Local Control
Over Local Resources:
Habitat Management
In The Fraser Estuary
by
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ABSTRACT

This thesis approaches the issue of local control over local resources from the perspective of municipal and regional government involvement in habitat conservation. Using the Fraser River estuary as a case study area, the expanding role of local governments is described in order to examine the relationship between local and senior levels of government. The objective is to assess whether redistributing power between these levels of government would improve habitat management in the estuary.

Improved habitat management is defined as a more democratic process of allocating costs and benefits associated with habitat conservation. Conventional administrative decision-making tends to exclude perspectives which are in conflict with maintenance of the existing distribution of costs and benefits. Two perspectives which have difficulty having their concerns addressed by administrations are the conservation and community perspectives, even though issues of conservation and community are at centre of public concern.

An expanded political framework for examining resource planning and management issues is needed, as the spectrum of political issues that frames policy debates is too limited to encompass the concerns that contemporary policy-makers must address. The most practical mechanisms for encouraging the introduction of new
ideas and innovations to the policy-making arena are existing institutional designs for communication among differing perspectives.

The Fraser River Estuary Management Program (FREMP) is one mechanism with the potential to act as a conduit for new ideas. It is explored from the perspective of local government involvement in its habitat management activities. FREMP is part of the complex web of institutional arrangements for habitat management in the Fraser estuary. These arrangements are described with a focus on the role of local governments.

The case study indicates that a process of developing an expanded framework for decision-making appears to be taking place in the estuary, reflecting the growing importance of both local government involvement and habitat conservation. Local councils are demanding more powerful enabling legislation in order to address local environmental concerns, and these demands raise the issue of the optimal balance of power between local and senior levels of government. In light of the pivotal role that both municipal and regional governments can play in conserving and protecting resources through land-use regulation and planning, this thesis concludes that enhanced local government powers would facilitate the protection and enhancement of conservation values in the estuary.
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>NFHC</td>
<td>North Fraser Harbour Commission</td>
</tr>
<tr>
<td>FRHC</td>
<td>Fraser River Harbour Commission</td>
</tr>
<tr>
<td>DFO</td>
<td>Department of Fisheries and Oceans</td>
</tr>
<tr>
<td>DOE</td>
<td>Department Of The Environment</td>
</tr>
<tr>
<td>CWS</td>
<td>Canadian Wildlife Service</td>
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<tr>
<td>CEPA</td>
<td>Canadian Environmental Protection Act</td>
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<tr>
<td>EARP</td>
<td>Environmental Assessment and Review Process</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry Of the Environment</td>
</tr>
<tr>
<td>WMA</td>
<td>Wildlife Management Areas</td>
</tr>
<tr>
<td>CWA</td>
<td>Critical Wildlife Areas</td>
</tr>
<tr>
<td>GVRD</td>
<td>Greater Vancouver Regional District</td>
</tr>
<tr>
<td>ALR</td>
<td>Agricultural Land Reserve</td>
</tr>
<tr>
<td>DARD</td>
<td>Dewdney-Allouette Regional District</td>
</tr>
<tr>
<td>CFVRD</td>
<td>Central Fraser Valley Regional District</td>
</tr>
<tr>
<td>ORP</td>
<td>Official Regional Plan</td>
</tr>
<tr>
<td>LRP</td>
<td>Liveable Region Plan</td>
</tr>
<tr>
<td>PPAC</td>
<td>Public Participation Advisory Committee</td>
</tr>
<tr>
<td>ADTF</td>
<td>Area Designation Task Force</td>
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<tr>
<td>HAWG</td>
<td>Habitat Activity Work Group</td>
</tr>
<tr>
<td>FRES</td>
<td>Fraser River Estuary Study</td>
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<tr>
<td>FREMP</td>
<td>Fraser River Estuary Management Program</td>
</tr>
<tr>
<td>TAC</td>
<td>Technical Advisory Committee</td>
</tr>
<tr>
<td>HMAP</td>
<td>Habitat Management Activity Program</td>
</tr>
<tr>
<td>OCP</td>
<td>Official Community Plan</td>
</tr>
<tr>
<td>FBCN</td>
<td>Federation of B.C. Naturalists</td>
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The idea for this study grew out of research into sport fisheries in the Fraser River Basin done for Westwater Research Centre in 1989-90. That research indicated that there was much dissatisfaction with the centralized, hierarchical tradition of fisheries management in the Basin and that local communities could do a better job of managing local fisheries. The question of local control over resources is an interesting but very complex one and best narrowed down to manageable proportions. Looking at local control over resources from the perspective of municipalities is one way to avoid many of the conceptual problems associated with local control issues, such as having to define who is a part of the community and who should represent it in negotiations with the state. As the focus of interest in this thesis is resource management rather than community social development, this thesis uses existing community-level systems of social organization, municipalities, in order to explore local community control over local resources. To further simplify a very complex issue, habitat management was chosen as one function of fisheries management that lends itself to local control.
1.1. OBJECTIVES

The objective of this thesis is to study the relationship between local and senior levels of government by exploring the research question: What is the role of local government in local resource use decision-making? This exploration will also suggest where opportunities exist for a redistribution of power in favour of greater local autonomy. In a representative democracy, distributional issues are decided by those with access to decision-making. This study will show how the relationship between local and senior governments limits representation of local interests in resource decision-making. It will then assess in what ways this situation has changed in recent years, analyse the reasons for this change and suggest what the implications of these changes are for resource planning in general.

This exploration of the relationship between local and senior levels of government will provide information about the rights and duties of territorial political jurisdictions with regard to the larger society and the nature of a democratic relationship between larger and smaller social units. While this thesis looks at these relationships in terms of local municipalities and federal/provincial government agencies, the same approach could be used to clarify other jurisdictional relationships, such as national rights and responsibilities in the global context.
This study will also suggest what possibilities exist for significant social change at the state as well as at the local level. Disenchantment with the nation-state is a global phenomenon, and everywhere national sub-units are demanding greater autonomy. In Canada this dynamic is expressed by Quebec's demand for sovereignty, and in the Lower Mainland by Vancouver's demand for a Municipal Charter of Rights. While there is growing support for decentralized control over resources and growing distrust of centralized senior governments, there is ample evidence that greater local control over resources could result in the abuse of environmental values. Many local councils in the estuary have supported developments that degraded environmentally sensitive areas. This thesis examines how the relationship between local and senior governments could be restructured to prevent the lack of representation and accountability that can occur through senior bureaucratic management while providing equity and oversight in the planning and management of local resources.

1.2. ASSUMPTIONS

While the focus on enhanced local authority in this study reflects global demands for greater local autonomy, the resources management focus comes from evidence that resource-use issues are
of growing public concern. Conflicts between conservationists and resource developers cause social cleavages within and among human communities, and are evidence that community groups are no longer willing to leave local resource management to experts and outsiders.

Conventional administrative approaches appear to be limited in their ability to address or resolve these cleavages. Paehlke and Torgerson (1990) suggest that because conventional resource administration is founded on the development side of the ideological confrontation, it can only propose solutions that are contained within that ideology. In company with many other thinkers such as Daly and Cobb (1989), Milbrath (1989), Cotgrove (1982), Riddell (1981) and O'Riordan (1981), they assume that the capacity of resource administrations to address public dissatisfaction with environmental policy is limited by the obsolete and inappropriate paradigm on which administrative assumptions and practices are based.

This thesis assumes that before any substantial changes can take place in resource management that will allow issues such as increased community autonomy or enhanced environmental conservation to be successfully addressed there must be a change in the way these issues are discussed. The authors listed above have offered new approaches to resolving resource decision-making and management issues that could not be implemented within the
existing administrative perspective. The assumptions and biases that shape conventional administration are based on a particular ideology which is in turn shaped by the spectrum of possible political choices. In Chapter Two it is argued that the limitations of the conventional political spectrum discourage representation of critical interests and block effective resource management.

The approach taken in this thesis to the conventional political framework and the administrative paradigm that it shapes is influenced by the work of Friedmann (1987) who argues that all decision-making is linked to one or another of the major theoretical traditions, and that the concept of a value-neutral expert is itself a particular theoretical tradition. Political ideology influences all aspects of decision-making in the public domain so that policies, programs and planning process are informed by the political ideologies of those who participate in their design and implementation. Thus it is not possible to discuss administrative reforms without looking at their ideological basis.

If all actions are founded in a political ideology this suggests that as long as one is clear about one's ideology, all perspectives are equally acceptable for those working in the public domain. In the struggle of conflicting opinions, the most appropriate perspective will succeed. In the area of resource
management, such a pluralist approach gives equal weight to those who would seek to resolve issues of resource conservation without recourse to inefficient, time-consuming mechanisms of democratic decision-making. In debates about the best way to ensure that conservation values will be protected, writers such as Hardin (1977) and Ophuls (1977) suggest that democratic processes cannot be relied upon to protect ecological systems. This thesis assumes that because several thousand years of experimentation have failed to produce a better concept of governance than democracy, it is a process of decision-making worth preserving and enhancing. This study will explore the ways in which that system of human organization can best be applied to issues of resource conservation, especially wildlife habitat.

There are those who would argue that the pursuit of enhanced democratic resource management gives greater emphasis to processes of human decision-making which reflect human rather than ecosystem needs. There is no way around the fact that in social decision-making mechanisms, ecosystems must be represented by humans, and the challenge is to find ways to enhance the representation of those who support the protection of ecosystems. This thesis assumes that ecosystems will be better represented by human beings in a more democratic decision-making structure. This thesis also assumes that there is a need to protect and enhance community as well as conservation values because one set of values interacts with and cannot be considered
separately from the other. A more precise definition of democracy is attempted in a later section of this chapter.

The connection between conservation and community values will be discussed in Chapter Two, and will be further clarified by examining the potential for greater community control of local resources. Using the role of local governments in habitat conservation in the Fraser estuary as a case study, this thesis will show the interaction and interconnection of conservation and community values.

If successfully addressing environmental problems requires greater democracy in decision-making than is currently the practice, the solution to environmental problems also involves an ongoing, evolutionary process of social change. This change may take place slowly when pressures for representation of excluded interests are strongly opposed by a firmly entrenched elite, or it may be accelerated by situations or events that challenge the position of powerful interests. In the past few decades, widespread environmental degradation and resulting demands for environmental conservation have been the catalyst for challenges to existing power relations.¹

The existing distribution of power is maintained because those involved in decision-making limit the input of ideas, concerns and issues that emerge from conflicting perspectives thus
excluding them as much as possible from participating. The rationale for the exclusion of conflicting perspectives is based on the general acceptance within that arena of a particular framework for political discussion. Issues outside this framework are not considered for the political agenda or included in the decision-making process. An important part of political power is the capacity to control issues that reach the political agenda by limiting the framework within which ideas can be presented. Political change is a process that begins with a re-framing of the issues that can be considered for the political agenda.

For much of the history of contemporary Western society, environmental issues have not been included on the political agenda. It is only in recent decades that the inescapable facts of ecosystem degradation have forced decision-makers to consider environmental concerns. Another issue that has been excluded from the political agenda is the issue of community rights. Though state and individual rights are established under existing legislative provisions, the idea of community rights has been excluded from consideration within the conventional political framework. The next chapter describes how the political context for discussion has limited input from local government and conservation interests and how re-framing the political agenda would allow better representation of these interests.

Another important assumption of this thesis is that there must be
mechanisms by which new ideas can not only emerge but interact with the existing power structure to effect desired social changes. Institutional designs for communication between those having different perspectives are an existing example of such mechanisms. These may include participatory planning, regulatory negotiation, environmental mediation and forms of public inquiry. This thesis does not assume that such mechanisms as participative designs are sufficient to ensure environmental conservation unsupported by a radical transformation of goals and priorities at all social levels. It does not endorse the concept of essentially equal interest groups competing for the attention of a benign and impartial system of government. On the contrary, this study is influenced by the work of Paehlke and Torgerson who suggest that senior government administration is itself an interest group which resists the efforts of outside interests to share in its decision-making power.

The focus on participative designs stems not so much from interest in their potential as agents of positive social change as from the fact that they appear to be one of the few avenues within the existing institutional structure that can be used to transform it. There must be some point at which social change can begin, If transformation can be instigated by using and expanding existing democratic mechanisms so much the better. An alternative method of transforming the power structure, and one that is used where democratic processes are absent is that of
resorting to military strategies.

The next chapter suggests that significant social changes will come about through the gradual strengthening of a new political dimension which emphasizes community and conservation values. At the poles of this new political dimension are human and non-human communities and the conflicts and interactions between these polarities are the new framework within which contemporary political discussion is being shaped. These issues do not replace but augment conventional political issues so that the range of issues is expanded. This thesis uses local government and habitat management as a vehicle for a study of the conflicts and interactions of human and non-human communities on the new political agenda that is increasingly influencing resource planning and management.

1.3. RESEARCH QUESTIONS

The following primary research question is used in achieving the objectives of this thesis in accordance with the above rationale:

What is the current role of local governments in resource use decision-making?
Exploration of this question will indicate whether communities have been excluded from decision-making by the state and how this has affected the allocation of resources and the costs and benefits of their uses. It will examine changes in the relationship between local communities and the state which might indicate that the conventional political framework is expanding to include issues of human and non-human communities. It will also indicate opportunities for a redistribution of power between local communities and the state that would strengthen community and conservation values. A subsidiary question that follows from this is:

How could the relationship between local and senior governments be changed to allow local management of local resources?

If management of local resources would benefit from greater local powers, this question explores how this change could come about. The concept of institutional designs for the participation of alternative perspectives comes into focus here. Their capacity for either maintaining the existing distribution of power or encouraging needed changes leads to a final subsidiary question:

3. Will the inclusion of local governments in resource use decision-making lead to the inclusion of other excluded interests?
This question will relate the findings of the case study to the issues and concerns described in Chapter Two by examining whether changes in the relations between local and senior government indicate a fundamental paradigm shift, or whether they are relatively minor structural changes. If local governments gain greater control over local resources while other interests such as Native communities and environmental groups continue to be excluded from decision-making, it can be concluded that the changes necessary for full representation of critical interests have not yet come about.

1.4. **SCOPE**

There are several important areas of discussion that touch on the concerns of this thesis but cannot be given the attention they deserve. In Chapter Two a brief survey of the major political traditions is presented to clarify the concepts and assumptions of this thesis and to act as a background for discussion of new ideological conflicts that are taking place in resource planning and management. This survey of the major traditions is too short to indicate the variety of possible positions within each tradition or to fully consider alternative descriptions of the political spectrum. Some may feel a short survey is unjustifiably reductionist, while others might agree
that a brief description of the ideological context for this thesis is warranted. The description given in Chapter Two of an alternative political framework is correspondingly simplified, and neglects a number of possible issues such as the role of political parties in a new political dimension.

Also outside the scope of this thesis is a clear vision of social change. While one of the underlying assumptions is that significant social change is ultimately required for any government administration to successfully address environmental issues, this thesis provides only a rough outline of the direction of needed reforms. This thesis will isolate what may be the beginning of significant changes in government administration toward including previously excluded interests and suggest ways in which those changes could be encouraged, but does not attempt to suggest broad social reforms.

The issue of participation in the administration of the state by previously excluded community groups other than local governments is not discussed at length. It is assumed that enhanced conservation and democracy go hand-in-hand. Greater representation of municipalities in resource use decision-making is seen as only a first step in extending that representation to other types of communities and groups. The issue of Native community representation in estuary decision-making is similarly neglected, though it is recognized that this is an area of study
demanding attention.

A full description of the Fraser River Estuary and its human and non-human communities is not provided here though it is understood that no part of a complex ecosystem can be adequately perceived in isolation from its bio-physical, social, economic and institutional context. This study focuses on municipal involvement in habitat management, fully appreciating that this represents only a small corner of the big picture. The wealth of bio-physical data associated with habitat protection is introduced only where needed to allow an understanding of the habitat issues involved. Social and economic systems are considered in this study only to the extent necessary to understand one sub-system of the network of institutional arrangements in the estuary.

1.5. DEFINITIONS

The first term that demands definition in this study is "democracy": a value-laden word with a host of conflicting interpretations and the potential for eliciting strong emotional responses. Milbrath (1989) gives the following definition of democracy which has been found useful for this study:
"The essence of democracy is the provision of some regularized societal procedure for consulting the people about the policies and the future direction their society should take. This consultation should control future policies...rather than be merely advisory. Typically, democrats also believe that each person's views should count equally in this consultation. If the consultation is to be meaningful, the people must have access to relevant information and must be able to speak their minds..."  

A term that is as value and emotion laden as "democracy" is the term "the state". Where possible, this study avoids the use of the term altogether and substitutes "senior levels of government" to differentiate between federal/provincial jurisdictions and local jurisdictions. "Local government" refers to municipalities and regional districts, but does not include regional offices of federal or provincial agencies.

Local government is treated as both part of and separate from the state apparatus. This duality arises because local governments play the role of both interest groups and governing bodies in the Canadian constitutional context. The role of local governments is only part of the confusion surrounding the term "the state". Is the state identical with the nation or a separate entity within it? When Daly and Cobb (1989) use the term "nation-state", they want to suggests that the interests of the state and the people
within it are identical. This is a different connotation than Paehlke and Torgerson's (1990) "administrative state" which is an elite group with interests quite separate from those of the people. They want to suggest that the state has managed to usurp power from within and resists attempts to overthrow it in the name of democracy.

Both perspectives would agree that while in theory the state could be a democratic instrument, in practice it is used in the interests of an undemocratic elite. While Daly and Cobb trace that elite to transnational corporations, Paehlke and Torgerson look at the power of state administrators themselves and how they benefit from undemocratic practices. Though the power of global corporations is a background context for the relationship between the state and its sub-units, this thesis uses Paehlke and Torgerson's definition of the state as a centralized, hierarchical, administrative form that dominates advanced industrial society. This is an oversimplification, especially in Canada where the provinces are like smaller states that share with the national level.

This does not suggest that the state is an homogenous entity without differing perspectives among the various agencies, departments and individuals within it. It does suggest that the state exhibits certain characteristics and an overall form that work toward the maintenance of existing power relations. This
emphasis means that differences and conflicts within the state will be touched on in this study only where such differences are relevant to its relationship with local communities.

Another term requiring an explanation is "community". Part of the definition of community used here emerges from defining the state, for communities are those social units that do not have the powers of the state. For the purposes of this study local governments are considered to be representative of local communities, though they are and are not part of the state apparatus. The interests of the state are often contrasted with the interests of "the people", meaning people as individuals or in groups without legislative power. Municipal governments in B.C. fall somewhere between "the people" and "the state", having been delegated power by the province, and in that way being part of the state, but retaining that power only at the discretion of the province. In most dealings with the state, local governments have powers similar to interest groups rather than as a third level of government.

A clearer definition of local communities is not attempted in this thesis because it is one of the objectives of this study to come closer to such a definition. The municipality is substituted as a useful but by no means flawless version of the local community. This substitution is justified from the perspective of Paehlke and Torgerson who argue that municipalities are one of
several marginalized social sub-units which have been subordinated to the state, and are largely excluded from decision-making. Thus municipalities can be defined as local communities rather than as part of the apparatus of the state. Furthermore, municipalities can be considered to be representative of local interests as municipal elections introduce an accountability that is otherwise lacking in many alternative definitions of community.

A definition of "sustainable development", though central to questions of conservation and community, is not attempted here and the term is used only where agencies themselves use it to describe their activities. Though not defined, the concept of sustainable development forms a background context for this study. As democratic resource management involves opening up the process to interests that have hitherto been excluded, adequate representation of alternative interests will begin a process of change. This process will introduce such concepts as sustainable development where they were not previously expressed. The task of this thesis is not to define the substance of alternatives but to suggest how existing mechanisms can be used to encourage the consideration of new ideas.

Another problem word is "environment" as in "environmental problems". The concept of the environment suggests that it is something that surrounds an object that is the main focus of
attention, in this case human beings. It implies that the natural world is something external to human systems rather than the basis for human life. Torgerson ('90) sums up his discomfort with the word:

"...even to speak of environmental problems might risk obscuring their character; one must recognize that the relevant problem-complex is ecological. To speak of environmental problems fosters the connotation that the problems can readily be made manageable; it diverts attention from the need for comprehensive, integrated design based upon sound ecological principles." 4

Despite the shortcomings of the word, this thesis sometimes uses "the environment" to refer to natural ecological systems because it is the word commonly used to express concern about dysfunctional interactions between human and non-human systems and a vaguely defined but strongly felt human desire for a healthier relationship.

1.6. METHOD

The selection of a philosophical framework for this thesis was influenced in equal part by the characteristics of the case
study, and by the lure of ideas that appear particularly relevant in the context of current events. These ideas will be discussed at some length in the next chapter, but in general, they have to do with demands for local autonomy at a period in history when the nation-state is in crisis in many areas of the world, and when there is evidence of significant environmental degradation. Increasing local autonomy entails issues of democracy and redistribution of power which are at the centre of both political and planning theories. Ideas for preventing environmental catastrophe come from every point on the ideological spectrum, but only those that are based on the assumption of democratic processes are addressed here.

1.6.1. Literature Review

The philosophical context chosen for this thesis involves a discussion of the rights and duties of the state with regard to its social sub-units. This discussion includes a brief survey of the major political traditions and their approaches to questions of environmental conservation and community autonomy. This survey is designed to show the inadequacy of the conventional political spectrum for addressing critical contemporary issues. It also serves to locate conventional state administration on the political spectrum as an expert instrumental-analytic exercise whose goal is the maintenance of the present organization of public and private power. 5 The review offers a critique of
conventional administration and suggests an alternative perspective that supports principles of enhanced conservation and community autonomy. The discussion then moves on to mechanisms for participatory democratic decision-making and touches on ideas about the appropriate mix of senior and local government powers and responsibilities.

This discussion provides a framework for analysing habitat management in the Fraser River estuary that can assess the relationship between local government and the state in terms of opportunities for enhancing conservation and community values.

1.6.2. Case Study

Most of the documentation for the case study has come from Fraser River Estuary Study (FRES) and Fraser River Estuary Management Program (FREMP) reports. Other secondary sources have included local government documents, academic studies, periodicals and interest group newsletters. As the FRES/FREMP area designation process has provided opportunities for significant involvement of local governments in resource use decision-making, it is examined in more detail. It has been studied to indicate how local and senior government agencies have approached habitat conservation designations which have been the focus of conflicting interests in the estuary. This process has also been studied for evidence of power struggles between local and senior agencies and how
these have been resolved. The FRES/FREMP process is used in this study as an example of an institutional design to encourage communication among alternative perspectives, and its success in this capacity is assessed.

1.6.3. Procedure

The first stage of this thesis, based entirely on secondary sources, builds a framework for examining local involvement in resource use planning and management and applied it to the case study area. The case study is designed to explore how administrative decision-making in the estuary has evolved in response to pressures from excluded interests. It was also designed to indicate how the organization of power and responsibility in the estuary would need to change further for enhanced representation by local governments and other marginalized interest groups.

The case study briefly describes formal and informal institutional arrangements in the estuary focusing on the relationship between senior and municipal/regional levels of government and the role of interest groups. It then gives an overview of the development of FRES/FREMP with an emphasis on the municipal role in the conservation component of the area designation process. The case study traces the growth of local involvement in estuarine conservation from an initial reluctance...
to be constrained by environmental regulation to the present situation where in some cases local governments are taking a leadership role.

Interviews with officials involved in FRES/FREMP, local governments, and interested NGO's were also carried out in accordance with the framework set up in the first stage. These interviews have been based on questions that arose where events were undocumented or existing documents were unclear. Appendix "B" lists the names and positions of those interviewed. There was no attempt to set up a survey-type questionnaire to obtain a uniform set of responses. Instead, specific questions were directed toward those who would be most likely to have the relevant information. In some cases the same question was put to resource managers at different levels of government in order to compare responses.

Analysis of the case study assesses local government participation in resource use planning and management and the relationship between local and senior levels of government. The study ends with a list of recommendations that would contribute toward enhanced local control over local resources in the Fraser estuary. Suggestions are also made for designing a process in similar situations where there are important conservation values, overlapping local and extra-local jurisdictions and conflicting needs and demands.
The study is divided into four parts: Chapter One has been an introductory chapter that describes the goals and objectives of this thesis and how these will be pursued; Chapter Two provides a philosophical context for exploring these objectives and a framework for carrying out the case study; Chapter Three looks at local government involvement in habitat conservation in the Fraser River estuary and the progress of this involvement over the last fifteen years; Chapter Four analyses the case study and offers some conclusions and recommendations based on these findings.
END NOTES:


4. Ibid., p. 146.

CHAPTER TWO  THE STATE AND THE LOCAL COMMUNITY

The scope and gravity of environmental problems suggests the need for significant changes in the way these problems are addressed. At the same time, public demands for greater representation and accountability in resource use decision-making mean that the resolution of environmental problems entails enhanced democratic processes. With these assumptions as its basis, the general objective of this thesis is to study the relationship between local and senior levels of government in the area of resource planning and management.

The next chapter presents a case study in which local communities have increasingly participated in resource decision-making and will contribute toward clarifying the relationship not only between local communities and the state but between all territorial jurisdictions and the larger society. This information will suggest whether and to what degree a local or senior government has the right to decide how the resources of a region or community will be used. It will also indicate to what extent municipal governments are part of the apparatus of the state, and to what extent they represent the interests of local communities. If municipalities in the case study area represent the interests of the local community, and if enhanced representation of local governments in resource planning is actually taking place, it can be concluded that this development
represents enhanced democratic decision-making.

In this chapter an analytical framework is developed to study the relationship between local and senior levels of government based on ideas that offer a useful approach for examining the research question. This approach is strongly influenced by the assumption that planning cannot be considered separately from political traditions. Thus this analytical framework begins by describing the political spectrum that has given rise to conventional resource planning, then describes the elements of an alternative political framework that would provide the foundation for addressing two major issues in resource planning; community autonomy and environmental conservation.

2.1. THE CONVENTIONAL POLITICAL SPECTRUM

Contemporary Western political philosophy focuses on the debate between the rights of individuals in conflict with the rights of the state. Attempts to reframe this debate to include other political issues such as the rights of local communities, or the rights of species other than human beings are ongoing but meet with resistance, and the conventional political spectrum has continued to be defined in terms of the polarities of the individual and the state. Before moving on to consider
alternative political dimensions that would include issues such as community and environmental rights, the conventional political spectrum is discussed in more detail to show its limitations for addressing these issues.

The conventional spectrum of Western political thinking is directed toward defining the limits of state power in a democratic society and the point in the abuse of state power at which the individual has the right to refuse to obey the state. At the polarities of this political spectrum the rights of either the state or the individual are absolute. Supporters of absolute rights for the state believe the best government is one in which a ruler or ruling elite makes rational decisions in the best interests of a wilful, appetitive population. Plato and Hobbes are intellectual milestones in this authoritarian tradition. Supporters of absolute rights for individuals believe the best form of government is one in which citizens make decisions entirely in their own interests. Locke and Mill have contributed much to this liberal tradition. Figure 1 shows this framing of the political spectrum.

![Figure 1](image)

Figure 1

Absolute Authority

State-----------------------------Individual

Absolute Freedom
The following discussion explores the potential for the various positions on the conventional political framework to address issues of community and conservation.

2.1.1 Authoritarianism

On the side of absolute authority, there is an uneasy partnership of political conservatives of the extreme right and political radicals of the extreme left. They agree on the need for a strong centralized government that can make enlightened decisions in favour of environmental protection and prevent a depletion of resources that will cause the impoverishment of all.\(^3\) As strengthening existing centres of power eliminates issues of community autonomy, this perspective does not address growing citizen dissatisfaction with centralized authority. The radical left of the authoritarian tradition does, however offer a useful critique of capitalism that is helpful in understanding its contradictions.

This tradition argues that a state created to protect private property can never be a responsible steward of national or local resources. As the state was formed to protect property rights, it follows that the state's first responsibility is to protect these rights and sustain conditions of accumulation.\(^4\) It assumes that the state will sacrifice environmental protection for the accumulation of capital and the interests of property. It
is a useful critique for understanding the source of apparent contradictions in government policy regarding such activities as habitat protection. Without an appreciation for competing interests and the primacy of profit considerations, governmental actions appear irrational. The Marxist critique suggests that habitat cannot be expected to be adequately protected by a state that will trade off resource degradation for capital accumulation. It also provides an explanation for the apparent mismanagement of habitat by state administrations: in the face of pressures from forestry or other sectors, the state allows habitat to be sacrificed in favour of interests which favour economic growth and support the capitalist state.

At the opposite pole of the conventional political spectrum are theories that support the freedom of individuals to allocate resources according to decisions made in the market place.

2.1.2. Laissez Faire Liberalism

This perspective assumes that the state should not interfere in the allocation of resources but that there should be complete freedom for manufacturers and traders to make these decisions according to signals from the market. It is based on the belief that a completely free market makes the greatest contribution to the public interest. Like authoritarianism, this perspective is fundamentally undemocratic, though for opposite reasons. While
authoritarianism seeks to limit the participation of citizens in government, extreme liberalism seeks to limit government itself, and substitute the marketplace as an allocative mechanism. As an individualistic perspective, it does not encompass the concept of people in communities as an allocative unit.

The market does not offer mechanisms for environmental protection because it is often to the advantage of an individual entrepreneur to destroy the resource, take the profits and invest them in something which provides larger profits than could be made from using the resource responsibly. 6 Resource degradation is economically feasible when "the immediate profits obtained by expending a surplus exceed the present value of revenues that could be obtained in perpetuity by conserving it." 7

2.1.3. The Political Centre

At the political centre are those theories that seek to balance the power of the state with the power of individual citizens, and it is here that there are the greatest pressures for democratic resource decision-making. The assumptions behind the centrist position are that the state is a relatively benign actor that understands the rationality of protecting resources and is responsive to pluralistic political pressures. With selected reforms of procedures and programmes, the state would be capable of resolving environmental problems created through lack of
administrative oversight or other technical administrative failings. In addition, with sufficient freedom of expression, adequate communication and the opportunity for varying ideologies to be heard, it would be possible to have a fair and equitable distribution of resources. 8

Many working from this perspective in resource planning, however, become aware that effective communication or administrative fine tuning does not redress the fundamental economic and social imbalances that create problems for the powerless. Many planners working directly with disadvantaged communities become convinced that a restructuring of power is necessary to allow the equal representation of poor and non-poor alike in the decision-making process. 9 Planners working to preserve eco-systems recognize that environmental priorities must replace economic ones if ongoing degradation of resources is to be prevented. They acknowledge that pluralist approaches have not overcome the tendency for planning practice to maintain the status quo and suggest that a planner should be a "...facilitator of social change through the support by the planner of social groups whose interests have previously been excluded from the planning process." 10

This perspective suggests that an important role of planning is to design mechanisms that will discourage undemocratic elites within bureaucratic systems and encourage the representation of
weaker social forces. This thesis looks at two social forces that are poorly represented in the conventional political spectrum because the paradigm that defines the political agenda does not include them. As the conventional paradigm is defined in terms of state and individual rights, the rights of communities and the rights of eco-systems are not contained within it and do not therefore appear or the agenda. As the interests of natural systems are represented in human decision-making by environmental groups, greater representation by these groups is critical to resource conservation.

2.2. REDESIGNING THE POLITICAL SPECTRUM

The following section describes the elements of an emerging paradigm within which institutional mechanisms for better representation of excluded interests could be designed.

2.2.1. Economic Restructuring

Daly and Cobb offer a critique of the dominant paradigm that shapes economic and social life in Western societies and suggest an alternative vision based on "economics for community". This involves the development and recovery of self-reliant political communities that can resist the forces of the global market
An environmentally sensitive economy must have a proper scale relative to the ecosystem on which it depends. Pressures on economies to expand beyond the carrying capacity of their ecosystems are created through participation in the global economy which demands a constant expansion of scale and a continuing increase in resource exploitation. Daly and Cobb believe that the nation state is often the only level of community strong enough to resist the interests of transnational corporations or other nations. They suggest that "...nations are a desirable form of community and in many instances today, the only ones that have the power to assert themselves effectively against anticommmunitarian forces." They argue that many of the tools for resisting transnational pressures are already in existence as the state offers institutions of community that can protect and enforce "...standards regarding wages, welfare, population control, environmental protection and conservation".

The new economic paradigm assumes that there can be no effective national economy if people cannot meet their essential needs, and that a national economy for community will be a relatively self-sufficient economy. With the mobility of capital and the rise of "cosmopolitan money managers and transnational
corporations, which...no longer see the national community as their context", capital has escaped from responsibility to any community and is accountable to none. This lack of accountability creates a situation where nations not only have little control over the actions of corporations, but are likely to be forced to absorb their costs while not sharing in their benefits. 14 With national economic autonomy the state can set its own priorities in terms of democratic values and adjust its economic activities to conform to natural carrying capacity in order to protect environmental values.

As most nation-states are too large and centralized, "...decentralization of the national economy should accompany nationalization in relation to the global economy."15 In addition to economic de-centralization, Daly and Cobb suggest political decentralization that will reduce the alienation of citizens from the voting process. Political decentralization would create a national community of communities, where local decisions would become more significant, and where representatives chosen at lower levels would participate in important national decision-making. Though they call for the decentralisation of state power, they recognize the dangers for political minorities in local communities. The state should become more decentralised with respect to economic issues, as "...a political community cannot be healthy unless it can exercise significant measure of control over its economic life"
At the same time the state should maintain its present degree of centralization with respect to civil and human rights.  

2.2.2. Political Restructuring

Friedmann takes up where Daly and Cobb leave off by describing the evolution of self-reliant political communities. He too offers a vision of "collective self-reliance in development and the recovery of political community." To achieve this vision, Friedmann suggests that there must be a progressive de-linking from both the global and national capitalist economies. Self reliance begins with the empowerment of individuals in households and spreads to urban communes, to the metropolis and finally to a federation of metropolitan assemblies. This de-linking must take the form of "collective self-production", or a recovered sense of the wholeness of life.

Progressive independence from the global economy and the creation of a bottom-up form of governance demands a shift in political thinking which is a more radical version of that suggested by Daly and Cobb. Dempsey describes this shift as the understanding that "Each higher society is a subsidiary, that is, designed to be of help to the lesser societies beneath it. It is not the other way around: the persons who comprise the more fundamental societies are not means to serve the societies. Nor are closely knit natural communities such as municipalities to be used as means by the larger but more remote organizations like the
regional or provincial government (our 'states') or the national state." 20 This echoes Catholic teaching in which it is considered a grave injustice for "...a larger and higher organization to arrogate to itself functions which can be performed efficiently by smaller and lower bodies." 21

This tradition of bottom-up governance is founded on a belief in the capacity of ordinary people to regulate their behaviour and make collective decisions. Support for this tradition was low in Western societies as long as there was a high degree of prosperity. Ordinary people were willing to concentrate on raising families, enriching themselves, and consuming the resources produced with the assistance of the state. But poverty, discrimination against minorities and environmental issues have encouraged a growing number of people to question the authority of the state and its promise to provide a rational course of action. Friedmann argues that ordinary people in industrialized capitalist states are no longer willing to be ruled by state and corporate power and are demanding a devolution of that power so that they can rule themselves. 22

He goes on to say that the state responds to these demands "...in the accustomed way: with the mailed fist of repression and the velvet glove of social planning." 23 Planners who serve the state or corporate capital contribute to the continuation of oppressive relations of power. Only by organizing people to act collectively on their own behalf can planners help to bring about
a devolution of state and corporate authority.

2.2.3. Institutional Restructuring

Daly and Cobb's case in support of community economic autonomy and Friedmann's argument for the recovery of political community support the assumption of the need for a fundamental re-thinking of the conventional administrative paradigm. They agree that the recovery of political community through a devolution of state power and bottom-up governance based on a self-reliant system of communities are necessary components of a restructured society where community and environmental values can be protected and enhanced. In different ways, they seek to promote these values through independent communities: Daly and Cobb through self-reliant national communities and Friedmann through autonomous local communities. But they offer opposing views of the role of the state in promoting these values: Daly and Cobb believe the state is the most effective level of government for protecting and enhancing environment and community, while Friedmann believes it is the worst. 24

Irving Fox provides the institutional mechanisms for promoting these values, while at the same time offering suggestions for a reconciliation of state and local community powers. He argues that democratic processes that reflect public preferences and priorities are preferable to alternative methods of resource use decision-making. He describes the two major alternatives to
democratic processes as the scientific and the market methods of resource allocation which correspond to the authoritarian and laissez-faire poles of the political spectrum described above. Faith in science and technology to allocate resources is risky because of the enormous complexity of natural systems, and because technological advances have not been able to prevent a decline in resources. The invisible hand of the market is also an unreliable mechanism for allocating resources according to the preferences of the people affected due to such factors as natural monopolies, externalities, and impacts upon future generations. For both publicly and privately owned resources, Fox suggests that there is the need for a framework for decision-making that will reflect a democratic balancing of public preferences about how resources should be used. 25

"Since a very large proportion of resource use and management activities require some degree of collective decision-making, the development of procedures, processes, and entities through which these decisions are made constitutes the major challenge in the management and use of natural resources." 26

As the effects of one's actions upon others are more noticeable in small communities, Fox argues that decentralization of decision-making to the local community level is "...conducive to the effective implementation of practices that serve the common good..". Local ownership and control of private resource development and use organizations is preferable to absentee
ownership as local organizations are influenced by the social concerns of the community. As people of a region are directly affected by the way the resources of a region are managed, Fox suggests that planning and management of natural resources should be the primary responsibility of the regional rather than federal or provincial jurisdictions. Smaller units of government are more democratic in that they reflect public preferences more accurately.

Regional control over local resources would be restrained by federal or provincial authority where there were significant consequences for people outside the region. Such countervailing influences would limit uses contrary to the overall public interest. "This formulation departs from the present institutional structure by envisioning a major role for regional jurisdictions." 27

In order to realize this proposed institutional structure, it would first be necessary for the provincial government to establish the roles and responsibilities of regional jurisdictions and its own policies and activities. An important responsibility of the provincial government is to develop acceptable standards for use and management in each resource category so that these can be applied by users. Regional districts would be responsible for enforcing those standards and the province would act on appeals of actions by regional
districts.

The province would also establish a uniform system of resource data collection, prepare coordinated plans for resource use that transcend regional boundaries, identify transboundary effects of regional programs and regulate regional actions accordingly. The provincial government would make specialists available to assist regional districts and undertake a strong research program. Regional districts would prepare annual reports on the state of regional resources, and the province would consolidate these into an overall provincial report.

In addition to planning and implementing resource management programs and policies, regional districts would regulate the use of privately owned agricultural, forest and wild lands in the interests of long term sustainability of those resources. The planning and management of each regional district would be the responsibility of Resource Management and Use Councils which would represent the values of regional residents. These councils would develop integrated resource management plans subject to public review and criticism.

These proposals for institutional reform would work toward realizing the goals of economic and political restructuring envisioned by Daly and Cobb and Freidmann. They would also provide a mechanism by which the state could work with local
communities to bring about these goals. In Fox's proposal the state would neither be the instigating instrument of community development nor the enemy of local autonomy, but one of three countervailing forces in a decentralized version of federalism. Greater local control over resources does not overcome the problem of implementing policies decided upon by elected representatives, even local ones. Due to the complexity of resource management issues, program design tends to be heavily influenced by the bureaucracy necessary for implementation. Professional and bureaucratic values influence the range of options considered and the design of programs implemented. Processes must be used that will reflect public preferences in the light of carefully evaluated options. Paehlke and Torgerson describe the world of public interest groups, citizens' committees and movements that promote interests not encompassed by government programs and policies as the "public sphere". The following section describes this sphere and mechanisms for mediation between this area of public life and the implementation of bureaucratic resource management.

2.2.4. The Public Sphere and Discursive Designs

The concept of the public sphere is implicit in many theories of social change and it refers to the idea of an autonomous public forum, separate from and confronting the state, which will counterbalance pressures from capital and the market. 28 Paehlke
and Torgerson argue that an active, critical public sphere, which has existed in varying degrees of strength since Plato's time, is once again emerging as a potent political reality. Citizens in Western societies, faced by unprecedented environmental threats are forming a more or less cohesive network of organizations sharing a broad focus. 29

The contemporary public sphere has developed in opposition to a political tradition that accepts the actions of state administrations, believing them to be generally in the public interest. It also opposes administrations which assume that a consensus of opinion exists on environmental issues - a consensus that coincides with the views of administrators. Social changes of the last half of this century have produced a public sphere capable of challenging these assumptions and of monitoring, criticising and influencing state administrations. Demands for openness and participation continue to pressure the state to listen and respond to excluded interests. In most cases, the state has responded by attempting to contain these pressures through accommodation or obstruction. 30

The problem for any level of resource management is the mediation of bureaucratic implementation and public concerns and demands. At a local level, this mediation can be more democratic because there is a greater likelihood that a wider range of preferences will be reflected due to the smaller numbers involved. But
processes for input from the public sphere must be developed. Fox suggests that these processes would include methods for selecting representatives of different values to participate in identification of alternatives and negotiation of agreements and the means of supplying these representatives with the information they require. These representatives would make up a regional Resource Management and Use Council of ten members with staggered terms of office. These members would be appointed by a court magistrate from nominations put forward by groups and individuals in the public sphere. Where Native people are residents of a district, at least two should serve as Council members. Qualified professionals would serve as a staff to provide the Council with technical support and information required for planning.

Regional resource use planning would begin with a number of single use plans for each use of the resources involved then formulate a number of alternative integrated resource management plans reflecting different value priorities. These would be subject to public review and criticism, then the Council would prepare a biophysical, economic and social evaluation of each alternative integrated plan. After a second public review the Council would agree on one or more plans to recommend to the regional board. The regional board would review the Council recommendations and decide upon a plan to be implemented. The public review and criticism components of regional planning
are what Dryzek calls "discursive designs" or decision-making fora that "embody principles of free discourse among equals". The potential for discursive designs to encourage democratic resource planning lies in their relationship to the public sphere. They can act as building blocks of the public sphere and at the same time offer greater representation of interests other than capital and the market in the administration of the state. As a link between an active, critical public sphere and the state, discursive designs may introduce new ideas and innovations and new ways of defining environmental problems. Any mechanism that introduces ideas other than those which provide the rationale for conventional administration has the inherent potential to redefine problems outside the conventional framework. In this sense, discursive designs have the potential to act as effective mechanisms for social change.

Paehlke and Torgerson's critique of state administration explains how discursive designs could act to break down the rationale for conventional administration that serves the interests of market and capital and marginalizes other interests. They describe the tendency of large bureaucratic public organizations to develop patterns of mutually supportive relationships with private bureaucracies, thus shutting out other participants in the decision-making process. Through this mutual support the interests of public bureaucracies and large corporations have become interwoven, and a rationale for the
continuation of the institutional structures that promote this arrangement has become an integral part of administrative thinking.

Compounding the state's support for economic growth that benefits capitalism at the expense of the environment is its tendency to maintain a closed policy process. Marginalized interests cannot gain access to the decision-making arena so established biases are protected from conflicting views. Ideas that conflict with these administrative concepts, such as those proposed by the environmental movement, are eliminated before they can affect the decision-making process. It is thus impossible for the state to deal effectively with environmental problems which it has promoted and in which it participates. 33

This argument suggests that the administration of the state is based on false assumptions and misinformation and is protected from attacks by objective external interests. It suggests that once the opportunity arises for the irrational basis of conventional administration to be openly, publicly and extensively questioned, its internal organization will crumble aided by the loss of external support. The potential for discursive designs is described by Bartlett as their capacity to act as a "worm in the brain" 34 of conventional administration by providing a point of intersection between the emerging vigorous public sphere and the capitalist state.

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Another approach to institutional designs is what O'Riordan calls "environmental designs". These involve creative participatory effort based on cooperative trust among the parties involved, and utilize experience and experimentation. The educative and consciousness raising value of the collective decision-making experience is more important that the final outcome. It is a continuing process of environmental education in which people pool their individual talents to collectively shape a better way of life for themselves. The actual design process is means-oriented and is an open-ended mechanism for developing political awareness among people who have been consistently discouraged from expressing their needs. The process redresses social and economic imbalances by cultivating a radical self-awareness in presently powerless citizens. This type of design "...is as much a matter of political reform as it is the shaping of a better quality of life." The hope is that such participatory designs as workshops, task forces and community demonstration projects will raise political consciousness from personal problems to neighbourhood issues, to the community at large and beyond. This process breaks the political alienation which has led to the present conflict-ri
den society and confrontational politics.

Supporters of discursive or participative designs as mechanisms for social change acknowledge that there are also serious
shortcomings to the concept, as the existing power structure is not without protective measures. New ideas and innovations that emerge through participative designs can be rendered harmless through the complexities of bureaucratic process and their proponents co-opted through promises of sharing in administrative power. In this way, participative designs can serve as a "worm in the brain" of the public sphere, which eats away at initiatives that threaten the existing relations of power.

Whether they function to maintain or transform existing relations of power, it is clear that institutional designs will be limited within the context of the conventional political spectrum. A political spectrum formed by a tension between the rights of the individual and of the state does not include issues to do with eco-systems or local communities. As these issues are at the centre of concerns in the public sphere, the following section describes a political spectrum that would include community and ecological values as equal partners with state and individual rights in political debate.

2.3. AN ALTERNATIVE POLITICAL SPECTRUM

One suggestion for a new political spectrum comes from Milbrath who describes the need for a new political axis on which to
locate debate about the relationship between humans and nature. He suggests that this new political axis would bisect the horizontal political spectrum with a vertical axis of community and environment. There would thus be an intersection between these concerns and issues of the individual and the state. This thesis will vary Milbrath's concept by suggesting that the two axis do not intersect as they exist on separate dimensions. Otherwise, those at the mid point of the environment/community axis would share the concerns of those on the mid-point of the state/market axis.

Like the state/market axis, the environment/community axis is a continuum which moves from an extreme pole of support for the absolute rights of the natural environment through a balance between environmental and human community rights to the opposite pole of absolute rights for human communities. Another way of looking at this continuum is to see it in terms of allocation of finite resources. At the extreme of the environment pole are those who believe that all resources should be allocated to non-human communities, and that human communities should limit their consumption of resources to the barest necessities. At the extreme of the communities pole are those who believe that all resources needed by human communities should be allocated to them, and that non-human communities will be allocated whatever is left.

In order to understand the implications of the environment/
community axis more clearly, both poles will be considered as communities, one human and the other non-human. This frames the essence of the debate both within the environmental and the back-to-community movements, the members of which differ in terms of willingness to curtail the activities of human communities in order to protect non-human communities. To be sure, there are a wide range of other issues which divide environmentalists and community developers into various camps, just as the state/individual debate includes a variety of topics. But for the purposes of this thesis, their major distinguishing feature can be reduced to differences concerning the rights of humans or non-humans to consume finite resources. Figure 2 shows this four-poled alternative to conventional political debate. The following section examines points on the human/non-human axis in the same way as the state/market axis.

2.3.1. The Human/Non-Human Communities Axis

At the extreme of the environmental or non-human community pole, are those who believe that human communities are a cancerous growth on the body of the earth which is crowding out healthy natural communities. As the Ehrlichs put it, "No geological event in a billion years...has posed a threat to terrestrial life comparable to that of human overpopulation." 39 This perspective would prefer that human communities die out than
scarcer communities of other species. The rights of many non-human communities take precedence over the rights of human communities because the former have been pressured to the extent that many are threatened with extinction. This pole believes that human communities have usurped control over the earth's resources, and have denied them to other species. The only way to redress this historic and ongoing imbalance is to make the needs of non-human communities a priority, and to withdraw most rights of human communities to consume the earth's resources further.

At the opposite pole are those for whom the needs of their particular community are paramount, and who do not feel they should be expected to sacrifice their community goals and the lifestyle to which they are accustomed in order to preserve non-human communities. This perspective emerges in conflicts between communities based on a single resource extractive industry and environmentalists lobbying for ecosystem preservation. An example in the British Columbia context is the community of Port Alberni on Vancouver Island, which feels threatened by demands for the protection of old-growth forests in several watersheds.

At the centre of this continuum is a perspective which seeks to balance the rights of human and non-human communities. Its proponents believe that there is a proper scale for human activity which will allow natural communities to exist side-by-side with human communities. Differences arise as to how proper
Figure 2

A New Political Axis
scale is to be determined. On the human community side of this continuum, natural communities are to be protected within the limits determined by the economy; on the natural community side, the size of the economy is determined by assessing the carrying capacity of natural communities to withstand the impacts of human activity. There is a great deal of room for controversy at the centre of these poles, as an attempt to balance human and non-human activity is a new departure in human social organization.

With the addition of the human/non-human rights dimension, the political framework includes both issues of the state vs. the individual as well as issues of human vs. non-human communities, and recognizes that public concerns are a combination of both political dimensions. Thus the state/individual axis is not replaced by the human/non-human axis, but intersected by it so that the framework for public discussion expands along a vertical as well as a horizontal dimension.

2.3.2. Institutional Designs in a New Political Framework

This framework for public discussion includes the full range of issues that are addressed in the public sphere, or that public space within which groups and individuals meet to examine "...their relationships with one another and the wider relations of power in which they are located." 40

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Located in and helping to constitute the public sphere are participative designs, or institutions embodying free discourse among individuals. Dryzek isolates three categories of these designs in descending order of communicative purity and ascending order of influence in administrative decision-making. The first category includes social movements such as feminism, peace, radical ecology and Green politics which though highly principled in their internal and external relationships, remain on the fringes of political life. The second category includes public inquiries into the social and environmental impacts of development, which, though a small category in terms of the numbers of these inquiries, has the potential to be the most significant. The third category, consisting of such exercises as environmental mediation, regulatory negotiation and alternative dispute resolution, is more closely tied to state and capital.  

These categories bear an inverse relationship to Lisa Peattie's three levels of advocacy planning. The first level is the classical version that effects change through a more inclusively pluralistic political process which incorporates the interests of a broad social spectrum. The second, activist perspective works toward the growth of radical consciousness and organizational competence in the constituency. The third and most radical view sees fundamental political change in social power relations as necessary.
These categories suggest that there are different types of participative designs and that each type would occupy a specific location on the human/non-human axis. For instance, at the extremes of each pole are the new social movements that come under Dryzek's first category, such as Earth First! at the non-human communities pole and "share" groups at the human communities pole. "Share" groups refer to those organizations created in the forest sector to oppose environmentalists' efforts to protect old growth forests. They are called "share" groups because they suggest that logging can share the forests with recreational and preservation interests. Midway between the poles and the centre are public inquiries with either a socio-economic or biophysical systems focus which provide opportunities for those who are unwilling to enter into direct communication with the state and the market to aggregate and express their concerns. The centre of the human/non-human axis is the location of the third category, where environmental mediation, regulatory negotiation and alternative dispute resolution can act as discursive designs that link input from human and non-human communities to the concerns of the state and the market.

This approach to participative or discursive designs recognizes different approaches to environmentalism or community development and allows them to be expressed as complementary rather than antagonistic influences. It recognizes that different types of groups have different contributions to make to the
process of policy development. The first level, made up of radical members of social movements in local communities, are not involved in direct interaction with the state and capital, and express their concerns in the context of their local community groups. This helps to mitigate against the cooptation of the most active sources of input to the public sphere by state or corporate manipulation. The second level is made up of those who work toward organizational competence in their constituency. These would be active in public inquiries into the social or environmental impacts of development. The third level is made up of mainstream activists who are more comfortable dealing with state and market work in the negotiation and mediation types of discursive designs, which gives them more direct access to government and industry and involvement in the content of public policy.

How these three types of discursive designs are linked will determine whether the interests and concerns of the public sphere can be effectively communicated to the state/market axis. The concerns of social movements in local communities are aggregated and communicated to the second level, which in turn communicates them to the third level of mediation with state and corporate interests. This suggests the need for a representative system that can aggregate preferences and select issues that can be used to successfully challenge the existing political agenda.
A system of representation would remain democratic and effective in aggregating concerns from its active and autonomous elements if it is a bottom-up system of representation. It would maintain a flow of pertinent information from the more radical advocates of human and non-human community rights if the principles of bottom-up governance presented earlier in this chapter are observed. To reiterate, these principles were: each higher society is a subsidiary to the lesser societies beneath it; smaller communities are not to be used as means by the larger but more remote organizations; and a larger and higher organization may not arrogate to itself functions which can be performed efficiently by a smaller and lower organization.

In other words, the existing direction of information flow must be reversed, so that information from the state/market axis is not communicated to the mediation level of the public sphere, and from there to community organizers and finally to community social movements. Instead, the concerns of the second level are based on those of community movements, and the concerns of the third level are those brought to the mediation level by community organizers.

To incorporate Fox's proposals for institutional reform into a concept of discursive designs based on bottom-up governance, it is necessary to clarify the relationship between the Resource Management and Use Councils and the public sphere. If the
legislative changes to create regional governments and regional Resource-Use councils suggested by Fox were to be implemented, the appointment of representatives to these Councils by the courts would maintain control by the state and encourage top-down representation in regional government. A more democratic arrangement would be for the individuals and groups in the public sphere to elect representatives of regional councils with guarantees of representation by First Nations.

The role of municipalities in regional government is not discussed by Fox, but it could be assumed that the same system of countervailing powers as that suggested to govern the relationship between regional and senior governments would be extended to the municipal government level. The provincial government would develop province wide standards for sustainable use of resources in cooperation with the regions which would be enforced through regional plans. These regional plans would be developed as described above in consultation with municipalities and other bodies representing community interests. It would seem practical to include municipalities as Regional Council members along with First Nations and other regional interests.

A discussion of discursive designs and how they interact with the state/market axis should not ignore the political parties of right and left which are participative designs which have been developed for that axis. These designs influence policy through
Figure 3

Discursive Designs in an Alternative Framework
elected representatives who communicate state/market preferences of their constituents. These preferences in turn are translated into agency programs which are mediated with concerns from the human/non-human communities axis at the negotiating level. Figure 3 shows the distribution of discursive designs on the human/non-human axis as well as of political parties on the state/market axis and the relationship between them. Social movements at the poles are only partly in and partly out of the public sphere as they represent closed organizations that develop consistent interests and demands which are brought to the public sphere but are limited in their willingness to compromise with other interests. With more powerful enabling legislation, regional and local governments could mediate between the standards and guidelines enforced by the state and the concerns of the public sphere. Political parties of the left and right would act to aggregate state/market preferences, and elected officials representing these parties would negotiate with local governments.

2.4. SUMMARY

This chapter has described the conventional view of the political spectrum as one dominated by issues of the rights of the state as opposed to the rights of individuals in the market. Though issues of community and environment are at the centre of public concern,
they are not satisfactorily addressed by the conventional paradigm because they are not included in it. Because they are not addressed by the paradigm, those concerned with issues of environment and community have difficulty ensuring that their concerns are translated into policy and implemented in practice.

Proposals for mechanisms to bring about social change through economic, political and institutional reforms were examined, with particular attention to greater local control over local resources through expanded regional and municipal government powers. The role of institutional designs in communicating between the public sphere and the state was discussed. It was argued that successful participative designs alone could not bring about changes in power relationships that favour state/market concerns but would work toward re-framing political debate to accord with the concerns of the public sphere. A new political axis was proposed that would augment the conventional horizontal political axis of state/market issues with environmental and community issues. It was suggested that the two poles of this axis are distinguished by a commitment to the allocation of resources to either human or non-human communities and it is thus referred to as the human/non-human axis..

As the human/non-human axis is under-represented in policy-making, and as the issues represented on this axis are central to the concerns of the public sphere, it was suggested that
discursive designs can act to aggregate the concerns of the public sphere and communicate them to the state/market axis. Discursive designs should be located on the human/non-human axis according to the willingness of different groups to participate in the process of policy making. A bottom-up system of representation was suggested that would ensure the autonomy of the grass-roots, where issues of environment and community are most immediate and particular to local needs. As community activists would not interact directly with state and corporate interests, they would be protected from co-optation by state and corporate power. The centre of the human/non-human communities axis would be the location of regional Resource Management and Use Councils, including municipalities and First Nations. They would be involved in discursive designs which would mediate between the concerns of the human/non-human communities axis and the state. All concerns of the public sphere would be addressed in such a multi-dimensional political context. Different levels of discursive designs to ensure representation of community interests would contribute toward the development of an active autonomous public sphere that could successfully challenge conventional resource planning.

This model will be compared to the existing situation in the Fraser River estuary to test both the idealized model and its counterpart in present practice. The location of municipalities and other forms of local government in this new political
framework and their relationship to institutional designs for participation in the administration of the state will be explored in the following chapter. It describes the role of municipalities in habitat conservation in the Fraser River estuary.

2. Ibid., p. 123.


5. Raphael, op. cit., p. 128.

6. Fife, Daniel, "Killing the Goose", in Managing the Commons, pp. 77-79.


12. Ibid., p. 9.

13. Ibid., p. 235.


15. Ibid., p. 174.

16. Ibid., pp. 174-5, 177.

18. Ibid., p. 363.
23. Ibid., p. 8.
26. Ibid., p. 291.
27. Ibid., p. 295.
30. Ibid., p. 148.
31. Dryzek, op. cit., p. 102
32. Torgerson, op. cit., p. 142-145.
34. Bartlett, Robert, "Ecological Reason in Administration", in Managing Leviathan, p. 82.
36. Ibid., p. 261-263.
37. Ibid., p. 261-263.


41. Ibid., pp. 102-104.

The general objective of this thesis is to study the relationship between local communities and the state by exploring the research question: What is the role of local government in local resource use decision making? Chapter Two discussed proposals for institutional reforms to address environmental problems facing contemporary Western societies, and decentralization of control over resources to the local level was a recurring theme. It was suggested that countervailing influences could be created that would encourage resource conservation through greater local control, while avoiding resource uses contrary to the public interest. It was further suggested that existing participative designs such as environmental mediation and negotiation forums and public inquiries are the best mechanisms for bringing about not only the institutional changes necessary for enhanced local control but the paradigm changes necessary to understand environmental issues more clearly.

While the main research question seeks to define the existing relationship between local government and the state, the aim of the subsidiary research questions is to examine the potential for that relationship to change through the use of discursive designs initiated by both the state and local communities. Local government is one of many interests that are excluded from key
decision-making by the existing power structure, and by exploring whether and how power can be extended to one excluded group, this study will suggest whether and how this can be done for other disadvantaged interests. It will also provide a greater understanding of the rights and duties of smaller territorial political jurisdictions in relation to the larger society.

These objectives will be pursued in this chapter through a case study of habitat management in the Fraser River estuary. The case study will examine the involvement of local governments in the habitat management activities of an institutional arrangement designed to reconcile economic and ecological needs in the estuary, the Fraser River Estuary Management Program. Changes in the role of local governments in habitat management will be documented and the implications of these changes for the success of this institutional design as an avenue of reform will be assessed.

The case study describes habitat management as an institutional sub-system in the Fraser River estuary. This concept has been borrowed from Sproule-Jones ('80) who argues that societal control over an activity like habitat conservation is effected largely through an institutional sub-system, or instruments of government such as laws, regulations, taxes, subsidies, and agencies. It is called a system to suggest the complex interaction of a wide diversity of interests through which it
This case study looks at the formal arrangements of the habitat management sub-system in some detail, then examines the workings of the informal and interest group arrangements in terms of a formal institutional design, the Fraser River Estuary Management Program (FREMP). It describes FREMP as a management system that has arisen in response to the jurisdictional overlap between senior governments and acts as a forum for the exchange of ideas among agency personnel. The role of municipalities in one activity of the management system, habitat conservation, is examined. An important aspect of habitat conservation has been the designation of conservation areas, which has been the primary focus of the area designation process in the estuary. This process will be discussed in detail in this chapter. The case study traces the evolution of enhanced participation of local governments in this process and the growing appreciation of conservation values among all levels of government involved in the estuary.

3.1. FORMAL INSTITUTIONAL ARRANGEMENTS IN THE ESTUARY

Formal arrangements include legislation designed to manage habitat enacted by federal, provincial and local governments and
implemented by agencies which have been established or reshaped to take specific actions, such as issuing regulations. Also included in the formal arrangements are taxes and subsidies which encourage habitat protection and enhancement. This section reviews the major legislative authority and supporting administrative structures that exist for habitat management in the Lower Fraser. These are described in terms of the existing government legislation of federal, provincial, joint federal/provincial and local authorities.

3.1.1. Federal Authority

The British North America Act gave the federal government power over seacoast and inland fisheries, migratory waterfowl, shipping, navigation, harbours, defence, international relations and communications and ownership of the bed and foreshore of six harbours on the B.C. Coast. The federal government thus owns the bed of the Fraser River estuary from Tilbury Island to Kanaka Creek as well as the Pitt River to its exit from Pitt Lake. While the federal government owns Sea Island, The Fraser River Harbour Commission (FRHC) and North Fraser Harbour Commission (NFHC) can affect foreshore use through their control of navigation and shipping. The federal Harbour Commissions administer the lands and waters owned by the federal Crown, that area of the estuary designated to be within the harbour limit, and all provincial Crown foreshore. If the Harbour Commission requires more estuary
land for navigation and shipping, it can gain property rights over an area as well as regulate matters in that area. In other words, the Harbour Commissions may expropriate and develop any property owned by Canada, the province or a municipality "in the limits of the harbour or in the immediate vicinity thereof." The Harbours Commissions are accountable to the Ministry of Transportation.

The Canadian Environmental Protection Act (CEPA) is administered by Environment Canada and is intended to be used in the formulation of comprehensive environmental pollution control and abatement plans. A contravention of the Act is subject to prosecution under the criminal code. All federal projects are subject to the Environmental Assessment and Review Process (EARP). Other federal powers stem from its right to legislate in the interests of "peace, order and good government".

3.1.1.1. Fisheries

Federal authority over fisheries rests with one section of the Fisheries Act, which is administered by the Department of Fisheries and Oceans (DFO) and prohibits the discharge of substances deleterious to fish into waterbodies. The habitat protection provisions of the Act provide authority to protect against developments which are likely to result in harmful alteration, disruption or destruction of fish habitats. The
Department of the Environment (DOE) administers the water quality provisions of the Act. The Fisheries Act and its habitat protection provision are the backbone of habitat protection legislation used in the estuary. It may be used to stop activities that have not been properly reviewed, or that are not in compliance with the Act. The basic policy of the DFO for the management of fish habitat is that no loss of productive fish habitats will be condoned. To prevent further reductions in fish resources, the DFO has implemented objectives to obtain a net gain in the productive capacity of habitats. To meet this objective, it has established a principle of "no net loss", which stipulates that habitat lost as a result of development must be replaced. Restoration of previously degraded areas is an integral part of their habitat preservation policy.

In order to achieve no net loss, DFO has established a hierarchy of preferences through its shoreline habitat inventory map. This map has identified habitat according to productivity: red areas are highly productive habitat where no development may be permitted; yellow areas are moderately productive habitats where development is subject to mitigation or compensation; green areas are low productivity habitats where development is permitted subject to mitigation requirements.

In yellow areas, where habitat is put at risk through potential development, the proponent is encouraged to redesign the site,
select an alternate site or mitigate potential damage. The following principles are adhered to by DFO for fish habitat: replacement should be like-for-like, that is marsh for marsh or mudflat for mudflat; habitat should be replaced near the site of impact, unless off-site replacement would increase productive capacity. For marsh habitat the ratio is 2:1 because of the time required for productive marshland to establish itself and the risk involved, and the mudflat and riparian habitat ratio is 1:1.

In 1988 the NFHC agreed to develop a joint North Fraser Harbour Environmental Management Plan in conjunction with the DFO. The catalyst for development of the plan came from the DFO which demanded that the Harbour Commission clean up the entire harbour. Instead, the NFHC negotiated agreement for a management plan which could establish priorities by which the NFHC would address harbour clean-up. Because the DFO was very cautious in its approach to coming to agreement on a management plan, the process took three years. The four components of the plan are: a habitat inventory and shoreline classification system, based on that developed under the DFO's policy for management of fish habitat; project review and assessment procedures, again using DFO policy guidelines; a habitat compensation banking system, whereby habitat is accumulated against future losses; and a cooperative management program with harbour industry and users to improve shoreline habitats.
Of the users affected by the plan it has been most strongly felt by the forest industry which estimates that overall log storage in the estuary has been reduced by 5-8%. For some individual firms, the loss of log storage is up to 20% of their former areas. Other industries have found the requirements of the plan less onerous, as improved industrial practice can protect habitat without costs to the firms involved.

3.1.1.2. Wildlife

Environment Canada is the federal ministry responsible for the management and protection of marine mammals and migratory birds throughout the study area. Harbour seals and killer whales are protected under the Fisheries Act. The Canadian Wildlife Service (CWS) is responsible for migratory birds in the study area under the Migratory Birds Convention Act and the Canada Wildlife Act. The role of the Migratory Birds Branch of the Canadian Wildlife Service is to "...keep Canada fit for birds to live in... (by)... managing the migratory bird resource for the maximum benefit of existing and future generations of Canadians and other people having a common interest in the welfare of the birds." The objectives of the Migratory Birds Branch pertain also to the habitat base for the wildlife resource. The provincial goal of the Fish and Wildlife Branch is, "To provide sustained benefits
for the people of British Columbia through the management and protection of the fish and wildlife resources." The Branch recognizes that only 20-30% of original wetlands habitat exists in the Fraser estuary and that the remainder is vital to the maintenance of current fish and wildlife populations. The Branch's estuarine management policy is that pristine estuarine environments, where they exist, should be preserved intact and that the status quo should be maintained in all estuaries subject to industrial use, and any options for habitat rehabilitation should be pursued.

Though compensation for fish habitat tends to serve wildlife needs as well, the CWS requires that one-half of any important wildlife habitat that is at risk should be retained in its natural state and placed into secure tenure for conservation. Under this policy, no net loss or full protection of habitat is impossible. Habitat banking is also practised as a way of creating and saving new habitats in the estuary for the purpose of future habitat compensation needs. It is suggested that the establishment of a formal policy and comprehensive inventory of compensation projects would improve the agencies' ability to protect wildlife habitat. Federal government lands such as the Reifel Bird Sanctuary were purchased by CWS which enjoys all the rights of a private landowner in the management of this land. These federal lands are supplemented by a provincial wildlife sanctuary on an adjacent tract of Roberts Bank.
3.1.2. Provincial Authority

The provincial government owns all natural resources within the province - lands, minerals, water and wildlife. In the estuary, the Provincial government owns most of the foreshore with the exception of Sturgeon Bank, the remaining bed of the Fraser, almost all the North Arm and the Main Arm west of Tilbury.\textsuperscript{16} They are significant minority holders of adjacent uplands as well, especially in Boundary Bay and Roberts Bank. \textsuperscript{17}

Provincially there are two types of habitat protection designations, Wildlife Management Areas and Map Reserves. Two types of Management Areas are provided for under the \textit{Wildlife Act}, and managed by the Ministry of the Environment (MOE): Wildlife Management Areas (WMAs) and Critical Wildlife Areas (CWAs). The latter are designated from Crown Land for protection of threatened or endangered species. Both WMAs and CWAs may be acquired through purchase, lease, donation, expropriation or land transfer. Map Reserves are administered by the Land Branch of the Ministry of Crown Lands under authority of the Land Act. Efforts are being made to transfer these lands from other ministries to the MOE through section 101 of the Land Act. This would allow these areas to be designated as WMA's. The ultimate aim of land acquisition programs under the MOE is to create Wildlife Management Areas, but to date only 6\% of existing habitat in the Fraser estuary is secured.
Many provincial agencies exercise influence over land use on and adjacent to the foreshore, especially the Land Management and Water Investigations Branch of the MOE, the Ministry of Municipal Affairs, the Agricultural Land Commission and the Ministry of Highways. The Land Management Branch is responsible for the establishment of ecological and other reserves on Crown land.

Provincial lands are of three types: Crown Reserves, Greenbelt Lands and consignments from other provincial authorities. Crown reserves may be Orders-In-Council, which are the strongest form of tenure, map reserves or notations of interest. Order-In-Council reserves restrict the conditions of use to specific agencies or purposes, or place administrative controls on use. The most important of these is OIC 908 which requires that every proposed development on the foreshore and land outside the dyking system of Sturgeon and Roberts Banks and Boundary and Semiahmoo Bays be subject to a mandatory environmental impact assessment. Neither of the other two types of tenure confers management authority but they are often used to effect short-term protection pending more detailed studies.

The Greenbelt Act provides for regulation and management of lands purchased at the request of various provincial and local government agencies and is administered by the Ministry of Crown Lands. It provides for the setting aside of crown land or the
acquisition of private lands to control land use according to the requirements of the municipalities for green and open space. The Greenbelt Act exempts designated lands from the provisions of other acts except the Ecological Reserves Act, the Environmental Land Use Act and the Waste Management Act. Marshlands may be consigned for management to the Fish and Wildlife Branch by other provincial authorities such as the Ministry of Highways or the B.C. Land Commission. The Fish and Wildlife Branch within the provincial MOE has responsibility for all wildlife other than migratory birds. The Environmental Management Act empowers the Minister of the Environment to manage, protect and enhance the environment. While this Act does not provide for acquisition and protection of habitat, it does allow for the preparation of environmental management plans for specific areas.

There are several mandatory provincial review processes. The Land Disposition Referral Procedure applies to all B.C. Crown Land and is used to review applications for new and replacement land tenures as well as proposals for reserves, designations and notations under the Land Act. The Energy Project Review Process encompasses energy, economic, social, land use, resource and environmental issues. A floodplain review process exists under the Water Act which applies to applications to flood Crown Land. The Major Project Review Process was established to review projects not examined under the existing review process. The Fraser River Estuary Environmental Impact Assessment Guidelines
implement Order-in-Council 908/77 which applies to all proposed developments outside the dykes in Sturgeon and Roberts Banks and in Boundary and Semiahmoo Bays. The MOE reviews proposals involving the use of pesticides or the dumping of wastes.

3.1.3. Joint Federal/Provincial Authority

Nowhere in the estuary is there a clear basis for one government to be the sole authority and all levels of government can be involved in decisions. The province has jurisdiction over the management and sale of all resources where its ownership rights are recognized, but where these ownership rights overlap with the other jurisdiction, there must be compromise and cooperation. The two senior governments exercise considerable control over the foreshore outside the dykes in the Fraser River estuary because most of this land is Crown owned. The Federal and Provincial governments share ownership of the bed of the main channel of the Fraser River.

The federal and provincial governments are roughly equal in their control of the Fraser River estuary as both have substantial powers stemming from their ownership and jurisdictional rights, and neither has clear dominance in the estuary as a whole, though either one may have clear rights in any particular issue. However, there are legal provisions that weigh the balance of power in favour of the federal government so that in cases of
conflict legislative power is given to the federal government. Where there is divided jurisdiction over a group of legislative matters, the two governments may cooperate by entering into a federal/provincial agreement.

Both governments work cooperatively to prevent alienation of prime habitat through agreements to jointly acquire and manage lands. Critical habitat areas in the Fraser River estuary have been acquired through direct land purchases, land title transfers, or receiving control over land management. As large land purchases are expensive, they have usually been undertaken jointly by several agencies and organizations through cooperative conservation programs. Riparian habitat has been set aside for protection in the joint federal/provincial River Dyking Program.

They also work cooperatively on habitat enhancement and restoration projects to improve the productive capacity of the estuary's natural habitat. Enhancement involves improving the quality, productivity and associated public benefits of natural areas. Restoration involves restoring or artificially improving degraded environments.

In the Fraser River estuary, cooperation has been achieved among the federal, provincial and regional actors involved. Those involved in decisions regarding land and water use in the estuary include the GVRD, the British Columbia Ministry of Lands, Parks
and Housing, the Department of Transport, the two Harbour Commissions and the DFO. The major agencies involved in licensing and regulation of discharges into the water and water use in the estuary are the MOE, its federal counterparts DOE and DFO, and the GVRD. 22 This cooperation between provincial and federal agencies was motivated by the complex array of legislation and institutions that had evolved. More than a hundred governmental and non-governmental organizations were involved in governance of the estuary but there was no formal mechanism through which the numerous agencies could coordinate their efforts. Before a management plan was developed the existing institutional arrangements were found to have gaps and inconsistencies among policies and to be increasingly unable to resolve the growing conflicts between competing interests. The search for a more effective management system for the Fraser River estuary will be discussed after a description of the enabling legislation that shapes the relationship between municipalities and senior levels of government, followed by a brief description of the informal institutional arrangements and interest groups involved in the estuary.

3.1.4. Local Authority

Though the primary responsibility for land use planning in the estuary lies with the province, it has delegated most of its responsibility, along with zoning powers, to the individual
municipalities. As creatures of the province, municipalities are in a relatively weak position in conflicts with the provincial or federal governments in the estuary. They own little waterfront land so their control of uses of the foreshore and adjacent upland is largely exercised through land-use zoning, subdivision controls and provision of roads and services. Industries own most of the privately held land adjacent to the foreshore, especially wood converting industries.

Under the Municipal Act municipalities control land use in uplands behind the dykes, but Section 716 of the Act includes the power to zone the surface of the water as well as land. While this power would be dislodged by the paramount jurisdiction of the federal government over shipping and navigation in the estuary, the GVRD and its member municipalities feel that section 716 should operate within the harbour, in matters not directly affecting shipping and navigation. The Harbour Commissions refuse to recognize zoning at the municipal level which would affect any Harbour Commission jurisdiction on land or water. Municipal and regional governments in the estuary have not attempted to enforce by-laws or zoning regulations within harbour limits, and the Harbour Commission has tended to adhere to area designations under the official regional plan and by-laws of municipalities that front the harbour. Their mandate, however, has been to develop these lands and waters according to the concept of the highest and best use in economic terms, which is
sometimes in conflict with local designations.

Because control of land use on foreshore in the estuary is largely split between the federal and provincial governments through the Harbour Commissions and the MOE, municipalities have tended to consider that the use of these foreshore lands is outside their control. As the authority of municipalities and regional districts has been delegated by the province it is a limited jurisdiction over designated areas. They can control coastal land and waters within these designated areas through zoning, but final authority rests with senior governments through the precedence of their enabling legislation.

The Ministry of Municipal Affairs is responsible for the proper administration of the Municipal Act, which delegates authority to local governments in a number of areas. The provision in the Act that allows designation of areas for "protection of the natural environment" is Sections 945-(4)(a), which also provides for the creation of guidelines for this protection. Though this section protects fragile habitat from construction or subdivision, it is not effective in preventing other uses such as tree-cutting or land fills. In addition to zoning and subdivision controls, the Act empowers local governments to maintain, construct and repair dykes and drainage works for flood protection. Local governments can affect agricultural activities in the estuary area through the Agricultural Land
Commission Act which involves them in the Agricultural Land Reserve (ALR) process. Application for exclusion from the ALR may be made by individual property owners, municipalities or regional districts or may be ordered by Cabinet. The Soil Conservation Act enables local authorities to issue permits for removal or disposition of soil from an ALR.

The Waste Management Act administered by the MOE plays a significant role in the relationship between municipalities and the province, especially in the area of habitat management. This Act takes precedence over other provincial Acts if there is a conflict between them. Thus municipalities and regional districts can not impose stricter guidelines, controls, or more restrictive permits than those granted under this Act. 28

Municipalities and regional governments have other tools with which they can enforce their zoning regulations, such as supply of utilities, services and road access. 29 Land purchased for the purpose of municipal or regional parks is one way that local governments can contribute toward habitat conservation through land acquisition. In the past, municipalities have been reluctant to use their powers of conservation or to restrict development on private lands outside the dykes, though they have favoured park zoning for many publicly-owned foreshore lands. 30 During the late '70's when senior government environmental agencies were attempting to conserve sensitive or productive habitat in the
estuary, they complained that municipalities made no attempt to reserve waterfront lands for water-using industries, or "...to develop policies to preserve areas of the waterfront with specific aesthetic or ecological attributes such as Surrey Bend or Burnaby's Big Bend." 31

The role of municipalities in protecting habitat in the estuary has changed over the past decade. Many municipal councils in the mid-70's were very development oriented and considered federal and provincial regulations to be impediments to growth. Since that time there has been a change in municipal attitudes and a greening of local politics. In the early '70's Burnaby went through a comprehensive public review of land use in its Big Bend area, which was zoned for heavy industrial use. The Big Bend Development Plan changed the area to a mix of open space, residential, conservation, agricultural and some industrial zones. 32 Burnaby has also undertaken an ambitious plan to acquire green space for conservation and recreation and now offers public access to 50% of their foreshores in the Fraser Estuary and Burrard Inlet.33

Other municipalities such as Surrey have managed to protect large portions of environmentally sensitive areas through decades of thoughtful land use. The habitat that has survived in Surrey is a result of a municipal history of conservation rather than a recent "greening" of the local council. It has recently been
recommended that Surrey's Big Bend be conserved to protect sensitive habitat, and though the municipality would encourage a conservation designation for the area, it does not have the tax base for funding acquisitions that Burnaby has. While Burnaby made the bulk of its green space acquisitions during a period of relatively low land prices, Surrey is presently facing steep prices for valuable foreshore. Like Burnaby, the municipality has taken a proactive approach to environmental planning, and has developed a land inventory for environmentally sensitive areas which is a model of its kind. 34

An example that illustrates a change in municipal attitude is the history of the Spetifore lands in Delta. In the early 70's the municipality of Delta wanted to develop the lands, and the provincial government wanted to prevent that development. In recent years the positions had become reversed, and the new municipal council was trying to protect the Spetifore lands from development encouraged by the province. The "greening" of Richmond City Council is indicated by a recent Round Table on the Environment held by the Mayor of Richmond and amendments to the OCP that create guidelines for use in environmentally sensitive areas. Richmond also has an acquisition plan to rescue properties with important conservation, recreation or aesthetic values. 35

One reason for the change in attitudes has to do with a change in foreshore use in the Lower Mainland from industrial to
residential and service industry uses. This is reflected in amendments to OCPs which are changing river uses from industrial to residential. Municipalities used to think of the Fraser River as a back door where industry would be far from residential zoning. With increasing population pressures they have realized the value of the waterfront for residential development and they are changing the river to their front door. There are organizational changes in municipal departments which reflect these changes in attitude toward green space. Many municipalities including Burnaby, Surrey, Delta and Vancouver have hired environmental planners and are creating conservation guidelines under section 945 of the Municipal Act.  

Changes in attitude of regional governments in the estuary reflect municipal changes. Three regional governments border on the estuary; the GVRD, the Dewdney Allouette Regional District (DARD) and the Central Fraser Valley Regional District (CFVRD). There was an Official Regional Plan (ORP) developed by the GVRD in 1966 to propose principles for orderly growth throughout the Lower Fraser Valley including control of urban expansion and a recreation and park plan. The other regional districts did not have well-defined land use policies and adopted the ORP for the GVRD to guide development in their own regions.

The ORP sought to redirect growth away from farm and flood-plain areas and "Preserve environmental quality and natural assets"
through land area designations and natural assets policies. Maps identified these features including significant fish, bird and wildlife habitat. Its policies were to be incorporated into OCP's and used by senior government agencies in management practices.

Though the floodplain placed natural restrictions on industrial development along much of their foreshore, criticism of the ORP by senior agencies in the late 70's suggested that industrial areas were allocated along much of the waterfront regardless of physical and servicing constraints. GVRD policy with regard to industrial expansion has changed since the time that the regional plan was in place. Expected industrial demands have not materialized and the value of estuarine ecosystems has become recognized. 38

In 1975, the GVRD proposed a Liveable Region Program (LRP) which was designed to channel rapidly increasing population pressures to appropriate areas of the region through consultation between local and senior levels of government. It argued that the municipalities bore the brunt of rapid population growth as they had to pay for it and cope with it. The program stressed regional growth sharing and management, regional town centres, regional transportation policies and an Open Space Conservancy Program to provide the context for regional conservation efforts. 39 The central purpose of the ORP and LRP was to create "Cities in a Sea of Green". 40
Though the goals of the LRP are much the same today, the means of realizing them have changed since many regional planning powers were retracted by the provincial government in 1983. The GVRD works to develop cooperation among the municipalities in such areas as regional conservation of greenspace. Municipalities are asked to incorporate the concepts of the LRP into their OCP's. The LRP is also used as a framework for intermunicipal and intergovernmental actions and regional discussion of issues. 41

A document called "Creating Our Future" has updated the LRP and identified initiatives for realizing some of its Open Space Conservancy objectives. The Green Zone initiative is meant to flesh out the environmental conservation concepts of that document and to design a process for protecting important green space and containing regional expansion. The GVRD has done a study of environmentally sensitive lands, and will invite municipalities to use this survey in protecting green space. 42

Despite their weak legislative position, the Greater Vancouver Regional District (GVRD) and its eleven member municipalities are increasingly becoming major provincial actors in decisions regarding land and water use in the estuary along with senior government agencies. 43 Senior government environmental agencies are becoming increasingly aware of the contribution that local governments can make to conservation efforts in the estuary. Several suggestions have emerged from these agencies that would
enhance the involvement of local governments in habitat management activities. One report recommended that environmental legislation reflect planning for habitat protection and conservation and gave local property tax incentives to protect valuable habitat as an example of such legislation. Such legislation would give greater local control over local resources within guidelines set by the federal and provincial governments. Amendments to the Municipal Act that would require shoreline plans like those demanded by the U.S. Coastal Zone Management Act would also encourage greater local government responsibility for habitat conservation.

Local governments would need resources in order to be able to carry out additional management functions such as shoreline management plans. Surrey has anticipated this sort of change by developing the Surrey Bend By-Law which must meet federal and provincial regulations and therefore is eligible for federal and provincial financial assistance. Local governments appreciate federal and provincial assistance with habitat management and would not be capable of implementing all habitat management functions on their own. For instance in Coquitlam, the DFO is asking for regulation of a massive residential development on the Westwood Plateau to protect salmon streams. Local planners appreciate the knowledge, ability and enforcement capability that DFO brings to this area because they don't have it themselves. Municipalities could develop the capacity to take on more habitat
management functions if they were to build up their own staff through development services taxes or planning grants from the Ministry of Municipal Affairs. It would be possible to arrive at an efficient division of labour where the DFO would concentrate on high priority streams and give responsibility for smaller streams to local jurisdictions. 46

Though the DFO cannot legally delegate authority for implementing or enforcing its policies to regional or local governments, in practice this delegation already takes place. For instance in the Surrey example above, the DFO gave the municipality guidelines with respect to development, but was unable to provide the human resources to police the implementation and enforcement of those guidelines. The rapid rate of urban development makes that municipality a "black hole" in terms of consuming the attention of DFO personnel. Due to staff shortages, there is an informal agreement that policing of DFO guidelines is the municipality's responsibility, but if the DFO finds a lack of compliance in a random audit, the municipality will be held responsible. 47

3.2. INFORMAL INSTITUTIONAL ARRANGEMENTS

The enabling legislation of the important agencies does not give a full picture of the framework of authority and activity in the estuary. Agencies interpret and use their powers through non-legislative instruments or informal arrangements which make up
their long-term existence as well as their day-to-day functions.  

Informal or customary arrangements exist for the sharing of responsibilities where there is the possibility of more than one agency or level of government taking action on an issue. Systems that facilitate the assembly, storage, development and exchange of information are an example of informal institutional arrangements that are used to implement the agencies' legislated mandates. Referral systems are procedures that government agencies use to inform each other of proposed development activities, exchange information, resolve conflicts, coordinate activities and arrive at decisions.  

Plans and programs that are developed to implement the legislated mandates of agencies and agreements can also be considered as informal institutional arrangements. For instance the NFHC has developed an environmental management plan with a formal component outlining the agreed upon responsibilities of the agencies involved, and a more informal component of cooperation among three levels of government, agencies and harbour users.  

FREMP is an example of a formal institutional arrangement designed to resolve overlapping mandates of senior governments, while the programs plans and processes developed within FREMP are informal institutional arrangements.
3.3. INTEREST GROUPS

The last component of the habitat management sub-system is made up of interest groups. There are a wide range of organizations representing a diversity of interests in habitat enhancement and protection in the estuary. Aside from provincial and federal agencies, boards and commissions, and in addition to elected municipal councils and appointed bodies, there are a multitude of civic groups and organizations. These include regional special interest groups representing social, environmental, economic, recreational and education interests; business, industry and unions located in the estuary; educational institutions and libraries; and the mass media.

Though local governments appear in formal institutional arrangements which provide enabling legislation for agencies at different levels of government, and in informal arrangements such as discretionary referral processes and senior agency programs, they are also interest groups in that they are often marginal powers in these arrangements.

While the emphasis of this case study is on local municipalities, the concerns of other human communities in the estuary should be noted. Like municipalities, First Nations also play a role as interest groups in the estuary, though they are demanding to be considered as partners in Confederation. Indian Bands are
concerned about the loss of traditional fishing grounds, and the degradation of archaeological sites along the lower Fraser estuary. Concerns are expressed that Indian Reserve land might be designated for habitat protection and that they will be obliged to assume a disproportionate share of the cost of environmental preservation.

3.4. A MANAGEMENT SYSTEM FOR THE ESTUARY

The impetus for a management system in the estuary came from a number of different sources. There were some eco-initiatives in the mid 1970's in the US, such as the National Environmental Protection Act, which influenced Canada and B.C., and resulted in the Environment and Land Use Commission, ALR's, and environmental review legislation. There was a great deal of economic growth at the time, and in the Fraser estuary three major projects were being proposed at the same time: the Vancouver International Airport expansion, the Roberts Bank Coal Port development and training walls for shipping. Pressures to develop the economic potential of the estuary with resulting ecological impacts led to demands from environmentalists to protect these ecosystems. Public perception was of a lack of coordinated review or understanding of the estuary-wide implications of these projects.
Development of a management system responded to concern "...as to the means by which continuing urban and industrial expansion in the metropolitan Vancouver region could be reconciled with the need to sustain the environmental integrity of the Fraser estuary." The overall goal was to balance the needs of the economy with the protection of the natural ecosystems of the Fraser estuary. A management system was also undertaken because existing informal arrangements for management were poorly understood, undocumented and contributed to a sense of confusion and exasperation on the part of the public, special interest groups, developers and agencies alike. Concern was expressed about the complexity, effectiveness and accountability of the existing system, with an extensive and incomprehensible web of informal arrangements used to implement formal statutory provisions. The implementation of a management system was to make the process more structured, understandable, open and accountable. The first stage in the development of a management system was a study undertaken to gather information about the estuary, identify major problems and define the scope of a management plan.

3.4.1. The Fraser River Estuary Study

The purpose of the Fraser River Estuary Study (FRES) was to "...develop a management plan which recognized the importance of the estuary both for human activities such as urban-industrial
and port development, and for the preservation of ecological integrity".  

The study area included the land and water outside of the dykes and upland areas within 1000 metres of the dykes from Kanaka Creek and the outlet of Pitt Lake in the east, the estuary drop-off in the west, Point Grey in the north and the International Boundary to the south including Boundary and Semiahmoo Bays. Figure 4 shows the FRES core study area. The study was divided into two phases: phase I which produced an inventory of existing conditions and trends; and phase II which was concerned with the preparation of a management program.  

The FRES I Steering Committee formed four work groups to carry out their objectives, with technical staff from federal, provincial and regional levels of government. Liaison with municipalities was obtained through membership on the Land-Use and Transportation Work Group by the Chairman of the Technical Planning committee of the GVRD. When it became clear that a management plan for the estuary would have to address how much and where future urban development would occur, the Steering Committee expanded its membership to include a representative of regional development from the GVRD.  

Recognizing that FRES should explore a wider range of issues and concerns than those represented by the Work Group participants, the Committee arranged a series of workshops which invited
participation from the Steering Committee, Work Groups, public and business groups and municipal staffs and councils. Among the specific proposals that emerged from these workshops was a suggestion that municipal elected and appointed bodies should be contacted and asked for input into the management program on an ongoing basis.

The Steering Committee deliberated on these consultations and the findings of the four work groups and assessed their implications for the development of a management plan. The organizational concept proposed by FRES I was comprised of three interacting groups: a constituency comprising all government agencies and non-governmental groups that would meet or exchange views and participate in task groups; a policy group comprising key agencies which would develop initiatives resolve conflicts and make recommendations to the political level; and an estuary council which would be a small political group bearing ultimate responsibility and accountability. The next step proposed by the Steering Committee in the development of this management plan was to organize dialogue on the proposed policy guidelines, organizational suggestions and work group findings of FRES I. FRES II would establish the main framework for the management plan leading to a Federal/Provincial agreement to begin plan implementation.

Though the proposals made in FRES I were strongly influenced by
an external consultant with significant experience in regional planning and government, they were not considered politically viable. The mandate given to FRES II was to look at less radical organizational options so the outcome of the second phase was a proposed system that "... erodes as little as possible the existing agency functions...". The rationale for retaining the existing power structure in the estuary was that such a system could be put in place quickly, and implemented immediately. Agreements on criteria and policy changes could take place in the future once commitment to the management plan was made by both senior governments. This would allow agreement and negotiation with respect to the policies or criteria with which decisions are made, without overstepping the discretion of the agencies.

FRES II did not examine the potential for greater local representation as its priority was getting a process underway that would meet with minimum resistance. Any attempt to provide for greater representation or authority by local governments would have interfered with the momentum necessary to get commitment from senior governments and agencies. The architects of FRES II were anxious to get on to the next step which was to narrow the options for the agreements and to analyse the policies of the major agencies.

FRES I proposals recognized the need for leadership in decision-
making and accountability in a management system for the estuary. FRES II did not pursue these proposals because an enhanced bureaucratic organization was felt to be more feasible than the creation of a new governing body for the estuary. In the FRES II proposals, political leadership and accountability remained with the Federal and Provincial Ministers of the Environment. The FRES I Steering Committee was renamed the Planning Committee in FRES II and changed from being dominated by environmental agencies to include a diversity of agency interests. There was a series of technical reports produced during this second phase containing proposals and background data on management systems, information systems, area designations, referral systems, legal provisions, organizational options and public involvement. The report on legal provisions for a management system suggested that it must be constrained by "...statutory provisions which allow the major agencies involved to coordinate their regulatory functions, share decision-making processes and adopt uniform policies for planning and management".

A comprehensive survey of the policies controlling land and water use in the estuary was also done during FRES II in order to document the informal inter-agency arrangements that had developed to overcome the more obvious clashes in mandates created under the formal institutional arrangements. The results of the survey found a need to "...clarify and make better known the several referral processes that exist. As a first step
in this clarification an inventory of existing referral processes was proposed. 71

All agency personnel were sent a questionnaire asking them to "...elaborate on their respective management responsibilities in the estuary, describe their enabling legislation and designate a contact point for further inquiries." It was discovered that information systems in the estuary were "...useful to individuals or groups that are fairly familiar with the various management responsibilities of agencies managing the estuary. These individuals or groups can be called informed interests." For the general public, the existing contact and referral services were hard to use because there was no single source where current information about all proposed projects could be obtained.

Some referrals were mandatory or formal arrangements and some were discretionary or informal arrangements. Regional governments and municipalities were included in both mandatory and discretionary referrals. It was mandatory that development proposals to do with ALR's be referred to both regional districts and municipalities, and that municipalities be involved in Land Title Act referrals. There were discretionary referrals of ORP amendments to other regional districts, and subdivision and zoning applications were sent to regional districts and other municipalities at the discretion of the municipality. Pollution Control permit referrals to regional districts were discretionary
as were Water Act approvals referrals to municipalities. Only where the Agricultural Land Commission and the Land Title Act required referrals was it mandatory for provincial and federal agencies to give development information to local governments. There was no mandated information flow among local governments, which could allow them to pool and coordinate their activities as there was among senior governments and agencies. 72

The conclusion of the referral systems report was that there should be "...an enhanced referral system (which) would strive to upgrade the quality of information used in making project reviews, and coordinate and streamline the process of interagency consultation." It was suggested that the problem at the heart of the referral and information systems were the lack of estuary-wide goals, problems relating to accuracy and comprehensiveness of information and problems relating to inefficiency of the existing process. The solution proposed for these problems was to develop a system that generated fast and efficient flows of good information. 73

The reports on legal constraints and existing referral systems in the estuary appear to have been major factors in the decision at the end of FRES II to develop a "linked management system" for the estuary. In contrast to FRES I recommendations, changes were not designed to provide more effective political leadership but were limited to "tuning up" the existing system. 74
3.4.1.1. FRES and Habitat Management

As FRES I was undertaken to provide guidelines for management of the estuary, it involved determining which parts of the estuary were best suited for the preservation of fish, fowl and wildlife habitats. A Habitat Work Group was formed with the overall objective of describing the fish, wildlife and habitat characteristics of the estuary, and to document present use and productivity. "The work group was also required to identify and make recommendations concerning opportunities for maintenance, restoration and enhancement of habitat." The members of the work group represented the DFO and Environment Canada federally and the provincial MOE. There were no representatives of local government or other interest groups.

The Habitat Work Group report began with a geographical description of the estuary study area, continued with an evaluative statement on fish and wildlife habitat, and made recommendations on what must be done to preserve these resources. It stressed the loss of original estuarine wetlands and the great uncertainty that existed regarding the ability of remaining wetlands to support and maintain fish and wildlife populations. It reported that over 70% of riparian habitat and 50% of the delta had been drained, built on, dredged or otherwise altered. Dyking and filling of shallow wetlands had reduced their area threefold, while undyked areas were used for log boom storage.
Suction dredging of the river bottom caused mortality of salmon and improper disposal of dredgate reduced productive marshland. River banking riprap and port development had resulted in major habitat loss and natural estuarine communities were threatened by the continued expansion of economic activities which competed for resources necessary for their survival.

The report went on to describe threats to remaining habitat in the estuary from human activities including logging, agriculture, industry and urban development. These activities contaminate fresh water from industrial effluent, agricultural runoff and silt deposits from mines, housing developments, road construction, and agriculture. Log booms reduce marsh viability by shading or crushing plants and shipping wears away shorelines through the erosion action of waves. Leachates from hog fuel storage sites along the banks of the estuary are highly toxic to aquatic life. This damage, along with dams and diversions, has resulted in major losses of habitat not only in the estuary itself, but in rivers and streams feeding into it.

The Work Group report defined three options for habitat management: habitat protection, which involves the preservation of valuable pristine areas from alteration or degradation; habitat restoration, which is a process of restoring degraded habitat to a near-natural or improved condition; and habitat enhancement, which involves improving the quality productivity.
and associated benefits of natural or pristine areas. "Considering both the degree of alteration that has taken place in the study area and the present state of knowledge of estuarine ecosystems, options for habitat enhancement are extremely limited." 80

To encourage habitat protection, the report made recommendations in three management areas: land planning processes, maintenance of water quality and acquisition and designation of important habitat areas. The most important recommendation made in land use was that the management plan for the estuary be administered by neutral, unbiased agencies such as the DOE and the MOE rather than agencies who are development proponents such as the National Harbours Board, Transport Canada and the FRHC and NFHC. A similar recommendation was made for water quality maintenance, with the suggestion that the DOE and MOE be the lead agencies in the development and enforcement of water quality objectives in the estuary. As there were a number of important marshes in private tenure, it was recommended that private lands outside the dykes on Sturgeon Island Roberts Bank and Boundary Bay may be purchased cooperatively by the federal and provincial Crown. Other areas were to be purchased by the provincial Crown and consigned to what was then the Ministry of Recreation and Conservation for management. 81 The report of the Habitat Work group early in FRES I helped to enhance recognition of the extent of wetlands habitats that had already been lost, with the result
that large blocks of remaining wetlands were given conservation status. 82

3.4.1.2. FRES and Area Designations

One of the most serious challenges in managing the resources of the Fraser River estuary is the problem of accommodating industrial, port, commercial and residential development in an area of high fish and wildlife productivity. The problem is aggravated by the multitude of agencies responsible for allocating and managing these resources. The area designation process was designed to tackle the problem of designating foreshore uses in this large urban estuary.

The process involves assigning a category of appropriate use to specific reaches in the estuary. Each designation represents a consensus among estuary managers on different uses for each area. It provides a practical means of guiding activities based on the estuary’s natural attributes and its suitability for human activities and helps to reduce uncertainty in the siting of new developments. The process is essentially one of bargaining and negotiation aided by information generated by the work groups. 83

One of the major accomplishments of the area designation process was the development of an Area Designation Map which divided the foreshore into 85 management units. It was recognized that the
complexity of the process demanded a step-by-step approach, so the identification of interests in the estuary was done in the core area, or the area outside the dykes first, then it was assumed these would be linked to uplands areas at a future time. It was acknowledged that the orientation to the core area did not reflect the uplands designation as they existed in other administrative mechanisms such as Official Regional Plans.

The Area Designation Map was based on available information about the best uses of the estuary considering its natural characteristics and suitability for human activities. There were 15 members of the Area Designation Task Force (ADTF) representing five provincial and six federal agencies, three regional governments and one public interest group. The report was reviewed by another thirteen non-governmental agencies and nine local governments. Area Designation categories included: conservation, recreation/park, log storage, small craft moorage, industry and port/terminal. One of the concerns of the ADTF was no net loss of wetland habitat, and a bio-physical sub-committee was created to deal with this concern.

The ADTF attempted to come up with a set of criteria that could be consistently applied to all future uses of management units in the estuary. The conservation use criteria were that "no further net loss of wetlands in the estuary region should be permitted to occur and "only those land and resource uses which are compatible
with continued ecosystem viability should be encouraged. Through surveys, FRES II had identified existing habitat as well as areas suitable for rehabilitation, and this information served as the rationale for designating conservation areas. The ADTF Report included a table showing permitted uses in the estuary which indicated that a wide range of uses was considered acceptable in conservation areas and only the most destructive, such as debris disposal, were subject to review. For instance, the table shows that dredging or training works would be a permitted use in a conservation area. 87

Through a series of extensive meetings which concentrated on the practical management situation, agreement was reached on usage for 60 of the 85 management units. Most of these units were already developed and the agencies agreed to continue existing uses. For the remaining 25 units, most of which were undeveloped, the contrasting ideologies of the environmental agencies and land and harbour authorities were initially a great impediment to reaching agreements. The economic development agencies were concerned that too much area would be locked into conservation designations, and the conservation agencies were concerned that the estuary would be irreversibly altered by development. 88

A chart showing the changes in designations from the first to the second draft of the ADTF Report suggests, however, that one set of interests were compromised more than the other. While only two
management units were changed from "undetermined use" to conservation, nine were changed from "undetermined use" to port, industrial or commercial uses and two were changed from conservation to commercial use. Differences over the remaining 25 units were characterized as "bulldozers vs. fins and feathers" conflicts, and in order to get on with other aspects of the management system they were categorized as "undetermined use" until such time as agreements could be reached.

A list of general principles and policies was accepted by the ADTF in order to minimize problems between competing interests. Among these was the need to ensure long-term compatibility between foreshore designations and upland plans. This principle would require that future amendments to either upland plans or foreshore designations consider and reflect "upland, foreshore and estuarine values of the Fraser River estuary area" and involved the understanding that future and ongoing consultation with upland and riparian interests would take place. The overall intent was that where obvious conflicts exist, use and management of the core area should be compatible with the prior upland plans. Conversely, future upland plans should be compatible with long term management plans of the core area.

Several management units where agreement had not been reached on designations were reviewed by the task force and the record of comments about the "undetermined use" designations is of interest
to this study as it demonstrates the interaction between municipal regional and senior governments, industry and public environmental groups (as represented by the Federation of B.C. Naturalists). Appendix A describes management area reviews with local government input and habitat conservation designations.

Of the ten cases reviewed which included local government comments on undetermined use categories where conservation was an issue, local governments, including regional districts and municipalities, recommended against conservation designations eight times and for conservation designations twice. Senior levels of government supported conservation designations eighteen times and recommended against conservation designations seven times. Of these, five recommendations against conservation designations were made by the Harbour Commissions. This information suggests that at the time, the environment ministries of the senior levels of government were a much greater force for conservation than the local government agencies. This is a rough measure, and in some cases it is difficult to conclude from the record of the review what the desires of different interests were. But it is an indication of the approach of the different agencies and levels of government with regard to conservation designations.

In many cases there were different designations desired within the management units and agreement was impossible because the
units were too large and could incorporate several designations. For instance, in Management Unit II-22 on Annacis Island the total area was zoned industrial-heavy manufacturing. The area also contained intertidal sand/mud flats, marshes, and riparian shrubs, all considered to be highly productive fish and wildlife habitat. Delta wanted the western tip of Annacis Island outside the dyke to be protected from industrial encroachment while the rest remained industrial. Comments were also solicited on the first draft area designation map. Some criticisms noted the lack of ecological criteria for establishing designations and suggested that the map was designed to meet industrial rather than wildlife requirements. The need for linkages between foreshore and upland designations was observed as was the need for mechanisms to implement the designations.\textsuperscript{93}

In other cases, agreement on an area designation was obstructed by long standing issues and conflicts between the agencies over a particular area. Where there were political issues involved it was also beyond the power of the ADTF to reach agreement and the units were called "undetermined use" areas. The GVRD was not considered to be a positive force in the area designation process. It felt the process threatened its LRP, and finally opted out of the process altogether. Municipal responses to area designations at the early stage were mixed. Some municipalities were more conservation oriented than others, while others, such as Richmond had development oriented councils and conservation
oriented planners. 94

As a next step in the area designation process, the ADTF recommended that: designations be considered within activity programs; designations be considered within the context of an area plan; a committee of relevant management agencies be established to discuss future plans; and concerned agencies and interests be involved in ongoing consultation to look at long range goals and developments in the area. 95

3.4.2. FRES Review / FREMP Implementation Strategy

Although the FRES II recommendations had been widely reviewed and there had been significant public consultation, it was decided that a Federal/Provincial Review Committee should be established to comment further on proposals for an implementation strategy for the management plan. All three regional districts and twelve municipalities were included in this review which took place in 1983-84. The review committee recommended some refinements of the management program proposed at the end of FRES II which were developed according to agency and public review and responded to a climate of economic restraint. 96 Among these refinements was a clarification by the review of the role of regional and municipal governments in the estuary. 97

All three components of the implementation strategy concerned
local government and habitat protection interests. The first was a series of goals and policies which defined the key issues in the estuary as port-industrial development and transportation, water quality, habitat management and recreation. The second was a Management Committee which would serve as a forum for consideration of issues affecting the estuary. This Committee would ensure that the goals and policies of estuary management were achieved, and would include agencies, municipalities, Indian bands and regional districts. The third component included specific activity programs to address estuary-wide activities such as habitat management, which would be undertaken by work groups comprised of responsible organizations and coordinated by the Management Committee. 98

This proposed management system put responsibility for leadership in the Executive of the Management Committee which would consist of the federal DOE and DFO, the provincial MOE and the two Harbour Commissions. The participation of regional districts, municipalities and Indian bands was limited to membership on the Management Committee which would meet twice a year. 99

Operational program implementation tasks were delegated to small work groups consisting of agency and user group representatives. An appropriate agency would be designated to chair each work group and ensure the completion of the task. In response to demands for public consultation, various public interests were to
be given an opportunity to participate in work groups where they had a specific contribution to make. The activity programs would develop terms of reference and begin drafting their plans concurrently with work on drafting area plans. These area plans would be revised according to the results of activity plans, then area designations would be based on their final results. 100 Activity programs such as Habitat Management would develop strategic objectives which could then be linked with those of other activities through the area planning process to develop a integrated management program. Activity Programs were the strategic plans for each activity and area plans were the means for applying their findings at the operational level. The area designation process was to resolve conflicts and establish a framework for future area plans. The objectives for habitat management were generally to improve habitat protection, restoration, enhancement and research and to avoid losses of habitat. It was suggested that work group membership would include DFO, DOE and MOE, "regional districts, municipalities and other support agencies or user interests as needed."

It was noted that implementation of the Management Program would require the cooperation and support of upland owners and managers and that this cooperation was particularly crucial in relation to area planning and area designation as local government is responsible for deciding on and governing the use of privately owned upland. 101
3.4.3. The Fraser River Estuary Management Program

In late 1985 the FREMP agreement was signed and the management program has since served as a forum for integrated management among the agencies involved in the estuary. Initially, Environment Canada, DFO, FRHC, NFHC and MOE each contribute $50,000 per year for its operation. FREMP is a co-operative approach to resource management designed to address and resolve conflicts among activities in the estuary and provide common goals and objectives. Its overall goal is "to provide the means for accommodating a growing population and economy, while maintaining the quality and productivity of the Fraser estuary's natural environment." 102

The original management program was composed of a Management Committee, Activity Programs, a Coordinated Review Process, and an Area Designation Process. The Management Committee Executive was comprised of senior officials from the five signatory agencies and was responsible for the overall administration of FREMP. The Management Committee at large consisted of representatives from municipalities, regional governments, other federal and provincial government agencies and several Native bands. 103 Figure 5 shows this FREMP structure.

Processes that coordinate decisions on specific project proposals and the designation of uses permitted in certain areas of the
FIGURE 5

FREMP COMMITTEE

MANAGEMENT COMMITTEE

MANAGEMENT EXECUTIVE

STANDING COMMITTEES
- Standing Committee on the Fraser River Estuary Water Quality Plan
- Environmental Review Committee

ACTIVITY PROGRAM COMMITTEES
- Log Management
- Waste Management
- Emergency Management
- Habitat Management
- Recreation Management
- Port and Industrial-Development
- Navigation and Dredging
- Dyking and Drainage
estuary are central to FREMP. The FREMP Coordinated Project Review Process was established to ensure that all development proposals within FREMP boundaries are subject to review. The process requires that the developer submit an application to one of three lead agencies: the Fraser River Harbour Commission, the North Fraser Harbour Commission or the Ministry of Crown Lands. From there it is sent to the relevant review agencies, the municipality concerned and opened for public review. An Environmental Review Committee made up of representatives from Environment Canada, MOE and DFO review comments from the referrals, advise the Lead Agency of their concerns and determine if further environmental review is required. A more intensive review involves an environmental impact assessment from the proponent. Projects which come under an established review process are referred to their respective review agencies.

Criticism of environmental review processes focuses on the lack of public involvement and the inadequate involvement of municipal levels of government. A FREMP report suggested that the response of municipalities to all development proposals within the FREMP boundaries should be obtained and that these responses should be given serious consideration and weight. Earlier in the development of a management system, there had been efforts to make FREMP a body involving local decision-makers in co-management and local authority, but this role has been
circumscribed due to funding constraints and the resistance of some government representatives. 107

FREMP is an institutional design that brings together many different public and private stakeholders to develop consensus, and resolve conflicts in numerous decision-making arenas. Over the years, there has been a change in attitude among the agency personnel who have been working together in management of the estuary for over a decade. As a forum for the exchange of ideas among agency personnel it has led to a better understanding of each other's concerns and has allowed for the development of trust among them. 108 Its fundamental weakness is the lack of strong political leadership or accountability from any level of government. Though the goals and objectives of the management system have been approved by the federal and provincial ministers, their involvement has been minimal.

As primarily coordinating institutions, FRES and FREMP have been successful in bringing greater order to management processes in the estuary through the linked management system. The estuary management institution is an open system in that it is able to deal with issues that are external to the immediate management system. An example of this is initiatives for progressively linking upland activities to the management system through the area designation process. The advantage of this openness is that policy initiatives from elsewhere can be used to benefit the
estuary, such as the federal EARP for development projects or the Canadian Environmental Protection Act. The disadvantage of a primarily coordinating management system are that needed policies don't get introduced when a management institution depends on the legislative or policy initiatives of its participating organizations.

The system has been severely constrained by the political context, the institutional design and lack of resources. Compounding these problems, however, are other weaknesses such as the lack of socioeconomic analysis compared to biophysical analysis of the estuary. And despite the emphasis on biophysical analysis, there is continuing uncertainty about environmental conditions and the response of the estuarine ecosystem to interventions. Economic incentives such as fines for violations of habitat protection have not been used to support resource management objectives and prosecutions are infrequent.

Overall, public involvement is constrained by the lack of resources and conservative policy. Considerable expectations for participation of interest groups were raised during the high profile and well organized Public Involvement Program in FRES II, but this expectation has only been partially addressed in the implementation of a management program. Unfortunately for interest groups it was left up to the discretion of the Management Committee to work out details for effective
involvement. As this has been a weak structure, and as there has been no mandated public involvement component or funds to support participation, options for organizing communication and coordinating involvement with interest groups have been neglected in favour of other priorities.

The GVRD was a weak player in the first FREMP structure and the municipalities within the GVRD have been concerned about bearing the costs of unrealistic pollution abatement or habitat protection programs. They have felt at a disadvantage in estuary management because of their ineffectual position as members at large of the Management Committee. In the newly restructured FREMP, the GVRD is a full paying member and a member of the Executive of the Management Committee. Municipalities will be members of the Implementation Advisory Committee instead of members at large of the Management Committee, but will still meet only once or twice a year. Municipalities will also be members of the Water and Land Use and Water Quality and Waste Management Committees and sub-committees. They will be involved in negotiating Statements of Intent, or agreements on area designations, with FREMP and can communicate concerns to the Management Committee through the GVRD's Technical Advisory Committee (TAC). There will be annual conferences to which all municipalities will be invited along with members of the public.
Though the municipalities have more informal involvement in FREMP than before, their response to restructuring has not been positive. They are very nervous about not having more formal representation and are concerned about having the old Management Committee replaced with the GVRD TAC. When asked if they felt the GVRD represented them, the response of some members of TAC reflected a certain amount of distrust. In addition, there are concerns among planning staff that TAC members themselves have a technical orientation, and do not adequately address ecological issues. These factors create concerns among municipalities that the new structure weakens their representation in FREMP.

FREMP has not wanted to involve local politicians and prefers to work with local government staff. Continuity in FREMP has proven to be an important factor in reaching agreements and local politicians are on different term lengths of one, two or three years. Though politicians are not active in FREMP, political accountability is still achieved as staff members take all proposals through their respective city councils for approval.

Still other changes will need to be made in order for FREMP to successfully address equity issues in the estuary. For instance, if municipal needs for increased residential growth conflict with senior government needs to generate revenue through industrial
activity, how should these conflicts be resolved? Changes in economic pressures have been so significant that some of the more industrially-oriented agencies are worried about the preservation of land necessary for water-oriented industries. Land is being converted to residential uses at an increasing rate and some agencies are banking land in the estuary against future industrial growth. The increased value of estuary foreshore has led to many forest industry companies selling lands near urban centres for a large profit, and looking for alternative space elsewhere which may be undeveloped, pristine habitat. Land farther away from cities is cheaper but has higher habitat values. For instance, municipalities like Maple Ridge and Pitt Meadows are attracting these industries and while many local residents want them for additional municipal revenues, there are protests about the loss of conservation values.\footnote{116}

FREMP has tried to set up a mechanism for discussion and resolution of these kinds of issues, and to some extent it has been successful. But there has been no benefit/cost analysis of remaining habitat or industrial land in the estuary. There are the building blocks for such an assessment in the form of maps showing habitat classifications. These maps used the NFHC and DFO's classification system developed for the North Arm which are based on the productivity of habitat. Now the task is to integrate these land maps with the work group reports on such activities such as industry and logging on an estuary-wide basis.
The difficulty is in making the kinds of trade-offs that are necessary without a regional government approach. For instance, since Vancouver's population is rapidly increasing, should all waterfront activities be designated as recreational so that all industry must move to Surrey? On an estuary basis it is necessary to consider what Surrey would be giving up to accommodate Vancouver. In the absence of regional planning powers, it has been considered more expedient to begin by developing area management plans for controversial reaches of the river. 117

3.4.3.1. FREMP and Habitat Management

Several FREMP initiatives are designed to manage and protect habitat including the area designation process, the coordinated review process and the habitat management activity program. The area designation process has been the focal point of enhanced municipal participation in habitat management in the estuary, and it will be looked at in greater detail below. The coordinated review process coordinates all levels of project review from the referral to environmental impact assessment. Largely as a result of these initiatives, some habitat loss through development has been slowed because environmental considerations are being included as part of the design and implementation of projects.

The Habitat Management Activity Program (HMAP) was established by the Management Committee Executive to develop guidelines for
managing habitat and to review and analyse habitat activities in the estuary. The Habitat Activity Work Group (HAWG) chose to focus on two specific activities: to inventory and classify habitat according to its relative value for fish and wildlife productivity to assist in directing development in the estuary; and to provide an expert Habitat Activity Workshop to provide recommendations on future habitat research and management.  

The HAWG report described the basis for its activities:

"The concept of sustainable development implies the need to maintain the productive capacity of the ecological system that makes the Fraser River estuary all important to fish and wildlife resources and their consumptive and non-consumptive use. Toward that end it is essential that attributes of the physical and biological components of the system, as well as their interrelationships, are adequately understood. That understanding in turn allows for the design of measures necessary to safeguard the protection of the ecosystem and defines the limits to development."  

The report provides an overview of institutional means such as legislation, policies and guidelines that enable participants to work toward habitat management objectives and lists achievements toward those objectives. Significant shortfalls in achieving those objectives are also listed as well as recommendations from workshop participants. The HAWG report identified issues of concern and made conclusions and recommendations in five areas of discussion: habitat protection and conservation; restoration
and enhancement; management plans and programs; public awareness; and expert habitat workshops.

In its review of habitat protection and conservation, HAWG concludes that application of the DFO's "No Net Loss Fish Management Policy" has substantially improved protection and conservation of habitat. This general approach to determining productivity is now being implemented throughout the estuary. Application of the federal EARP has also helped in the environmental review of federal projects. However, HAWG concludes that existing legislation is not adequate to protect and conserve all important habitat for fish and wildlife in the estuary. "Acquisition of key habitat areas, an important element in habitat conservation, has been limited in extent and many critical habitat areas remain unsecured." 

A good example of this concern is the Surrey Big Bend area which a recent environmental study funded jointly by the municipality and FREMP recommends should be entirely conserved. Though it is made up of more and less sensitive areas, the less sensitive areas are needed as buffers to protect the more sensitive areas. It is presently zoned for industrial use, and there are residential development proposals for the area as well. Local government planners are concerned about the implementation of conservation: how agreement can be reached on a change of use and how present owners could be compensated for a conservation
designation. The municipality is in no position to acquire the lands itself, but would need generous funding support from senior and regional agencies.  

A number of successful habitat restoration and enhancement projects have been undertaken in the estuary, but an overall plan or strategy is needed to guide future projects. HAWG suggests that a Habitat Management Plan must be proactive, estuary-wide and based on a complete inventory and classification of habitat; it must establish linkages with other programs and planning efforts which affect habitats in the estuary; it must tie into regional and municipal land-use and the need for natural open areas, wetlands, parks and agricultural lands which serve as valuable habitat; it must provide for a net gain in habitat over time; and it must be linked to basin-wide planning.

Habitat management plans and programs such as habitat classification, habitat inventory and the area designation process provide the means for development based on sound environmental principles, but they have not been adopted by all participants in FREMP. Adequate funding and resource commitments from participating agencies at all levels of government are needed for the proper implementation of habitat plans and programs. "Habitat management on lands not controlled by the wildlife agencies is largely a reaction to specific development projects, or it involves land acquisitions based on the best
existing opportunities. The existing FREMP boundaries assigned to
the estuary result in incomplete links in the management of
aquatic and terrestrial habitats." 124

The result of these weaknesses in habitat management is that
field-level managers continue to experience resistance to
habitat protection. A DFO biologist suggested that nothing short
of strong intervention at the political level will introduce the
changes necessary within the institutional structure that can
allow the implementation of progressive policy-making. Though
appropriate guidelines have been agreed to by agencies such as
the DFO and NFHC, they have not become common practice in the
day-to-day activities of the estuary. DFO managers are still
presented with "outrageous proposals" from municipalities, the
NFHC, and private developers. It was suggested that the problem
lies with "dinosaurs" that are entrenched in the agencies of all
three levels of government and are resistant to changes in
conventional administrative approaches. 125 A municipal planner
suggested that though FREMP has been successful in coordinating
the DFO's conservation guidelines to protect marsh habitat, it
has not been able to protect shoreline vegetation. There is no
applicable federal or provincial authority over shoreline
vegetation in municipal jurisdictions, or appropriate provisions
in the Municipal Act. 126

Some feel the problem of entrenched perspectives can begin to be
addressed through better communication of policies and guidelines that support habitat conservation. The limited availability of area designation maps means they are not readily available for reference by agency or private developers. They are expensive to produce, and due to limited financial resources are available for inspection in only three central locations. Communication among agencies is further limited by outdated technology. There is no electronic mail system or information available in computer disk format, and all agencies, developers and public interest groups must review documents in the form of hard copy obtained from the agencies involved. Others feel no amount of information will deter insensitive development if the habitat management system depends on the good will of developers. Though the information is readily available through the FREMP office, agencies and individuals ignore the guidelines because there are not sufficient disincentives to abide by them.

In response to demands for public consultation in estuary management, HAWG included a representative of the Fraser River Coalition and held a FREMP Habitat Workshop. The workshop brought together twenty-three individuals from government agencies, universities, consulting firms and public groups to identify and discuss perceived deficiencies in habitat research. Several recommendations made by workshop participants pertain to the involvement of municipalities in habitat management. With regard to the GVRD Open Space Policy, it was suggested that the
need for natural open areas, parks and agricultural land to serve as bird habitat should be tied into regional municipal planning. Concern was expressed about the protection, restoration and creation of upland habitat, especially for bird use.

It was suggested that the environmental and social goals and objectives of human communities occupying the watershed need to be identified and characterized. Opportunities for public participation in the various environmental review processes must be improved, and an annual public meeting should be held to discuss habitat issues and concerns. It was suggested that a public interpretive resource facility would offer accessible information on the estuary. 129

3.4.3.2. FREMP and Area Designations

FRES II emphasised that the key to integrated management in the estuary is the linking of foreshore and upland planning activities. In the last few years this linking has been easier because there is more give and take between local and senior levels of government. Municipalities are more aware of habitat concerns and convinced that the DFOs "no net loss" policy will be pursued aggressively. Though municipalities want more control in the estuary, they are aware of where their powers end.

Nevertheless, municipalities often zone right into the river,
because they see it as an extension of the uplands, while FREMP considers the uplands as an extension of the river and tries to get agreement on area designations accordingly. Though these differences in perception have resulted in some conflicts, on the whole the designations desired by the upland and foreshore jurisdictions have been fairly compatible. A habitat classification map made in conjunction with work group recommendations will help with the final resolution of differences in remaining designations. 130

The greater involvement of municipalities in the review and refinement of the 1982 Area Designation Map introduced enhanced accountability into estuary decision-making in that local government staff cannot enter into agreements without official direction. The intention is for the municipalities and agencies to incorporate the designations into their respective Official Community Plans (OCP's) and decision-making processes. 131 For instance, in reaching agreement for an Area Management Plan for the North Arm, there will need to be consensus among all the municipalities along the North Arm, and they will all need the approval of their local councils before signing an agreement so that the new designations can be incorporated into their OCP's. 132 This process has been established in concert with individual municipalities, port and land authorities and environmental agencies. 133
In addition to the greater involvement of municipalities in area designations and area management plans, the current process considers compatible multiple use designations in order to resolve problems that arise from single use designations. The solution has been to designate a primary and a secondary use within undetermined use areas where one use will not interfere with another. For instance, an area may have a primary designation for conservation with secondary designations for recreation and log storage as long as the secondary designations do not interfere with marsh growth in the conservation area. The use of multiple designations has significantly reduced conflicts among resource users.

Another initiative that has reduced conflicts and made agencies more willing to make commitments to area designations has been a process for reviewing designations when requested by agencies. Commitments have also been easier to obtain with adjustments to management unit boundaries and revisions of some categories. Because of the growth of commercial and residential development along the shoreline, a new category, termed "water-oriented commercial and residential development", has been devised and the previous small-craft moorage designation has been dropped. An improved information base has resulted from the inventory of fish and wildlife habitat rated according to its productivity which has been valuable in identifying areas for conservation designations. Municipalities which have prepared Official
Community Plans and Area Plans for the foreshore come to the negotiating table better equipped to state their positions.

Despite the success of the area designation process in facilitating agreements among the agencies and in acting as a mechanism for enhanced conservation of habitat, efforts to upgrade the environmental components of estuary management are generally an uphill battle. Plans and programs such as the area designation process are considered by many to be inadequately funded, lacking in time commitments from agency personnel, an insufficient priority within agency programs and not fully accepted and supported by all participants in FREMP. In addition, the 1990 FREMP habitat report suggests that these tools are a piece-meal approach to habitat management and should be augmented by a comprehensive estuary habitat management plan. Existing habitat management activities are restrictive in scope because of the arbitrary boundaries of FREMP, and the link between aquatic and terrestrial ecosystems in the estuary is weak. Many suggest that it would be better if FREMP had ecological rather than political boundaries; for instance, Pitt Lake and the rest of the Serpentine and Nikomekl Rivers should be part of a FREMP watershed. The environmental rationale for some municipal zoning is considered by some to be questionable and conservation designations needed to make existing zoning categories standard and consistent across the estuary.
Local planners feel the extension of FREMP into the upland ecosystem would be an intrusion into municipal jurisdictions. For instance, if FREMP were to extend its management of the Fraser estuary ecosystem into Burnaby, it would encompass the Brunette River and tributaries as well as Burnaby and Deer Lakes. Burnaby feels it has taken a proactive position in environmental planning and conservation, and would not welcome formal institutional arrangements involving senior government agencies. As FREMP is without formal powers, municipalities are in a better position to implement and enforce conservation policies.

3.4.3.3. Statements of Intent

In order to strengthen the linkage between aquatic and terrestrial ecosystems in the estuary, it has also been suggested that consideration be given to strengthening the relationship and coordinating the planning between FREMP and municipalities on water oriented developments. In accordance with this recommendation, area designations are being implemented on a municipality by municipality basis so that fewer agencies are directly involved and there is more flexibility in the process. It also allows for a greater chance of success in implementing the designations because the scale is manageable. The involvement of local governments ensures that foreshore uses will be compatible with upland zoning and official community plan designations. The municipalities are being involved in more
formal commitments to the area designations in agreements called "Statements of Intent", which are being used to negotiate area designations for each municipality.

While not legal contracts, these statements give the agreements greater substance and recognition and give the agencies greater certainty in managing the foreshore uses of the estuary. They commit the signatories to a series of steps in implementing the area designations. The parties to the Statement of Intent generally include the municipality, environment agencies, and port and land authorities. The FREMP Coordinator gives the following description of these agreements:

"The process involves a series of meetings chaired by the FREMP Coordinator at which each representative brings information and concerns to the table. Air photographs, inventory maps, official community plans and other reports are used as resource material. Each Statement of Intent includes two schedules: schedule one which includes all areas for which there is agreement on designations; and schedule two which includes all those areas for which there is no consensus. The Statement of Intent also includes a procedure for revising area designations should it be requested by a party to the agreement. The parties are required to negotiate area designation in schedule two within a given time period in order to reach consensus and move them to schedule one. The Statement of Intent commits
the parties to following the area designations in their decision-making and administrative practices."

Prior to adoption a public review is conducted of the proposed designations.

Draft Statements of Intent with two municipalities, Burnaby and Richmond, have now been formulated. The Burnaby agreement has been submitted to public review, and the Richmond agreement needs only one more signature to be "signed off". Agreements with these municipalities have been developed before others because: these municipalities responded first to an invitation by FREMP to participate; due to a limited staff, it is necessary to prioritize negotiations; and as Richmond has more shoreline in the estuary that any other municipality it was considered a priority. It was hoped that the Statements of Intent process would have been able to arrive area designations sooner than it has, which is why the process has not yet been undertaken with a major municipality like Vancouver. The intention was to have the process completed by the end of the last FREMP agreement in 1990, but it took a long time even to agree to undertake the process itself.

Though the area designation map is not a long range plan, the long term goal is that foreshore uses will be compatible with and influential on upland zoning and Official Community Plan designations. In negotiations with Burnaby, consensus was easy to
achieve, and foreshore classification was often based on municipal zoning because the foreshore had area designations based on habitat protection in place since 1972. Where there are no prior conservation designations, municipalities have been willing to adjust upland zoning in accordance with the designations suggested by shoreline habitat classifications. For instance, Richmond will propose an amendment to their OCP to change an area zoned for urban waterfront development to a conservation designation, based on the foreshore habitat classification. There are just two areas that continue to be "undetermined uses" in Richmond where agreement could not be reached between the municipality and the NFHC or the FRHC.

Negotiations are underway with Delta and are about to begin with Surrey, now that the Surrey Big Bend Study has been completed. FREMP has been waiting for the results of this study to approach Surrey as it is a highly controversial area, and it was felt that a habitat inventory and classification would aid in reaching agreement on designations. As the study suggests that the entire area should be conserved, this presents a problem for local planners, because as one planner said, "you can't just paint an area green on a map and leave it at that". It is difficult to get local agreement on the implementation of conservation designations through amendments to OCP's and zoning by-laws in areas where there are high water-use industrial and residential values.
Surrey's Big Bend promises to be difficult to designate as the FRHC has done an earlier study identifying the port and development values in the area, and recommended that it be set aside for port and water-based industrial uses. Evidence of faith in the area designation process for resolving these conflicting uses is not apparent in Surrey. Though the Statement of Intent process has not yet been suggested to local planners, there is a feeling that FREMP's role as a negotiating forum is limited. Though the program has had a useful function in communicating DFO's habitat classification guidelines to agencies and interests in the estuary, local planners feel they do better to negotiate directly with important agencies to achieve local objectives. The real problem municipal planners face is, once a conservation designation is agreed upon, how to get the lands into public hands. 143

Overall, however, the area designation process and Statements of Intent have contributed toward the slow change from the initial deadlock to focusing on areas of agreement, then gradually turning attention to areas of disagreement and working toward those resolutions. 144 One way that municipal involvement has affected the overall approach to the habitat planning in the estuary is that the Statement of Intent process will be part of the development of overall area plans. Though the original idea was to come up with area designation with each municipality, then incorporate these into an overall area plan, some felt this was
an inappropriate approach. They felt the Statements of Intent should be used to arrive at broader goals that could be used to come to agreement on individual area designations. This is similar to the process used within municipalities, where goals are defined by the OCP, then zoning designations are used to support those goals. 145

The Statements of Intent have been an example of a new relationship between local and senior levels of government. The key to this new approach to area designations is that all jurisdictions at three levels of government participate in the formulation of policy, and as a result all are willing to accept and implement the outcome. 146 For instance, when municipalities cooperate in providing information about FREMP guidelines to developers, there are fewer problems with development applications. With better communication, implementation of these agreements would be more likely. Many municipalities such as Surrey have a backlog of over 1500 development permit applications, and if they had a succinct brochure explaining FREMP development guidelines the process would be streamlined. 147

3.5. SUMMARY

The above case study has examined the habitat management sub-system in the Fraser River estuary and the role of local governments in habitat conservation decision-making. This study
has described the institutional context for habitat conservation and the weak jurisdictional position of local governments. It has described the development of a management system that was designed to integrate economic and environmental planning as well as to encourage the exchange of information among the many actors in the estuary. It has shown the evolution of increased municipal and regional involvement in habitat conservation planning through local initiatives and the area designation process of FRES and then FREMP. The present process for achieving cooperation between municipal and senior governments in habitat conservation is the "Statements of Intent", which are designed to better coordinate foreshore and upland planning in general and conservation planning in particular.

This case study is the portrayal of an ongoing process which begins at a point of significant departure for habitat management in the estuary, the decision to work toward integration of environment and economy in the FRES I agreement, to the present. In the process of working toward this integration, it has been recognized that local governments have a significant role to play in the planning and management of local resources. There are important challenges ahead for habitat management within this management system, including ongoing negotiations with the municipalities over area designations. The next chapter analyses the case study in order to clarify the relationship of local and senior governments in habitat management and suggest
how that relationship could be changed to permit more effective conservation. It will also assess the FRES/FREMP process as an institutional design for balancing human and non-human needs in the estuary.

2. Fox, Irving, "The Problem in Perspective" in The Uncertain Future of the Lower Fraser, p. 16.


12. FRES I, op. cit., p. 28.
13. Ibid., p. 29.
17. Ibid., p. 28.
18. FRES I, Habitat, pp. 33-34.
22. Ibid., p. 3.
23. Dorcey, Sustainable Development of the Fraser River Estuary, p. 15.
25. Ibid., p. 60.
27. FRES II, Constitutional And Legislative Frameworks, prepared for Steering Committee by Michael Dunn, August, 1978.
29. Ibid., p. 16.
30. FRES I, Summary, pp. 60-1.
31. Ibid., p. 61.
37. FRES II, Legal Provisions for Linked Management, pp. 16-17.
38. FRES I, Summary p. 61.
41. Ibid., p. 58.
43. FRES II, Legal Provisions for Linked Management, p. 3.
44. FREMP, Habitat Activity Work Group Report, p. 31.
47. Bruce Clark, Habitat Biologist, DFO, personal communication, Dec. 6, 1991.
49. Sproule-Jones and Peterson, "Who's In Charge", in The Uncertain Future of the Lower Fraser, p. 152.
52. FREMP, Habitat Activity Work Group Report, p. 37.
53. Ibid., p. 28.
55. Ibid., p. 13.


58. Ibid., p. 5.


60. FRES I, *Summary*, pp. 11-12.

61. Ibid., p. 131.


63. FRES I, *Key Findings and Recommendations*, p. 5.

64. Dorcey, *Sustainable Development of the Fraser River Estuary*, p. 36.


66. Ibid., pp. 35-36.


68. Ibid., pp. 18-19.


70. FRES I, *Summary*, p. 59.


72. Ibid., p. 21.

73. Ibid., p. 40.


76. Ibid., pp. 1-11.

77. Ibid., p. 3.

78. Ibid., p. 9, 31-33.
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81. Ibid., p. 124.
83. McPhee, Michael, W., "Implementing Area Designations in the Fraser River Estuary", in *Coastal Zone '89*.
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88. McPhee, Michael W., "Cooperation in Estuary Management" in *Coastal Zone '87: Proceedings of the Fifth Symposium on Coastal and Ocean Management*, Orville T. Maggoon et al eds., Published by the American Society of Engineers, p. 848
90. McPhee, *Coastal Zone '87*, p. 847.
92. Ibid., pp. 17, 29.
97. Ibid., p. 2.
98. Ibid., pp. i-ii.
100. FREMP Review Committee, Implementation Strategy, pp. 11, 28.
101. Ibid., pp. 27, 29-30, 38.
102. FREMP information sheet.
106. Ibid., p. 32.
108. FREMP, Overview of Changing Conditions, p. 27.
111. Mike McPhee, personal communication, July, '91.
118. FREMP, Habitat Activity Work Group Report, p. 4.
119. Ibid., p. 1.
120. Ibid., p. 5.
122. FREMP, Habitat Activity Work Group Report, pp i-iii.


129. FREMP, Habitat Activity Work Group Report, pp. iv.


131. FREMP, Overview of Changing Conditions, p. 27.


133. FREMP, "Closer To A Living River" (no date).


136. FREMP, Habitat Activity Work Group Report, pp. 54-5.

137. McPhee, Coastal Zone '89, pp. 4209-10.

138. FREMP, Habitat Activity Work Group Report, p. 50.


140. George Calquhoun, Port Manager, NFHC, personal communication, Dec. 6, 1991.


144. Dorcey, Sustainable Development, pp. 33-34.

146. Peter Bloxham, personal communication, Dec. 9, 1991.
148. FREMP, *Overview of Changing Conditions*, p. 27.
CHAPTER FOUR  PLANNING AND MANAGEMENT OF LOCAL RESOURCES

Using the relationship between local and senior governments as a focus, the previous chapter has looked at one aspect of resource planning: habitat management. Local governments are an example of interests that were previously excluded from decision-making, and the process by which their participation in habitat management has progressively increased in the Fraser River estuary has been examined. The objective of the case study was to examine the rights and duties of local governments in relation to the larger society with regard to conservation.

Having described the role of local communities in habitat conservation, this chapter analyses the case study according to the philosophical framework built in Chapter Two. In that chapter it was established that if democratic resource planning is a social goal, there must be significant changes in the representation of human as well as non-human interests that are not generally included in the planning process. Local communities have been used as an example of one of these interests. Their enhanced representation would require a restructuring of power relations in the administration of the state. It was suggested that a strong public sphere is the key to ensuring that both human and non-human concerns reach the public agenda and that the distribution of power could be altered through enhanced representation of these concerns. It was
further suggested that discursive designs such as public inquiries are a practical mechanism for building an active, critical public sphere and for communicating its various concerns to state administrators.

The case study has provided information about the role of one institutional design, the FRES/FREMP process. This chapter will assess how successful this process has been in enhancing community and environmental values in the Fraser River estuary. The process will be used as an example of the question of whether institutional communicative designs are a "worm in the brain" of conventional administration or of the public sphere. In other words, has FRES/FREMP acted as a mechanism for cooptation or change?

In chapter Two a it was proposed that there should be three levels of participation system for interested groups and individuals involved in habitat conservation issues. These different levels of participation would be achieved through three types of participative designs at various locations on the human/non-human axis. This chapter will analyse FRES/FREMP's position in terms of these three levels of participative designs, to assess whether it is effective in carrying out the purpose for which it was designed.

This analysis will also comment on whether the evolution of
greater participation by local communities in local resource decision-making in the estuary has contributed to bottom-up governance. The discussion in Chapter Two suggested that bottom-up governance is a necessary component of a restructured society where community and environmental values can be protected and enhanced.

The analysis will also indicate the appropriate role of municipalities and regional districts in a new political framework. It will suggest how they are presently interacting with the state/market axis, how this relationship is changing, and where local governments are located in an expanded political spectrum.

This chapter begins with an assessment of the institutional arrangements in the case study area and their formal, informal and interest group components. As an example of an institutional arrangement for senior government co-operation in the estuary, FRES/FREMP will be assessed both as a formal arrangement and as an institutional design or forum for the exchange of ideas. The chapter then examines the role of municipalities in habitat management and the process of designating habitat conservation areas. In conclusion, recommendations are suggested concerning regional and municipal involvement in resource conservation and management and concerning opportunities for further study in this and related areas.
4.1. INSTITUTIONAL ARRANGEMENTS FOR HABITAT MANAGEMENT

The constitutional division of powers has determined the shape of the formal institutional arrangements in the estuary and without changes to the Canadian constitution, opportunities for enhanced local control over local resources are limited. Local governments in the estuary are demanding that their role should be "reviewed and reconsidered" during the current constitutional debate so that municipalities are recognized "...as more than the afterthoughts of the province".

Municipalities argue that the existing power structure was reasonable at the time of the original division of powers between Canada and the provinces but no longer reflects contemporary patterns of economic development and concentrations of population. When the Canadian Constitution was written, only 3% of all Canadians lived in cities, while in 1991, 70% of British Columbians live in cities, and the population of Greater Vancouver is larger than that of six of the ten Canadian provinces. ²

They are demanding that local governments be empowered to manage their communities in accordance with local priorities and concerns. This empowerment would include recognition in federal legislation, provincial constitutional legislation that includes
a "Local Government Bill of Rights", enabling legislation that would give municipalities the ability to manage their own affairs, and allocation of revenue sources for local governments. 3

A proposal for greater local government powers that would allow conservation and protection of local resources was made in a study undertaken by Westwater Research Centre in 1976. It suggested that the most important actors in pollution control are the GVRD and local municipalities as they could control point source pollution if they had the power and the resources. As they are also the weakest players in the estuary they are the least able to implement their by-laws. "The structure of institutional arrangements for pollution control is hence weakest at its most critical stage - that is the disposing of toxic wastes in their least harmful way at the source." 4

The study went on to suggest that the best way to protect the Fraser estuary ecosystem would be through strengthening the capability of the regional districts to complement the work of other agencies. As problems in the estuary were most serious in the tributaries and streams of the Greater Vancouver region, a more elaborate institutional mechanism was suggested for the GVRD than for the other two districts. It was proposed that an Environmental Protection Committee of the Board of the GVRD be established with a secretariat to carry out its responsibilities funded by revenues from a charge on effluent discharged into the
Lower Fraser. Since that study was done the GVRD has had its planning powers diminished rather than increased and municipalities have been frustrated in their attempts to express community desires for local environmental regulations and controls on development.

Though it is important to recognize the potential benefits of enhanced local powers in habitat management, it is also important to recognize that federal and provincial environmental agencies have been able to use their legislative clout to protect estuarine habitat from ill-conceived economic development projects supported by local communities. As the description of federal and provincial powers in Chapter Three clearly shows, senior government agencies have developed comprehensive formal institutional arrangements for protecting and conserving habitat. The habitat management institutional sub-system would be weakened, to the detriment of non-human communities in the estuary, by any diminishing of senior environmental agency powers in favour of increasing local government powers.

On the other hand, there is little evidence to show that a strong national or provincial role in protecting habitat can be relied on. The project presently posing the greatest threat to essential marshland habitat in the estuary is Transport Canada's proposal for a third runway at the Vancouver International Airport. Planners in environmentally progressive municipalities would
argue that though senior environmental agencies have extensive conservation powers, the "greening" of senior governments has been a relatively recent phenomenon. They would suggest that it is municipalities that have led the way in conserving sensitive areas of the estuary, for which senior governments are now taking the credit. 7

A debate over the relative merits of local as opposed to senior government control over resources could bring in facts to show that all three levels of government have the capacity to protect or exploit natural resources. While local government is more accessible to conservation interests, it can be intolerant of political minorities and economically opportunistic. While senior governments have the power and in some cases the will to protect conservation values, will and power can be subordinated to other priorities. This suggests that no level of government can be entirely trusted to protect environmental or democratic values.

If the goal is to strengthen the habitat management sub-system's capacity for conserving habitat, the solution would appear to lie in Irving Fox's proposal for countervailing forces in a decentralized version of federalism. Enhanced regional powers would be checked by provincial and federal guidelines enforceable under senior government Acts. As was suggested in Chapter Two, the decentralization of control over resources would be extended to the municipal level, where local councils would be enabled to
zone for environmental protection, and implement taxation to fund environmental initiatives. The principles of bottom-up governance would ensure that a decentralized institutional structure would not revert to centralization of power. While local communities can be a source of conservation pressures and offer an appropriate scale for environmental regulation, senior governments can offer oversight through broader legislation and the enforcement of guidelines.

Not only would greater local powers allow for more effective regional and local planning based on eco-system priorities, as the Westwater study has shown, but they would enhance the representation of those most affected by habitat management decisions. Local governments are not empowered to make regional plans that would allow habitat planning on an eco-system basis, and communities in the estuary are only weakly represented in the formal institutional arrangements of the habitat management sub-system. That system would be strengthened by enhanced regional and local planning powers, but creation of those powers would depend on legislative initiatives by the province that would change the fundamental constitutional relationship.

At the present time there is no indication that such changes are being considered, though as one senior government official remarked, if it has become possible settle land claims, it would also be possible to deal with the need for regional government.
He described the idea of regional government as a motherhood issue; it is not possible to disagree with it as the benefits are self-evident. Despite its motherhood status, the concept of regional government would meet with stiff opposition. Some resistance would come from agencies such as Transport Canada which have development proposals in the estuary that are clearly beneficial to non-regional interests. Resistance would also come from municipalities that feel they are successfully addressing their own conservation issues and would not be helped by the complications of yet another level of government. The GVRD is not seeking additional powers, but is comfortable with a role as coordinator of municipal and senior government initiatives.

While actualization of the regional government concept would depend on special provincial legislation, opportunities exist in informal institutional arrangements for greater representation of local interests. One interesting informal development in the relationship between local and senior levels of government is a de facto delegation of implementation and enforcement authority from senior government agencies to municipalities in the estuary. In the Surrey example described in Chapter Three, the DFO does not have the resources to carry out enforcement of its "no net loss" policies, and leaves that part of its mandate up to the municipality. This is an informal arrangement which is an illustration of the countervailing powers described by Irving.
Fox. The senior government agency has drawn up guidelines according to its legislative mandate, and communicated these to the local level. The municipalities are charged with implementing those guidelines in terms of zoning and by-laws, and the DFO will only step in if it perceives that the delegation of its power is being abused. In the present institutional structure, such a highly workable and practical arrangement is probably illegal in that senior governments are not allowed to delegate their powers to local governments, and municipalities are not generally allowed to use their zoning powers for reasons of environmental conservation. This example does, however, point to the ways in which informal arrangements can be struck that address needs that cannot be provided for under formal arrangements.

In their role as interest groups, it has been difficult for local governments to make a significant contribution to habitat management in the estuary. In recent developments, local governments are refusing to act as interest groups and are expressing local and regional goals as a third level of government. By using their zoning powers to demand that their objectives be respected, the municipalities and regional districts have increasingly gained recognition as key actors in the estuary. In the case of municipal involvement in habitat management, the process of arriving at conservation designations required their participation, and the powers delegated to them by the province ensured that their concerns were addressed.
This would suggest that input from interest groups in the estuary is only considered in the habitat management sub-system if the group itself has the power to force this consideration. Commercial interests in the estuary have been automatically included because of their economic power and the general acceptance of their role in a management system dominated by an economic growth paradigm. As long as the political agenda is limited to economic distribution issues between individuals and the state, interest group representation of points along the human/non-human political axis will be weak. The conservation efforts that have been undertaken in the estuary have not been designed to serve those non-human communities that could be considered as disenfranchised interest groups. Instead it is emphasized that habitat protection, rehabilitation and enhancement serves the sustainable economic development of human beings. The power of environmental protection agencies in the estuary stems from the economic threat posed by the destruction of non-human communities.

Greater representation of other interest groups in the estuary may similarly arise not from recognition of the need for democratic resource planning and management, but from the growing power of certain groups to force their demands. The increasing political clout of Native people throughout Canada and the province will undoubtably force the habitat management sub-system to address their concerns in the estuary. Municipalities have
struggled with senior government environmental agencies to ensure that conservation designation would not be allowed to interfere with their economic development and have in many cases managed to avoid these designations. Native communities are concerned that the responsibility for habitat conservation will be shifted on to them as they own large amounts of undeveloped lands. In the absence of a meaningful public participation process for conservation designations and habitat management generally, the interests of stakeholders in the estuary will be addressed in proportion to their political or economic power, rather than in proportion to social or ecological costs and benefits for the estuary as a whole. In other words, without mechanisms for equal representation of all stakeholders, the costs and benefits of habitat conservation will be unfairly distributed.

This assessment of the formal, informal and interest group components of the habitat management institutional sub-system suggests that it is possible for disadvantaged interests to gain access to state decision-making fora. Two groups that could be said to represent points on the human/non-human axis, environmental agencies and municipalities, have increased their capacity to express their concerns, though it must be noted that these interests were already included within the state apparatus. Their enhanced representation will, however, strengthen environment and community interests in state decision-making, and may offer opportunities for other interest groups along the
human/non-human axis to be heard in future.

4.2. THE CHANGING ADMINISTRATIVE FRAMEWORK

Representation of interests is important in habitat management because some uses of the estuary are incompatible with others. For instance log storage may destroy productive marshes and recreation may interfere with waterfowl nesting sites. An evaluation of the institutional arrangements should consider whether there are acceptable procedures for resolving conflicting interests, how well they work and what interests or groups are excluded. Efforts to conserve habitat should reflect what society wants, but some would like to protect all existing habitat as conservation designations while others would like to use every available piece of land to promote economic development. Democratic institutional arrangements will weigh these differences fairly.

This section looks at the FRES/FREMP process from a number of different perspectives. The first perspective looks at the process as a formal institutional arrangement or management system that carries out the overlapping legislative mandates of the federal and provincial governments. The second perspective looks at the process as a communicative forum or discursive design. This design has two functions; that of a mediator between state/market and human/non-human interests; and as a link
between state/market interests and the public sphere. The process has been well able to carry out the first function, but is not designed to carry out the second.

4.2.1. FRES/FREMP as a Formal Institutional Arrangement

The FRES I Habitat Report recommended that a management plan for the estuary be administered by neutral, unbiased agencies such as the federal and provincial environment ministries rather than agencies that are development proponents such as the National Harbours Board, Transport Canada and the Harbour Commissions. This is only one of the idealistic suggestions that came out of FRES I, an endeavour that sought to enhance representation of the community/environment political axis through more authority for local governments and environmental agencies.

The other important recommendation from FRES I was the establishment of an estuary council which would have strengthened the municipal role in estuary management by including one or more members representing the municipal-regional level. Not only would the estuary council been more accountable to local communities, it would have required greater political accountability and responsibility from all levels of government. It was considered appropriate that the estuary council be a political body as resource allocation decisions rest on social value judgements. As the estuary council would have increased the representation of
local communities, it might have facilitated agreements on area designations sooner and conserved more productive habitat. It was decided at the outset of FRES II not to attempt any substantive change of the existing institutional arrangements. While FRES I recommended the creation of an estuary council this recommendation was rejected and the linking of existing management systems was chosen instead. There is no documentation of the decision to go with a linked management system and it can only be assumed that powerful agencies in the estuary were not willing to see changes to the existing relationships. Though it would be impossible to revise formal institutional powers in the estuary without the constitutional revisions that municipalities are currently demanding, there was the opportunity at the end of FRES I to include local governments as key agencies in a decision-making process that could have been achieved without major constitutional changes.

The decision to go with a linked management system maintained the exclusion of interests not already present and limited the representation of local governments. As creatures of the province, their authority is delegated, and they were thus not considered eligible to participate in FRES/FREMP as key agencies. This decision to exclude local governments and others groups outside the existing power structure was rationalized in a report called Legal Provisions for Linked Management. It argued that in order to link the agencies' tasks and adopt uniform policies, the
decision-makers must have the capacity to make agreements: "...he must have given him the discretion to make such agreements or to operate under policies adopted, and he must have the legal ability to delegate any of his decisions that he has purported to give away." 12 The adoption of this criteria for a linked management system effectively limited the participation of local governments in estuary resource use decisions. From a municipal perspective, the choice of linked management and the status quo was more about protecting turf and agency powers than about accountability. 13

The rationale for the linked management alternative was that it would allow agreement and negotiation with respect to the policies or criteria with which decisions are made, without overstepping the discretion of the agencies by making predetermined decisions. The proponents argued that the legal and constitutional provisions that limit the participation of excluded interests in state decision-making are meant to ensure that power is not delegated without political accountability. But the accountability that those constitutional powers were meant to ensure has never materialized in the Fraser estuary. The involvement of senior government ministers has been negligible, leaving final authority to bureaucrats with no responsibility to the electorate. In terms of accountability, greater municipal involvement would increase political responsibility in estuarine decision-making as they are representatives of elected councils.
Senior government agencies in FREMP are also theoretically politically accountable, but actual accountability continues to evade the management program. As one senior government official described it, "there has still been no hard nosed commitment to FREMP at the political level". Lack of commitment and involvement from politicians means accountability to elected officials is poor and responsiveness to public demands is reduced. The result is that bureaucratic decision-making can continue to be based on an entrenched administrative paradigm, and implementation of innovative policies can be slowed or resisted. At a time when public concern for habitat protection is high, the insulation of FREMP from the political process results in reduced support for habitat conservation policies.

The legislated power structure on which the linked management system was based is remarkable for the limited powers given to local and regional governments. Though the designers of FREMP acknowledged that all levels of government should be involved in the management program, municipal governments were given interest group rather than key agency status as members of the Management Committee. A management system was chosen that "... erodes as little as possible the existing agency functions..." rather than one that allowed the best representation of existing interests in the estuary. The FRES/ FREMP process attempted to get the commitment of local governments within the existing power structure, but the difficulty of determining area designations
illustrated the need for greater local representation and consultation. This representation and consultation has been pursued within the informal institutional arrangements of the FRES/FREMP process.

4.2.2. FRES/FREMP as an Informal Institutional Arrangement

To assess the role of FRES/FREMP as an informal institutional arrangement, it is necessary to return to the model of discursive designs developed in Chapter Two. It was suggested that there are three levels of communicative designs which address the changing needs of social groups at different distances from the state/market axis. The FRES/FREMP system, over its fifteen year process of development, has been designed to be a mediation and negotiation forum for integrating state/market and environmental needs. In its earlier forms it was located at the centre of the intersection of the state/market axis, but toward the environmental pole of the human/non-human axis. Figure 6 illustrates this position of FRES/FREMP.

As the members of this forum attempted to achieve its mandate, they became aware that local communities were an aspect of this integration that could not be ignored or addressed once senior government agencies had resolved their differences. As local governments have been increasingly brought into the process of decision-making, especially conservation designations, the
position of this communicative design has been shifting downward toward the community pole. Ideally this shift will continue so that FREMP can act to encourage the integration of environmental and community values. Figure 7 shows the location of FREMP in the context of enhanced local responsibility for conservation of local resources.

If it is assumed that different types of designs are appropriate for different types of interests, it is inappropriate to criticize the FRES/FREMP process for not including positions toward the poles of the human/non-human axis. It is properly a forum for mediation and negotiation between interests on the human/non-human axis and the state/market axis. The weakness of this forum is its weak links with new social movements on these poles, so that there is a poor flow of information from those working directly with environment and community concerns. The section below assesses FRES/FREMP as an institutional design for mediation between interests of the two axes.

4.2.2.1 FRES/FREMP as a Mediating Forum

One of the major achievements of FRES/FREMP has been recognition of the importance of the estuary for non-human as well as human communities. The goal of a management system for the estuary was the integration of economic and ecological values long before the
FRES/FREMP as an institutional design with a non-human communities focus
FRES/FREMP as an institutional design integrating human and non-human communities.
term "sustainable development" had been coined by the Brundtland Commission. As the Habitat Activity Work Group Report stated:

"The concept of sustainable development implies the need to maintain the productive capacity of the ecological system that makes the Fraser River estuary all important to fish and wildlife resources and their consumptive and non-consumptive use. Toward that end it is essential that attributes of the physical and biological components of the system, as well as their interrelationships, are adequately understood. That understanding in turn allows for the design of measures necessary to safeguard the protection of the ecosystem and defines the limits to development." 16

This statement assumes: the productive capacity of the ecological system is the basis for economic capacity; the economic value of non-consumptive as well as consumptive uses; and limits to the scale of an economic system based on the ecological carrying capacity of the resources. FRES/FREMP's contribution to preserving productive habitat in the estuary is undeniable, and without a management system, habitat loss would have continued at a much faster rate.

The system is increasingly recognizing the importance of local communities in habitat protection and attempts are underway to include them directly in decision-making. The next step in increasing awareness of the role of local communities in habitat
conservation is attention to socio-economic as well as biophysical research and information. While FREMP habitat management goals reflect concern with the preservation of the ecological basis for human economies, issues of equity, fairness and distribution of the costs and benefits of conservation must also be considered. 17

No amount of expansion or refinement of the present process will aid habitat conservation efforts, however, if development-oriented agencies do not support it. Habitat management plans and programs have not been adopted by all participants in FREMP and adequate funding and resource commitments from participating agencies have not been forthcoming. 18 The management system as an institutional design is constrained by power relationships in the estuary, and the resource development orientation that has shaped the design continues to strongly influence habitat conservation decisions. With little political or electoral accountability, the management system is relatively immune from increasing public awareness of and support for environmental issues. It is the system's capacity to act as a forum for the exchange of ideas that offers the best potential for changes in the distribution of power in the estuary.

The exchange of ideas within FRES/FREMP has two forms: project reviews which are either mandated or discretionary; and the informal communication that takes place among agency personnel.
Improvements in the referral system have made it easier for municipalities to participate in some areas of management in the estuary. In the area designation process, agreements have been facilitated by easy municipal access to the habitat inventory and classification map. Conflicts among agencies and levels of government have been reduced by reforms of the permitting process which weed out many developments potentially harmful to productive habitat and simplify the referral system.

Though reforms of the referral system have made information more accessible to those inside and outside FREMP, the system is designed to serve formal institutional arrangements. It acts to consolidate existing agency power by limiting access to information by certain agencies and interest groups. As the FRES II study found, not only were many agencies not included in the referrals process, but the system was so informal that agency personnel often passed on many referrals entirely at their own discretion.

The FRES II information systems report looked at their shortcomings as a technical problem and suggested that if the referral system were streamlined, those without access to information would benefit. The reforms suggested would, however, ensure that projects that were potentially harmful to fish and wildlife and their habitat were referred to environmental agencies.
In addition to improved information flows, opportunities for personal communication among agency personnel is an informal aspect of FRES/FREMP that has been instrumental in helping to reach agreements among them. Reduction of conflicts between agencies has been aided by the continuity of personnel in the FRES/FREMP process and the benefits of personal rather than legislative relationships among agencies. It has been said that this continuity has been largely responsible for the successes of the management system especially in achieving area designation agreements. As a forum for the exchange of ideas among agency personnel, FRES/FREMP has led to a better understanding of different agency concerns and has allowed for the development of trust among them. The successes of the FRES/FREMP process have resulted from improving what Paehlke and Torgerson would call "communicative rationality".

Any mechanism that attempts to encourage the communication among interests faces the dilemma posed by the designers of FREMP: inclusion of all interests in all decisions would be extremely inefficient in terms of time and resources; alternatively, failure to consult all affected parties would lead to the alienation of deserving interests and poor management decisions. The approach adopted by FREMP was that of a simple yet organized program for increasing coordination through the use of existing resources. This was in part a response to pressures from those who felt the proposals from FRES II were too complex and
There can be no doubt that the FRES/FREMP process has helped to slow habitat loss in the Fraser estuary, and on that basis alone, it can be counted a success. It was not designed to address equity issues in the estuary, and has not been successful in that area. As a mediation and negotiation forum, it has been an innovative approach to resolving the formal and informal institutional challenges of managing estuarine habitat.

4.2.2.2. FRES/FREMP as a Participative Design

Though the FRES/FREMP process has functioned as a forum for mediation and negotiation among agency personnel, it has been hampered in its capacity to develop links between the internal bureaucracy and external social movements. FRES/FREMP has been a closed design in that both formal and informal institutional arrangements have acted to exclude interest groups that are not already represented. Though it has been a forum that "embodies principals of free discourse among equals", it has not acted as a link between the public sphere and the state. Such a function would require direct links with new social movements that can introduce ideas other than those which provide the rationale for conventional administration. It was argued in Chapter Two that the introduction of new ideas has the potential to redefine
problems outside the conventional framework and to act as a catalyst for social change.

The model of discursive designs developed in Chapter Two, suggests that FREMP is too closely tied to state and market forces to act as a direct link with these new ideas and movements. This linking would best be made by independent public inquiries designed to gather information and aggregate interests from social movements. These are the second level of discursive designs which can act as a conduit for a flow of information from the poles of the human/non-human axis to the centre.

There are indications that those working with FREMP are aware of the need for mechanisms to encourage a flow of information from the public sphere. The Habitat Work Group has suggested better coordination between local and senior levels of government and public participation in habitat management. One suggestion that would facilitate the communication of environmental and social goals and objectives of human communities occupying the watershed is the proposal for a public interpretive resource facility that would offer accessible information and regular meetings about habitat management in the estuary. Such a facility would serve to reverse the one-way flow of information from government to the public with regard to habitat conservation issues. If developed, such a facility could serve as the basis for public inquiries into habitat management and act as a participative
design linking the negotiating activities of FREMP with the public sphere.

There are other indications that there is the potential for FREMP to contribute toward the development of participative designs to create links with social movements. Its management principles recognize the importance of the estuary as an environmental as well as economic resource, and encourage compatibility between upland and foreshore uses, thus offering the opportunity for expression of concerns from the human/non-human political axis. These principles also encourage broad consultation between all participating agencies and public consultation.

One final consideration is the question of whether FREMP is a "worm in the brain" \(^{22}\) of conventional administration or of the public sphere. It is a successful experiment in gaining cooperation among differing agency perspectives, but there is also the possibility that it is improving the capacity of an undemocratic system to maintain itself. It assisted senior government agencies to agree among themselves, but local governments were left out of those agreements until their cooperation was vital. It can only be assumed that the same dynamics will apply to other public interests. If they already have enough power to force the senior government agencies to recognize their goals and objectives, they will be invited to contribute in shaping the future of the estuary. If they are an
unorganized or otherwise powerless interest, the decision-making forum will not seek to include them. The nature of FREMP as a communicative forum will be further revealed as Native communities in the estuary press for recognition of their goals and objectives. Will they, like the municipalities, have to wait for the tide of events to turn in their favour before FREMP will find meaningful mechanisms for agreement such as the "Statements of Intent"?

It must be concluded that as long as power flows from senior levels of government to smaller social units, there will be the tendency for larger units to assume decision-making responsibility on the basis of its own interpretation of the public interest. Without reforms that enable smaller social units to be responsible for such functions as implementation and enforcement of conservation measures, these units will struggle with one another to avoid the costs and reap the benefits of habitat conservation. Thus an institutional design like FREMP will co-opt those units that become powerful enough to become influential if it reflects the interests of larger units rather than local concerns. Only when smaller social units are not used to serve the ends of larger organizations can there be a flow of information from the periphery to the centre which accurately reflects local needs and demands.

The next section looks at the process by which local governments
have used the powers delegated by them from the province to enhance their representation in the habitat management subsystem.

4.3. MUNICIPALITIES AND AREA DESIGNATIONS

The area designation process identified interests in the core area first, assuming these would be linked to uplands areas at a future time. This approach to area designations is at the centre of the conflict between local and senior levels of government: do the senior agencies conform to municipal zoning and area planning, or do the municipalities respond to area designations arrived at without their equal input?

Since the area designation review it has become more important that local governments have demanded and achieved a significant role in habitat management under FREMP. Public awareness of environmental issues has changed and in several of the municipalities in the FREMP area, development-oriented councils have been replaced by environmentally sensitive councils. Local elections in many municipalities have become a contest between local parties that support environmental conservation and those that support community economic development. In that sense, the human/non-human axis is most strongly represented at the local government level. Therefore, the more political representation that local governments have in the management system, the more
environment and community issues will be introduced into public discussion.

As a design within a design, the area designation process has perhaps been most successful in achieving coordination between the goals and objectives of foreshore and upland jurisdictions. The process of working together on the area designation map improved working relationships among local and senior agencies and managers and the tangible result showed them that it was possible to work cooperatively and achieve conservation goals. It has also acted to revise the policy-making process as demonstrated by the changed approach to local involvement in area planning. FREMP had initially sought agreement on area designations which would be used to build area plans, but consultation with local governments led to using the same approach that communities use in developing zoning designations. The broad social goals of the community are agreed upon, then specific uses are designed to achieve those goals.

These changes to the area designation process are in accordance with Torgerson's (1990) description of the development of a democratic alternative to conventional administration. Enhanced democracy opens up the administrative world to the influence of interests which have generally been excluded or marginalized. The limitations of conventional administration become apparent through "...piecemeal initiatives which...anticipate broader
innovations and a more sweeping redefinition of the problem.\textsuperscript{25} Analysis of the case study involving area designations in the Fraser estuary would suggest that the problems are being redefined, and that the flexible design of the process for reaching agreement on designations has contributed to that redefinition.

4. \textbf{CONCLUSION}

Analysis of the case study has provided support for the suggestion that planning and management of natural resources should be the responsibility of local and regional as well as federal and provincial jurisdictions. Regional control over local resources guided by federal or provincial authority where there were significant consequences for people outside the region would protect and enhance conservation and community values while limiting uses contrary to the overall public interest. It has supported the suggestion that bottom-up governance is an important component of local control over local resources, and that smaller units of government more accurately reflect local needs and public preferences.

The Canadian constitution has shaped formal institutional arrangements, so changes in jurisdictional relationships or agency mandates within the management system will depend on constitutional review and reform. Reform that would allow local
control over local resources would include regional resource planning and management powers and reforms of the Municipal Act to enable local governments to implement conservation measures. In the absence of these reforms, political accountability and conservation efforts can be improved through a larger role for elected municipal councils in the estuary area.

The reforms of informal arrangements that have resulted from the FRES/FREMP process have been beneficial for the habitat management system as it was one of the weaker systems in the estuary, compared to port and industrial development systems. Better information and a more structured referral system than existed before a management system was put in place have increased local community participation and improved habitat management decisions. Despite these changes, informal institutional arrangements do not encourage the representation of less organized groups. This thesis concludes that FREMP is acting as an effective mediator among established interests in the estuary, but is an ineffective link with the public sphere and local community needs. The model for three levels of discursive designs developed in Chapter Two suggests that FREMP is effective as a mediation and negotiation design, and should not be expected to aggregate the interests of local community groups and communicate these to the state/market axis. The aggregation of community interests is best left to participative designs created at the local community level that may or may not have
government support. Local community interests can then be communicated to public inquiries which will bring these interests to the mediation and negotiation level, of which FREMP is an example.

The FREMP area designation process reveals that upland interests must be recognized and accommodated, and local communities must be involved in the process as a third level of government. Increasing frustration with existing FREMP boundaries emphasizes the need for a coordinated upland approach to conservation that could work with FREMP as equal partners in the planning and management of resources in the estuary. Without a conscious effort to develop public involvement with the habitat management system, however, powerless interests will continue to be excluded and potentially vital interests ignored.

The area designation process has enhanced local community representation in senior levels of government and contributed toward enhanced democracy in conservation designation decision-making. But the process has not included equity considerations or found mechanisms for balancing the needs of one community with the needs of another community, the estuary, the province or the nation. In the absence of mechanisms to ensure balanced participation by all groups and communities in the estuary, those without adequate power to defend their interests will find themselves disadvantaged in the present management system.
In response to the research question, "what is the present role of local government in resource use decision-making?" that role is circumscribed by an elaborate constitutional context that does not provide resource use decision-making powers for local communities. It is a system that encourages a functional rather than a territorial approach to resolving conflicting interests, in which a number of agencies representing different interests compete with each other. Local territorial units are outside that functional concept, and have little power in the face of a national and provincial definition of community.

The role of local communities in resource planning is, however, being reconsidered in light of better understanding of ecosystem interactions, and the role of human communities in the management of natural communities. It is increasingly recognized that an ecosystem such as the Fraser River estuary cannot be approached as a biophysical unit any more than it can be approached purely as an economic unit. It was the integration of these two perspectives that was the impetus for developing a management system, but the missing elements in that integration of environmental and economic issues were local communities.

The realization of the goals of the Fraser estuary management system entails an understanding that the local government role is to act as a link not only between upland and foreshore, but between the economy and the environment. It is at the local level that social units are small enough to design effective, site-
specific controls on degradation of resources. For instance, small streams and tributaries can be better protected through zoning designations than through broad national or provincial policies. This is not to say that broad policies are unnecessary for issues that have transboundary effects. For instance, the federal government must be involved in issues concerning migratory birds as it is the only level that can negotiate international agreements.

Local governments will be enabled to act as links between human and non-human communities through the efforts of those with the power to make the necessary structural changes. Those efforts will be influenced by new ideas about the nature of the political spectrum and an appreciation of changed public attitudes toward political issues. Restructuring the political agenda can be encouraged by discursive designs that act as a mechanism for building an active, critical public sphere. In many ways, FRES/FREMP has acted as an effective design within the habitat management system. Communication among local and senior government representatives has allowed community perspectives to be introduced and environmental perspectives to be strengthened. While a restructured political agenda would give more consideration to community issues, ideally municipalities would preserve their position as territorial representatives. Thus the point at which local governments interact with the state is the point where issues of economic distribution intersect with the
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human/non-human axis. As has been suggested, it is in local government politics that the human/non-human polarities are most clearly articulated. Figure 8 shows the position of local governments in an expanded political framework with three levels of participatory designs. The diagram shows local governments as one component of these designs with an interest area leaning toward the human communities side of the human/non-human axis.

This case study indicates that a fundamental rethinking of the framework for political discussion is taking place. This rethinking has been necessary for the inclusion of environmental issues on the political agenda, and the introduction of environmental issues has led to the consideration of community issues. Just as economic issues cannot be addressed without considering the relationship between the individual and the state, so environmental issues cannot be addressed without considering the relationship between human and non-human communities. While the former entails a macro approach that can address national markets, the latter entails a micro approach to specific interactions between human communities and their ecological context.

4.5. RECOMMENDATIONS FOR LOCAL CONTROL OF LOCAL RESOURCES

The conclusions drawn from analysis of local government
involvement in habitat management in the Fraser River estuary lead to the following recommendations. As both the literature review and case study indicate that a redistribution of power from the senior to the local government level would not only result in better conservation, but would ensure a more democratic allocation of its costs and benefits:

1. In order to enhance local powers, the province should empower the regions to plan and implement resource management programs and policies and to regulate the use of privately-owned agricultural, forest and wild lands in the interests of long term sustainability of those resources. The province should empower municipal governments to implement specific initiatives to address local problems that cause major cumulative environmental impacts. By-laws to protect the urban forests, conservation property tax incentives and regional transportation planning authority are a few of the many ways that local government empowerment would enhance conservation values.

2. In order to ensure coordination with larger public interests, local empowerment should take place within the constraints of an expanded federalism. The relationship between local, regional, provincial and national governments should be so designed that they will have a countervailing influence upon one another. Senior governments should develop resource use standards in consultation with smaller
social units that can be applied and implemented at all levels of government.

3. In the Fraser estuary, coordination between regional environmental planning and senior government standards would entail an expansion of the existing area designation process to include coordination of both regional and municipal environmental plans with the existing land inventory, classifications and designations.

4. Though senior government ministries have demonstrated their commitment to the FREMP process as a whole through a doubling of their contributions, commitment to democratic conservation would be indicated through larger budgets for habitat management and public involvement programs in the estuary.

5. In order to ensure that links between conservation, local communities and senior government agencies are strengthened, the existing management system should strengthen local community and environmental representation to make it more effective. The newly structured Management Committee should ensure that local representatives are more directly involved in governance. In addition the Management Committee should be more representative of and accountable to the new Implementation Advisory Committee. All work groups should include local government and public interest group representatives. In order to build bottom-up representation, these interest group representatives should
be nominated from the public sphere through intermediate level discursive designs.

6. In order for the public to aggregate and communicate its interests to the Implementation Advisory Committee, a facility where public meetings on habitat protection issues can take place should be provided jointly by regional and senior governments. Such a facility could serve as the basis for a discursive design that would link the concerns of the public sphere to FREMP.

How could the successes of the Fraser estuary habitat management system be translated into a similar estuarine context with foreshore/upland conflicts and three different levels of government involved, while avoiding the problems that have slowed the FRES/FREMP process? Evidence from the case study suggests that if a management system were to be put in place in a similar situation it would be wise to include local governments as key actors early on in the process. In the Fraser estuary case, this would have speeded up the process of reaching agreements on area designations, as upland issues and concerns would have been better integrated into proposed area designations during the FRES II exercise. Senior government agencies under a federal system of governance similar to Canada's might use the Fraser estuary experience as evidence that conformity to their constitutional mandates will speed acceptance of a management system among development-oriented agencies, but slow implementation of
projects such as area designations and programs such as habitat management. A similar situation might also be aided by encouraging local community groups to form independent discursive designs to aggregate their concerns. This study also suggests that habitat management sub-systems would benefit from stronger links to public inquiries so that local community concerns can be communicated to the mediating and negotiating level.

The goal of this study was to assess whether redistributing power between local and senior levels of government would allow a more democratic allocation of the costs and benefits associated with habitat conservation. Conclusions drawn from a review of the literature and the case study indicate that such a redistribution of power would encourage not only a more democratic allocation of costs and benefits, but more effective conservation of habitat as well.


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15. FRES II, Legal Provisions for Linked Management, p. 36.


22. Bartlett, Robert "Ecological Reason in Administration", p. 82.


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APPENDIX "A" LOCAL GOVERNMENT INVOLVEMENT IN TASK FORCE REVIEW

The following is a synopsis of the record of comments in the Area Designation Task Force Report (March '82) from agencies involved in the review of selected management units. Only the review of those management units that include conservation designations and local government are included here.

Management Unit I-7:
The concern was that agriculture or urban development would have a negative impact on fish and wildlife. Both the FBCN and the MOE agreed that an upland management group be established to address the impact of urban and agricultural development on fish and wildlife habitat, and the Task Force recommended that such a management program be established for Mud Bay area.

Management Unit I-8:
Same concerns as above where FBCN and ADTF concerned about effects of upland development (especially drainage from Burns Bog and reactivation of Boundary Bay Airport) on habitat in Boundary Bay, and another management program for that area suggested.

Management Unit II-4:
Industrial designations conflict with regional and provincial policy. The GVRD considered the industrial designation too large in relation to the ORP and the ALR and wanted consideration of its Open Space philosophy with regard to access to the dykes. At the same time, the municipality of Delta was interested in encouraging water oriented industry in this unit. The ADTF
Review agreed that the foreshore use should conform with the ORP industrial designation.

Management Unit III-5:
Designations conflict with municipal planning. The CFVRD was concerned that the designations were not in conformity with Langley's Industrial Park and plans for a future bridge crossing. The ADTF recommended that further consultation with the CFVRD would ensure compatibility with upland designations and plans.

Management Unit V-7:
Issue is extent of preservation and development. The GVRD said the industrial designation was too large, and the ADTF said wood debris from on the foreshore would adversely affect productive foreshore marsh.

Management Unit V-12:
Wood debris accumulation in Wood Island Slough limits biological productivity. The GVRD asked if the area designations should permit/encourage all industrial uses on Iona Island. The FBCN suggested that the whole of the north foreshore of Sea Island be designated recreation and conservation. Again the ADTF suggested there should be compatibility between foreshore designations and upland plans.

Recommendations were made by the ADTF for the undetermined use areas, which included area plans and foreshore/upland management committees for four management units. The following issues and concerns were reported which indicate the position of local government with respect to the area designation process.
Management Unit II-13:
Conservation vs. industry. The GVRD complained that a conservation designation fell within an ORP industrial designation. Without a statement of the relationship between the ORP and area designations, the GVRD would not comment on the appropriateness of the designation. The FBCN supported the conservation designation of remnant marshes. The MOE considered environmentally sensitive industry to be acceptable.

Management Unit II-22:
An interesting area. In 1953 Annacis Island Estates was established and in 1956 there was an agreement between the Duke of Westminster, the Federal Crown, the Corporation of Delta and the Fraser River Harbour Commission that Annacis Island would be developed as an industrial estate and that the by-laws to achieve this objective would be passed by Delta City Council. The total area is zoned industrial-heavy manufacturing. The area also contains intertidal sand/mud flats, marshes, and riparian shrubs, all considered to be highly productive fish and wildlife habitat. Delta wanted the western tip of Annacis Island outside the dyke to be protected from industrial encroachment. It also suggested that Patrick Island be developed industrially inside the dyke for non-water oriented industry, contingent on compensation made in upgrading foreshore areas.

Management Unit II-26:
Port/terminal vs. conservation designations. The Municipality of Richmond felt the existing port designation had implications for
the character of East Richmond that were too large to allow the designation to stand. It said that uplands adjacent to the undetermined use area were bog forests which might be lost. It called for a thorough environmental impact study and that the area should remain an undetermined use until this was done. The FRHC said that the site was now in the preparation stages for the deep sea dock facility and that they would not consider any other designations for this land. The ADTF supported Richmond’s demand for an environmental impact study and suggested that mitigation and compensation plans be developed and approved. It further suggested that the future plans and goals of Richmond be considered, and that consultation among concerned agencies be established.

Management Unit II-31:
The Municipality of Richmond was uncertain as to the best use for Garry Point, and it was suggested that the designation would involve more consultation with the municipality.

Management Unit III-8:
Industry vs. conservation. The DARD said the regional plan for this area is industry, recognizing the existing industrial park on the upland. The ADTF pointed out that there had been a great deal of unauthorized filling and that no control over types or quantities of fill has occurred. The DARD appeared to object to this statement and said the basis for this statement was unclear. ADTF recommended that a committee be established comprised of upland and foreshore management to discuss plans for both water-
oriented industry and habitat values.

Management Unit III-10:

Industry or port/terminal vs. conservation. The DARD concern was that part of the area was the subject of an ALR appeal to remove it for industrial use. It was also concerned that the area designation for this unit did not reflect a park proposal in Pitt Meadows. The ADTF said the area designated undetermined was highly productive habitat but that accumulated wood debris was limiting its productivity. The MOE-F&W said the area had a variety of habitat types, but the back-up lands are zoned industrial in the ORP, and log-storage leases were continuous throughout the unit. They recommended a conservation designation until an area plan was formed.

Management Unit IV-4:

Industry or small craft moorage vs. conservation: The GVRD said the upland area is industrial in ORP. The ADTF said the foreshore marshes and offshore areas were highly productive habitat, but that wood waste debris is a problem. The plans of the city of Port Coquitlam for the area were to encourage water dependent industry on the abutting upland, and they would like to see the city's designation taken into account. The ADTF suggested a committee be established to discuss future plans for both water-oriented industry and habitat values in the area. An area plan be done as a possible approach.
Management Unit V-2:

Industry vs. conservation. GVRD; the area is currently designated to support log booms and other uses shouldn't interfere with already incumbent industrial water-front areas. Poplar Island is not undetermined use in terms of regional policy (it is designated for log storage) and much of the shoreline is taken up with log storage leases. MOE-F&W said that Poplar Island represents one of the few, if only areas of undyked Fraser River floodplain in the North Arm and supports a deciduous forest of black cottonwood with a dense underbrush of salmonberry and other shrubs. It is the best example of this type of forest downstream from Port Mann. Herons and Canada Geese nest on the island and the marshes and shallow water provide habitat for anadromous and resident fish. It recommended that the area should be designated conservation and as it is privately owned, the land should be acquired for public use. Western Forest Products had planned to use the uplands for log handling, and the City of New Westminster had passed a resolution to accommodate those plans.

Management Unit V-3:

Whether to allow upgrading of upland for water-oriented industry. GVRD; the upland area is industrial in the ORP. Burnaby; the area is fully developed industrially. FBCN; marshy areas should be considered. ADTF; upgrading would alienate foreshore habitat. DFO; conservation is essential for downstream migratory juvenile salmon. Such a designation would not be in conflict with the ORP or Burnaby's industrial zoning upland if
it is limited to the foreshore. Also existing industry is non-water oriented, thus precluding any industrial use of the foreshore. MOE-F&W; integrity of marshes must be maintained. Most of area upstream is developed which places even more importance on retention of this area. It is also waterfowl habitat.

Management Unit VI-3:

(Roberts Bank) Port/Terminal or conservation. ADTF; important for rearing and feeding of fish and as migratory bird habitat. Delta; while port designation is acknowledged at terminal site, conservation must be provided for along both sides of the causeway. ADTF recommended that it remain undetermined until a careful assessment of present activities done, and overall port/terminal activity plan developed and research of development and conservation values is done.
APPENDIX "B" LIST OF INTERVIEWS

(In order of appearance in text)

George Calquhoun, Port Manager, NFHC
Alex Jamieson, Richmond Municipal Planner
Peter Bloxham, Burnaby Municipal Planner
Franklin Wiles, Surrey Municipal Planner
Mike McPhee, FREMP Secretariat
Nancy Knight, Development Services, GVRD
Bruce Clark, Habitat Biologist, DFO
Mike Romain, Informatics, DFO, (past chair ADTF)
Mike Stringer, Director, Environmental Services, GVRD
Ken Cameron, Director, Development Services, GVRD