AN EVALUATION OF THE INTERIM GUIDELINES FOR COASTAL LOG-HANDLING APPLICATIONS IN BRITISH COLUMBIA

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An Evaluation of the Interim Guidelines for Coastal Log-Handling Applications in British Columbia

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ABSTRACT

Administrative guidelines for reviewing and processing coastal log-handling applications are evaluated to determine their success during the first year of their implementation. These guidelines were adopted by the B.C. Ministry of Lands, Parks and Housing in 1980 and affected applications to use provincial shore-zone lands for log handling. Applicants were then required to complete a prospectus describing the proposed project and its potential impacts. Applications were to be submitted to one of three review processes.

Decision-making activities that occurred during a seventeen-month period before, and a nine and one-half month period after implementation, were compared using indices derived from three key evaluation criteria: effectiveness, efficiency, and fairness. Decision-making effectiveness was measured in terms of information availability and agency coordination, administrative efficiency in terms of the time taken to process applications, and procedural fairness in terms of the degree to which views of affected interests are considered. Comparisons between the two time periods were based on examinations of government records and four detailed case studies of applications received in the Ministry's Vancouver Island Region.

It was found that decision-making effectiveness improved in terms of information availability, but not in terms of agency coordination. More project alternatives and resource trade-offs were identified at earlier stages of the application review process, and more information was made available to other resource agencies through referral of a prospectus with

applications. However, agency personnel experienced difficulty in trying to establish comparative values for alternatives, impacts, and trade-offs associated with project developments and log-handling methods.

Administrative efficiency did not improve significantly. The completion of a prospectus in the "after" case studies did not reduce delays in obtaining comments from key referral agencies. The time taken to report on minor projects did not change significantly.

Procedural fairness improved in terms of making the administrative review process more comprehensible to all participants, but not in terms of how affected interests were considered. A major problem was that opportunities for public input into the decision-making process were not provided.

On the basis of these findings, a number of policy recommendations are made concerning the guidelines and shore-use decision-making procedures.

DEDICATION

To my loving wife Maureen.

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CHAPTER I

EVALUATING NEW STRATEGIES FOR COASTAL RESOURCES MANAGEMENT

Coastal resources management has emerged as a significant public policy issue in Canada after a decade of practice in the United States (Pross, 1980; 107). This issue focuses on the problem of growing numbers of people concentrating in the shore zone and placing increasing demands on limited coastal resources to support various industrial, residential, and recreational activities. Management of coastal resources involves determining the limits or carrying capacity of the coastal resource base to support these types of activities, and making decisions about how coastal resources will be used. The questions of who should make these decisions, and on what criteria, are central to the public policy issue. As new coastal resources management strategies are introduced, it is necessary that their relative success be evaluated in order for policy makers to make informed decisions regarding their continued use, modification, or replacement.

In British Columbia, recent efforts in developing strategies for coastal resources management have been criticized for being concerned more with winning battles than with winning the war (Dorcey, 1980b; 155). Many of the conflicts have centred on the issue of locating log-handling facilities in

valuable shore zone areas such as estuaries and sheltered bays. These sites are necessary because the coastal forest industry in British Columbia is largely dependent on water transportation as a means of moving logs from harvesting areas to processing centres. On the one hand, forest companies using this type of transportation require shore zone lands for log-handling activities such as dumping and lifting logs from the water, sorting and booming logs prior to towing, and storing logs at various stages of the overall transportation system. On the other hand, the same shore zone lands may be desirable for a variety of other resource uses including fisheries habitat, recreation, mariculture, or boat moorage.

Where shore uses are mutually exclusive or incompatible, the resource must be allocated between competing demands. Ideally, this resource allocation process should determine the best mix of resource uses from society's point of view in terms of economic efficiency and equity. However, the problem of allocating shore zone lands between the forest industry and other competing demands is complicated by a number of factors relating to the common property nature of shore zone lands, externalities caused by log-handling activities, and the complex decision-making process. Depending on the extent to which these problems remain unrecognized or unresolved, the allocation of shore zone lands for log-handling purposes may lead to resource problems such as loss of fish and wildlife habitat, decreased water quality, and loss of public recreation opportunities.

Past studies of the log-handling issue have been criticized for being narrowly crisis-oriented and addressing, more or less exclusively, the site-specific impacts of industrial developments (Dorcey, McPhee, and Sydneysmith, 1980; 120). Examples include studies of Ladysmith Harbour (B.C., Department of Environment, 1976a), the Cowichan Estuary (B.C., Environment and Land Use Committee Secretariat, 1980a), and the Nanaimo Estuary (Canada and B.C., 1980a). The Ladysmith Harbour study was initiated by the provincial Lands Service during 1973 in response to conflicts arising from an application to lease a foreshore area for log booming. The other two studies were initiated in response to log-handling related development proposals in each respective estuary.

Forest industry concern about the increasing number of such studies and the subsequent decisions to either limit or prohibit its use of shore zone areas led to a proposal during the summer of 1979 to undertake a comprehensive study of the interactions between log handling and other resource uses (B.C., Ministry of Lands, Parks and Housing, File 0354285(1), 17 April 1979). The federal and provincial governments responded to the forest industry's proposal by joining the Council of Forest Industries of British Columbia (COFI) in sponsoring the Estuary, Foreshore and Log Handling and Transportation Study. A steering committee of representatives from the three sponsors was formed to commission and supervise a series of studies to be undertaken by independent analysts. The studies were organized around three

major components: environment (Duval and Slaney, 1980); log handling (McDonald, Sinclair, and Tse, 1980 and Sinclair, 1980); and recreation (Juan de Fuca Environment Consultants, 1980). The completed studies were reviewed by panels of academic, industry, and government experts (Environmental Review Panel, 1980) and a report with recommendations was prepared by the Steering Committee (Canada, B.C., and COFI, 1981). In addition, the Steering Committee supported a major study on environmental regulation of the coastal forest industry sponsored by the Economic Council of Canada (Dorcey, McPhee, and Sydneysmith, 1980).

During the initial stage of the Estuary, Foreshore and Log Handling and Transportation Study, forest industry representatives perceived an urgent need for developing an interim solution to the problem of assessing major log-handling facility developments on, or adjacent to, foreshores (B.C., Ministry of Lands, Parks and Housing, File 0354285(1), 20 July 1979). In response, the Ministry of Lands, Parks and Housing developed new administrative procedures, the Interim Guidelines, for processing and reviewing coastal log-handling applications (B.C., Ministry of Lands, Parks and Housing, 1980a).

The most important factor contributing to the formulation of the Interim Guidelines was forest industry lobbying for a more effective review process. Several important applications, including the Buckley Bay dryland sort and the Kelsey Bay central dryland sort (Chapter V), were under review at the time.

These industry concerns were voiced to the Deputy Minister of Lands, Parks and Housing who acknowledged the need for an improved review procedure.

The former review process, which still applies to other types of Crown land applications, involves three main steps prior to a decision being taken to approve or disallow an application (Figure 1.1). An applicant is required to submit an application form and development plan to the Ministry of Lands, Parks and Hcusing. The application is usually reviewed at the district level and referred to interested resource agencies. Recommendations are made based on the original applications, information received from referral agencies, a possible inspection of the site, and other information that might be available. The extent of the review that applications receive under this process is unspecified and generally determined on a case by case basis.

The Interim Guidelines review process is significantly different. Three seperate options for processing an application are specified (Figure 1.1):

1) a minor projects process leading directly to adjudication;
2) a regional review process involving a second review after information gaps have been filled;
3) and a major review process involving a regional project review committee and a comprehensive two-stage review.

The basis for deciding on the appropriate option is the prospectus which must be submitted with each new coastal log-handling application. The purpose of the prospectus is to

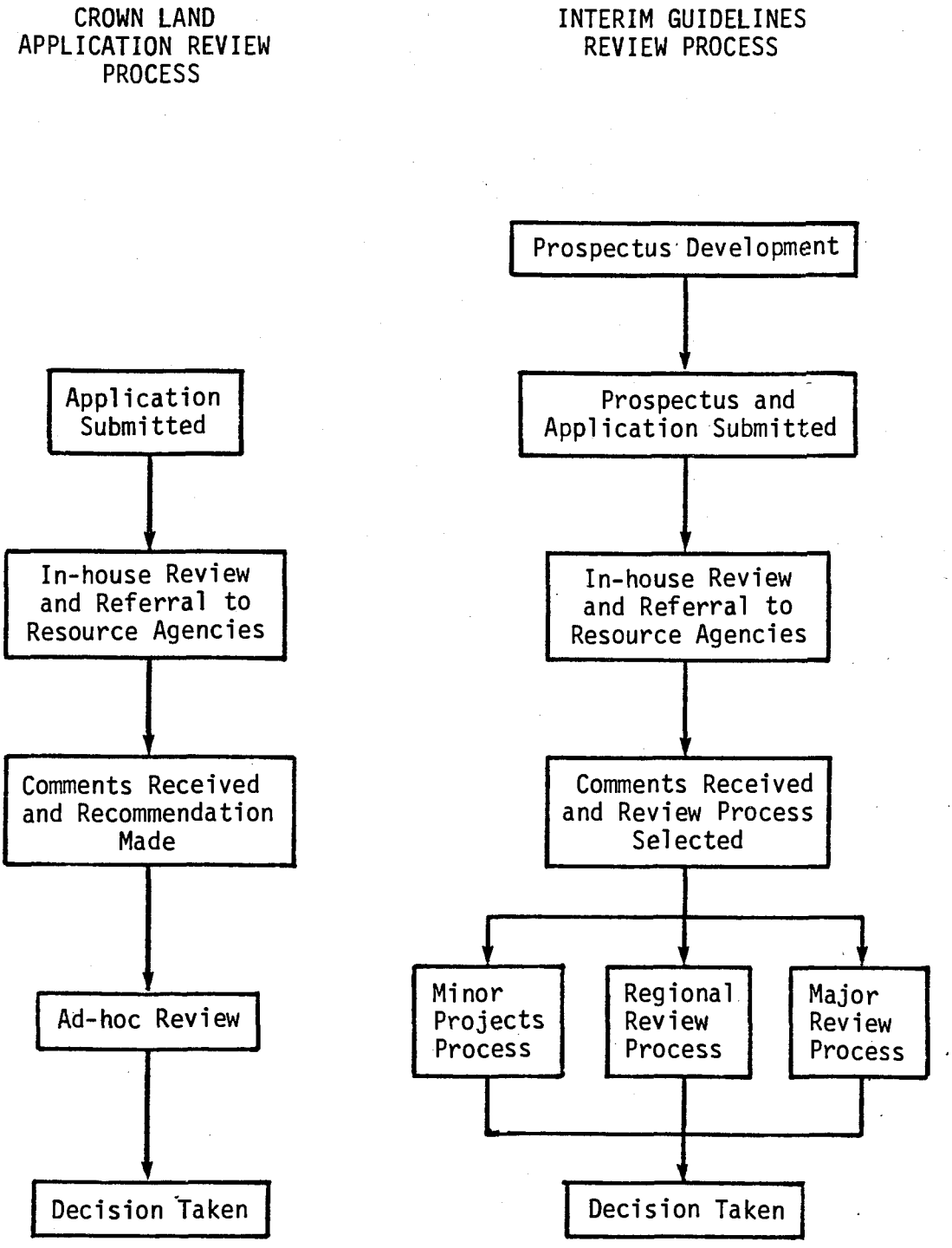

Figure 1.1 Generalized flow-diagram of the Crown land application review process and the Interim Guidelines review process.

introduce the proposed project to relevant government agencies, provide justification from the proponent's point of view, and indicate why it is in the public interest (B.C., Ministry of Lands, Parks and Housing, 1980a; 5). The prospectus is also intended to provide information on alternative sites considered and on anticipated social, economic, and environmental impacts. (In the former application review process, this type of information was not provided with every application at the outset. It was usually requested after the initial referral period if resource agencies indicated a need for additional information.)

The Interim Guidelines were implemented on 1 June 1980 with a formal understanding signed by the provincial Ministries of Lands, Parks and Housing; Environment; and Forests; the federal Department of Fisheries and Oceans; and the Council of Forest Industries of British Columbia (Appendix 1). Some of the conditions specified in the understanding are relevant to this thesis. The first condition specified that the Ministry of Lands, Parks and Housing establish a monitoring programme for the Interim Guidelines. This was initiated in the fall of 1980 and comprised an internal evaluation undertaken by Ministry staff, and an external evaluation undertaken by the author (McDougall, 1981). Conclusions from the monitoring programme were to be used in a formal evaluation to be completed by 30 June 1980.

This thesis expands on the external assessment prepared by the author as part of the Ministry of Lands, Parks and Housing's monitoring programme and evaluates the Interim Guidelines during their first year of implementation. The primary research objective is to determine the effects that specific attributes of the Interim Guidelines had on the decision-making process involved in disposing of Crown shore zone lands. This objective relates closely to those considered to be within the geographer's role as a resource analyst (Mitchell, 1979; 3). The research focus is also relevant to the study of man-environment relationships (O'Riordan, 1971; 110):

> We need to focus upon the forces and resistances acting upon the decision makers when questions of resource management are judged, so as to understand more completely the factors that contribute to decisions which are ultimately reflected as changes in the landscape, and which affect future public use and enjoyment of the environment.

Of equal importance is the broader policy-relevance of the evaluation study (Lowry, 1980). The perceived success of the Interim Guidelines has implications for their continued use, modification, and possible application to other administrative jurisdictions. Thus, there is a need to determine whether the implementation of the Interim Guidelines improved the decision-making process for allocating shore zone lands.

The approach used to evaluate the Interim Guidelines focussed on decision-making activities rather than on actual decision outcomes that might have been manifested as measurable changes in the biophysical resource base. (Vague goals and

objectives, a short implementation period, and the problem of controlling for the external effects of other resource management programmes make it difficult to evaluate decision outcomes.) The research design entailed comparing decision-making activities occurring before and after implementation of the Interim Guidelines, using indices derived from three key evaluative criteria: effectiveness, efficiency, and fairness. Decision-making effectiveness was measured in terms of information availability and agency coordination, efficiency in terms of the time taken to process applications, and fairness in terms of the degree to which views of affected interests are considered.[1]

Comparisons were based on both an overview survey and on detailed case studies of coastal log-handling applications received by the Ministry's Vancouver Island Region during the two time periods (Chapter 5). This region had the largest number of log-handling leases, variety of log-handling activities, and mix of major forest companies in relation to the other three administrative regions in which the Interim Guidelines were implemented. Although the analysis relates specifically to the Ministry's Vancouver Island Region, the conclusions drawn are generally applicable to its other administrative regions where the log-handling issue must be

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[1]An important issue not addressed in this study is whether Ministry of Lands, Parks and Housing staff are adequately trained to implement policies and procedures under the Interim Guidelines.

addressed under similar institutional and policy settings. More broadly, coastal resource managers may be able to apply the experience gained from implementing the Interim Guidelines to Crown land applications involving other types of proposed coastal resource uses such as port, marina, or industrial developments.

CHAPTER II

ALLOCATING SHORE ZONE LANDS

The provincial Crown lands required by forest companies to locate water-related, log-handling activities lie within the shore zone or coastal zone.[2] This qualifies the problem of deciding who should be allocated these lands, the forest industry or other competing demands, as one within the scope of coastal resources management (Ditton, Seymour, and Swanson, 1971; 9).

COASTAL RESOURCES MANAGEMENT

The idea of the shore zone is a central concept in coastal resources management. In its broadest sense, the term delineates an area defined by the interdependence of biological, physical, and socio-economic systems that exist at the interface between land, water, and air (Clarke, 1977). The concept may be applied to marine, lacustrine, or riverine systems (Bauer, 1978) and is generally defined in terms of landward and seaward boundaries extending from the shoreline (Hershman, 1977). Within the context of specific research or management frameworks, the actual area defined will depend on the nature of

---

[2]The term 'shore zone' is a Canadian preference to the more widely used 'coastal zone' (Pross, 1980; 108). The former term is used here to emphasize a focus on lands immediately adjacent to the either side of the shoreline.

the problem under investigation. It may vary from a narrow strip of land between high and low water marks, to the very wide area betweem a river's headwaters and its furthest influence on the sea.

A distinction can be made between legal definitions of the coastal zone, which reflect specific jurisdictional frameworks, and more broadly worded policy definitions that tend to be ". . . constrained primarily by the limits government authorities themselves want to place on the extent of policy integration" (Johnston and Pross, 1975; 6). For example, a broad policy definition of the coastal zone is provided under the 1972 United States federal Coastal Zone Management Act, section 304(a):

> "Coastal zone" means the coastal waters . . . and the adjacent shorelands . . ., strongly influenced by each other and in proximity to the shorelines of the several coastal states and intertidal areas, salt marshes, wetlands, and beaches . . . The zone extends inland from the shorelines only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters . . .

A variety of specific legal definitions of the coastal zone have been adopted by individual states in response to requirements under this Act for approval and funding of coastal zone management programmes (Robbins and Hershman, 1974). Seaward limits generally extend to the three-mile (five-kilometre) jurisdictional boundary for state authority over coastal submerged lands (Armstrong and Ryner, 1978; 26). However, landward boundaries have varied considerably. For example, the boundary in Washington is 200 feet (61 metres), while in

Louisiana it ranges from 20 to 300 miles (32 to 480 kilometres) inland based on the five-foot (1.5-metre) contour line.

The appropriate areal unit for managing the shore zone within the Canadian context remains a point of debate (Harrison and Sewell, 1978). Most analysts have chosen to adopt broad working definitions for discussing the nature of the problem and possible management approaches (Johnston, Pross, and McDougall, 1975; 151). For example, in British Columbia the following working definition was adopted by the Coastal Zone Management Sub-Committee (Canada and British Columbia, 1977; 5):

> The "coastal zone" is that region of land, marine and estuarine space in which terrestial, aquatic and atmospheric systems interact. It is a band of variable width overlapping the mainland and the sea, and incorporating all coastal islands and islets. Its boundaries should extend as far inland and seaward as required or practical to facilitate coastal resource management.

The broad range of problems that occur in the shore zone have been reviewed by Ketchum (1972) and Beanlands (1978). Best characterized by their complexity, it has been suggested by Johnston and Pross (1975; 12) that these types of problems should be viewed as "metaproblems", a term used to refer to ". . . not just an aggregation of problems, but an aggregation in which the lesser or sub-problems are perceived as being dynamically integrated" (Chevalier, 1970; 5). Englander, Feldman, and Hershman (1977; 219-220) have classified shore zone problems as being related to either resource outcomes or organizational processes. The latter type of problem is often more visible and includes problems such as water pollution,

wildlife habitat destruction, and resource-use conflicts. These can often be linked to organizational process problems such as poor coordination among resource agencies, inadequate decision-making information, or a lack of regulatory authority.

RESEARCH AND MANAGEMENT APPROACHES

The shore zone is generally recognized as requiring different approaches to resources management from those applied to upland or offshore areas alone. Sewell (1976; 10) notes that research efforts have followed five main lines of action: (1) understanding the nature of shore zone problems; (2) improving the analytical techniques for managing shore zone resources; (3) expanding the range of strategies that might be applied to a given shore zone problem; (4) introducing appropriate institutional arrangements to improve resource allocation decisions; and (5) undertaking initiatives at the international level. This pattern of research is evident in both Canada and the United States although both the focus and approach have differed.

Several different approaches to coastal resources management can be identified based on the range of shore zone problems that are addressed: preserving environmentally significant areas; integrating management of onshore and offshore resources; and controlling specific types of land-use (Johnston, 1976). Preservation of environmentally significant areas is often the easiest approach to implement as it usually

centres on a narrow range of problems within relatively small and precisely delineated areas. Examples of environmentally significant areas in the shore zone include salt marshes, beaches, dunes, and estuaries (Clarke, 1977; 132-139). Johnston (1976; 6) has cautioned that researchers following this approach should avoid the potential mistakes of concentrating on problems not unique to the coastal zone, focusing on relatively small scale biophysical systems, and placing priorities on biophysical processes to the neglect of social processes.

Integration of onshore and offshore resources management programmes is necessary when management jurisdictions are fragmented or overlapping between different levels of government. Resource management jurisdictions are frequently divided between upland resources such as timber and land, and marine resources such as fisheries and waterways. Consequently, potential impacts on marine resources may not be adequately considered when deciding the use of upland resources or vice versa. For example in a plan prepared for harvesting timber in the Tsitika River watershed, the study area was limited to upland areas only (B.C., Environment and Land Use Committee Secretariat, 1978). As a result, resource managers failed to consider the siting of planned water-based, log-handling facilities and their related impacts on the marine environment. After harvesting decisions were made it was found that the immediate shore area was extremely important as habitat for killer whales and that the proposed log-handling operation

presented a significant risk to the whales (B.C., Ministry of Environment, 1981a). The oversight may have been avoided if the original terms of reference for the Tsitika plan had required the study team to consider development alternatives within the context of the shore zone. Policy-makers who recognize the importance of the shore zone may broaden the administrative scope of more narrowly-defined, resource-sector-oriented management strategies when addressing coastal resource problems.

Coastal resources management viewed as a type of land-use control is an effective, but more controversial, approach (Johnston, 1976). It has been used in Oregon where strong land-use laws enable a wide range of issues to be addressed (Levinson and Hess, 1978). However, political support and opposition to state-wide policies may vary considerably from one community to another, suggesting that the appropriate implementation level is local government (Medler and Mushkatel, 1980). This can present a dilemma when shore zone issues are of a regional or national scale and require action at a broader level. A second, more obvious problem with this approach is the potential for neglecting water-oriented resource issues. Armstrong and Ryner (1978) recognized this and stressed the need for comprehensive coastal water planning and management as part of more general coastal resources management systems.

From a broader perspective, Ditton, Seymour, and Swanson (1977; 9-12) suggested that the fundamental issue underlying coastal resources management is the question of who should have

responsibility for making resource allocation decisions. Their view is that coastal resources management should be premised on the direct examination of the inherent weaknessess of the private and public sectors for making these types of decisions. The basis for determining whether coastal resources should be allocated by the bureaucracy or in the marketplace is felt to be the degree to which various attributes of coastal resources are public or private goods.

A comparison of the experience in the United States with that in Canada is used to illustrate that research and management frameworks tend to incorporate a mix of the environmental preservation, management integration, and land-use control approaches. However, the question of decision responsibility is rarely considered because this is usually predetermined by the constraints of the existing institutional and policy settings.

AMERICAN AND CANADIAN EXPERIENCE

Interest in coastal resources management has evolved quite differently in the United States and Canada. In the United States, it developed from four primary concerns of the general public: (1) increasing demand and diminishing access for public recreation; (2) the need for estuary protection; (3) development of ocean resources; and (4) the need for land-use planning and management (Zile; 1974). Strong public pressure at the state level led to legislative reforms in a number of states including

Washington (Bish, et al., 1975) and California (Moguluf, 1975) and continues to be voiced at the national level by professional organizations (Edge, ed., 1981), environmental groups (Kaplan, 1981), and special interest groups (The Coastal Society, 1980).

In contrast, coastal resources management in Canada has evolved from a more narrow concern for developing water management policies (Pross, 1980; 114). The Canadian approach has been similar to that of Dzurik (1973) who views the shore zone as an integral element of water-resource systems with estuaries being key units of ecological transition. The origins of coastal resources management in Canada also differed in that it was initiated as a result to the concern of specific government agencies rather than as a result of a visible concern of the general public. Pross (1980; 107) has suggested that the environmental movement in Canada may have entered ". . . a new and highly institutionalized phase."

In the United States, initiatives have been taken at both the state and federal level. Much of the work has centred on development and implementation of federal and state programmes under the amended federal Coastal Zone Management Act of 1972 (Heikoff, 1977). Incentives under the Act include federal development of state coastal zone management programmes by providing 80 percent funding assistance for 80 percent of programme design and implementation costs and a requirement that federal government activities be consistent with state programmes approved for funding (Chasis, 1980). The Act

encourages a mix of management approaches including protecting areas of particular concern such as beaches and estuaries, regulating land and water uses, and planning for special types of development such as energy facilities (Heikoff, 1980; 5-15). The key component is the requirement that states establish broad quidelines for determining priorities of uses in particular areas.

The Canadian experience at coastal resources management has been more recent and less formal than the American:

> . . . the approach has been to utilize existing legislation modified to embrace nearshore concerns and provide a generalized policy framework that each jurisdiction can follow (Parkes, 1980; 14).

Initiatives have followed the recommendations of a national symposium on shore management held in 1978 which established a general set of principles for preparing shore management policies (Canadian Council of Resource and Environment Ministers, 1978; 412-413). As part of the federal government's commitment to shore management, the Department of the Environment approved a Shore Zone Program in 1979 and appointed a national coordinator to carry out its objective to ". . . develop, in cooperation with the Provinces, a coordinated approach to the planning, development and protection of the shore zone" (Parkes, 1980; 14). The recommendations of the 1978 symposium were given formal recognition in 1980 by the Canadian Environmental Advisory Council[1]

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[1]The Canadian Environmental Advisory Council was established in 1972 by the federal cabinet, to advise the Minister of the Environment on: matters referred to it by the Minister; the

which further recommended that priority be given to the following areas of concern (Canada, Department of the Environment, 1981a; 16):

1) identification of renewable and nonrenewable resources which could be adversely affected;
2) the necessity for relevant basic and applied research;
3) the development of appropriate physical and institutional models;
4) the identification of sensitive ecological areas within shore zones;
5) the necessity for environmental impact study for any significant project; and
6) the development of appropriate public information programs.

This "cooperative approach" to coastal resources management has been in practice for a number of years in British Columbia. Most work has involved joint federal-provincial committees or task forces as coordinating mechanisms and, in some cases, formal agreements between the federal and provinical governments have been established. The first comprehensive effort was initiated in 1976 when a Coastal Zone Resource Sub-Committee of federal and provincial representatives was established by the B.C. Land Resources Steering Committee to undertake an analysis of current knowledge, problems, institutional arrangements and future needs for managing coastal resources in British Columbia (Canada and B.C., Coastal Zone Resource Sub-Committee, 1977).

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[1](cont'd) state of the environment and threats to it; the priorities for action by the federal government or by the government jointly with the provinces; and the effectiveness of activities of the Department of the Environment in restoring, preserving or enhancing the quality of the environment (Canadian Environmental Advisory Council, 1978; 52).

This was followed by a national symposium on shore management held in Victoria during 1978 (Canadian Council of Resource and Environment Ministers, 1978). Several inventory programmes were initiated, such as a coastal resource folio for eastern Vancouver Island (Canada Department of the Environment; 1981b), but action on recommendations for inter-governmental coordination was limited to general agreement to pursue joint efforts which could focus on specific problems. The resulting approach has been to pursue coastal resources management on an issue-by-issue basis.

This concern for cooperation is reflected in the approach taken to address the log-handling issue in British Columbia. The agreement between industry and the two levels of government is explicit in this regard (Appendix 1). Concern that the Interim Guidelines be implemented within the context of the shore zone is reflected in the broad definition given to coastal log-handling applications (British Columbia, 1980a; 1):

> . . . all forest industrial applications for log-dumping, sorting, storage, booming, barging, conversion plants, and all activities associated with those practices which require Crown foreshore and/or lands covered by estuarine or marine waters and riverine freshwater upstream to the limit of tidal influences. It also includes Crown upland and shoreland applications when they are directly related to the above applications for land covered by water.

Policies regarding the use of Crown lands have traditionally been related to upland or foreshore uses only. The Interim Guidelines represent a significant change from this trend as they apply to applications for upland, as well as intertidal and

subtidal areas.

THE RESOURCE ALLOCATION PROCESS

Shore zone lands are suited to a variety of resource uses (Day and Parkes, 1978). Many of these are mutually exclusive or incompatible, creating competition between resource users where shore zone lands are scarce.

A number of interrelated factors are involved in decisions that allocate shore zone lands among competing demands. Together, they comprise what is referred to as the resource allocation process (O'Riordan, 1971; 19):

> The allocation process is dominated neither by the market place nor by the quasi-political forum, but by a combination of social, cultural, economic, and institutional processes that strive for the best solutions, but which inevitably must seek compromise.

This definition implies that decision-making involves bargaining between a broad range of interests and results in trade-off solutions, rather than choosing on the basis of rational criteria that might lead to optimal solutions.

Ideally, the resource allocation process should determine the best mix of resource uses in terms of the interests of society as a whole. These collective interests are generally termed "the public interest" (Wengert, 1972) and are expressed as key decision criteria in statutes and regulations (Law Reform Commission of Canada, 1979; 141-148).

The two basic economic criteria used in defining 'the best mix of resource uses' are efficiency and equity (Dorfman and

Dorfman, 1977; 8). Efficiency refers to the productivity of the economy in terms of increasing social welfare, while equity refers to the distribution of costs and benefits involved in production. These concepts can be illustrated by considering a hypothetical two-product economy where use x and use y are two mutually exclusive uses of a finite area of shore zone land. Efficient use, in an economic sense, would occur if all of the area were being used for either use x or use y, or some mix of the two uses, given the current state of technology. Although there would be a range of efficient choices regarding the mix of the two uses, there would be only one optimal choice (Figure 2.1). The optimal choice (point B) would depend on "the public interest", that is, the mix of uses preferred by society as a whole according to the values placed on use x and use y respectively and to the values placed on the distribution of costs and benefits involved in using the shore zone land for either of the two uses. This "point of social balance" (Ducksik, 1972; 134) would be determined, in theory, by the point at which the social marginal substitution function (line MN) equals the marginal value of exchange between the two uses (Howe, 1971; 4).

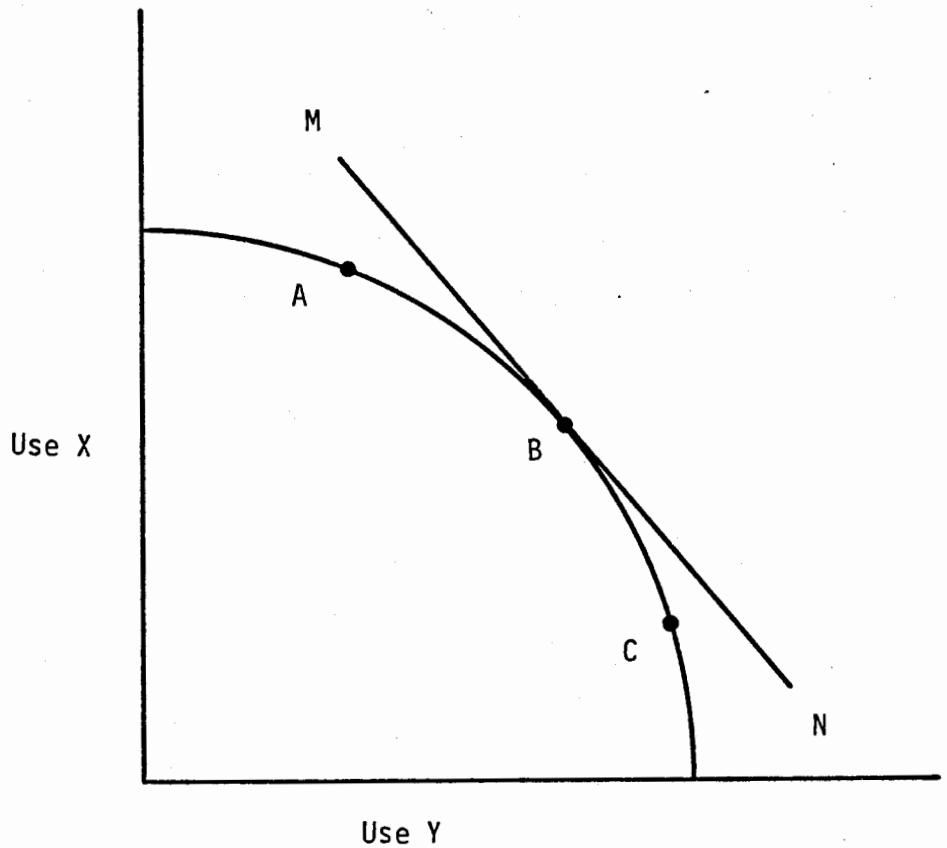


Figure 2.1 Optimal choice between two mutually exclusive land uses. After: Howe (1971; 4).

DETERMINING RESOURCE USE VALUES

The private market system determines the values that society places on the range of possible uses for a given area by reflecting the price that resource users are willing to pay to use the resource. In theory, a perfect market system would ". . . essentially run itself, with resources being allocated efficiently in the absence of any control, planning, or direction" (Bish et al., 1975; 68). Additional attributes of the private market system include identifying preferences efficiently, coordinating resource uses with minimum needs for information, and providing prices for use in determining values (Ketchum, 1972; 234).

However, the conditions for perfect market operation rarely exist in the real world, especially in the shore zone where a number of market failures are present. The most frequently recognized relate to the occurrence of externalities, the need for public goods, and the nature of common-pool resources (Ditton, Seymour, and Swanson, 1977; 91-98).

Externalities refer to consequences of a resource allocation decision that are not taken into account when the decision is made. These effects can be either positive or negative, depending on one's point of view. With regards to market transactions, economists differentiate between pecuniary externalities and technological externalities (Davis and Kamien, 1977; 116). The former are changes in price and, whether positive or negative, are essential to the efficient operation

of the market. Technological externalities refer to all other external effects besides changes in price. Most importantly, they can be significant in preventing the efficient allocation of resources.

A number of technological externalities occur in relation to using shore zone lands for log-handling purposes. Duval and Slaney (1980) have provided a comprehensive review of both positive and negative impacts of log-handling on the coastal marine environment and its resources. Log-handling related impacts have also been reviewed in relation to fresh water environments (Peet, 1978; 97-134), and estuaries (Oregon, 1974 and Canda and B.C., 1980b), and salmon (Dorcey, McPhee, and Sydneysmith, 1980; 163-169).

Physical affects of log handling on the marine environment include: the accumulation of bark, wood debris, and logs on the benthic substrate and along the shoreline; substrate disturbances from log or boat movements; altered current and wave action; and shading. Water quality may be affected by chemical impacts such as increased biological oxygen demand and hydrogen sulphide production, and increased soluable organic compounds or leachates. Construction and operation of log handling facilities may also involve filling and dredging of intertidal and submerged lands, and increased noise levels (Duval and Slaney, 1980; 54-76).

These effects on the physical environment may impact directly or indirectly on biological resources, such as finfish

and shellfish, and their dependent industries. They may also impact on other resource uses such as boating, sport fishing, beach recreation, and scuba diving. The magnitude of these impacts will vary with the volume and species of logs handled, the specific type of log-handling activity (see Chapter III), and its areal extent, duration, and timing. It will also vary with the characteristics of the particular site such as water depth, pattern and intensity of local water currents, substrate composition, vegetation, and neighbouring resource uses. These impacts may also be positive, insignificant, or negative at different times or places (Duval and Slaney, 1980; 143-149).

It is important that these types of impacts be considered when decisions are made regarding the allocation of shore zone lands because they may have significant costs or benefits that are not reflected in the changes in price that occur through the marketplace. These costs and benefits must be included when weighing the total costs and benefits of alternative uses in order to choose the most economically efficient use. The reasons why these impacts are not reflected in the marketplace or taken into account by decision makers includes poorly defined property rights, high transaction costs, imperfect information, and undervalued resources.

Public goods are a second type of market failure. These are goods and services that can be consumed by many people simultaneously without depletion of the resource and for which exclusion of users is not feasible (Bish, et al., 1975; 24).

For example, the recreational aspects of shore zone areas such as visual aesthetics and, to some degree, opportunities for swimming and boating, may be appreciated by many users without affecting the quality of the resource. The problem with public goods is that because users cannot be made to pay for them (i.e. the free-rider problem) the market tends to underprovide them or not provide them at all (Ditton, Seymour, and Swanson, 1977; 96). Consequently, government intervention is often required to ensure that public goods are provided. The provincial Ministry of Lands, Parks and Housing, for example, has a responsibility to allocate shore zone lands for recreational use. However, without a market demand for public goods, it is difficult to determine their value and to decide how much should be provided.

Common-pool resources have characteristics of both externalities and public goods. Like public goods, common-pool resources can be used by many individuals because exclusion of use is neither feasible nor legal. The distinction is that users of a common-pool resource may cause negative externalities for other users by depleting the resource. Shore zone lands are a common-pool resource in several respects. For example, the waters over submerged lands can be used to navigate vessels. The rights to use the resource for this purpose are a public right established in common law. Forest companies exercise this right when they transport logs by water. However, as the number of individuals navigating coastal waters increases, the resource becomes less navigable because of congestion. For this reason,

some control over the number of individuals using the resource is required. This control will not occur through market-processes because both the costs of congestion and the benefits of navigability are shared by all users of the resource. Without some means to control access to the resource the problem will not be resolved. In addition to being used excessively, common-pool resources tend to be used more rapidly than is necessary because an incentive exists for individuals to use the resource before it can be depleted by others.

The values associated with natural ecosystems have been discussed by Farnworth et al. (1981). They recognize the two basic types of values discussed up to this point: market and nonmarket. Further, they distinquish two categories of nonmarket values. The first are those which have been assigned a price or value through the political process. In many cases, market failures such as externalities and public goods have been corrected through government intervention and the nonmarket values involved have been protected by legal institutions. The second category are those nonmarket values which remain intangible or nonassignable and have not been established through the marketplace or other institutions. The existence of intangible nonmarket values has important implications for the design of decision systems.

THE NEED FOR INSTITUTIONAL ARRANGEMENTS

The failure of the market system to resolve these problems has resulted in the evolution of a complex set of institutional arrangements for allocating provincially-owned shore zone lands. The term 'institutional arrangements' refers to a ". . . definable system of public decision making . . ." Craine (1971; 522) and can be conceptualized as the second level of a three-level hierarchy of decision systems:

> On the first or lowest level, decision making relates to the determination of inputs, outputs, and the host of similar decisions made by the operating sectors of the economy, individuals, firms, industries, and public operating agencies . . . .This level of decision systems may be called the "operating level." The decision systems on the next highest level comprise the institutional regulation of decision-making on the first level. One may call this level of decision systems the "institutional level." On the third level, changes in institutions on the second level are the subject of decision-making. This level may be called the "policy level." (Ciriacy-Wantrup and Bishop, 1975; 716)

The decision systems involved at the operating, institutional, and policy levels of this hierarchy can be correspondingly termed the decision-making, regulatory, and policy-making processes. Together, these decision systems can be regarded as the primary components of the resource allocation process.

Although decisions are made at each of these levels, a distinction is generally made between decisions and policy. A decision involves a choice of one alternative from a set of competing alternatives. In contrast, a policy is ". . . a purposive course of action followed by an actor or set of actors in dealing with a problem or matter of concern" (Anderson, 1975;

10). While decison making involves discrete choices between competing resource use alternatives, policy making involves a ". . . pattern of action, extending over time and involving many decisions . . ." (Anderson, 1975; 10). The role of policy making is considered by O'Riordan to be (1976; 55):

> . . . not so much the resolution of particular decisions as it is the creation of a 'decision environment' - a set of rules, roles and procedures which guide behavior and shape expectations - in which a variety of connected or related decisions can be made.

This hierarchy classifies decision systems according to the type of decisions that they involve and is similar to the theoretical approach advanced by Lowi (1964) to distinquish different types of policy. Lowi argued that the policies made by government could be classified as either distributive, regulatory, or redistributive policies and that the process involved with each type of policy differed in terms of the actors involved and the relationships between them. Craine (1971; 522) also stressed the importance of relationships between various actors involved in making decisions:

> In addition to being concerned with component organizational entities, the term 'institutions' suggests special attention to the configuration of relationships
>
> 1) established by law between individuals and government;
> 2) involved in economic transactions among individuals and groups;
> 3) developed to articulate legal, financial and administrative relations among public agencies; and
> 4) motivated by social-psychological stimuli among groups and individuals.
>
> Specific relationships falling in any or all of these four categories, constrained and shaped by the natural and social environment weave a web which describes the

institutional system for decision-making.

In Craine's view, these relationships describe the structure of decision systems.

Within this conceptual framework, the Interim Guidelines can be viewed as a decision system of the regulatory process for allocating Crown shore zone lands. This system exists to control or influence the decision-making process and changes over time as a result of the policy-making process. The decision-making process at the operating level involves choosing between the range of alternative uses possible for a particular area of shore zone land. Key actors at this level would represent relatively narrow interests and generally have limited decision authority. Relevant decisions at this level include those decisions made by the Ministry of Lands, Parks and Housing to approve coastal log-handling applications, and decisions by forest companies to apply for Crown land and use it for log-handling purposes.

Decisions at the institutional level concern the range of actions that might be taken to influence decisions made at the operating level. For example, the decision to designate an application as either a minor, regional, or major project is particularly relevant to the way in which applications are eventually adjudicated. There are several other decision systems involved in the regulatory process, some of which are interrelated with the Interim Guidelines decision system. Examples within the Ministry include the Crown land planning system and the application referral system. A large number of

other resource agencies also have planning and referral systems concerned with regulating or influencing decisions made by the Ministry or decisions made by applicants. Decision systems at this level attempt to bring in a broader range of interests into the resource allocation process.

At the policy level, decisions concern the range of alternative adjustment that might be made to existing institutional arrangements for allocating Crown shore zone lands. Relevant decisions at this level include the decision to implement the Interim Guidelines and future decisions regarding their continued use, modification, or replacement. Key actors at this level represent very broad interests and usually have the authority to make decisions concerning a wide range of issues.

This decision hierarchy does not always apply. In some cases, decisions normally made at the operating or institutional levels may involve complex resource issues that are difficult to address at that level. These types of decisions are termed "nonroutine decisions" by O'Riordan (1976; 65) and may require a response at the policy level where a broader range of interests can be brought into the decision process. The design of the Interim Guidelines takes this into account by providing several means for policy-makers to become involved in the decision-making process.

Models of decision systems may be classified as either prescriptive or descriptive (Mitchell, 1980; 45). Prescriptive

models are concerned with the way in which decisions should be made, whereas, descriptive models are concerned with the way decisions are actually made. Sewell (1973; 35-36) has developed a prescriptive model to describe the basic elements in an idealized planning and policy-making process (Figure 2.2). His model is useful in that it provides a context in which to describe policy level events related to implementation of the Interim Guidelines and demonstrates the role that hindsight evaluation plays in providing information to aid in future goal formulation and strategy design. In Sewell's model the policy-making process is conceptualized as an ongoing cycle of activities which is initiated with the identification of a specific problem to be solved. Policy-makers generally approach this task with a predefined set of goals and objectives and are concerned that problems are addressed within a relevant planning context. The process continues with planners identifying potential solutions and alternative sets of strategies. These are evaluated according to a broad range of criteria and a preferred solution or set of strategies is then selected and implemented. Hindsight evaluation of the selected solution completes the ongoing cycle by providing input into future planning and policy making.

Implementation of the Interim Guidelines may be viewed as a step in a recent policy-making cycle that began and ended with the initiation and completion of the Estuary, Foreshore and Log Handling and Transportation Study. The policy-makers are those

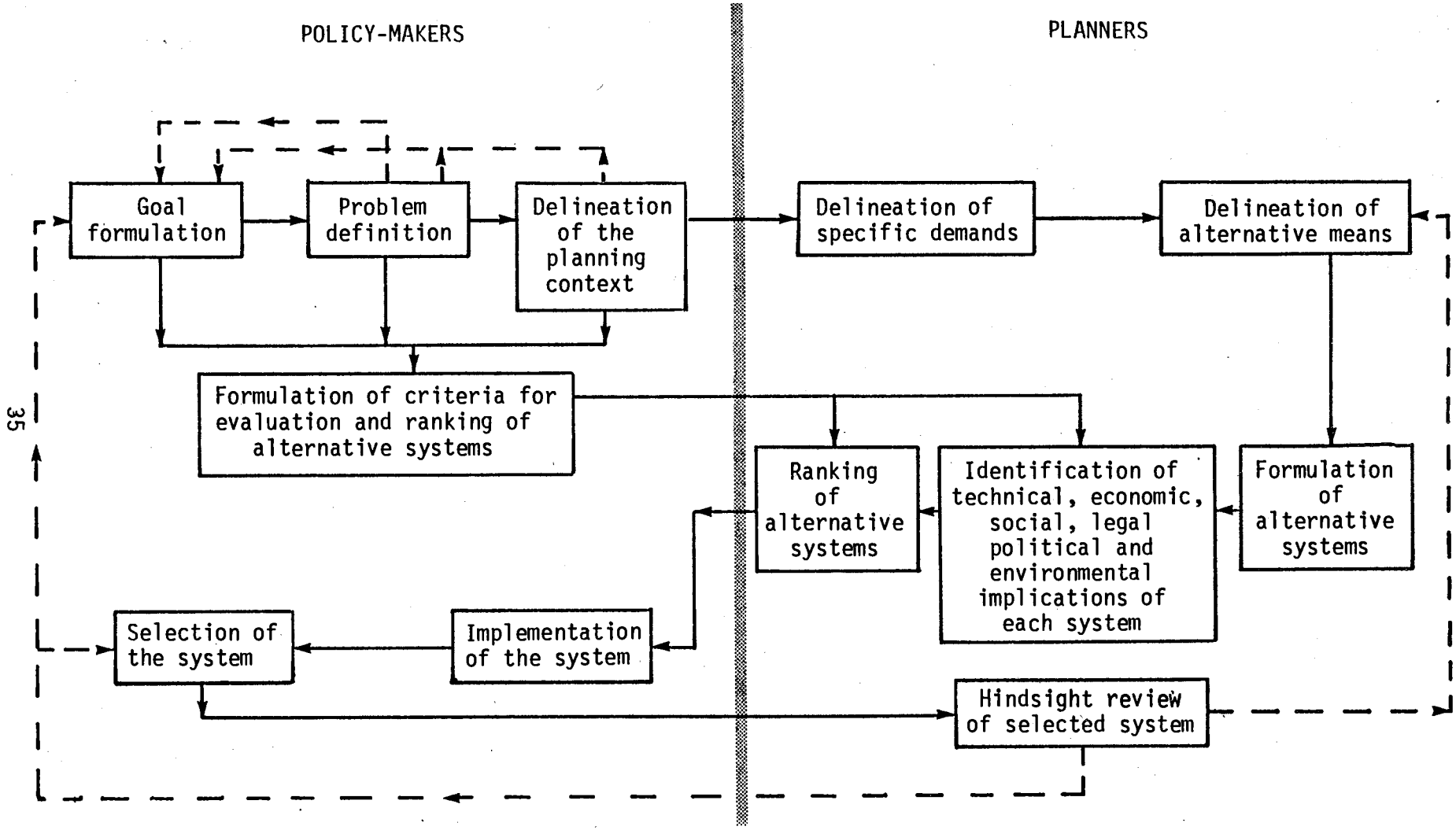


Figure 2.2 Sewell's model of the planning and policy-making process. After: Sewell (1973; 36). Note: The planning and policy-making process is a continuous one involving constant iteration and frequent policy decisions. Only the major feedbacks and policy check points are shown here.

senior level government and corperate representatives from agencies and companies participating in the study who have authority to make changes to existing institutional arrangements relevant to the log-handling issue. These actors are normally in senior government and corporate levels. For example, provincial government policy-makers would include the subcommittee of Deputy Ministers organized under the Environment and Land Use Technical Committee to oversee the progress of the study (B.C., Ministry of Lands, Parks and Housing, File 0354285(1), 11 May 1979). The planners are those actors at lower organizational levels and would include consultants brought into the study to undertake in-depth analyses. The Steering Committee served to provide an organizational link between the policy-makers and planners.

Agreement to participate in the Estuary, Foreshore and Log Handling and Transportation Study was a recognition by policy-makers that the log-handling issue was a significant public policy problem. The planning context for the study was delineated by determining the major interests involved in the log-handling issue and the task of delineating specific resource demands was subdivided into three major problem areas for detailed analysis: the log-handling, environmental, and recreation components. It was recognized that the process of selecting an appropriate solution to the log-handling issue would require considerable time and effort on the part of policy-makers and planners. However, the perceived urgency of

the policy problem required that an interim solution be found before full consideration could be given to the total range of possible solutions. Consequently a number of initiatives were undertaken to address aspects of the policy problem prior to completion of the Estuary, Foreshore and Log Handling and Transportation Study. Those taken by the Ministry of Lands, Parks and Housing included developing a policy for trespass problems, developing a new lease and rental structure, reviewing the types and length of tenures to be utilized in log-handling situations, and introducing the Interim Guidelines (Roberts; 1979).

Although Sewell's model outlines the logical steps that might be involved in decision systems, it does not explain how decisions are actually made. It assumes that decision-makers choose alternative solutions to problems on the basis of criteria derived from goals and objectives that reflect the values of society at large. However, while many of these values are expressed in the marketplace and some nonmarket values are protected by public institutions, other nonmarket values remain intangible. It may be possible to express these intangible nonmarket values in very broad goal statements, but it is not always possible to articulate them in terms of specific objectives or decision criteria.

O'Riordan (1976; 66 and 1971) developed a descriptive model of decision making that suggests how intangible values are brought into the decision process (Figure 2.3). His model is

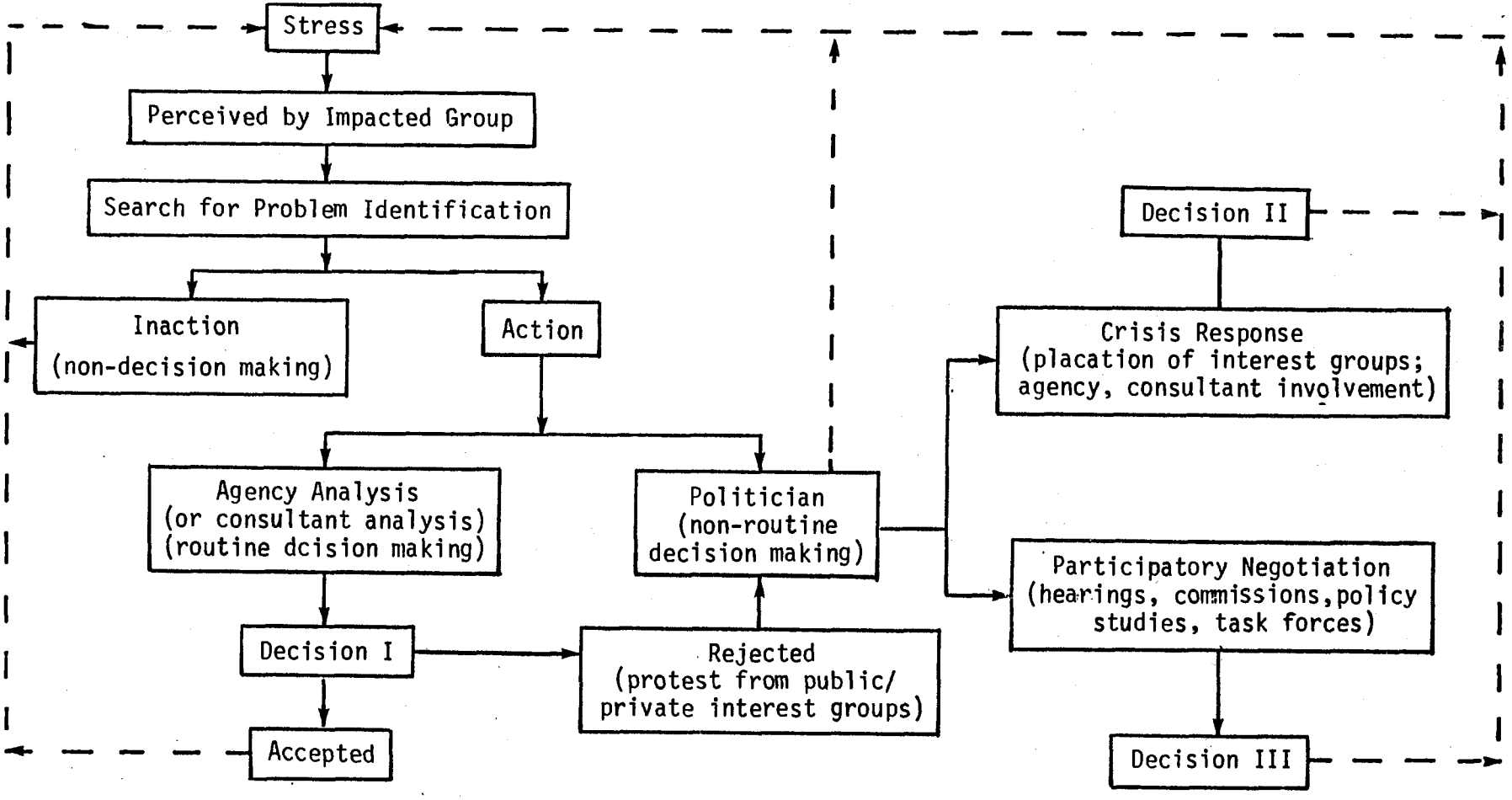


Figure 2.3 O'Riordan's model of decision making. After: O'Riordan (1976; 66).

based on the ideas of Wengert (1955) and Kasperson (1969). Wengert argued that the public interest is determined through group struggle and is expressed as a result of conflict. Thus, conflict was viewed as an inevitable and necessary aspect of decision making. Kasperson conceptualized conflict in terms of stress on decision-makers and investigated the adaptive strategies that are taken to resolve it. O'Riordan's model followed these ideas by identifying several types of response to stress. These include nondecisions, routine decisions, and nonroutine decisions. Nonroutine decisions involved either a crisis response or participatory negotiation.

O'Riordan's model demonstrates that if the public interest (the full range of society's values) is not adequately considered in routine decision making, either because of a lack of information or poor coordination of resource agencies, then a need exists to provide opportunities for various interest groups to participate. The model suggests that the lack of such opportunities in these cases will result in a crisis response. In terms of the three-level hierarchy of decision systems discussed above, decisions normally made at the operational level will be elevated to the policy level in order to accomodate a broader range of interests.

In view of the difficulties that exist in determining the public interest for using resources within the shore zone, the model is particularly relevant to coastal resources management. The model also has important implications regarding the design

of the Interim Guidelines and their success in enabling managers to address the problems comprising the log-handling issue.

CHAPTER III

THE DECISION CONTEXT

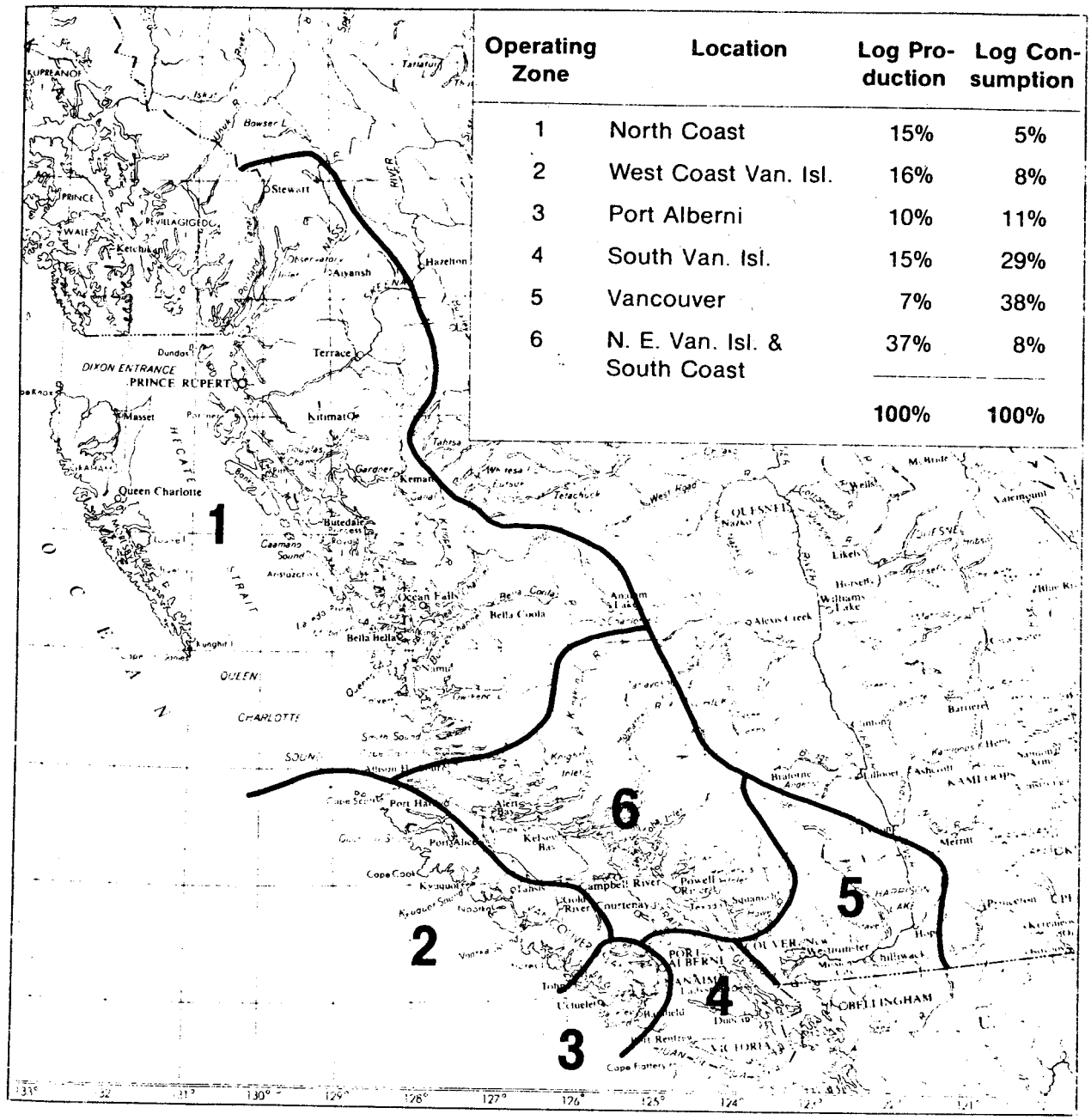
The context in which shore-use decisions are made changes over time as a result of the policy-making process. This chapter describes the decision context as it existed at the time the Interim Guidelines were implemented. It also provides a detailed description of the activities required under the Interim Guidelines and identifies the various administrative innovations that were introduced.

The decision context comprises three interrelated sets of conditions important to decision making: (1) the log-handling issue; (2) the institutional setting; and (3) the policy setting. The institutional setting includes a legal framework that establishes the areas of resource ownership and legislative power for different levels of government, and an administrative structure that establishes the organization of different levels of government. The policy setting comprises the range of values and interests that are considered when specific decisions are made. These values are often expressed in enabling legislation and policy statements. However, many values are implicit in decision making and are more difficult to identify. Both the institutional and policy settings are important in determining what decisions are made and who is involved in making them, as well as how they are made.

THE COASTAL LOG HANDLING AND TRANSPORTATION SYSTEM

The forests and forest products industry of British Columbia are usually discussed within the context of two distinct regions, a Coastal Region to the west of the Coast Mountains, and an Interior Region comprising the larger area to the east (B.C., Ministry of Forests, 1980). The two regions have different physiographic and biogeoclimatic characteristics which result in different mixes of tree species and forest productivity (B.C., Ministry of the Environment, 1978; 1-46). The coastal industry is older and dominated by large companies whereas the interior industry is newer and characterized more by the significant role of smaller companies (Farley, 1979; 64-71). A further distinction can be made regarding the primary mode of log transportation. In the Coast Region, approximately 90 percent of the timber harvest is moved by barge or towed to processing mills, compared to less than 20 percent in the Interior (B.C., Forest Service, 1975; 32). The primary reason for such a large proportion on the Coast is simply that there are no feasible alternatives to water transportation due to the rugged nature of the terrain.

The Coast Region can be subdivided into six major operating zones (Figure 3.1), each of which has a distinct mix of log production, transportation, and conversion functions. A complex log handling and transportation system exists within and between each operating zone. The overall objective of this system is to



Operating Zone	Location	Log Production	Log Consumption
1	North Coast	15%	5%
2	West Coast Van. Isl.	16%	8%
3	Port Alberni	10%	11%
4	South Van. Isl.	15%	29%
5	Vancouver	7%	38%
6	N. E. Van. Isl. & South Coast	37%	8%
		100%	100%

Figure 3.1 Major operating zones for coastal log-handling. Source: Canada and B. C. (1980c; 7).

deliver various species and grades of logs to the conversion plant best able to recover their maximum value at the lowest possible cost (Ainscough, 1979; 93 and Dorcey, McPhee, and Sydneysmith, 1980; 231).

The volume of logs produced and consumed in each zone results in a net flow of logs from the north and west coast zones to the southern Vancouver Island and Howe Sound/Fraser River zones (Boyd, 1979). The latter two zones respectively process approximately two and five times the volume of logs produced locally. In contrast, the northeast Vancouver Island and Mainland zone consumes only one-fourth of the volume it produces. These differences reflect the present concentration of conversion plants in the Lower Mainland and Georgia Strait zones (Figure 3.2).

The general log-flow pattern for the north and south coasts is illustrated in Figure 3.3. The types of log-handling activities involved at various stages of this system can be grouped into a number of categories: skidding, dumping, water sorting, dry land sorting, booming, storage, transportation, and retrieval (Duval and Slaney, 1980; 15). This classification scheme is based on the function and location of activities, and includes only those activities which can affect the marine environment. A typical operation involves logs being trucked from harvest areas to tide water, and scaled and sorted if possible, prior to entering the water. Logs are dumped into the water, tied into bundles or rafts, and formed into booms for

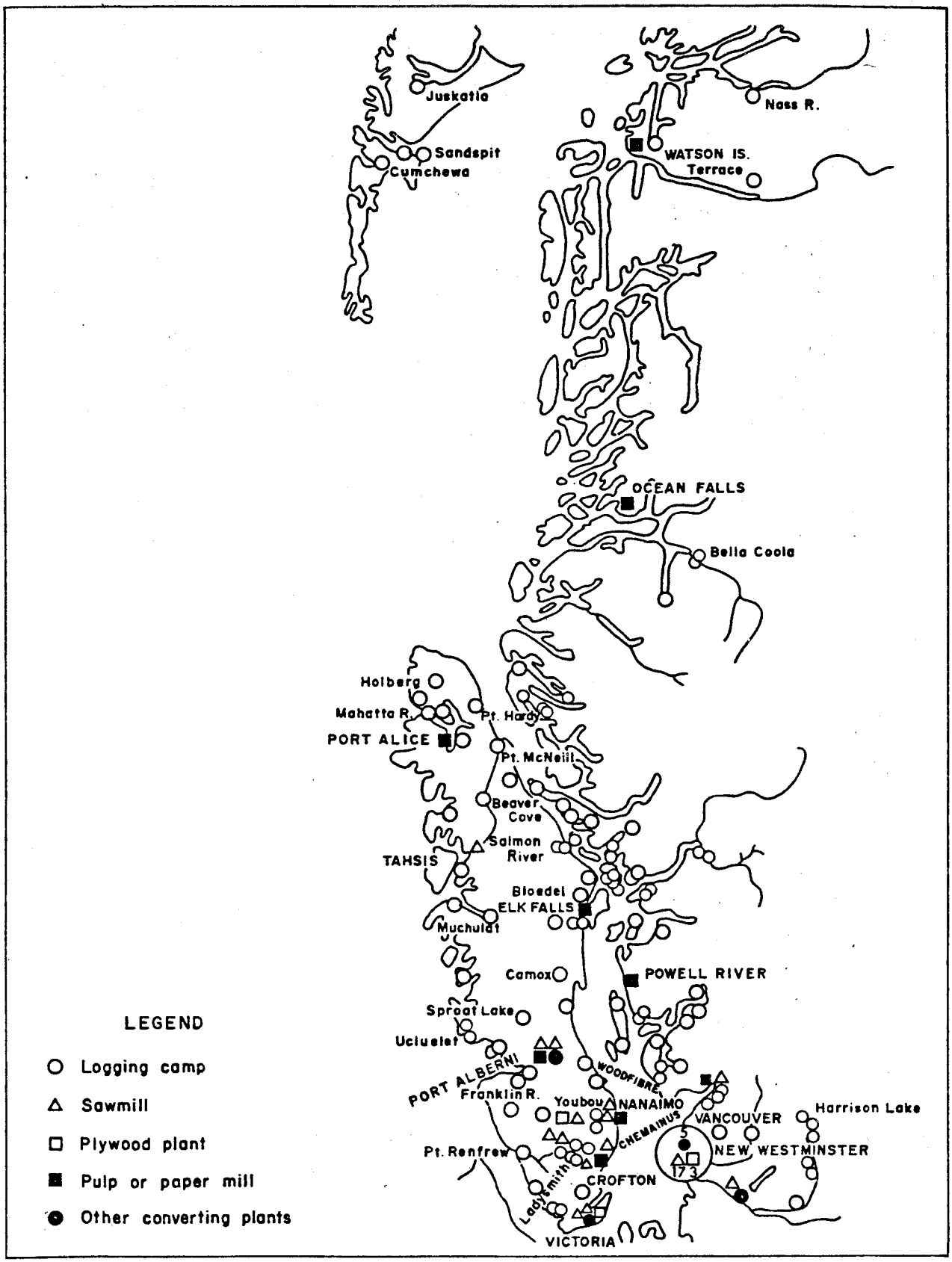


Figure 3.2 Location of major logging camps and conversion plants. Source: Canada and B. C. (1980c; 6).

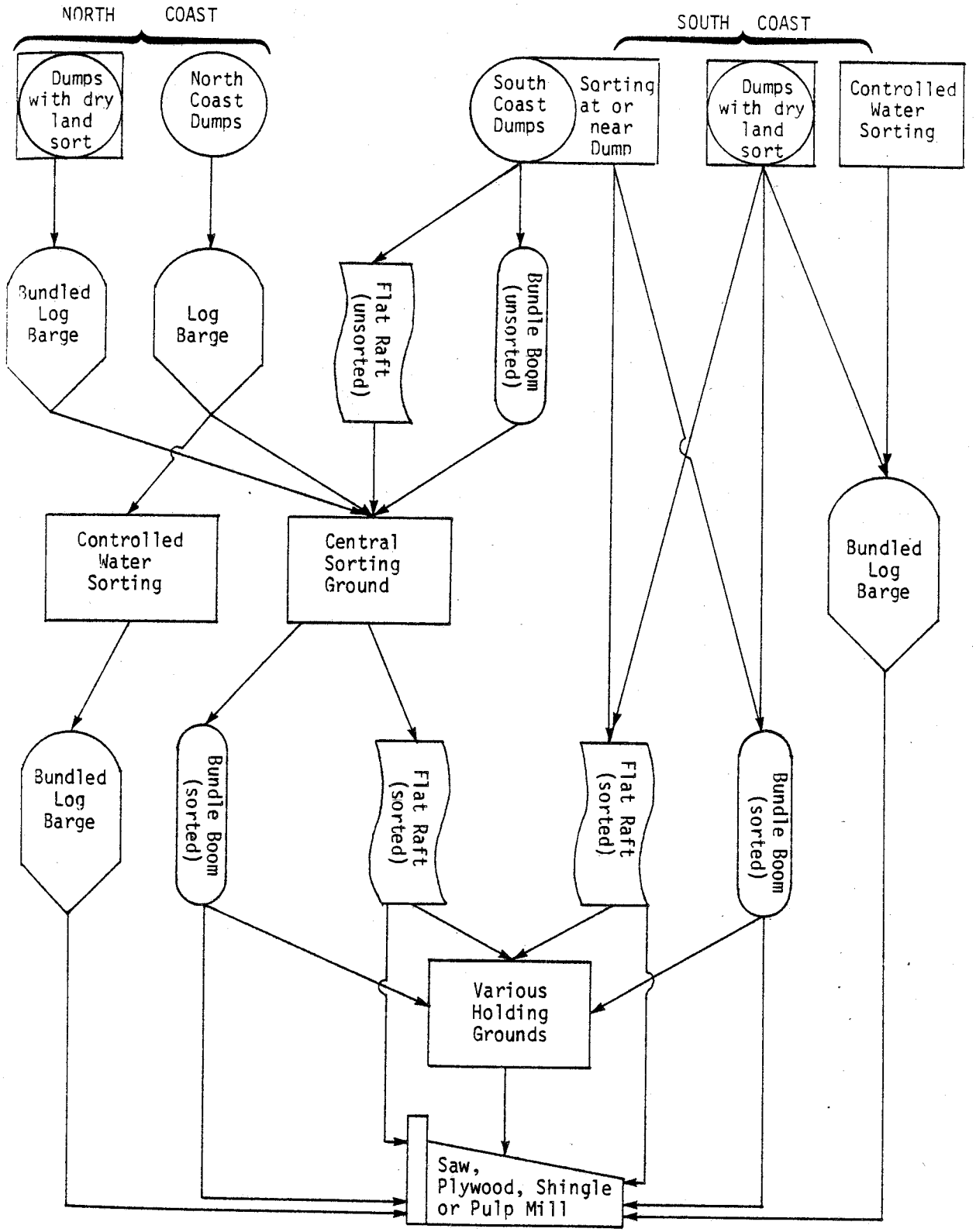


Figure 3.3 General log-flow pattern for the North and South coasts of British Columbia. Source: Duval and Slaney (1980; 20).

towing.[1] Where open water must be crossed, logs are transported by barge rather than towed in booms. Log destinations may include centralized sorting operations, storage areas, or processing plants.

Skidding and dumping activities involve moving logs from land to water. Where harvesting takes place adjacent to the shoreline, logs may be skidded directly into the water or onto the foreshore at low tide using tractors or cable systems. Logs from inland harvest areas are usually transported by truck or rail to centralized dumps where they are placed into the water using a variety of methods. Logs are also dumped at dry land sorting operations.

The importance of sorting logs has increased as mills have specialized their processing functions to handle specific sizes, species, and grades. To ensure that a log goes to the mill best able to recover its maximum value, 15 to 18 sorts may be necessary (Ainscough, 1979; 93). Logs may be sorted on land or in water. A detailed comparison of dryland sortyards and water sorting grounds operating on the coast is provided by Sinclair (1980).

Booming activities occur adjacent to dump sites and sorting operations. Booming involves forming log pieces or bundles into bags, rafts, or booms for towing. Bag booms and flat rafts of log pieces are generally used for short tows in sheltered water. Bag booms are also used to store log pieces and bundles locally.

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[1]Logs may also be bundled prior to dumping.

High numbers of log losses occur through sinkage or escapement with these transportation methods. For this reason, an increasing proportion of logs are being towed in bundle booms (Duval and Slaney, 1980; 28). Logs are generally transported by barge where it is necessary to navigate exposed waters such as Queen Charlotte Sound or the west coast of Vancouver Island.

Log storage areas are required at dump sites, sorting grounds, and processing mills. Temporary storage areas are also required for logs in transit as transportation routes may be closed during storms or tide changes. Storage is required close to mills to provide sufficient supplies of logs and to even out production peaks throughout the year (Higham, 1981).

The coastal log handling and transportation system is further complicated by each major forest company operating relatively independent from the others (Figure 3.4). Most large companies operate centralized sorting operations. For example, Crown Zellerbach uses a centralized water sorting operation at Goliath Bay together with log barges (Crown Zellerbach Canada Ltd., n.d. and Dorcey, McPhee, and Sydneysmith, 1980; 232-234). Most of British Columbia Forest Product's log supply is processed through the Shoal Island centralized dry land sorting operation near Chemainus (British Columbia Forest Products Ltd., n.d.).

A survey of forest companies operating in the coast region during 1979 was undertaken to determined the primary activities occurring on log-handling related leases (Table 3.1). Over 60

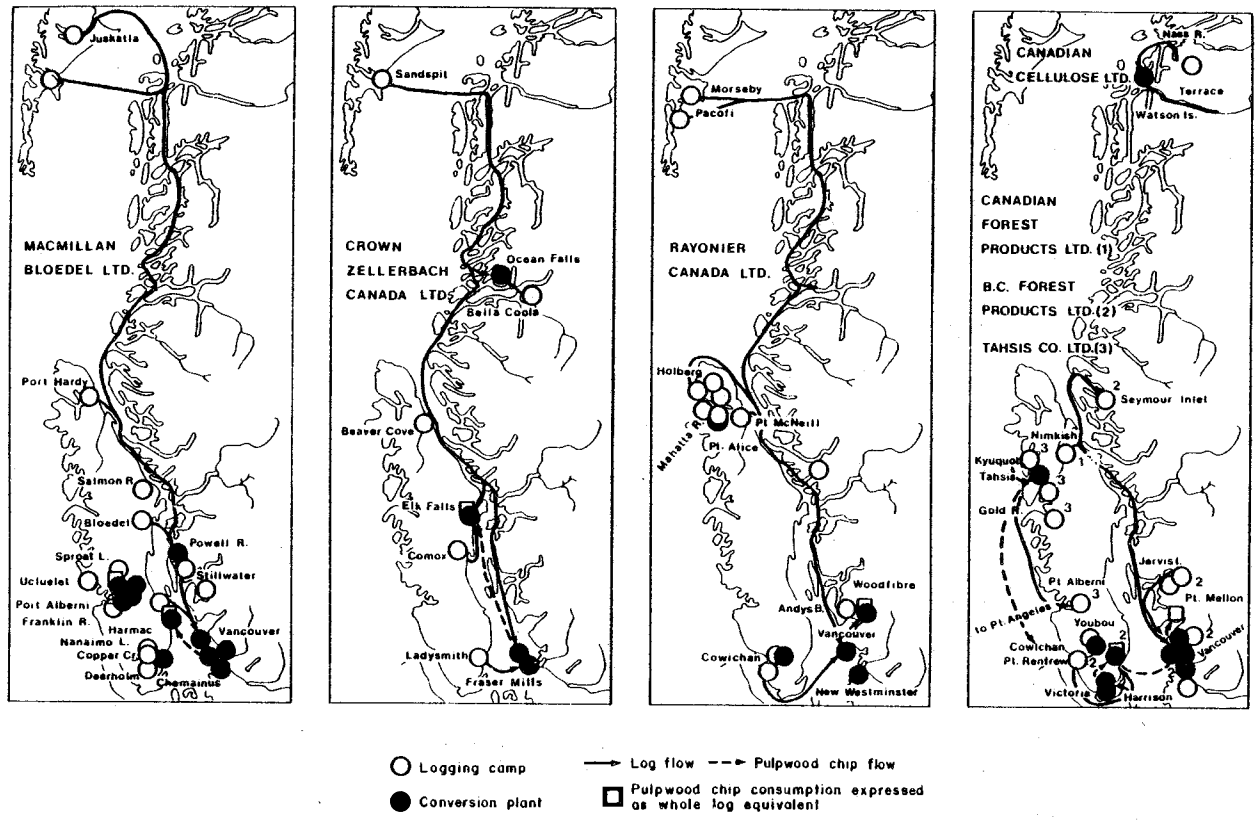

Figure 3.4 Functional organization of major forest firms operating on the coast of British Columbia. Source: Canada and B. C. (1980; 8).

Table 3.1

MAIN USES OF LOG-HANDLING LEASES[a]

Use	Area (Hectares)	Number of Responses With Use	% of Area	Average Hectare Per Response
Log Dumping	204.23	219	2.3	0.9
Barge Dumping	132.55	21	1.5	6.3
Barge Loading	205.63	77	2.3	2.7
Log Sorting/Booming	1311.95	231	14.7	5.7
Log Bundling	86.02	32	1.0	2.7
Log Storage	5696.07	560	63.6	10.2
No Present Use	796.38	135	8.9	5.9
Other Uses[b]	522.91	163	5.8	3.2
TOTAL	8954.21	1438	100.0	6.2

Source: McDonald, Sinclair, and Tse, 1980; 89.

[a] Information based on a questionnaire survey of 187 out of 283 companies (66% response).

[b] Other uses include: transportation channels; breakwater or fill; mill or industrial facilities; whargs and docks; and camps.

percent of the total area leased by companies that responded to the survey is used for log storage activities. Approximately 14 percent of this area is used for log sorting and booming activities, and lesser proportions are used for other types of activities.

The criteria most frequently cited by the forest industry for locating log-handling activities are (Duval and Slaney, 1980; 16-18 and Canada and B.C., 1980c; 9):

1) cost to the company;
2) proximity to log sources, transportation routes, and destinations;
3) shelter from adverse sea conditions;
4) suitable water depths;
5) low velocity water currents;
6) access to deep water; and
7) low water salinity levels.

Typical conditions for specific log-handling activities are indicated in Table 3.2. Estuaries or rivers are preferred sites because the inflows of fresh water are believed to lower water salinity below the tolerance level of wood-boring shipworms (Bankia setacea). However, Beanlands (1978; 136) noted that the Fraser River Estuary may be the only area where salinity levels are below the shipworm's tolerance level of 8-10 parts per 1000. Beanlands also argued that log storage in estuaries should not be necessary because of the time frame involved with most log storage needs (Beanlands, 1978; 137):

> . . . logs must be in salt water for at least two months before they are attacked by marine worms, and up to 4-6 months before economic damage occurs. With proper log management it shouldn't normally be necessary to store

TABLE 3.2

TYPICAL SITE CHARACTERISTICS FOR LOG-HANDLING

LOG HANDLING PHASE	Minimum Depth of Water			Estuaries			Bays and Sheltered Reaches			Exposed Shoreline	
	0-4.5 m	4.6 - 7.5 m	Over 7.6 m	Muddy Shore 0-20% Slope	Mud to Gravel 20%-40% Slope	Rocky Shore 40%-80% Slope (Deep Water)	Tidal Marshes Mud Shore of 10% Slope	Gravel Shore 10%-40% Slope	Rocky Shore 40%-60% Slope (Deep Water)	Gravel 10%-20% Slope	Rocky 20%-50% Slope (Deep Water)
1. Skidding (not common)											
Skidding onto Beach	x				x			x		x	
Yarding into Water						x			x		
Tractor pushing					x			x		x	x
2. Dumping											
Lift and lower bundles	x	x		x		x		x			
Lift and lower: loose logs		x		x		x		x			
Parbuckle onto log skids bundles		x		x	x	x	x	x	x		
Parbuckle onto log skids loose logs	x	x		x	x	x	x	x	x		
Mobile loader over skids bundles		x			x	x	x	x	x	x	x
Mobile loader on gravel ramp: loose logs	x	x			x			x		x	
Helicopter Drop			x			x			x		x
3. Sorting in Water											
Loose logs		x			x		x	x			
Loose logs to make bundles		x			x			x			
Bundles			x		x						
4. Booming											
Bundle booms		x					x	x			
Flat rafts		x					x	x			
Bag booms		x					x	x			
5. Storage											
Bundle booms		x					x	x			
Flat rafts	x	x					x	x			
Bag booms	x	x					x	x			
Dry land sort					x			x			
6. Barge Loading and Dumping											
Loose logs					x			x			
Bundles					x			x			
7. Transporting											
Bag booms	x	x		x	x	x	x	x	x		
Flat booms	x	x		x	x	x	x	x	x		
Bundle booms		x		x	x	x		x	x		
Barges					x	x		x	x	x	x
8. Retrieval											
Flat raft		x			x	x	x	x	x		
Bundle boom				x	x	x		x	x		

Source: Duval and Slaney (1980; 16).

> logs in sea water for longer than 60-90 days. The question remains as to whether the main reason given for storing logs in brackish water is valid for all estuaries.

An increasing problem that the forest industry is encountering in its attempts to secure shore zone lands for log handlng is the requirement for upland owner's consent. This is essentially a legal issue which will be discussed in the next section. The significance of this issue is that with increasing residential development of shoreland areas it is becoming more difficult for forest companies to obtain the needed consent.

Log-handling activities may affect the physical environment in a number of ways. The type of log-handling activity occurring at the site is one of several factors affecting the magnitude of these effects (Duval and Slaney, 1980; 143-144):

> The most significant impacts associated with all phases of log-handling are those resulting from bark and debris accumulations, substrate disturbances, and potential chemical effects. . . . In virtually all cases, the impacts of log handling on marine flora and fauna are either related to the number of times that logs are dumped and retrieved from the water, or the location of log handlng sites over shallow water, particularly the intertidal portions of estuaries.

The perceived impacts of these effects on other coastal resource users has important implications for the range of interests that may become involved in the review of coastal log-handling applications.

THE INSTITUTIONAL SETTING

The institutional setting includes both a legal framework that establishes the proprietary and legislative rights of different levels of government, and an administrative stucture that establishes the organization of agencies involved in decision making. The authority to allocate shore zone lands is determined largely by the distribution of proprietary rights over natural resources. However, these decisions may be affected by certain government regulations made pursuant to statute law. Decisions regarding intertidal or submerged lands may also be affected by certain riparian property rights under common law.

THE LEGAL FRAMEWORK

Jurisdiction is a primary factor in determining the extent to which either Canada or British Columbia may become involved in managing shore zone lands or regulating log-handling activities. An important aspect of jurisdiction is the scope of authority given to enact legislation and regulations. Although the Interim Guidelines are an administrative policy of the Ministry of Lands, Parks and Housing, they are based on specific statutes relating to matters within the Province's jurisdiction. The Interim Guidelines are also based, to some extent, on concerns within the scope of federal jurisdiction and legislation.

The general limits to federal and provincial powers are established constitutionally under the British North America Act (1867).[1] Specific jurisdictional boundaries have been defined judicially with legal doctrines that apply to how this Act is interpreted. There are two basic parameters that determine jurisdiction: ownership of resources and legislative authority (Thompson and Eddy, 1973; 74).

British Columbia owns the majority of Crown lands and natural resources within its boundaries. Under sections 117 and 109 of the B.N.A. Act, the provinces received ownership of all public property that they owned prior to Confederation, including land and mineral resources.[2] The scope of resource ownership by the federal government is much narrower in extent, being limited under section 108 to public works and property enumerated in the Third Schedule to the Act. These include canals, public harbours, military roads, and lands set apart for general public purposes.[3]

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[1]This Act was renamed the Constitution Act of 1867 by the Canada Act of 1982.

[2]Ownership of land generally includes timber, wildlife, and water resources (La Forest, 1969).

[3]The federal government also owns certain lands acquired by consitutional transfer, such as lands that have since been designated as national parks, lands that have been purchased or expropriated, defense lands, and Indian lands (Ince, 1977; 8-13). Defense lands and Indian lands are significant in the shore zone as many headlands are defense lands and a large proportion of lands adjacent to river estuaries are Indian lands.

Ownership of lands under marine waters is a particularly complex issue and has been determined largely by judicial interpretation of the B.N.A. Act, and by formal agreements between the federal and provincial governments. Several prima facie rules exist respecting the ownership of intertidal and submerged lands (La Forest and Associates, 1973; 239-241). First, private property rights to areas of land adjoining tidal waters normally extend seaward only to the ordinary high-water mark (Figure 3.5). Where ownership extends below the high-water mark, it is the bed, not the water that is the subject of ownership. Second, the area of intertidal or foreshore lands that lie between the ordinary high and low-water marks belongs to the province. However, the foreshore belongs to the federal government in public harbours (La Forest and Associates, 1973; 240-241).[4]

Considerable debate has occurred regarding ownership of the seabed below the low-water mark. In British Columbia, the issue was considered in Reference Re Ownership of Offshore Mineral Rights (1968, 65 D.L.R. 2d; 353) where the Supreme Court of Canada held that the lands, including the mineral resources of the seabed and subsoil, seaward from the ordinary low-water mark to the outer limit of the territorial sea are the property of

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[4]In British Columbia, this was clarified by the Six Harbours Agreement of 1924 which gave the federal government exclusive proprietary jurisdiction over the Esquimalt, Victoria, Nanaimo, Alberni, New Westminster, and Burrard Inlet harbours. Under this agreement, the province retained all ungranted foreshore of tidal or nontidal waters and all lands covered with water (Canada and B.C., 1978, vol.7; 8).

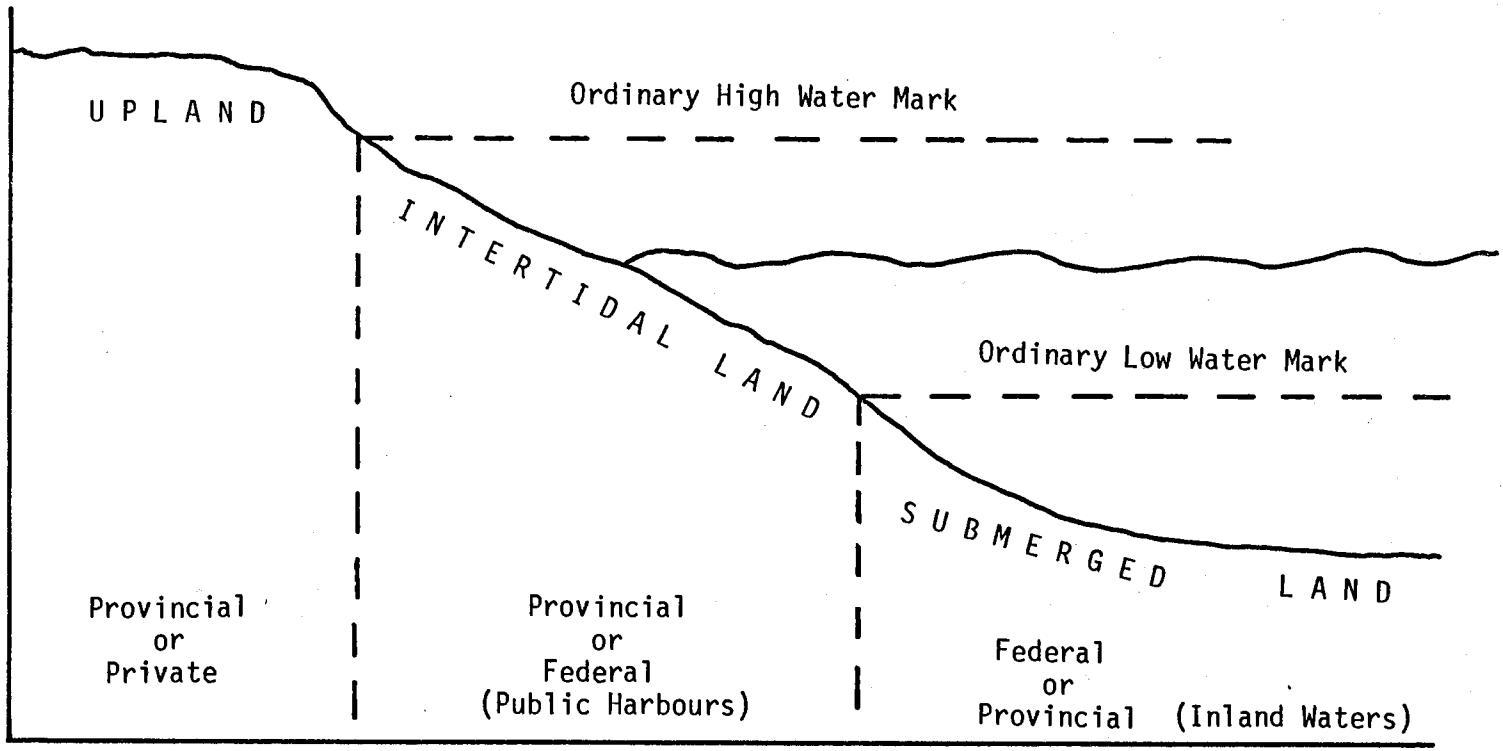

Figure 3.5 General ownership of shore zone lands and jurisdictional boundaries. Source: After Hershman (1977; 582).

the federal government. However, British Columbia's claim to offshore minerals has not been dropped as a result of this decision. A second point of debate has arisen because the Supreme Court was asked to limit the scope of its decision to lands outside of "inland waters". Inland waters are generally acknowledged to be the territory of the adjoining province and refer to harbours, bays, landlocked seas, straits, and gulfs (Ince, 1976; 32).[5]

Ownership of shore zone lands may be granted to private interests. Very little land lying below the ordinary high water mark in British Columbia is owned in fee simple. In the case of lands adjoining water, the private owner obtains certain property rights under common law known as riparian rights (Redel, 1967). These rights cannot be overriden unless a statute is established for this purpose.

The riparian right of access to and from the shoreline is a significant factor limiting the sites available for locating log-handling activities (La Forest and Associates, 1973; 201):

> On the sea and in other tidal waters this involves the right to go on shore, i.e. the land between high and low water mark. . . .No one, not even the Crown, can erect any structure on the shore or otherwise permanently obstruct a riparian owner's right of access. For example, a permanent boom of logs in front of a riparian owner's land or a neighbouring wharf that blocks access would entitle him to a right of action.

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[5]The term 'inland waters' was specifically defined by the British Columbia Court of Appeal to include the Strait of Georgia in Reference Re: Ownership of the Strait of Georgia and Related Areas (1976, 1 B.C.L.R. 97); however, the issue is again before the Supreme Court of Canada and is still subject to interpretation.

For this reason, applicants wishing to lease intertidal or submerged lands from the provincial government are required to obtain the upland owner's consent prior to approval of a lease application. This requirement presented difficulties in relocating log storage leases in the Nanaimo River Estuary. The problem was summarized as follows (Canada and B.C., 1980a; 19):

> The increasing use of the southern Georgia Strait region through subdivision of shoreline lots, as well as increasing recreational use of water, aquaculture and oyster farming, which also concentrates in shelterd areas, is a continuing trend which is having the effect of making it more difficult to ensure that strategic locations continue to be available for log storage for the forest industry. Should any one of the upland owners in a strategic location refuse their permission for use of the foreshore or demand an unreasonable price, that owner can effectively prevent the use of that area for log storage or even for improvements such as buildings, required for other uses such as management of oyster leases.

The legislative authority to regulate the use of shore zone lands is conferred directly by ownership.[6] In the case of the federal government, legislative authority is reinforced by section 91 of the B.N.A. Act which gives Parliament the powers to enact laws regarding "public debt and property". Under section 92 of the Act, the provinces are given the power to enact laws regarding "the management and sale of public lands belonging to the province".

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[6]Ownership also confers matching executive powers enabling either level of government to sell, mortgage, lease, license, or manage its respective public property without the need for legislation where no legislative or constitutional restrictions exist (Hogg, 1977; 392-393).

The use of shore zone lands for log handling may also be affected by regulations made under other areas of legislative power not directly related to ownership. These powers are listed in sections 91 and 92 of the B.N.A. Act for the federal and provincial governments respectively. The most relevant areas of provincial legislative authority are the powers to regulate "property and civil rights in the province" and "generally all matters of a local or private nature in the province". These powers enable the Legislature to control the use of almost all lands within the British Columbia (Ince, 1977; 6). Relevant areas of federal legislative authority include "navigation and shipping", "sea coast and inland fisheries", "Indian Lands", and "criminal law". The most important is jurisdiction over fisheries. This gives Parliament the powers to regulate activities, such as log handling, which may impact on this resource. All residual powers of legislation are generally considered to belong to the federal government by virtue of the "Peace, Order and Good Government" clause of the preamble to section 91.

A number of factors complicate the jurisdictional context (Gibson, 1973). First, the general language used in the B.N.A. Act to describe federal and provincial powers has made it difficult to define jurisdictions precisely and has resulted in some jurisdictional overlaps between the two levels of government. Second, either level of government may delegate

functions to the other or to subordinate bodies.[7] Interjurisdictional immunity, or the inconsistency of senior level government activities with the regulations of lower level governments, is a third complicating factor that has been recognized as limiting the effectiveness of coastal resources management (Shapiro, 1979; 1013).[8]

Jurisdictional powers, both proprietary and legislative, enable the federal and provincial governments to enact statutes or subordinate legislation which can be used to regulate the use of provincial Crown land for log-handling activities. A local government may also introduce regulatory bylaws under its delegated jurisdiction over property and land use. Consequently, a large number of statutes and regulations are relevant to the decision context.[9]

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[7]A relevant example in of both cases is fisheries. An overlap exists between the federal government's legislative jurisdiction over fisheries and the Province's proprietary jurisdiction over fish as a consequence of owning the beds of water courses and intertidal foreshore. The federal government has delegated its responsibility for management and protection of resident sport fish, steelhead, and coastal cutthroat trout to British Columbia (Canada, Department of Fisheries and Oceans, 1981; 28).

[8]It is within the powers of the federal government to enact a law that overides a provincial law and provincial govenments are immune to local government regulations simply because the latter are creatures of the province (Hogg, 1977; 92-94).

[9]These have been reviewed by several authors: a broad outline of legislation relating to coastal resources and activities in general is provided by Canada and British Columbia (1977; 17-40); specific legislation relating to salmon protection and the coastal forest industry is outlined by Dorcey, McPhee, and Sydneysmith (1980); comprehensive descriptions of relevant legislation are provided by Ince (1976 and 1977); and the complexity of legislation between federal and provincial governments in relation to coastal zone management is discussed by Johnston (1975).

The allocation of provincial Crown land, including intertidal and submerged lands, is generally regulated by procedures established under the Land Act (R.S.B.C. 1979, c. 214) and the Ministry of Lands, Parks and Housing Act (R.S.B.C. 1979, c. 277). Both Acts are administered by the Ministry of Lands, Parks and Housing and give the Minister powers to dispose of Crown land (c. 214; s. 8 and c. 277; s. 9).[10] The former is based on a number of ordinances and proclamations issued by Govenor James Douglas between 1858 and 1864, together with subsequent revisions and amendments (Cail, 1974; 244). It was revised substantially in 1970 to streamline procedures (B.C. Department of Lands, Forests and Water Resources, 1971; 20) and was consolidated in 1979. The latter statute was introduced in 1979 when the Ministry was formed.

The primary purpose of the Land Act is to enable the Minister to administer all Crown lands except those that are specifically under the administration of another ministry, branch, or agency of government (s. 4). In addition to the powers to dispose of Crown land, the Land Act gives the Minister certain powers regarding the unauthorized use and trespass of Crown lands and establishes procedures for surveying Crown land (Ince, 1977; 189-201). Under the Land Act, the Minister may dispose of Crown land using one of four procedures: receipt of an application; public notice of tender; public auction; or

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[10] A disposition is an action which either transfers or creates an interest in Crown land and is synonomous with the term allocation (B.C., Ministry of Lands, Parks and Housing, n.d.).

public drawing of lots (s. 8(1)). The Act does not specify the circumstances under which different procedures should be used. However, under Ministry policy, intertidal and subtidal lands are distinguished as "undeveloped Crown land" and are generally disposed of pursuant to an application being received.

The Minister has a number of powers that relate specifically to the application procedure. He may permit an applicant by letter of consent to (s. 10(a)):

> . . . occupy Crown land for a period not exceeding one year to conduct appraisals, inspections, analyses, inventories, surveys or other investigations of the land or of its natural resources.

This permit may be necessary to enable the applicant to meet requirements to obtain ". . . at his own expense, feasibility studies, environmental assessments, or other information about the application. . ."(s. 31(1)). The Minister may also permit applicants to occupy Crown lands ". . . for a period not exceeding 6 months for any purpose authorized under this Act" (s. 10(6)). Letters of consent are issued under this section for temporary log storage over Crown lands. The Minister may require an applicant to publish a notice of his application (s. 29), pay the anticipated cost of making the disposition (s. 31(3)), or deposit a performance bond to meet various obligations and requirements prescribed by the Minister (s. 32). The latter regulation is used to require forest companies to post a bond to pay the costs of clean up in the event that a log-handling site is not left in a "clean, safe, and sanitory condition" when the site is abandoned.

The Minister may issue several types of tenure under the Land Act, including: a certificate of purchase and subsequent Crown grant where Crown land is sold; a lease; a right of way or easement; or a licence of occupation (s. 8(2)). With each of these the Minister may impose terms, covenants, stipulations, and reservations he considers advisable (s.8(3)). The Act limits the use of Crown grants by stating that Crown land below the natural water boundary shall not be disposed of except by Order-in-Council (s. 14). Under Ministry policy three types of tenure are generally issued in relation to coastal log-handling applications: lease; licence of occupation; and letter of consent.

The power to withdraw Crown lands from disposition on a temporary basis is also provided (s. 12). For example, this power was used to place three-year moratoriums against log-handling developments in Baynes Sound (B.C., News Release No: 80-99) and Robson Bight (B.C.,News Release No: 81-10). If longer periods are required, Crown lands may be reserved from disposition by Cabinet (s. 11). The Minister may also designate the most desirable use for a specified area of Crown land and withdraw it from disposition except for that use (s. 13). This is the basis for the Ministry's Crown land planning programme and has been used to designate Crown lands for log storage purposes in a number of cases (B.C., Ministry of Lands, Parks and Housing; 1980d). Finally, Crown lands may be prohibited by Order-in-Council from specific types of use under section 61.

Despite the extensive provisions of the Land Act for disposing of Crown land, the provincial government duplicated these powers when it introduced the Ministry of Lands, Parks and Housing Act in 1979. The following is stated in Section 9(1) of the Act:

> 1) Notwithstanding the Land Act but subject to section 47(1) of it, the minister may on terms and conditions he considers appropriate,
>
> a) Dispose of Crown land and establish procedures regulating its disposition;
>
> b) provide in an agreement for the disposition of Crown land, . . .;
>
> c) direct to what extent a procedure established under this Act is to affect an application under the Land Act.

However, as a matter of policy, it is the Land Act which is used to allocate shore zone lands for coastal log handling.

The Land Act specifies that the Minister should make decisions regarding dispositions of Crown land ". . . as the minister considers advisable in the public interest" (s. 8(1)). The Land Act does not define what the public interest is or how it should be measured. This is left to the Minister and in effect depends on how the public interest is defined by Ministry of Lands, Parks and Housing policy.

A number of other provincial statutes are significant in regulating provincial Crown lands or coastal log-handling activities. The key provincial legislation and their relevant sections are listed in Table 3.3. The Environment and Land Use Act (R.S.B.C. 1979, c. 110) overrides the Minister's powers to dispose of Crown land under the two previously discussed Acts

TABLE 3.3 FEDERAL LEGISLATION

Statute and Administering Agency	Relevant Sections	Significance
Fisheries Act (R.S.C. 1970, c. F-14)	S. 34 - Authority to establish regulations. S. 31(1) - Works or undertakings that may result in the S. 33(2) harmful alteration, disruption, or destruction of fish habitat in waters frequented by fish may be prohibited. S. 33.1 - Persons proposing works or undertakings that are likely to result in either pollution of waters frequented by fish may be required to provide the Minister with plans or other information relating to the work or undertaking or water place, or fish habitat that is likely to be affected. S. 33.1(2) - After reviewing information provided by the proparent, the Minister may order modification to the proposal or restrict the operation.	The British Columbia Fishery (General) Regulations (C.R.C., c. 840) have been established pursuant to section 34 and relate specifically to regulating log-handling activities. Section 35(1) of the regulations state: Where, in the opinion of the Minister, any waters or spawning grounds frequented by fish would be so obstructed, polluted or damaged by placing, driving, towing, booming or otherwise releasing logs therein ... the Minister may, by order, prohibit, or prescribe conditions on placing, driving, towing, booming or otherwise releasing logs in those waters or spawning grounds ... . This regulation was amended in October 1981 to include "storing of logs" (S. O.R. 81-885) and has been used to prohibit log-handling activities in a number of rivers and lakes, and in Cowichan Bay (British Columbia logging Order C.R.C., c. 842).
Navigable Water Protection Act (R.S.C. 1970, c. N-19)	S. 5(1) - Developments or works which will affect the navigability of waters must be approved by the Minister of Transport. S. 19 - Prohibits the deposit of any sawdust, edgings, slabs, bark, or like rubbish that is likely to interfere with navigation in any water.	Applies to all manner of log-handling activities that involve the use of navigable waters. Proposed developments requiring approval include any work, in, upon, over, under, through, or across a navigable water.
Ocean Dumping Control Act (S.C. 1974-75, c. 55)	S. 5 - Requires that persons obtain a permit from the federal minister of Environment in order to dump any substance from ships, aircraft, platforms, or other man-made structures at sea. Requires that no person shall load on any ship or aircraft, for the purpose of dumping any substance extept in accordance with the terms and conditions of a permit.	Many forest companies are required to obtain permits for log-handling related dredging and dumping activities (Dorey, McPhee and Sydneysmith, 1980; 83).

and has been used to regulate log-handling activities on an area-wide basis. Local government bylaws established pursuant to the Municipal Act (R.S.B.C. 1979, c. 290) and the Islands Trust Act (R.S.B.C. 1979, c. 208) may also regulate log-handling activities on an area-wide basis. Regulations under the Pollution Control Act (R.S.B.C. 1979, c. 332) apply to all log-handling activities involving the disposal of bark or wood debris.

Relevant federal legislation is listed in Table 3.4. The Fisheries Act (R.S.C. 1970, c. F-14) is a most important statute that provides a strong mandate for federal involvement in the review of coastal log-handling applications. The Navigable Waters Protection Act (R.S.C. 1970, c. N-19) and the Ocean Dumping Contol Act (S.C. 1974-75, C. 55) are also relevant, although the scope of federal concern related to these two statutes is much narrower in extent.[11]

In summary, a number of conditions important to decision making are determined by the legal framework of the institutional setting. The provincial government owns those foreshore lands between the ordinary high and low-water marks, except where they have been designated as public harbours. It also owns those lands defined as inland waters. Private

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[11]Section 4(1) of the Ocean Dumping Control Act was declared ultra vires in R. vs. Crown Zellerbac Canada Ltd., B.C. Provincial Court at Port Hardy, May 26, 1982. The case concerned a lease from the Ministry of Lands, Parks and Housing at Beaver Cove for operation of a log dump, sort, and booming ground (Field, 1982; 4-6).

TABLE 3.4 PROVINCIAL LEGISLATION

Statute	Relevant Sections	Significance
Environment and Land Use Act (R.S.B.C. 1979, c. 110)	S. 6 - Has been used to introduce environmental impact assessment regulation: Cowicham River Estuary (B.C. Reg. 486/77) Fraser River Estuary (B.C. Reg. 202/77)	These regulations require that foreshore leases not be issued until an environmental impact assessment is reviewed and approved by the Minister of Environment. Consequently, the allocation of basin lands in these areas is controlled by the Minister of Environment, despite the provisions of the Land Act.
Municipal Act (R.S.B.C. 1979, c. 290)	S. 716(1)(6) - Gives municipal Councils the powers to regulate by zoning by-laws the use of land, including the surface of waters, and prohibit particular uses in specified zones.	Log-handling activities, such as dumping and sorting, are generally required to be located in an area zoned for industrial use.
	S. 814(1) - Regional Boards are also given these powers for unorganized territories; however, by-laws must be approved by the Minister of Municipal Affairs unless the Regional Board has adopted an official settlement plan approved by the Minister (S. 809(9)(a)).	Jurisdictional boundaries of local governments are established independently by Letters of Patent and usually extend 500 to 1,000 feet from shore for most Regional Districts and Municipalities (Dorey, McPhee, and Sydneysmith, 1980;89).
Islands Trust Act (R.S.B.C. 1979, c. 208)	S. 4(1) - Establishes a special form of local government to "... preserve and protect ... the trust area and its unique amenities and environemnt ....".	The trust area includes all islands extending from Saturna Island in the south to Hornby Island in the north, and those in Howe Sound (Schedule A).
	S. 4(2)(6) - The trust has a number of advisory functions, including "... to make recommendations to Cabinet respecting the acquisition, use, and disposition of Crown lands within the trust area.	Provides an avenue of appeal regarding dispositions made under the Land Act.
		Regional Boards and municipal Councils are prohibited from passing or issuing permits not in accordance with by-laws of the trust.
	S. 4(2)(h) - The trust has all the powers of a municipality or regional district for enacting zoning by-laws and adopting official plans.	
Pollution Control Act (R.S.B.C. 1979, c. 332)	S. 4(1) - Prohibits the direct or indirect discharge of waste material on, in or under land, or into water without a permit or approval from the Director of Pollution Control.	Applies to bark or wood bebris or other wastes that might result from log-handling activities.

ownership of lands adjoining tidal waters normally extends only to the ordinary high-water mark, although these property rights include the riparian right of access to and from the shore. Jurisdiction overlaps in some areas and is further complicated by delegated authority and interjurisdictional immunity. Two statutes were identified that provide the Minister with the powers to dispose of Crown land. However, as a matter of policy the Land Act is the relevant statute under which coastal log-handling applications are processed. The Act also specifies that the "public interest" be considered when making dispositions. The agency administering this statute, in addition to the agencies which administer the several other statutes that are significant in regulating provincial Crown lands or coastal log-handling activities, comprise the administrative structure of the institutional setting.

THE ADMINISTRATIVE STRUCTURE

Over 75 percent of the log-handling leases on the British Columbia coast are administered directly by the Ministry of Lands, Parks and Housing (Table 3.5). This agency's prominent role in administering shore zone lands stems from the existing legal framework discussed in the preceding section. The majority of intertidal and submerged lands in demand for coastal log-handling purposes are owned by the provincial government and most of the provincial Crown lands available for disposition are administered by this agency under the authority of the Land Act

Table 3.5

AGENCIES ADMINISTERING LOG-HANDLING LEASES[a]

Agency	Area (Hectares)	Number of Responses[c]	% of Area	No. of Leases
Lands, Parks and Housing	7030.09	456	78.5	596
[b](Fraser River Harbour Commission	679.54	88	7.6	146
[b](Port Alberni Harbour Commission	443.33	12	5.0	29
[b](Canadian Northern Railway	35.49	2	0.4	4
[b](North Fraser Harbour Commission	473.99	75	5.3	130
Ministry of Transport	86.52	10	1.0	16
National Harbours Board (Vancouver)	44.72	7	0.5	7
Pacific Logging Company	24.28	1	0.3	1
Nanaimo Harbour Commission	138.73	11	1.5	14
TOTAL	8955.45	662	100.1	943

Source: McDonald, Sinclair, and Tse, 1980; 89.

[a] Information based on a questionnaire survey of 187 out of 283 companies (66% response).

[b] Information may be slightly in error because of inaccurate responses.

[c] 80% of responses concerned single leases; 10% concerned groups of two leases; 10% concerned groups of 3 or more leases to a maximum of 11.

and the Ministry of Lands, Parks and Housing Act. The mandate of this Ministry is listed in section 5 of the Ministry of Lands, Parks and Housing Act as follows:

1) To administer the Crown land resource of the Province;
2) to encourage outdoor recreation, establish parks and conserve the natural scenic and historic features of the Province;
3) to undertake programmes relating to the provisions of housing in the province; and
4) to administer and enforce safety standards prescribed under section 11 respecting recreational activities and services on Crown land.

A summary of the Ministry's mandate respecting the administration of the Crown land resource is provided as follows:

> . . . management and allocation of Crown lands in the Province of British Columbia to ensure the maintenance and improvement of a quality system of parks and the encouragement of the best use of Crown land for agriculture, residential, industrial, commercial and recreational opportunities within the Province of British Columbia (B.C., Ministry of Lands, Parks and Housing, 1980a; 8).

The organization of the Ministry of Lands, Parks and Housing in 1980 is outlined in Figure 3.6. The two divisions involved in making dispositions of Crown land are the Regional Operations Division and the Program and Management Services Division. The Regional Operations Division is organized into eight administrative regions that are further subdivided into districts. The four regions in which the Interim Guidelines were implemented are shown in Figure 3.7. Regional Directors report directly to an Assistant Deputy Minister and each regional office has two main programme components: land

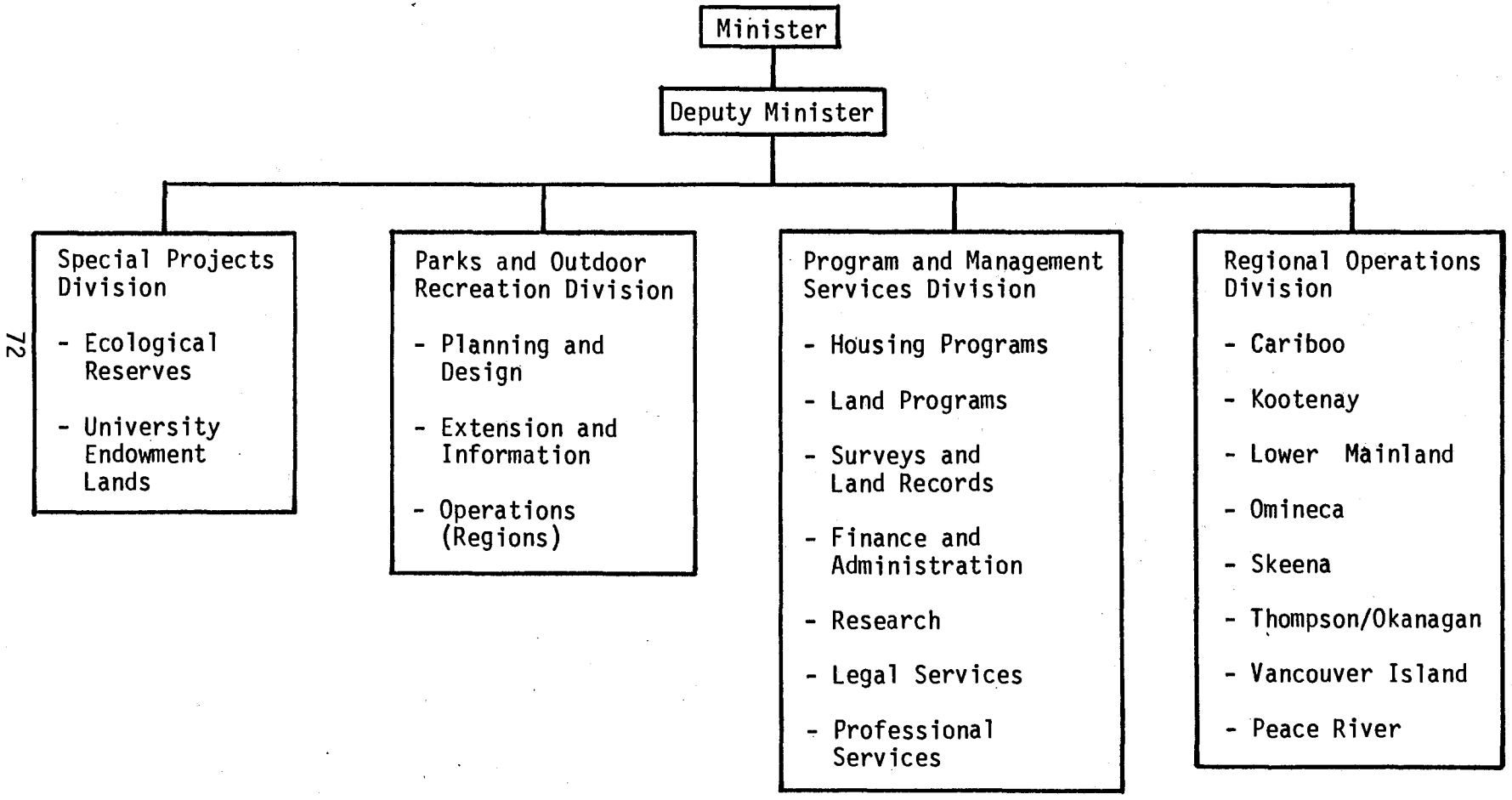

Figure 3.6 Organization of the Ministry of Lands, Parks and Housing.
Source: Ministry of Lands, Parks and Housing Forum 2(October 1980)4:3-4.

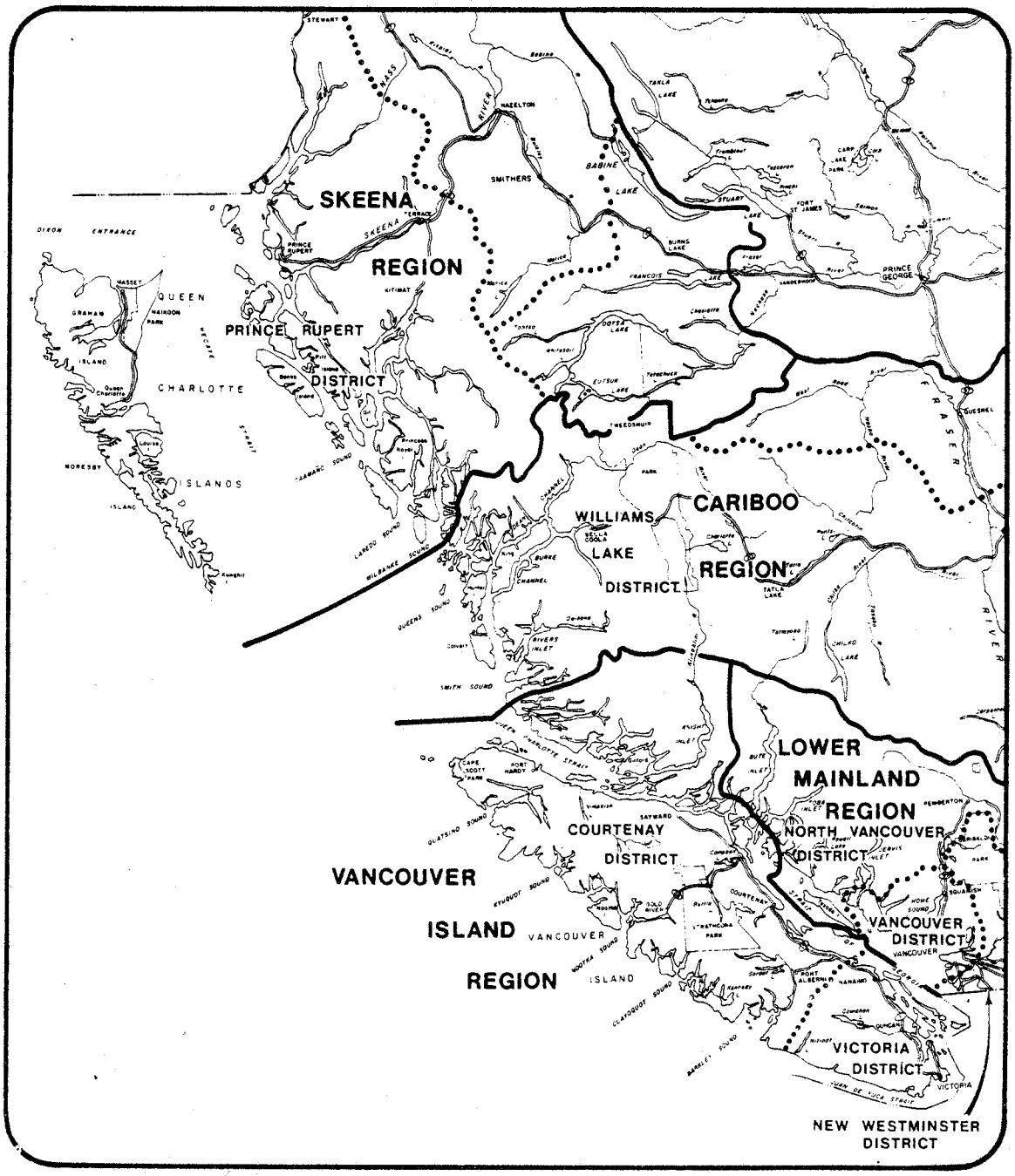

Figure 3. 7 Ministry of Lands, Parks and Housing regions affected by the Interim Guidelines. Source: Wilson (1980; 7).

administration; and development and housing. District Managers report directly to their respective Regional Managers and are assisted by Technical Land Officers to undertake land inspections and evaluations, determine land suitability, and perform related functions such as planning (B.C., Ministry of Lands, Parks and Housing, 1980; 95). The Program and Management Services Division is based in Victoria and provides a broad range of supporting services to the regional offices. Most important is the Land Programs Branch which develops Ministry policy and procedures regarding the planning and disposition of Crown land. This group was responsible for developing the Interim Guidelines and coordinating their implementation.

Federal Harbour Commissions also administer a significant proportion of shore zone lands used for coastal log-handling (Table 3.5). Some of these lands are federally owned including intertidal lands in public harbours and "railway belt" lands under the Fraser River. However, a considerable proportion of these lands are provincially owned and are administered under "head leases" from the Ministry of Lands, Parks and Housing. Although the provincial government may attach a variety of conditions to these leases, the Harbour Commissions are in general given wide discretion in administering provincial Crown lands. At present, Harbour Commissions are not required to adopt Ministry policies such as the Interim Guidelines.

The federal Department of Fisheries and Oceans is a key federal agency that is responsible for administering the

Fisheries Act (R.S.C. 1970, c. F-14). The Field Services Branch is most relevant as it is responsible for stock and habitat management. Fisheries officers are employed in the field to enforce various regulations within their respective administrative districts. The Habitat Protection Division is based in Vancouver and provides technical support and policy direction to Fisheries Officers. Coastal log-handling applications are normally reviewed by Fisheries Officers, but may be forwarded to the Habitat Protection Division for more detailed review.

The Department of Transport is responsible for administering the Navigable Waters Protection Act (R.S.C. 1970, c.N-19). Approvals required under the Act are handled by Navigable Waters Protection Officers based in the Vancouver headquarters of Coast Guard Canada. Coastal log-handling applications may be referred to this agency for comment. Enforcement of the Act depends to a large degree on information provided by harbour masters, Coast Guard vessels, and other government agencies.

The provincial Ministry of Environment is frequently involved in reviewing coastal log-handling applications because of its responsibility for administering marine resources and maintaining a quality habitat for people, wildlife, and fish. This Ministry administers a number of statutes including the Pollution Control Act and the provincial Fisheries Act. The former is administered by the Waste Management Branch which may

be asked to comment on coastal log-handling applications when disposal of wood wastes is necessary. The Fish and Wildlife Branch may be asked to comment on applications when fish or wildlife habitat is affected. The Marine Resources Branch is responsible for matters relating to mariculture and may become involved in reviews where these interests are affected.

THE POLICY SETTING OF THE MINISTRY

The decision-making powers conferred by the Ministry of Lands, Parks and Housing's enabling legislation are largely discretionary requiring consideration of a broad range of public interests in relation to the agency's statutory mandate. Within this broader context, decisions are made according to a set of policies known as disposition policies. A subset of these policies relates to the interaction between the Ministry of Lands, Parks and Housing and other regulatory agencies. These policies are distinguished as referral policies and include the set of procedures and policies that comprise the Interim Guidelines.

HISTORICAL OVERVIEW

The early history of Crown land disposal policies has been documented by Cail (1974). Prior to British Columbia entering Confederation in 1871, Govenor James Douglas issued a number of ordinances and proclamations between 1858 and 1864 that provided the basis for subsequent land disposal legislation. Government

concerns at this time focused on encouraging settlement, preventing speculation in public lands, and obtaining revenues to finance administrative costs. To this end, early legislation included five basic policies:

1) reserving to the Crown certain rights;
2) providing for the sale of land only by auction;
3) requiring prompt cash payment for the land;
4) surveying all land before sale; and
5) assuring beneficial use of the land before alienating it for any purpose.

These early objectives do not differ substantially from present day objectives. The mandate of the Ministry of Lands, Parks and Housing is still concerned with settlement although objectives have been broadened to include agriculture, residential, industrial, commercial and recreational needs. Revenues are also a significant concern. The policy of "assuring beneficial use of Crown land" remains entrenched in present policy. However, with increasingly limited land resources this policy has been refined to "encouraging the best use of Crown land". Implementation of this policy is the fundamental issue behind allocating Crown shore zone lands for use.

The history of Crown land administration has also been documented in a brief report by Pearson (B.C., Department of Lands, Forests and Water Resources, 1971). Significant events between the early years and the 1960's include the establishment of a Land Inspection Division in 1947 and the establishment of a waterfront policy in 1958. Prior to 1947, Crown lands were

administered primarily by foresters. The use of agrologists and land appraisers after this date indicates the recognition of different values regarding how Crown land should be used. The 1958 waterfront policy specified that all unreserved Crown land fronting on lakes, rivers, and the sea were to be disposed of by leasehold only. A primary value recognized under this policy was the recreational potential of these lands. This policy still exists today for shorelands that are within 100 metres of the average high-water mark of any waterway.

During the early part of the century, developments were localized and involved few resource use conflicts. Consequently, resource management agencies tended to pursue independent policies and programmes. This observation has been interpreted as a major factor leading to the lack of coordination and cooperation between resource management agencies that has become evident since the 1960's (Crook and Crook, 1976). The apparent need for interdepartmental coordination during the 1960's led to a number of different approaches for coordinating resource management agencies. In addition to the development of an elaborate referral system, regional administrators began to hold informal meetings to discuss resource conflicts. These "inter-sector group" meetings eventually led to establishment of Regional Resource Management Committees (B.C., Environment and Land Use Committee, 1977).

A third attempt at interdepartmental co-ordination and resource conflict resolution was the establishment of a Land Use

Committee by Order-In-Council under the Land Act in 1969 (B.C. Reg.185/69). The purpose in forming the Land Use Committee was stated as:

> . . . to encourage in a positive manner an overall land-use policy to accommodate and encourage the orderly and integrated use of Crown lands within the general concept of multiple use.

The Land Use Committee was composed of five resource Cabinet Ministers and eventually led to the establishment of the Environment and Land Use Committee under the Environment and Land Use Act in 1971.

CURRENT DISPOSITION POLICIES

The Ministry of Lands, Parks and Housing's current disposition policies reflect these early policies and the present mandate under the Ministry of Lands, Parks and Housing Act. Current policies are documented in a comprehensive procedures manual that is updated on an ongoing basis (B.C., Ministry of Lands, Parks and Housing, 1980e, vol. I). A summary of Ministry programmes and policies is provided by Battles (1979).

The methods of disposition and types of tenure available under the Land Act may be restricted by Ministry policy. A basic factor affecting the method of disposition used is whether the lands in question are classified as "market developed land" or "undeveloped Crown land". The former type of Crown land is planned for specific use and made available for immediate disposition by auction or lottery. All other unalienated Crown

land is referred to as "undeveloped Crown land" and is considered for disposition only after an application has been received. The Ministry places a priority on disposition of market developed land because this type of disposition may be directed to the specific needs of the public as identified through the Crown land planning process (B.C. Ministry of Lands, Parks and Housing, 1980e, vol. I, s. 4010; 1).

A second factor is whether the lands are "foreshore", "shoreland, or "upland". Foreshore lands include intertidal and submerged lands and and are classified as undeveloped Crown land. Consequently, foreshore lands are disposed of by application only. The type of tenure issued over foreshore lands is restricted by the Land Act to tenures other than Crown grants. Shoreland is upland within 100 metres of the high-tide mark and has a similar restriction imposed by Ministry policy. Upland includes all other lands. Although dispositions of shorelands for log-handling purposes are made by application only, shorelands may be disposed of as market developed land for purposes such as residential housing or recreational cottages.

Under Ministry policy, three types of tenure are issued in relation to coastal log-handling applications:

1) a lease may be issued only to the owners of the upland property, or to a third party where there is a written unconditional consent of the upland owner, usually for a 5-year period subject to a 5-year renewal;
2) a licence of occupation may be issued for temporary uses up to ten years; and
3) a letter of consent may be issued to authorize entry for any period up to 6 months.

Other types of tenure issued under the Land Act are listed by Block (B.C., Ministry of Lands, Parks and Housing, n.d.; 28-34).

The Ministry has two primary mechanisms for resolving conflicts over dispositions of Crown land. One is the Crown land planning process and the other is the application referral system. Referrals are usually unnecessary in cases where Crown land plans have been prepared. In these areas, resource agencies have already expressed their interests and certain lands will have been designated for specific uses. Adjudication of applications in this case will involve consideration of the Crown Land plan rather than referral comments.

Applications are referred to various resource agencies for comment where a Crown land plan does not exist. The Ministry of Lands, Parks and Housing distinguishes two types of interests when making referrals: primary referral agencies and secondary referral agencies. These may include federal, provincial, and local government agencies, as well as interest groups. An agency may be designated as a primary referral agency if they possess either of the following:

1) a statutory mandate for approval of the proposed use or some component of development of the land for a proposed use, or
2) a statutory mandate for management and/or planning of one or more land-based resources.

Secondary referral agencies are designated for the following reasons:

> . . . the effect of a proposed use on an agency's jurisdiction, resource interests, and/or planning or management mandate in the subject area.

The Ministry of the Environment has been designated as a primary referral agency in each administrative region of the Ministry of Lands, Parks and Housing.

Applications are referred to these agencies using a Land Referral Form (Appendix 2). Referral agencies are asked to make comments on applications and recommend either no approval, approval subject to conditions, or approval and substantiate any recommendations on the basis of the agency's legislative mandate, the official policy of government, or the general interests of the agency.

Progress of referrals is recorded using a Referral Summary Report Form. Referrals are consolidated by the District Manager who may make an inspection of the application area prior to preparing a summary report and recommendation to the Regional Director. The decision taken by the Regional Director is generally based on the following considerations:

1) existing applicable policy of the Ministry;
2) comments from primary and secondary referral agencies;
3) field inspection notes of the district land officer(if applicable);
4) analysis of information received;
5) description of negotiations to alleviate concerns or resolve interagency conflicts, if any;
6) recommendations, with any attached conditions, reasons, etc.;
7) attachments, including copies of referral agency comments.

Agency objections or interagency conflicts may be accepted, overruled, or negotiated. Approval of regional districts with

respect to by-laws or official policy must be obtained prior to the approval of an application. Applications where conflicts have not been resolved may be passed upwards in the administrative framework to the Regional Director, Regional Resource Management Committee, or Assistant Deputy Minister, Regional Operations Division, for adjudication.

A third mechanism for resolving conflicts over dispositions of Crown land is protocol agreement between resource agencies. Under the Ministry of Lands, Parks and Housing Act, the Minister has the specific powers to enter into agreements with the federal government, other provincial government agencies, local governments, and any other persons (R.S.B.C. 1979, chp. 277, s. 6.). Protocol agreements are also termed "memoranda of understanding" and have been used to clarify working relationships and divisions of responsibilities with other agencies and are presently being prepared with all primary referral agencies. These agreements will specify ". . . the type of referrals to be made, the means and need for informing agencies of decisions, the means of evaluating agency comments, and the means of resolving conflicts" (B.C., Ministry of Lands, Parks and Housing, n.d., vol.I; 2).

THE CROWN LAND APPLICATION PROCESS AND THE INTERIM GUIDELINES

The major features of the Interim Guidelines are outlined and compared briefly to the former application process in Figure 1.1. The primary differences between the two are the manner in which applications are reviewed, and the type of information that the applicant is required to provide. The basic procedures of the application process are stated in Part 3 of the Land Act and in Section 4 of Land and Housing Policy and Procedures (Series II, Vol.I). These procedures are supplemented by the policy and procedures outlined in Interim Guidelines for the Review and Processing of Coastal Log-Handling Applications (1980).

A generalized flow-diagram of the former application process, which still applies to applications for Crown land other than "coastal log-handling applications", is provided in Figure 3.8. Applications for Crown land must be submitted to land commissioners who are normally located in district offices (s.28(1)). A Land Commissioner may reject an application if the land is reserved from disposition or otherwise not available for disposition (s. 7(2)). Applications that are accepted must be noted in a register showing the application number, the applicant's name, and a short description of the Crown land applied for (s. 104(1)).

Information requested in the application form includes general information such as applicant's name and address, location and area of land, and purpose of application (Appendix

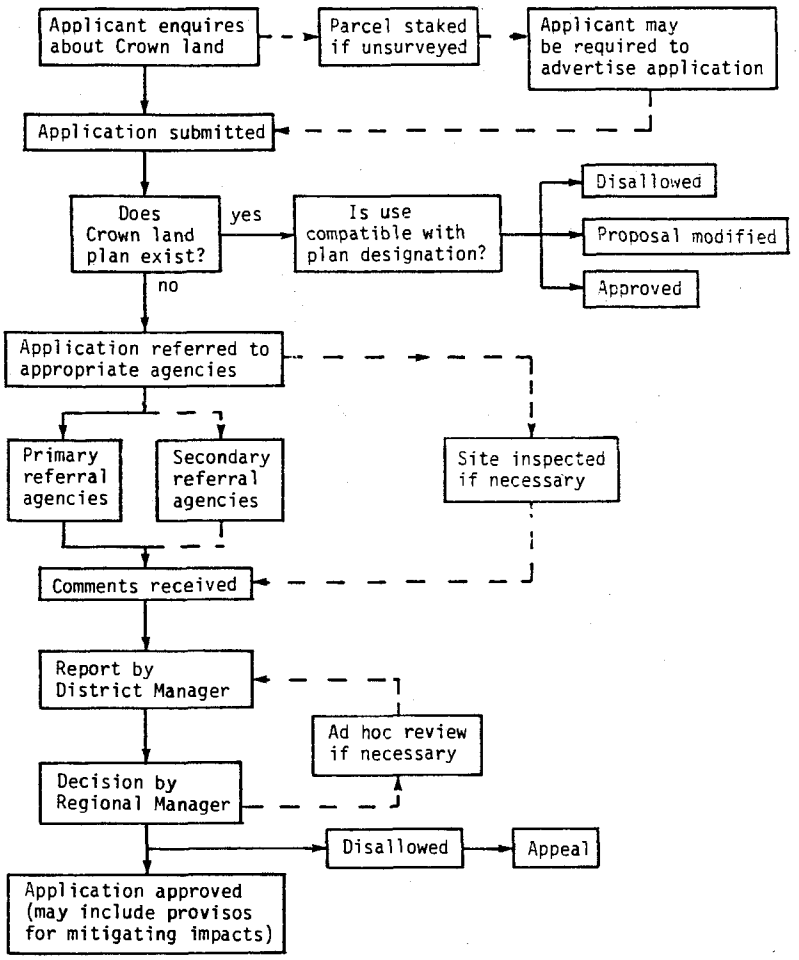

Figure 3.8 Crown land application process. After: B. C. Ministry of Lands, Parks and HOusing (1980e).

3). The form also requests applicants to attach a preliminary development plan and a map of the area. Applicants are usually required to publish a notice of the application in the Gazette and a local newspaper (s. 29).

The application is normally forwarded to the District Manager who is responsible for recommending a decision to the Regional Director. Where a Crown land plan does not exist, an application would be referred to appropriate referral agencies for comment and reply. At this stage, the District Manager may decide that a field inspection is necessary to obtain additional information.[1] An applicant may also be requested to provide additional information such as feasibility studies and environmental assessments. When all information has been received, including referral agency comments, field inspection reports, and applicant submissions, the District Manager prepares a summary report to the Regional Director recommending approval or disallowance. Approval may be conditional and normally includes provisos for mitigating impacts associated with the proposed use (s. 8(3)).

The Interim Guidelines apply to activities occurring both prior to, and after, submission of a coastal log-handling application. Activities leading up to adjudication of an application are also affected. However, existing opportunities for appealing a decision after adjudication are unchanged.

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[1]Field inspections are frequently undertaken by Technical Land Officers and may be conducted jointly with representatives of appropriate referral agencies.

The goal of the Interim Guidelines is stated as follows (B.C., Ministry of Lands, Parks and Housing, 1980a; 2):

> To provide guidelines for assessing foreshore log-handling applications in an efficient manner that ensures that Crown land is allocated and managed in a manner that optimizes the environmental, social and economic benefits to the residents of B.C. and recognizes the statutory responsibilities of other government agencies.

Several important principles are also specified (B.C., Ministry of Lands, Parks and Housing, 1980a; 2):

> The project proponent will be responsible for as many aspects of project review as is consistent with the Ministry responsibility for ensuring that decisions are made in the public interest.
>
> The guidelines are to provide a screening mechanism so that projects with no major impacts can be processed quickly and efficiently while those with major impacts receive an appropriate level of review.
>
> The intent of the guidelines is to ensure that approved projects will result in a net benefit to the residents of British Columbia. The process is based on an evaluation to the degree appropriate, of:
> - the environmental, social and economic benefits and costs; and
> - alternatives to the project or its proposed site,
>
> and thus identify what trade-offs are involved.

Two key changes are made to the former application process. First, the applicant is now required to develop and submit a propectus for review (Figure 3.9). Second, the Ministry may now choose, on the basis of the prospectus, between disallowance and three possible options for processing applications: a minor projects process, a regional review process, and a major review process.

The purpose of the prospectus is to introduce the proposed project to relevant government agencies and aid in determining

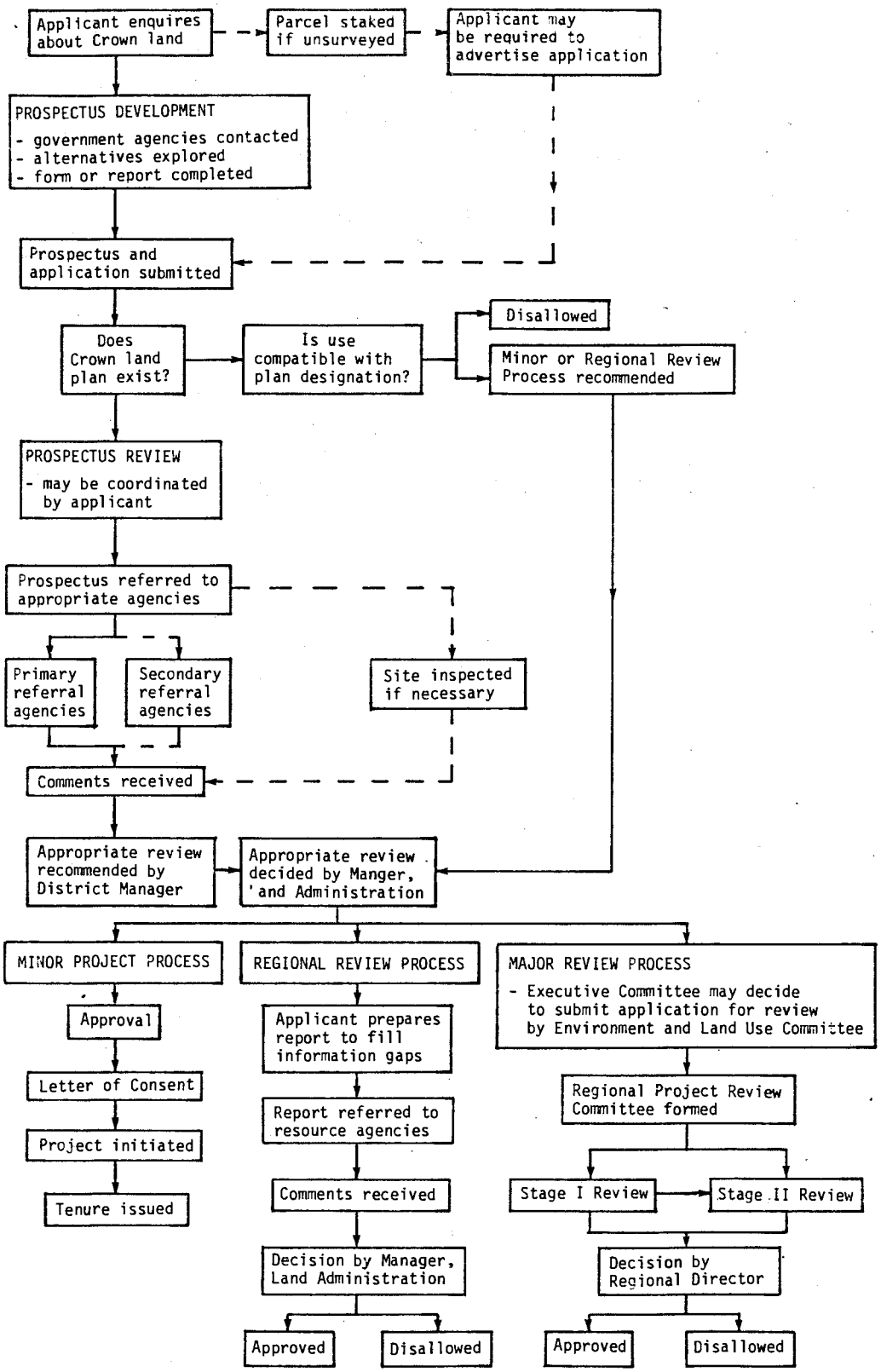

Figure 3.9 Interim Guidelines review process. After: B. C. Ministry of Lands, Parks and Housing (1980a).

the appropriate level of review for coastal log-handling applications. Two options are available to the applicant regarding the format of the prospectus. The applicant may complete a standardized checklist form (Appendix 4) or prepare a more detailed report. Both formats are intended to provide the following types of information:

1) justification of the project;
2) description of the project, including purpose, location maps, development plans, and legal status of the land;
3) description of alternative sites and modes of operation considered;
4) an indication of anticipated social and economic impacts;
5) a description of physical and ecological aspects of the site;
6) a description of possible environmental impacts;
7) a description of mitigation and compensation measures or further assessments which may be considered.

The Interim Guidelines require that the prospectus be referred to appropriate federal, provincial, and local government agencies for comment. The applicant has the option of coordinating this review and the District Manager may call an interagency meeting during the 30-day review period for the purpose of clarifying any questions concerning the proposed project. Referrals are not made where a plan has previously been prepared and proposals conflicting with an established plan may initiate review of the plan. After review comments have been returned, the District Manager prepares a report recommending whether the application should be disallowed or

proceed to the application processing stage. The District Manager also recommends whether the application should be approved for the minor projects process or receive additional review under either the regional review process or the major review process.

Applications proceeding under the minor projects process lead directly to the issuance of tenure without further assessment after the prospectus peview. The general intent of the minor projects process is to lead to:

> . . . the adjudication of an application in an efficient and effective manner while maintaining a rational and defensible basis for the decision (B.C. Ministry of Lands, Parks and Housing, 1980a; 19).

The regional review process provides an intermediate level of review where the applicant is required to supply information that was identified as missing in the prospectus review. This may involve additional studies focusing on information regarding predicted impacts, mitigation measures, and management strategies. This review process is coordinated by the Regional office and involves a second referral to appropriate agencies. Terms of reference for any required studies at this stage would be established through consultation between the applicant and referral agencies.

The purpose of the major review process is to provide (B.C. Ministry of Lands, Parks and Housing, 1980a; 27):

1) opportunities for senior policy involvement at key decision points;
2) a mechanism for the development of an information base required to ensure that the allocation of foreshore is in the public interest and that

appropriate management strategies are incorporated in the terms of tenure;

3) a factual basis for supporting any resource trade-off decisions which may be necessary.

The process may involve a two-stage review depending on the nature of the case. The primary difference between the regional and major review processes is that projects with a greater order of magnitude of perceived levels of impact and resource trade-offs are assessed in the major review process. A second distinction is that the major review process is more formal and involves establishing a Regional Project Review Committee for the purposes of reviewing Stage 1 and Stage 2 reports rather than using a referral system. Major projects may proceed directly to Stage II if no alternatives are available. The focus of studies and decisions involved in Stage 1 and Stage 2 are summarized in Table 3.6.

Changes to the Crown land application process that are introduced by the Interim Guidelines are significant adjustments to the policy setting of the Ministry and are related specifically to the application referral system. The requirement that the applicant submit a prospectus and the several options for reviewing coastal log-handling applications promise to improve the manner in which coastal log-handling applications are processed.

Any improvements to the Ministry's application review process would be significant in terms of the overall log-handling issue because over 75 percent of the log-handling leases on the British Columbia coast are administered directly

TABLE 3.6

INTERIM GUIDELINES ACTIVITIES AND MAIN CHARACTERISTICS

	Prospectus Development and Review Process	Minor Projects Process	Regional Review Process	Major Review Process
Overall Responsibility	District Manager	District Manager	Manager, Land Administration	Regional Director
Selection Criteria	All applications	No significant impacts	Information gaps identified	Major environmental impacts or resource conflicts, major capital expenditure, strategic to company operations, and/or political issue
Type of Review	Referral of prospectus package and optional interagency meeting	None	Referral of report on information gaps	Regional Project Review Committee formed and application proceeds to Stage I and/or Stage II review
Focus of Activities	Project justification and description of alternatives, impacts, site, and mitigation measures	Adjudication of application	Information gaps filled and stategies for mitigating impacts made	Stage I: Assessment of alternatives, impacts, and trade-offs. Information gaps filled and permit requirements identified. Stage II: Mitigation and management plans formulated, site-specific impacts and trade-offs identified, and tenure provisos drafted.
Decisions	Disallowed or proceed to minor, regional, or major review process	Tenure issued	Disallowed or approved	Proceed to Environment and Land Use Committee review or Stage I or Stage II review. Disallowed or approved

by the Ministry under the authority of the Land Act. This administrative responsibility stems from the considerable proprietary jurisdiction that the provincial government has over shore zone lands.

CHAPTER IV

EVALUATION RESEARCH METHODOLOGY

Evaluation studies are classified according to the subject addressed and the point in time at which they are undertaken. Subjects can include projects, plans, policies, or programmes, and any of these may be evaluated before or after decisions are taken regarding their implementation. Pre-decision or future-oriented evaluations are termed 'analysis' and tend to focus on the assessment of proposed alternatives Shick (1971; 60). An example is a study undertaken by Haynes et al. (1976) to evaluate alternative policies for managing the Texas coastal zone. The range of techniques used for this type of evaluation includes benefit-cost analysis, goals-achievement analysis, and engineering-economic analysis (Sewell, 1973). Environmental and social impact assessment is also related to this concern (Munn, 1975 and Finsterbusch and Wolf, 1977).

The term 'evaluation' is usually defined as being retrospective, focusing on the outcomes of past actions (Shick, 1971). This type of evaluation is often referred to as 'hindsight review' by geographers (Mitchell, 1977) and is more generally known within the field of policy analysis as 'evaluation research' (Weiss, 1972). It is distinguished from other types of applied social science research by its purpose. Rather than attempting to seek solutions to social problems,

evaluation research is concerned with assessing previously designed solutions (Smith, 1975; 294).

The implications of evaluation research for both natural resource management and geographical research have been reviewed by Mitchell (1979; 277) who suggested that:

> Evaluation research touches upon all of the major research traditions in geography in that resource decisions influenced by ecological, spatial, or regional analysis are amenable to evaluation.

Mitchell also noted that the existing body of work has developed little theory and has concentrated largely on the identification of critical variables. However, evaluation research is seen as having the potential to serve several resource management functions. In addition to improving the operation of policies, programmes, and projects which have already been implemented, evaluation research may serve to improve the conception, design, and implementation of future management approaches (Mitchell, 1979; 276-277).

The present status of evaluation research was reviewed by Freeman (1980; 17) who noted that the field has broadened from an earlier focus on methods to a more recent concern regarding policy relevance. The latter issue was stressed by Lowry (1980; 228) and Hoole and Friedheim (1978; 16) as an important factor to consider when evaluating coastal resources management programmes. Policy-relevant evaluation of coastal resources management programmes involves considering a number of questions aimed at anticipating the policy context in which evaluation results will be used (Lowry, 1980; 228-229):

1) Who will make policy decisions in regard to coastal zone management programs?
2) What policy decisions need to be made?
3) Do policy-makers require evaluative information to make the decisions?
4) Can this information be provided in time to be used in the decision-making process?

Programme evaluation has been required at the federal level for over a decade in the United States (Wholey, 1970). In Canada, programme evaluation has been implemented more recently as a result of the Treasury Board policy (1977-47) on "Evaluation of Programs by Departments and Agencies" (Jordan and Sutherland, 1979). This has led to requirements that federal departments and agencies develop the expertise to evaluate the effectiveness and efficiency of their programmes (Canada Treasury Board, 1981a and 1981b). Periodic evaluations of regulatory programmes have also been recommended by the Economic Council of Canada (1979; 78). A contentious issue is whether evaluations should be undertaken by internal staff, who are more familiar with existing programmes, or external consultants who may be less prone to bias conclusions.

The United States experience in evaluating coastal resources management efforts centres around requirements under the Coastal Zone Management Act (1972, as amended, s. 312) for review of state programmes (Lowry, 1981 and Knecht, 1981). However, a number of independent studies have also been undertaken. The California Coastal Zone Conservation Act (1972) was evaluated by Healy (1974) after its first year to determine its success at addressing issues such as beach access,

agricultural preservation, and development siting. Later evaluations of this Act focused on the affect of transferring development controls from local governments to regional agencies and state commissions (Sabatier, 1977 and Weschler and Rosentraub, 1977). Swanson (1975) was able to evaluate the effectiveness of the San Francisco Bay Conservation and Development Commission because its enabling legislation contained clearly stated goals on limiting developments to water-oriented uses, improving public access, and improving shoreline appearence. The permit system under Washington State's Shoreline Management Act (1971) was evaluated by McRae and Feldman (1977) in terms of its effect in limiting developments and its success in meeting legislative goals.

Fewer evaluations of coastal resources management have been undertaken in Canada where the focus has been on the ability of existing institutional arrangements to address specific management issues rather than on the success of recent innovations. Examples include shoreline flood and erosion hazard (Kreutzwiser, 1977 and Jessen, 1979), environmental regulation (Dorcey et al., 1980 and Jessen, 1980), and estuary management (Ferguson, 1977).

There are two basic approaches to hindsight evaluation of coastal resource management programmes: outcome evaluation and process evaluation (Englander, et al., 1977; 227 and Lowry, 1980; 232). In the former, the focus is on programme impacts and an attempt is made to determine the degree to which actual

resource outcomes have met programme goals and objectives. Evaluative criteria for this type of approach would relate closely to anticipated resource outcomes. For example, if the objectives of the programme were to preserve fish habitat, improve water quality, and increase recreational access to the shoreline, then appropriate evaluative criteria would include hectares of fish habitat preserved, measurable parameters of water quality improved, and numbers of recreational access points increased. This is the approach used by Swanson (1975) and McRae and Feldman (1977). In both cases, evaluative criteria are based on specific goal statements contained in enabling legislation.

In the case of the Interim Guidelines, evaluation of programme impacts would be difficult to undertake because the goals and objectives of the Interim Guidelines are not specified in terms of desired resource outcomes aside from increasing the general welfare of the residents of British Columbia. More importantly, the external effects of other resource management programmes on actual resource outcomes would be difficult to control. The Interim Guidelines are one of several inter-related programmes, each of which has objectives and activities aimed at affecting the log-handling issue. For example, log-handling related conflicts may be resolved through the Ministry's Crown land planning programme (B.C., Ministry of Lands, Parks and Housing, 1980b) or through the planning of

other resource agencies.[2]

Process evaluation is a more appropriate approach. It involves examining decision-making procedures which are presumed to ultimately affect resource outcomes. Evaluation criteria for this approach are ". . . more descriptive and qualitative, hence involve close observation of an organization's operation" (Englander et al., 1977; 228). Lowry (1980, 240-243) refers to this type of evaluation as "organizational process evaluation" and states that while its major policy purpose is specific programme diagnosis, development, and improvement, it ". . . can also contribute to our general knowledge of the conditions and techniques that make for successful (and unsuccessful) coastal zone management progams."

EVALUATIVE CRITERIA

An evaluative criterion is defined by Lowry (1980; 240) as:

> . . . a policy value which may be affected positively or negatively by the program or some element of the program. These policy values may reflect the official goals of the program, other goals thought to be relevant by some policy-makers or program administrators to critical processes in the implementation process or to unintended impacts thought to be associated with the program.

An indicator is needed for each criterion that enables

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[2]The Council of Forest Industries of British Columbia is also involved in programmes which ultimately impact on the log-handling issue. These include programmes advocating the use of innovative log-handling techniques which may lead to modified development proposals by individual forest companies (COFI, 1981; 26-32).

measurement of the extent to which the policy value is affected by the programme. The type of indicator chosen is dependent on which of the two evaluation approaches outlined above are followed. In process evaluation, the indicators are often proxy measures that do not measure 'success' directly, but focus on a process linked to programme outcomes (Lowry, 1980; 249).

Three criteria were used in this study to evaluate the Interim Guidelines: decision-making effectiveness, administrative efficiency, and procedural fairness. These criteria reflect the issues discussed in Chapter II, the policies outlined in Chapter III, and other concerns identified through discussions with programme administrators (Roberts, Cockburn, and Mitton; 1981).

Decision-making effectiveness was measured in terms of information availability and agency coordination. Information is the key input in decision making which enables decision makers to reduce the uncertainty of potential outcomes (Scott, 1971; 24). However, in order to obtain information, participants in the decision-making process must be coordinated. Together, the range of activities which make information available and coordinate various participants comprise the two basic dimensions of the decision-making process (Swainson, 1979; 288 after Lindblom, 1965).

Decisions regarding coastal log-handling applications require information on the benefits and costs associated with proposed developments and on other resource values associated

with shore zone lands (Chapter II). Examples of activities aimed at improving information availability include preparing application forms, completing inspection reports, and undertaking more intensive studies of project implications. Factors relevant to determining the degree of information availability involved in decision making include:

1) the type of information made available, such as project description, alternatives considered, potential impacts, methods of mitigating impacts;
2) the stages at which information is made available; and
3) the quality of information, defined in terms of information gaps and uncertainty.

The last factor was emphasized by Dorcey et al. (1980; 144) as particularly significant in relation to making informed decisions about regulating log-handling activities that impact on the salmon resource in coastal British Columbia.

Coordination of the several levels of government and the large number of resource agencies that may be involved in application decision (Chapter III) is an explicit goal of the Interim Guidelines. This is stated in terms of ". . . recognizing the statutory responsibilities of other agencies" (B.C., Ministry of Lands, Parks and Housing, 1980a; 2). The economic benefits to be gained from increased coordination of these agencies include those that may arise from the resolution of shore-use conflicts associated with externalities, public goods, and common pools (Chapter II and Sproule-Jones, 1979; 279-280).

Coordination occurs through activities such as referring applications to other agencies for comment, holding interagency meetings, and forming interagency task groups. Factors potentially relevant to determining the degree to which these activities improve agency coordination include:

1) the agencies that were informed of applications which had been received;
2) the agencies involved in the review of applications;
3) which agencies' comments were obtained;
4) whether these comments were included in recommendations; and
5) whether these comments were included in decisions.

In the case of the Fraser River Estuary in British Columbia, Sproule-Jones (1978) found that substantial coordination takes place between resource agencies, that it is usually neither sporadic nor unplanned, and that it takes place across and within government and the private sector of the economy.

The two other criteria, administrative efficiency and procedural fairness, relate to the manner in which decisions are made. One indicator of administrative efficiency is the length of time involved in the application review process. In this study, it was measured by determining the time taken between various stages of the process as indicated by dates of applications, referrals, inspections, recommendations, and decisions. A second concern is the dollar cost incurred by agencies and applicants involved in the review process. While obtaining cost data was beyond the scope of this study, an attempt to determine the significance of these types of costs

has been made by Dorcey et al. (1980; 250-268). The total cost of administration of fisheries environmental regulations at the fish-forest interface in the Coast Region was estimated to be $4.7 million, shared between the private (53.3 percent) and public (46.7 percent) sectors. The cost to Fisheries and Oceans Canada was estimated to be more than twice the cost to the provincial Ministries of Forests and Environment combined.

The time involved in handling applications is an important concern of both administrators and applicants. Administrators interested in increasing efficiency of the application review process place a priority on reducing the average time taken to process applications and decreasing the number of applications outstanding. Applicants are more concerned about knowing in advance the length of time required to review applications in order to schedule log movements and plan land developments. Thus, there is a need for the length of the application review process to be both brief and predictable.

The length of time required to review applications and the level of uncertainty involved generally increases with larger scale and more complex projects. Minor project applications would normally require the least amount of time, but might be delayed during the period between receipt of an application and completion of a report if land inspections or referrals were required. In contrast, regional and major project applications would take considerably longer to process depending on the time needed to review information, prepare agency responses,

coordinate interagency meetings, communicate between participants, and undertake additional studies.

The need for procedural fairness stems from principles established within administrative law that relate to the duty of decision-makers to act fairly when making decisions of a discretionary nature. This criterion is relevant because the powers of the Ministry of Lands, Parks and Housing to dispose of Crown lands under the Land Act are largely discretionary (Chapter III). The Minister may dispose of Crown land as the Minister considers advisable in the public interest (s. 8(1)).

Discretionary powers in public law are always attached to some level of duty. This generally includes the duty to act in good faith, uninfluenced by irrelevant considerations or motives, reasonably, and within the statutory bounds of the discretion provided (Grey, 1979; 108). It is also generally understood that decision-makers who exercise discretion have a duty to act fairly (De Smith, 1973; 208):

> That the donee of a power must "act fairly" is a long-settled principle governing the exercise of discretion, though its meaning is inevitably imprecise. Since 1967 the concept of a duty to act fairly has often been used by judges to denote an implied procedural obligation. In general it means a duty to observe the rudiments of natural justice for a limited purpose in the exercise of functions that are not analytically judicial but administrative.

The doctrine of fairness has recently been strengthened by the courts despite a tendency to leave the review of administrative decisions, which are based on policy rather than an official evidentiary record, as a reponsibility of the

executive rather than the judiciary (Law Reform Commission of Canada, 1980; 146-148). In British Columbia, the principle is also firmly supported by the Ombudsman's Act (R.S.B.C. 1979, c. 306, s. 22) which lists "the application of arbitrary, unreasonable or unfair procedures" as a criterion for reviewing decisions or recommendations made by administrative agencies. Procedural fairness has also been recognized by the Economic Council of Canada (1979; 31) as one of the basic value premises for assessing the regulatory process.

In this study, the degree of procedural fairness involved in decision making was measured in terms of the procedures followed to consider the views of affected interests. The objectives were to determine whether:

1) procedures were established in advance;
2) procedures were comprehensible to all participants;
3) adequate notice was provided to affected interests;
4) affected interests were given an opportunity to be heard; and
5) opportunities were available to appeal decisions.

These criteria and indices vary in terms of their relevance to specific activities involved in the Interim Guidelines application review process. Their general relevance in relation to the major activities is indicated in Table 4.1. The focal points for applying the evaluative criteria and considering the range of factors outlined above are shown for each activitiy.

TABLE 4.1 RELEVANT EVALUATION CRITERIA BY ACTIVITIES

ACTIVITIES	RELEVANT EVALUATION CRITERIA			
	Effectiveness		Efficiency	Fairness
	Information	Coordination	Time	Procedures
Pre-Application				
Prospectus Development	X			
Prospectus Review		X	X	
Application Processing				
Minor Projects Process			X	X
Regional Review Process			X	
Report - Data Gaps	X			
Agency Referral		X	X	
Decision				X
Major Review Process			X	
Stage I Report	X			
Review by Committee		X	X	
Stage II Report	X			
Review by Committee		X	X	
Decisions				X

RESEARCH DESIGN AND DATA SOURCES

The basic research design entailed comparing decision-making activities occurring before and after implementation of the Interim Guidelines on 1 June 1980. These decision-making activities relate specifically to coastal log-handling applications processed during the two time periods. This design allowed comparative measurements to be determined for the indices discussed above. The time frame of the study was 1 January 1979 to 15 March 1981. This period covered 17 months prior to implementation of the Interim Guidelines and 9.5 months after.

The study area chosen was the Ministry's Vancouver Island Region (Figure 3.5). This region, one of the four coastal regions in which the Interim Guidelines were implemented, was chosen for several reasons. Preliminary investigations indicated that this region had the largest number of applications per year, the largest proportion and variety of log-handling activities, and the largest mix of major forest companies in relation to the other three regions. The Vancouver Island Region contains two administrative districts. The Courtenay District administers the mainland portion of the region, between Loughborough Inlet and Cape Caution, and the north end of Vancouver Island between Qualicum Beach and Nootka Sound. The Victoria District administers the southern portion

of Vancouver Island and the Gulf Islands south of Nanaimo.[1]

Two approaches were used in obtaining data (Table 4.2). The first involved an overview survey of applications to draw conclusions about activities related to the prospectus development and review process, and the minor projects process. The second approach involved selecting case studies in order to draw conclusions about the regional review process and the major review process.

The overview survey of applications involved inspecting the Land Registers located in each District Office and noting the coastal log-handling applications that had been received during the before and after time periods. These registers are maintained in accordance with section 104 of the Land Act and are available for public inspection. Information recorded in the Courtenay and Nanaimo District registers includes:

1) the dates on which the application was received, the site inspected, and the final report submitted to the Regional Manager;
2) the file number assigned to the application;
3) the legal descriptions and location of the parcel applied for;
4) the applicant's name;
5) the purpose of the application; and
6) a distinction as to whether the application is a new or renewal application.

Entries made in the registers that were not included in the survey included "trespass" and "clean-up" notations, freshwater

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[1]Prior to the summer of 1980, the boundary between the two districts ran across the Island between Nanoose Bay and Klawana River.

Table 4.2 - Primary Data Sources for Activities

ACTIVITIES	DATA SOURCES	
	Before	After
Prospectus Development and Review Minor Projects Process	Survey Sample	Survey Sample
Regional Review Process	Buckley Bay Case Study	Tahsis Estuary Case Study
Major Review Process	Kelsey Bay Case Study	Croften Case Study

applications, and applications for purposes other than log handling.[2] This information enabled tabulation of the total number of applications received in the region and disagregation by type (new/renewal) and district.

More detailed information was obtained by examining confidential files for each application. Files for all applications received in the Victoria District office within the two time periods were examined (37). However, due to the large number of applications received in the Courtenay District (157), the number of files examined was limited to a sample of approximately every third application received. Ministry staff provided additional information through personal interviews.

The four case studies were selected according to criteria outlined in the Interim Guidelines for determining whether projects should be classified as minor, regional, or major. Minor projects are considered to involve no significant impacts. Regional projects are considered to be (B.C. Ministry of Lands, Parks and Housing, 1980a; 23):

> . . . all projects which do not qualify for the Minor Projects process and are not of a magnitude to warrant the Major Review Process.

These projects are generally considered to involve significant impacts or complex issues. More specific criteria are provided for major projects, which may include (B.C. Ministry of Lands,

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[2]An initial attempt was made to identify applications by searching the B.C. Gazette for the required "Notice of Intention to Apply for a Disposition of Crown Land." However this data source was found to be outdated and incomplete.

Parks and Housing, 1980a; 27):

1) A major capital expenditure will occur on the proposed foreshore area, i.e. in excess of $1 million;
2) The Proponent documents that the project is an essential and critical link in company operations;
3) The project proposal is in an area of known or potentially high competition for alternative foreshore uses;
4) The project has received political attention or has a high public profile.

The Interim Guidelines further stress that the most important criteria for a major review is the potential environmental impact. A project involving major capital expenditures might be handled through the Regional Review Process if no significant impacts were involved.

Case studies were selected in February 1981 on the basis of existing information, discussions with Ministry staff (Roberts, Cockburn, and Mitton, 1981), and specific considerations of individual cases in relation to the above criteria for project designation. At that time, it appeared that only a very limited number of applications would be suitable for use as case studies.[3]

The Tahsis and Crofton applications were the only two applications received during the "after" time period that could be considered as regional or major projects. However, neither

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[3] A survey undertaken by Ministry staff in November 1979 involved sampling 75 leases at random from a computer printout and categorizing them according to the type of review process that they might undergo. Only one application was considered to qualify for a major project review and none were considered to qualify for a regional project review.

had completed the prospectus review stage. The Tahsis project has now received approval from the Ministry Executive Committee to proceed to the major review process. No recommendation has been made as to a further review category for the Crofton project. The Kelsey Bay and Buckley Bay applications were suggested by Ministry staff as cases which might represent major and regional projects respectively for the "before" time period. Both applications had been subject to substantial review, although the issues involved and the nature of review differed.

The basis for proceeding to analyse the Kelsey Bay application in the context of the major review process was that the proposal appeared to involve major environmental impacts on fisheries and waterfowl estuarine habitat, the review involved an ad hoc committee of interested resource agencies, and a number of major studies were undertaken to obtain additional information. The Buckley Bay application was analysed in the context of the regional review process because the proposal appeared to involve relatively less significant environmental impacts, a less formal review procedure, and relatively minor studies to provide additional information. The Buckley Bay application also appeared to be interesting as a case study because the impacts were related to oysters rather than fish, the timing of the review covered both time periods, and it had received a relatively large degree of attention from the general public.

CHAPTER V

CASE STUDIES AND ANALYSIS

The results from the survey and case studies of coastal log-handling applications received in the Vancouver Island Region are organized according to the time periods before and after implementation of the Interim Guidelines. A detailed chronology of events is provided for each case study and a comparison is made between observed activities and those suggested under the Interim Guidelines. The analysis focuses on comparisons between time periods according to three evaluative criteria: decision-making effectiveness, administrative efficiency, and procedural fairness. When relevant, comparisons are also made between administrative districts in order to illustrate differences in the types of applications handled and administrative procedures used.

COASTAL LOG-HANDLING APPLICATIONS

The Ministry of Lands, Parks and Housing received a total of 194 coastal log-handling applications in the Vancouver Island Region during the study period between 1 January 1979 and 15 March 1981 (Table 5.1). Three-quarters of these were new applications and the remainder were renewals. The total number included 131 applications received during the 17 month period before implementation of the Interim Guidelines on 1 June 1980

Table 5.1

Applications During Time Periods by Type and District

Type of Application By District	Time Period: Before (17 months) Number	Percent	Per month	After (9.5 months) Number	Percent	Per month	Combined (26.5 months) Number	Percent	Per month
New Applications									
Nanaimo District	12	9.2	.7	6	9.5	.6	18	9.3	.68
Courtenay District	90	68.7	5.3	39	61.9	4.3	129	66.5	4.87
SUBTOTAL	102	77.9	6.0	45	71.4	4.7	147	75.8	5.55
Renewal Applications									
Nanaimo District	11	8.4	.6	8	12.7	.8	19	9.8	.72
Courtenay District	18	13.7	1.1	10	15.9	1.1	28	14.4	1.06
SUBTOTAL	29	22.1	1.7	18	28.6	1.9	47	24.2	1.78
TOTAL	131	100.0	7.7	63	100.0	6.6	194	100.0	7.33

Source: Data compiled from Land Registers in the Courtenay and Victoria District Offices of the Ministry of Lands, Parks and Housing for 1 January 1979 to 30 May 1980, and 1 June 1980 and 15 March 1981. Notations for trespasses, clean-ups, freshwater applications, and nonlog-handling applications were not included.

and 63 applications received during the 9.5 month period after this date. The average number of applications received per month was 7.3 for both time periods combined (26.5 months). There was some decline over time because fewer new applications were received in the Courtenay District during the "after" period.[1] The Courtenay District received 80.9 percent of all the applications and most (87.6 percent) of the 147 new applications for both periods combined (Table 5.2).

Files for approximately every third application in the Courtenay District (51) and all applications in the Victoria District (37) were examined (Table 5.3). This provided an overview of the types of applications received in the Vancouver Island Region and a data base for evaluating the prospectus development and review process and the minor projects process. Analysis of the latter is presented in the sections following the case studies.

The types of applications received in each district varied considerably, reflecting the different types of log-handling operations. Applications in the Courtenay District tended to be dispersed along a large number of remote inlets, bays, and islands close to harvesting areas, whereas applications in the Victoria District were more concentrated in fewer areas near processing centres (Figure 5.1). The locational pattern was

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[1]An increased number of applications were expected in the Victoria District because a district boundary change in summer 1980 increased its jurisdiction by over 300 kilometres of shoreline. However, this did not occur.

TABLE 5.2

DISTRIBUTION OF APPLICATIONS BY DISTRICT

District	New		Renewal		Combined	
	Number	Percent	Number	Percent	Number	Percent
Nanaimo	18	12.4	19	40.4	37	19.1
Courtenay	129	87.6	28	59.6	157	80.9
TOTAL	147	100.0	48	100.0	194	100.0

TABLE 5.3

APPLICATION FILES EXAMINED

Type and District	Before		After	
	Original	Sample	Original	Sample
New Applications				
Nanaimo	12	12	5	5
Courtenay	90	31	39	13
SUBTOTAL	102	43	45	18
Renewals				
Nanaimo	11	11	9	9
Courtenay	18	7	9	0
SUBTOTAL	29	18	18	9
TOTAL	131	61	63	27

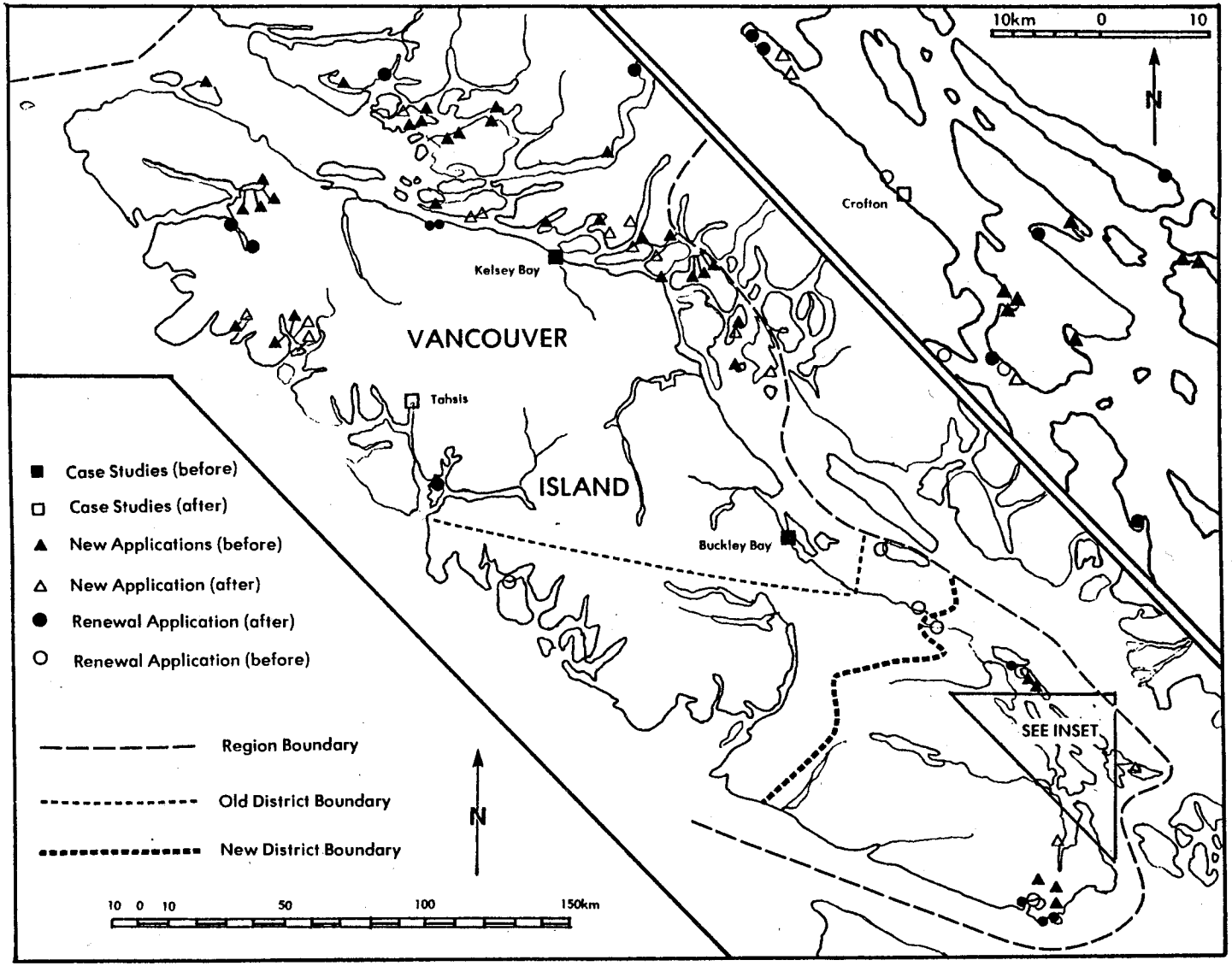

Figure 5.1 Location of case studies and application files examined.

consistant with the pattern of dump sites, transportation routes, and processing centres discussed in Chapter 3 and mapped by Dorcey, McPhee, and Sydneysmith (1980; 24-26).

Most applications in the Courtenay District were for licences of occupation and were not renewed because they were associated with short-term production camps. These applications frequently involved siting a small-scale bundle dump with a water area for storing booms prior to towing. A large number of applications involved locating a floating camp of some sort and others were made for in-transit storage of log booms. Applications for log dumps were a source of concern to environmental agencies when they involved filling or altering foreshore areas that were considered to have significant ecological values. However, applications were usually approved because alternative sites were not available or impacts could be mitigated. Only one application in the "before" group was disallowed (Rupert Inlet) and in this case an alternative site was found within 1.5 km of the applicant's preferred location.

In the Victoria District, most applications were for leases rather than licences of occupation and they tended to be renewed on a continuous basis because they were linked to long-term processing plants. Approximately half of the applications were for log dumps and most received considerable opposition from the general public or referral agencies. A large number of applications were disallowed as a result (8 of the 12 new applications in the "before" group). An effort was made to

consolidate log-dump sites on Saltspring Island by approving a major dry land sort at Burgoyne Bay with the proviso that it be operated as a "public dump".

Only five new applications were received in the Victoria District during the "after" period. One was disallowed, one was for temporary log storage, and the other three were related to the Crofton Dry Land Sort Proposal discussed below. Only the Crofton applications included a prospectus. Most of the applications received after 1 June 1980 within the Courtenay District involved the completion of a prospectus and were recommended for approval under the minor projects process.

No renewals in either district involved a prospectus. A prospectus was submitted voluntarily with one renewal (Flores Island) in the Victoria District. This renewal involved proposals to enlarge the scale of the existing operation.

CASE STUDIES FROM THE "BEFORE" PERIOD

Two case studies were selected from the "before" period. The Buckley Bay and Kelsey Bay applications were suggested by Ministry staff as cases which might be suitable for comparison to the two detailed reveiw processes under the Interim Guidelines. The former case was compared to the major review process because the proposal appeared to involve relatively less significant environmental impacts, a less formal review procedure, and relatively minor studies to provide additional information. The latter was compared to the major review

process because the proposal appeared to involve major environmental impacts on fisheries and waterfowl habitat, the review involved an ad hoc committee of interested resource agencies, and a number of major studies were undertaken to obtain additional information. Both case studies were also compared to the prospectus development and review process.

THE BUCKLEY BAY DRYLAND SORT

On 27 November 1978, MacMillan Bloedel Industries Ltd. applied to lease approximately 5.5 hectares of intertidal and subtidal Crown land adjoining its privately owned property between the Denman Island ferry terminal and the Tsable River estuary (Figure 5.2). The purpose of the lease was to construct and operate a dryland sort facility for handling second growth timber harvested from the Beaufort Range area (B.C., Ministry of Lands, Parks and Housing, File 0349852, 26 September 1979). The initial proposal involved filling approximately 1.5 hectares of foreshore to extend the upland for a sorting and dumping area with the remaining water area to be used for log storage (Figures 5.3 and 5.4).

The primary issue was the potential impacts of the proposed log-handling facility on commercial oyster habitat.[1] This was an important concern for provincial resource managers and oyster growers because the Baynes Sound area, between Union Bay and

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[1]These types of impacts, which were reviewed by Valiela (1979a; 23-25), may result in both loss and degradation of oyster growing areas.

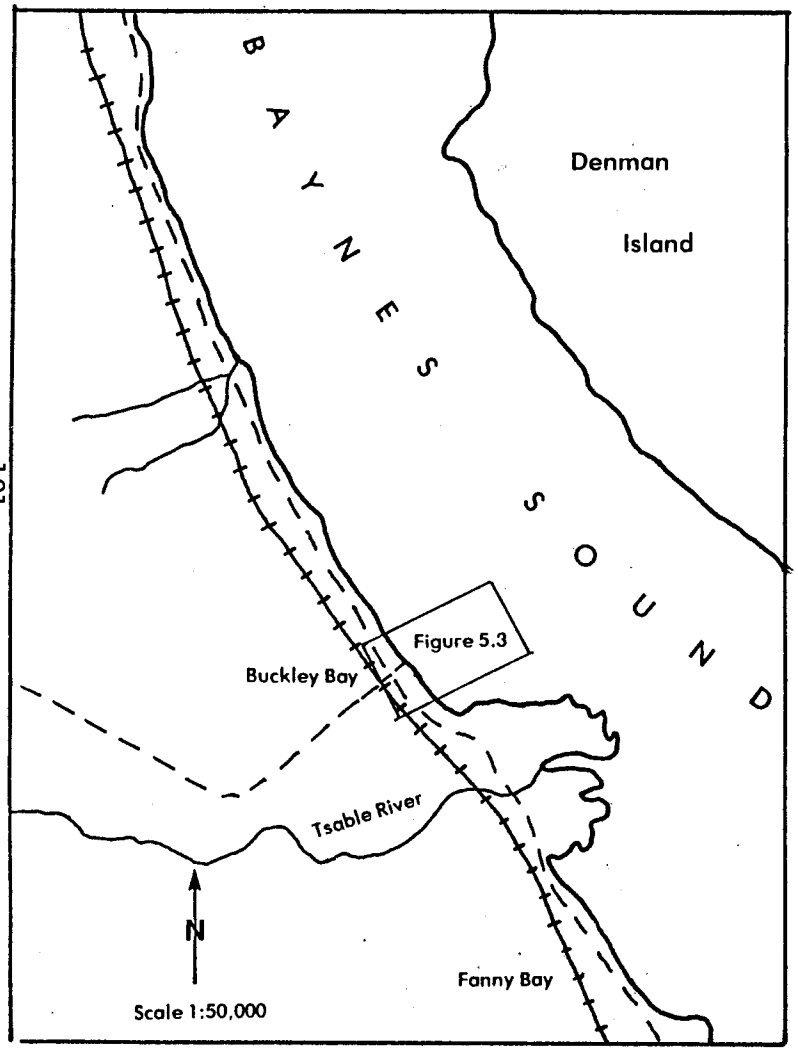

Figure 5.2 Location of Buckley Bay case study.

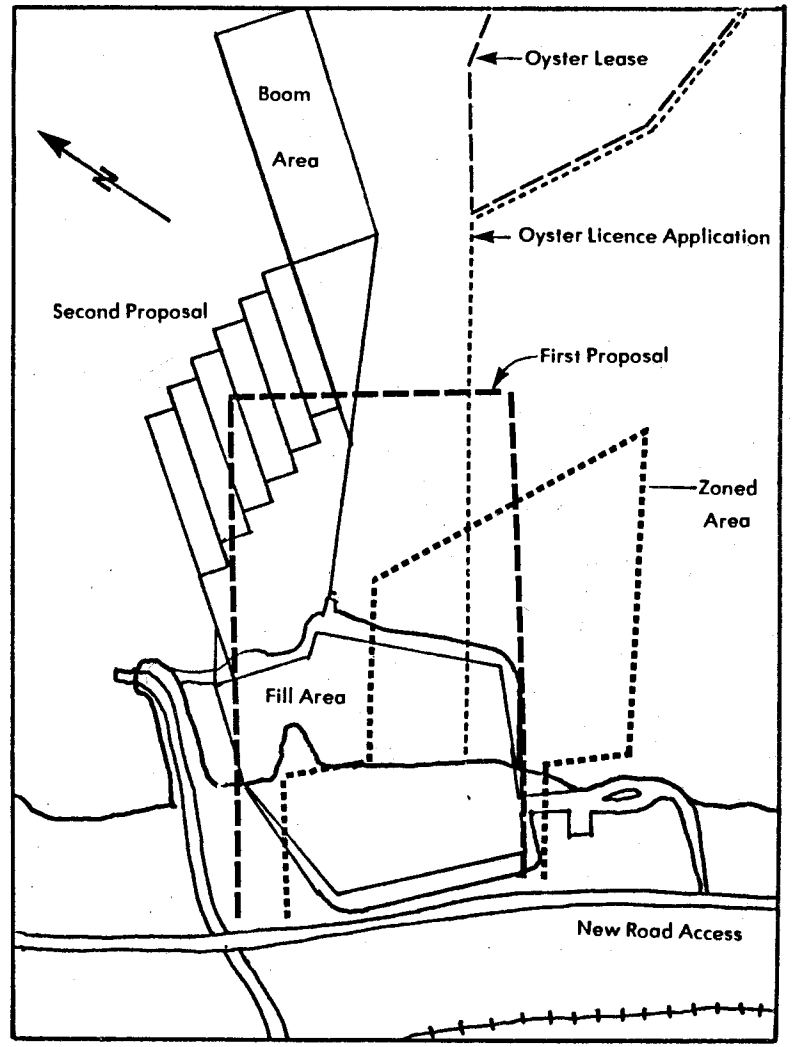

Figure 5.3 Proposed dryland sort facility at Buckley Bay. Source: Hirczy et al. (1981; 10).

Figure 5.4 Buckley Bay site and Tsable River estuary. Source: B.C. Ministry of Environment. Aerial Photo No. 15BC79022/185. May 21, 1979. Scale=1:10,000 (Original photo scale=1:20,000).

Deep Bay, accounts for over 60 percent of the total oyster production in British Columbia and has the highest estimated potential for production compared to other oyster growing areas (Valiela, 1979a; 19). It has been demonstrated that production potential of the Baynes Sound area could be significantly affected by increased forestry conflicts (Valiela 1979b; 27-28 and Dorcey, 1979; 63).

These types of impacts were considered when the Ministry ordered that a log-dumping operation at the Buckley Bay site be terminated in June 1975. At the time, the site was being used for skidding logs into the water with a front-end loader and form 1910 to 1956 had been used as a log dump. The decision to prohibit log-handling at the site resulted from recommendations that followed a biological survey undertaken by the Marine Resources Branch in 1974 (B.C., Department of Recreation and Conservation, 1974). The termination order set a precedent which favoured a conflicting application for a 25- hectare oyster licence[2] that was received on 23 November 1978. This application preceded the MacMillan Bloedel application and covered most of the area that was required for the dry land sort development (B.C., Ministry of Lands, Parks and Housing, File 0349852, 26 September 1979).

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[2]An oyster licence is a licence of occupation for the purpose of commercial propogation and cultivation of oysters over a maximum term of 10 years and does not require the upland owner's consent.

The major activities involved in processing the Buckley Bay application are listed in Table 5.4. Events occurring after receipt of MacMillan Bloedel's application are grouped in two stages. The first stage of activities is similar to the prospectus development and review process under the Interim Guidelines and is focused on an "environmental impact assessment" prepared by the company at the Ministry's request. The second stage is similar to the regional review process and is focused on a second report submitted by the company.

The period comparable to a prospectus review began with the first meeting of referral agencies in February 1979 and ended with the submission of the District Manager's report in September 1979 (B.C., Ministry of Lands, Parks and Housing, File 0349852, 26 September 1979). During this period, the applicant's submission was reviewed at a number of interagency meetings, the application was advertised, and the Comox Estuary Resource Management Committee recommended unanimously in favour of alternatives to the proposed site. All were in favour of the oyster licence application. A final meeting was held on 13 July 1979 when formal agency positions were stated. Two agencies opposed the MacMillan Bloedel application, three gave conditional approval, and three gave favourable responses.

The District Manager recommended a compromise solution to the problem of the two conflicting applications (B.C., Ministry of Lands, Parks and Housing, File 0349852, 26 September 1979). The compromise involved locating the dry land sort inland and

TABLE 5.4

CHRONOLOGY OF EVENTS RELATED TO THE BUCKLEY BAY CASE STUDY

HISTORICAL USE OF THE SITE

1910-48	Logging camp and log dump for Alberni Pacific.
1948-56	Parbuckle log dump for Beban Logging.
1956-61	No use.
1962	Log dump for MacMillan Bloedel.
mid-1960's	Small area subleased to Weldwood for coal slag storage prior to loading onto barges.
1971	Logging camp and log dump for Sooke Forest Products.
1971-1975	Logs skidded into water with front-end loaders by Westcan Timber for MacMillan Bloedel.

EVENTS PRECEDING APPLICATION

24 March 1974	MacMillan Bloedel's long-term plans for the site identified to District Manager and headquarters biologists.
1974	Biological survey of site by Marine Resources Branch and report recommending termination of log dump operation (B.C., Department of Recreation and Conservation, 1974).
15 June 1975	Log dumping operation terminated by order from Ministry because of adverse affects from log handling.
11 May 1976	Report by District Manager recommending clean-up and no further log-handling at the site.
	Work in progress: Comox Valley Settlement Plan and Comox Harbour and Baynes Sound Crown Land planning studies.
23 Oct. 1978	MAC's Oysters Ltd. stakes notice of intention to apply for an oyster licence

TABLE 5.4 - Continued

16 Nov. 1978	MacMillan Bloedel objects to granting of oyster licence.
23 Nov. 1978	MAC's Oysters submits application for 25 ha oyster licence covering portion of Blk. 44, Lot 149, Nanaimo District.

EVENTS AFTER MACMILLAN BLOEDEL APPLICATION

27 Nov. 1978	MacMillan Bloedel submits application to lease Blk. 44 for construction and operation of dry land sort (received 5 December 1978).
15 Jan. 1979	Terms of reference for an environmental impact assessment forwarded to MacMillan Bloedel and referral agencies notified of proposal and and conflicting application.
Jan. 1979	Report prepared by applicant (Urban and Hirczy, 1979).
15 Feb. 1979	First meeting to review company's proposal, 18 present representing 9 referral agencies and the company.
20 Mar. 1979	Meeting where proposal was criticized by provincial biologists from Lands, Fish and Wildlife, and Marine Resources Branches.
1 Apr. 1979	Application advertised in the Comox District Free Press.
5 Apr. 1979	Comox Estuary Resource Management Committee recommended unanimously that alternatives be favoured over the proposed site.
13 Jul. 1979	Interagency meeting where formal agency positions made: Opposed - Fish and Wildlife Branch and Marine Resources Branch; Conditional - Department of Fisheries and and Oceans, Ministy of Highways, and Pollution Control Branch; Favourable - Canadian Wildlife Service, Department of Health; and Comox-Strathcona Regional District.

TABLE 5.4 - Continued

26 Sep. 1979	District Manager prepared report recommending a compromise solution involving one of the identified alternatives.
4 Oct. 1979	Regional Manager concured with report and forwarded it to Acting Regional Director.
9 Jul. 1980	News release from Minister's office gave approval in principle to the applicant's preferred site and declared a 3-year moratorium in Baynes Sound against new applications for log-handling developments.
Jul. 1980	Baynes Sound Protection Committee (BSPC) formed
15 Jul. 1980	Letter of conditional approval forwarded to applicant and additional information requested on mitigation plans, site design, and alternatives for highway and rail transport.
15 Sep. 1980	Licence of occupation issued to company for test drilling.
11 Sep. 1980	New conceptual plan submitted by applicant.
Oct. 1980	BSPC met with Minister to protest application.
10 Oct. 1980	600 persons had petitioned against application and 232 local residents had responded in favour.
6 Nov. 1980	BSPC held public meeting in Cumberland to speak out against application.
Nov. 1980	Ombudsman began investigation of Ministry's decision procedures.
10 Dec. 1980	Company requested to submit a revised concept plan and consider Fish and Wildlife Branch concerns.
24 Dec. 1980	Ministry advised Ombudsman that applicant will be required to readvertise application and hold a public information meeting.
27 Jan. 1981	Ministry initiates an internal review of information regarding the application.
26 Feb. 1981	Documentation completed.

TABLE 5.4 - Continued

6 March 1981	Company submited detailed report on modified proprosal.
2 April 1981	Company held a public information meeting at Fanny Bay.
6 April 1981	Ombudsman meets with BSPC at Denman Island.
June 1981	BSPC prepared a detailed report entitled "An Economic Analysis of Alternative Methods to Haul, Sort and Boom Northwest Bay Log Production."
----	MacMillan Bloedel applied to the Comox-Strathcona Regional District to rezone the foreshore area for industrial use.
----	MacMillan Bloedel withdrew application.
22 Apr. 1981	Review and meeting of referral agencies.

Source: Compiled from Ministry of Lands, Parks and Housing file 0349852 and interviews with R. Urban (Head, Land Use and Planning Analysis) and B. Pollard (Biologist), MacMillan Bloedel Ltd., April 27, 1981, Nanaimo.

dumping the bundled logs at the Buckley Bay site, thereby minimizing any alterations to the foreshore and impacts from handling logs in the water. The major portion of the oyster licence application area was to be approved as well. The Regional Manager concurred with the District Manager's report and forwarded it to the Acting Regional Director (B.C., Ministry of Lands, Parks and Housing, File 0349852, 26 February 1981; 4).

A controversial decision was announced 9 months later in a news release from the Minister's office dated 9 July 1980 (No. 80-99). Approval-in-principle was given to MacMillan Bloedel's preferred site, contrary to the District Manager's recommendation. The news release also announced a 3-year moratorium in Baynes Sound against "new" applications for log-handling facilities. The purpose of the moratorium was to permit sufficient time for the Marine Resources Branch to undertake studies of shellfish productivity, to determine impacts of other uses, and to develop a management plan for shellfish in the area.

A second stage of review, comparable to the Regional Review Process, began shortly after the news release when a letter of conditional approval was forwarded to the company. Additional information was requested on the two best alternative proposals, the design of the facility, and the company's plans to mitigate impacts. The company undertook engineering tests in August 1980 and submitted a new conceptual design in September 1980 (drawings only).

Public opposition to the proposed dryland sort increased after the news release (B.C., Ministry of Lands, Parks and Housing, File 0349852, 26 February 1981). Numerous protest letters were received and an ad hoc public interest group, the Baynes Sound Protection Committee, was formed.[3] This group effectively publicized the issue through the local media and took a number of significant actions against the proposal. They met with the Minister in October 1980 to protest the application, but failed to persuade him that the application should be reconsidered under the major review process of the Interim Guidelines and that a public hearing should be held ("Hearing refused on log booming," 1980). The committee then joined the Islands Trustee for Denman Island and the oyster licence applicant in asking the B.C. Ombudsman to investigate the decision procedures of the Ministry. The Ombudsman acted on these complaints and obtained a committment from the Ministry to require the applicant to readvertise the proposal and hold a public information meeting, but not a public hearing (B.C., Ministry of Lands, Parks and Housing, File 0349852, 24 December 1980).

MacMillan Bloedel was asked by the Ministry in December 1980 to prepare a revised concept plan for final review (B.C., Ministry of Lands, Parks and Housing, File 0349852, 10 December

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[3]By 10 October 1980, 600 persons had petitioned against the application and 232 local residents had responded in favour (B.C., Ministry of Lands, Parks and Housing, File 0349852, 20 October 1980).

1980). This was to contain a general description of the development and the methods to be used in handling solid and liquid wastes. The company was also asked to consider a number of specific concerns of the Fish and Wildlife Branch regarding facility design, construction, and operation. These concerns were expressed in correspondence at the ministerial level rather than the regional or branch level, and reflected the absence of an effective mechanism for coordinating agency comments.

The company's proposal was modified substantially in a second submission dated March 1981 (Hirczy et al., 1981). The sorting system, site plan, and construction sequence were designed to minimize land and water area requirements, environmental impacts, and investment and operating costs. Features designed to minimize environmental impacts included a work area sloped away from the salt water, a controlled lift and lower dump system, a settling pond for surface run-off, and a realignment of the water area required for storage and booming of logs to minimize encroachment on adjacent oyster lease areas.

The realignment of the water storage area created a new problem. The realigned area was not within the area of foreshore that had been zoned by the Comox-Strathcona Regional District for industrial use in relation to the previous log-handling operation at the site. Consequently, the company had to reapply to the Regional District to rezone the new area. This application was met with considerable public opposition despite the improved proposal and a public information meeting

held by the company at Fanny Bay in April 1981 ("Logging Dump Fought," 1981). A major issue was the evaluation of alternative sites and transportation methods (rail and highway). The Baynes Sound Protection Committee prepared a detailed analysis which countered the company's argument in favour of the Buckley Bay site (Baynes Sound Protection Committee, 1981) and a large number of people spoke in favour of removing the industrial zoning entirely.

The company withdrew the application in August 1981 for economic reasons and indicated that it would renew the application some time in the future. The Regional District hired an economic commissioner to review the economics of the various alternatives and the Marine Resources Branch initiated studies which would contribute to a management plan for the Baynes Sound Area.

In August 1982, the status of the project had not changed (Egan, 1982). However, in negotiations with the Cowichan Estuary Task Force Implementation Program Committee during summer 1980, the company argued that the developments at Buckley Bay, Kelsey Bay (see next section), and Namoo (Ocean Falls area) should be allowed in view of trade-offs that the company was prepared to make. The company had been asked by the committee to reduce the area of intertidal land under lease (approximately 50 acres) from Canadian Pacific Railway for log storage (Burns, 1982). Although federal and provincial committee representatives expressed interest in the proposed trade-offs, a

Fisheries and Oceans Canada representative reviewing the Kelsey Bay application (see next section) stated that district level staff were not prepared to consider regional trade-offs (Clark, 1982).

The company will likely resubmit the Buckley Bay application after the three-year moratorium over new applications in the Baynes Sound area expires in 1983. It remains to be seen whether regional trade-offs can be balanced with the concerns of local residents, regional district politicians, and district-level resource agency staff.

THE KELSEY BAY DRY LAND SORT

On 29 June 1979, MacMillan Bloedel Ltd. applied for a lease over an unsurveyed portion of Lot 1482, Sayward District (Figure 5.5). The proposal was to convert the existing dump and booming operation into a major dryland sort for the company's Kelsey Bay Division. Approximately 2 hectares inside the existing dyke and about 5.5 hectares of intertidal and subtidal estuarine Crown land would be filled as part of a dryland sort with a total extent of 12 hectares (Figure 5.6). This would reduce the existing water-sort operation at Teakerne Arm and would involve an annual volume of about 200,000 cunits (Urban and Bishop, 1979).

The Kelsey Bay site has been used for log-handling since 1937. The company encountered difficulties in renewing its lease in 1969 when it failed to obtain the upland owner's

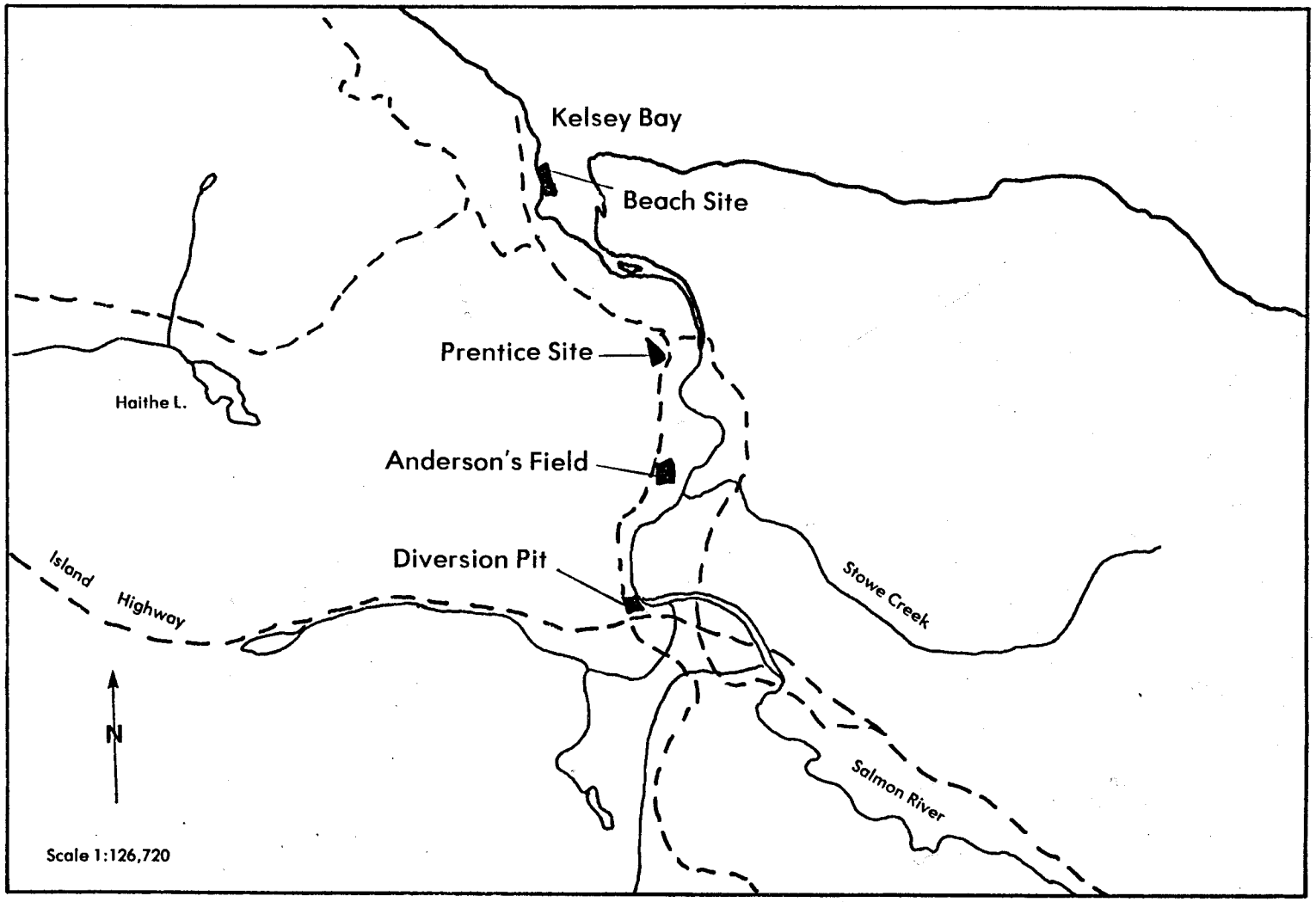

Figure 5.5 Location of kelsey Bay case study. Source: Urban and Bishop (1979).

Figure 5.6 Kelsey Bay site and Salmon River estuary. Source: Ministry of Environment. Aerial Photo No. 30BC80004/221. April 3, 1980. Scale=1:10,000.

consent. The riparian rights issue was not settled until 1978. During this time, the company was charged "occupational rental" for Crown lands which it was using (B.C., Ministry of Lands, Parks and Housing, File 0154409, 1980).

The major activities involved in processing the Kelsey Bay application are listed in Table 5.5. The company voluntarily initiated a number of major studies at an early stage. Most of the concern by provincial and federal resource agencies was focused on these studies and their refinement through 1979. This stage is comparable to the Prospectus Development and Review stages of the Interim Guidelines.

The company began to make plans to locate the dryland sort in the summer of 1977. Four alternative sites were examined (Figure 5.3). At an early stage, the Prentice Site was rejected as unstable from an engineering perspective. The other three remained as feasible alternatives with the company preferring the Beach Site from an economic perspective (Urban and Bishop, 1979; 2-4).

The applicant invited proposals for environmental studies on the preferred alternative in Fall 1978 and invited the District Manager to inspect the site with company representatives in December. A report outlining the proposal was prepared in May 1979 (Urban and Bishop, 1979). The four alternatives were discussed and the results of an economic analysis of the capital and operating costs related to the three feasible alternatives was presented. The preliminary design

TABLE 5.5

CHRONOLOGY OF EVENTS RELATED TO
THE KELSEY BAY CASE STUDY

HISTORICAL USE OF THE SITE

1937	Log booming at present location began.
1959	Breakwater set up using old liberty ship hulls.
1964	Containment dyke built using dredge material from from foreshore. Additional depth allowed bundle booming.

EVENTS PRECEDING APPLICATION

24 Oct. 1969	Log booming lease expired. Renewal prevented because riparian land owner objected.
1 Nov. 1978	Riparian land owner consented to use of foreshore.
Summer 1977	Company began to prepare proposal.
Fall 1978	Company invited proposals for environmental studies by consultants.
Dec. 1978	District Manager inspected site and advised company to contact agencies and engage consultant for geohydraulic study.
May 1979	Company completed report outlining proposal: conceptual plan, economic assessment of alternative sites, proposal for environmental assessment, proposal for wildlife surveys, report on intertidal vegetation, and consultants interim report.
26 June 1979	First interagency meeting to review project proposal and consultants interim report: - Village of Sayward - Regional District - MacMillan Bloedel - Lands, Parks and Housing - Fish and Wildlife Branch - Pollution Control Branch - Ministries of Health, Forests, and Highways

TABLE 5.6 - Continued

- Fisheries and Oceans Canada, and
- Canadian Wildlife Service

EVENTS AFTER APPLICATION

29 June 1979	Application made.
5 Oct. 1979	Second interagency meeting: - MacMillan Bloedel - Lands, Parks and Housing - Fish and Wildlife Branch - Pollution Control Branch - Fisheries and Oceans Canada, and - Canadian Wildlife Service. Draft reports critically reviewed: - Vegetation Survey (Kennedy, 1979) - Geohydraulic analysis (Bauer, 1979) - Noise impacts (Barron, 1979) - Wildlife impacts (Blood and Chutler, 1979) - Fisheries impacts (EVS Consultants, 1979)
7 Nov. 1979	Third interagency meeting where written critigues of impact studies were presented. District Manager recommended an alternative configuration for fill area.
Dec. 1979	Company met with Fisheries and Oceans Canada to discuss alternative configuration, additional studies, and sampling programs.
Jan.-Dec. 1980	Studies completed.
19 Mar. 1981	Interagency meeting to consider final reports.
31 Mar. 1981	Deadline for referral comments.

Source: Compiled from Ministry of Lands, Parks and Housing file 0154409 and interview with R. Urban (Head, Land Use and Planning Analysis) and B. Pollard (Biologist), MacMillan Bloedel Ltd., April 27, 1981, Nanaimo.

concept and the studies relating to geohydrology, fisheries, and wildlife were also discussed. The proposal was first reviewed in June 1979 at an interagency meeting of 25 people representing a broad range of interests (B.C., Ministry of Lands, Parks and Housing, File 0154409, 26 June 1979). A formal application was submitted shortly thereafter.

An information package of consultant's reports was distributed in Fall 1979 to referral agencies and was reviewed at a second interagency meeting in October (B.C., Ministry of Lands, Parks and Housing, File 0154409, 5 October 1979). The first stage of review ended with the presentation of written critiques and formal agency positions at a third meeting in November 1979. An alternative configuration for the design of the fill area was suggested by Ministry staff at that meeting.

A second stage of review began in December 1979 with discussion between the applicant and Fisheries and Oceans Canada on additional studies and sampling programmes which might be undertaken. These concerns and those identified earlier were incorporated into the wildlife- and fisheries-related studies which were completed through 1980 (Blood and Chutter, 1980; and Slaney and Co., 1980).

In December 1980, Ministry staff made new proposals for alternate configurations of the fill area. An interagency meeting was held in March 1981 to consider the final reports and referral comments were requested. Agencies with strong objections to the proposal included the Canadian Wildlife

Service, Fisheries and Oceans Canada, and the provincial Fish and Wildlife Branch.

The application was advertised, but a public information meeting was not held, despite public opposition to the project. A letter writing campaign was organized by a public interest group, the Voice of Unincorporated Sayward. The village of Sayward was in favour of the proposal, but a number of persons in outlying areas were opposed.

Over the next year, concern focused on the streamside configuration of the fill area. Four different designs were considered and the District Manager eventually submitted his report to the Regional Director on 18 August 1982. Several days later Fisheries and Oceans Canada indicated the site was productive habitat and that MacMillan Bloedel should make use of available upland areas (Egan, 1982). A decision on the District Managers report has not been made yet.

CASE STUDIES FROM THE "AFTER" PERIOD

Only two applications were received during the "after" period that could be considered as regional or major projects. Both applications were in the prospectus review stage at the time field work was undertaken. The Tahsis application was subsequently approved by the Ministry Executive Committee to proceed to the major review process. The Crofton application was recommended for processing under the major review process, but is presently being considered for review by the provincial

Environment and Land Use Technical Committee.

THE TAHSIS SAWMILL EXPANSION

On 3 November 1980, Tahsis Company Ltd. indicated that it intended to apply for a foreshore lease over approximately 5.3 hectares of intertidal and subtidal estuarine foreshore south of Lot 32, Blk. B, Nootka District. The purposes of the lease application was to expand and modernize the existing cedar log sawmill and locating a new sawmill to handle large diameter hemlock logs. The site is at the head of Tahsis Inlet, adjacent to the existing mill site at the Tahsis River mouth (Figure 5.7).

The proposal originated in July 1972 when an application for a licence of occupation was made to fill a 7-hectare area for an unspecified future use. Previous filling had taken place in 1968-70 to locate the existing sawmill (Lot 15, Blk. A). A pollution control permit (No. PR-1734) dated 1 November 1973 was issued to fill 4.6 hectares with bark and sawdust on the condition that the company obtain tenure from the Crown and build an impervious dyke around the fill area. Fisheries and Oceans Canada objected to the initial proposal and subsequent meetings with the company in 1974 and 1975 failed to resolve the conflict.

In May 1978, the company renewed the proposal and a series of meetings took place until November 1980. Studies undertaken by the company during this time resulted in reports by:

Location of Tahsis Case Study. Source: B. C. Ministry of Environment. Aerial Photo No. 30BC80004/204. April 3, 1980. Scale=1:10,000.

- a shore-resource consultant who recommended a trade-off involving reduced use of the Leiner Estuary for log storage and concentration of industrial development on the Tahsis Estuary (July 1978);
- a biological consultant who recommended excluding certain valuable marsh habitat areas from the fill proposal (July 1979);
- a hydraulic consultant who described the need to assess the physical dynamics of the Tahsis Estuary. Recommendations were made to design a fish rearing area and a scale model of the lower reaches of the Tahsis River (August 1980).

The major activities involved in processing the Tahsis application are outlined in Table 5.6. The case is different from the others in terms of its historical context, lack of alternative sites, and proposed use. However, the primary issues are similar, particularly regarding potential impacts on estuarine habitat, fisheries, and wildlife.

The prospectus development and review stage was initiated on 5 November 1980, when the District Manager received a letter from the applicant advising of his intent to reapply for a foreshore lease and to organize a meeting of interested agencies on 26 November at Tahsis. The District Manager subsequently forwarded the applicant a prospectus form and referred the letter of intent to the following agencies on 11 November:

- Fish and Wildlife Branch
- Waste Management Branch
- Transportation and Highways
- Fisheries and Oceans
- Village of Tahsis

Tahsis Company presented its proposal at the 26 November meeting and distributed a completed prospectus form (Tahsis Company, 1981). The consultants described the hydraulic model

TABLE 5.6

CHRONOLOGY OF EVENTS RELATED TO
THE TAHSIS CASE STUDY

HISTORICAL USE OF SITE

1968-70	Adjacent intertidal lands filled for cedar sawmill site and finished lumber storage.

EVENTS PRECEDING APPLICATION

July 1972	Company submitted an application to fill 7 hectares of intertidal and submerged lands for industrial development.
11 Sept. 1972	Application site was inspected.
April 1973	Company prepared engineering study.
17 April 1973	Land Inspector met with Federal Fisheries representatives and concerns regarding filled areas were expressed.
31 May 1973	Inspection report submitted: proposal opposed by Federal Fisheries, partially opposed by Fish and Wildlife Branch, approved by Village of Tahsis. Inspector recommended reduced area be filled if Federal Fisheries approves.
1 Nov. 1973	Pollution control permit (No. PR-1734) issued to fill 4.6 hectares with bark and sawdust on the condition that tenure was obtained and a dyke was built around fill area.
12 March 1974	Company met with Federal Fisheries staff who objected to proposal.
23 April 1974	Inspection report submitted and previous recommendation reaffirmed.
March 1976	Federal Fisheries stated to company that application would not be approved.
May 1978	Company met with Ministry staff in regards to submitting a new application and Ministry recommended company retain geohydraulic consultant.

TABLE 5.6 - Continued

May 1978 to Nov. 1980	Numerous meetings between applicant and Fisheries and Oceans Canada. Studies undertaken by the applicant.

EVENTS AFTER RECEIPT OF APPLICATION

3 Nov. 1980	Applicant notified District Manager of intent to apply for a lease.
7 Nov. 1980	Prospectus form fowarded to applicant.
11 Nov. 1980	Referral to Fish and Wildlife Branch, Waste Waste Management Branch, Fisheries and Oceans Canada, Village of Tahsis, and Ministry of Transportation and Highways.
25 Nov. 1980	Prospectus form completed.
26 Nov. 1980	Interagency meeting held in Tahsis. Above referral agencies, Canadian Wildlife Service, consultants, and Ministry Staff attend.
27 Nov. 1980	Policy direction provided from Regional office to District Manager: - proposal qualified for major review process; - requirements for additional data may include studies relating to fisheries and wildfowl; - required executive committee submission. Additional referrals to Ministry of Forests and Canadian Wildlife Service.
12 Dec. 1980	Revised prospectus submitted.
Jan. to Feb. 1981	Correspondence between Tahsis and Fisheries and Oceans Canada regarding terms of reference for additional studies.
27 Feb. 1981	Company met with Fisheries and Oceans Canada to discuss terms of reference for studies on anticipated impacts to fisheries resources.
3 March 1981	District Manager submitted report with draft executive committee submission and recommended that the application proceed to stage 2 of the major review process.

TABLE 5.6 - Continued

4 March 1981	Fisheries and Oceans Canada informed company of policy change. Agency wished not to proceed with impact studies, but to reassess alternative locations first. Change in policy resulted from change in staff responsibility within Habitat Protection Branch.
18 March 1981	District Manager prematurely announced a decision to proceed to Stage 2 of the major review process and to form a regional project review committee.
March 1981	Regional Director recommended to Executive Committee that application proceed to major review.
5 May 1981	Executive committee accepted recommendation.
May 1981	Regional Director decided to proceed with Stage 1 review.
22 May 1981	Manager of Land Administration designated District Manager as Chairman of Regional Project Review Committee.

Source: Compiled from Ministry of Lands, Parks and Housing file 0314952, Tahsis Company (1981), and interview with W. G. Beale, Manager, Planning and Engineering, Tahsis Company Ltd., April 24, 1981, Vancouver.

which was under investigation and Fisheries and Oceans Canada indicated that additional information on salmonid use of the estuary would be necessary. The Canadian Wildlife Service identified its interests and questioned the validity of recreating habitat areas. The proposal was supported by The Village of Tahsis.

The need for a major review of the application was identified at an early stage. Many issues and data needs had been identified previously and agency positions appeared to be relatively clear. Ministry staff at the regional and district levels developed a consensus view on additional information requirements and the need for a major review from the results of the 26 November meeting. These conclusions were communicated by the Manager of Land Administration to the District Manager.

On 5 December 1980, agencies were asked to indicate their concerns regarding the proposal and give details on further required studies. This request was made to the Canadian Wildlife Service, Ministry of Forests, Gold Commissioner, and Marine Resources Branch, together with all of those listed above, except the Ministry of Transportation and Highways.

Several meetings were held between the company and Fisheries and Oceans Canada prior to submission of the District Manager's report on 3 March 1981. These focused on terms of reference for additional studies ". . . to determine the impact of the fill proposal on salmonid resources utilizing the Tahsis River, and compensatory measures designed to offset the loss of

productive estuarine habitats." The terms of reference were forwarded to the District Manager on 11 February 1981 and later summarized in his report to indicate the concerns of Fisheries and Oceans Canada personnel.

A significant shift in the position of Fisheries and Oceans Canada regarding the Tahsis proposal occurred with a transfer of responsibility within the Habitat Protection Branch in late February. This was indicated by a letter dated 4 March 1981 which advised the applicant not to proceed with the earlier discussed impact assessment, but rather, to reassess alternative sites first. This shift in agency position appears to have complicated Step 10 in the prospectus review which involves a decision on the appropriate level of review and in the initial steps of the major review process which involves a decision on the appropriate <u>type</u> of major review.

The District Manager's report dated 3 March 1981 went beyond the guideline for step 9 of the prospectus review by recommending the type of major review which should occur:

> I feel we have already completed the Stage I procedure in that we have identified the major concerns of the referral agencies and the studies they have requested to fill in data gaps. We can, therefore, move directly to Stage 2 by advising Tahsis Company to engage the necessary consultants to undertake these studies.

At some point, a decision was made to proceed with Stage I, rather than Stage II, and it is not certain why a premature announcement was circulated stating that the District Manager's recommendation had been accepted. The Ministry's Executive Committee eventually gave approval to proceed with a major

review and the District Manager was subsequently designated as chairman of the Stage I Regional Project Review Committee in late May 1981.

Additional studies were undertaken on wildfowl and fisheries resources over the next year. The company was asked to provide additional information justifying the extent of its need for the fill area and Fisheries and Ocans Canada continued to be opposed to the project. In August 1982, the Ministry was considering approving the project in principle and requiring the applicant to submit detailed plans for the site, after which the project would be made public (Egan, 1982).

THE CROFTON DRY LAND SORT

On 9 October 1980, Pacific Forest Products Ltd., formerly Pacific Logging Company, submitted several applications relating to an access causeway, a central dryland sort, and a water lot. The site of the proposal is immediately north of a similar dryland sort operation owned by British Columbia Forest Products Ltd. (BCFP). Both are close to the BCFP Crofton pulp mill and adjacent to the Chemainus River Estuary (Figure 5.8). The proposal involved filling approximately 8 hectares of submerged land and dredging an equal area of the 8.5-hectare water lot. The proposal also involved fill construction of a rubble mound breakwater and a 822-metre access causeway.

The proposal is related to the company's plans to expand its log sorting capabilities to handle increased logging

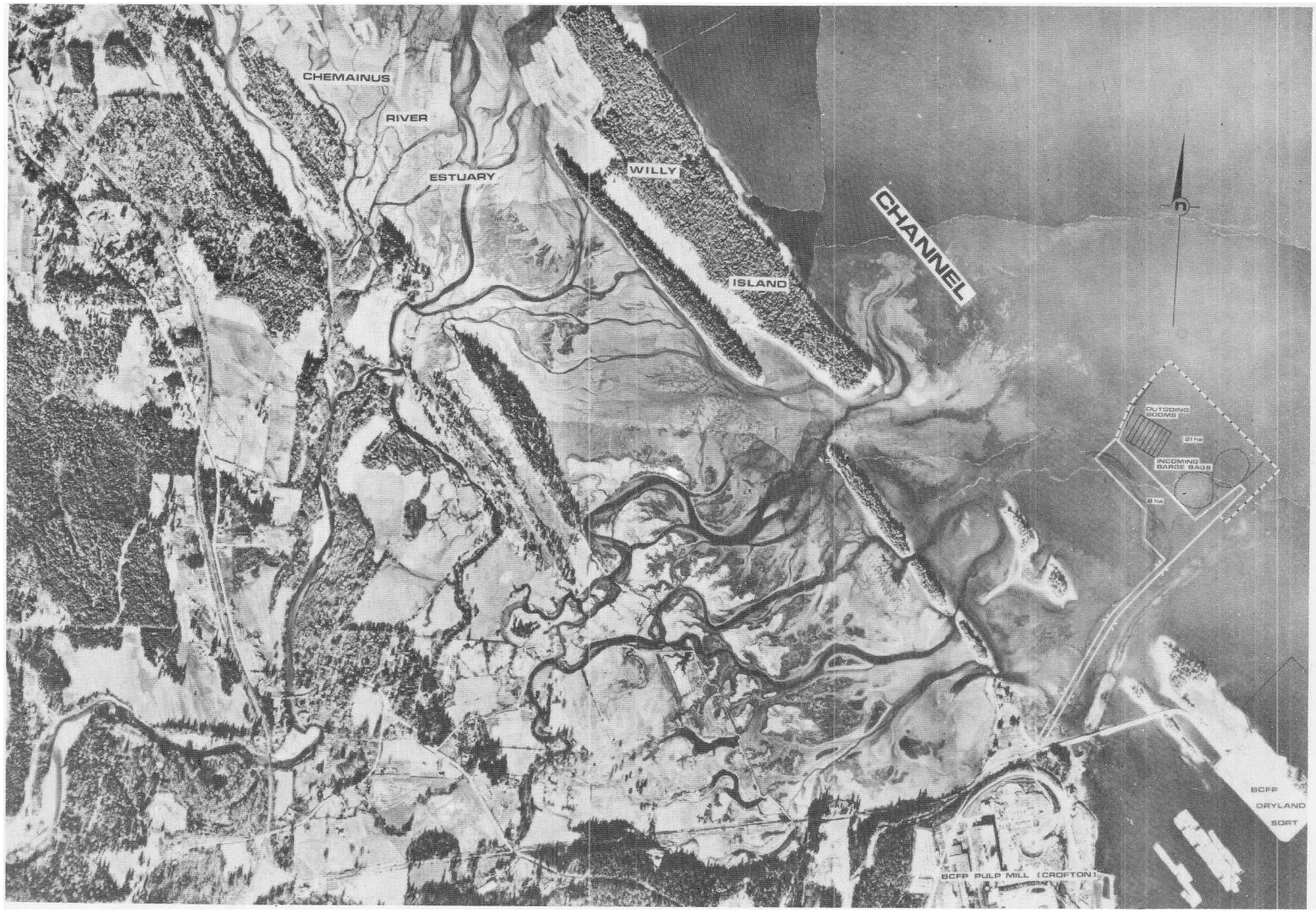

Figure 5.8 Location of Crofton case study. Source: Pacific Logging Company Ltd. (1980). Date of Photography: March 1, 1978. Scale=approx. 1:25,000.

production in the Rivers Inlet area and to the company's desire to convert from loose log water sorting to dryland bundle sorting. A number of trade-offs were proposed by the company, contingent upon the approval of the central dryland sort:

- elimination of 14 hectares of log storage at the head of Ladysmith Harbour, consistent with the Ladysmith Harbour Management Plan;
- realignment and net reduction of 18 hectares of intertidal P.F.P. leases with the legalization of a trespass;
- reduction of 46 hectares of intertidal MacMillan Bloedel leases with creation of a 16-hectare lease to the east of Willy Island.

The major activities in processing the application are outlined in Table 5.7. The order in which these activities occurred closely follows the order suggested under the Interim Guidelines.

Prior to submission of application forms and the initial prospectus on 9 October 1980, the applicant examined a number of alternative sites between Nanaimo and Saanich Inlet. Sites chosen for intensive feasibility studies by the applicant were Crofton, Duke Point, Kuper Island, Burgoyne Bay, and Link Island (Pacific Logging Company Ltd., 1980). Unsuccessful negotiations for the Kuper Island site began as early as 1977. Initial agency contacts were made in the summer of 1980 regarding the Crofton site.

Deficiencies in the prospectus were identified by the District Manager and the applicant was requested to supply additional information. The applicant complied by contracting a number of consultants through October and November to undertake

TABLE 5.6

CHRONOLOGY OF EVENTS RELATED TO
THE CROFTON CASE STUDY

EVENTS PRECEDING APPLICATION

1977-80	Company failed to secure Kuper Island site through negotiations with Indian and Northern Affairs Canada.
Summer 1980	Company made initial agency contacts: - Lands, Parks and Housing - Fisheries and Oceans Canada. - Forests - Coast Guard Canada - Cowichan Valley Regional District - District of North Cowichan
Sept. 1980	Parcel staked by applicant.

EVENTS AFTER APPLICATION

9 Oct. 1980	Application forms and prospectus submitted. District Manager identified deficiencies in prospectus.
27 Oct. 1980	Company met with consultants to discuss additional studies.
Oct.-Nov. 1980	Consultants completed benthic and hydraulic studies.
3 Dec. 1980	Company referred application to above agencies plus Marine Resources Branch and Waste Management Branch.
12 Dec. 1980	Company forwarded revised prospectus to referral agencies.
19 Dec. 1980	Information meeting held to discuss prospectus. Above agencies present plus a local alderman and representatives from Greenpeace and B.C. Wildlife Federation.
25 Feb. 1981	Fisheries and Oceans Canada returned comments objecting to proposal.

TABLE 5.7 - Continued

11 March 1981	Company met with Fisheries and Oceans to discuss concerns.
1 April 1981	Company forwards written response to Fisheries and Oceans Canada.
Nov.-Dec. 1981	District Manager recommended that the application proceed to the major review process.
10 Feb. 1982	Recommendation forwarded to Executive Committee by Regional Director.
March 1982	Executive Committee approved recommendation.
5 May 1982	Regional Director forwarded letter to District Manager directing him to proceed with major review.
End of June 1982	Letter received.
August 1982	District Manager requested to make a detailed presentation combining the Pacific Logging proposal with the BCFP proposal.

Source: Compiled from Ministry of Lands, Parks and Housing files 1400317-19 and interview with I. McRae, Manager, Properties Division, Pacific Forest Products, Ltd., May 1, 1982, Vancouver.

studies involving benthic surveys, current measurements, and sediment sampling. The prospectus review was coordinated by the applicant. The District Manager referred the applications to resource agencies on 3 December and the applicant completed and distributed a revised prospectus on 12 December. An information meeting between the applicant and referral agencies was chaired by the District Manager the following week. Several interest groups including the B.C. Wildlife Federation and Greenpeace were permitted to attend, but not to participate.

In this case, the major conflict was related to the concerns of the Department of Fisheries and Oceans Canada. These concerns were forwarded to the Manager of Land Administration on 25 February 1981. The applicant was advised to meet with Fisheries and Oceans to attempt to resolve the conflict. Little progress had been made by late April when a representative from the company was interviewed (McRae, 1981).

The District Manager recommended in Fall 1981 that the application proceed under the major review process. No additional studies were undertaken during the previous summer. Six to seven months passed before the District Manager was informed that the recommendation was approved. The reasons for delays during this period could not be determined.

In August 1982, the District Manager had been requested to prepare a detailed report for review by the provincial Environment and Land Use Technical Committee (Egan, 1982). The report was to include information on a seperate proposal that

had been made by British Columbia Forest Products (BCFP) which operated the Shoal Island central dry land sort on an adjacent area. The BCFP proposal involved filling an area adjacent to the Shoal Island sort area for the purpose of building a log conversion plant. The two proposals will likely be reviewed by the ELUTC concurrently, although a decision for this type of review has not been made yet.

The application review process was somewhat different in all of the case studies, but the types of conflicts and problems that occurred were similar. These are discussed in the following sections of this chapter where the Interim Guidelines are evaluated in terms of three evaluative criteria: decision-making effectiveness, administrative efficiency, and procedural fairness.

DECISION-MAKING EFFECTIVENESS

Comparisons of decision-making effectiveness during the "before" and "after" time periods were made using two key indicators: information availability and agency coordination. The information available to decision-makers is important in terms of reducing the uncertainty of potential decision outcomes; however, coordination of participants in the decision process is necessary to obtain it. Factors considered in determining the degree of information availability included the type, quality, and timing of information made available during the application review process. The degree of agency

coordination was determined by considering factors such as the numbers and types of agencies informed of applications or involved in the review process, the types of comments obtained, and the recommendations included in decisions.

INFORMATION AVAILABILITY

The application review process was more effective in terms of information availability during the period after implementation of the Interim Guidelines than during the period before. Two significant improvements occurred. The first was the increased number of project alternatives and explicit resource trade-offs that were identified at earlier stages of review. The second was an increase in information made available to other resource agencies through referral of a prospectus with applications.

Renewals

Information on file was usually adequate for assessing simple renewal applications. Applicants were not required to prepare a prospectus prior to submitting applications and inspections were frequently unnecessary. Renewal applications were referred to relevant resource agencies on a routine basis.

Files contained information such as original applications, referral summaries, inspection reports, maps, and aerial photographs. Most sites were inspected routinely to determine if applicants were conforming with the terms of their tenure.

In the Courtenay District, inspections were systematically carried out in the fall and spring by aeroplane and oblique aerial photos of application areas were on file. In the Victoria District, most inspections were done by land or boat and photos were also on file.

Minor Projects

Information provided with minor project applications during the "before" period was frequently limited to an application form and a location map or survey plan. Additional information was obtained if necessary from a number of sources prior to site inspection or application referral:

- discussions with the applicant;
- information on file;
- personal knowledge of in-house staff; or
- contact with other resource agency staff.

Applicants were usually asked the types of questions that are asked in the prospectus form, especially those regarding project justification. Information on file was often substantial in cases where a previous tenure or trespass was involved at or near the proposed site. In both District Offices, in-house staff had extensive experience in dealing with coastal log-handling applications and demonstrated a high level of knowledge in such matters. Contacts with other resource agencies were also an important source of information. For example, Courtenay District personnel often contacted the Ministry of Forests to obtain information on the origin of wood

and the logging operation involved, although applications were rarely referred to this agency.

A completed prospectus form was attached to most application forms received during the "after" period. In many cases, the prospectus form was completed over the counter with the assistance of district staff. The type of information provided in the prospectus did not differ substantially from the type of information obtained from other sources in the "before" period. However, the prospectus enabled this information to be documented and included in referrals to other resource agencies.

Alternatives were more frequently identified by applicants in the "after" group who completed prospectus forms. However, alternatives were frequently identified by Ministry staff or referral agencies for applications in the "before" group. For example, the majority of applications disallowed in the Victoria District had an alternative available such as truck transportation to an existing dump site.

Regional and Major Projects

The type of information provided by applicants in the early stages of review varied considerably between the four case studies. This depended largely on what information was already available, what the applicant was asked to provide, and what site-specific issues were perceived as relevant. Information available prior to receipt of an application or prospectus included internal reports on previous lease applications and

inspections in both "before" case studies and the Tahsis case study. Although the Crofton case involved an unused area, much relevant information was available from files on the neighbouring Shoal Island Dry Land Sort development.

Other information was available for all but the Crofton case. The biological resources at the Buckley Bay site had been evaluated in a report by the provincial Marine Resources Branch and an internal report had been made by the District Manager recommending against any further log-handling at the site. In the Kelsey Bay case, the applicant had made available a report containing an overview of the proposal, an economic assessment of alternative sites, a survey of intertidal vegetation at the site, the consultants interim report, and a proposal for an environment assessment. Information made available prior to the Tahsis application was extensive and included an engineering study, a study proposing trade-offs between the proposed development and use of the Leiner Estuary, a biological study identifying critical habitat areas, and a hydrological study on estuary dynamics.

Information provided with the Buckley Bay application was limited to the standard application form and a survey map of the site. This was considered inadequate for assessing the application and it was referred to headquarters staff biologists who developed terms of reference for an "environmental impact assessment" to be prepared by the applicant. The terms of reference provided to the applicant were similar to the

suggested format and content of the prospectus report under the Interim Guidelines. In the subsequent report, the company identified and ranked five alternatives, summarized existing data on the proposed site, described the proposed development and anticipated environmental and economic impacts, and listed a number of measures designed to minimize the anticipated negative impacts. The applicant submitted a second report to meet requirements for additional information on the design of the facility, the plans to mitigate impacts, and the alternatives to the proposal. Information on alternatives was also made available in a report by a public interest group that was opposed to the development.

A number of environmental studies were submitted with the Kelsey Bay application. These included studies related to vegetation, noise, geohydraulics, wildlife, and fisheries. Additional information was later requested on the last three subjects.

A prospectus was submitted with each of the "after" case study applications. In the Tahsis case, the prospectus was relatively brief because considerable information was available from previous studies undertaken by the applicant. Some additional information was requested on fisheries and waterfowl. In the Croften case, the applicant was required to undertake additional studies on the nature of marine sediments at the site and on the hydraulic impact of the proposed development. Additional studies had not been requested by the Ministry of

Lands, Parks and Housing as of August 1982.

Information regarding alternatives to the proposed development was an important issue in all of the case studies. Although guidelines have been established for assessing the benefits and costs associated with project alternatives (B.C., Environment and Land Use Committee Secretariat, 1977), no standard methodology was used in any of the case studies. In the "before" cases, the applicants identified three to five alternatives to the proposed development and ranked them according to the present value of anticipated capital and operating costs. This type of economic analysis enabled identification of the applicant's preferred alternative. However, it did not enable identification of the alternative preferred by society at large (the public interest). The economic value of environmental and social impacts associated with each alternative were not fully considered. Consequently, the value of these impacts remained uncertain.

Several different methods of transportation and two existing sorting operations were considered as alternatives in the Buckley Bay case. Listed in order of the applicant's preference these included:

1) Off-highway trucks (15 cunit load) to Buckley Bay dump and tow camp-run bundles to Northwest Bay (58 km south of Buckley Bay) for sorting and booming;
2) Off-highway trucks to Buckley Bay rail site (200 m inland across the Island Highway) for shipment via rail to Northwest Bay;
3) Off-highway trucks to dryland sort site located 200 m inland and dump bundles at Buckley Bay;
4) Highway trucks (10 cunit load) to Northwest Bay

dryland sort;

5) Highway trucks to Union Bay (6 km north of Buckley Bay) for contract sorting and booming.

In the Buckley Bay case, three alternative sites were identified by the applicant. All were located inland and were viewed as uneconomical because of high transportation or construction costs.

The assessment of alternatives was a major issue throughout both stages of review in the Buckley Bay case. The third alternative listed above was recommended by Ministry district staff based on a consensus of referral agencies. Little policy direction was provided from headquarters, despite discussions which had taken place between the applicant and senior Ministry staff. The applicant's preferred alternative was eventually approved by headquarters contrary to the recommendation. This decision was made presumably on the basis of these discussions and other policy considerations. This resulted in bitterness and alienation of referral agency staff when the recommendation was not followed. The problem might have been avoided if better communication had occurred within the Ministry. In the second stage of review, the applicant was requested to provide additional information on the costs of the truck and rail alternatives for transporting logs to Northwest Bay. An unsolicited economic analysis was also provided by a public interest group opposed to the Buckley Bay alternatives.

Referral agency staff indicated during interviews that they were also dissatisfied with the assessment of alternatives in

the Kelsey Bay case. Studies initiated by the applicant focused concern on the applicant's preferred alternative, its impacts on fisheries and wildlife resources, and their mitigation. These site-specific trade-offs were identified at an early stage and subsequent studies appeared to have provided adequate information for their consideration. However, little concern was focused on the impacts associated with the alternatives sites and methods of log transportation.

The need to assess alternatives from a broader perspective was clearly recognized in the "after" case studies. In the Tahsis case, concern regarding the assessment of alternatives was raised after a recommendation was made to proceed with stage II of the major review process. Although no alternative site was available, the company was asked to justify its need for additional space and its use of other areas in close proximity to the mill. The issue was addressed by deciding to proceed with stage I rather than stage II. The alternatives will likely be reviewed in detail by the Regional Project Review Committee in stage I, unlike either of the "before" case studies.

In the Crofton case, the applicant identified 18 alternative sites and chose five for "intensive feasibility studies": Duke Point, Link Island, Burgoyne Bay, Kuper Island, and Crofton. A wide range of reasons were provided for rejecting alternatives including poor shelter from wind and currents, conflicts with marine traffic, construction and operating difficulties, and conflicts with nonindustrial uses.

The alternatives were not ranked in order and economic information was not provided. During the prospectus review, referral agencies requested that additional information be provided on the five alternatives considered by the applicant. It is likely that these alternatives will receive more comprehensive evaluation during subsequent review.

Information availability was also higher in the "after" case studies when measured in terms of the types of resource trade-offs identified. In the "before" case studies, these tended to be limited to anticipated site-specific environmental and social impacts such as loss of oyster habitat at Buckley Bay and loss of fisheries habitat at Kelsey Bay. The implicit trade-off involved weighing the net social cost of any impact against the net social benefit of the proposed development.

In addition to these types of implicit trade-offs, other types of trade-offs were identified in the "after" case studies. These were proposed by the applicants and involved reducing log-handling activities in other ecologically sensitive areas in trade for the proposed developments. In the Crofton case, the applicant proposed to eliminate 14 hectares of log storage at the head of Ladysmith Harbour and 64 hectares of log storage near the Chemainus Estuary if the dryland sort and a new 16 hectare deep-water lease were approved. The applicant also suggested that substantial environmental benefits would result from conversion of the company's log-handling operation from loose-log water sorting to dryland bundle sorting. In the

Tahsis case, the applicant had proposed to eliminate log-handling on the Leiner River estuary if the development was approved. This trade-off was proposed prior to implementation of the Interim Guidelines. More recently, the applicant in the two "before" case studies made a similar proposal to reduce log storage in the Cowichan River estuary indicating a trend towards identifying trade-offs on a regional level.

The success of these types of trade-offs depends in part on the power of the bargainer and in part on the value placed on what is bargained. The applicant proposing the Cowichan Estuary trade-off has a significant degree of bargaining power because the lands on which the log-handling leases are held are not within the jurisdiction of the provincial govenment. In contrast, the applicant proposing the Ladysmith Harbour trade-off has little bargaining power because the lands are administered by the Ministry of Lands, Parks and Housing and the applicant has already been requested to terminate the leases in accordance with the Ladysmith Harbour Crown Foreshore Plan.

Establishing values for trade-offs was a fundamental problem in all case studies. Referral agencies did not have a means by which to evaluate alternatives, impacts, or resource trade-offs and as a result were frequently unwilling to make compromises. Where these types of values could not be established, policy direction from higher government levels was needed. In the "after" case studies, a higher degree of policy direction occurred because of the structured review process

under the Interim Guidelines. Review of the two "before" case studies was coordinated at the district level, whereas, review of the Tahsis application was coordinated largely at the regional level and review of the Crofton application is likely to be coordinated in Victoria at the headquarters level.

AGENCY COORDINATION

Agency coordination did not improve significantly between the two time periods as a result of the Interim Guidelines. Problems in coordinating the concerns of fisheries related resource agencies continued to occur in the "after" case studies despite prospectus reports, interagency meetings, and referrals. No significant changes occurred between time periods in terms of how minor project applications were reviewed. The same referral agencies were used in both periods. However, the range of agencies contacted was different between the two districts.

The primary mechanism used to coordinate agency concerns was the referral system. Referral agencies were forwarded a Land Referral Form with copies of applications during the "before" period and a copy of the prospectus was attached during the "after" period. In the Land Referral Form, agencies were asked to comment on the application, recommend either approval, approval subject to conditions or disapproval, and substantiate the recommendation by identifying it as one of the following:

1) First Order Response - a response reflecting the legislative mandate of an agency or the official policy of government;
2) Second Order Response - a response reflecting

concerns of a general order relating to agency interest but unsubstatiated by concrete data; or

3) Third Order Response - a response based on considerations other than those mentioned above.

Progress of referrals was usually recorded using a Referral Summary Report form attached to the application file and the Victoria District also kept a record in the District Land Register.

Minor Projects

Applications were referred to the same types of agencies during both the "before" and "after" periods. However, the group of agencies differed between the two districts. In almost every case, the Courtenay District referred applications to the provincial Fish and Wildlife Branch, the federal Department of Fisheries and Oceans, and the relevant Regional District. Referrals were made several times to the Ministry of Forests, and once to the Marine Resources Branch, Ministry of Health, Waste Management Branch, and Gold Commissioner. The Victoria District on the other hand referred applications in most cases to the federal Department of Fisheries and Oceans, the federal Department of Transport (Coast Guard), and the provincial Islands Trust. Referral agencies contacted less frequently included the Canadian Wildlife Service, the provincial Marine Resources and Fish and Wildlife Branches, and local governments.

Referrals to the federal Department of Transport in relation to its mandate under the Navigable Waters Protection

Act were the only real inconsistancy between districts. Referrals were not usually made to this agency by the Courtenay District. The Navigable Waters Protection Officer has stated that referrals by the Ministry of Lands, Parks and Housing are useful in monitoring and enforcing the Act (Duduman, 1981). When a referral is received, a form letter is sent to the applicant requesting that he apply for Minister's approval under sections 5.1 and 5.2 of the Act. The primary decision criteria for approval is whether the proposed project is an obstruction, hinderence, or hazard to navigation. The most important information to meet their needs is a description of the project and a location map (preferrably a marine chart). In this regard, the prospectus was described as having little additional value to that agency.

District level staff within the federal Department of Fisheries and Oceans stated that the primary concern with referrals of coastal log-handling applications is any potential loss of fisheries habitat and impacts on the fisheries resource. The most significant factor was considered to be the location of sites in terms of proximity to fisheries habitat. Coastal log-handling referrals were felt to be important because they often notified District Officers of new logging operations.

Regional and Major Projects

Interagency meetings were used to coordinate agency concerns in all the case studies. Referrals were more of a

formality because most agency positions were clearly made at interagency meetings. Company representatives and consultants made presentations at the initial meeting of interested agencies. Meetings were also held with individual agencies to discuss specific issues. However, problems in coordinating agency concerns were apparent in all the case studies. Changes in staff responsibility within one of the primary referral agencies was the major cause of problems in the two "after" cases. In the "before" period, the problems were different in nature.

Agency coordination in the Buckley Bay case became progressively poorer as the application moved from the District level to more centralized policy levels at headquarters. Coordination at the District level was relatively good at the time that the application was received because a local resource management committee was meeting regularly to discuss the Baynes Sound and Comox Harbour Crown land planning studies which were in progress. The Baynes Sound study covered the application area and both studies involved resolving conflicts between log handling and other shore uses such as oyster growing. After review of the company's first submission, the committee agreed on a compromise recommendation to locate the sorting area inland, use the Buckley Bay site as a bundle dump, and approve the oyster licence application. Two agencies were opposed to the applicant's preferred site, three gave conditional approvals, and three were in favour.

A number of resource agencies were antagonized when the recommendation was not supported by senior administrators and agency coordination became more difficult in the second stage of review. The lack of an effective means for coordinating agency input during this stage was indicated by the means taken by the Fish and Wildlife Branch to express concerns regarding facility design, construction, and operation. These concerns were made in correspondence at the ministerial level rather than at the regional or branch level. A second indication was the uncooperative stance taken by district level resource managers at a meeting held in April 1981 to review the company's second report. [1]

In the Kelsey Bay case, the application review process was coordinated at the district level. The intial number of agencies involved in the review was large, but decreased after the first round of referrals. The remainder of the review process was concerned largely with coordinating the concerns of the Canadian Wildlife Service and Fisheries and Oceans Canada. This was accomplished largely by meetings between the applicant and these agencies to discuss additional impact studies.

The range of agencies involved in the Tahsis case was also narrowed at an early stage. Concerned agencies included the Fish and Wildlife Branch, Fisheries and Oceans Canada, and the Canadian Wildlife Service. Several studies and considerable

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[1] The author attended this meeting on 22 April 1981 at Courtenay, B.C.

negotiation between the company and specific resource agencies took place prior to the formal application. Consequently, participants in the review process agreed on the issues that remained unresolved and the level of review that the application should receive.

In the Crofton case, the applicant met with most resource agencies prior to preparing a prospectus. Agencies were familiar with the nature of the proposal because a similar dry land sort facility was built on an adjacent site several years earlier. A large number of agencies were invited to the first meeting where concerns were expressed. The primary issue was the method used to assess site alternatives. Unlike the other cases, the applicant elected to coordinate the prospectus review.

ADMINISTRATIVE EFFICIENCY

The administrative efficiency of the application review process did not improve significantly with implementation of the Interim Guidelines. The time involved in handling applications was the primary indicator used. This was measured by determining the length of time taken to complete various stages of the process as indicated by dates of applications, referrals, inspections, recommendations, and decisions. The completion of a prospectus in both "after" case studies did not reduce the delays involved in obtaining comments from key referral agencies and the time taken to report on minor projects did not change

significantly.

RENEWALS

Neither District Manager exercised the option under the Interim Guidelines of requiring an applicant to prepare a prospectus prior to submitting a renewal application for a lease or licence of occupation. Renewal applications were handled in a similar manner during both time periods. Consequently, any differences between the "before" and "after" groups of renewal applications were difficult to attribute to the Interim Guidelines.

The average time taken to report on most renewal applications received in the Nanaimo District during the "before" period was one to two months. Where conflicts were involved, or there were difficulties in obtaining information, this increased to seven to eight months. For the same period in the Courtenay District, the average time was two to five months and almost always related directly to the scheduling of biannual inspection flights in the spring and fall.

Only four of the eight renewal applications received in the Nanaimo District "after" implementation of the Interim Guidelines had been reported on at the time the survey was undertaken. The application with the shortest reporting time of two months was located within a Crown Land Plan area. One application involving an inspection required three months and one in Cowichan Bay required four months, but was later

withdrawn. An application involving conflicts with fisheries and native Indian interests required six months. No renewal applications received after implementation in the Courtenay District were sampled in the survey.

MINOR PROJECT APPLICATIONS

The amount of time taken to report on minor project applications did not change significantly between the two time periods. The average time taken during the "before" period was two months in the Nanaimo district and three to four months in the Courtenay District. Of the six new applications received in the Nanaimo District after implementation of the Interim Guidelines, only two had been reported on. One was disallowed after one month and the other was recommended for the minor projects process after two months. A prospectus was not received for either application. Five of the thirteen new applications received in the Courtenay District for this period were recommended for the minor projects process. The average time taken was three months and a prospectus was completed for all of these applications.

Significant delays in processing minor-project-type applications occurred after the District Manager completed his report. The average time between report submission and issuance of tenure for new applications received in the Courtenay District during the "before" period was five months and ranged from one to ten months. The variety in length of time may have

been related to time taken to obtain documents such as certificates of encumbrance, upland owner's consents, and notices of advertisement that are required prior to formal issuance of tenure.

REGIONAL AND MAJOR PROJECT APPLICATIONS

Considerable delays occurred in all the case studies. In the "before" period, delays were related to a variety of causes including the time needed to undertake additional studies, review information, and prepare agency responses. The primary cause of delay in the "after" case studies was related to obtaining approvals from the Department of Fisheries and Oceans. The completion of a prospectus in both the Tahsis and Crofton cases did not reduce this delay.

The Buckley Bay application was processed in three distinct time periods:

1) 10 months from receipt of the application to submission of the District Manager's report and recommendation;
2) 10 months from receipt of the report by the Regional Director to announcement of the Minister's decision to approve the application in principle;
3) 12-13 months from approval-in-principle to withdrawal of the application by MacMillan Bloedel.

Poor planning by MacMillan Bloedel caused most of the delay during the first period. Company personnel had made long-term plans for the site as early as 1974 and knew that these would be difficult to pursue after the log dump operation was terminated in 1975. However, the application submitted in 1978 was not the

result of the necessary planning and consultation with resource agencies, but was a crisis reaction to the oyster licence application made one week earlier. No attempt was made to determine what type of information should be submitted for review with the application and, consequently, considerable time had to be spent obtaining additional data.

Political factors related to implementation of the Interim Guidelines appeared to be the primary cause of delay between the District Manager's report and the news release announcing the Minister's decision. When the District Manager submitted his report in September 1981, the first draft of the Interim Guidelines were in preparation. The news release came one month after implementation. The decision may have been deferred until this time so that it would appear less controversial in view of the recently implemented guidelines and the announcement of the moratorium. An additional factor is that MacMillan Bloedel played a significant role in initiating both the Estuary, Foreshore and Log Handling and Transportation Study and the Interim Guidelines. The company proposed the former in April 1979 (B.C., Ministry of Lands, Parks and Housing, File 0354285(1), 17 April 1979) and the latter in July 1979 (B.C., Ministry of Lands, Parks and Housing, File 0354285(1), 20 July 1979) because it perceived that its coastal log-handling lease areas were in jeopardy. During this time, both the Buckley Bay and the Kelsey Bay applications were in the early stages of review and the company held several meetings with the Assistant

Deputy and Deputy Ministers of Lands, Parks and Housing.

The Kelsey Bay application was also processed in several stages:

1) 7 months from receipt of the conceptual plan to the third interagency meeting;
2) 12 months for completion of additional studies;
3) 4 months from completion of studies to May 1981.

Reasons for delay are similar to those for Buckley Bay. However, it appears that considerable delay can be attributed to the unstructured review process, and to the number of meetings and participants that were involved. The task force approach that was used to review the application required a series of meetings in order to review reports prepared by the applicant.

A major delay in initiating the proposal was related to the problem of riparian rights (see Chapter 3). The company's lease was not renewed in 1969 because the upland owner would not provide a written consent to use the foreshore. The company was actually in trespass and charged "occupational rental" until 1978 when negotiations with the upland owner were completed and the company contacted the Ministry about the proposal. This type of problem was also encountered in the Crofton case study, and will continue to be a problem for applicants as the issue was not addressed in the Interim Guidelines.

The Tahsis application was moved through prospectus review stage in a relatively short period because of the large amount of negotiation and work that had taken place previously. The original applicaion dated back to 1972 and during the two years

between renewal of the proposal in 1978 and contact with the Ministry in 1980 numerous meetings took place and several major studies were undertaken. Only one month was required by the applicant to complete and revise the prospectus. Three months were needed to review the prospectus and make a recommendation and another two months occurred before a decision was made to designate the application for assessment under the major review process. This exceeded the recommended 45-day time frame under the Interim Guidelines. The primary cause of delay was negotiations with Fisheries and Oceans Canada.

The Crofton application was also delayed in the prospectus review stage because of objections made by Fisheries and Oceans Canada. The application was opposed in Spring 1980 when staff were reassigned within the Habitat Protection Branch to take responsibility for reviewing coastal log-handling applications referred from the Ministry of Lands, Parks and Housing.

PROCEDURAL FAIRNESS

Procedural fairness was measured in terms of the steps taken by Ministry of Lands, Parks and Housing to consider the views of persons who may be directly affected by a decision regarding an application. This involved determining whether procedures were comprehensible to all participants and established well in advance, whether affected interests were given adequate notice and an opportunity to be heard, and whether all parties were provided with an opportunity to appeal

a decision prior to the issuance of tenure.

The application review process was more fair after public release of the Interim Guidelines report because details were provided on the various steps of the process and the responsibilities of participants involved. Applicants, resource agencies, and the general public did not have access to documentation of procedures for reviewing Crown land applications during the "before" period. However, applicants and resource agency staff who were interviewed indicated that the new documentation was difficult to comprehend and suggested that it could be improved with more graphical presentation of the various procedures.

A primary mechanism used to ensure procedural fairness was the requirement that an applicant advertise his intent to apply for a disposition of Crown land. Applicants were generally required to supply proof of advertisement prior to an issuance of tenure. Meeting this requirement involved placing a notice in the B.C. Gazette and a local newspaper for a specified period of time. This procedure appeared to be an effective means of informing the general public. Advertisements were frequently referred to in letters which protested controversial applications.

However, advertisements were used more as an appeal mechanism rather than as a means of public input into the decision-making process. The requirement to advertise was usually fulfilled in the very last stage of the application

review process. In almost every case that could be documented, applications were advertised after the report had been made by the District Manager. Thus, the District Manager's recommendation was often made without benefit of any public response to the advertisement.

Procedural fairness was a major issue in the Buckley Bay case. Complaints were made to the B.C. Ombudsman by the oyster licence applicant, the Baynes Sound Protection Committee, and an Islands Trustee for Denman Island. The complaints concerned the procedures followed in advertising the application and the refusal of the Minister to hold a public hearing (LaBrouey, 1981). An official investigation was undertaken and a report was prepared for submission to the Legislature. However, the report was not tabled for public release because the Ministry made a commitment to require the applicant to readvertise the application and hold a public information meeting. Although the Ministry refused to hold a public hearing, this was required by the Regional District of Comox-Strathcona in accordance with regulations under the Municipal Act when the company applied to rezone the foreshore area to industrial use.

The issue of public involvement was a primary concern expressed by most applicants who were interviewed. Most were in favour of the general principle, but were seriously concerned about the scope, method, and timing. One concern was the difficulty of answering specific questions about detailed plans while still in the conceptual planning stage of the project.

For minor projects, the applicant will most likely have prepared detailed plans at the time of application and will be in a position to respond to specific questions. For regional and major projects, preliminary plans would only be available at the application stage which suggests the need for a second means for obtaining public input when detailed plans are available.

SUMMARY OF FINDINGS

A number of improvements in the coastal log-handling application review process were noted for the period after implementation of the Interim Guidelines. However, the overall conclusion is that little change occurred between the two time periods in terms of the three evaluative criteria used: decision-making effectiveness (information availability and agency coordination), administrative efficiency (processing time), and procedural fairness (consideration of affected interests). The types of problems documented in the "before" case studies continued to occur during the "after" period, and were more significant in some cases.

Decision-making effectiveness improved in terms of information availability, but not in terms of agency coordination. During the "after" period, an increased number of project alternatives and resource trade-offs were identified at earlier stages of the review process and more information was made available to other agencies through referral of a prospectus with applications. However, a fundamental problem

persisted. This was the inability to establish comparative values for alternatives, impacts, and trade-offs in all the case studies examined. Although the general need to reassess the applicant's alternatives from a broader perspective was recognized in the "after" case studies, no explicit methodologies were used or proposed. A serious weakness in the Interim Guidelines is the absence of guidelines for addressing this issue. Problems in coordinating the concerns of Fisheries and Oceans Canada continued to occur in the "after" case studies despite completion of prospectus reports, interagency meetings, and application referrals. This indicated the lack of an effective means of coordinating provincial and federal resource agencies in project reviews.

Administrative efficiency did not improve significantly in terms of the length of time taken to process applications. The completion of a prospectus in both "after" case studies did not reduce the delays involved in obtaining comments from key referral agencies and the time taken to report on minor projects did not change significantly. In several cases, considerable delay occurred in processing applications at the regional or headquarters level.

Procedural fairness improved in terms of making the administrative review process more comprehensible to all participants. However, problems continued to occur with respect to providing notice to affected interests and providing opportunities for input into the decision-making process.

Advertisements of applications were often published in the very last stages of the project review and the Interim Guidelines did not provide additional opportunities for public input or consultation.

Differences were noted between the Courtenay and Victoria Districts with respect to the types of applications received, referral agencies consulted, conflicts that occurred, time taken to process applications, and day to day operations. These were related to differences in the types of log-handlng operations, agency jurisdictions, and existing shore uses in each district. Similar differences are likely to exist between other districts and regions.

Only a limited range of problems comprising the log-handling issue were addressed by policies and procedures contained in the Interim Guidelines. In terms of the three approaches to coastal resource management identified in Chapter II, the Interim Guidelines aid in preserving environmentally significant areas and controlling specific types of land uses over the very short term, but are less effective at integrating management of onshore and offshore resources. Identifying environmentally significant areas is a key aspect of the review process under the Interim Guidelines and procedures are designed to ensure that applications involving impacts in these areas would receive an appropriate level of review. However, no assurance is provided that areas determined to be significant will be preserved over the long term. The status of a Crown

land parcel does not necessarily change under the Interim Guidelines when an application is disallowed and applications may be submitted at any time. Some type of land use designation procedure at the end of the application review process would reduce duplication of effort over the long run by limiting the range of land uses acceptable in the area. For example, the conflicts in the Buckley Bay case may have been avoided if a more permanent land use regulation or designation had been put in place when the earlier log-handling operation was prohibited or when the District Manager later recommended no further log handling at the site. This could have been achieved by land use regulations at the local or provincial level.

Integrated management of onshore and offshore resources did not result from implementation of the Interim Guidelines despite their applicability to both upland and foreshore applications for Crown land and to a shore use activity which has both forward and backward linkages to activities involving the use of upland resources. One problem is that the Interim Guidelines review process is poorly coordinated with other application review processes. For example, forest companies frequently receive approval on applications to harvest timber areas before submitting a coastal log-handling application. This sometimes results in companies using foreshore areas without obtaining tenure and pressuring decision makers to approve coastal log-handling applications at a later date.

The issue of riparian rights, discussed in Chapter III, was relevant in three of the case studies and in a number of other applications. Where the upland is privately owned, applicants are required to obtain the upland owner's written consent to use the adjacent foreshore in order that the upland owner's riparian rights of access to and from the water remain protected. As in the case of Kelsey Bay, applicants frequently experienced difficulty in obtaining this consent and often pay considerable compensation to the upland owner. Payment may be made by cash settlement, land exchange, or a charge based on the volume of timber handled at the site. In one application, the charge was one cedar log each time the site was used to store logs. Information about these types of negotiations and the compensation demanded would be useful in determining similar values for publicly owned land.

A second issue was the cumulative impacts of smaller scale log-handling facilities which were designated as minor projects. Although the impacts from the project may be insignificant when viewed in isolation, they may be significant when added to the impacts of other shore uses in the immediated area. Many of the log-handling applications were located in areas where other log-handling leases existed in close proximity. However, the information distributed with the application did not usually indicate the types of shore uses in the general area. This information could be maintained in map form by District Managers and distributed with application referrals. Up-to-date

information on existing shore uses would also facilitate future planning in the area.

A similar issue was the regional scale impacts from log-handling activities. The past trend has been to review applications on a site specific basis with little consideration of the regional trade-offs that may be involved. However, most large-scale log-handling developments have far-reaching impacts in terms of modifying the patterns of log handling on the coast. The Crofton proposal, for example, would convert the company's entire log transportation system from loose logs to bundled logs.

On the basis of these findings, a number of policy recommendations are made in the final chapter. Most of these are procedural in nature and relate to the three evaluative criteria that were used. However, the broader issues noted above, together with those identified earlier, stress the need for more comprehensive shore-use planning. Establishing shore-use policies in advance and predesignating certain areas for appropriate uses would provide direction when considering specific applications. Shore-use planning at the local and regional level is important in view of the difficulties that may be involved in determining values for cummulative and system-wide impacts of log-handling developments.

CHAPTER VI

CONCLUSIONS

The purpose of this study has been to evaluate the Interim Guidelines for the Review and Processing of Coastal Log-Handling Applications. These policies and procedures were implemented by the Ministry of Lands, Parks and Housing on 1 June 1980 in accordance with a formal understanding made with representatives of the provincial Ministries of Environment and Forests, the federal Department of Fisheries and Oceans, and the Council of Forest Industries of British Columbia. The Interim Guidelines were designed to address some of the problems under investigation by participants in the Estuary, Foreshore and Log Handling and Transportation Study by improving the review process for coastal log-handling applications. These types of applications were defined as applications for provincial Crown land that involve the use of Crown foreshore for log dumping, sorting, storage, booming, barging, conversion plants, and other related activities.

Several administrative innovations were introduced under the Interim Guidelines. The major change was the provision of three different options for processing coastal log-handling applications:

1) a minor projects process leading directly to adjudication;
2) a regional review process involving a second review after information gaps have been filled;

3) and a major review process involving a regional project review committee and a comprehensive two-stage review.

A new requirement for applicants was that a prospectus form or report be submitted with each new coastal log-handling application. The primary purpose of the prospectus was to provide a basis for deciding the appropriate option for reviewing the application.

The Interim Guidelines were conceptualized as a decision system of the regulatory process for allocating the use of provincial Crown lands located in the shore zone. A framework proposed by Ciriacy-Wantrup and Bishop (1975) provided the basis for defining the regulatory process as the group of decision systems at the second level of a three-level hierarchy of decision systems. Viewed within this context, regulatory decisions are made at the institutional level and are aimed at controlling or influencing decisions at the operating level below. Thus, decisions under the Interim Guidelines, such as whether to designate an application as either a minor, regional, or major project, affect operating level decisions about whether to approve applications. Changes to institutional arrangements that comprise the regulatory process are made as a result of decisions at the policy level above. Key actors at lower decision levels represent a more narrow range of interests and have a more limited decision-making authority than key actors at higher levels.

A prescriptive model of decision making developed by Sewell (1973) was used to describe policy level events related to

implementation of the Interim Guidelines and to demonstrate the role that hindsight evaluation plays in providing information to aid in future goal and strategy design. A descriptive model of decision making developed by O'Riordan (1976) was used to suggest how this actually occurs. The central assumption in this model is that the public interest is determined through group bargaining and expressed as a result of conflict.

The context in which shore-zone decisions are made under the Interim Guidelines was described in terms of three interrelated sets of conditions important to decision-making: the issue at hand; the institutional setting; and the policy setting. The log-handling issue stems from the coastal forest industry's dependence on water transportation as a means of moving logs from harvesting areas to processing centres and its use of shore zone lands for log handling. Conflicts frequently occur when these same shore zone lands are valued for other resource uses such as fisheries habitat, mariculture, recreation, or boat moorage. The primary issue is the siting of log-handling activities in valuable shore areas such as estuaries and sheltered bays.

The institutional setting was defined as including a legal framework, which establishes governments' proprietary and legislative powers over resources, and an administrative structure which establishes how government is organized. The provincial government owns all foreshore lands between the ordinary high and low-water marks, except where they have been

designated as public harbours. It also owns those lands defined as inland waters. Two statutes were identified that provide the powers to dispose of provincial Crown land, the Land Act and the Ministry of Lands, Parks and Housing Act. However, as a matter of policy, the Land Act is the relevant statute under which coastal log-handling applications are processed. This statute is administered by the Ministry of Lands, Parks and Housing and over 75 percent of the log-handling leases on the British Columbia coast are administered directly through its regional and district offices. A considerable proportion of provincial foreshore is also administered by federal Harbour Commissions under lease from the Ministry of Lands, Parks and Housing. However, these agencies are not required to adopt Ministry policies such as the Interim Guidelines. Other key agencies identified included the federal Department of Fisheries and Oceans, the federal Department of Transport, and the provincial Ministry of Environment.

The policy setting of the Ministry of Lands, Parks and Housing comprises the range of values and interests considered when specific decisions are made. The decision-making powers conferred by the Ministry's enabling legislation are largely discretionary, requiring consideration of a broad range of public interests in relation to the agency's statutory and political mandate. Disposition policies affected by the Interim Guidelines include those relating to the application referral system and the application review process.

The approach used to evaluate the Interim Guidelines focussed on decision-making activities rather than on actual decision outcomes that might have been manifested as measurable changes in the biophysical resource base. The basic research design entailed comparing decision-making activities occurring before and after implementation of the Interim Guidelines, using indices derived from three key evaluative criteria: decision-making effectiveness, administrative efficency, and procedural fairness. Decision-making effectiveness was measured in terms of information availability and agency coordination, administrative efficiency in terms of time taken to process applications, and procedural fairness in terms of procedures for considering the views of affected interests. Comparisons between time periods were based on file examinations and detailed case studies of applications received in the Ministry's Vancouver Island Region.

Four case studies were analysed. Applications selected for analysis from the "before" period were the Buckley Bay and Kelsey Bay dryland sort proposals. In the first case, the application review process was compared to the regional review process specified under the Interim Guidelines. In the second, it was compared to the major review process. From the "after" period, the Tahsis Sawmill expansion proposal and the Crofton dryland sort proposal were selected. Additional information was obtained from files for 88 of the total 194 coastal log-handling applications received during the time frame of the study. This

provided an overview of the types of applications received in the Vancouver Island Region and provided data for evaluating the prospectus development and review process and the minor projects process. Most of the applications received after implementation of the Interim Guidelines involved completion of a prospectus and were recomended for approval under the minor projects process. Only one renewal involved a prospectus.

MAJOR FINDINGS

The overall conclusion is that little change occurred with implementation of the Interim Guidelines; only a few improvements were made and many problems inherent in the former process continued to occur in the "after" period. The major positive effect was the improvement of decision-making effectiveness in terms of information availability. A greater number of project alternatives and resource trade-offs were identified at earlier stages of the review process and more information was made available to other agencies through referral of a prospectus with applications. Despite these improvements, decision-making effectiveness was limited by the inability of participants in the review process to establish comparative values for alternatives, impacts, and trade-offs associated with project developments and log-handling methods.

Decision-making effectiveness defined in terms of agency coordination did not improve. The lack of an effective coordinating mechanism between provincial and federal resource

agencies inhibited the inclusion of concerns expressed by personnel of the Department of Fisheries and Oceans.

Administrative efficiency measured in terms of the length of time taken to process applications did not improve significantly. The completion of a prospectus in both "after" case studies did not reduce the delays imvolved in obtaining comments from key referral agencies and the time taken to report on minor projects did not change significantly. In several cases, considerable delay occurred in processing applications at the regional or headquarters level.

Procedural fairness improved in that the application review process became more comprehensible to all participants. However, problems continued to occur with respect to providing adequate notice to affected interests and providing opportunities for input into the decision-making process. A specific defficiency was that applications were usually advertised after recommendations had been made.

Only a limited range of all the problems that comprise the log-handling issue were addressed by policies and procedures specified in the Interim Guidelines. Other component problems not addressed included the need to preserve environmentally significant areas, the need to integrate management of offshore and onshore resources, the difficulties applicants face in obtaining upland owners' consent to use foreshore areas, and the need to consider cumulative and regional impacts of log-handling in the decision-making process. These issues, and those related

more directly to the three evaluative criteria used, may be addressed by future modification of the policies and procedures specified in the Interim Guidelines or consideration of more appropriate institutional arrangements.

POLICY RECOMMENDATIONS

On the basis of these findings, a number of policy recommendations can be made to the Ministry of Lands, Parks and Housing regarding changes to the Interim Guidelines. Several additional recommendations can be made, based on other issues that have been identified in the study.

A basic need for making effective decisions under the Interim Guidelines is long-range strategic planning by the coastal forest industry and the government agencies involved in managing shore resources. Long-term forecasts of the demand for log-handling leases indicate that 1181 hectares of the total 8957 hectares leased in 1979 will be vacated by the year 2000 and that 3030 hectares of new foreshore leases will be required at that time. Most of the net 1849 hectare increase in log-handling leases will occur in the Georgia Strait region (495 hectares) where conflicting demands for shore zone lands are greatest. However, the location of these sites is not known. Although individual forest companies make long term plans to use shore areas and sometimes make this information available on a confidential basis, little planning is undertaken for the coastal forest industry as a whole.

Coastal resource management agencies need to determine the available supply of shore zone lands for log-handling in view of other conflicting demands. This type of planning was the primary recommendation of the Steering Committee for the Estuary, Foreshore and Log Handling and Transportation Study (Canada, B.C., and COFI, 1981; 31). The Ministry of Lands, Parks and Housing is the main agency having responsibility for planning log-handling use of shore zone lands. This involves designating log-handling areas in advance and determining the appropriate mix of uses on a regional and site-specific basis. Agencies such as the federal Department of Fisheries and Oceans, the Canadian Wildlife Service, and the provincial Ministry of Environment need to determine the available supply of habitat areas to meet specific resource demands. The management priority of these areas should also be designated in order that their relative values can be established when assessing alternative sites.

Decision-making effectiveness in terms of information availability could be improved in several ways. Ministry of Lands, Parks and Housing staff should maintain up-to-date maps of existing shore uses for distribution with application referrals in order that cumulative impacts of shore uses in sensitive areas can be determined. Applicants should be required to provide information about negotiations and compensation involved in obtaining an upland owner's consent in order to enable staff to determine similar values for Crown

land. The use of established guidelines for benefit-cost analysis (B.C., ELUC; 1977) and impact compensation/mitigation (B.C., ELUC; 1980) should be recommended in the Interim Guidelines for use in determining comparative values of project alternatives identified by the applicant, environmental and social impacts identified in the application review process, and resource trade-offs proposed by applicants or resource agency staff. A procedure should also be provided at the end of the application review process to enable designation or prohibition of specific types of land use in cases where applications are disallowed because of environmentally significant areas.

To improve coordination between federal and provincial resource agencies at the regional and headquarters level, agency concerns should be identified on a regional basis, either by participation in joint shore-use planning projects or an ongoing committee structure similar to the steering committee used in the Estuary, Foreshore and Log Handling and Transportation Study. Steps should also be taken to link the Interim Guidelines application review process to other application processes such as those involved in approving timber harvesting areas.

Rather than attempt to improve administrative efficiency at the expense of decision-making effectiveness, the time limits for agency reviews should be extended to reflect the time required in reviewing applications which involve conflicts. The benefits of increased information availability and agency

coordination as a result of more time available will likely outweigh any costs associated with delays in processing applications. The concern of applicants is that any time frames be clearly stated in advance and consistently met in order that log movements and project developments can be planned.

A simple step that should be taken to improve procedural fairness is requiring the advertisement of an applicant's "intent to apply" at the outset of the prospectus development and review stage. A second means of public input should also be provided for regional and major projects at the stage when detailed plans are being reviewed. This recommendation should be considered in view of evidence that effective citizen involvement and participation in the decision-making process of government can present problems which need to be addressed (Kroeker, 1981).

A final concern relates to improving future evaluations of the Interim Guidelines. The goals and objectives of the Interim Guidelines should be expressed in terms of desired impacts on the coastal resource base as well as the application process. These should address the specific concerns of key referral agencies as well as the Interim Guidelines.

APPENDIX 1

THE "UNDERSTANDING"

AN UNDERSTANDING BETWEEN:

MINISTRY OF LANDS, PARKS AND HOUSING,
MINISTRY OF ENVIRONMENT,
MINISTRY OF FORESTS,
DEPARTMENT OF FISHERIES AND OCEANS, AND
THE COUNCIL OF FOREST INDUSTRIES OF BRITISH COLUMBIA

IN REFERENCE TO THE IMPLEMENTATION OF THE INTERIM GUIDELINES FOR THE REVIEW AND PROCESSING OF COASTAL LOG-HANDLING APPLICATIONS (hereinafter referred to as the "Understanding")

IN the interests of maintaining a healthy economy, environmental quality, administrative effectiveness and efficiency on behalf of the different levels of government, enhancing and protecting Canada's and British Columbia's marine and foreshore resources, and in the general public interest of the residents of British Columbia:

WE, THE UNDERSIGNED, agree that the Interim Guidelines for the Review and Processing of Coastal Log-Handling Applications, hereinafter referred to as the Guidelines, are to be implemented by the Ministry of Lands, Parks and Housing subject to the conditions outlined below.

WE, THE UNDERSIGNED, further agree that our Ministry, Department or Council, as the case may be, will take appropriate action to seek the cooperation of staff and industry representatives in the implementation of the Guidelines.

CONDITIONS:

1. The Guidelines will be implemented beginning June 1, 1980.

2. The Ministry of Lands, Parks and Housing will develop an information program for the implementation of the Guidelines that will include:

   a) workshops for regional staff of Lands, Parks and Housing, other agencies, and industry on the implementation of the Guidelines;
   b) printing of the Guidelines, and distribution to ministries and companies involved in the process.

3. The Ministry of Lands, Parks and Housing will monitor the program to ensure it is achieving the objectives. A formal evaluation will be completed on or before June 30, 1981, in consultation with representatives of the signatures to the Understanding.

4. The Guidelines are interim and will be subject to review at the completion of the sequential phases of the COFI/Government Estuary, Foreshore and Log-Handling Study. The authority to change the Guidelines rests with the Deputy Minister of Lands, Parks and Housing. Changes will be made only through consultation with the signatures to the Understanding.

L.I. Bell, Deputy Minister
Ministry of Lands, Parks & Housing

May 2 1980
Date

T.M. Apsey, Deputy Minister
Ministry of Forests

May 12, 1980
Date

B.E. Marr, Deputy Minister
Ministry of Environment

May 20, 1980.
Date

W.E. Johnson, Director General
Fisheries and Oceans

June 9 80.
Date

D.A.S. Lanskail, President
Council of Forest Industries
of British Columbia

10 June 1980
Date

APPENDIX 2

LAND REFERRAL FORM

Province of British Columbia
Ministry of Lands, Parks and Housing

Land Referral

APPLICANT NAME		DISTRICT OFFICE ADDRESS	
APPLICATION DATE	REF. MAP NO.	OUR FILE NO.	YOUR FILE NO.

You are requested to comment on the following application for potential effect on your agency interests.

Details of the application are provided herein and we would appreciate your response within _____ days to the undersigned.

LOCATION OF LAND	PARCEL SIZE
LEGAL DESCRIPTION	
PROPOSED USE	PURPOSE
The following additional information is also available and may be obtained upon request —	TYPE OF TENURE

Please summarize your comments according to the categories below and substantiate your position whether affirmative or negative in an attachment to the response summary. Please identify a conditional or negative response as either of the three general orders of comment i.e.

1st ORDER COMMENT — based on legislative mandate or official policy of government.
2nd ORDER COMMENT — based on agency interests but unsubstantiated by data.
3rd ORDER COMMENT — based on other factors of a general nature.

Unless you are informed by us to the contrary you may assume that the application has been adjudicated in a manner consistent with your response.

Your comments may be disclosed to the public to *justify decisions made.*

DISTRICT LAND MANAGER _____ (SIGNATURE)

FOR REGIONAL DIRECTOR _____ (NAME)

DATE

RETAIN the original of this Referral Request for your file.
RETURN THE COPY TO THE DISTRICT OFFICE ADDRESS.

RESPONSE SUMMARY — DATE

☐ APPROVAL RECOMMENDED

☐ INTERESTS UNAFFECTED BY PROPOSED USE

☐ APPROVAL RECOMMENDED SUBJECT TO CONDITIONS OUTLINED IN ATTACHMENT (ORDER OF COMMENT)

☐ APPROVAL NOT RECOMMENDED DUE TO REASONS OUTLINED IN ATTACHMENT (ORDER OF COMMENT)

SIGNED BY _____ TITLE

FOR

L 229 (R4/80)

APPENDIX 3

APPLICATION FOR CROWN LAND

Province of British Columbia — Ministry of Lands, Parks and Housing

APPLICATION FOR CROWN LAND

PLEASE PRINT

INDIVIDUAL(S) SURNAME(S) AND GIVEN NAME NAME(S) OR COMPANY NAME ▶

ADDRESS ▶ APT. NO. | STREET NO. | STREET

CITY - TOWN | PROVINCE | POSTAL CODE

PHONE | AREA CODE | SOCIAL INSURANCE NO | COMPANY INC. NO | DATE STAMP

AGE 19 YEARS AND OVER	CANADIAN CITIZEN	RESIDENT IN BRITISH COLUMBIA 2 YEARS
YES ☐ NO ☐	YES ■ NO ☐	YES ☐ NO ☐

LOCATION OF CROWN LAND ▶ | AREA - HECTARES

CROWN LAND IS

☐ SURVEYED GIVE LEGAL DESCRIPTION

OR

☐ UNSURVEYED GIVE METES AND BOUNDS DESCRIPTION

NOTE 1. ATTACH PRELIMINARY DEVELOPMENT PLAN 2. ATTACH A SKETCH MAP OF AREA

PURPOSE FOR CROWN LAND ▶

IS LAND ACCESSABLE ▶ BY PUBLIC ROAD ☐ YES ☐ NO | IF NO STATE ACCESS PLAN

DATE LAND STAKED ▶

OTHER CROWN LAND HOLDINGS ▶ ANY OTHER CROWN LAND HELD BY APPLICANT OR SPOUSE ☐ YES ☐ NO | IF YES STATE TYPE AND TENURE

APPLICANT DECLARATION ▶ I HEREBY CERTIFY THAT ALL INFORMATION GIVEN IN THIS APPLICATION FOR CROWN LAND IS TRUE AND CORRECT

DATE | APPLICANT SIGNATURE(S) | OCCUPATION

FOR OFFICE USE ONLY

DATE APP. REC'D DAY MTH YR. | DISTRICT OFFICE | APPLICATION IS ☐ NEW ☐ RENEWAL | FILE NO.

APPLICATION IS ☐ LAND ACT ☐ MINISTRY ACT | LAND IS IN ☐ PLANNED AREA ☐ UNPLANNED AREA ☐ PROVINCIAL FOREST | APPLICATION FOR ☐ FORE-SHORE ■ OTHER LAND | PRELIMINARY ESTIMATE OF LAND VALUE $

TYPE OF TENURE FOR APPLICATION ☐ LEASE WITH RENTAL ☐ LICENCE OF OCCUPATION WITH RENTAL ☐ EASEMENT RIGHT OF WAY ☐ CROWN GRANT ☐ LETTER OF CONSENT ☐ PREPAID LEASE | REPLACES SUP. ☐ YES ☐ NO | ☐ PREPAID LICENCE OF OCCUPATION

DISTRICT OFFICE FILE COPY

IS LAND INSPECTION REQUIRED ☐ YES ☐ NO | ESTIMATE OF TIME TO COMPLETE LAND INSPECTION ☐ WITHIN 90 DAYS ☐ MORE THAN 90 DAYS

L184 (R4/80)

APPENDIX 4

PROSPECTUS FORM

Province of British Columbia — Ministry of Lands, Parks and Housing

PROSPECTUS

Coastal Log Handling and Storage

APPLICANT NAME AND ADDRESS ▶

Ministry File No.

NTS Map No.

APPLICANT CONTACT NAME AND TITLE ▶

Phone

Development Location	Name of proposed development (if applicable)	Is project ☐ new application ☐ renewal application

PROJECT JUSTIFICATION ▶
(Attach separate sheets if necessary.)

1. Summarize the economic and operational reasons why this project is important to the company.
2. Describe briefly alternative sites and/or methods of operation which were considered for this project. Summarize the reasons for selecting the proposed project over the alternatives considered.

PROJECT LOCATION ▶
Provide information relevant to the project. Check ☒ the categories included.

REQUIRED INFORMATION			
A. Project area map (scale 1:20,000 or 1:50,000)	☐ Proposed site ☐ Alternate sites considered ☐ Other facilities related to the project: Describe briefly	☐ Existing and proposed roads ☐ Construction borrow sources	☐ Waste and dredgate disposal areas
B. Proposed site map (state the scale)	☐ Boundaries of proposed site ☐ Other relevant information: Describe briefly	☐ Total project site area in hectares	
C. Proposed development plan or detailed sketch (state the scale)	☐ Indicate boundaries ☐ Construction works or improvements ☐ Other information related to the project: Describe briefly	☐ Area to be dredged ☐ Area to be filled	☐ New and existing upland facilities neighbouring the proposed site ☐ Existing works, improvements or fill on the proposed site claimed by applicant ☐ Yes. ☐ No.
OPTIONAL INFORMATION	☐ Marine chart	☐ Air photo (include scale, date, number)	☐ Oblique photo (include date)

PROJECT DESCRIPTION ▶

A. TYPE OF DEVELOPMENT (Check ☒ all applicable categories)

1. Log sorting ☐ Dry land sort (fill) ☐ Dry land sort (upland) ☐ Water sort
2. Log dumping ☐ Logs bundled (dry land) ☐ Logs bundled (in water) ☐ Loose logs
   State method of dumping
3. Barging ☐ Log barge loading ☐ Log barge unloading ☐ Other barge loading
   ☐ Other barge unloading: State type of other barge
4. Log booming (indicate percentages) ☐ Flat rafts % ☐ Bundle booms %
5. Log boom storage ☐ Continuous basis ☐ Intermittent basis ☐ Emergency only ☐ Flat rafts % ☐ Bundle booms %
6. Conversion plants ☐ Sawmill ☐ Pulpmill ☐ Shakemill ☐ Other (specify)

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PROJECT DESCRIPTION ▶
(Continued)

B. LOG FLOW

1. State the origin of the logs to be handled at the proposed site. Give type of tenure (i.e., TFL) location and name or number
2. List type and percentage of log species to be handled
3. Anticipated log volume to be handled (give ranges expected) Daily ..... m^3 Annually ..... m^3
4. Average turn-over period for the logs

C. DEVELOPMENT

1. Duration of construction period
2. Anticipated date to begin construction
3. Area required in hectares
   Upland ..... ha
   Foreshore land ..... ha
   Subtidal land ..... ha
4. Method and timing of dredging and/or filling
5. Life span of proposed project in years .....
6. Volume to be dredged ..... m^3
7. Volume to be filled ..... m^3

PROJECT IMPLICATIONS ▶

A. SOCIAL AND ECONOMIC

1. Estimated capital cost of project $
2. Estimated annual operating cost $
3. Indicate if proposed project will result in any of the following:

- ☐ New or increased energy supplies or other services (i.e., water)
- ☐ Increase in regional population
- ☐ Decrease in regional population
- ☐ New townsite
- ☐ Rural residential development
- ☐ Government expenditure or cost sharing
- ☐ Company residents campsite
- ☐ Construction campsite

4. Indicate the following as applicable

Upland ownership ☐ Crown ☐ Company ☐ Other private ownership

Project relationship to official government plans or local zoning for the proposed site

- ☐ Compatible
- ☐ Not compatible: Explain

B. ENVIRONMENTAL

1. Indicate if project will result in any discharges or accumulations of

☐ Effluents ☐ Pollutants ☐ Debris

to

☐ Land ☐ Air ☐ Freshwater ☐ Saltwater

N.B.—Attach any information available describing nature of discharges or accumulations

2. Indicate if the project will likely result in any hazard or danger to public safety ☐ No ☐ Yes (explain)

PROJECT IMPLICATIONS (Continued) ▶

B. ENVIRONMENTAL (Continued)

3. Environmental Information: Check the categories known for the proposed area. Mark "S" for those suspected.

Type of coastal area ☐ Open marine shoreline ☐ Marine bay or inlet ☐ Estuary ☐ Fresh water portion of river up to limits of tidal influence

Type of substrate (if more than one type present estimate percentage of each type):

BEDROCK	☐ Intertidal	☐ Subtidal	SAND	☐ Intertidal	☐ Subtidal
BOULDER	☐ Intertidal	☐ Subtidal	SANDY		
COBBLES	☐ Intertidal	☐ Subtidal	MUD	☐ Intertidal	☐ Subtidal
GRAVEL	☐ Intertidal	☐ Subtidal	MUD	☐ Intertidal	☐ Subtidal

Type of vegetation ☐ Marsh ☐ Eelgrass ☐ Kelp bed ☐ Other algae

4. Resource Agencies: Indicate if the company or resource agencies contacted feel that the proposal could influence the following resources or their habitat.

	Type of Influence			
	Positive	Negative	Neutral	Unknown
Wildlife:				
Ungulates (i.e., deer)	☐	☐	☐	☐
Migratory birds	☐	☐	☐	☐
Resident birds	☐	☐	☐	☐
Marine mammals	☐	☐	☐	☐
Fish:				
Salmon	☐	☐	☐	☐
Steelhead or trout	☐	☐	☐	☐
Char	☐	☐	☐	☐
Other species	☐	☐	☐	☐
Marine Animals				
Shellfish	☐	☐	☐	☐
Crustaceans	☐	☐	☐	☐
Benthic invertebrates	☐	☐	☐	☐
Heritage Sites	☐	☐	☐	☐

Indicate the approximate slope of the area being applied for (per cent and direction)

ADDITIONAL INFORMATION ▶

(Use reverse or attach separate sheets if necessary.)

1. Briefly describe any further project planning and assessment studies which the company feels are required.

2. Provide any information which the company feels is necessary to clarify or expand upon the questions answered.

AUTHORIZATION

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DATE _____ SIGNATURE _____ TITLE _____

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