayaking outfitters, scuba divers, and whalewatching tours who marina operators consider to be non-competitors. This may be the result of the fact that these four coastal zone users are customers of commercial marinas. Several marinas offer moorage space for float homes, while many offer their own scuba diving and kayak rentals and whalewatching tours. Instead of competing with marina operations, float homes, kayaking outfitters, scuba divers, and whalewatching tours are considered integral components and attractions of most marina operations.

FIGURE 5.1: MAIN ISSUES CURRENTLY CONFRONTING COMMERCIAL MARINA OPERATORS
AS INDICATED BY OPERATORS

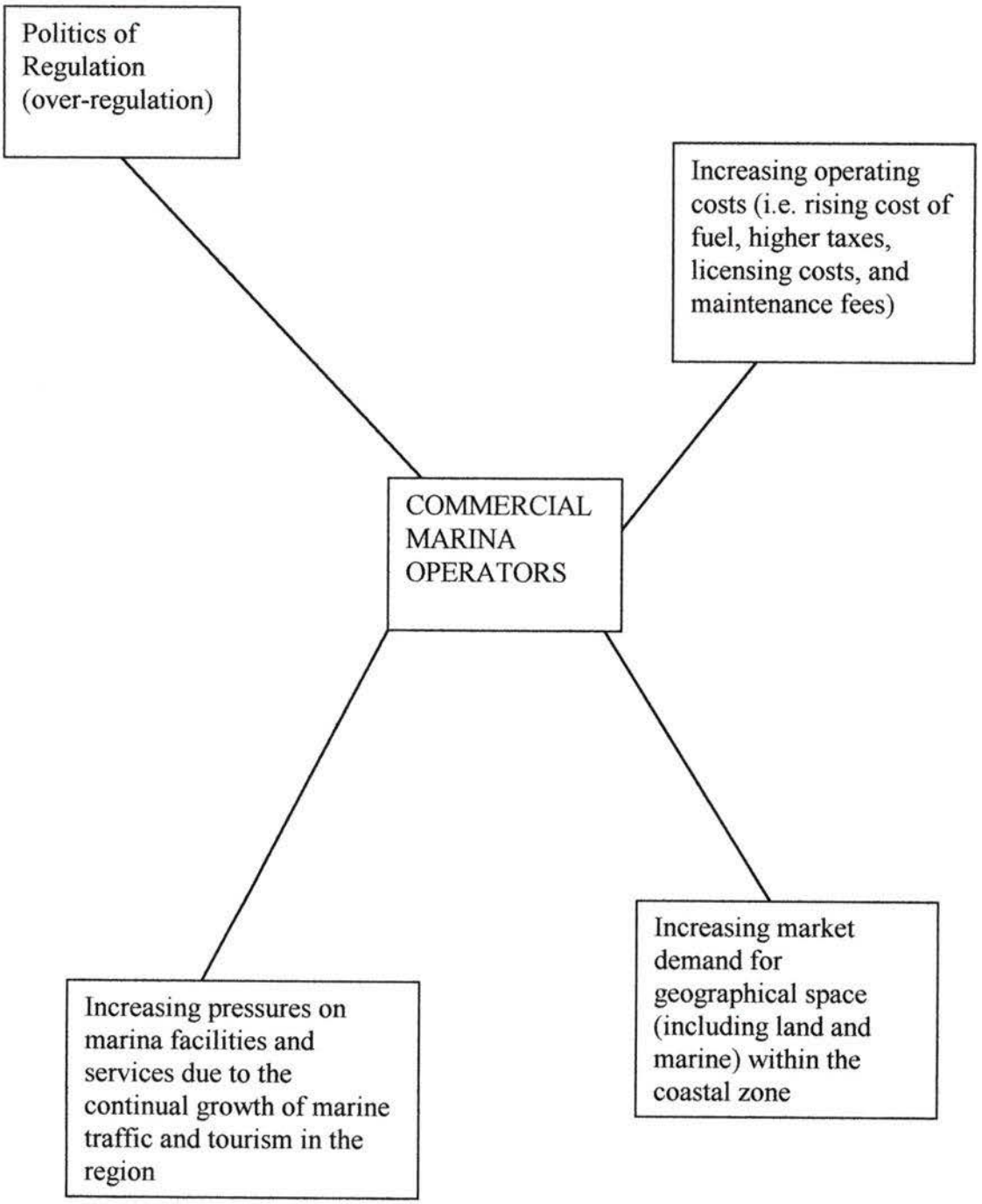


TABLE 5.11: COMPETITION FOR LOCATIONAL SPACE WITH OTHER COASTAL ZONE USERS (%) (n=53)

	Sportfishing Resorts	Float Houses	Kayaking Outfitters	Scuba Divers	Whalewatching Tours
Intense Competition	13.2% (7)	7.5% (4)	3.8% (2)	1.9% (1)	1.9% (1)
Moderate Competition	24.5% (13)	5.7% (3)	7.5% (4)	9.4% (5)	5.7% (3)
Mild Competition	11.3% (6)	9.4% (5)	28.3% (15)	17% (9)	18.9% (10)
No Competition	39.6% (21)	60.4% (32)	39.6% (21)	49.1% (26)	50.9% (27)
No Response	11.3% (6)	17% (9)	20.8% (11)	22.6% (12)	22.6% (12)

As indicated in Section 5.1, the total number of boats and the overall size of boats is increasing. As a result, marinas are experiencing higher volumes of marine traffic and at times a shortage of moorage space. However, according to 49% of commercial marina operators who were surveyed, crowding at marina docks is not decreasing the quality of boaters' 'marina experiences' (refer to Table 5.12). Many operators indicated that crowding at their marina induces higher revenues and increases profits.

In regards to the 33.9% (Table 5.12) of commercial marina managers who agree that crowding is decreasing the quality of boaters' 'marina experiences', 83.3% believe that a moderate to extreme level of crowding creates problems (Table 5.13). Consequently, many commercial operators are aware of the necessary precautions that should be undertaken to ensure a safe and comfortable 'recreational boating environment'. This may involve implementing quotas on the number of moorage berths and the total number of boats allowed at the marina. Many operators also feel that the

policing of boater behaviour is important when providing a safe and enjoyable atmosphere for all users of marinas (see Table 5.14).

TABLE 5.12: Crowding at marina docks is decreasing the quality of boaters' 'marina experiences'

	Frequency	% of Sample
Strongly Agree	4	7.5
Agree	14	26.4
Neutral	8	15.1
Disagree	21	39.6
Strongly Disagree	5	9.4
No Response	1	1.9
TOTAL	53	100.0

TABLE 5.13: Level of dock crowding at which boaters' marina experiences begin to decline (n=18)

	Frequency	% of Sample
Extreme	6	33.3
Moderate	9	50.0
Mild	2	11.1
No Response	1	5.6
TOTAL	18	100.0

5.1.2 Business Survival

That marina operators are under increasing pressure is shown in a common complaint that rising operating costs and government restrictions have made it extremely difficult to operate and manage even one marina. Typical responses were:

> "It is becoming more difficult each year to keep up with the cost of operating a small marina. The restrictions placed upon our operation by the Federal Government re: fuel delivery has forced us to shut down our fuel operation. Lack of fish has decreased our tackle and bait operation. Our water lot lease has increased as have our Provincial taxes. It is necessary for my husband to hold a full time job so that he can subsidize our operation."

> "Our biggest competitor is Government-All Levels
> They are continually putting their hands in our pockets and our customers' pockets making the Marina Business less appealing all the time."
>
> "All levels of government and bureaucrats seem to think boat owners are rich. This is not so."
>
> "As a marina operator in False Creek I am very concerned with moorage rates that continue to increase at a much higher rate than inflation. Also the newer vessels are much wider than the ones built in the 1970 to 1990 era. The problem is the older marinas cannot accommodate these wider vessels. Eventually the marinas will have to widen their slips and this will drive up the cost even more. This will make it very difficult for the average person to enjoy boating."
>
> "The constant increasing costs of maintaining a marina means less and less viable marinas for boats; float homes have become essential for small marinas to maintain sufficient year round revenue, especially in the Fraser River area where many boats used to moor. Also the cost of fuel has made owning a power boat a real luxury."

It is evident that increasing economic costs are affecting the overall commercial marina industry, including both the suppliers (marina operators)and the users (recreational and commercial boaters). In these circumstances, owning and operating a marina may be considered a 'high risk' business venture as many anticipated opportunities and expectations are never obtained due to rising operating costs, over-regulation and difficulties involved with increasing revenues.

5.1.3 Specific Issues

The six specific issues of concern as ranked in order of strength and consistency of response (very important and important) by commercial marina operators located in the coastal regions of southwestern British Columbia are as follows (refer to Table 5.14 and Figure 5.2):

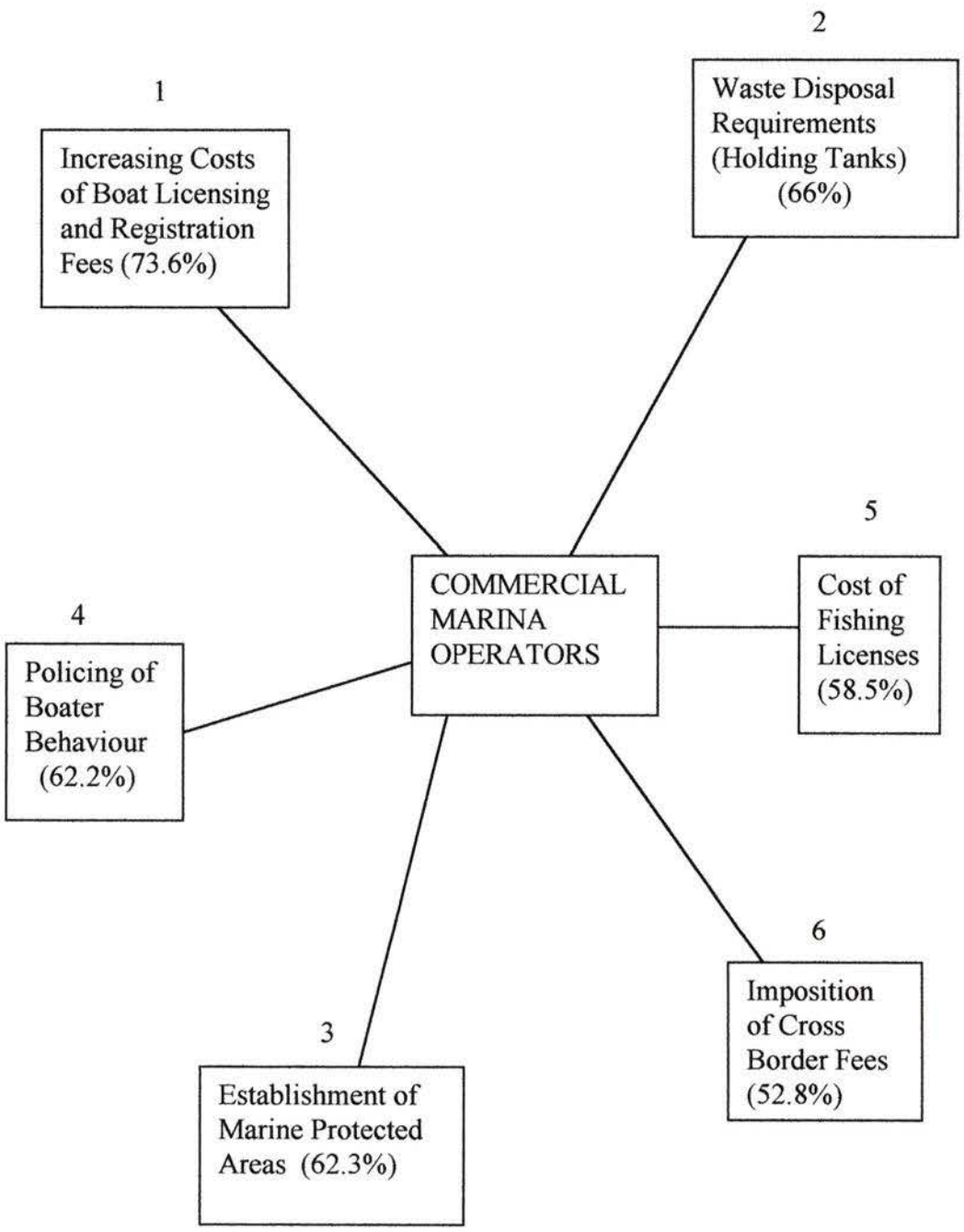
	% Very Impt & Impt
1) Increasing Costs of Boat Licensing/ Registration Fees	73.6%
2) Waste Disposal Requirements (Holding Tanks)	66%
3) Establishment of Marine Protected Areas	62.3%
4) Policing of Boater Behaviour	62.2%
5) Cost of Fishing Licenses	58.5%
6) Imposition of Cross Border Fees	52.8%

TABLE 5.14: SPECIFIC ISSUES (%) n=53

	Cost of Fishing Licenses	Waste Disposal Require-ments (Holding Tanks)	Imposition of Cross Border Fees	Increasing Costs of Boat Licensing/ Registration Fees	Polic-ing of Boater Behav-iour	Establish -ment of Marine Protected Areas
Very Impt	32.1% (17)	24.5% (13)	30.2% (16)	47.2% (25)	24.5% (13)	28.3% (15)
Impt	26.4% (14)	41.5% (22)	22.6% (12)	26.4% (14)	37.7% (20)	34% (18)
Neutral	22.6% (12)	24.5% (13)	24.5% (13)	11.3% (6)	26.4% (14)	22.6% (12)
Unimpt	11.3% (6)	5.7% (3)	15.1% (8)	7.5% (4)	5.7% (3)	7.5% (4)
Very Unimpt	3.8% (2)	0% (0)	0% (0)	0% (0)	0% (0)	1.9% (1)
No Response	3.8% (2)	3.8% (2)	7.5% (4)	7.5% (4)	5.7% (3)	5.7% (3)

Clearly, the majority of the respondents indicated that they are opposed to government legislation that increases operating costs; for example, 69.8% of commercial marina operators are opposed to government legislation that raises the cost of boat

FIGURE 5.2: SIX SPECIFIC ISSUES OF CONCERN FOR COMMERCIAL MARINA OPERATORS AS INDICATED BY OPERATORS (Ranked By Significance)



licensing/ registration fees (Table 5.15). Moreover, 60.4 % are opposed to government legislation that requires cross border fees to be levied. 54.7% of marina operators also oppose government legislation that increases the cost of fishing licenses. However, 50.9% of commercial marina operators are in favour of government legislation requiring holding tanks on all vessels compared to the 26.4% who oppose legislation.

Commercial marina operators are sensitive to any form of government regulation that has the potential to restrict and/or decrease revenues and profits. As previously discussed, the costs of owning and operating a marina are increasing at a steady pace. Similarly, the costs for recreational boaters are also rising. From an economic perspective, increasing costs generally correspond to decreasing profits. Thus, British Columbia's coastal commercial marina industry could experience significant losses if suppliers' and users' costs are not held steady or reduced. In contrast, the response to holding tanks shows that marina operators are <u>not</u> opposed to regulations that maintain the long-run sustainability of their operating environment.

5.1.4 Coastal Zone Management

Canada, unlike the United States has not implemented a formalized coastal zone management policy even though effective management with stakeholder input into decision making is essential for the conservation and preservation of the diverse, complex, and integral components of British Columbia's coastal zone (Ketchum, 1972).

TABLE 5.15: GOVERNMENT LEGISLATION (%) n=53

	Requiring Holding Tanks on all Vessels	Increasing the Cost of Fishing Licenses	Imposing Cross Border Fees	Raising the Cost of Boat Licensing/ Registration Fees
Strongly Favour	24.5% (13)	3.8% (2)	3.8% (2)	1.9% (1)
Favour	26.4% (14)	15.1% (8)	9.4% (5)	7.5% (4)
Neutral	22.6% (12)	24.5% (13)	24.5% (13)	18.9% (10)
Oppose	17% (9)	28.3% (15)	28.3% (15)	39.6% (21)
Strongly Oppose	9.4% (5)	26.4% (14)	32.1% (17)	30.2% (16)
No Response	0% (0)	1.9% (1)	1.9% (1)	1.9% (1)

Given that commercial marina operators represent important stakeholders within the marine industry and users of the coastal zone, their actions and opinions should be incorporated into coastal zone management strategies and policies. Operators want input into coastal zone management and the majority of commercial marina operators (90.6%) **oppose total government regulation with absolutely no input from marina operators and coastal zone users** (Table 5.16). In contrast, only 35.8% of operators feel that there should be no government regulation/intervention in the management of the coastal zone. Most marina operators feel that their should be a balance among the level of public participation and government intervention with regards to coastal zone management. 79.2% of the questionnaire respondents support the formation of a consultative body of marina operators while 60.4% support the establishment of a coastal

zone agency comprised of representatives from all levels of government and all coastal zone user groups. It is evident that commercial marina operators prefer a minimal level of government intervention and regulation. Two operators have written pointedly:

> "Please! No more government, restrictions, fees, environmental (the crap part)."
>
> "Our experience has shown there are too many government agencies in charge of coastal areas-resulting in none of them taking proper responsibility. In other words, they all 'pass the buck' to each other."

TABLE 5.16: LEVEL OF PUBLIC PARTICIPATION IN COASTAL ZONE MANAGEMENT (%)

	No Government Intervention / Regulation	Consultative Body of Marina Operators	Coastal Zone Agency Comprised of Representatives from the Government and all Coastal Zone User Groups	Full Government Regulation with No Input From Marina Operators and Coastal Zone Users
Strongly Support	22.6% (12)	37.7% (20)	28.3% (15)	1.9% (1)
Support	13.2% (7)	41.5% (22)	32.1% (17)	0% (0)
Neutral	17% (9)	13.2% (7)	15.1% (8)	1.9% (1)
Oppose	28.3% (15)	0% (0)	15.1% (8)	13.2% (7)
Strongly Oppose	9.4% (5)	1.9% (1)	5.7% (3)	77.4% (41)
No Response	9.4% (5)	5.7% (3)	3.8% (2)	5.7% (3)

5.1.5 Environmental Concerns

In addition to their economic and financial concerns, marina operators are also **sensitive to the conditions of the ecological environment surrounding their marinas**. 67.9% of those operators who responded to the questionnaire recognize that the quality of the ecological environment has significant impacts on the success of their marina businesses (refer to Table 5.17). As a result, most marina operators attempt to operate in an effective and efficient manner that is compatible with the ecology of the surrounding environment. Several efforts have been made by commercial marina operators to decrease the level of pollution in the waters surrounding their marinas. This involves for example, educating recreational boaters about the harmful effects of waste disposal and fuel spills.

TABLE 5.17: SIGNIFICANCE OF THE ECOLOGICAL ENVIRONMENT IN REGARDS TO ITS IMPACTS ON THE SUCCESS OF A MARINA BUSINESS (n=53)

	Frequency	% of Sample
Very Significant	14	26.4
Significant	22	41.5
Neutral	11	20.8
Insignificant	4	7.5
Very Insignificant	0	0
No Response	2	3.8
TOTAL	53	100.0

While these results clearly indicate that operators are conscious of the value of environmental quality to their marina business operations, care must be exercised in interpreting these responses. For example, this does not necessarily mean that they are

all environmental activists. It is inferred that marina operators recognize that environmental quality is a strong element of customer satisfaction and hence, the economic viability of marinas.

The significance of the quality of the ecological environment to marina operators is reflected both in the **strength and direction of interest and their level of support for the implementation of environmental management legislation** with regards to the following issues (refer to Table 5.18 and Figure 5.3):

	% Support & Strongly Support
1) Water pollution controls	88.6%
2) Sportfishing management and the implementation of quotas	86.8%
3) Shoreline protection	84.9%
4) Specific laws for the protection of wildlife (e.g. seabirds and whales)	81.1%

British Columbia's fishing industry is currently experiencing a multitude of problems from overfishing in Alaska to spawning habitat deterioration. Although a discussion of this resource conflict is beyond the scope of this study, it must be recognized that these problems affect the commercial marina industry. For example, as one operator writes:

> "Our marina/campground is a destination fishing resort. It is solely dependent on salmon runs and political will of fisheries."

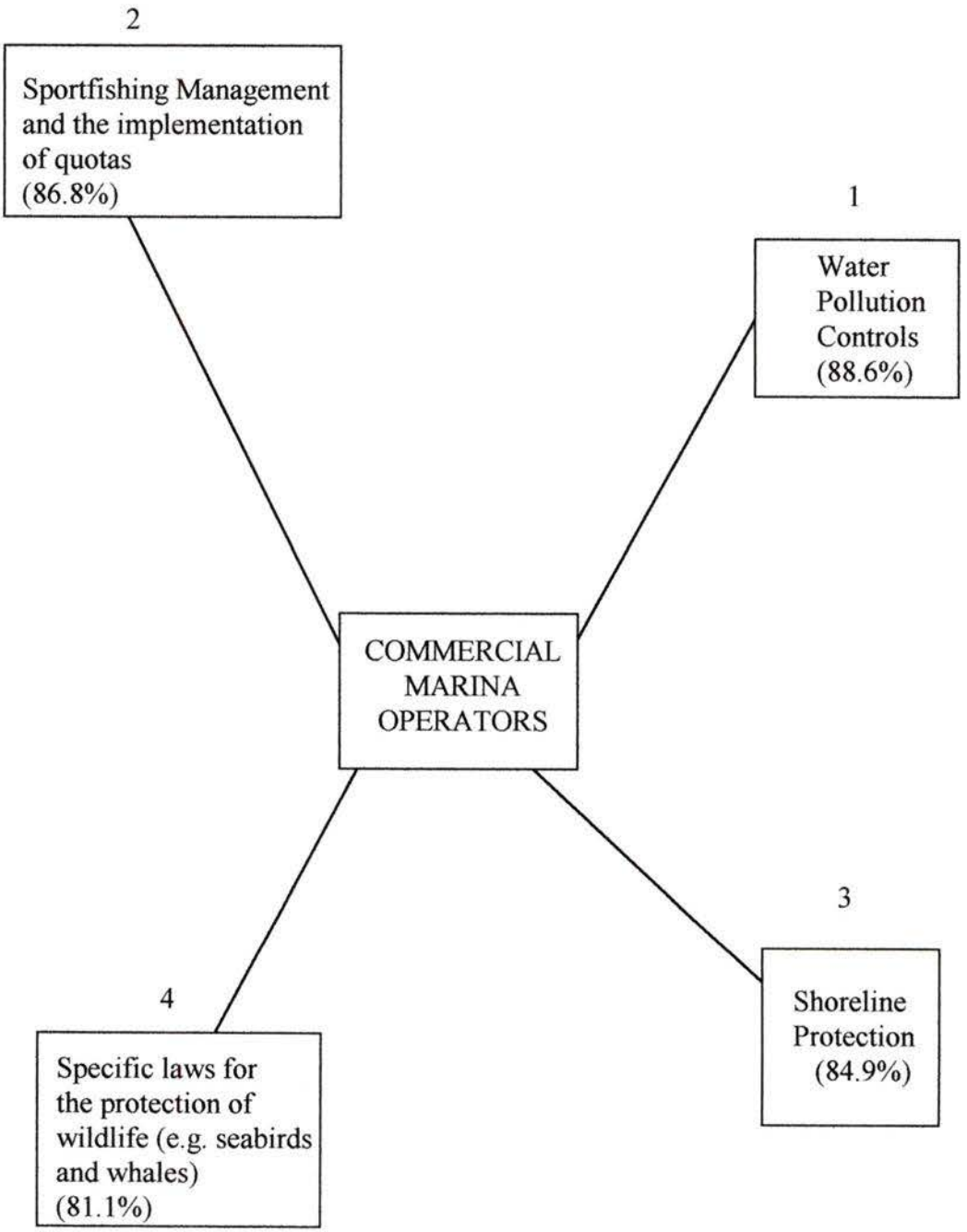
The livelihood of several commercial marinas is directly related to the sportfishing industry. Therefore, most operators support legislation that protects fish stocks and encourages sustainable fishing practices.

Of those operators who responded to the questionnaire, 88.6% support the implementation of water pollution controls (Table 5.18). Similarly, 86.8% of commercial marina operators support the **implementation of sportfishing management legislation** and quotas. 84.9% are in favour of environmental management legislation that protects the shoreline and 81.1% support the implementation of specific environmental laws for the protection of wildlife.

TABLE 5.18: ENVIRONMENTAL MANAGEMENT LEGISLATION (%) n=53

	Sportfishing Management and the Implementation of Quotas	Water Pollution Controls	Shoreline Protection	Specific Laws for the Protection of Wildlife (e.g. seabirds and whales)
Strongly Support	28.3% (15)	37.7% (20)	30.2% (16)	37.7% (20)
Support	58.5% (31)	50.9% (27)	54.7% (29)	43.4% (23)
Neutral	3.8% (2)	3.8% (2)	7.5% (4)	9.4% (5)
Oppose	5.7% (3)	3.8% (2)	1.9% (1)	3.8% (2)
Strongly Oppose	1.9% (1)	1.9% (1)	0% (0)	0% (0)
No Response	1.9% (1)	1.9% (1)	5.7% (3)	5.7% (3)

FIGURE 5.3: MARINA OPERATOR SUPPORT FOR THE IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT LEGISLATION
(Ranked by Strength of Support)



5.1.6 Significant Management Issues

Table 5.19 and Figure 5.4 summarize the five major management issues currently confronting commercial marina operators. While the two previous sections have been dedicated to recognizing these concerns, Chapter 6 discusses the significance of these issues in further detail. The key management issues and concerns as ranked in order of strength and consistency of response (very important and important) by commercial marina operators are as follows:

	% Impt &Very Impt
1) Over-regulation by Federal, Provincial, and Municipal Governments	90.5%
2) Increased taxation	88.6%
3) Boater safety	86.7%
4) Destruction of the ecological environment	73.6%
5) Over-crowding at marina docks	52.8%

It is recognized that the problems and concerns of marina operators may not be limited to the seven listed above. However, due to the temporal and financial limitations of this research project, personal interviews with several operators were not undertaken. While this research is concerned with these current issues, there is the possibility that other concerns exist.

FIGURE 5.4: MANAGEMENT ISSUES CURRENTLY CONFRONTING COMMERCIAL MARINA OPERATORS IN SOUTHWESTERN COASTAL BRITISH COLUMBIA (Ranked by Strength of Support)

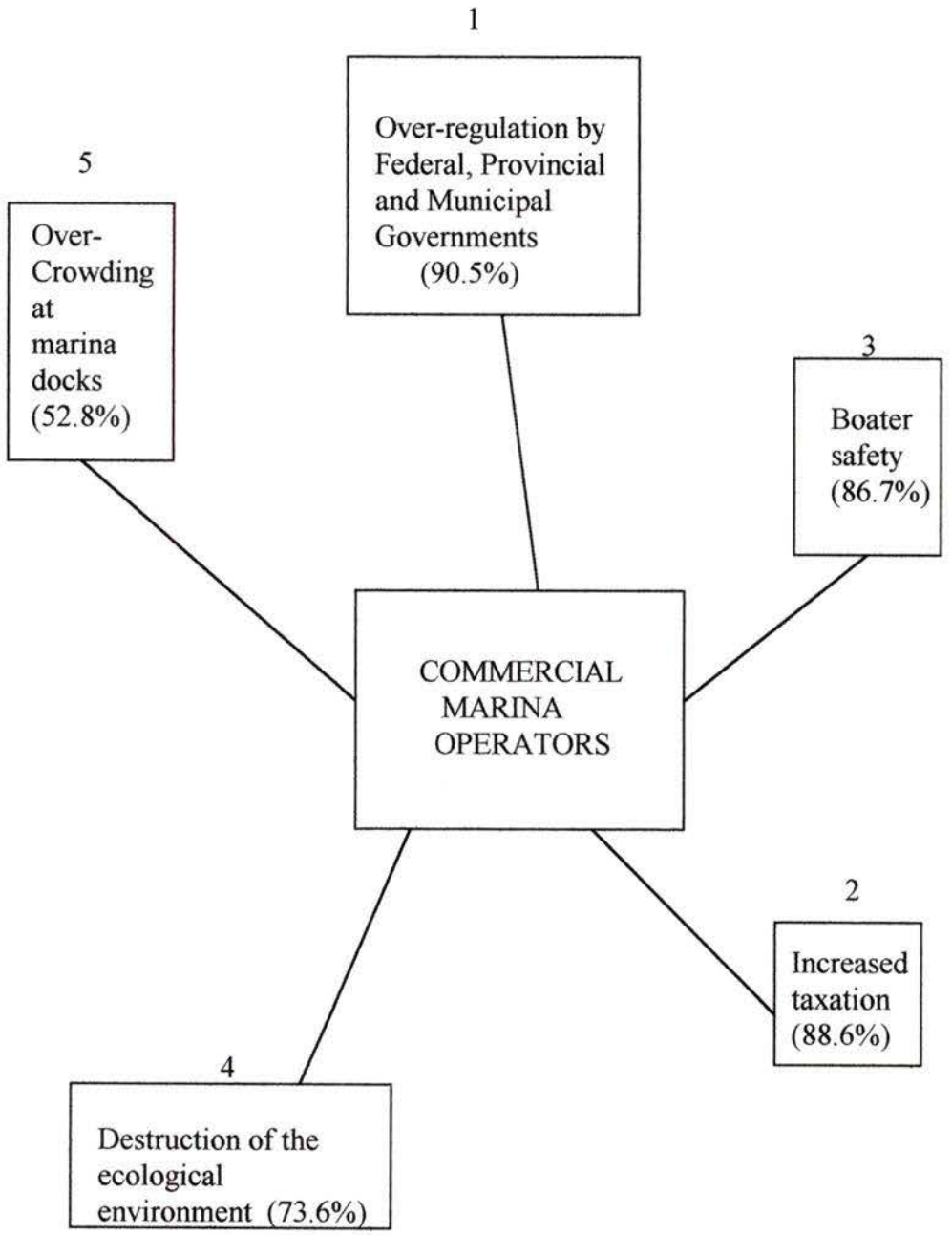


TABLE 5.19: MANAGEMENT ISSUES (%) n=53

	Boater Safety	Destruc-tion of the Ecolog-ical Environ-ment Surroun-ding the Marina	Over-crowd-ing at Marina Docks	Over-regulati on by Federal Provin-cial and Muni-cipal Govern-ments	Increa-sed Tax-ation	Compet-ition for Space and Custom-ers with Other Coastal Zone Users	Surplus Capacity of Marinas in the Georgia Basin Region
Very Impt	50.9% (27)	41.5% (22)	17% (9)	67.9% (36)	73.6% (39)	13.2% (7)	9.4% (5)
Impt	35.8% (19)	32.1% (17)	35.8% (19)	22.6% (12)	15% (8)	34% (18)	20.8% (11)
Neutral	5.7% (3)	13.2% (7)	20.8% (11)	3.8% (2)	5.7% (3)	37.7% (20)	37.7% (20)
Unimpt	0% (0)	5.7% (3)	15% (8)	0% (0)	0% (0)	11.3% (6)	13.2% (7)
Very Unimpt	0% (0)	1.9% (1)	5.7% (3)	1.9% (1)	0% (0)	1.9% (1)	5.7% (3)
No Response	7.5% (4)	5.7% (3)	5.7% (3)	3.8% (2)	5.7% (3)	1.9% (1)	13.2% (7)

5.2 INTERNAL SUB-GROUP VARIATIONS

To determine whether internal differences are present within the data set, two main subgroups have been delineated:

1) Data as categorized by membership in marina associations

2) Data as categorized by geographical location

This section describes and interprets the internal variations for each sub-group.

5.2.1 DATA AS CATEGORIZED BY MEMBERSHIP IN MARINA ASSOCIATIONS

In order to determine some of the major differences in opinions among commercial marina operators, the data was sub-divided on the basis of membership in marina associations. A total of 17 operators indicated that they are current members of a marina association compared to 34 operators who indicated that they had never been a member of any marina association. The marina associations that were identified include: Vancouver Island Marina Operators Association, British Columbia Marine Trades Association, BC Association of Ports, Harbours, and Marinas, International Marina Institute, and NW Marine Trade Association, Seattle.

Table 5.20 exhibits the percentage of marina operators who believe economic, social, political, ecological, and cultural factors are significant components influencing the operation of a commercial marina. When compared to non-members, it is evident that a higher proportion of marina association members consider the factors to be of greater significance. As outlined in the table, the factors can be ranked from highest to lowest according to their level of significance: economic, ecological, political, social, and cultural.

A very high percentage of members and non-members (94.1% and 82.4% respectively) consider economic factors (e.g. operation costs and taxation) to be the most important agent influencing a commercial marina operation. Ecological factors such as water quality and shoreline conditions also exert a significant amount of influence on commercial marinas. Compared to 64.7% of non-members, a higher percentage of association members (88.2%) consider ecological conditions to be important influential

factors. Similarly, 76.5% of members acknowledge the significance of political elements in contrast to only 52.9% of non-members. In addition, both groups (members and non-members) do not consider social and cultural factors as being significant components influencing the operation of their commercial marina businesses.

TABLE 5.20: FACTORS INFLUENCING COMMERCIAL MARINA OPERATION (% SIGNIFICANT)

	Membership in Marina Associations	
	YES (n=17) % SIGNIFICANT	NO (n=34) % SIGNIFICANT
ECONOMIC	94.1% (16)	82.4% (28)
ECOLOGICAL	88.2% (15)	64.7% (22)
POLITICAL	76.5% (13)	52.9% (18)
SOCIAL	47.1% (8)	35.3% (12)
CULTURAL	23.5% (4)	2.9% (1)

According to marina association members and non-members, competition for locational space among coastal zone users is not a major concern (see Table 5.21). Commercial marinas generally operate in conjunction with these other coastal zone users, offering moorage space and providing the necessary clientele. For example, the majority of float homes and whalewatching tours are highly dependent on the existence of the facilities and services provided by marinas. As such, commercial marina operators represent a key stakeholder group within British Columbia's marine tourism industry.

41.2% of members and 41.2% of non-members believe sportfishing resorts offer no competition to commercial marinas. In fact, many commercial marinas located in the southwestern coastal regions of British Columbia are dependent on the viability of the sportfishing industry as they target sportfishers from around the world.

TABLE 5.21: COMPETITION FOR LOCATIONAL SPACE (% NO COMPETITION)

	Membership in Marina Associations	
	YES (n=17) % NO COMPETITION	NO (n=34) % NO COMPETITION
FLOAT HOUSES	58.8% (10)	61.8% (21)
WHALEWATCHING TOURS	58.8% (10)	47.1% (16)
SCUBA DIVERS	47.1% (8)	50.0% (17)
SPORTFISHING RESORTS	41.2% (7)	41.2% (14)
KAYAKING OUTFITTERS	35.3% (6)	41.2% (14)

Table 5.22 ranks six specific issues according to their level of importance in the operation of a commercial marina. A higher percentage of marina operators who are members of marina associations recognize the importance of increasing boat licensing / registration fees, waste disposal requirements, and the imposition of cross border fees. In contrast, a higher percentage of non-members recognize the importance of the policing of boater behaviour and the establishment of marine protected areas. It was discovered that 58.8% of members and 58.8% of non-members acknowledge the importance of the cost of fishing licenses.

TABLE 5.22: SPECIFIC ISSUES AS THEY RELATE TO THE OPERATION OF A COMMERCIAL MARINA (% IMPORTANT)

	Membership in Marina Associations	
	YES (n=17) % IMPORTANT	NO (n=34) % IMPORTANT
Increasing Costs of Boat Licensing/ Registration Fees	76.5% (13)	73.5% (25)
Waste Disposal Requirements (Holding Tanks)	70.6% (12)	64.7% (22)
Establishment of Marine Protected Areas	58.8% (10)	64.7% (22)
Policing of Boater Behaviour	58.8% (10)	61.8% (21)
Cost of Fishing Licenses	58.8% (10)	58.8% (20)
Imposition of Cross Border Fees	58.8% (10)	50.0% (17)

When questioned about the alternatives for the levels of public participation in coastal zone management, 88.2% of association members and 76.5 % of non-members support the formation of a consultative body of marina operators (see Table 5.23). Compared to only 58.8% of supportive non-members, 63.7% of members support the development of a coastal zone agency comprised of representatives from all levels of government and all coastal zone user groups. For both groups, less than half of the respondents indicated support for no government intervention/regulation. Similarly, only 1 non-member indicated support for total government regulation with absolutely no input from marina operators and coastal zone users.

TABLE 5.23: LEVEL OF PUBLIC PARTICIPATION IN COASTAL ZONE MANAGEMENT (% Support)

	Membership in Marina Associations	
	YES (n=17) % Support	NO (n=34) % Support
Consultative Body of Marina Operators	88.2% (15)	76.5% (26)
Coastal Zone Agency Comprised of Representatives From the Government and all Coastal Zone User Groups	64.7% (11)	58.8% (20)
No Government Intervention/ Regulation	41.1% (7)	35.3% (12)
Full Government Regulation With No Input From Marina Operators and Coastal Zone Users	0% (0)	2.9% (1)

Table 5.24 ranks the importance of the of the seven management issues and concerns previously identified in Section 5.2. It also illustrates the differences in opinions between association members and non-members. For both members and non-members, over 90% of commercial marina operators have indicated over-regulation by Federal, Provincial, and Municipal Governments as the most important management problem. Other critical issues include: increased taxation, boater safety, and destruction of the ecological environment surrounding the marina. Interestingly, a higher percentage of non-members are concerned with increased taxation, boater safety, destruction of the ecological environment, and overcrowding at marina docks. Only 52.9% of members and 44.1% of non-members view competition with other coastal zone users as an important management concern. A very small percentage of members (35.3%) and non-

members (26.5%) are concerned with over-abundance (surplus capacity) of commercial marinas in the Georgia Basin Region.

TABLE 5.24: MANAGEMENT ISSUES AND CONCERNS (% IMPORTANT)

	Membership in Marina Associations	
	YES (n=17) % IMPORTANT	NO (n=34) % IMPORTANT
Over-regulation by Federal, Provincial, and Municipal Governments	94.1% (16)	91.2% (31)
Increased Taxation	88.2% (15)	91.2% (31)
Boater Safety	82.4% (14)	88.2% (30)
Destruction of the Ecological Environment Surrounding the Marina	70.6% (12)	76.5% (26)
Overcrowding at Marina Docks	41.2% (7)	58.8% (20)
Competition For Space and Customers With Other Coastal Zone Users	52.9% (9)	44.1% (15)
Surplus Capacity of Marinas in the Georgia Basin Region	35.3% (6)	26.5% (9)

As evidenced in Table 5.25, both members and non-members are aware of the significance of the ecological environment in regards to its impacts on the success of their marina operations. Compared to the 64.7% of non-members, a slightly higher percentage of members (70.6%) affirmed the significance of the ecological environment.

TABLE 5.25: SIGNIFICANCE OF THE ECOLOGICAL ENVIRONMENT IN REGARDS TO ITS IMPACTS ON THE SUCCESS OF MARINA BUSINESS (% SIGNIFICANT)

MEMBERSHIP IN MARINA ASSOCIATION	% SIGNIFICANT
Yes (n=17)	70.6% (12)
No (n=34)	64.7% (22)

The significance of the ecological environment is also indicated by marina operators' support for the development of environmental legislation. As indicated in Table 5.26, a high percentage of members and non-members support the implementation of environmental legislation. Support for water pollution controls is the highest for both groups. 88.2% of members and 88.2% of non-members support the application of sportfishing management legislation and the enforcement of quotas. Members and non-members also support the imposition of legislation that protects the shoreline. A slightly higher percentage of non-members (85.3% compared to 76.5% for members) is supportive of the establishment of specific laws to protect wildlife of the coastal zone.

Unlike the overwhelming support given for the implementation of environmental management legislation, commercial marina operators oppose the development of government legislation for three specific issues (see Table 5.27). A higher proportion of non-members (73.5%) compared to members (64.7%) oppose government legislation that raises the cost of boat licensing and registration fees.

64.7% and 58.9% of association members oppose the establishment of cross border fees and the implementation of government legislation which increases the cost of

fishing licenses respectively. Only a very small percentage of members and non-members oppose government legislation that requires holding tanks on all vessels.

TABLE 5.26: IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT LEGISLATION (% SUPPORT)

	Membership in Marina Associations	
	YES (n=17) % SUPPORT	NO (n=34) % SUPPORT
Water Pollution Controls	94.1% (16)	88.2% (30)
Sportfishing Management and the Implementation of Quotas	88.2% (15)	88.2% (30)
Shoreline Protection	88.2% (15)	85.3% (29)
Specific Laws for the Protection of Wildlife (e.g. seabirds and whales)	76.5% (13)	85.3% (29)

TABLE 5.27: IMPLEMENTATION OF GOVERNMENT LEGISLATION FOR SPECIFIC ISSUES (% OPPOSE)

	Membership in Marina Associations	
	YES (n=17) % OPPOSE	NO (n=34) % OPPOSE
Raising the Cost of Boat Licensing/ Registration Fees	64.7% (11)	73.5% (25)
Imposing Cross Border Fees	64.7% (11)	55.9% (19)
Increasing the Cost of Fishing Licenses	58.8% (10)	55.9% (19)
Requiring Holding Tanks on all Vessels	35.3% (6)	17.6% (6)

As presented in Table 5.28, 64.7% of marina operators who are member of marina associations have experienced an increase in the total number of boats moored at their marinas. In contrast, only 50% of non-members indicated an increase in the total number of boats moored at there marina. Subsequently, an equal percentage of members and non-members (64.7%) indicated that they had noticed an increase in the overall size of power and sail vessels (refer to Table 5.29).

TABLE 5.28: NUMBER OF BOATS MOORED AT MARINA (% INCREASE)

MEMBERSHIP IN MARINA ASSOCIATION	% INCREASE
Yes (n=17)	64.7% (11)
No (n=34)	50% (17)

TABLE 5.29: BOAT SIZE (% INCREASE)

MEMBERSHIP IN MARINA ASSOCIATION	% INCREASE
Yes (n=17)	64.7% (11)
No (n=34)	64.7% (22)

With an increase in marine traffic and the growth of marine tourism and recreational boating in southwestern coastal British Columbia, several commercial marinas are experiencing crowding problems. Currently, marina operators do not consider overcrowding to be a major problem. As Table 5.30 indicates, 52.9% of marina association members disagree that crowding at marina docks is decreasing the quality of

boaters' 'marina experiences'. A smaller percentage (47.1%) of non-members also disagree. Thus, to most suppliers of commercial marinas, crowding relates to an increase in revenues and higher profits.

TABLE 5.30: PERCENTAGE OF MARINA MANAGERS WHO DISAGREE THAT CROWDING AT MARINA DOCKS IS DECREASING THE QUALITY OF BOATERS' 'MARINA EXPERIENCES'

MEMBERSHIP IN MARINA ASSOCIATION	% DISAGREE
Yes (n=17)	52.9% (9)
No (n=34)	47.1% (16)

5.2.2 DATA AS CATEGORIZED BY GEOGRAPHICAL LOCATION

For analytical purposes, the data were subdivided into four geographical regions:

AREA A: Southern Vancouver Island and the Southern Gulf Islands;

AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour);

AREA C: Central Vancouver Island (including Nanaimo); and

AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound.

The geographical variation in the number of marina operators who acknowledged the significance of five influential factors are shown in Table 5.31. According to commercial marina operators in all four areas, economic factors exert the greatest amount of influence on their marina businesses. However, in Area D, 81.8% of commercial marina operators indicated that economic and social factors are the two most

important influential factors in their marina operations. For Areas A, B, and C, marina operators indicated ecological factors as the second most influential components. In Area D, 72.7% of commercial marina operators indicated political and ecological factors as the second most significant components. As demonstrated in the table, marina operators whose businesses are located near the urban regions of Vancouver and Victoria do not consider social and cultural factors to be of any great significance. In contrast, 71.4% of operators located in Area C and 81.8% of operators located in Area D recognize the significance of social factors. Yet in all four geographical areas, a very small percentage of commercial marina operators affirm the significance of cultural factors.

Less than half (47.4%) of marina operators located in the Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) declared the significance of political factors as influential elements in the operation of a commercial marina.

Table 5.32 depicts the geographical variations with regards to the percent increase in the number of boots moored at marinas. It is evident that marinas situated in the Northern Gulf Islands, Desolation Sound and north of Desolation Sound are experiencing the largest increases in recreational boat traffic. This could be a result of boat owners wanting to escape from the overcrowded southern coastal regions and the increased popularity of sportfishing in these regions. Subsequently, this area is also experiencing an increase in marine traffic originating from the United States.

Only 42.1% of commercial marina operators in Area B indicated an increase in the number of boats moored at their marinas. Moderate increases in the number of boats moored at marinas are apparent in the regions around Southern Vancouver Island and the Southern Gulf Islands and central Vancouver Island (including Nanaimo).

TABLE 5.31: FACTORS INFLUENCING COMMERCIAL MARINA OPERATION (% SIGNIFICANT)

	GEOGRAPHICAL LOCATION OF MARINA			
	AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	AREA C: Central Vancouver Island (including Nanaimo) (n=7)	AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)
ECONOMIC	75% (12)	84.2% (16)	100% (7)	81.8% (9)
SOCIAL *	18.8% (3)	21.1% (4)	71.4% (5)	81.8% (9)
POLITICAL	68.8% (11)	47.4% (9)	57.1% (4)	72.7% (8)
ECOLOGICAL *	68.8% (11)	57.9% (11)	100% (7)	72.7% (8)
CULTURAL *	6.3% (1)	15.8% (3)	14.3% (1)	0% (0)

Each category was analyzed using Chi Square Test-1 way categorization with 3 d of f
* significant @ 1% level

TABLE 5.32: NUMBER OF BOATS MOORED AT MARINA (% INCREASE)

GEOGRAPHICAL LOCATION OF MARINA	% INCREASE
AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	62.5% (10)
AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	42.1% (8)
AREA C: Central Vancouver Island (including Nanaimo) (n=7)	57.1% (4)
AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)	72.7% (8)

As indicated at the beginning of Section 5.2, competition for locational space among marina operators and other coastal zone users is minimal (Table 5.11). Table 5.33 highlights the percentage of marina managers of the four specific geographical areas who feel that there is no competition for locational space between their marina and each of the five coastal zone users: whalewatching tours, scuba divers, sportfishing resorts, kayaking outfitters, and float houses. Although many respondents indicated that the wording of this question was difficult to understand, a significant response rate was nonetheless obtained.

According to marina operators in all four geographical areas, sportfishing resorts represent the most significant competitor for locational space in the coastal zone. Float homes, scuba divers, and whalewatching tours pose no competitive threats to marina

operations as they often are integral components of many of British Columbia's coastal marinas.

TABLE 5.33: COMPETITION FOR LOCATIONAL SPACE (% NO COMPETITION)

	Geographical Location of Marina			
	AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	AREA C: Central Vancouver Island (including Nanaimo) (n=7)	AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)
Whalewatching Tours *	31.3% (5)	63.2% (12)	57.1% (4)	45.5% (5)
Scuba Divers	43.8% (7)	57.9% (11)	28.6% (2)	54.5% (6)
Sportfishing Resorts *	37.5% (6)	57.9% (11)	0% (0)	36.4% (4)
Kayaking Outfitters	43.8% (7)	36.8% (7)	28.6% (2)	45.5% (5)
Float Houses *	50.0% (8)	52.6% (10)	85.7% (6)	72.7% (8)

Each category was analyzed using Chi Square Test-1 way categorization with 3 d of f
* significant @ 1% level

Table 5.34 indicates the level of importance and concern marina operators have with regards to six specific issues as they relate to the operation of commercial marinas. Compared to only 43.8% of operators located in Area A, 81.8% of marina operators in Area D indicated that the cost of fishing licenses represent an important concern to their

marina operation. 85.7% of marina operators situated in the Central Vancouver Island region agree to the importance of waste disposal requirements. In contrast, only 54.5% of operators in Area D and 56.3% of operators in Area A are concerned with waste disposal requirements.

Marina operators located in Areas C and D are concerned with the imposition of cross border fees and the impacts these fees could have on their marina businesses. However, only 31.6% of operators in the Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) region express concern with regards to the imposition of cross border fees. In all four geographical regions a high percentage of marina operators are worried about the potential impacts that the increasing costs of boat licensing and registration fees could have on the success of their marina businesses. 85.7% of marina operators located in the Central Vancouver Island region (Area C) have indicated the policing boater behaviour as an important concern. In contrast, only 56.3% of operators in Area A and 54.5% of operators in Area D are concerned with the policing boater behaviour.

A very high percentage of marina operators situated in the Central and Southern Vancouver Island and Southern Gulf Islands region are also concerned with the establishment of marine protected areas and the negative impacts this could have on their marina operations. Yet only 47.4% of marina operators in Area B and 45.4% of operators in Area D indicated a significant level of concern for the establishment of marine protected areas (refer to Table 5.34).

It is evident in Table 5.34 that marina operators located in the Central Vancouver Island region (Area C) have indicated highest level of overall concern for all six specific issues followed by those operators situated in the Northern Gulf Islands, Desolation Sound and north of Desolation Sound (Area D) and Southern Vancouver Island and the Southern Gulf Islands (Area A). However, marina operators located in the Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast region (Area B) have indicated the lowest level of overall concern for all six specific issues.

Similar to the results displayed in Table 5.34, the following table (Table 5.35) illustrates the percentage of marina operators in each geographical area who oppose government legislation for four out of the six specific issues.

In all four geographical regions, a very small percentage of marina operators oppose government legislation requiring holding tanks on all vessels. However, 91% of marina operators in Area D oppose government legislation that increases the cost of fishing licenses. As mentioned earlier, the majority of marinas situated in these northern regions are dependent on British Columbia's commercial and recreational fishing industry for their survival and economic success. Therefore, an increase in the costs of fishing licenses could reduce the numbers of sportfishing customers thereby reducing marina revenues.

Similarly, a very high percentage (91%) of marina operators in the northern regions (Area D) are opposed to government legislation that imposes cross border fees.

TABLE 5.34: SPECIFIC ISSUES AS THEY RELATE TO THE OPERATION OF A COMMERCIAL MARINA (% IMPORTANT)

	AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	AREA C: Central Vancouver Island (including Nanaimo) (n=7)	AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)
Cost of Fishing Licenses *	43.8% (7)	52.6% (10)	71.4% (5)	81.8% (9)
Waste Disposal Requirements (Holding Tanks)	56.3% (9)	68.4% (13)	85.7% (6)	54.5% (6)
Imposition of Cross Border Fees *	50.0% (8)	31.6% (6)	71.4% (5)	81.8% (9)
Increasing Costs of Boat Licensing/ Registration Fees	68.8% (11)	73.7% (14)	85.7% (6)	72.7% (8)
Policing of Boater Behaviour	56.3% (9)	63.2% (12)	85.7% (6)	54.5% (6)
Establishment of Marine Protected Areas *	81.3% (13)	47.4% (9)	85.7% (6)	45.4% (5)

Each category was analyzed using Chi Square Test-1 way categorization with 3 d of f
* significant @ 1% level

TABLE 5.35: IMPLEMENTATION OF GOVERNMENT LEGISLATION FOR SPECIFIC ISSUES (% OPPOSE)

	AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	AREA C: Central Vancouver Island (including Nanaimo) (n=7)	AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)
Requiring Holding Tanks on all Vessels	18.8% (3)	31.6% (6)	28.6% (2)	27.3% (3)
Increasing the Cost of Fishing Licenses *	37.5% (6)	52.6% (10)	42.9% (3)	91.0% (10)
Imposing Cross Border Fees *	56.3% (9)	52.6% (10)	42.9% (3)	91.0% (10)
Raising the Cost of Boat Licensing/ Registration Fees *	81.3% (13)	63.2% (12)	28.6% (2)	91.0% (10)

Each category was analyzed using Chi Square Test-1 way categorization with 3 d of f significant @ 1% level

A significant number of marinas in Area D are dependent on the large tourist revenues and high profits generated from Canadian and American customers during the peak recreational boating season (May-August). Therefore, an increase in cross border fees could prevent many boaters originating from the U.S. from visiting these destination-based marinas.

A high percentage of marina operators in Areas A and D are opposed to the implementation of government legislation that raises the cost of boat licenses and registration fees. However, only 63.2% of marina operators in Area B are opposed to this type of legislation. An increase in licensing fees and registration costs could result in an decline in boat ownership. As a result, the demand for moorage space could decrease and marina revenues could decline and profits disappear. In spite of these possible negative consequences, only 28.6% of marina operators in the Central Vancouver Island are opposed to government legislation that increases boat registration fees.

Table 5.36 reveals geographical variations in the percentage of marina managers who disagree that crowding at marina docks is decreasing the quality of boaters' marina experiences. Area D represents the highest percentage (54.5%) of marina operators who disagree with the statement that crowding negatively affects boaters' marina experiences. In regards to the region encompassing Southern Vancouver Island and the Southern Gulf Islands only 50% of marina operators disagree.

Comparatively, only 47.4% of marina operators in Areas B and 42.9% of operators whose marinas are located in Area C disagree that dock crowding is decreasing the quality of boaters' marina experiences.

Over the past ten years, the overall size of permanent and transient sail and power vessels moored at marinas in all four regions has increased. According to Table 5.37, 81.3% of marina operators in Area A have noticed an increase the size of boats moored at their marinas. 63.6% of operators whose marinas are situated in the Northern Gulf Islands, Desolation Sound and north of Desolation Sound have also noticed an increase

in boat size. In Areas B and C, increases in boat size were recognized by a smaller percentage of operators.

TABLE 5.36: PERCENTAGE OF MARINA MANAGERS WHO DISAGREE THAT CROWDING AT MARINA DOCKS IS DECREASING THE QUALITY OF BOATERS' 'MARINA EXPERIENCES'

GEOGRAPHICAL LOCATION OF MARINA	% DISAGREE
AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	50.0% (8)
AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	47.4% (9)
AREA C: Central Vancouver Island (including Nanaimo) (n=7)	42.9% (3)
AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)	54.5% (6)

Area C (the Central Vancouver Island region) represents the geographical region with the highest percentage (71.4%) of marina operators who recognize the significance of the ecological environment in regards to its impacts on the success of a marina business (Table 5.38). For both Areas A and B, approximately 68% of marina operators acknowledged the significance of the ecological environment surrounding their marina operations. Interestingly, only 63.6% of marina operators in Area D recognized the significance of the ecological environment in regards to its impacts on the success of the marina operation (Table 5.38).

TABLE 5.37: BOAT SIZE (% INCREASE)

GEOGRAPHICAL LOCATION OF MARINA	% INCREASE
AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	81.3% (13)
AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	52.6% (10)
AREA C: Central Vancouver Island (including Nanaimo) (n=7)	57.1% (4)
AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)	63.6% (7)

TABLE 5.38: SIGNIFICANCE OF THE ECOLOGICAL ENVIRONMENT IN REGARDS TO ITS IMPACTS ON THE SUCCESS OF MARINA BUSINESS (% SIGNIFICANT)

GEOGRAPHICAL LOCATION OF MARINA	% SIGNIFICANT
AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	68.8% (11)
AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	68.4% (13)
AREA C: Central Vancouver Island (including Nanaimo) (n=7)	71.4% (5)
AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)	63.6% (7)

Although only 63.6% of marina operators in Area D affirmed the significance ecological environment in regards to the success of their marina businesses, a very high percentage of operators indicated support for the implementation of environmental management legislation. In fact, marina operators in all four geographical areas responded with high levels of support for environmental legislation (refer to Table 5.39). The following table (Table 5.39) ranks the support given by marina operators from highest to lowest. Marina operators in Area B recorded the lowest amount of support for water pollution controls, sportfishing management and the implementation of quotas, and the protection of the shoreline. However, with regards to the implementation of specific environmental laws to protect coastal zone wildlife, the smallest amount of support was indicated by those marina operators of Area D.

Table 5.40 indicates the geographical variations in the percentages of marina operators who support four different levels of public participation in coastal zone management. Marina operators of the Central Vancouver Island region had the highest levels of support for all four levels of participation. It is apparent that within all four geographical regions, the majority of marina operators do not support the position of full government regulation with no input from themselves and other coastal zone users.

In all four geographical areas, the highest percentage of marina operators support the formation of a consultative body of marina operators for participation in the management of the coastal zone.

TABLE 5.39: IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT LEGISLATION (% SUPPORT)

	Geographical Location of Marina			
	AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	AREA C: Central Vancouver Island (including Nanaimo) (n=7)	AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)
Water Pollution Controls	87.5% (14)	84.2% (16)	100% (7)	90.9% (10)
Sportfishing Management and the Implementation of Quotas	93.8% (15)	78.9% (15)	85.7% (6)	90.9% (10)
Shoreline Protection	87.5% (14)	78.9% (15)	100% (7)	81.8% (9)
Specific Laws for the Protection of Wildlife (e.g. seabirds and whales)	87.5% (14)	73.7% (14)	100% (7)	72.7% (8)

Compared to Areas A and B, a higher percentage of marina operators in Areas C (85.7%) and D (63.6%) support the development of a coastal zone agency which would incorporate government representatives and all coastal zone user groups (refer to Table 5.40). Only a very small percentage of marina operators in all four geographical regions support the coastal zone management position that implies no government intervention and/or regulation.

TABLE 5.40: LEVEL OF PUBLIC PARTICIPATION IN COASTAL ZONE MANAGEMENT (% SUPPORT)

	Geographical Location of Marina			
	AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	AREA C: Central Vancouver Island (including Nanaimo) (n=7)	AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)
Consultative Body of Marina Operators	81.3% (13)	73.7% (14)	85.7% (6)	81.8% (9)
Coastal Zone Agency Comprised of Representatives From the Government and all Coastal Zone User Groups	50.0% (8)	57.9% (11)	85.7% (6)	63.6% (7)
No Government Intervention/ Regulation	37.5% (6)	36.8% (7)	42.9% (3)	27.3% (3)
Full Government Regulation With No Input From Marina Operators and Coastal Zone Users	0% (0)	0% (0)	14.3% (1)	0% (0)

The top three management issues of concern for marina operators in all four geographical areas are (Table 5.41):

1) over-regulation;
2) boater safety; and
3) increased taxation.

When compared to the other three areas, it is evident that a smaller number of marina operators located in the Vancouver Lower Mainland and surrounding regions (Area B) consider these issues as important management concerns. For example, in contrast to the 100% marina operators surveyed in Area D who are very concerned with over-regulation, only 78.9% of operators in Area B attest to the problem of over-regulation (refer to Table 5.41). Similarly, only 78.9% of marina operators in Area B are recognize boater safety as an important management issue compared to 93.8% of operators in Area A (Southern Vancouver Island and surrounding region) and 91% of operators in Area D (Northern regions). Subsequently, Area D encompasses the highest percentage of marina operators (81.8%) who are concerned with the destruction of the ecological environment surrounding the marina.

The majority of marina operators in all four geographical regions acknowledge the problems associated with increased taxation. However as the following table indicates, the smallest percentage of marina operators concerned with the problems created by an increase in government taxes are located in Area C- Central Vancouver Island region (71.4%). Nevertheless, the highest percentages of marina operators in this region recognize overcrowding at marina docks and competition for space from other

TABLE 5.41: MANAGEMENT ISSUES AND CONCERNS (% IMPORTANT)

	Geographical Location of Marina			
	AREA A: Southern Vancouver Island and the Southern Gulf Islands (n=16)	AREA B: Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) (n=19)	AREA C: Central Vancouver Island (including Nanaimo) (n=7)	AREA D: Northern Gulf Islands, Desolation Sound and north of Desolation Sound (n=11)
Over-regulation by Federal, Provincial, and Municipal Governments	93.8% (15)	78.9% (15)	85.7% (6)	100.0% (11)
Boater Safety	93.8% (15)	78.9% (15)	85.7% (6)	91.0% (10)
Increased Taxation	87.5% (14)	89.5% (17)	71.4% (5)	90.9% (10)
Destruction of the Ecological Environment Surrounding the Marina	68.8% (11)	63.2% (12)	71.4% (5)	81.8% (9)
Overcrowding at Marina Docks	50.0% (8)	47.4% (9)	71.4% (5)	54.5% (6)
Competition For Space and Customers With Other Coastal Zone Users *	43.8% (7)	36.8% (7)	71.4% (5)	54.5% (6)
Surplus Capacity of Marinas in the Georgia Basin Region	31.3% (5)	26.3% (5)	42.9% (3)	27.3% (3)

Each category was analyzed using Chi Square Test-1 way categorization with 3 d of f
* significant @ 1% level

coastal zone users as two important management concerns. Increased competition for locational space and overcrowding may be a result of the high level of population growth within the Central Vancouver Island region. As a consequence of the rapid growth and expansion in this area, pressures on the coastal zone have intensified as coastal zone users compete for a limited amount of space.

According to marina operators in all four geographical regions the 'surplus capacity' (excess) of marinas in the Georgia Basin Region is not an important management concern. Thus, from the suppliers' perspective, the current level of marinas in southwestern BC is appropriate to satisfy the current level of demand.

CHAPTER 6

SUMMARY AND CONCLUSIONS

6.0 SUMMARY

The coastal regions of southwestern British Columbia provide the ideal conditions for a variety of marine tourism activities such as recreational boating. Due to the significant rates of population growth and urbanization within this region, marine traffic and coastal marine tourism activities have increased rapidly. As a result, numerous problems and issues have arisen. In order to maintain the viability of the marine tourism industry and protect the marine and terrestrial resources of the coastal regions these problems must be recognized and addressed in the near future.

This thesis has focused on a significant subsystem of the coastal marine tourism industry-the commercial (privately-owned) marina industry. The context of marina operations was first introduced with a brief overview of the general problems and responses associated with population growth and increased tourism activity in the coastal zone. Upon discovering that these general responses have been ineffective in dealing with the associated pressures in the coastal zone, this paper examined the specific opinions and attitudes of marina operators, a key 'stakeholder' group in BC's coastal marine tourism industry. A framework was developed in order to outline the importance of marina operators as decision makers and resource managers in the coastal zone region of the tourism/recreation sectors. Similarly, an ideal framework was devised in order to identify and assess the integral components of the economic subsystem of the commercial marina industry. From an economic perspective, commercial marina

operators represent the **suppliers** of marinas and their corresponding services while recreational boaters represent the users of marinas and therefore represent the **demand** side of the subsystem. It is recognized that an inter-dependent relationship exists between commercial marina operators and boaters. Given that previous studies have focused mainly on marina users, there is a real and urgent need to understand the opinions and attitudes of the suppliers of commercial marinas as they clearly represent a key 'stakeholder' group in the marine tourism industry.

The decision-making paradigms of commercial marina operators are significant because they reveal the value of understanding economic, geographic, political, ecological, social, and cultural factors. These paradigms are also important as they provide insight into the type of management strategies adopted by individual commercial marina operators. In addition to identifying the critical factors influencing the decision making framework of marina operators as important stakeholders in the marine based recreation system, this study identified and analyzed marina operators' opinions and attitudes towards marine tourism pressures in southwestern coastal BC, government intervention, industry regulations, environmental quality, wildlife conservation, and coastal zone management.

In order to achieve the goal of the study which was to describe the characteristics of the marina industry in southwestern coastal BC and analyze a subsystem of the leisure services sector-the commercial marina industry focusing on marina operators as significant decision-makers, quantitative data was collected from two main sources: personal observations undertaken by the author and a mail-out questionnaire. A case

study approach was adopted to facilitate both descriptive and explanatory cross case comparisons and analysis (Yin, 1981).

In conclusion, the major findings of this study are summarized and several recommendations for future input into a coastal zone management strategy are proposed. An assessment of BC's commercial marina industry has exposed numerous problems and issues that must be dealt with immediately and effectively in order to ensure the sustainability of British Columbia's coastal zone regions and the viability of its marine tourism industry. The future development of a coordinated, well defined coastal zone management strategy must not be undermined as an insignificant task.

6.1 CONCLUSIONS

From this study it is possible to elucidate the nature of the marina operators' decision making environment. Given the limits of the data, some general comments are nonetheless possible because strength and consistency was exhibited in a statistically acceptable sample (37%) of marina operators in this subsector of the coastal zone tourism industry interface.

This study clearly demonstrates that marina operators' decision making is driven by economic motivations and is therefore consistent with the theory of economic location analysis of business enterprises. However, in this case operators are very aware of the importance of environmental quality for customer satisfaction and hence the viability of their businesses.

Several general conclusions can be drawn from the information presented in this study. It is evident that commercial marina operators in southwestern coastal British Columbia are currently faced with several significant issues. As previously discussed, commercial marina operators represent a key stakeholder group in BC's marine tourism industry. Thus, it is essential that these issues are recognized and addressed by all members of the marine tourism community in order to maintain the viability of BC's commercial marina industry.

It is apparent that the commercial marina industry is severely affected by the current levels of government intervention. In particular, the lack of co-ordination among all levels of government has resulted in inefficient regulation policies which have imposed fiscal restraints on marina operators. Increasing costs have made it difficult for the majority of operators to manage and operate their marina operations effectively. Interviews with marina operators would have clarified this complex problem. For example, the fact that marina operators are required to have a carefully regulated fuelling point (dock) costs more. Clearly, if a well organized lobby group was organized, marina operators might have received subsidies to bring fuelling up to the proper environmental standards.

Finally, in order to ensure the sustainability of BC's marine tourism industry, marina operators must communicate their opinions and needs and work together with other coastal zone users and all levels of government. Nevertheless, the protection and conservation of BC's coastal regions must not be overlooked. Although a formal coastal zone management policy does not exist in Canada or British Columbia, managers,

developers, policy makers, and coastal zone users should not underestimate its social, ecological, cultural, and economic values. As rapid population growth continues in this region, there is an urgent need for the design and implementation of effective management strategies. It is hoped that these strategies would support an integrated coastal zone management framework.

6.1.1 GENERAL CHARACTERISTICS OF COMMERCIAL MARINA DEVELOPMENTS IN SOUTHWESTERN COASTAL BRITISH COLUMBIA

The following points summarize some of the key characteristics of commercial marina operations in southwestern coastal BC:

1) The primary purpose of the majority of commercial marinas in this region is to serve the needs of recreational boaters.

2) The majority of commercial marinas located in southwestern coastal BC operate on a year-round basis.

3) The majority of commercial marinas located in southwestern coastal British Columbia contain less than 100 berths.

4) According to commercial marina operators, the three most important factors influencing their marina operation are in order of importance: (1) economic,(2) ecological, and (3) political.

5) Over the past ten years, the number and size of boats (permanent and transient) moored at marinas have increased significantly.

6) The majority of commercial marina operators in southwestern coastal BC are not members of marina associations.

7) The highest concentration of commercial marinas is in and around the urban centers of Vancouver and Victoria.

8) As a result of increasing economic costs, the majority of commercial marina operators in this region do not own more than one marina

9) The following quotation submitted by one commercial marina operator summarizes the spatial organization of commercial marinas in southwestern coastal BC:

> "There are two types of marinas: home base and destination. Most of Georgia Basin marinas are some of both. As one goes further north, they become more tourist destination oriented."

6.1.2 SIGNIFICANT ISSUES CONFRONTING COMMERCIAL MARINA OPERATORS IN SOUTHWESTERN COASTAL BRITISH COLUMBIA

The following points summarize the key issues revealed in this research:

1) The four most important issues currently confronting commercial marina operators in southwestern coastal BC are:

   (i) politics of regulation (over-regulation of the marina industry from all levels of government)

   (ii) increasing market demand for geographical space (including land an marine resources) within the coastal zone

   (iii) increasing pressures due to the increase in marine traffic and the significant growth of marine tourism in the region

   (iv) increasing operating costs (higher taxes, maintenance costs, cost of fuel, licensing, expansion costs)

2) Commercial marina operators experience the highest levels of competition for locational space (including land and marine resources) within the coastal zone from sportfishing resorts. However, this competition does not represent a major threat to marina operators.

3) Six specific issues of concern have been identified by commercial marina operators:

   (i) cost of fishing licenses

   (ii) waste disposal requirements (holding tank requirements for vessels)

   (iii) imposition of cross border fees

   (iv) increasing costs of boat licensing and registration fees

(v) policing of boater behaviour

(vi) establishment of marine protected areas

4) The majority of commercial marina operators in this region support government legislation that requires holding tanks on all vessels. However, operators are opposed to the implementation of government legislation that increases the cost of fishing licenses, imposes cross border fees, and/or raises the cost of boat licensing and registration fees.

5) The quality of the ecological environment does affect the success of a commercial marina operation and operators support legislation that protects the environment.

6) With respect to environmental management legislation, the majority of marina operators support:

(a) the imposition of sportfishing management legislation and the implementation of quotas

(b) water pollution controls

(c) shoreline protection

(d) the application of specific laws for the protection of wildlife inhabiting the coastal zone(e.g. seabirds and whales)

7) Management issues confronting commercial marina operators include:

(i) boater safety

(ii) destruction of the ecological environment

(iii) over-crowding at marina docks

(iv) over-regulation by Federal, Provincial, and Municipal Governments

(v) increased taxation

8) In regards to the level of public participation in coastal zone management, the majority of commercial marina operators **support the formation of a consultative body of marina operators.** A smaller percentage of operators (60.4%) indicated support for the formation of a coastal zone agency comprised of representatives from the government and all coastal zone user groups.

9) Marina operators are adamantly opposed to total (100%) government regulation with absolutely no input from marina operators and coastal zone users. Similarly, they are opposed to no (0%) government regulation/intervention. It is assumed marina operators support a minimal but effective level of government regulation/management of the coastal zone.

6.1.3 INTERNAL SUB-GROUP VARIATIONS

The following points summarize the key points of two main subgroups:

1) Data as characterized by membership in marina associations

2) Data as categorized by geographical location

DATA AS CHARACTERIZED BY MEMBERSHIP IN MARINA ASSOCIATIONS

1) The majority of marina association members consider economic factors (e.g. operation costs and taxation) to be the most important agent influencing commercial marina operations.

2) Compared to non-members, a larger proportion of marina association members recognize the significance of the ecological environment in regards to its impacts on the success of the commercial marina business.

DATA AS CHARACTERIZED BY GEOGRAPHICAL LOCATION

1) It is evident that commercial marinas situated in the Northern Gulf Islands, Desolation Sound and north of Desolation Sound are experiencing the largest increases in recreational boat traffic.

2) Operators whose marinas are situated in the region encompassing the Vancouver Lower Mainland, Howe Sound, and the Sunshine Coast (including Powell River and Pender Harbour) are less supportive of the implementation of environmental legislation.

3) Only those commercial marina operators located in the Central Vancouver Island region consider competition for space and customers with other coastal zone users to be an important management issue.

6.2 UNEXPECTED FINDINGS

Several unforseen findings were uncovered as the results were analyzed. The following points encapsulate these surprising discoveries:

1) The majority of commercial marina operators do not consider social and cultural factors to be of any great significance in influencing their marina operations.

2) A very small percentage of the total commercial marina operator population are members of marina associations.

3) According to commercial marina operators in southwestern British Columbia, boater safety is considered one of the top three most important concerns.

6.3 IMPLICATIONS FOR FUTURE RESEARCH

The information presented in this exploratory thesis offers numerous implications for the future development of coastal zone management (CZM) strategies and legal policies. Before a CZM strategy can be adopted, a thorough investigation and a complete understanding of the opinions and the issues confronting all stakeholders must be achieved. This thesis is significant because it represents the beginning of the current investigation into the problems confronting the commercial marina industry.

Marina policy responsibilities are dispersed among numerous independent commercial marina operators, government agencies, and private marina associations. With respect to the issues and problems identified in this thesis there is an urgent need for a greater amount of communication among these groups. Increasing marine traffic and the continual growth of marine tourism in southwestern BC will continue to impose pressures on this service industry. This supports the need for a much more co-ordinated coastal zone framework in which to formulate effective marina management guidelines.

It is obvious that operators are dissatisfied with the current levels of government regulation of commercial marinas. Regulation of the marina industry has resulted in higher taxes, increasing moorage fees, and lower profits. Subsequently, these regulations have made it difficult for many commercial marina operators to expand and update their facilities to meet the current needs of commercial and recreational boaters. Evidently, marina operators support the formation of a consultative body which would act as a collective voice in the management of the coastal zone.

This thesis has also demonstrated the importance of understanding the commercial marina industry from the suppliers perspective. From now on, marina operators must be recognized as key stakeholders in the marine tourism industry and their points of view must not be overlooked and underestimated. Subsequently, the demands of recreational boaters and marina operators must be co-ordinated to ensure an integrated and cohesive approach to marina management. Future academic studies would be necessary to determine the most effective type of management strategies.

Commercial marina management represents a significant yet poorly understood component of the marine tourism industry in British Columbia. This academic research is significant as it reveals the issues currently confronting commercial marina operators and explores the geographical variations with regards to these problems. However, due to financial and temporal constraints, this thesis did not focus on solutions to these problems. In order to protect the viability of British Columbia's coastal commercial marina industry solutions to these problems must be identified as soon as possible. This thesis can be considered Part 1 in a series of academic studies that need be undertaken in

the near future to confirm and implement efficient solutions to these problems. Otherwise, British Columbia's commercial marina industry could experience a major economic crisis.

While it is evident that the sources of information for this study were derived from a diverse range of social science disciplines such as geography, economics, psychology, and sociology, the theoretical implications of this research are largely derived from tourism management, economic geography, resource management, and recreation. It is expected that this research will provide assistance to local and regional planners, government agencies, public policy makers, and commercial marina operators. Subsequently, the information generated from this study will be of significant value to all coastal communities affected by marine tourism, recreational boaters and tourists who visit the region. The information collected for this study could be incorporated into marina management guidelines and future comprehensive marine tourism plans for the Georgia Basin-Puget Sound region. Furthermore, this research has affirmed the need for the implementation of coastal zone management legislation for British Columbia's coastal regions.

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APPENDIX A

QUESTIONNAIRE

QUESTIONNAIRE COVER LETTER

I am Margot Stoilen, a graduate student at the University of Victoria conducting research entitled "Commercial Marina Management in the Georgia Basin Region" which is a study of the issues and problems confronting managers of commercial marinas. Given that past studies have focused mainly on the users of marinas and the demands of recreational boaters, marina management issues have been neglected. Currently, there is a real and urgent need to identify and understand the concerns of marina managers as they represent a key 'stakeholder group' in British Columbia's marine tourism industry. I have constructed this brief questionnaire in an effort to gain knowledge regarding the attitudes of marina owners and managers towards specific issues such as tourism pressures in the region, government intervention, industry regulations, wildlife conservation, environmental quality and coastal zone management.

Participation in the research is voluntary and you may choose to withdraw from the study at any time. Should you withdraw from the study midstream all your corresponding data will be destroyed immediately. If you choose to contribute, any data collected in the study will remain confidential as questionnaires and master lists will be kept in a locked cabinet in a locked office and destroyed immediately upon the completion of the thesis in September 1997. Only myself and my graduate supervisor will have access to the raw data. Your name will not be attached to any published results and your anonymity will also be protected by using code numbers to identify results obtained from individual participants. Final tabulated results will be made available to those marina managers involved in the study.

The attached questionnaire should require 15 minutes to complete. It contains six brief sections. The first section relays pertinent background information while the next two sections are concerned with tourism pressures on marinas and environmental quality. The fourth section inquires about specific industry regulations and the final two sections focus on management alternatives and additional comments. When combined, the questionnaire responses will provide insight into managers' concerns regarding the commercial marina industry. Finally, this research will lead to an increased awareness of those problems confronting marina managers and could eventually provide valuable information for input into coastal zone management.

When the questionnaire has been completed and returned at your earliest convenience it will be assumed that consent to use this data for the purposes of this research has been given. All returned questionnaires will be submitted in a raffle for a gift certificate for two for dinner in either Victoria, Nanaimo, or Vancouver.

Thank you for your time and consideration in this matter. Your input will be invaluable in this research project.

Please do not hesitate at any time to direct any questions and/or concerns to myself at tel. #(250)721-7345 or to my graduate supervisor, Dr. Colin Wood at the University of Victoria, tel.#(250)721-7336.

Margot Stoilen

Margot Stoilen

QUESTIONNAIRE
"COMMERCIAL MARINA MANAGEMENT IN SOUTHWESTERN BRITISH COLUMBIA"

The following questionnaire is concerned with identifying and understanding marina owners' and managers' attitudes and opinions towards specific issues such as marine tourism pressures in southwestern BC, government intervention, industry regulations, wildlife conservation, environmental quality and coastal zone management. The survey should require 15 minutes to complete. Participation in this questionnaire is voluntary and you may choose to withdraw from the study at any time. If you choose to contribute, any data collected will remain confidential as questionnaires will be kept in a locked cabinet and will be destroyed immediately upon the completion of the thesis around September 1997. Only myself and my graduate supervisor will have access to the raw data. Your name will not be attached to any published results and your anonymity will also be protected by using code numbers to identify results obtained from individual participants. Final aggregated results will be made available to those marina managers involved in the study.

When the questionnaire has been completed and returned it is assumed that consent to use this data for the purposes of this research has been given. If you have any questions and/or concerns please do not hesitate to contact myself, Margot Stoilen at tel.#(250)721-7345 or my faculty supervisor Dr. Colin Wood at the University of Victoria, tel.#(250)721-7336.

Section A - Background Information

1) How long have you been involved in the marina business? _____

Do you have contact with other marina managers? Frequently Occasionally Never

Are you a member of any marina associations? Yes/No

If yes, please indicate the name(s) _____

Do you own more than one marina? Yes/No
If yes, how many? _____

What is the primary purpose of your marina operation? (Please check one)

a) sportfishing ___
b) recreational boating ____
c) permanent boat storage ____
d) other? ___

Please indicate the corresponding geographical location of your marina

a) Vancouver Island (south) __
b) Southern Gulf Islands __
c) Nanaimo __
d) Vancouver Area __
e) Howe Sound __
f) Sunshine Coast __
g) Vancouver Island (central)
h) Northern Gulf Islands __
i) Desolation Sound __
j) North of Desolation Sound
k) Other? Please Specify
_____

2) Marina type

i) Does your marina operate year-round? Yes/No (Circle one)

ii) If no, what months does it operate? _____

iii) Please indicate the amount of moorage space (including permanent and transient) provided by your marina

actual number ___ or
less than 100 berths ____
100-300 berths ____
greater than 300 berths ____

iv) Please indicate the dock services provided by your marina

fuel __
garbage disposal __
moorage
i) transient __
ii) permanent __
phone __
marine repairs (haulouts, etc.) __
power __
marine supplies __
water __
customs __
cable __
other? Please specify _____

v) Please indicate the customer services located at your marina site

accommodation __
restaurant __
pub __
showers __
grocery __
sportfishing charters __
scuba diving arrangements __
camping __
bait and tackle __
hardware store __
liquor store __
swimming pool __
telephone __
whalewatching tours __
fishing licenses __
washrooms __
post office __
other? Please specify _____
laundry __
grocery __
boat rental __

Section B- Trends and Conditions for Marina Operations

1. Over the past 10 years, the number of boats (including permanent and transient) has

increased significantly	increased moderately	remained unchanged	decreased moderately	decreased significantly

2. Please indicate the significance of the following factors as they influence your marina operation

	extremely significant	significant	neutral	insignificant	extremely insignificant
economic					
social					
political					
ecological					
cultural					
other? Please specify _____					

3. Please indicate the approximate level of competition for locational space with the following coastal zone users

	intense competition	moderate competition	mild competition	no competition
whalewatching tours				
scuba divers				
sportfishing resorts				
kayaking outfitters				
float houses				
other? Please specify _____				

4. Over the past ten years, the overall size of permanent and transient sail and power vessels moored at your marina has

increased significantly	increased moderately	remained unchanged	decreased moderately	decreased significantly

5. Crowding at the docks of your marina is decreasing the quality of boaters' marina experiences

strongly agree	agree	neutral	diasgree	strongly disagree

6. If you agreed to question #5, please indicate the level of dock crowding at which you feel the quality of the boaters' marina experiences begin to decline. (If you disagreed or were neutral to question #5 please proceed to Section B)

extreme	moderate	mild

Section C - Environmental Quality

1. Please indicate the significance of the quality of the ecological environment in regards to its impacts on the success of your marina business

very significant	significant	neutral	insignificant	very insignificant

Section D - Specific Issues

a) Please indicate the level of importance/concern of the following issues as they relate to your marina business

	very impt	impt	neutral	unimpt	very unimpt
cost of fishing licenses					
waste disposal requirements (holding tanks)					
imposition of cross border fees					
increasing costs of boat licensing / registration fees					
policing of boater behaviour					
establishment of marine protected areas					

b) Please list three main issues (if any) that are currently confronting your marina operation

1. _____
2. _____
3. _____

Section E - Management Alternatives

1. Are you aware of any coastal zone management legislation in B.C.? Yes/No

2. If yes, please indicate _____

3. The following table presents several alternatives regarding the level of public participation in management of the coastal zone. Please indicate whether you support, oppose or are neutral to these alternatives.

	strongly support	support	neutral	oppose	strongly oppose
no government intervention/ regulation					
consultative body of marina operators					
coastal zone agency comprised of representatives from the government and all coastal zone user groups					
full government regulation with no input from marina operators and coastal zone users					
other? Please indicate					

4. Please indicate the importance of the following issues/concerns as they relate to your marina

	very impt	impt	neutral	unimpt	very unimpt
boater safety					
destruction of the ecological environment surrounding the marina					
overcrowding at marina docks					
over-regulation by federal, provincial, and municipal governments					
increased taxation					
competition for space and customers with other coastal zone users					
surplus capacity of marinas in the Georgia Basin Region					

5. Please indicate your level of support for the implementation of environmental management legislation with regards to the following issues:

	strongly support	support	neutral	oppose	strongly oppose
sportfishing management and the implementation of quotas					
water pollution controls					
shoreline protection					
specific laws for the protection of wildlife (e.g. seabirds and whales)					
other? Please identify _____					

6. Specific legislation

Please indicate if you are in favour, oppose or are neutral to government legislation for the following issues

	strongly favour	favour	neutral	oppose	strongly oppose
requiring holding tanks on all vessels					
increasing the cost of fishing licenses					
imposing cross border fees					
raising the cost of boat licensing / registration fees					

Section F - Comments

I am interested in any views or additional comments you may have about this study and the issues highlighted in this questionnaire. Your input is extremely valuable and will remain strictly confidential.

VITA

Surname: Stoilen Given Names: Margot Michelle

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Educational Institutions Attended:

University of Victoria	1993-1998
Queen's University	1990-1993

Degrees Awarded:

B.A.	Queen's University	1993

Honours and Awards:

Sarah Spencer Research Award	1996

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Title of Thesis:

Commercial Marina Management in Southwestern Coastal British Columbia:
An Analysis of the Associated Economic Geography of the Marine Based Recreation System

Author [redacted]

Margot Michelle Stoilen
September 11, 1998