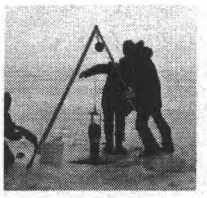
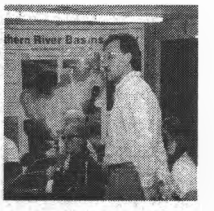
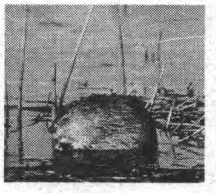
Canada Alberta Northwest Territories

Northern River Basins Study



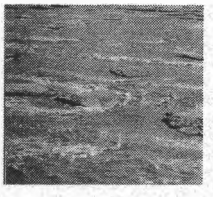



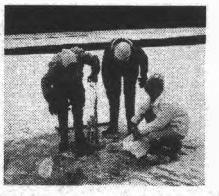


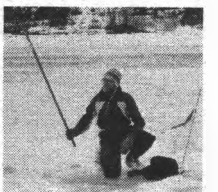


NORTHERN RIVER BASINS STUDY PROJECT REPORT NO. 62

A REVIEW OF OPTIONS FOR INTERJURISDICTIONAL INSTITUTIONS FOR THE NORTHERN RIVER BASINS STUDY





Prepared for the
Northern River Basins Study
under contract to
the Strategic Planning Committee
of the Board

by

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NORTHERN RIVER BASINS STUDY PROJECT REPORT NO. 62

A REVIEW OF OPTIONS FOR INTERJURISDICTIONAL INSTITUTIONS FOR THE NORTHERN RIVER BASINS STUDY

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PREFACE:

The Northern River Basins Study was initiated through the "Canada-Alberta-Northwest Territories Agreement Respecting the Peace-Athabasca-Slave River Basin Study, Phase II - Technical Studies" which was signed September 27, 1991. The purpose of the Study is to understand and characterize the cumulative effects of development on the water and aquatic environment of the Study Area by coordinating with existing programs and undertaking appropriate new technical studies.

This publication reports the method and findings of particular work conducted as part of the Northern River Basins Study. As such, the work was governed by a specific terms of reference and is expected to contribute information about the Study Area within the context of the overall study as described by the Study Final Report. This report has been reviewed by the Study Science Advisory Committee in regards to scientific content and has been approved by the Study Board of Directors for public release.

It is explicit in the objectives of the Study to report the results of technical work regularly to the public. This objective is served by distributing project reports to an extensive network of libraries, agencies, organizations and interested individuals and by granting universal permission to reproduce the material.

A REVIEW OF OPTIONS FOR INTERJURISDICTIONAL INSTITUTIONS FOR THE NORTHERN RIVER BASINS STUDY

STUDY PERSPECTIVE

The management of the basins of the northern mainstem rivers in Alberta has been the topic of discussion for Northern River Basin Study Board members since the inception of the Study in September, 1991.

The Study Board's Question 16, as developed by the Board in February, 1992, identified the need to generate appropriate options for interjurisdictional bodies.

Related Study Questions

16) *What form of interjurisdictional body can be established, ensuring stakeholder participation for the ongoing protection and use of the river basins?*

The Board's Strategic Planning Committee was given the leadership role in generating options for the Board's consideration and commissioned this study on the Board's behalf. The objectives of this study were 1) to develop a framework to guide the Study Board in the process of institutional design and 2) to describe a series of models that could be adopted for an interjurisdictional body.

The preparation of this report involved three interrelated components. First, information was collected and reviewed to provide a context for the development of options. This process included an examination of NRBS documents and conducting interviews with a number of individuals suggested by NRBS. The purpose of the interviews was to discuss possible functions and characteristics of new interjurisdictional arrangements; the interviews revealed a wide diversity of views among those involved in the NRBS regarding what a new body should do, and how it should be designed.

The second component of the work was a review of a broad range of institutional arrangements used for interjurisdictional water management and analogous functions. A series of paired concepts are discussed by the writer as notable institutional features: government versus non-government responsibilities; technical versus political issues; power versus influence; and, centralization versus decentralization. Particular goals or questions to be answered by designing an institution are listed. Also, some typical functions for interjurisdictional bodies were outlined: inter agency co-operation; inter-governmental dispute resolution; basin management "watchdog"; multi stakeholder forum; direction and co-ordination of research; and, information collection and dissemination. These bodies were then grouped into four different models for purposes of exposition and comparison.

Finally, a more general and practical framework for institutional design is proposed to assist NRBS in addressing the complex task of formulating recommendations regarding interjurisdictional institutions. Individual models, it is suggested, could be created in response to the basic design options outlined, then, the models would fit into an overall institutional structure. A critical success factor is to balance the policy objectives to be achieved against the field conditions within which the institution will operate. The interviews conducted with individuals involved in the NRBS, and the multitude of possibilities for interjurisdictional institutions, suggested the need for a clear and focused approach to institutional design. This report provides a basis for such an approach.

The report will be utilized by the Board in discussions and deliberations leading to recommendations concerning interjurisdictional management.

NORTHERN RIVER BASINS STUDY
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Whereas the above publication is the result of a project conducted under the Northern River Basins Study and the terms of reference for that project are deemed to be fulfilled,
IT IS THEREFORE REQUESTED BY THE STUDY OFFICE THAT;
this publication be subjected to proper and responsible review and be considered for release to the public.

E. (Betty) Collicott — September 14, 1995
(E. (Betty) Collicott, Study Director) (Date)

Whereas it is an explicit term of reference of the Science Advisory Committee "to review, for scientific content, material for publication by the Board",
IT IS HERE ADVISED BY THE SCIENCE ADVISORY COMMITTEE THAT;
this publication has been reviewed for scientific content and that the scientific practices represented in the report are acceptable given the specific purposes of the project and subject to the field conditions encountered.
SUPPLEMENTAL COMMENTARY HAS BEEN ADDED TO THIS PUBLICATION: [ ] Yes [ ] No

P. A. Larkin — 18 Sept 95
(Dr. P. A. Larkin, Ph.D., Chair) (Date)

Whereas the Study Board is satisfied that this publication has been reviewed for scientific content and for immediate health implications,
IT IS HERE APPROVED BY THE BOARD OF DIRECTORS THAT;
this publication be released to the public, and that this publication be designated for: **[ ] STANDARD AVAILABILITY [ ] EXPANDED AVAILABILITY**

Lucille Partington — 14 Sept / 95
(Lucille Partington, Co-chair) (Date)

Robert McLeod — 14/09/95
(Robert McLeod, Co-chair) (Date)

REPORT SUMMARY

This report presents a series of options for interjurisdictional river basin institutions for consideration by the Northern River Basins Study (NRBS). It has two primary objectives. First, it develops a framework to guide the NRBS in the process of institutional design. Second, it describes a series of models that could be adopted for an interjurisdictional body in the Northern River Basins.

The central elements of the framework for institutional design are set out in Section 2. This section begins by discussing a series of paired concepts that have important implications for institutional arrangements. These concepts are: governmental versus non-governmental responsibilities; technical versus political issues; power versus influence; and centralization versus decentralization. These concepts define the general options to be considered in institutional design. A list of specific questions is then presented, illustrating the type of decision path that should be followed in the selection of particular institutions. Answers to these questions establish what type of institution is appropriate for particular policy objectives and contexts. Finally, Section 2 discusses a number of possible purposes and functions for an interjurisdictional body in the Northern River Basins. The most important implications for institutional design of each purpose and function are noted.

Sections 3 to 6 of this report set out four different models for interjurisdictional institutional arrangements: the intergovernmental model; the independent commission model; the government-driven inclusive model; and the stakeholder-driven inclusive model. For each model, a general description of its principal characteristics is followed by a number of case studies illustrating its application.

The intergovernmental model has been the preferred option to date in Canada's interjurisdictional watersheds. An agreement between governments establishes a body, usually comprised of water managers, to oversee implementation of an intergovernmental agreement and to facilitate interagency coordination. Stakeholders are usually not involved in these bodies, which generally have had fairly narrow and technical mandates. The *Mackenzie River Basin Transboundary Waters Master Agreement*, however, provides for a board which includes membership from the parties and First Nations. This agreement, if ratified by all governments, will establish an important intergovernmental institution in the Northern River Basins. The discussion of the intergovernmental model also distinguishes the general experience with interstate compacts in the United States from the situation prevailing in Canada, and describes a significant intergovernmental body concerned with water management in the Columbia basin in the American northwest.

The independent commission model involves the appointment by government of an arm's length institution with a defined mandate. While these bodies are usually advisory, they may be influential if they establish credibility within government and have a sufficiently high public profile. Adequate resources and access to technical expertise are also important. This model is illustrated by the International Joint Commission, a body created by Canada and the United States with responsibilities relating to boundary waters. It has been used in British Columbia to address contentious issues of resource and environmental management through the creation of a consensus-

oriented land-use planning process. It has also been used to provide an independent watchdog of government activities.

Government-driven inclusive bodies have become increasingly popular in Canada as a way of providing stakeholder input into policy-making. They may also be used to resolve conflicts between stakeholder groups. These processes are government-driven in that they are usually initiated and funded by government. Representatives of different sectors are selected and a specific objective or more general mandate is defined. At this point, the participants may take an active role in process design. These bodies may be used for a wide range of functions, from defining general principles for resource management to recommending specific policy or legislative initiatives. As illustrated by the NRBS, multistakeholder bodies can also coordinate an interdisciplinary research project directed at improving resource management. The government-driven inclusive model is illustrated by initiatives in the Fraser Basin, round tables, institutional arrangements in Chesapeake Bay, and the Chelan Agreement in Washington.

The final option is the stakeholder-driven inclusive model. These multistakeholder arrangements are the product of diverse interests coming together to address a common problem or to resolve a significant dispute. Frequently, they reflect dissatisfaction with governmental water management institutions, traditional patterns of interest-group politics, and dispute resolution through political and legal channels. While these bodies have significant obstacles to overcome in establishing trust among participants and finding adequate resources, they have been successful in some circumstances in addressing previously intractable issues. Being independent of government may allow them to undertake an oversight or watchdog function. If they develop sufficient credibility, they may also play a significant advisory role.

The final section of this report sets out a practical approach to institutional design. This "modular" approach involves two steps: the selection of individual modules and the establishment of an overall institutional structure or architecture. Modules are selected to achieve specified policy objectives and to fit particular circumstances. The interrelations between modules is determined at the level of institutional architecture. This approach is proposed as a means of dividing the complex task of institutional design facing the NRBS into more manageable components.

ACKNOWLEDGEMENTS

This report was prepared under contract to the Northern River Basins Study (NRBS). Our contact person at the NRBS was Study Director E. (Betty) Collicott, and we very much appreciated her efficiency in collecting relevant documents from the NRBS files and facilitating our work in other ways. We would like to acknowledge the excellent research assistance provided by KayLynn Goelzer Litton. Ms. Goelzer Litton is a law student at The University of Calgary and worked at the Canadian Institute of Resources Law (CIRL) during the summer of 1995. We would also like to thank Sue Parsons of CIRL for her usual high standard of secretarial work. This report reflects in important ways the very valuable comments and suggestions from a number of participants in the NRBS who were interviewed during the course of this project. These individuals are listed in Appendix B. We appreciated their willingness to share their views and their obvious enthusiasm for the task of improving water management in the Northern River Basins.

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1.0 INTRODUCTION

This report provides a survey of options to assist the Northern River Basins Study (NRBS) in addressing Question #16 of its study mandate. This question asks: "What form of interjurisdictional body can be established, ensuring stakeholder participation for the on-going protection and use of the river basins?" As one phase in addressing this question, the NRBS commissioned the Canadian Institute of Resources Law to review "existing examples of interjurisdictional bodies for basin management...and develop options for the form (structure) of an interjurisdictional body" that could be empowered to undertake a range of functions. The complete terms of reference for this project are contained in Appendix A.

The preparation of this report involved three interrelated components. First, information was collected and reviewed to provide a context for the development of options. This process included an examination of NRBS documents and the conducting of interviews with a number of individuals selected by the NRBS. The purpose of these interviews was to discuss possible functions and characteristics of new interjurisdictional arrangements, rather than to conduct a formal survey of opinion. In fact, these interviews revealed a wide diversity of views among those involved in the NRBS regarding what a new body should do, and how it should be designed. A list of individuals interviewed during the course of this project is contained in Appendix B.

The second component of the work was a review of a broad range of institutional arrangements used for interjurisdictional water management and analogous functions. These bodies were then grouped into four different models for purposes of exposition and comparison.

Finally, a more general framework for institutional design was developed to assist the NRBS in addressing the complex task of formulating recommendations regarding interjurisdictional institutions. The interviews conducted with individuals involved in the NRBS, and the multitude of possibilities for interjurisdictional institutions, suggested the need for a clear and focused approach to institutional design. Providing the basis for such an approach is a principal objective of this report.

The report begins in Section 2 with a discussion of fundamental issues in institutional design. The distinctions between a series of paired concepts are discussed and a number of more specific questions are listed to guide the process of selecting institutional arrangements. Clarity at the conceptual level and attention to the issues raised by these specific questions are the essential elements of a decision path for institutional design. Section 2 also reviews a number of possible functions for interjurisdictional institutions in the Northern River Basins.

Sections 3 to 6 of the report examine four general options for the design of interjurisdictional river basin institutions. These options are: the intergovernmental model, the independent commission model, the government-driven inclusive model, and the stakeholder-driven inclusive model. The principal features of each model are presented, followed by case studies illustrating how they have been applied.

These case studies were selected to highlight the characteristics, strengths, and limitations of the respective models. They also provide an idea of the range of functions that could be performed by each model. It should be evident, however, that no external template is likely to meet the specific needs or conditions of the Northern River Basins. A magic institutional solution to the challenge of institutional design facing the NRBS will not be discovered through comparative research. As the case studies make clear, the specific characteristics of each institutional arrangement, and the reasons for its success or failure, are inseparable from the context within which it was created and operated. The usefulness of case studies, then, lies primarily in their illustration of general principles of institutional design and operation. A review of different arrangements also provides a reservoir of experience and ideas, from which innovative solutions to the particular challenges of water management in the Northern River Basins may be fashioned.

Section 7 of the report returns to general issues of institutional design. This section sets out a "modular" approach, intended to separate the daunting task of recommending new institutional arrangements into more manageable steps. The approach proposed here involves the design of individual institutional modules, which may then be combined in various ways to make up the overall institutional architecture for the Northern River Basins.

The combination of a general framework for institutional design, the classification of options according to four basic models, and the review of a number of specific examples is intended to provide the NRBS with the raw materials for formulating its recommendations in response to Question #16 of its research mandate. If this report assists the NRBS by identifying the principal issues and presenting an array of options in a comprehensible way, it will have achieved its objective.

2.0 FUNDAMENTALS OF INSTITUTIONAL DESIGN

2.1 INTRODUCTION

Institutions have been characterized as "the embodiment of values in regularized patterns of behaviour" (Priscoli, 1989, cited by Newson, 1992:242). More specifically, the role of water management institutions has been described as follows (Guggenheim, 1992:21):

> "The institutional arrangements for developing and managing water resources are the transmission gears between policy objectives and field-level performance. Whereas policies raise questions about what is to be done, institutional analysis asks *who* is expected to do it, and with what resources, and *how* are the institutional building blocks expected to interact."

This section is concerned with institutional analysis. Its purpose is to set out the general relationship between policy objectives and the "who" and "how" issues that are central to institutional design.

The passage quoted above underlines the intermediary role that institutions play between "policy objectives" and "field-level performance". A central theme of this section, and the report as a whole, is that institutional design requires careful attention both to the objectives to be achieved and to the field conditions within which the institutions will operate. In both of these areas, certain generalizations are possible. These generalizations can be used to focus the examination of specific models or options. In short, they provide a framework of analysis for institutional design.

The basic elements of this framework are provided in the following four sections. First, several key conceptual distinctions are outlined. These concepts describe the principal features of alternative institutional arrangements. Second, a set of fundamental questions for institutional design is presented. Answers to these questions establish the relationship of institutions to both policy objectives and field conditions. Third, a range of institutional functions or objectives is reviewed. The brief commentary on each function describes its principal characteristics relevant to institutional design. The concluding section summarizes the implications of this framework of analysis for the institutional models reviewed in subsequent sections.

2.2 CONCEPTUAL ELEMENTS OF INSTITUTIONAL DESIGN

This section describes several concepts that have important implications for institutional design. It examines the differences between: governmental and non-governmental functions; technical and political issues; power and influence; and centralization and decentralization. An understanding of how these distinctions influence the operation of institutions and the relationships between them provides a useful point of departure for designing interjurisdictional arrangements.

2.2.1 Governmental Versus Non-Governmental Responsibilities

The distinction between governmental and non-governmental responsibilities is central to understanding the capabilities and limitations of the various institutional arrangements that may be considered for an interjurisdictional river basin. Although there is currently much discussion of privatization, citizen empowerment, and public participation in decision-making, certain governmental functions cannot be easily transferred to, or shared with, non-governmental bodies. The rationale for governmental authority in these areas relates to the legal and institutional arrangements that underpin and constrain state action. This rationale, and its implications for the appropriate roles of government and non-governmental bodies, should be considered when designing river basin institutions.

The starting point for this distinction is the definition of governmental responsibilities. According to one commentator (Mann, 1993:55):

> "The classical definition of politics as the authoritative allocation of values appropriately describes the role of the state in sorting out values -- material or symbolic -- over which there are policy disputes and that are constitutionally subject to its will."

The role of government with respect to water resources has been described as controlling "overall exploitation and management of the resources for the benefit of society", undertaking programs, and providing public services (Frederiksen, 1992:14).

For the purposes of institutional design, core governmental responsibilities are those where government has a clear and distinctive claim to an exclusive or predominant role. These responsibilities include:

1. determination and protection of the public interest;

2. authoritative allocation of societal resources;

3. management of land and resources in the public domain; and

4. control of the means of coercion to impose its decisions on others.

The exercising of these responsibilities involves governmental activity in legislative, operational, and regulatory spheres (Frederiksen, 1992:5). In all of these areas, government actions may directly affect the rights and interests of individuals and organizations.

Once an institution affects the rights and interests of others through actions in one of these core areas of governmental responsibility (e.g. purporting to determine and protect the public interest), it will inevitably be faced with the question: "What right do *those* people have to do *this* to me?" Government has a series of answers to this question. For example, institutions of government

contain legal and democratic mechanisms to protect and take into account the legitimate interests of the people who are affected by decision making. The political, administrative and judicial components of the system are (or should be) designed to ensure that we know: who decision-makers are; how they got there; what is the basis for their authority to do whatever they are doing; what system of accountability are they subject to; and what means of political or legal recourse are available if one disagrees with their decisions.

When consideration is given to conferring "governmental" responsibilities on a non-governmental body, these issues become much more problematic. For example, the basis of authority or the lines of accountability of the non-governmental body may be unclear. The reluctance of government to share certain decision-making functions is therefore not simply a result of a desire to protect "turf" or maintain control. It also reflects the difficulties in conferring governmental responsibilities on other bodies that lack the political, legal, and institutional checks and balances that operate (however imperfectly, at times) to constrain government actions and confer legitimacy upon them.

There are, of course, activities currently undertaken by government that do not fall within this core set of governmental functions. These activities may be "privatized" or shared with non-governmental agencies without raising fundamental issues of institutional design. Nonetheless, important aspects of basin management involve core governmental responsibilities. In particular, basin management may involve significant societal choices which benefit certain groups and impose costs on others. If new institutions are intended to be significant actors in these areas, the political, legal, and institutional underpinnings of governmental authority must be taken into account.

The distinction between governmental and non-governmental responsibilities is particularly relevant when considering the role of non-governmental entities, such as multistakeholder groups, in decision-making. It also arises in the design of interjurisdictional bodies, whether composed of non-governmental participants, government representatives, or a combination of the two. Although dissatisfaction with government may give rise to proposals to allocate authority elsewhere, this reallocation cannot be easily achieved if core governmental responsibilities are involved.

It is therefore essential that the functions of proposed interjurisdictional institutions be clearly defined before institutional design in general, and the relationship with government in particular, can be settled. Institutions that are suitable for a broad range of other functions may be unsuited to a role that involves governmental responsibilities. Equally, governments that are willing to support a variety of basin-wide institutions may be very resistant to proposals that involve the exercise of core governmental responsibilities by non-governmental entities.

2.2.2 Technical Versus Political Issues

Institutional design should also pay close attention to the distinction between technical and political issues. This distinction is important because the composition of bodies and their relationship to political authorities will generally be closely related to the type of issues that they are intended to address.

Technical issues are illustrated by the administration of apportionment agreements, a function of interjurisdictional bodies such as the Prairie Provinces Water Board (discussed below in Section 3.3). This body consists of government representatives with water management responsibilities. It is an effective interjurisdictional institution in part because the legal and administrative framework within which it operates is relatively clear and its functions are not likely to raise contentious political issues. The central "political" issues of apportionment were dealt with in intergovernmental agreements, leaving to the Board the task of ensuring that water management in the basin conforms with the requirements specified in those agreements.

Interjurisdictional and other water management bodies are more likely to enjoy a measure of autonomy in the performance of governmental functions if their mandates are clearly defined and confined to technical issues. Once they become involved in more "political" questions, government agencies and politicians, who are ultimately accountable through legal or democratic mechanisms, are less likely to grant autonomy or cede authority to these bodies. In fact, technical bodies may be designed to transfer automatically any political issues that emerge and cannot be dealt with to the political realm by means of a reference to Ministers or, in some cases, adjudication.

Interjurisdictional bodies can sometimes serve a useful function by transforming potentially controversial "political" issues into technical questions that can be resolved without involving the political level of government. However, the ability of bodies comprised of technical water managers to address major interjurisdictional conflicts regarding water use is probably quite limited in most circumstances.

The distinction between technical and political issues has three important consequences for institutional design. First, membership should reflect the issues to be addressed. A technical body requires technical expertise, whereas a body concerned with political issues must pay greater attention to the representation of interests groups, citizens, and governments.

Second, the degree of autonomy from political involvement will be a function of the type of issues to be addressed. Once one moves into broader "management" functions and controversial issues, autonomy from the political system is much more difficult to achieve.

Finally, an arrangement that functions well for technical or non-controversial issues may find itself either paralysed internally or marginalized by other bodies if it attempts to address highly politicized issues, jurisdictional conflicts involving governments or government agencies, or the type of zero-sum conflicts that are typical of upstream-downstream relationships in river basins. For this reason, it may be necessary to redesign existing bodies if their mandates are to be changed significantly.

2.2.3 Power Versus Influence

The distinction between power and influence is important for two reasons. First, it frequently delimits the respective roles of governmental and non-governmental bodies in areas of core governmental responsibilities. Power in these areas usually rests with government and has a basis

in law, both statutory and constitutional. Through the political system and other means, however, non-governmental bodies can exert influence in a variety of ways. In areas of activity outside of core governmental responsibilities, power may more easily be shifted to, or shared with, non-governmental bodies or bodies having mixed governmental and non-governmental membership.

The second reason why this distinction is important is that it focuses attention on means of exerting influence. There are a number of ways that non-governmental bodies can influence decision-making. One way is through direct or indirect access to decision-makers. For example, if the membership of an interjurisdictional body includes key decision-makers who can implement the body's recommendations in their respective jurisdictions, the body's influence may be significant. Alternatively, the body have close formal or informal links with those exercising power, and thus may be able exert influence through indirect means. Finally, recommendations made by a body composed of respected individuals with high public profiles may be politically difficult to ignore.

Influence may also be a product of credibility. For example, an institution that brings together a broad range of stakeholders (as opposed to merely being a narrow interest group) and demonstrates the ability to shape politically acceptable compromises on important issues may be able to exercise significant influence. Credibility may also be achieved through the process by which the institution operates. Political decision-makers may find it difficult to ignore recommendations that are the result of an open and extensive process of public consultation and are made by a body which can claim to be representative or impartial.

The ability to participate effectively in public debate is also a means of exerting influence. Access to the public, either directly or through the media, can be an important tool. In addition, the ability to mobilize political and other resources can enhance influence. Access to information can itself be an important factor.

Finally, the ability either to facilitate or to impede the implementation of decisions can be a significant means of exerting influence. This approach is most applicable where the success of government programs requires co-operation on the part of those affected.

The ability to exert influence is a particularly important consideration for a body concerned with "management" or "planning" issues, where power is likely to be jealously guarded by governmental bodies. A multistakeholder body or public consultation process whose recommendations are systematically ignored by decision-makers is likely to have a short life. It may also produce considerable frustration and cynicism among participants, which may undermine subsequent attempts at consultation and consensus-building. In an interjurisdictional context where power may be fragmented among governments concerned primarily with their territorial interests, it is particularly important that the means of exerting influence be clearly thought out and incorporated into institutional design.

2.2.4 Centralization Versus Decentralization

Achieving a balance between centralization and decentralization is a challenge for all types of institutional arrangements. This issue is particularly significant in the area of water management, where the need for an ecosystem or basin-wide perspective must be weighed against the advantages of a more decentralized, community-based approach.

The centralization-decentralization debate has been described by one commentator on water institutions as follows (Guggenheim, 1992:21-22):

> "The main disadvantages of centralization are bureaucratic cumbersomeness and slow response. Its advantages are ease of coordination and the ability to provide for integrated development with internal human and material resources. Conversely, decentralized institutions can provide more flexibility and are usually more specialized. Their disadvantages can include poor coordination and redundancy among several different institutions working in a single area, and there is a tendency to delegate functions to institutions before they have the mandate, skills, or resources to manage them effectively...
>
> One difficulty in addressing decentralization is that it cannot be resolved on the basis of abstract first principles. Optimizing institutional integration depends on distributing functions to the most appropriate level. Certain functions, such as development of national policy and regulatory frameworks, can only be carried out at the national or state level. This is usually true where there are multiple claimants on water resources, and thus high-level interagency coordination is needed. Other functions, such as watershed management planning, are more effectively conducted at the regional or local level. Decentralization strategies must proceed on the basis of not only devolving responsibilities to regional and local organizations, but also conducting analysis and planning to ensure that organizations are capable of managing their incremental functions."

This analysis highlights two aspects of the centralization versus decentralization issue in the context of interjurisdictional basins. The first relates to integration in the sense of adopting a watershed perspective on issues. Clearly, the functions assigned to an interjurisdictional body should be those where this perspective is desirable; local or intrajurisdictional matters should generally be handled in a provincial, municipal or local forum.

The second aspect of the centralization-decentralization issue concerns segmentation versus integration of functions. Should an interjurisdictional (or basin-wide) body have a broad mandate, intended to bring together many facets of basin governance, or should its role be restricted to specific functions? Here again, there is no universally applicable rule. However, to the extent that different functions require different institutional underpinnings, it may be difficult to accomplish them using a single body.

In sum, although a comprehensive or basin-wide approach to management has obvious advantages, it does not follow that a centralized approach is always desirable. Institutional design should not ignore the advantages of decentralization in certain circumstances. Not all issues are best addressed from a basin-wide perspective, and it is unlikely that a single interjurisdictional institution will be suited to all functions for which a basin-wide approach is desirable.

2.2.5 Summary of Conceptual Elements

A realistic appraisal of the issues discussed above is necessary if interjurisdictional institutional arrangements are to achieve the intended objectives. Whether or not a body's mandate extends to core governmental responsibilities will have important implications for its composition and relationship to existing institutions. Equally, a very different approach may be required depending on whether it will confront technical or political issues. Whatever its mandate, means of exercising power or exerting influence should be clearly understood if it is to have an impact on water management decisions. Finally, the tension between centralization and decentralization must be reconciled in any new water management institution having an interjurisdictional focus.

2.3 SPECIFIC QUESTIONS FOR INSTITUTIONAL DESIGN

In addition to the broader conceptual issues discussed in the previous section, a number of more specific questions can be formulated to guide institutional design. These questions identify the principal issues to be addressed and provide a road-map for establishing new institutional arrangements. The answers to these questions will define the relationship of institutions to both broad policy objectives and to field-level conditions (including other institutional arrangements).

The following list sets out the main questions that should be answered:

1. What need is the institution intended to meet and what is its specific purpose?

2. How are the guiding principles, specific mandate, and operational procedures to be established?

3. What people and agencies must agree to participate if the institution is to operate successfully?

4. Are these people and agencies willing to participate?

5. What is the procedure for determining membership?

6. What means will ensure accountability between the people involved and those (if any) who they purport to represent?

7. What is the relationship between the institution and the political authorities?

8. Is there any potential overlap in responsibilities or duplication of functions with other agencies or organizations? If so, how will they be addressed?

9. Is the distinction between power and influence clear in the design of the body?

10. Are the means of exercising of power, and the limitations placed upon it, clearly defined?

11. Are the means of exerting influence well understood by the participants?

12. What are the procedures for decision-making?

13. Are the consequences of a failure to reach a decision recognized and taken into account?

14. Is the appropriate degree of transparency in operations and openness to public scrutiny ensured?

15. Are the necessary human and financial resources available?

There are undoubtedly other questions that could be asked during the course of institutional design. To some extent, the appropriate questions will be a function of the purpose or need specified in response to the first question.

Answers to some of these questions may emerge from the findings and recommendations of the Northern River Basins Study (NRBS) or as a result of public expectations generated within the region as a result of the NRBS process. NRBS Board members and others may also draw upon their personal experiences and their visions for the region. Extensive consultations with stakeholders and discussions among governments and other existing institutions may be necessary to resolve certain issues. However these questions are addressed, a decision path of this type will be necessary to determine what type of interjurisdictional institutional arrangements are best suited to the Northern River Basins.

2.4 PURPOSES AND FUNCTIONS FOR INTERJURISDICTIONAL BASIN INSTITUTIONS

Deciding on the purposes to be achieved by interjurisdictional institutions and the functions that they should perform is the first step in institutional design. Interviews conducted with selected individuals involved in the NRBS (see Appendix B) revealed a wide range of views regarding the appropriate role for an interjurisdictional body in the Northern River Basins. This section discusses briefly the principal purposes and functions for such a body and comments on their implications for institutional design.

2.4.1 Intergovernmental or Interagency Co-operation

Improving intergovernmental or interagency co-operation is perhaps the quintessential "interjurisdictional" issue for basin management. It is also, in some respects, one of the most intractable problems. In a review of international arrangements, one commentator notes that "the logistical problems river basin planners face are institutionally daunting" because few existing local, regional, and national institutions are willing to cede the authority necessary for an interjurisdictional body to function as an effective coordinator (Guggenheim, 1992:23). Establishing a framework for co-operation among agencies may be a more attainable objective than the creation of an interjurisdictional body, separate from these agencies, with responsibility for ensuring coordination.

Intergovernmental co-operation can occur at four different levels. The first is interagency coordination on technical matters. This area is primarily the concern of water managers. Second, co-operation could involve harmonization of regulations and adoption of commonly accepted standards for water quality and quantity. Third, governments could work together to develop general principles for water management in the basin. Finally, a truly integrated approach to basin management could be adopted.

The objective of intergovernmental or interagency co-operation has certain implications for institutional design. Most obviously, full support of governments is essential. In addition, membership in the coordinating body must be primarily, if not exclusively, governmental. Stakeholders may also participate in an oversight or advisory capacity, particularly if the focus is establishing general principles for basin management. The essence of intergovernmental coordination, however, must take place between governments. Furthermore, where the issues are technical, a body made up of hands-on water managers may be most appropriate.

2.4.2 Intergovernmental Dispute Resolution

Dispute resolution is a perennial problem in interjurisdictional watersheds because developments in an upstream jurisdiction may have significant impacts on water quality or quantity downstream. Interjurisdictional bodies can contribute to resolving (or preventing) disputes in a number of ways, ranging from facilitating communication to providing a forum for adjudication.

At one end of the spectrum is the establishment of institutional mechanisms for exchanging information, providing notice of proposed developments in the watershed, and facilitating discussions on contentious issues. Simply establishing ongoing contacts between water managers in different jurisdictions may help to avoid or resolve disputes. A credible source of information on conditions in the basin may also assist in resolving disputes. Providing for the participation of jurisdictions that may be affected by upstream activities or projects in the environmental assessment or licensing processes may also contribute to resolving contentious issues.

Interjurisdictional bodies can, however, play a more active role in resolving disputes. For example, they can conduct studies of the factual conditions underlying a dispute or recommend terms of settlement to the parties. In the context of a basin-wide intergovernmental agreement, an interjurisdictional body can investigate complains by one party that another is not complying with its obligations. Finally, interjurisdictional bodies can be given an adjudication role in disputes between governments. For example, a panel may be convened to hear arguments and issue a decision.

Canadian governments, however, have generally been reluctant to include binding dispute resolution mechanisms in intergovernmental agreements. While the referral of disputes to the Federal Court of Canada has occasionally been provided for, many agreements either ignore dispute resolution altogether or specify that issues that cannot be resolved by officials should be referred to the ministers (Blackman, 1993).

In the context of interjurisdictional waters, the incentives for dispute resolution are particularly weak. The Supreme Court of Canada does not have an inherent jurisdiction to settle interprovincial disputes and the federal government has not exercised its full constitutional authority with respect to transboundary waters. This situation may be contrasted with the United States, where both the U.S. Supreme Court and the federal government have major roles in resolving interstate water issues. The possibility of an unfavourable resolution of interjurisdictional water conflicts by Congress or the courts is an incentive for intergovernmental negotiation (McCormick, 1994). The absence of an effective forum for adjudicating transboundary water issues in Canada means that parties are less likely to agree on formal dispute resolution mechanisms among themselves. Without the threat of an externally imposed solution, upstream jurisdictions have little reason to agree to a dispute resolution process that could restrict their activities. Federal action or the effective use of litigation may be required to create an incentive structure conducive to agreement in this area.

In terms of institutional design, there are many ways that an interjurisdictional body could improve intergovernmental communications and perhaps contribute to dispute avoidance. However, relatively few precedents exist for a binding procedure to resolve transboundary water disputes between provinces (or provinces and territories). Resolving interjurisdictional conflicts in a transboundary watershed is a matter over which governments are unlikely to be willing to cede control to non-governmental bodies. Consequently, institutional arrangements involved in this area will probably be intergovernmental rather than multistakeholder in nature.

2.4.3 Oversight or Watchdog Function Regarding Basin Management

An oversight or watchdog body could play a significant role in interjurisdictional basins. Its mandate could extend to basin management as a whole, or it could be restricted to more specialized areas of concern. For example, it could monitor compliance with basin-wide management principles. Alternatively, its role could involve overseeing the implementation of an intergovernmental agreement that establishes the rights and obligations of the various governments and provides

procedures for consultation and dispute resolution. The oversight function could also be combined with an advisory role, providing input to government on water management issues.

A report prepared for the World Bank on principles and practices used in water resources institutions describes these institutions as follows (Frederiksen, 1992:19-20):

> "Participation of non-governmental individuals in advice and oversight roles is a tradition in the water resources sector. Beneficiaries serve on agency boards; experts serve on technical committees; and public figures serve on policy and oversight commissions. The latter is particularly effective concerning regulatory and resources allocation matters. They provide a timely reaction from an outside perspective. Greater public understanding and support of government actions are an important result...
>
> Countries would be wise to adopt the principle of external oversight. It should evolve a means for non-governmental oversight, assuring that all segments are represented: recognized community leaders, advocacy and the professions. This principle could begin at the national and regional levels with technical advisory committees and oversight commissions in the policy, planning and regulatory areas. It should be encouraged at the local level in planning, enforcement and operations. And at every level, an ongoing public education program should engage the public in discussion and gain their support for the adopted programs."

A fundamental principle of institutional design is that regulatory and operational functions should be kept separate (Frederiksen, 1992:17). Otherwise, the potential for conflict of interest is clear, and incentives to bend regulatory requirements in order to attain operational objectives may undermine regulatory efficiency. The same principle could be applied to the monitoring or watchdog function regarding basin management. Arguably, this function should be separated from those having operational responsibility for basin management.

The principle that operational and oversight responsibilities should not be conferred on the same people has important implications for the composition of watchdog institutions and distinguishes them from other possible institutional arrangements. This point can be illustrated with reference to the intergovernmental or interagency coordination function discussed above. Interagency coordination in an interjurisdictional basin requires an institutional arrangement where agencies are directly and actively involved. While stakeholders may have a role to play, the key to coordination is the participation of those with operational responsibilities for basin management. In contrast, it is doubtful that a body dominated by agency representatives could function effectively as a watchdog over basin management. For this role, a measure of independence from those with operational responsibilities is essential. In fact, one could imagine a watchdog body composed entirely of stakeholders and non-governmental bodies.

A measure of independence from government is therefore essential for an effective watchdog function. This independence could be achieved by appointing an independent commission, a model discussed below in Section 4. Another institutional alternative is for a multistakeholder body to

undertake a watchdog function. Whatever approach is taken, the body will need to have some means of exerting influence if it is to be effective.

2.4.4 Multistakeholder Input on Basin Management Issues

An interjurisdictional institutional arrangement could function as a multistakeholder forum for problem identification and resolution, conflict resolution, the provision of advice to governments, etc. One purpose may simply be to bring stakeholders together so that they can better understand their respective interests. The development of personal contacts improves lines of communication between individuals, stakeholder groups and government agencies, can contribute to conflict avoidance and resolution, and can foster a co-operative approach to basin issues. A more ambitious agenda for a multistakeholder forum would be the development of guiding principles or specific policy recommendations for basin management.

To function effectively, a body of this type must include representatives from a broad range of interests. An agreed purpose or mandate is also necessary; without focus the interest and energy of participants is unlikely to be sustained. Furthermore, a reasonable likelihood that the recommendations of the body will be taken seriously by decision-makers is essential. People will be reluctant to commit time if there is little prospect of a tangible outcome (although, as noted above, the process itself can have intangible benefits). The setting of attainable objectives is another key to success.

Multistakeholder forums will require financial and other resources. The extent of these needs will depend on the logistics of meetings and on the functions to be performed. Funding could come from government or from the stakeholders themselves. Outside sources of funding (e.g. research grants) may be available to support some activities.

2.4.5 Direction and Coordination of Research

The NRBS has extensive experience with the initiation and coordination of research in an interjurisdictional context. Interviews conducted during the preparation of this report indicated considerable satisfaction with the research activities on the part of many individuals involved in the NRBS. If this function is to be carried on by a new interjurisdictional body, the NRBS experience is clearly the appropriate starting point for institutional design. NRBS board members and others involved in the study are in the best position to draw lessons from this experience.

Several general points regarding institutional design can, however, be underlined. In reviewing the experience in the Fraser Basin, Dorcey suggested two approaches for improving the contribution of research to basin management (Dorcey, 1987:506): "(1) experimentation with processes for setting research priorities in the regions and (2) development of interaction skills of researchers and managers." Institutional arrangements, therefore, should be designed both to identify research issues and to ensure that research findings are transmitted to, and have an impact on, water managers. In

fact, the NRBS experience shows how an interjurisdictional body can provide an institutional link between scientists, stakeholder organizations, the public at large, and water managers.

If a body is to play this role, representatives of all four groups must be supportive of the objective and represented at the table. Efforts will have to be made to facilitate communication and ensure that all parties have access to the information they need to contribute meaningfully to the process. A related issue is whether the body should have autonomous research capacity, as opposed to merely recommending research directions to scientists and agencies. The answer to this question will depend in large measure on the adequacy of existing research capabilities and the availability of resources for new initiatives. Autonomous research capacity will give the agency more direct power over the research agenda, and may increase its ability to assess research conducted by others. However, costs may be significant and there may be a risk of duplicating functions already performed elsewhere.

In the area of traditional knowledge, research activities have an important cultural component. The involvement First Nations, perhaps following the model of "participatory action research", is therefore essential for any body that is active in this area. The incorporation of traditional knowledge into the research agenda of a basin-wide body provides an opportunity to establish greater links between the scientific and traditional approaches to understanding basin issues. Institutional arrangements that are designed to include stakeholders, First Nations, scientists and government officials may be able to foster these links.

2.4.6 Information Collection and Dissemination

A more restricted role for an interjurisdictional body may be the collection and dissemination of information regarding the basin. At a minimum, the organization could function as an information clearing-house, directing inquiries to appropriate sources. An interjurisdictional body could also develop a basin-wide data base, and perhaps serve as an independent and credible source of information on the condition of the aquatic ecosystem. A public education function could also be added to this mandate. These functions would require a small secretariat, perhaps overseen by a body of technical experts and stakeholders. The focus would be on technical rather than political issues.

2.5 CONCLUSION

The fundamentals of institutional design reviewed in this section highlight a series of issues that should be addressed when formulating recommendations for a new interjurisdictional body for the Northern River Basins. Systematic attention to the conceptual elements of institutional design and the specific questions listed in Section 2.3 will provide a basic decision path for ensuring that proposed institutional arrangements are tailored to their specific contexts. The purposes and functions of the new institutions should also be specified. Since each institutional option has its

distinctive strengths and limitations, clarity at the conceptual level and attention to detail are both required if institutional arrangements are to be successful in achieving their objectives.

3.0 THE INTERGOVERNMENTAL MODEL

3.1 INTRODUCTION

This section of the report examines the intergovernmental model for interjurisdictional river basin institutions. It begins with a discussion of the general characteristics of this model. A series of case studies is then presented. These case studies include the principal Canadian examples of the intergovernmental model: the Prairie Provinces Water Board, the Ottawa River Regulation Planning Board, and the Mackenzie River Basin Board. The general experience with interstate compacts in the United States is also briefly discussed, and the Northwest Power Planning Council is described.

3.2 CHARACTERISTICS OF THE MODEL

There is a long history of interjurisdictional co-operation in Canada in a number of river basins (Saunders, 1988). In many cases, this co-operation has followed the intergovernmental model. These water management bodies are created by the executive branches of government and are generally established through negotiations culminating in an intergovernmental agreement. These negotiations are conducted between governmental officials, traditionally with no direct public involvement and little opportunity for public input. Some intergovernmental agreements in Canada, however, have been made available in draft form for public comment.

The operation of these institutions is a reflection of their origins. Their mandates reflect the policies, priorities (and sensitivities) of the governments involved. In general, their responsibilities relate to implementation of their respective intergovernmental agreements and ensuring coordination among water managers. Membership in these bodies has generally been restricted to nominees of the parties, usually government officials.

The Mackenzie River Basin Board, however, is an exception in terms of membership. In this case, provision was made for the representation of aboriginal peoples on the Board (although First Nations are not parties to the *Mackenzie River Basin Transboundary Waters Master Agreement*). This development reflects the emerging concept of aboriginal self-government and the claims by First Nations that they should be dealt with by federal and provincial authorities on a government-to-government basis, rather than being viewed simply as another stakeholder group. The accommodation of First Nations is likely to be one of the principal challenges to the intergovernmental model in the future.

Canadian intergovernmental water institutions have tended to have fairly specific mandates and have focused on technical rather than political issues. This focus, in combination with a membership consisting primarily of government officials with water management responsibilities, makes them well suited to interagency co-operation and the coordination of monitoring, data collection, hydrologic forecasting, and other technical functions. As such, they can make a significant contribution to improving watershed management. They may also be able to diffuse potential intergovernmental conflicts by transforming them into technical issues. The development of long-

term working relationships among water managers from the parties undoubtedly contributes to their effectiveness. These contacts may also facilitate the continuing evolution of interjurisdictional co-operation in water management.

Although they may have some dispute resolution functions, these bodies generally do not act as independent arbiters between governments. In terms of the details of basin management, their mandates appear to be designed to avoid intruding on matters considered by the parties to involve internal water management.

The intergovernmental model has not generally been used in Canada as a forum for public debate regarding basin issues. Furthermore, formal consultation with stakeholders has not been a significant part of its functions. It might be argued that the restricted and technical mandates of these bodies makes stakeholder involvement less important than would be the case if they exercised greater direct management functions or concerned themselves with more political issues. It is also possible that direct stakeholder participation would erode the collegial intergovernmental atmosphere which, in certain respects, has contributed to their success. There is no reason in principle, however, why they could not undertake consultative processes and incorporate stakeholder input into some of their activities.

3.3 PRAIRIE PROVINCES WATER BOARD

The success of the Prairie Provinces Water Board (PPWB) is frequently cited amongst water managers in Western Canada. This general satisfaction was reflected in the fact that during the negotiations on an arrangement for the Mackenzie Basin, the PPWB was often looked to as a model that might be used (Barton, 1984). Indeed, as will be shown below in Section 3.5, there is much in the approach to the Mackenzie that still bears the imprint of the PPWB experience.

The PPWB was originally created in 1948, and was reconstituted on 30 October 1969. It was established pursuant to the *Master Agreement on Apportionment*, an intergovernmental agreement between Canada and the three prairie provinces. The governing Board is composed of representatives of these governments, and there is no provision in the agreement for formal representation by other stakeholders. In practice the Board members are invariably senior water managers from the respective governments. The day-to-day operations of the PPWB are carried out by an Executive Director and, until recently, a small secretariat, the operations of which were jointly financed by the participating governments. In 1995, the support functions for the PPWB became the responsibility of Environment Canada.

Direction to the secretariat is provided by work plans approved by the Board. It is supported by three standing committees, with responsibilities in the areas of hydrology, water quality, and ground water. These specialized committees are concerned with monitoring and the collection, compilation and interpretation of data in their respective areas of competence. They may also provide reports and recommendations regarding basin-wide planning and water management issues.

A crucial feature of the PPWB is that it was created with a narrow mandate, which was essentially to administer the *Master Agreement on Apportionment* for eastward-flowing prairie waters. This Agreement establishes the basic structure of the apportionment system, with the details contained in separate agreements that are appended as schedules. These schedules set out the terms of apportionment of the relevant waters, as agreed to in bilateral agreements. The *Prairie Provinces Water Board Agreement* establishes the Board itself and describes its composition and functions.

The Board's functions are primarily recommendatory in nature. The most important of these functions is to oversee the undertakings on apportionment. From the beginning, however, the PPWB has had a wider role in making recommendations on other issues such as water quality. Its specific duties include: the review, collation and analysis of streamflow data and the preparation of reports and recommendations; the review of water quality problems and the recommendation of management approaches for their resolution; the development of recommendations on water matters referred to the Board by a party to the agreement; the promotion of integrated development of water resources in interprovincial streams through consultation and exchange of information; and the coordination of the water quality and quantity monitoring and streamflow forecasting required for the effective apportionment of water. The 1992 *Agreement on Water Quality*, included as Schedule E to the *Master Agreement*, confers a roughly equivalent set of duties on the Board in the area of water quality.

The Board's success in meeting its goals is arguably related to its relatively narrow and technical mandate and its reliance on the involvement of water professionals who have established good working relationships over the years. Moreover, by phrasing both the water quantity and, subsequently, water quality obligations in terms of water flows at provincial borders, it has been possible to avert many of the sensitivities that might arise were the Board to assert jurisdiction over the internal management of waters within the provinces. Indeed, such an assertion would almost certainly have made the initial agreement impossible. A key to the success of the PPWB is that its role is restricted to making general recommendations, leaving each party to work out the details of water management within its territory (Barton, 1986). Intrusion on provincial jurisdiction is thus minimized. In fact, Barton (1986:249) has concluded that this approach "seems to be a *sine qua non* for any progress between Canadian provinces on water issues, even at the expense of unified administration and maximized national benefits."

It might be argued that the success of the PPWB has come at a price. To some degree, the strengths of the Board described above are also its weaknesses. The Board has not taken on the functions of a planning commission that would look more broadly at basin-wide issues; this function has been reserved to the respective provincial governments. Perhaps because the PPWB has concentrated its focus on obligations at the border, it has also followed that there has not been a significant role for public involvement in the work of the Board; again, the interface with the public has been viewed as falling within the purview of the respective governments. It perhaps goes without saying that more modern, ecosystem approaches to river basin planning have traditionally not proved of much direct relevance to the Board's mandate, since the Board would not be in a position to act on them in any significant way. The 1992 *Agreement on Water Quality* (Schedule E to the *Master Agreement on Apportionment*), however, directs the PPWB to promote "through consultation and the exchange

of information a preventive and proactive ecosystem approach to interprovincial water quality management" (s. 8.(e)).

The above description of the Board and its functions supports a conclusion reached in the background document, *A Review of Existing Mechanisms for Basin Management* (hereinafter referred to as *Review*), prepared for the NRBS by the Planning Division of Alberta Environmental Protection in 1994. That document suggests that the Board does not seem a likely model for co-operation of the sort anticipated by the NRBS. Most obviously, a significant and formalized role for stakeholder involvement outside government is lacking. Secondly, the Board's narrow mandate, which in many ways dictates the nature of the Board, would not seem to meet many of concerns that are likely to arise out of the NRBS. Third, the establishment of the Mackenzie River Basin Board, discussed below in Section 3.5, might make another body modelled on the PPWB redundant.

The PPWB is useful as a model, however, insofar as it shows both the strengths and limitations of an intergovernmental (or interagency) body. In terms of its specific objectives, the PPWB has been a success. In a context where stakeholders may expect some direct involvement in water management institutions, however, the PPWB's limitations are clear. The PPWB also illustrates the value of a secretariat in providing continuity in the operation of the Board and in coordinating the activities of the various working committees. The PPWB experience shows that the secretariat, to be effective, need not be large or costly -- an issue that will certainly be of some consequence for any institution that flows from the NRBS.

3.4 OTTAWA RIVER REGULATION PLANNING BOARD

The Ottawa River Regulation Planning Board (ORRPB) is interesting as an example of a small board with a narrow mandate (Saunders, 1988; Nix, 1987). The focus of interjurisdictional co-operation on the Ottawa River is an attempt to balance the benefits of hydroelectric development with concerns over flooding, especially in the spring. This necessarily involves co-operation among the four operators of reservoirs in the basin: the federal Department of Public Works, the Quebec Ministry of the Environment and the two provincial electrical utilities -- Hydro-Québec and Ontario Hydro.

The successor to the Ottawa River Regulating Committee, the ORRPB was established by a 1983 intergovernmental agreement between Canada, Ontario and Quebec. However, the actual membership on the Board includes representation from seven federal and provincial agencies with an interest in the basin, including the four reservoir operators noted above. The main objectives of the Board are (Nix, 1987:187):

> "to formulate regulation policies and criteria leading to integrated management of the principal reservoirs of the Ottawa River basin; and
>
> through integrated management, to provide protection against flooding along the Ottawa River and its tributaries and particularly in the Montreal region and, at the

same time, maintain the interests of the various users, particularly hydroelectric production."

The Board also has responsibility for reviewing regulation policies, recommending to ministers significant changes in facilities or operations, establishing liaison at the policy and operating levels with the International St. Lawrence River Board of Control, and overseeing the secretariat.

The central concern of reservoir management is dealt with primarily by a committee of the Board, the Ottawa River Regulating Committee, whose membership consists of representatives of the four reservoir operators. The main objective of the Committee is (Nix, 1987:187):

> "to formulate appropriate regulation and operational practices and procedures to ensure that the operations of the principal reservoirs are carried out in accordance with the regulation policies and criteria adopted by the Board."

Decisions by both the Board and the Committee are taken on the basis of unanimity, with any disputes that cannot be resolved being referred to the responsible ministers for a decision.

The Board operates with the assistance of a small secretariat located in the offices of Environment Canada in Hull. The secretariat has engineering expertise and its duties are (Nix, 1987:187):

- to act as the executive arm of the Board;
- to report and forecast on hydrologic conditions in the Ottawa River basin;
- to develop and operate mathematical models to carry out the mandate of the Board; and
- to issue information to the public and government organizations.

In carrying out the latter function, a brochure entitled "Managing the Waters of the Ottawa River" was produced and widely distributed. Furthermore, a toll-free automated telephone service provides residents with up-to-date information on flows and levels during the spring flood period.

The ORRPB is an example of a small, focused Board, which involves not only government departments, but also provincial Crown corporations. In the event that either of the latter were to be privatized, one assumes that the representation on the Board would nevertheless continue. While this participation by hydro utilities can in some sense be thought of as "stakeholder involvement", there is clearly little room for participation by a broader range of interests in the Board's activities. However, this limitation would presumably be justified on the basis that the activities of the Board are primarily of a technical nature.

In terms of relevance to the NRBS, the ORRPB experience serves primarily to illustrate the reliance of a river basin management board with a narrow and technical focus on a small core of professional water managers from relevant departments or agencies. An obvious similarity is that

issues of reservoir management, and the balance between hydroelectric production and other interests, are important in the Northern River Basins. However, the context differs in that the Ottawa River constitutes an interprovincial boundary, whereas jurisdictions in the Northern River Basins have upstream-downstream relationships. More generally, the ORRPB approach may not be particularly useful in addressing issues affecting a wide range of stakeholders, as may be required for an interjurisdictional body in the Peace-Athabasca-Slave Basins.

3.5 MACKENZIE RIVER BASIN BOARD

The proposed Mackenzie River Basin Board (MRBB), as set out in the *Mackenzie River Basin Transboundary Waters Master Agreement*, is clearly influenced by the experience of the PPWB. In its inclusion of aboriginal representation, however, the MRBB has moved beyond the PPWB. The *Master Agreement* has been approved by officials of the governments of Canada, Alberta, British Columbia, Saskatchewan, the Northwest Territories and the Yukon and is currently being circulated for signature. Its three-fold purpose is: "to establish common principles for the co-operative management of the Aquatic Ecosystem of the Mackenzie River Basin, to establish an administrative mechanism to facilitate application of these principles, and to make provisions for Bilateral Water Management Agreements."

The reference to bilateral water management agreements reflects the approach taken with the PPWB. While the *Master Agreement* sets out general principles for basin management and establishes the administrative structure in the form of a Board and a secretariat, the substance of the obligations will be found in the bilateral agreements that are to be negotiated separately between the parties.

The general commitment in the *Master Agreement* to such principles as "maintenance of the Ecological Integrity of the Aquatic Ecosystem", sustainable use, no unreasonable harm to other jurisdictions, consultation, notification and sharing of information, and "[r]esolving issues in a co-operative and harmonious manner" reflects many of the major themes and principles of modern transboundary water management as developed in international law. However, as is the case in many international instruments, there is little in the way of enforcement powers to back these general commitments in the *Master Agreement*. In particular, the functions of the Board under the *Master Agreement* are essentially to monitor and review the progress of implementation of the bilateral agreements and to study and make recommendations with respect to water quantity and quality issues.

While the Board also has a role to play in resolving disputes, it does not have the authority to issue binding decisions in this respect. Disputes may be referred to the Board by a Board member or a party to a bilateral water management agreement. The Board's role is to recommend terms of settlement to the parties. Before doing so, it may undertake studies, prepare a report on the facts and circumstances of the dispute, or establish a panel to prepare a report and recommend terms of settlement to the parties. If the dispute is not resolved in this way, it may be referred to the ministers of the affected jurisdictions.

One important limitation on the Board's role, which reflects the approach of the PPWB as discussed earlier, is suggested by the preamble to the *Master Agreement*. The preamble notes that "cooperative management agreements are the most appropriate means of addressing interjurisdictional water quality, quantity and related issues *at boundary crossing points*" [emphasis added]. Despite the broad references to the ecosystemic integrity in the *Master Agreement*, it appears that the real concern of the MRBB will be with the interjurisdictional effects. Its focus is the quality and quantity of the water that is passed on to the downstream jurisdiction, rather than the details of managing the basin ecosystem as a whole. This focus on transboundary standards is in keeping with the principle of minimal intrusion into provincial water management jurisdiction.

As noted above, the MRBB does go beyond the PPWB in the area of representation. Although the *Master Agreement* is purely intergovernmental in terms of its parties, there is formal provision for aboriginal involvement in its implementation through the presence on the MRBB of five aboriginal members (one from each territory and province) out of a total membership of 13. Since Board decisions require a two-thirds majority, aboriginal organizations have a veto power on Board decisions (assuming of course that the aboriginal members were in agreement). However, given the relatively weak mandate of the Board, this power may not prove important. More significantly, perhaps, the provision for aboriginal representation is in some sense an "add-on" to the *Master Agreement*, rather than an integrated attempt to foster stakeholder involvement; such representation was not provided in earlier drafts. The inclusion of aboriginal representatives arguably acknowledges the significance of First Nations in the Mackenzie River Basin. Although not parties to the agreement, they are more than simply stakeholders. Attention to the concerns of First Nations is also reflected in the provision that the *Master Agreement* "shall [not] be interpreted in a manner inconsistent with the exercise of any existing Aboriginal and Treaty rights". Furthermore, the MRBB is directed to consider "the needs and concerns of Aboriginal people through (i) the provision of culturally appropriate communication, and (ii) the incorporation of their traditional knowledge and values".

Despite these provisions, the MRBB cannot be considered a significant advance beyond the PPWB in its general approach to stakeholder involvement. It is still primarily an intergovernmental arrangement. While First Nations may be edging closer towards governmental status, there is no formal inclusion of other stakeholders.

There are serious questions, then, as to whether it is suitable to foster the multistakeholder involvement that may be anticipated in light of the NRBS experience. In addition, the *Master Agreement* and MRBB structure may take formal intergovernmental co-operation within the basin as far as governments are prepared to go at this time. In that event, an intergovernmental body restricted to the Northern River Basins area would likely replicate the MRBB on a smaller scale, without yielding any improvement in water management.

The background *Review* prepared by Alberta Environmental Protection suggested that the MRBB might be refined to meet the needs of the NRBS by including such elements as: additional membership for other stakeholders; creation of a stakeholders advisory committee; and requirements for public meetings and consultations. While these measures would certainly increase the

involvement of stakeholders in the MRBB, it is still not clear that they would satisfy the institutional needs emerging from the NRBS. Modification of the *Master Agreement* may also be difficult or impossible at this point in time. Assuming that the *Master Agreement* is ratified and the MRBB comes into existence, it may be more constructive to establish a body that complements the MRBB's intergovernmental role and meets the specific needs identified by the NRBS.

In fact, an opportunity may exist to integrate new bodies within the framework established by the *Master Agreement*. Even if the *Master Agreement* cannot be re-opened to address specific concerns coming out of the NRBS, the mechanism of bilateral agreements could provide a means of increasing public involvement and creating bodies with a broader range of functions. Alternatively, a new body could be created to provide recommendations to the MRBB or serve a watchdog function regarding its implementation.

3.6 INTERSTATE COMPACTS IN THE UNITED STATES

The United States has far more experience in domestic interjurisdictional water management than any other nation. This is largely because the United States has seen more interstate disputes over both water quantity and quality. These disputes have been settled in one of three ways: through litigation in the United States Supreme Court, through apportionment by the United States Congress, or through interstate (or federal/interstate) compacts. Although the interest in this report is in the last of these, the first two methods of dispute resolution provide an important context that distinguishes the U.S. experience with compacts from that in Canada.

The possibility of imposed settlements by either the Supreme Court or Congress is rooted in constitutional peculiarities that are unique to the United States (McCormick, 1994). These factors have two important consequences for interjurisdictional water management. First, as the result of extensive litigation, the United States has developed certain principles of interstate law rooted in equitable use and apportionment that are now commonly accepted. No such similar consensus on the applicable legal principles for interjurisdictional water management exists in Canada. Secondly, in the event of interjurisdictional disputes, parties know that there is always the possibility of compulsory settlement by either the Supreme Court or Congress if negotiations on a compact fail. In contrast, the likelihood of either the Supreme Court of Canada or the federal Parliament imposing a settlement is remote in Canada. Consequently, the incentive to negotiate in the Canadian context is weak.

The possibility of entering binding agreements that are enforceable through litigation if necessary also makes the United States experience with interstate agreements fundamentally different from that in Canada. It should be noted, however, that the overwhelming weight of practice in Canada is that interjurisdictional water agreements are complied with once entered into. Nevertheless, this may be partly because the obligations in these agreements are not as onerous as is the case in the United States.

As a result of these differences, U.S. interstate compacts are of limited value as legal models for Canada. Some of the more recent examples, such as the Delaware compact, are interesting for the broad regulatory and licensing powers given to commissions and for their involvement of the public in commission decisions (Sherk, 1994). It is doubtful, however, that such strong powers would be acceptable to the governments that are involved in any interjurisdictional institution in the Northern River Basins.

The United States experience is most instructive in illustrating how constitutional factors, notably the role of Congress and the U.S. Supreme Court, can affect the creation of interjurisdictional water management institutions. The practical experience with interjurisdictional river basin bodies following the intergovernmental model is, however, also of interest. The following section describes one of these bodies.

3.7 NORTHWEST POWER PLANNING COUNCIL

The Northwest Power Planning Council (NPPC) is an interstate compact which was created by the *Northwest Electric Power Planning and Conservation Act* in December of 1980 (Hemmingway, 1983). The NPPC is an eight member body consisting of two representatives from each of Idaho, Montana, Oregon and Washington.

The mandate of the NPPC, as spelled out in the Act, is to: (1) develop a plan to meet the electric energy needs of the Pacific Northwest in an efficient and conservation-minded manner; (2) develop a plan to protect, mitigate and enhance the fish and wildlife, including related spawning grounds and habitat, of the Columbia River and its tributaries, particularly anadromous fish; and (3) provide for the participation and consultation of the Pacific Northwest States, local governments, consumers, customers, users of the Columbia River System (including Federal and State fish and wildlife agencies and appropriate Indian tribes), and the public at large within the region.

The plans developed by the NPPC are to be implemented by federal agencies. The Bonneville Power Administration (BPA), an arm of the U.S. Department of Energy, must provide funds and use its authority to protect fish and wildlife in a manner consistent with the NPPC Fish and Wildlife Program. The BPA also implements the NPPC Power Plan; for example, energy resources acquired by the BPA must be consistent with the plan and major acquisitions are subject to NPPC review. The NPPC is funded through the BPA, and these expenses are included in the calculation of the BPA's revenue requirements, i.e., the NPPC is funded by rates paid by local consumers.

The Federal Energy Regulatory Commission (FERC), the Army Corps of Engineers, the Bureau of Reclamation and other federal regulatory agencies involved in hydropower in the region are charged by the Act to take the Fish and Wildlife Program into account at each stage of the decision making process to the fullest extent possible. FERC must also consider the Power Plan in its licensing process. Based on the language of the Act, it is clear that the NPPC can guide, but does not control, federal river management.

As mentioned above, the NPPC's mandate includes extensive provisions regarding stakeholder input and involvement in the process. For example, in developing, reviewing and amending the fish and wildlife plan, the NPPC must request recommendations from Federal and State fish and wildlife agencies and Indian tribes. Federal and regional water management agencies, electric power producing agencies, customers and the public may also submit recommendations. All recommendations must be accompanied by detailed supporting information and data. The NPPC must then give notice of all recommendations and make them available for public review and duplication; it must also provide for public participation and comment on the recommendations, including an opportunity for oral and written comments. If the NPPC does not adopt the recommendations of the fish and wildlife agencies and Indian tribes, it must explain in writing that adoption of those recommendations would be inconsistent with the standards for the fish and wildlife plan set out in the Act or that they would be less effective than the measures adopted by the NPPC in protection, mitigation and enhancement of fish and wildlife. These provisions illustrate how an essentially intergovernmental body can incorporate stakeholder input.

The Act also mandates that the NPPC must establish a voluntary scientific and statistical advisory committee to assist in the development, collection, and evaluation of such statistical, biological, economic, social, environmental, and other scientific information as is relevant to the Council's development and amendment of the regional conservation and electric power plan. The NPPC may also establish other voluntary advisory committees as it determines necessary or appropriate. Members or advisory committees are, to the extent feasible, to include representatives of, and seek the advice of, the Federal and the various regional State, local, and Indian Tribal Governments, consumer groups, and customers.

As an essentially regional, or state-based, group prescribing federal policy, the NPPC is unique (Volkman and Lee, 1989). As such, it has been subject to a number of judicial challenges. Shortly after its creation, it was challenged as an unconstitutional delegation of federal authority. This challenge was unsuccessful. There have also been challenges to its discretion to reject recommendations.

In its early years, the NPPC was widely regarded as a success in power planning and conservation. Its approach to energy planning has been emulated, and it has been lauded as a model of "co-operative federalism". However, the praise for the NPPC has been somewhat diminished over the past several years, due primarily to issues related to its attempts to restore and sustain stocks of wild salmon and the interplay of its efforts with the *Endangered Species Act* (McGinnis, 1995; Volkman and McConnaha, 1993).

Conflict surrounding the management of the Columbia River system stems from a number of areas: conservation versus development, salmon stocks versus power production, river drawdowns to support salmon stock versus barge transportation of grain, protection of wild salmon versus reliance on hatchery salmon. In the face of what many in the area regard to be inevitable conflict, the NPPC has adopted an "adaptive management" approach. One of the criticisms levelled at the NPPC in recent years is that, perhaps as a result of its application of this approach, its primary focus is on process rather than on action.

There is also some concern that, although the NPPC has authority to make decisions, it does not have adequate authority to enforce those decisions. In addition, while the NPPC has the authority to balance the needs of fisheries protection and enhancement against hydropower generation, it has no authority to control the harvest of salmon or other fish or wildlife, or in the area of water resource management. Of further concern is the fact that the BPA, which is, arguably, primarily concerned with power production, controls the NPPC's funding.

3.8 CONCLUSION

The intergovernmental model is the standard approach in Canada for creating interjurisdictional water management institutions. These bodies are generally established pursuant to intergovernmental agreements and include representatives of the respective governments. They are particularly well suited to the tasks of implementing the technical aspects of agreements and ensuring coordination among water managers. These bodies may also have a role in the area of dispute resolution. In general, this model has not been designed to incorporate broad stakeholder input into basin management. A degree of public participation could, however, be incorporated into this model.

In the Northern River Basins, the intergovernmental model is perhaps most appropriate for addressing issues of interagency and intergovernmental coordination. The *Mackenzie River Basin Transboundary Waters Master Agreement* will clearly be a major determinant of the applicability of this model to the Northern River Basins. If the *Master Agreement* is ratified, institutional design may focus on complementary institutions or on the flexibility available through the negotiation of bilateral agreements. If the *Master Agreement* is not ratified by all the parties, this failure may underline certain limitations of the intergovernmental model in this context.

4.0 THE INDEPENDENT COMMISSION MODEL

4.1 INTRODUCTION

Independent commissions have been used by governments in a variety of contexts, including interjurisdictional watersheds. While resembling the intergovernmental model in that their members are appointed and mandates determined by government, they differ in their degree of autonomy and separation from line functions and direct political accountability. This section reviews the defining characteristics of this model and then examines three examples: the International Joint Commission, British Columbia's Commission on Resources and Environment, and the office of environmental auditor general.

4.2 CHARACTERISTICS OF THE MODEL

The independent commission model is a creature of government, but operates at arm's length once established. Its legal underpinning is usually a statute or an intergovernmental agreement that establishes its substantive mandate and operating procedures. The commission is not, however, an arm of government subject to normal lines of ministerial accountability. In contrast to the intergovernmental model, the one or more appointees to an independent commission are not seconded government officials. Their status is more analogous to judges or members of quasi-judicial tribunals, since they are usually granted some security of tenure and are expected to exercise independent judgement.

The resources available to independent commissions vary according to the scope of their mandates. In every case, however, there is some autonomous capacity to undertake initiatives. These bodies may have oversight, monitoring, investigative, or policy-making functions. They may rely heavily on technical expertise, either in-house, hired on contract, or provided by government agencies. In addition, they can provide a forum or catalyst for public participation and dispute resolution.

The corollary of their independence and lack of direct political accountability is that these bodies generally have advisory functions only. An exception is the International Joint Commission, which has some regulatory authority over uses of boundary waters. These bodies can, however, exercise considerable influence if they have sufficient credibility, access to information, and the ability to publicize their findings. To this end, they are usually authorized to report directly to the public or to a legislative body as a whole, rather than to a responsible minister.

The functions that these bodies perform can vary considerably. As described in the examples reviewed below, this model has been used to oversee agreements governing international waters, to undertake policy development and multistakeholder processes concerned with land use planning, and to provide an independent check on the operations of government.

4.3 INTERNATIONAL JOINT COMMISSION

Created in 1909 by the *Boundary Waters Treaty*, the International Joint Commission (IJC) is not an example of an interjurisdictional body *within* Canada, but rather one of the leading examples of bodies concerned with international basin management. Nevertheless, many of the interjurisdictional problems that it has confronted are similar to those that are faced by interjurisdictional water management bodies within Canada. The IJC provides an interesting example of the independent commission model for four main reasons. First, its mandate has evolved from an initial focus on water quantity issues to one oriented mainly towards water quality and ecosystem concerns. Second, it has used *boards of control* comprised of experts in different fields, rather than relying directly on government water managers for its membership (which has been the normal approach for the domestic management boards discussed above). Third, the nature of the powers held by the IJC are of particular significance, specifically its quasi-judicial power. Fourth, it has been granted an oversight role in respect of the Canada-United States *Great Lakes Water Quality Agreement.*

The IJC has two sections, one in each of Canada and the United States, with three appointed Commissioners in each country. Unlike Board members of the PPWB and similar bodies, these commissioners are not appointed to represent their respective governments. Rather, they are expected to act independently and exercise their own judgement on particular issues. Furthermore, the commissioners do not necessarily have a background in water management, but may have expertise in law, politics or academia. Each section of the IJC is assisted by a small secretariat, which is funded by the respective party. The secretariat in itself would not, however, possess the requisite expertise to deal with the large range of issues confronting the Commission. To address these issues, expert panels of advisors are used.

The IJC is given four primary powers under the *Boundary Waters Treaty*. These include, firstly, the power to investigate questions referred to it by the parties. Although it is not required by the language of the treaty, all such references have been made jointly by the United States and Canada. The IJC has been extremely active in this area; its reports have often been influential, although the parties are not legally bound by its recommendations. Secondly, the IJC has certain limited administrative duties set out in the treaty related to measurement and apportionment of the St. Mary's and Milk Rivers. Thirdly, the IJC is given the power to exercise an arbitral function in cases where both parties agree to refer a dispute to it; however, this function has never been exercised. Finally, and most significantly, the IJC is given a quasi-judicial power with respect to approving uses on waters which form part of the Canada-U.S. boundary and, in certain circumstances, on transboundary waters.

This last power -- the binding power to approve uses in boundary and (under certain conditions) transboundary waters -- is perhaps the most distinctive element of the IJC. Particularly in the interjurisdictional context, the granting of such powers to an independent commission is rare. The IJC has a highly formal process by which it exercises this power that is clearly detailed in the Commission's Rules of Procedure. Of greatest importance to note is that the Commission has continuing jurisdiction over projects after they are approved, including situations where the approval is subject to conditions. Although the *Boundary Waters Treaty* is not absolutely clear on how this

jurisdiction should be exercised, it has now become the practice of the Commission to exercise such continuing jurisdiction. To perform this function, international boards of control have been established, composed equally of Canadian and U.S. representatives, to ensure that the project's terms of approval are satisfied and to carry out the IJC's instructions from time to time as required. The nature of appointees to these boards of control differs significantly from those who are appointed as Commissioners. The appointees to such boards are professional water managers, whether from federal, state or provincial governments, and in most cases they bring with them the expertise and even facilities of their own agencies. The importance of having access to this source of governmental expertise is reflected in some instances by *ex officio* appointments to such boards.

In addition to its responsibilities under the *Boundary Waters Treaty*, the IJC has been given an important oversight role under the *Great Lakes Water Quality Agreement* of 1972. This non-legally binding agreement between the United States and Canada was initiated to deal jointly with the problem of eutrophication in the Great Lakes (IJC, 1988; LeFeuvre, 1991). The Agreement referred to an IJC a study of the issue of phosphorus load in the lakes resulting from land-based activities. It further assigned to the IJC the role of oversight of the timeliness and effectiveness of implementation of the Agreement, with particular reference to water quality objectives. The IJC is to report its conclusions in biennial reports to the governments and the public.

The *Great Lakes Water Quality Agreement* was revised in 1978. The revised agreement focused on toxic substances in the lakes, and stated that the discharge of toxic substances should be virtually eliminated and that the philosophy regarding the discharge of persistent toxic substances shall be zero discharge.

The 1978 Agreement was amended by the signing of the 1987 Protocol. The 1987 amendments did not change the policy or objectives of the 1978 Agreement, but were rather intended to reflect technological advances, and to strengthen the requirements for programs and plans and to increase accountability for their implementation. Annexes were added to the Agreement addressing atmospheric deposition of toxic pollutants, contaminated sediments, ground water, non-point source pollution, and the development of remedial action plans (RAPs) for "Areas of Concern" and lake-wide management plans to control critical pollutants.

Two new boards were established under the 1972 Agreement to assist the IJC. The Great Lakes Water Quality Board is the principal advisor to the IJC under the Agreement; it assists in the exercise of powers and responsibilities under the Agreement relating to water quality, as well as with general oversight of implementation. Board members are appointed equally from the United States and Canada, and membership includes representation of each of the eight states and two provinces that border on the Great Lakes.

Since the 1987 amendments to the Agreement, the Water Quality Board has focused considerable attention on RAPs. RAPs must be developed by each country to address Areas of Concern; they must identify what types of pollution have entered the waterways, how it will be cleaned up, and who is responsible for implementation. The Board receives and reviews RAPs at three stages: (1) when the sources and causes of the pollution have been identified; (2) after clean-up and

preventive action plans have been determined; and (3) at the end of the clean-up, to confirm that the Area of Concern has been restored and is safe for people, fish and wildlife (Cole-Misch, 1995).

The Great Lakes Science Advisory Board, the second board established under the 1972 Agreement, provides the IJC and the Water Quality Board with advice on research and scientific matters. The Science Advisory Board is responsible for making recommendations on matters relating to research and the development of scientific knowledge pertinent to the identification, evaluation and resolution of problems of water quality in the Great Lakes ecosystem. Its membership is also comprised of equal representation from each country, and generally includes members from governmental agencies, academia, and research institutions.

Both the Water Quality Board and the Science Advisory Board have organized working committees, subcommittees, and task forces. An important committee of the Water Quality Board is the Water Quality Programs Committee, which, through the work of its subcommittees, assists the Board in evaluating programs and progress towards implementation under the Agreement. The Science Advisory Board has Health, Societal, Technological, and Ecological standing committees.

The Agreement authorized the establishment of a Great Lakes Regional Office in Windsor to provide technical assistance and support for the Water Quality Board and the Science Advisory Board. The Regional Office is staffed by professionals from both the U.S. and Canada.

What is the relevance of the IJC as a model for a new independent commission or multistakeholder institution for the Northern River Basins? Of the two key powers given the IJC -- its investigative and quasi-judicial functions -- it is not likely that governments would cede the latter, although an investigative function is not impossible. Nevertheless the exercise of the IJC's quasi-judicial power is of interest to the NRBS as an example of how an essentially non-expert body can engage in sophisticated exercises in water management because of its institutional ability to create boards of experts to provide the technical expertise at the necessary point in the process. Moreover, it is able to do this without relying on a large (and expensive) secretariat, which in many cases would merely be duplicating the expertise that already exists in federal and state/provincial agencies. In today's fiscal climate, this ability to draw on existing resources is a valuable attribute.

The IJC's role in overseeing implementation of the *Great Lakes Water Quality Agreement* may also be a useful model for the Northern River Basins. Its status and autonomy as an independent commission clearly gives it credibility in playing a watchdog role. In addition, the use of expert advisory boards, combined with sufficient resources to enable it to undertake initiatives and issue reports, allows the IJC to contribute to the public debate on Great Lakes issues. A similar oversight and investigative role could be envisaged for an independent commission in the Northern River Basins.

4.4 COMMISSION ON RESOURCES AND ENVIRONMENT

The Commission on Resource and Environment (CORE) was created by the Government of British Columbia in 1992 in response to an ongoing series of contentious land use disputes relating primarily to forestry and mining. Although CORE is not an interjurisdictional body, nor is it concerned with water management, it illustrates how the independent commission model can be used to address resource management issues.

The mandate of CORE is set out in the *Commissioner on Resources and Environment Act*, which establishes the office's independence from the ministries and agencies of government, grants it full investigative and public hearing powers, and gives it the responsibility to report directly to the legislature and the public as well as to the executive branch of government. The Act closely resembles legislation creating the office of ombudsman, and it is significant that the respected former Ombudsman of British Columbia, Stephen Owen, was appointed as Commissioner of CORE.

The substance of CORE's mandate, however, goes beyond the role normally performed by an ombudsman (Owen, 1993). It exercises an important policy function in the development of a provincial land use strategy, has responsibility for initiating and coordinating regional and local land-use planning processes, and contributes to more effective integrated resource management through the various government ministries and initiatives. In carrying out these responsibilities, CORE was directed to take account of economic, environmental, and social issues, the responsibilities of the three levels of government, and the interests of aboriginal peoples without prejudice to their aboriginal rights and treaty negotiations. Underlying all of its activities is a strong commitment to the value of public participation in resource and land-use planning (Owen, 1993).

Soon after its creation, CORE released its report on a *Land Use Strategy for British Columbia* (CORE, 1992). This report presented a statement of principles and goals to guide regional and community-based planning processes and to provide a context for legislation and policy development. Included in the report was a draft *Land Use Charter*, affirming principles of environmental, economic, and social sustainability. The *Land Use Charter* also expressed a commitment to the reconciliation of these principles "in neutrally administered decision-making processes that are open to the participation of all interests [and that] promote decision-making through the building of consensus amongst diverse perspectives and stakeholders" (CORE, 1992). Finally, the "aboriginal title and inherent rights of Aboriginal people to self government" were recognized and the principle of shared responsibility for achieving a sustainable society was affirmed. The report also described the participatory process to be used by CORE.

Regional land-use planning processes were initiated by CORE in areas of the province where land-use conflicts were particularly intense. The purpose of these processes was to determine the appropriate large scale zoning of land, and CORE's role included developing and coordinating multistakeholder negotiation processes intended to achieve shared decision-making and generate recommendations having a broad base of support (CORE, 1992). Where agreement is not reached, CORE prepares a report to the public and to Cabinet outlining the nature of the disagreement, the recommendations of the parties, and possible options. In practice, CORE has issued a number of

land use plans, summarizing the extent of agreement reached through the bargaining process and making recommendations in areas where consensus among stakeholders could not be reached.

The development of a long-term land use strategy is also a priority of CORE. To this end, it has produced a series of reports that propose sustainability legislation and address the issues of planning for sustainability, dispute resolution, and public participation (CORE, 1994a, 1994b, 1995a, 1995b).

Although CORE is at the centre of resource-management controversies in British Columbia, it is an independent and advisory body rather than an arm of government (Owen, 1993). The Commission is not a decision-maker; authority to decide on land-use issues rests with Cabinet and with governmental agencies having statutory decision-making authority. By virtue of the Commission's independence and the inclusive process through which its recommendations are developed, however, it is able to exercise considerable influence.

A detailed examination of the work of CORE to date is beyond the scope of this report. Nonetheless, the CORE process shows how the independent commission model can be used to address complex, multi-party resource management issues. Although CORE does not exercise political power or governmental responsibilities, by providing a catalyst for participatory and multistakeholder processes it makes a significant contribution to resource management.

The difficulties of implementing a process similar to CORE are undoubtedly greater in the interjurisdictional context that they are within a single province. The political equation is, of course, complicated by the different approaches that governments may have to public consultation and resource management. Furthermore, participants in the CORE process understand that the Government of British Columbia exercises ultimate authority over land-use issues in the province. The spectre of a governmental decision can act as a powerful incentive for compromise among stakeholders. In contrast, the absence of a single source of comprehensive authority constitutes a fundamental obstacle resolving conflicts in interjurisdictional river basins. Nonetheless, the experience with CORE suggests that the combination of the independent commission model with a participatory and inclusive approach to resource-use planning can contribute significantly to policy development and to the resolution of apparently intractable conflicts. If supported by governments, this approach could be applied to transboundary water management issues in the Northern River Basins.

4.5 ENVIRONMENTAL AUDITOR GENERAL

Like the ombudsman model underlying elements of the CORE process, the role of an independent auditor general is generally well understood. A respected individual is appointed by government and given authority to "audit" government activities and report to the legislature, or the public at large. The office is empowered to undertake investigations and has sufficient resources to perform this task and prepare regular reports. As with the ombudsman, the auditor general is free of normal lines of political accountability. Although functioning in an advisory capacity only, the auditor general can exert considerable influence as a result of his or her independence and public reporting.

The office of auditor general has generally been used to oversee government expenditures and, to some extent, identify conflicts of interest. In these areas, commonly accepted accounting standards, measures of market value, and general ethical principles (relating, for example, to self-dealing) underpin the auditor general's functions.

A similar independent auditing role could be undertaken with respect to the environmental performance of government. To provide a standard against which to measure this performance, an environmental code of conduct could be adopted or general principles of sustainability developed. While these standards might be less clear than those applicable to fiscal matters, the presence of a watchdog agency able to expose examples of gross environmental mismanagement would likely have the same salutary effect on government as does the fiscal auditor general.

An environmental auditor general could also play a useful role in an interjurisdictional watershed. In this context, the standards against which governmental performance would be measured could be established by an intergovernmental basin management agreement, a code of conduct for riparian jurisdictions and private water users, or general principles of interjurisdictional water law and sustainable development. In the case of an intergovernmental agreement, for example, an environmental auditor general could monitor and report on compliance. This role could also be expanded to include a periodic review of the state of the watershed, based either on routine governmental monitoring or on investigations initiated independently. While some investigative and analytical expertise would clearly be required to perform this function, resources required would probably not be significant if access to information from other governmental sources is guaranteed.

The environmental auditor general function could also be combined with an ombudsman role, so that individuals and stakeholder groups within the basin could bring forward their concerns regarding general issues of basin management or particular allegations of non-compliance with an intergovernmental agreement. This combination would reinforce the office's independence and provide an additional external check on intergovernmental water management.

The willingness of governments to subject themselves to the scrutiny of an environmental auditor general remains to be determined in both intrajurisdictional and interjurisdictional contexts. The precedent of submitting expenditures to independent scrutiny suggests, however, that avoiding unflattering publicity may not always be the driving force of public policy. If governments are committed to the development of standards for managing interjurisdictional basins, the environmental auditor general is one means of independent verification as to whether these standards are being met.

4.6 CONCLUSION

Independent commissions have a number of advantages arising from their relationship with governmental decision-makers. While these bodies are created by government and assigned a specific mandate, their independence can give them significant credibility and influence. Their arm's

length relationship with government may, in certain circumstances, make them appropriate bodies for conducting investigations and undertaking an oversight or watchdog function. In an interjurisdictional context, they may be particularly suited to this role since they can stand apart from the respective jurisdictions.

Independent commissions are not constituted as multistakeholder bodies. Members of these bodies are expected to be independent and exercise their own judgement, as opposed to speaking on behalf of external constituencies. These bodies can, however, provide a means of stakeholder input through public consultation conducted as part of their investigative functions, or by co-ordinating consensus-based processes, as illustrated by CORE. These commissions also have direct lines of communication with the public by virtue of their autonomy and, in many cases, their responsibility to report to the public or a legislative body rather than to a government minister.

In the Northern River Basins, the independent commission model could be used in a number of ways. For example, a commission could play a watchdog and reporting role, conduct independent investigations, serve in an advisory capacity to government, or coordinate research and monitoring.

5.0 THE GOVERNMENT-DRIVEN INCLUSIVE MODEL

5.1 INTRODUCTION

This section describes the establishment and operation of inclusive or multistakeholder institutions initiated by governments. Canada has played a leading role in developing this model, notably through the round table approach. This model has, however, been used in the United States as well. Following a description of the model, four illustrations are provided. These examples are: Fraser Basin initiatives, round tables, Chesapeake Bay processes, and the Chelan Agreement.

5.2 CHARACTERISTICS OF THE MODEL

Government-driven inclusive bodies have been widely used in Canada to address issues relating to sustainability, land-use planning, and resource and environmental management. The NRBS is, of course, an example of this model. These bodies are created by government to address specific issues or carry out a more general mandate. The specific terms of reference are generally established by government, perhaps in consultation with stakeholders.

The defining characteristic of these bodies is that they are inclusive or multistakeholder in composition. Participants are chosen to represent the major interests concerned with the issue to be addressed. As is the case with the NRBS, these bodies may be supported by a secretariat and they may draw on technical or scientific expertise provided by an advisory committee and by government.

The principal elements of institutional design, including the process to be followed, are often determined by government. However, varying degrees of participant control (or "ownership") over these aspects may be permitted or encouraged. It has been suggested that a degree of participant control over process design is particularly important for bodies having a consensus-building function.

Government-driven inclusive institutions can be given a wide range of functions including: development of broad sustainability or resource use strategies; conflict resolution; formulation of general principles or action plans; monitoring of compliance with strategies, principles, or plans; identification of policy or legislative options and consensus-building on specific recommendations; initiating and coordinating scientific studies (as in the case of the NRBS); and carrying out public consultation processes. Several of the examples described below show the application of this model to watershed management issues.

While they are invariably limited to an advisory role, the success and credibility of these bodies depends on some degree of confidence among the participants that recommendations will be reflected in government policy. The influence of these bodies, then, is a function of the up-front commitment by government to take their recommendations seriously, and the political weight that comes from consensus among the principal stakeholders concerned with the matter at issue. Of

course, inclusive bodies may fail to reach consensus, in which case they can at least serve the function of identifying areas of agreement and disagreement.

The government-driven inclusive model constitutes a very flexible institutional arrangement, but it is not suitable for all circumstances. Guiding principles and limitations are discussed below in the case studies.

5.3 FRASER BASIN INITIATIVES

The Fraser River Action Plan (FRAP) is a six year plan initiated through the federal government's Green Plan (Environment Canada/Fisheries and Oceans, 1994). It is administered and funded jointly by the Department of the Environment and the Department of Fisheries and Oceans.

The three main objectives of FRAP are:

1. to restore and enhance the environmental quality and natural productive capacity of the Fraser River ecosystems and to return salmon populations to historic levels of abundance;

2. to arrest and reverse the existing environmental contamination and degradation of Fraser River ecosystems by developing targets and strategies to reduce pollution and by significantly reducing the discharge of persistent toxic substances into the Fraser River; and

3. to build partnerships with provincial and local governments, aboriginal and community groups, environmental organizations, industry and labour, and other stakeholders to develop a co-operative management program for the Fraser Basin based on the principles of sustainability.

FRAP implements its Action Plan through activities carried out individually or co-operatively by the federal departments of Environment or Fisheries and Oceans, and by formal and informal co-operative efforts with other government organizations, non-governmental organizations, First Nations, etc. The Fraser Basin Management Program, the Burrard Inlet Environmental Action Program, and the Fraser River Estuary Management Program (all described in more detail below) are formal co-operative efforts involving the Departments of Environment and Fisheries and Oceans. FRAP has also engaged in short- and long-term co-operative ventures with B.C. Hydro, B.C. Environment, various First Nations, municipalities, industry organizations, etc. FRAP literature emphasizes partnerships as the key to the success of FRAP and the key to the continued sustainability of the Basin after FRAP ends.

The Fraser Basin Management Program (FBMP) was established under a 1992 agreement between the federal, provincial and local governments. The mission of the FBMP is "to promote and advance the development and implementation of a management program that ensures the environmental, economic and social sustainability of the Fraser Basin" (Fraser Basin Management Program, undated). The FBMP is currently focusing on five areas: support for small scale projects which

demonstrate sustainability in action, building relationships among people and groups so they can work together more effectively, auditing progress, seeking commitment to action, and communicating the "hows, whys and success stories of sustainability" (FBMP, 1994:5).

The 19-member Fraser Basin Management Board was established to develop and implement the FBMP (Fraser Basin Management Board, 1993). It is made up of three representatives each from the federal, provincial, local and First Nations governments, as well as six representatives of community, business, environmental and public interests from all regions of the Basin. The mandate of the Board is to facilitate coordination and improve institutional arrangements among government and non-government programs, to foster changes in public attitudes, perception and behaviour that support sustainability, to audit the sustainability of the Basin, and to recommend priorities for programs and budgets. The Board has since expressed its mandate in these terms: "The challenge is to learn how to respect Nature's boundaries -- the living ecosystem of the Fraser Basin -- while meeting our own needs and making sure those who come after us will be able to meet theirs."

At its inception, the Board began a continuing series of workshops and open houses throughout the Basin (FBMP, 1994). The Board views these workshops and open houses as opportunities to find out what people and organizations in the Basin are thinking and doing about sustainability. Based on their observations at these meeting, the Board has commented that, in past efforts aimed at sustainability in the Basin, "When things didn't work, it was because the solution didn't involve key groups or individuals who had a stake in the outcome. When things did work, it was primarily because interests from across the spectrum were included in the process" (FBMP, 1994:2). The Board stresses, however, that the mere stakeholder consultation is not enough. Stakeholders must be involved in the process; they must be included in working toward sustainability.

The Board has also stressed the need for the various levels of government and the myriad of governmental and non-governmental organizations working in the Basin to coordinate their efforts, observing that the multitude of administrative and jurisdictional boundaries in the Basin has generated confusion, duplication and lack of trust. In an effort to address this problem, the FBMP organized the first Inter-Governmental Workshop on Sustainability in the Basin in the spring of 1994. There were over 80 participants at the workshop, representing federal, provincial, local and First Nations governments.

The workshop included a panel and small group discussions on a new vision of governance that flows from the bottom up as well as from the top down. One of the objectives of the workshop was to identify the barriers that have prevented the various levels of government and government agencies from working together. The Board is currently working through a task force to examine options for governments to circumvent barriers to co-operation.

The multistakeholder orientation of the Fraser Basin Management Board is complemented by other institutional arrangements in the Fraser Basin that follow more closely the intergovernmental model. Two examples are the Burrard Inlet Environmental Action Program and the Fraser River Estuary Management Program.

The Burrard Inlet Environmental Action Program (BIEAP) is a five year co-operative effort to coordinate the management and regulation of the Burrard Inlet (BIEAP, 1993). The BIEAP was initiated on June 21, 1991, through an agreement signed by the federal Departments of Environment and Fisheries and Ocean, the provincial Ministry of Environment, Lands and Parks, the Greater Vancouver Regional District, and the Vancouver Port Corporation. Contributions from these agencies fund the BIEAP's $400,000/year budget.

The four primary objectives of the BIEAP, as stated in the Agreement, are to reduce existing contaminant discharges to Burrard Inlet, to control future discharges and limit the potential for future impacts, to control habitat degradation, and to provide, where appropriate, remedial measures for existing impacts.

The BIEAP is headed by a Steering Committee made up of the Ministers of Environment of B.C. and Canada, the Minister of Fisheries and Oceans, and the Chairs of the Vancouver Regional District and the Vancouver Port Corporation. An Implementation Committee, made up of representatives of the five partners, directs BIEAP operations and expenditures, and prepares annual Work Plans after consultation with the Action Teams and the public. The Action Teams, which consist of representatives of some or all of the five partners, implement the Work Plans as directed by the Implementation Committee.

The BIEAP is designed to be a "one-window" review process for new projects which may impact the ecology of the Inlet. BIEAP and FRAP publications indicate that public communication and participation is an important part of BIEAP, but it appears primarily to take the form of information sessions and publications.

The Fraser River Estuary Management Program (FREMP) was established in 1985, and renewed by agreement on June 1, 1991 (FREMP, 1992). FREMP is designed to serve as a coordination and communications forum for the agencies and port authorities with primary responsibility for the conservation and management of environmental, social, and economic resources in the Fraser River estuary. It is led by six agencies: the Departments of Environment and Fisheries and Oceans, the Ministry of Environment, Lands and Parks, the Fraser River Harbour Commission, the North Fraser Harbour Commission, and the Greater Vancouver Regional District (which was not a party to the agreement in the first five years). FREMP has an annual budget of $600,000 funded in equal shares by the six partners. Additional funding for some of FREMP's activities is provided by FRAP.

During FREMP's first five years, interagency committees put together, with varying levels of public and industry input, Activity Programs and Water Quality Plans to meet future estuary-wide needs in the areas of port and industrial development, navigation and dredging, log management, waste management, water quality assessment, habitat, recreation, and environmental emergency response. In response to concerns that, in its first phase, FREMP was primarily a federal/provincial program with little opportunity for participation at the municipal level, FREMP has adjusted its management structure to include more municipal input (primarily through the full membership and participation of the Greater Vancouver Regional District Board). It has also established a number of standing

committees, two of which (the Implementation Advisory Committee and the Water and Land Use Committee) provide for membership by First Nations representatives.

As with the BIEAP, while FREMP emphasizes the importance of public consultation and communications, its efforts in this area appear primarily to take the form of public relations publications and events. However, FREMP did help organize public estuary clean-up activities.

5.4 ROUND TABLES

Round tables have been extensively used in Canada at the national, provincial, and local levels (Doering, 1995:1). This term describes a variety of multistakeholder processes, some of which fit more appropriately within the "stakeholder-driven inclusive model" described in Section 6 of this report. In this section, however, it refers to a process that is in important respects government-driven, at least at the outset. Round tables of this type are convened by governments to provide a forum for policy development and consensus-building. They bring together representatives of a broad range of competing interests, sometimes have the assistance of a neutral chair, and usually rely on consensus for decision making (Doering, 1995).

The National Round Table on the Environment and the Economy (NRTEE) has a statutory mandate and reports directly to the Prime Minister (NRTEE, 1995:6). It consists of 25 members, appointed by the federal government, representing a broad range of regions and interests. The NRTEE is supported by an Executive Director and secretariat. Its work has included: "providing advice to the Prime Minister on key sustainable development policy issues; developing tools to advance sustainable development in government policy and other sectors; acting as a neutral meeting ground and facilitating a process where different stakeholder groups can work together to reach consensus on important sustainability issues; [and] on-going communications and education programs that develop information and educational tools to facilitate grass-roots initiatives and to help decision makers address issues of sustainability" (NRTEE, 1995:6). The NRTEE undertakes projects through a number of task forces (e.g. Foreign Policy and Sustainability, Education, Sustainable Development Reporting, and Rural Renewal) and acts as the catalyst for sectoral round tables (e.g. the Pulp and Paper Round Table).

Round tables have also been created at the provincial and local levels in Canada. A useful discussion of these bodies is found in *Local Round Tables: Realizing Their Full Potential*, a joint publication of the British Columbia Round Table on the Environment and the Economy (B.C. Round Table), CORE, the Fraser Basin Management Program, and the NRTEE (B.C. Round Table *et al.*, 1994). This document describes the principal characteristics of local round tables in Canada and provides practical guidance on their establishment and effective functioning. It also discusses how they can exert influence and adapt to change. Finally, a series of brief case studies describe several local round tables in British Columbia. Sample terms of reference are included.

There is no set formula for the design and operation of round tables. In some cases, they are established by government to address a specific environmental or resource management issue. Other

round tables are given more general mandates, such as working out an agreed set of principles to govern activities in a given sector or geographically-defined area. As noted above, some "round table" bodies are created by stakeholders, without government direction or assistance. Even in the government-driven round tables, the participants generally play a role in determining how the process will operate. Without significant stakeholder "ownership" of the round table, the arrangement may be more accurately characterized as a public consultation process rather than a multistakeholder body.

The importance of this distinction between consultation and consensus-seeking has been underlined by Ronald Doering, Executive Director of the NRTEE (Doering, 1995). The former process involves a government (or another body) consulting with a broad range of interests to elicit comments on a proposed policy, project or piece of legislation. The result is information to be considered by the party soliciting input. In contrast, Doering argues that a true consensus process is participant-driven in that the group that is convened is "asked to define a process to achieve certain shared objectives, and through that process the parties develop, at their pace, a position that each party or 'stakeholder' can live with" (Doering, 1995:1). Doering argues that the two approaches do not blend easily, and that multistakeholder processes should be clear from the outset which one is to being adopted.

The importance of stakeholder ownership of the process means that round tables generally have a degree of autonomy once they are established. They remain government-driven, however, to the extent that they are created by government to address predefined issues, government generally selects (or oversees the selection) of participants, and funding and other logistical support is provided. Although round tables invariably are limited to an advisory role, Doering characterizes them as "modest and practical efforts to empower citizens to engage more deliberatively in the decisions of their governments" (Doering, 1995:3). According to another commentator: "The institutionalization of multistakeholder forums is the most significant innovation in the Canadian policy process in the past decade" (Toner, quoted in Doering, 1995:1).

Canadian experience with round tables suggests a number of general principles for consensus-building arrangements. These are discussed in a publication entitled *Building Consensus for a Sustainable Future: Guiding Principles*, produced jointly by the NRTEE and provincial round tables (Canadian Round Tables, 1993:8):

> "Principle #1 -- Purpose Driven
> People need a reason to participate in the process.
>
> Principle #2 -- Inclusive not Exclusive
> All parties with a significant interest in the issue should be involved in the consensus process.
>
> Principle #3 -- Voluntary Participation
> All parties with a significant interest in the issue should be involved in the consensus process.

Principle #4 -- Self Design
The parties design the consensus process.

Principle #5 -- Flexibility
Flexibility should be designed into the process.

Principle #6 -- Equal Opportunity
All parties must have equal access to relevant information and the opportunity to participate effectively throughout the process.

Principle #7 -- Respect for Diverse Interests
Acceptance of the diverse values, interests, and knowledge of the parties involved in the consensus process is essential.

Principle #8 -- Accountability
The parties are accountable both to their constituencies, and to the process that they have agreed to establish.

Principle #9 -- Time Limits
Realistic deadlines are necessary throughout the process.

Principle #10 -- Implementation
Commitment to implementation and effective monitoring are essential parts of any agreement."

It is also generally recognized that the round table approach is not suited to every situation. In fact, an important step in designing consensus-building arrangements is a careful assessment of whether this approach is appropriate in the particular circumstances. The questions that should be asked before deciding whether to proceed include (Canadian Round Tables, 1993:18):

"• Is there a reason to participate in the process?

- Can the subject matter be addressed at this time?
- Can progress be made or issues negotiated?
- Can the major interests be identified?
- Are there representatives who can speak for these interests?
- Can meaningful deadlines be established for reaching agreements?
- Are there incentives for reaching agreements? What are the negative consequences of failing to agree?

- Are the decision makers who will be required to act on the results of this process willing to be involved or act on/respond to any agreement reached during the process?

- Can a viable process be structured? Or, is another decision making process more applicable to resolving these issues?

- Are there preliminary matters that need to be dealt with before the process gets under way (for example, pre-negotiation to get some participants to the table)?

- Are there parallel activities occurring that must be considered (for example, a pending legal action)?"

Answering these questions can be a time-consuming process. A neutral person with experience in designing round tables and managing consensus processes may be of assistance at this stage. Not surprisingly, many of these questions reflect the issues for institutional design enumerated in Section 2.3 of this report. Round tables, like other institutional arrangements, are most likely to succeed when the specific objectives and context have been carefully considered at the design stage.

The round table approach has clearly influenced the participatory processes related to land use and resource and environmental management developed by CORE (B.C. Round Table *et al.*, 1994:9). It has also been applied in the watershed context. According to A.H.J. Dorcey, Chair of the Fraser Basin Management Board (B.C. Round Table *et al.*, 1994:10):

> "The work of the B.C. Round Table on the Environment and the Economy had a major influence on the design of the Agreement Respecting the Fraser Basin Management Program (FBMP) and the Board established to implement it. In particular, the Round Table stimulated the focus on environmental, economic and social sustainability; commitment to multi-stakeholder and consensus processes; and emphasis on building local processes for managing the watersheds of the Basin."

One of the case studies briefly described in *Local Round Tables: Realizing Their Full Potential* also has an explicit watershed focus (B.C. Round Table *et al.*, 1994:71).

Although the NRTEE has addressed national environmental and resource management issues, the round table approach does not appear to have been used to date in an interjurisdictional context such as a transboundary watershed. The NRBS, of course, has certain round-table characteristics, but the scientific focus of its mandate distinguishes it from the policy-development and consensus-building functions that constitute the principal contribution of round tables to environmental management. Given support by the relevant governments, however, a round table could be established in an interjurisdictional context such as the Northern River Basins. Such a body could have a number of functions, notably the development of common principles for basin management and the monitoring of their implementation. It has been suggested that round tables may also play a constructive role

in overcoming jurisdictional fragmentation between governments and within governments and departments, if only by providing a forum to bring people together (Scott, 1995:15).

5.5 CHESAPEAKE BAY PROCESSES

In 1980, Maryland and Virginia established the Chesapeake Bay Commission (CBC) to make recommendations to the legislatures of the states and to promote statutory and regulatory uniformity in state efforts to protect the Bay. The CBC was established by separate legislation passed in each state in 1980. In 1985, Pennsylvania joined the CBC (Barker, 1990; Tripp and Oppenheimer, 1988).

In the late 1970s and early 1980s, the U.S. Environmental Protection Agency (EPA) was engaged in a study of the Bay. The Chesapeake Bay Conference of 1983 was held to discuss the report of the results of the EPA study. The product of this conference was the first Chesapeake Bay Agreement. In this Agreement, ratified by Maryland, Virginia, Pennsylvania, the District of Columbia, and the EPA, the parties pledged their co-operative efforts to improve the condition of the Bay.

Pursuant to this Agreement, Maryland enacted the *Chesapeake Bay Critical Area Protection Program* that required major changes in local land-use decisions in the area surrounding the Bay. Virginia established the Chesapeake Bay Land Use Roundtable to focus on land use issues and the Bay. The Roundtable was made up of legislators, farmers, environmentalists, developers, and other interested parties. The Roundtable found that non-point source pollution had to be controlled to improve water quality in the Bay and that a new land-use system was needed. The primary responsibility for this system would lie with local governments, but the state should also show strong leadership.

The Chesapeake Bay Executive Council, made up of the Governors of Maryland, Virginia and Pennsylvania, the Mayor of Washington, D.C., the Administrator of the EPA, and the Chair of the Chesapeake Bay Commission, then published the 1987 Chesapeake Bay Agreement that expanded upon the goals of the 1983 Agreement. The parties agreed to manage the Bay "as an integrated ecosystem" and committed themselves to a comprehensive environmental program intended to improve water quality and protect wildlife habitat, especially wetlands and forested lands. Specific points in the agreement addressed the need to reduce and control point and non-point sources of pollution, including reductions in nutrient loading, toxic discharges, and conventional pollutants, and the need to manage population growth and development in the watershed.

The Executive Council also designated an advisory panel, referred to as the "2020 Panel", to study and report on the portion of the 1987 Agreement requiring the states of Virginia, Maryland and Pennsylvania to "plan for and manage the adverse environmental effects of human population growth and land development in the Chesapeake Bay Watershed." Members of the Panel included builders, academics, a county executive, and the chair of the CBC. The Panel produced a report in 1988 that outlined six "visions" and recommended that states create their own commissions to work toward these goals. The "visions" outlined were new growth clustered in already developed areas,

natural buffers along waterways, protection of wetlands, better use of resources, and public involvement in Bay issues.

In response to the recommendations of the 2020 Panel, the Governor of Maryland created the Governor's Commission on Growth in the Chesapeake Bay Region (Girard, 1991). The members were legislators, citizens and business representatives, and their task was to develop recommendations for balancing growth around the Chesapeake Bay. Specifically, it was to review the 2020 Panel's findings to identify growth issues and prepare specific recommendations to address these issues. Further, it was to develop an "environmental ethic" to convince residents of Maryland that actions hundreds of miles away from the Bay affect its conditions.

The Governor's Commission held hearings throughout the state of Maryland over the course of a year and then published a first draft of its recommendations. It proposed a bill which would require Maryland's counties and Baltimore city to make an inventory of their land and categorize it as developed areas, designated growth areas, rural and resource areas, and sensitive areas. The Commission then held a public hearing on its recommendations. Although nearly all of the 250 people who testified supported the Commission's goal of protecting the Bay from "urban sprawl", many attacked the details of the proposed bill.

Subsequently, the Governor and his administration introduced a modified version of the proposed bill, from which most of the specific criteria had been removed. This action resulted in an erosion of support from conservationists with no correlative increase in support from builders, realtors, bankers, and property rights advocates. Consequently, the bill was clearly defeated. A growth bill was introduced again in 1992, and this bill passed. Some argued, however that it was so eviscerated as to be almost meaningless.

The Virginia Commission on Population Growth and Development was created in 1989 (Casey, 1995). It was made up of legislators, business people, academics and environmentalists and had a staff of two and a budget of $150,000 per year (provided by the state). The Commission sought to limit urban sprawl and to foster state-wide and regional planning for development and growth. Real estate interests and local governments consistently opposed the recommendations of the Commission because they feared infringements on property rights and local zoning and planning control. The Commission formally disbanded on June 30, 1995, without any success in having its proposals to the Virginia General Assembly adopted.

5.6 THE CHELAN AGREEMENT

The "Chelan Agreement" or "Chelan Process" evolved as a result of several events which took place in the 1980s in the state of Washington (Metzgar, 1993; Brown, 1993). Notably, as conflict over water allocation became more frequent and widespread, there were several attempts to clarify water resources planning and policy in the state. These efforts culminated in the organization of a "retreat" intended to enable those with interests in water resource planning to co-operatively design a water planning process.

About 150 people representing a variety of interests attended the retreat in May of 1990. These people were organized into caucuses representing state government, tribal government, local government, environment, fisheries, recreation, agriculture, and business. At this first retreat, the participants shared the concerns and requirements of their caucuses and agreed to work together on designing a co-operative water planning process. An Interim Team was organized with representatives from each caucus to prepare options for a co-operative process and to organize a second retreat for the fall of 1990.

The options prepared by the Interim Team for discussion at the second retreat ranged from a process where the primary planning authority would be held at the state level to one where the primary authority would be exercised by local governments. The process adopted by the delegates at the second retreat at Chelan Lake fell in the middle of these two extremes. They adopted a process where the state provides guidance, planning is done regionally, and implementation is undertaken by local governments.

The Chelan Agreement established a Water Resources Forum with representatives from each caucus: six tribal, three local government, three state government, three business, three agriculture, two fisheries (one sport and one commercial), three environmental, and one recreational. Each caucus has one vote in the Forum and decision-making is by consensus. However, in order for a plan to be adopted, the three governmental caucuses (state, local and tribal), plus a majority of the other caucuses, must agree. The veto power held by each of the government caucuses is seen as a concession to their legal status. The role of the Forum is to model state water policy and provide policy guidance.

In 1993, the Water Resources Forum recommended two new water policies for the state of Washington (PR Newswire, 1993). One of these policies was an instream flow policy which provided guidelines to be applied in three situations:

1. where all water interests in an area work together and reach a consensus on flow levels for the region, the consensus decision is provided to the Department of Ecology for rule-making;

2. where regional planning is likely, but delayed, the Department of Ecology would establish high interim flow levels; and

3. where regional planning is unlikely, the Department of Ecology would establish high instream flow levels to protect fish habitat. The high flow levels set where there is no regional planning are intended to motivate local interests to engage in a planning process and negotiate differences.

The Forum also recommended that basin planning include an assessment of the effect of ground water extraction on surface waters. Where a risk exists that drawing water from a well would draw surface water, the Department of Ecology would either deny permission to sink a well or grant permission on the condition that its effect be mitigated.

In addition to the creation of the Forum, two regional pilot projects were established to test the Chelan Process. One of these pilot projects was established in the Methow Valley (Bynum, 1993). The Methow Valley was relatively isolated until 1972 when a major highway through the area was completed. Since then, it has seen exponential growth and water has become a controversial issue.

At the inception of the Methow Valley Pilot Project (MVPP), a person was sought to represent each of the eight caucus categories. These representatives were charged with the task of recruiting additional caucus members and others interested in participating in the process. Their efforts were supplemented by a public advertising campaign to notify interested persons.

At the organizational meeting, interested individuals were allowed to choose in which caucus they were interested in participating, with some restrictions. Membership in the government caucuses was, of course, restricted. In addition, each caucus was allowed to establish its own membership requirements. This requirement arose because real estate agents tried to join the environmental caucus. This caucus thus established that a demonstrated commitment to the environment was a prerequisite to membership. Each caucus also sets its own organizational structure. Each of the eight caucuses is officially represented by two people, and each caucus has one vote. Caucus representatives are volunteers. As with the Water Resources Forum, the definition of consensus requires that all of the government caucuses and a majority of the citizen interest caucuses agree on a proposal.

The Water Resources Forum and the MVPP have recently encountered a number of the problems typical in consensus decision-making processes. In order to sustain an ongoing process of consensus decision-making, there needs to be a high level of trust and co-operation. Furthermore, the parties must work toward solutions which are seen as "win-win" situations by the parties involved. Sometimes stakeholders perceive that such "win-win" solutions are simply not possible. For example, if one stakeholder has as its primary objective enhancement of instream flow levels to support salmon populations endangered by low flow levels and another stakeholder has as its primary objective the protection of its right to draw large quantities of water for irrigation or industrial use, it may not be possible for both to win. A reduction in the amount of water drawn may mean failed crops or may necessitate a slow-down in production (lost profitability), while a drawdown of the flow may mean salmon stocks face obliteration.

Another frequent problem occurs when one or more stakeholders involved in the decision-making process perceive that they can "win" more by going outside the process to the government or the courts. Frequently, too, the interests of one or more stakeholders are advanced by maintenance of the *status quo*. While these stakeholders may feel that it is in their interest to participate in the process from the perspective of public perception or otherwise, their willingness to compromise often does not extend to sacrificing the advantages they have or those they feel they can get elsewhere.

Further, there are those who believe that consensus simply is not a sound way to make decisions. Their concern is that it often results in lowest common denominator decisions, capitulates to intransigent members, or results in stalemate.

The Water Resources Forum has enjoyed success at the level of establishing planning principles by consensus, but has hit serious obstacles in reaching consensus on the details and implementation of its plan. Its recommendations are quite controversial, and it is unclear whether they will ultimately be adopted and implemented.

The MVPP has developed a Methow Basin Regional water plan. It calls for state and local investment in irrigation conservation. If implemented, this plan would dedicate water savings to a "trust" from which 90% of the water savings would be allocated toward instream flow improvement, 5% to new domestic uses, and 5% to new agricultural needs. Again, it is unclear whether these recommendations will be adopted.

5.7 CONCLUSION

The government-driven inclusive model is a flexible means of providing stakeholder input on issues of public policy. These bodies may also be used for consensus decision-making and conflict resolution. Government plays an important role at the outset, setting the mandate and appointing the members to speak for different stakeholder groups. Both government and participants may be involved in establishing the process to be followed. As these multistakeholder bodies develop, however, participant "ownership" over the process may be desirable, especially if they are intended to engage in meaningful consensus building. In the long run, the credibility of government-driven inclusive bodies depends on the ability of stakeholders to work together and the willingness of governments to take their recommendations seriously.

Government-driven inclusive institutions could serve a variety of functions in the Northern River Basins, from building consensus on general principles of basin management to providing advice to governments on specific issues. Multistakeholder forums could also achieve intangible or long-term benefits by bringing together basin residents, special interest groups, and water managers from the different jurisdictions. In designing these bodies, the Canadian experience with round tables may provide some useful guidance. To be successful, they should have clearly defined purposes and a reasonable prospect of exerting an influence on water management.

6.0 THE STAKEHOLDER-DRIVEN INCLUSIVE MODEL

6.1 INTRODUCTION

This section examines a model for river basin bodies that involves stakeholder initiative in establishing institutional arrangements and defining their agendas and operating procedures. While government may be involved in various ways, these arrangements are essentially a response by stakeholder groups to perceived deficiencies in water management and to conflicts that have proven intractable under pre-existing political and institutional arrangements.

The characteristics of the model are outlined and several illustrative examples, drawn from the western United States, are provided. While these examples are not strictly speaking interjurisdictional in focus (although one does deal with a transboundary basin), the stakeholder-driven approach could be applied in any watershed where stakeholders have a willingness to explore common concerns and objectives regarding water management and to adopt a consensual approach to conflict resolution.

6.2 CHARACTERISTICS OF THE MODEL

Stakeholder-driven institutions develop when stakeholders come together to address a common problem or to resolve a conflict. This process may occur spontaneously, in response to a breakdown in water management or to a serious water-use conflict (either ongoing or pending). In some cases, government may be involved in the formation of the body. However, the process is driven by the stakeholders themselves and depends on their efforts at consensus-building and dispute resolution for its success.

In contrast with the government-driven inclusive model, participants are self-identifying, not selected by government as representatives of certain sectors. Furthermore, these bodies are generally open to all interested individuals or groups who are committed to the basic principles of mutual respect, inclusiveness, and negotiated or consensual decision-making.

The key feature distinguishing these arrangements from traditional stakeholder-driven single interest groups is the requirement of inclusiveness. In fact, the stakeholder-driven inclusive model is in some respects a direct response to the frustrations of interest-group politics and escalating conflict among the diverse interests sharing a watershed. For the model to work, an institutional framework must be developed that brings together a broad range of perspectives and interests, many of which may see each other (at least initially) as adversaries on water issues.

The importance of relationships is a common theme in discussions of stakeholder-driven inclusive institutions. Experience shows that considerable effort may be required at the outset to develop trust among the participants. This process requires both the establishment of mutual understanding and respect, and the identification of common interests, or at least a common approach to resolving differences. The assistance of professional facilitators may be used in the early stages to assist

parties in establishing a relationship conducive to negotiated settlement of issues and to provide advice on the structuring of co-operative decision-making.

While these bodies are by definition removed from government, agency representatives may be active participants. Their role may be as stakeholders, or they may provide information and other logistical and technical support to the process. Stakeholder-driven inclusive institutions are not intended to usurp management functions or to seize control of core governmental responsibilities. Their impact is felt through their ability to exert influence, rather than through the assertion of power.

The influence that stakeholder-driven inclusive arrangements are able to exert is derived from their ability to bring together a diverse group of interests and recommend widely acceptable solutions to watershed problems. The examples discussed below illustrate how this approach has been used to address issues that could not be resolved in a satisfactory way through traditional channels of interagency competition, interest group politics, or litigation. Although the process is innovative, the recommendations made by these bodies may form the basis for more conventional legislative or regulatory action.

The focus of stakeholder-driven inclusive bodies may range from dispute resolution and policy development relating to a specific water management issue, to a broad concern with basin management as a whole. They may act as a watchdog over government agencies, monitoring water management practices and providing input on technical and policy matters. Stakeholder-driven bodies may even encourage, or establish a forum for, improved interagency communication and co-operation. Another function is to provide advice on basin development. For example, the Henry's Fork Watershed Council, discussed below, has established formal criteria and a review process for assessing proposed projects. The Council's findings and conclusions are passed on to project proponents and licensing authorities. Research and monitoring may also be a priority of stakeholder-driven bodies, acting directly, through their member organizations, or in conjunction with government agencies and other research organizations.

Funding for stakeholder-driven bodies may come from a range of sources, including membership contributions and grants obtained for specific initiatives. Government assistance may be provided, but this model need not be dependent on this source of financing. In fact, the independence of these bodies may be enhanced by their self-sufficiency.

6.3 HENRY'S FORK WATERSHED COUNCIL

The Henry's Fork Basin comprises over 3000 miles of waterways in eastern Idaho and western Wyoming, in an area where there is extensive irrigated agriculture, an important tourist industry, and significant wildlife and fisheries. The competing demands on the waters of the basin for hydropower, irrigation and instream flow for fisheries and recreation led to concerns over the ability of the basin to sustain these pressures. As a result of such concerns, the Idaho Legislature passed the Henry's Fork Basin Plan in 1993, which, amongst other provisions, prohibited new

developments on 195 miles of the Henry's Fork River and its tributaries. The plan also included recommendations with respect to water quality, fish and wildlife protection, and irrigation.

In order to carry out the plan for the Basin, it was necessary to overcome the basic jurisdictional problems inherent in the fact that there were approximately 25 government agencies (federal, state and local) that exercised some management or regulatory authority in the Basin. Clearly, what was called for was an innovative approach to management and consensus-building. During 1993, the various agencies together with individual stakeholders worked to develop such a process. The result was the creation in 1993-94 of the Henry's Fork Watershed Council, which was subsequently chartered in 1994 by the Idaho Legislature. The mission statement for the Council provides that (Brown and Swensen, 1995:1):

> "The...Council is a grassroots, community forum which uses a nonadversarial, consensus-based approach to problem solving and conflict resolution among citizens, scientists and agencies with varied perspectives. The Council is taking the initiative to better appreciate the complex watershed relationships in the Henry's Fork Basin, to restore and enhance watershed resources where needed, and to maintain a sustainable watershed resource for future generations. In addressing social, economic and environmental concerns in the basin, Council members will respectfully co-operate and coordinate with one another and abide by federal, state and local laws and regulations."

Under its Charter, the Council is given four primary duties. These are to (Brown and Swensen, 1995:1-2):

> "1) [c]ooperate in resource studies and planning that transcend jurisdictional boundaries...
>
> 2) [r]eview and critique proposed watershed projects and Basin Plan recommendations, suggesting priorities for their implementation by appropriate agencies.
>
> 3) [i]dentify and coordinate funding sources for research, planning and implementation and long-term monitoring programs...
>
> 4) [s]erve as an educational resource to the Legislature and general public..."

To facilitate the execution of its evaluative and recommendatory functions, the Council has established a checklist of ten primary criteria which it uses in reviewing potential projects or programs.

The inclusive nature of the Council is reflected in its innovative structure, which includes essentially all stakeholders (including agency representatives) in the area. There is no limit to the size of Council membership, which is grouped into three components, described as follows (Brown and Swensen, 1995:4):

"1. Citizen's Group: Members of the public with commodity, conservation and/or community development interests that have an integral role in Council affairs by being on an equal footing with other participants. The Citizen's Group reviews agency proposals and plans for their relevance to local needs and whether all interests are treated equitably.

2. Technical Team: The Team is composed of scientists and technicians from government, academia and the private sector. The Team's role is to serve as resource specialists for the projects, coordinating and monitoring research projects, launching needed studies and reviewing any ongoing work in the basin. Duplication of research will be minimized through Technical Team guidance and results of research will be integrated into Council discussions.

3. Agency Roundtable: The Roundtable has representatives of all local, state and federal entities with rights or responsibilities in the basin, including the Shoshone-Bannock Tribes. The agencies are working to align their policies and management to watershed resource concerns and needs. Discussions seek to ensure close coordination and problem-solving among the agencies, as well as clarifying legal mandates of each entity."

These groupings are intended to reflect the specific interests and mandates of the participants, not to impose artificial barriers between the three types of participants. Close contacts among these three groupings are essential to the success of the Council.

Council meetings are facilitated by two citizen organizations located in the basin. These organizations, one representing irrigation interests and the other the instream concerns of the recreational fishery, traditionally viewed each other as adversaries. Together they have spear-headed the Henry's Fork initiative and, in the process, have come to better understand each others' interests and develop a co-operative approach to addressing basin management issues.

Although the Henry's Fork approach is still in its infancy, there seems to be general satisfaction with the progress to date, and particularly with the community-based, consensus-building process that has been adopted. Although, in the words of two individuals who have been intimately involved in the organizing efforts, "it took twenty years of battling each other plus a crisis in agency mismanagement to bring everyone together to attempt a new approach", they conclude that the long process of building a consensus has been worth it (Brown and Swensen, 1995:6). They attribute the success to date to three major factors: "1) having the Council co-facilitated by credible citizen groups rather than a lead government agency, 2) taking it slowly with respect to developing the organization and spending lots of time in consensus-building processes...and self-education, and 3) using an inclusive, community-building philosophy in meetings..." (Brown and Swensen, 1995:6).

6.4 RECENT MONTANA EXPERIENCE

The community-oriented experience described for the Henry's Fork Basin is echoed elsewhere in the United States and is increasingly being used to deal with a range of basins and water conflicts. To illustrate this trend, we refer briefly to three different case studies from Montana, where local stakeholders have taken the lead in improving water management in the state (McKinney, 1995). These are the Upper Clark Fork River Water Management Plan, the Muddy Creek Erosion Council and the Bitterroot Water Forum. All have been in existence for three years or less.

6.4.1 Upper Clark Fork River Basin

The Upper Clark Fork River Basin Water Management Plan was developed between 1992 and 1994 in response to a long history of stresses placed on the river's water quality and quantity by industry, agriculture, hydroelectric development and population growth. The genesis of the Plan lay in a threatened and potentially expensive court case between competing applicants for water reservations, which essentially pitted agricultural interests against the state Department of Fish, Wildlife and Parks, which had requested in-stream flow reservations to protect fish and wildlife. As an alternative to litigation, the opposing parties agreed to negotiate an agreement under the auspices of a facilitating Institute. The resulting agreement was legislated in 1991 by the Montana Legislature, and provided for the suspension of the water reservation applications and the creation of a steering committee to draft a management plan for the Upper Clark Fork River that would take into account the various uses of the river. The plan was developed over the course of three years, and involved extensive consultation with all interests in the region, using, amongst other techniques, the formation of local watershed committees that helped in the drafting of the plan. The resulting plan that was adopted included a range of recommendations dealing with closure of the basin to new water permits, protecting existing rights, improving water quality and fish habitat, and continuing the watershed committees at both the local and basin-wide level. As with the Henry's Fork experience, the process emphasized the heavy involvement of local stakeholders and the need to spend substantial time building the necessary relationships to foster a climate in which all stakeholders would feel confident enough to speak candidly about their own interests.

6.4.2 Muddy Creek Erosion Control

The problem requiring a solution in the case of Muddy Creek lay in a major deposition of sediment from the Creek (ultimately owing to irrigation activities) into the Sun and Missouri Rivers, where the effects included both increased danger of floods and decreased water quality. Despite many studies of the problem and attempts to deal with it on the part of landowners, the results tended to amount to little more than finger-pointing by the various parties. Faced with growing frustration and the possibility of litigation, the state government of Montana took steps to initiate a process that would resolve the conflict amongst the different interests.

It was recognized from the outset that a resolution of the problem would take a good deal of time and that there would not be significant federal funding available to provide a "fix". It was also recognized that all residents in the region should be regarded as stakeholders with a right to participate in the process of resolving the problem. A Muddy Creek Task Force of all affected interests was thus created, with representatives of relevant state and federal agencies acting as non-voting consultants. As with the other similar experiments discussed above, the Task Force spent considerable time engaged in consensus building to ensure that all stakeholders would feel they had input into the process. The work of the Task Force is carried out on a volunteer basis, with much of the data and technical assistance provided by the representatives of the government agencies.

To date, the Task Force has developed and begun to implement a plan, and is also engaged in fund raising to assist with further work. One significant observation of the Task Force coordinator, apart from the expected emphasis on the need for teamwork by various stakeholders, is that although the resolution of the problem will not come overnight, it is nevertheless necessary to have some short-term goals and successes to keep people committed to the process.

6.4.3 Bitterroot Water Forum

The Bitterroot Water Forum in western Montana is the least developed of the various mechanisms for co-operative water management that have been discussed in this report. It is nevertheless useful as a powerful illustration of a bottom-up approach to water management issues. The forum was created in response to concerns that the recent rapid growth in the Bitterroot River basin would impose serious stresses on its water resources. The initiation of the Water Forum originated in a letter of invitation from five individual citizens concerned about the challenges of water management in the basin. After several meetings, the invitation to participate in a process of consensus building was extended to a range of new partners, taking into account, amongst other factors, the need to reach as many interests as possible -- although these interests were identified as individuals rather than as organizations. Currently there are 23 individuals who are members of the Forum, which has been meeting monthly since the spring of 1994 to educate themselves and others about water-related issues in the basin. Research on individual projects is carried out by sub-committees that report back to the Forum. To date, the Forum has proceeded slowly in order to establish credibility with the community at large. The Forum has sponsored educational activities, commented on a local government land use plan and has begun to develop projects.

6.5 CONCLUSION

The stakeholder-driven inclusive model depends for its success on the willingness of diverse groups and individuals, often with very different perspectives, to come together to address common problems or resolve conflicts. The motivation to initiate this process may stem from a frustration with existing political and legal mechanisms for resource management, interagency (or interjurisdictional) coordination, and conflict resolution. It reflects a conclusion on the part of stakeholders that there must be a "better way" than interest-group politics and intractable conflict.

Stakeholder-driven inclusive models have both the advantages and the disadvantages of being independent from government. On the one hand, they must do without the guidance and resources of government when coming together and deciding on a general mandate and specific objectives. They will also lack, at least initially, a guarantee on the part of government that they will be listened to. On the other hand, however, their independence may allow them to play a watchdog role, and perhaps even serve as a forum for bringing together representative of different government agencies whose activities affect water management. If these bodies are successful in developing a consensus among diverse stakeholders on water management issues, their recommendations may be politically difficult to ignore.

In the Northern River Basins, the success of a stakeholder-driven inclusive model would clearly depend, first and foremost, on the willingness of diverse stakeholders to work together. Experience suggests a need to proceed slowly, build trust, and set attainable objectives. The stakeholder-driven inclusive model offers, however, the potential of direct citizen empowerment should governments prove unwilling or unable to address basin-wide issues to the satisfaction of residents. This model could be particularly effective in a watchdog role, whether monitoring the state of the Northern River Basins, focusing attention on the implementation of the *Mackenzie River Basin Transboundary Waters Master Agreement*, or following up on the recommendations of the NRBS.

7.0 A MODULAR APPROACH TO INSTITUTIONAL DESIGN

7.1 INTRODUCTION

Previous sections of this report have discussed fundamental issues of institutional design and described four models that could be used, individually or in combination, as points of departure in creating new interjurisdictional institutional arrangements for the Northern River Basins. The purpose of this section is to propose a practical approach to designing institutional arrangements.

The section begins by describing in general terms a "modular" approach to institutional design. This approach is then broken down into two elements. The first is the selection of individual institutional modules. Second, these modules are combined into an overall structure, a process referred to as institutional architecture. While in practice these stages may be closely intertwined, separating them conceptually is a useful way of dividing into manageable components the complex institutional issues facing interjurisdictional basins.

7.2 MODULAR DESIGN

The modular approach to design is used in many contexts, from the arrangement of simple components in a functional grouping (e.g. office furniture), to the design of complex pieces of machinery or electronic devices. Modules have individual integrity in design and operation, but may be combined into a functioning whole. The degree of functional interdependence of modules can vary significantly. In some cases, as with office furniture, individual modules may be functional on their own. The rationale for a modular design is that the effectiveness of individual components may be enhanced if they are used in combination. In other instances, as with electronic systems, the modules can only be used in combination with each other. For example, computer components must be combined to create an effective system. Despite this functional interdependence, however, there are still good reasons for thinking of computers in modular terms. The modular approach serves to break the design process into discrete functional elements. It also has the advantage of allowing the system to be tailored to the requirements of individual users by selecting different combinations of modules.

The concept of modular design, then, is easily understood. Its application to interjurisdictional river basins, however, may not be immediately obvious. There is no doubt that the design of institutional arrangements for an interjurisdictional watershed is a complex problem. This complexity will be familiar to everyone involved in the NRBS. To begin with, an interjurisdictional body could contribute to more effective watershed management within the Northern River Basins in many different ways, some of which were discussed in Section 2.4. In addition, as shown in Sections 3 to 6, a variety of institutional models are available. Any arrangement must also take account of the division of constitutional authority over water between the federal and provincial governments, devolution of powers to the territories, and the reality of conflicts between upstream and downstream water users. The relationship of First Nations with governments, other stakeholders, and with the land and water of the region must also be reflected in interjurisdictional institutions. When

the diversity of interests and concerns among stakeholders is added into the equation, the task of institutional design may appear daunting.

The modular approach is proposed here as a means of making this task more manageable. Rather than searching for a single institutional formula to be all things to all people, individual institutional modules could be designed for specific functions and contexts. These modules could then be combined into an integrated yet flexible institutional architecture for the basins.

This approach reflects the premise, introduced in Section 2.1, that institutions play an intermediary role between policy objectives and "field" conditions. Successful institutional design therefore depends on close attention to both purposes and context. A corollary of this premise is that one institutional model is unlikely to be capable of achieving all purposes that may be proposed, or functioning effectively in all contexts. A modular approach permits institutional components to be custom designed. It also provides the flexibility to combine these components in ways that will enhance their effectiveness and, perhaps, establish an interjurisdictional institutional arrangement that is more than the sum of its parts. Finally, it means that obstacles in one area need not bring the whole process of institutional development to a halt.

7.3 CREATING THE MODULES

The creation of individual modules should be guided by the answers to basic questions of institutional design such as those outlined above in Section 2.3. These questions concern issues such as purpose, composition, required resources, relationship to government, etc.

A few simplified illustrations show how this process could work. If the problem identified is inadequate coordination and sharing of information among water managers in different jurisdictions, then perhaps the intergovernmental model should be adopted and an interagency coordinating committee created. In contrast, if the purpose is to exercise a watchdog or oversight function regarding basin management, an arm's length relationship with government is preferable. To achieve this objective, the independent commission model or a multistakeholder body might be appropriate. For a body intended to link research scientists, policy-makers, and stakeholders, representation from all three groups is essential. Finally, a body intended to perform a basin-wide public education function might be made up of a board consisting of community representatives and government officials, and a secretariat responsible for producing and distributing educational material.

If this approach is taken, each module will be designed to have a clear focus, "buy-in" from the key players, and sufficient resources to complete its tasks. Once these elements are in place, possibilities for integrating modules, or building interconnections between them, can be considered.

7.4 INSTITUTIONAL ARCHITECTURE

Institutional architecture is the structure within which the modules fit. Depending on the circumstances, modules may be tightly or loosely integrated. One approach is a hierarchical model where, for example, a multistakeholder body oversees a number of other modules (or sub-committees) responsible for functions ranging from interagency coordination to directing scientific research. The composition of each module would be suited to its particular task, but activities and, perhaps, the allocation of resources would be coordinated by a central body. Another illustration of a hierarchical approach is the CORE process, where an independent commission initiates and supports a series of government-driven inclusive processes, aimed a producing consensus on regional land-use issues.

The second broad approach to institutional architecture is a more informal grouping of relatively autonomous bodies, perhaps linked through overlapping membership or a central information exchange. The interrelationships between bodies would be determined only by their respective needs and interests.

Flexibility in combining modules can be illustrated by several examples. An interagency coordinating body may, in some circumstances, function quite will with little public input. If its focus is primarily on technical matters, there may be little stakeholder interest in participating. However, if water management decisions are having negative impacts on stakeholders, an institutional mechanism to transmit stakeholder concerns to the water managers may be very useful. Formal links between interagency and multistakeholder bodies could then be created.

Institutional architecture can also be used to address the centralization-decentralization issue described in Section 2.2.4. For example, if stakeholder-driven inclusive bodies are established to address water management concerns on individual rivers, a stakeholder council might be created to bring together representatives of the different groups to share concerns on basin-wide issues and explore opportunities for mutual support and co-operation.

It should also be noted that the structure of interjurisdictional institutions in the Northern River Basins will be influenced by broader political and institutional developments. For example, ratification of the *Mackenzie River Basin Transboundary Waters Master Agreement* would significantly change the institutional picture. The bilateral agreements provided for under the *Master Agreement* could provide a means of integrating modules into the overall structure. The role and composition of the Mackenzie River Basin Board would also have important implications for other interjurisdictional institutions in the Northern River Basins.

In practice, of course, broader questions of institutional architecture may have to be addressed directly in the design of individual modules. The advantage of thinking in modular terms, however, is that maximum flexibility in institutional design is preserved. Some of that flexibility may be lost if the focus shifts too quickly from individual modules to developing a comprehensive body to address all of a basins' water management issues.

7.5 CONCLUSION

In essence, the modular approach suggests that the initial focus of institutional design should be to identify the purposes or functions that one or more institutional bodies might serve in the Northern River Basins. Individual institutional modules could then be designed accordingly. Development of the interrelationships among modules could proceed as opportunities for co-operation and coordination present themselves, giving rise to a flexible institutional architecture for the basin.

This approach has the advantage of segmenting a very complex problem of institutional design into more manageable components. It focuses attention on the need to tailor institutions to purpose and context, recognizing that one body is unlikely to be able to play all institutional roles. A modular approach also allows for progress to be made in areas where the relevant parties can come to an agreement. It thus fits well with the suggestion, made by some participants in the NRBS, that new interjurisdictional arrangements should begin with modest objectives. Institutional design can start with a single module. Expansion is then possible in accordance with needs and resources.

8.0 CONCLUSION

The design of interjurisdictional institutions for the Northern River Basins is a multi-step process. The survey of options presented in this report is intended to contribute to that process in two ways. First, the discussion of fundamental issues in Section 2 and the modular approach outlined in Section 7 provide a framework for institutional design. Second, the models reviewed in Sections 3 to 6 constitute a set of general options that could be used, either individually or in combination with each other.

Determining which option, or combination of options, is best suited to the Northern River Basins will depend on a clear definition of what objectives are to be achieved and a realistic assessment of the willingness of governments and stakeholders to participate in new institutional arrangements. For certain purposes, the intergovernmental model may be most suitable. The application of this model to the region is already in progress through the *Mackenzie River Basin Transboundary Waters Master Agreement*. For other purposes, an independent commission or government-driven inclusive body may be an effective means of addressing basin-wide water management issues. Finally, a stakeholder-driven inclusive model could be used, especially if groups and individuals are motivated to come together to address water management issues from the perspective of basin residents.

There is almost certainly no single institutional solution for the Northern River Basins. Equally, there is no template for interjurisdictional bodies that can be adopted in its entirety from experience elsewhere. An approach that is custom tailored to the needs and circumstances of the Northern River Basins can, however, be developed. To do so will require a general understanding of principles and models of institutional design and attention to the practical lessons that can be learned from experience with interjurisdictional and multistakeholder resource management institutions in other contexts.

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APPENDIX A: TERMS OF REFERENCE

NORTHERN RIVER BASINS STUDY

OPTIONS FOR AN INTERJURISDICTIONAL BODY ON THE PEACE/ATHABASCA/SLAVE BASIN

TERMS OF REFERENCE

HISTORY

Over the past four years, the Northern River Basins Study (NRBS) has pursued a program of scientific, sociological and traditional knowledge research on the basin area. This research was tailored to answer sixteen questions posed by the Study Board. These questions focus mainly on the condition of the aquatic ecosystem of the basin and the impacts of industrial developments on it. Question #16, however, deals with the political/sociological environment of this area.

Question #16

"What form of interjurisdictional body can be established ensuring stakeholder participation for the on-going protection and use of the river basins?"

The responsibility for formulating an answer to this question was originally assigned to the science component section known as "Other Uses". In December of 1994, the Study Board passed this responsibility on to the Strategic Planning Committee. This Committee endorsed a three phase approach to develop a response to Question #16.

1. Detail existing structures and responsibilities for basin management.

2. Develop comprehensive functional requirements for future basin management based on Phase One and on the roles and directions developed by the NRBS.

3. Review all other existing examples of interjurisdictional bodies for basin management, including structures affecting the basin that are under development but not yet final or might emerge from other current studies, and develop options for the form (structure) of an interjurisdictional body, that can be empowered with the functional requirements identified.

TASK

Develop an options paper for the use of the NRBS based on the third goal, as above.

METHODOLOGY

I. Review all pertinent documents, minutes and surveys, in conjunction with the NRBS office.

II. Interview selected Board members, Science Advisory Committee, Study and Science Directors, and staff members.

III. Consult with Chairmen of the Mackenzie River Basin Study (Jim Vollmershausen) and the Peace-Athabasca Delta (Bruce MacLock) and with First Nation members of the Board.

IV. Conduct a workshop with Strategic Planning Committee and other interested Board members to outline proposed options.

V. Prepare final report on options for Board consideration.

TIMELINE

Draft Report - August 15th

Final Report - September 8th

For further information please contact Betty Collicott, NRBS Study Director.

APPENDIX B: LIST OF PEOPLE INTERVIEWED FOR THIS REPORT

The following individuals, selected by the NRBS, were interviewed as part of the research for this report.

Dennis Bevington (His Worship)
NRBS Board Member
Mayor, Town of Fort Smith

Bob James (Dr.)
NRBS Board Member
Professor of Electrical Engineering
University of Alberta

Donald J. Klym (Mr.)
NRBS Board Member
Manager, New Mines Approvals
Suncor Inc., Oil Sands Group

Peter A. Larkin (Dr.)
Chairman
NRBS Science Advisory Committee Member
Royal Society of Canada
University of British Columbia

F. Henry Lickers (Mr.)
NRBS Science Advisory Committee Member
Director, Environmental Division
Mohawk Council of Akwesasne

Dan MacDonald (Mr.)
NRBS Board Member
Dene and Metis Nation

Bruce MacLock (Mr.)
Chairman
Peace-Athabasca Delta Study

Gerald McKeating (Mr.)
NRBS Board Member
Regional Director
Environmental Conservation Branch
Environment Canada

James R. Nicols (Mr.)
NRBS Board Member
Assistant Deputy Minister
Natural Resources Service
Alberta Environmental Protection

Lucille E. Partington (Mrs.)
Co-chair
NRBS Board Member

Lucille Polukoshko (Mrs.)
NRBS Board Member

Ellie E. Prepas (Dr.)
NRBS Science Advisory Committee Member
Director, Environmental Research and Study Centre
University of Alberta

Michael Procter (His Worship)
NRBS Board Member
Mayor, Town of Peace River

David W. Schindler (Dr.)
NRBS Science Advisory Committee Member
Dept. of Biological Sciences
University of Alberta

John Stager (Dr.)
NRBS Science Advisory Committee Member
Dept. of Geography
University of British Columbia

Elizabeth J. Swanson (Mrs.)
NRBS Board Member
Staff Counsel
Environmental Law Centre

Jim Vollmershausen (Mr.)
Chairman
Mackenzie River Basin Study