

The Design of Federalism and Water Resource Management in Canada

Steven A. Kennett

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FOREWORD

For several years there has been continuing controversy in Canada about the jurisdictional scope of federal power with respect to water resources. Royal commission reports, government policy documents and public debate have all focused on the need for a clearer division of responsibility and regulatory authority over water. Water resources are a prime example of the externalities arising from environmental interdependence, and as such they merit study as a matter of both pressing public concern and compelling academic interest.

The Institute is pleased to publish this Research Paper by Steven Kennett on the design of federalism and water resource management in Canada. It will be of interest to students of resource and environmental policy as a detailed treatment of the issues in constitutional law affecting the regulation of water. The paper should also appeal to a broader readership in its sustained examination of the theory of design in federal systems, and the criteria for decisions as to which order of government should be responsible for a particular area of public policy. Students of Canadian and comparative federalism will find here one of the most detailed and intriguing applications yet to appear of Albert Breton and Anthony Scott's groundbreaking approach towards an economic theory of the division of power in federal states. Kennett's application will help students and practitioners alike to sort out the rationale for assigning and dividing responsibilities among governments in general, and specifically for water resources — a continuing problem, not only for Canada, but for many other countries.

Steven Kennett is Research Associate at the Canadian Institute of Resources Law in the Faculty of Law, University of Calgary. On his behalf we would like to acknowledge the financial support of the Social Sciences and Humanities Research Council of Canada and the Canadian Law Scholarship Foundation for thesis research at Queen's University. Thanks are also due to Dean John D. Whyte for his invaluable assistance and encouragement. Finally, on behalf of the Institute, we would like to thank the external reviewers for their comments on earlier drafts of this paper. All contributions to the Research Paper series are peer-reviewed.

Douglas M. Brown
Acting Director
August 1992

SOMMAIRE

Cet article propose une règle pour l'attribution des compétences en matière de gestion des ressources en eau entre les paliers de gouvernement fédéral et provincial. Pour ce faire, l'auteur brosse à grands traits une approche systématique du fédéralisme canadien applicable aux politiques relatives aux ressources en eau.

D'entrée, l'article explique pourquoi la gestion des ressources en eau constitue un exemple adéquat pour illustrer le débat actuel sur la répartition des compétences au Canada. Sont ensuite examinés les valeurs fondamentales, voire les "critères de choix collectif" permettant de cerner les questions majeures se rapportant au domaine de l'eau dans les systèmes fédéraux. A cet égard, l'auteur est d'avis que le processus en vertu duquel les effets externes se trouvent minimisés sur le plan des relations intergouvernementales s'avère un élément clé aux fins du bon fonctionnement du fédéralisme. Si ce principe opérationnel convient très bien à la gestion des ressources en eau, en revanche, il n'apparaît pas concluant au regard de l'ensemble du système fédéral. L'auteur reprend donc, comme cadre d'analyse pour la répartition des compétences, l'approche développée par Breton et Scott qui vise à minimiser les coûts d'organisation dans le système fédéral. Ce modèle, qui englobe des valeurs et des principes du fédéralisme discutés au préalable dans l'article, appelle au demeurant à une répartition fonctionnelle des compétences, sur le plan constitutionnel, en matière de gestion des ressources en eau. De façon spécifique, la présente étude en vient à la conclusion que le Parlement fédéral devrait se voir confier la prépondérance constitutionnelle au chapitre des effets externes propres à la gestion des ressources en eau. L'auteur ne soutient toutefois pas que la compétence fédérale devrait s'étendre à tous les aspects de la gestion des ressources en eau.

ABSTRACT

This paper considers how jurisdiction over water resource management in Canada *should* be allocated between the federal and provincial levels of government. To answer this question, a systematic approach to the design of Canadian federalism is outlined and applied to water issues.

The discussion begins by reviewing reasons why water management is an appropriate focus for a discussion of Canada's division of powers. Fundamental values or "criteria for choice" in federal systems are then examined to identify particular issues of importance for water jurisdiction. On the basis of these issues, the minimization of interjurisdictional externalities is considered as an operational principle of federalism which is particularly relevant to water management. This operational principle, however, is shown to be an inadequate basis for conclusions about the design of the federal system. The Breton and Scott approach of minimizing organizational costs in the federal system is, therefore, presented as a framework for division of powers analysis. This framework, which incorporates values and principles of federalism discussed earlier in the paper, yields specific conclusions about the appropriate allocation of constitutional authority over water management. In particular, this study concludes that the federal Parliament should have jurisdiction over interjurisdictional externalities in water use. This conclusion does not, however, imply that federal jurisdiction should extend to all aspects of water management.

THE DESIGN OF FEDERALISM AND WATER RESOURCE MANAGEMENT IN CANADA

INTRODUCTION: THE PROBLEMS POSED BY WATER

Water management is an appropriate case study for a systematic discussion of the design of Canadian federalism. First, water management in Canada is an increasingly important and controversial area of public policy. Second, the political economy of water gives rise to significant water management problems related to the federal system. Third, since many watersheds cross provincial and territorial boundaries and constitutional authority over water is divided, water issues are frequently intergovernmental in scope.

The first reason for examining the design of federalism as it relates to water management is the growing significance of this area of public policy. The centrality of water to the lives of Canadians is hard to overestimate. Canada's water resources are a defining characteristic of the country's physical geography and have shaped patterns of settlement and economic development. Water has numerous domestic, industrial, transportation, agricultural and recreational uses and serves as a significant source of electric power. In addition, it is critical to the viability of ecosystems and to the integrity of wilderness areas throughout Canada.

Although Canada's abundant water resources have long been taken virtually for granted, it is becoming increasingly apparent that water quality degradation and shortages in certain regions are forcing water management issues into the consciousness of citizens and onto the political agenda. Environmental groups are demanding tougher pollution standards and stricter environmental review procedures for water development projects, and government has clearly acknowledged the importance of water issues. A 1987 policy statement from Environment Canada, for instance, referred to water as "Canada's most undervalued and neglected natural resource" and stated that "[i]n no part of Canada is freshwater of sufficient quality and quantity that it can continue to be overused and abused in the way it has been in recent decades."¹

1 Environment Canada, *Federal Water Policy* (Ottawa: Ministry of Supply and Services, 1987), p. 3.

As water issues increase in prominence, so too will the difficulties of reconciling competing interests and making the policy decisions necessary to manage this resource in a sustainable manner.² The challenges of water management include conflicting demands in regions of water shortages, threats to water quality, and the social, economic and environmental consequences of development projects such as hydroelectric dams and pulp and paper mills.³

Controversies surrounding water management are among the major Canadian environmental issues of the 1990s. Examples include the Oldman River Dam, the Rafferty-Alameda project, the James Bay hydroelectric development, the construction of pulp and paper mills in northern Alberta and the proposed copper mine on the Tatshenshini River in British Columbia. Environmentalists, native groups and a variety of other interests have vigorously opposed these projects, transforming them into important political issues. In every case, jurisdictional questions regarding the respective responsibilities of federal and provincial governments have been raised. Since water management is likely to remain high on the political agenda, a detailed examination of this topic in terms of the design of federalism is appropriate.

The second reason for discussing water management and the design of Canada's federal system is that two problems associated with the political economy of water are accentuated by federalism. These problems are the over-exploitation of common property resources and the prevalence of water use externalities.

Many water management problems arise from common property characteristics. Common property resources are generally either unowned, like air or the high seas, or collectively owned, like oil fields that extend under several properties. A distinguishing characteristic of these resources is that costs associated with their use are easily avoided by individual users.⁴ The problem is that the incentives facing individuals who can avoid bearing the full costs of their activities may result in behaviour which, collectively, is harmful to all who depend on the resource. Examples of this phenomenon are plentiful. The owners

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- 2 The concept of sustainability was popularized by the *Brundtland Report*, which defined sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." World Commission on Environment and Development, *Our Common Future* (Oxford: Oxford University Press, 1987), p. 8.
 - 3 For an overview of issues in Canadian water management, see S.A. Kennett, *Managing Interjurisdictional Waters in Canada: A Constitutional Analysis* (Calgary: Canadian Institute of Resources Law, The University of Calgary, 1991), pp. 5-48.
 - 4 R. Dorfman, "The Technical Basis for Decision Making" in E.T. Haefele (ed.), *The Governance of Common Property Resources* (Washington, DC: Resources for the Future, Inc., 1974), p. 7.

of land over a common oil field face incentives to extract oil as quickly as possible, with the result that additional wells will be drilled which are likely to decrease the field's productivity and add to the costs of extraction for everyone. Fishermen using a common fishery face similar incentives; more intensive fishing reduces the productivity of all boats' fishing efforts in the short term and may impair the long-term sustainability of the fishery. Perhaps the best known exposition of the incentives for overexploitation of common property is Hardin's "tragedy of the commons."⁵ Although this analysis can be adapted to a wide variety of circumstances, "[t]he one common element seems to be the presence of numerous users, or of decentralized decision making subject to a shared constraint."⁶

With respect to water resources, the shared constraint may be either quantity or assimilative capacity. In either case, the overlap or complete absence of private property rights in an unregulated situation may lead individual users to maximize water appropriation or the consumption of waste absorption capacity without regard for the aggregate impact on other users or on the resource itself. The result is a demand for public intervention to allocate the resource among users so as to prevent consumption from exceeding sustainable levels.

As A.R. Thompson points out, the description of water as a "common property" or "free" resource is in a sense misleading, since the provincial Crown has property rights in stream and lake beds and, in some provinces, in the flowing water itself. Thompson argues that governments should therefore manage water resources as would a private owner, with the additional function of resolving or regulating conflicting water uses so as to maximize aggregate (social) benefits.⁷ The common property analysis is, however, relevant to the unregulated behaviour of private water users and to the use of transboundary waters. In a federal system where many watersheds are shared by two or more jurisdictions, water is especially likely to be viewed as a common property resource and consequently subject to overexploitation.

The prevalence of externalities in water use and regulation is another political economy problem for water management. According to C.S. Russell:

The term externality applies generally to situations in which firm (or individual) A creates through its activities a cost or a benefit for firm (or individual) B but does not take this cost or benefit into account in making its decisions about its production or consumption.⁸

5 G. Hardin, "The Tragedy of the Commons" *Science*, 162 (1968), p. 1244.

6 Dorfman, "Technical Basis for Decision Making," p. 9.

7 See A.R. Thompson, *Environmental Regulation In Canada: An Assessment of the Regulatory Process* (Vancouver: Westwater Research Centre, 1980), pp. 15-18.

8 C.S. Russell, "Externality, Conflict, and Decision" in K.A. Price (ed.), *Regional Conflict and National Policy* (Washington, DC: Resources for the Future, Inc.,

With many externalities, a common property resource is the medium by which costs are transmitted. In fact, a classic example of behaviour producing externalities is when an upstream polluter's consumption of the "free" good of waste disposal provided by a river imposes significant costs on downstream users who are sensitive to water quality. The prevalence of water use externalities is explained by the common property nature of the resource and the strong interrelationships (or potential conflicts) among uses.

A characteristic common to many activities affecting the environment is that externalities (i.e., spillovers) are "often hidden, pervasive and intangible, defying precise quantification ... [and] often much more significant than the direct costs of an activity."⁹ Environmental management, indeed, is sometimes viewed as a problem of internalizing these costs on the theory that the socially optimal level of an (externality creating) activity can only be achieved when producers and consumers of that activity are faced with its true costs. Internalizing costs as a precise instrument of environmental policy is often difficult because of the complex and sometimes unquantifiable nature of these costs (e.g., damage to ecosystems such as wetlands) and the problems of designing and implementing effective pricing or taxation mechanisms. The objective of reducing or eliminating externalities is therefore pursued through direct regulation.

The concept of externalities is significant for the design of the federal system because it applies to the behaviour of political decision-makers. These individuals are subject to incentive structures shaped by such factors as the pursuit of votes, relations with interest groups, institutional self-interest and the available sources of information. The externalities problem arises when the policies selected in response to these incentives impose costs on others, through the medium of common property resources, which the decision-makers are not obliged to take into account. Russell labels these costs "political externalities" and explains his use of the term as follows:

I apply this term both to situations in which the design (constitution) of our political institutions creates conflicts by excluding from collective decisions the voices of legitimately interested parties, and to situations in which the decisions or actions themselves prevent the resolution of conflicts arising from another type of externality. ... [F]or example, a political externality would arise if a state decided to develop a resource and in the process to scar a wilderness or scenic area valued by residents of other states. The design of jurisdictions and decision processes

1982), p. 111.

9 J.W. MacNeill, *Environmental Management* (Ottawa: Information Canada, 1971), p. 16.

based on residence means that the resulting conflict is not just between groups of individuals, but also between excluded groups and a state or states.¹⁰

Since nonregulation is itself the result of a political decision, the scope of political externalities can be expanded to encompass the permitted actions of private individuals within a jurisdiction, which impose costs on residents of other jurisdictions. To reflect the fact that these externalities may be the result of both governmental and private action, they are referred to here as "inter-jurisdictional externalities." This term encompasses both public and private actions that spill over territorial jurisdictional boundaries. The concept of interjurisdictional externalities raises issues that are fundamental to the federal system of government and will therefore figure prominently in the following analysis.

The common property nature of water and the prevalence of water use externalities are thus political economy problems related to the federal system. As a result, water management raises interesting issues for the design and operation of federalism.

The third reason for focusing on water in discussing the design of Canadian federalism is that water issues frequently involve two or more governments and raise jurisdictional conflicts. Geographic and constitutional factors explain this situation. In the case of transboundary watersheds, integrated watershed management requires effective interprovincial cooperation.¹¹ Furthermore, the assignment in the constitution of water-related powers to both levels of government means that water management frequently raises jurisdictional issues.¹² These factors highlight the interjurisdictional elements of water

10 Russell, "Externality," p. 111.

11 It is generally recognized that integrated watershed management is desirable because of the unity of ecosystems and the interrelationships among users within this geographic unit. See Environment Canada, *Federal Water Policy*, p. 10.

12 H.D. Foster and W.R.D. Sewell, *Water, The Emerging Crisis in Canada* (Toronto: James Lorimer & Company, 1981), p. 86. The details of water jurisdiction under the *Constitution Act, 1867* are not the primary focus of this paper. The key relevant powers are the following: most aspects of water management are within provincial jurisdiction as a result of section 109 proprietary rights and the section 92(13) jurisdiction over property and civil rights in the province; the primary heads of federal power affecting water are section 91(10) (navigation and shipping) and section 91(12) (seacoast and inland fisheries); various other federal powers may have implications for water management including section 91(27) (criminal law) and the general "peace, order, and good government" power. A more complete discussion of water jurisdiction can be found in J.O. Saunders, *Interjurisdictional Issues in Canadian Water Management* (Calgary: Canadian Institute of Resources Law; The University of Calgary, 1988), pp. 7-35 (Chapter 2—Canadian Water Management: The Constitutional Context); and D. Gibson, "The Constitutional Context of Canadian Water Planning," *Alberta Law Review*, 7 (1968-69), p. 71.

management, suggest the need for a supraprovincial perspective on some issues and point to virtually inevitable conflicts between governments. Foster and Sewell, however, find "relatively few effective mechanisms for reducing such federal-provincial and interprovincial impasses in the water resources field" and claim that the result of these conflicts is frequently the implementation of suboptimal policies.¹³

These observations give some sense of the jurisdictional obstacles to effective water management in Canada. The concerns which they illustrate are reflected by Thompson's executive summary in a collection of essays entitled *Water Policy for Western Canada: The Issues of the Eighties*. He remarked that:

[T]here was a sense of impending crisis concerning inter-jurisdictional relations between the federal government and the provincial and territorial governments as increasing water demands generate conflicts of an inter-basin nature or between upstream and downstream users. It will take a sense of national purpose and strong political leadership to gain the kind of acceptable institutional arrangements that will ensure politically acceptable solutions to these conflicts. In particular, an acceptable inter-jurisdictional agreement needs to be reached respecting the northern flowing rivers in western Canada. Already, planning for major hydroelectric projects on the Liard River in British Columbia and on the Slave River in Alberta are proceeding as if each upstream jurisdiction owes no responsibilities to its neighbours.¹⁴

The federal context, then, is a central feature of Canadian water management.

In summary, the importance of water management in Canada, the relationship between water's political economy and federalism and the intergovernmental aspects of many water issues justify a systematic discussion of the appropriate division of powers in this area. The starting point for this discussion is the identification of fundamental values which federalism is intended to further.

13 Foster and Sewell, *Water*, p. 88.

14 A.R. Thompson, "Executive Summary: The Salient Concerns of the Conference," in B. Sadler (ed.), *Water Policy for Western Canada: The Issues of the Eighties* (Calgary: University of Calgary Press, 1983), p. xv.

CRITERIA FOR CHOICE IN THE DESIGN OF FEDERAL SYSTEMS

An assessment of the appropriate allocation of powers over a particular subject matter requires a normative basis which reflects the values and objectives underlying the federal system. In addition, the policy characteristics of that subject matter must be considered. In this section, a range of "criteria for choice" in federal systems is surveyed, and their relevance to the policy issues and jurisdictional design problems raised by water management is discussed.

This analysis views federal arrangements in instrumental terms. Following the work of political scientist Richard Simeon:

[W]e assume that federalism is not an end in itself, not something which can be inherently "balanced" or "unbalanced." Federalism ... is valued or criticized because it is felt to promote (or constrain) other important values, and is believed to have certain kinds of effects.¹⁵

The purpose of undertaking a systematic examination of water jurisdiction is to determine what arrangement will best further the goals of the federal system and address the particular policy issues raised by water management.

In examining fundamental values of federalism as the basis for assessing arguments about the division of powers, Simeon's approach will be adopted. He begins with the following questions:

By what standards or yardsticks can we assess, evaluate, justify, defend, or attack the structure and operation of a federal system? Is it possible to establish normative criteria to judge success or failure, or against which to weigh alternative proposals for change?¹⁶

Simeon suggests that federal arrangements can usefully be examined from three perspectives: community, democratic theory and functional effectiveness. Constitutional debate, he states, is carried on both within and between these perspectives. No model, by itself, provides a complete explanation of or guide to constitutional design, and trade offs between them often resemble the proverbial comparison of apples and oranges. Nonetheless, Simeon concludes that these categories "provide the conceptual raw materials for constitutional choice."¹⁷

A similar analytic approach has been developed by Stevenson, who remarks that few if any of the recent (1980) proposals to revise Canada's division of powers "have shown much evidence of careful thought or sound theoretical

15 R. Simeon, "Criteria for Choice in Federal Systems," *Queen's Law Journal*, 8 (1983), pp. 131-32.

16 *Ibid.*, p. 131.

17 *Ibid.*, p. 135.

underpinnings."¹⁸ Stevenson proposes five criteria as guides to the division of powers in federal states: avoidance of externalities, capacity to act effectively, simplicity and accountability, spatial distribution of policy preferences, and concern for subnational communitarian identities.¹⁹ Since the Simeon and Stevenson approaches overlap, they are dealt with together.

Simeon's three sets of "criteria for choice" provide the organizational framework for this section. Community, democracy and functional effectiveness are discussed in turn. In each case, the central elements of the proposed criteria are outlined and the criteria are assessed in terms of their ability to provide specific guidance regarding the appropriate allocation of jurisdiction. Each criterion's relevance to the water management context is also discussed.

COMMUNITY

Criteria for choice based on conceptions of community direct attention to bonds of common citizenship, loyalty, mutual obligation and entitlement.²⁰ While people may feel an affinity to a wide range of communities, from the family to humanity at large, the tension within federalism is between national and regional political communities. In the Canadian context, Simeon argues, the competing visions of community are country building, province building and two-nation or Quebec nation building. Each vision embodies its own distinct prescriptions for constitutional change.

Although the notion of community is an intuitively appealing one, its application to the design of the division of powers is not straightforward. One approach is Stevenson's criterion of "concern for subnational communitarian identities."

If a group of people have a strong sense of collective identity and mutual attachment and if one of the provincial governments is identified with that group in the minds of its members, then such a body may simply demand that the provincial government be given or retain a wide range of powers, regardless of any of the other [four] criteria discussed above. Such sentiments are difficult to measure, and there is disagreement about their importance in present-day Canada, but they obviously cannot be dismissed.²¹

Three issues raised by the community perspective are addressed here: its usefulness for allocating specific powers, its relationship to intergovernmental

18 G. Stevenson, "The Division of Powers" in R. Simeon, *Division of Powers and Public Policy* (Toronto: University of Toronto Press, 1985), p. 73.

19 Ibid., p. 83.

20 Simeon, "Criteria for Choice," pp. 135-41.

21 Stevenson, "Division of Powers," p. 86.

rivalry, and its overlap with other criteria of choice. The first problem posed by the criterion of community is that it reveals very little about how specific powers should be allocated within a federal system. While the desire for complete control or "sovereignty" that is associated with strong nationalism or regionalism brings federalism itself into question, Stevenson's statement does not provide much insight into lesser claims to autonomy on the part of communities within a federal system. Similarly, Simeon's categories of nation building, province building and two-nations indicate directions for the design of federalism (i.e., centralization or decentralization) but provide little guidance as to where the line should be drawn. It seems that the analysis may be reduced to something akin to an inherent balance in federalism, an approach that Simeon rejects at the start of his paper.²²

A way around this dilemma may be to focus on the factors that give rise to community identity. These factors include shared values and goals, common history, and cultural characteristics such as language and ethnicity.²³ The criterion of community arguably supports provincial jurisdiction, where the province corresponds to a community of this sort, over policy areas relevant to the preservation of this community identity. Quebec's jurisdictional claims are frequently phrased in these terms. To the extent that the community criterion is limited to cultural factors, it also seems restricted in the context of Canadian federalism to a fairly narrow, albeit important, range of claims by Quebec. It might, however, be extended to include spatially concentrated policy preferences, Stevenson's fourth criterion, which may be part and parcel of a shared sense of community. Once this step is taken, though, the category looks very much like a criterion of democracy.²⁴

A second issue concerning the community perspective is the extent to which it is merely a by-product of governments struggling for power.²⁵ Breton, for instance, has characterized both two-nations and province-building views of communitarian federalism as "intellectual atavism."²⁶ He argues that these views allow no room for the notion of horizontal competition between provinces because individual governments are assumed to cater to a group of individuals whose preferences are defined by their distinctive set of communal characteristics. Furthermore, at least in the ten provincial communities view, this perspective renders the federal role superfluous. More fundamentally, he

22 Simeon, "Criteria for Choice," p. 131.

23 K. Norrie, R. Simeon and M. Krasnick, *Federalism and the Economic Union in Canada* (Toronto: University of Toronto Press, 1986), pp. 23-24.

24 See infra note 34 and accompanying text.

25 Simeon, "Criteria for Choice," p. 140.

26 A. Breton, "Supplementary Statement" in Royal Commission on the Economic Union and Development Prospects for Canada, *Report*, vol. 3 (Ottawa: Minister of Supply and Services Canada, 1985), p. 505.

argues that "[t]here is no province in Canada that is made up of a homogeneous mass of people and there is no province in which the interests, preferences and aspirations of all the people are the same."²⁷ Finally, even if this were the case, the underlying rationale for federalism lies, according to Breton, in the notion of political competition rather than the preservation of communities. He concludes as follows:

The foregoing is *not* a denial of the existence of communities. I recognize that these exist and that they play an irreplaceable role in the life of people. ... I am only saying that there is no independent definition of community that can serve as a guide to the design of federal structures and to their governance. *The task of governments is to meet the preferences of citizens who happen to be in the provinces or in the country they have been elected to govern.* Meaningful provincial communities do not exist, except as provinces [emphasis in original].²⁸

Breton's analysis highlights the difficulty in many cases of distinguishing underlying "community" values from the package of interests promoted for various reasons by provincial governments.

The third issue raised by the community perspective is that, as Simeon himself notes, many of the arguments of province-builders and nation-builders are put in terms of democracy and functional effectiveness, the other two sets of normative criteria.²⁹ On the democratic theory spectrum, arguments of self-determination and responsiveness of government in small and homogeneous communities confront claims about the virtues of pluralism and countervailing powers found only at the national level. Functional claims concern the relative responsiveness of different levels of government to local circumstances, their effectiveness in achieving policy objectives and the vulnerability of smaller units in the context of global economic and political forces.

In light of the focus of this paper on water management, there is no need to attempt a synthesis of the strands or resolution of the problems associated with the communitarian view of federalism. To the extent that the value of community refers to a distinctive package of cultural characteristics, as in certain claims made by Quebec, it does not seem particularly relevant to the jurisdictional and policy issues of water management. An exception to this conclusion may be the claims of Aboriginal Canadians whose lifestyles may be seriously threatened by water projects such as hydroelectric dams. To the extent that the category of community simply reflects spatially defined preferences or the claims of provincial governments, it will be dealt with under the rubric of democratic or functional values. In sum, conceptions of community appear to

27 Ibid., p. 506.

28 Ibid.

29 Simeon, "Criteria for Choice," p. 140.

have limited relevance to the design of federalism as it relates to water management.

DEMOCRACY

Democratic values suggest advantages of both centralization and decentralization in federalism. This section identifies the critical issue for the design of federal systems from the perspective of democratic theory. Two ways that federalism promotes democratic values and two weaknesses of decentralized federalism from this perspective are then noted. The section concludes by identifying two criteria of democracy which have particular relevance to water management.

Arguments from democracy raise a fundamental issue of federal organization. According to Norrie, Simeon and Krasnick:

[A] central question for the design of federations is not so much whether the majority should rule but rather which majority should rule on any given question. Ideally, the Constitution should say that for a certain set of purposes the community is the country and therefore the relevant majority is a majority across the whole country; but that for another set of purposes, the relevant communities are provincial and it is there that majority rule should operate. A claim that either kind of majority is inherently superior is hostile to federalism. The constitutional division of powers answers the question in particular cases, but it is difficult to adapt it to changing conceptions of community.³⁰

This passage states the critical design problem for federal systems and underlines the difficulty of resolving it through arguments from democracy. The unanswered question is what criteria can be used to determine which questions should be settled by which majority. Defining the issue in terms of "conceptions of community" is not, however, of much assistance.

Two arguments illustrate how democratic values may be furthered by federalism.³¹ First, federalism can be seen as a means of protecting minorities from oppression by the majority. This argument was advanced by Madison in the *Federalist Papers*, which advocated fragmenting state authority in order to promote individual liberty and self-determination.³²

30 Norrie et al., *Federalism*, p. 19.

31 Ibid., pp. 17-21; and Simeon, "Criteria for Choice," pp. 150-55.

32 See James Madison, *Federalist*, no. 10, quoted in R. Whitaker, "Federalism and Democratic Theory," Discussion Paper no. 17 (Kingston: Institute of Intergovernmental Relations, Queen's University, 1983), p. 20.

Second, federalism can increase the responsiveness of government to voter preferences.³³ Decentralization may make government more accessible, thus reducing costs of participation. Another version of this argument is that federalism has advantages as a mechanism of public choice because decision-making by smaller, more homogeneous units means that people are less likely to find themselves in minorities. Where the majority in one region prefers policy A while the majority in another prefers B, more people will be satisfied if each unit pursues its own policy rather than having either A or B imposed on both regions, the situation if they are combined under one government.³⁴ Federalism may also facilitate the satisfaction of voter preferences because competition between jurisdictions provides different policy packages to choose from and, in the case of vertical (i.e., federal-provincial) competition, different avenues of redress.

Two arguments from democratic theory also illustrate disadvantages of a decentralized federal system. One of these arguments is captured by Stevenson's third criterion: simplicity and accountability.³⁵ The risk is that the division and sharing of powers and responsibilities may become so complex that citizens are no longer able to hold governments accountable by apportioning credit or blame for policies. This tendency is aggravated by policy interdependence in federal systems. In addition, the institutionalization of cooperative federalism may dilute responsible government by blurring lines of accountability. While the simplicity and accountability criterion provides little guidance in allocating specific powers, it is an important objective for the federal system as a whole.

A second disadvantage of decentralized federalism from the democratic theory perspective is the problem of externalities or spillovers. Simeon notes that:

[T]he "democratic" version of containing spillovers is the idea that political boundaries should be aligned with the distribution of preferences, so that each region is as homogeneous as possible: each unit could then enact its preferences without either imposing them on others or being vetoed by others.³⁶

The democratic objection to spillovers follows directly from the principle of responsible government. Individuals who bear costs externalized by other

33 See J.R.S. Prichard and J. Benidickson, "Securing the Canadian Economic Union: Federalism and Internal Barriers to Trade," in M.J. Trebilcock et al. (eds.), *Federalism and the Canadian Economic Union*, (Toronto: University of Toronto Press for the Ontario Economic Council, 1983) pp. 17-18.

34 This argument is made by Stevenson in explaining his fourth criterion, spatial distribution of policy preferences. See Stevenson, "Division of Powers," pp. 85-86.

35 Ibid., p. 85; see also Norrie et al., *Federalism*, p. 20.

36 Simeon, "Criteria for Choice," pp. 154-55.

jurisdictions are effectively subjected to political decisions over which they have no say — the equivalent of taxation without representation. The greater the number of subnational territorial units within a federal system and the greater the decentralization of power, the higher the risk of interjurisdictional externalities.

While democratic theory criteria highlight important values and objectives of the federal system, their precise implications for the allocation of particular powers are not always evident. Sometimes arguments from democracy point to centralization or decentralization, without providing much guidance as to where the line should be drawn. Two arguments reviewed here, however, are particularly useful in evaluating the design of federal systems. First, decentralization seems particularly advantageous from the democratic perspective when there is a clear spatial distribution of policy preferences that corresponds with subnational political units. Second, democratic values suggest that interjurisdictional externalities should be minimized in a federal system. Both of these arguments are relevant to water management since many water policy issues exhibit regional variation and water uses frequently give rise to interjurisdictional externalities.

FUNCTIONAL EFFECTIVENESS

The third normative perspective on federalism proposed by Simeon is functional effectiveness.³⁷ Powers should be allocated to the level of government that can most effectively exercise them and “the system as a whole is evaluated in terms of its ability to respond to the needs of citizens” and to deal with policy issues.³⁸ Simeon identifies several criteria associated with this perspective, some pointing to greater centralization and others to decentralization. While all of the functional arguments are not discussed here, the following five are representative. These functional arguments concern: economies and diseconomies of scale, maintaining regulatory standards, facilitation of a common market and resource mobility, responsiveness of government, and interjurisdictional externalities.

First, functional arguments may support centralization in policy areas where there are important economies of scale. These economies may be the result of avoiding administrative duplication or concentrating a critical mass of expertise in one place. Policies such as redistribution and macroeconomic stabilization may also require a degree of centralization to be fully effective. Diseconomies of scale may also be present where, for example, effective policy

37 Simeon, “Criteria for Choice,” pp. 141-50; see also Stevenson, “Division of Powers,” p. 84 (“capacity to act effectively”).

38 Simeon, “Criteria for Choice,” p. 141.

implementation requires adaptation to local circumstances which is costly for a centralized bureaucracy.

Second, the problem of maintaining regulatory standards in a federal system suggests functional arguments regarding the division of powers. As Stevenson observes, competition for industry may prevent provinces from acting effectively in areas such as environmental or employment standards. "To avoid being penalized for their high standards by a flight of jobs and investment," Stevenson states, "provinces might prefer to have uniform regulations imposed by the federal government."³⁹

A third functional argument mentioned by Simeon is the value of a common market and mobility of resources, advocated to promote economic efficiency and wealth maximization.⁴⁰ This criterion may yield arguments for centralization, at least to prevent barriers to resource mobility. Simeon points to several difficulties with this approach including the fact that it may ignore distributional problems within the common market and obstacles to citizen mobility. In addition, it is politically difficult to implement since the efficiency gains are widely diffused and hard to measure while the imposition of barriers to trade can yield significant gains to specific groups. Finally, pushed to its logical extreme it suggests the elimination of all political boundaries. While this criterion may be of limited help in allocating specific powers, it has the virtue of calling attention to the efficiency costs of certain types of political and economic fragmentation.

Fourth, functional arguments may concern government responsiveness and the potential for innovation within the federal system. For instance, local governments may be less cumbersome and more able to adapt policies to local conditions than central authorities. Excessive centralization may lead to political and administrative overload, to the detriment of all policy functions.⁴¹ Better policy may also result in the long run from a system where trial and error is facilitated by allowing experimentation at the local level.⁴²

The fifth functional criterion concerns the avoidance of interjurisdictional externalities. Stevenson argues that this criterion is reflected in the allocation of powers under the *Constitution Act, 1867*.⁴³ He points to the use of the terms "in the Province" and "within the Province" qualifying eight of the sixteen

39 Stevenson, "Division of Powers," p. 84.

40 Simeon, "Criteria for Choice," pp. 143-4.

41 Stevenson, "Division of Powers," p. 84.

42 A. Breton and A. Scott, *The Design of Federations* (Montreal: Institute for Research on Public Policy, 1980), p. 18; See also P. Weiler, "The Virtues of Federalism in Canadian Labour Law" in F. Bairstow (ed.), *The Direction of Labour Policy in Canada, 25th Annual Conference, 1977* (Montreal: Institute for Research on Public Policy, 1977), p. 58.

43 Stevenson, "Division of Powers," p. 83.

heads of provincial power in section 92 and to the authority of Parliament over many policy areas affecting two or more provinces, such as interprovincial transport, trade and commerce, fisheries and works declared to be for "the general advantage of Canada." The importance of externalities is also recognized in Simeon's comment that:

Perhaps the clearest criterion for allocating powers is the view that the jurisdiction for a given policy should precisely coincide with the set of people affected by it. Thus, there should be no spillovers: a programme should neither benefit people who do not have to pay for it (in which case too little of a public good will probably be provided, as in the case of higher education); nor should it impose costs on others (leading to too much production of a public ill, such as pollution).⁴⁴

A central problem with this criterion, as both Simeon and Stevenson note, is that it may lead to considerable centralization given increasing policy interdependence within a federal system. This "slippery slope" argument, along with other problems posed by the externalities criterion, will be discussed in more detail below.

Several arguments relating to the value of functional effectiveness in federalism have particular relevance to water management. For example, economies of scale may exist for certain types of scientific research and data collection, while strictly local water issues may be more efficiently handled by a decentralized system. Maintaining regulatory standards and avoiding interjurisdictional externalities are two objectives that may be more difficult to achieve in a decentralized system. It remains to be seen how these arguments can best be applied to yield specific conclusions regarding the design of federations.

SUMMARY

The discussion of the criteria of community, democracy and functional effectiveness illustrates the wide range of arguments relating to the design and operation of federal systems. For any policy area, certain of these arguments will be more relevant than others. In addition, they vary considerably in their usefulness for making specific jurisdictional choices. Some arguments merely indicate a general basis for either centralization or decentralization, while others provide much clearer tests for determining which level of government should have authority in particular situations. The discussions of both democracy and functional effectiveness raised arguments relating to interjurisdictional externalities, a problem of direct relevance to water management. The application of these arguments to the design and operation of federalism is discussed in more detail in the next section.

44 Simeon, "Criteria for Choice," p. 144.

MINIMIZATION OF INTERJURISDICTIONAL EXTERNALITIES AS AN OPERATIONAL PRINCIPLE OF FEDERALISM

In this section, the minimization of interjurisdictional externalities is examined as an approach to federalism and water management. The relevance of externalities to water management and the relationship of this approach to the democracy and functional effectiveness criteria of choice are briefly reviewed. The concept of a principle of "affected interests" put forward by Robert Dahl is then explored to highlight particular issues raised by the minimization of interjurisdictional externalities. Finally, limitations of this approach as a guide to the design of the federal division of powers are noted. Given these limitations, the minimization of interjurisdictional externalities is best viewed as a principle affecting the operation, as compared to the design, of federations.

ARGUMENTS FOR THE MINIMIZATION OF INTERJURISDICTIONAL EXTERNALITIES

Interjurisdictional externalities are pervasive in Canadian water use because of the common property nature of water, the frequency with which water uses impose costs on other users and the many watersheds that cross provincial or territorial boundaries. Political authorities may be directly involved in an externality-producing activity (e.g., dam construction) or may authorize the activity in question (e.g., through licensing or a lack of effective regulation, in the case of pollution). Two arguments, referred to above, can be made for restricting interjurisdictional externalities.

The first is functional or economic. The externality-producing jurisdiction will tend, from an efficiency perspective, to produce either too much or too little of the activity in question because it is unresponsive to the preferences of those outside its boundaries. The case of economic "goods," such as flood control, provides an example. A government will be unlikely to engage in projects whose costs exceed the benefits accruing to (tax paying) residents of its territory, even if substantial benefits will also accrue to residents of an adjoining jurisdiction who will bear none of the costs. Similarly, in the case of economic "bads" such as pollution, there is a tendency to overproduce if the costs can be externalized. In the extreme case illustrated by the "tragedy of the commons," the consequences for the resource and for those who depend upon it may be catastrophic. The standard response of economic theory to these problems is to "internalize the externalities." The political or economic entity creating the externality is then faced with the appropriate incentives as to the demand for, or costs of, the activity in question.

The second argument is based on the fundamental democratic value that individuals should have a say in the decisions that affect their lives.⁴⁵ Decisions of a government in one province that impose costs on residents of another are clearly inconsistent with this value. The construction of a hydroelectric dam, for instance, may profoundly affect the lives of downstream residents to whom the government making the decision to proceed is in no way accountable. In this situation, democratic theory suggests that some mechanism be found to include all interested parties in decision making.

These two arguments suggest a *prima facie* case for using the minimization of interjurisdictional externalities as a principle for allocating powers between levels of government. A useful starting point for exploring this approach is provided by American political scientist Robert A. Dahl.

DAHL'S PRINCIPLE OF AFFECTED INTERESTS

If democracy is rule by the people, Dahl asks, what do we mean by the people? "[W]ho should be entitled to participate in the government of a democratic association?"⁴⁶ This question is central to allocating powers in a federal system. Dahl's answer follows closely the democratic theory argument regarding externalities. He states the "principle of affected interests" as follows: "Everyone who is affected by the decision of a government should have the right to participate in that government."⁴⁷ Since interjurisdictional externalities violate this principle, Dahl's approach leads to their minimization by expanding jurisdictional boundaries to encompass externality-producing activities. While Dahl argues that this principle is "very likely the best general principle of inclusion that you are likely to find," he admits that it raises a number of problems. In particular, the principle suggests an infinite number of political jurisdictions, raises a slippery slope problem in defining the appropriate limits of jurisdiction and appears vulnerable to subjective factors.⁴⁸

The first problem noted by Dahl is that the range of people affected may vary from decision to decision.⁴⁹ The logic of the principle suggests that for each type of decision, there should be a different decision-making institution. His solution is to call on the "criterion of economy," which constrains the proliferation of political institutions on the grounds that limits exist on the time and

45 For a discussion of this point in the context of the Canadian *Charter of Rights and Freedoms* see D.M. Beatty, *Putting the Charter to Work* (Kingston: McGill-Queen's University Press, 1987), p. 58.

46 R.A. Dahl, *After the Revolution? Authority in a Good Society* (New Haven: Yale University Press, 1970), p. 60.

47 *Ibid.*, p. 64.

48 *Ibid.*

49 *Ibid.* pp. 64-65.

resources that citizens can devote to political activity. In the context of Canadian federalism, however, there is no need to go back to first principles. The number of jurisdictions to which powers can be assigned under the constitution is limited.⁵⁰ Dahl's other two problems, however, raise more serious difficulties.

The second issue, the slippery slope of increasing centralization, arises because decisions frequently have wide ramifications and do not affect all people equally.⁵¹ Dahl notes, for instance, that the allocation of federal funds to education in a particular state might lead to the argument that everyone in the country should have a say in how that state's schools are run, since their interests (i.e., their tax dollars) are involved. An argument based on affected interests could also be made regarding a mayoralty election in a neighbouring city. This slippery slope problem is perhaps the most vexing facing the externalities analysis. Both Stevenson⁵² and Simeon⁵³ note the difficulty of devising a federal system that internalizes externalities in the face of economic interdependence, population mobility, modern means of transportation and communications and a variety of other social and economic interrelationships. In Simeon's words:

The increasing interconnectedness of public policies, the importance of national and international economic linkages, and the existence of interest group coalitions crossing provincial boundaries, all imply that it is very hard to internalize the actions of government within a province. Thus the logic of the argument tends to centralization. If such a test were strictly applied, it is hard to see which responsibilities might still remain with provincial governments.⁵⁴

Scott reaches the same conclusion regarding a proposal to eliminate spillovers by assigning powers and drawing boundaries "so as to eliminate interdependencies of government activities."⁵⁵ In assessing the proposal's applicability to fisheries, a resource which, like water, gives rise to interjurisdictional externalities, he states that:

[B]ecause "no man is an island" and because the economy, the ecology, the environment and their hydraulic-oceanic-meterologic interdependencies stretch endlessly around the globe, it must be concluded that every other public function should also be assigned to top-level decision-makers. Federalism and national

50 Additional institutional flexibility, however, is provided through municipal government and interdelegation.

51 Dahl, *After the Revolution?* pp. 65-66.

52 Stevenson, "Division of Powers," pp. 83-84.

53 Simeon, "Criteria for Choice," p. 145.

54 Ibid.

55 A. Scott, "Regulation and the Location of Jurisdictional Powers: The Fishery," *Osgoode Hall Law Journal*, 20 (1982), p. 784.

sovereignty just become irritating man-made obstacles to solving unbounded problems. Clearly this approach provides a handy rationale for unitary world government, but no guidance as to where to stop before that limit is reached.⁵⁶

While the risk of a slippery slope is certainly present, a rapid descent to the bottom is not as inevitable as Scott and Simeon suggest.

To begin with, it is useful to examine specific policy issues rather than generalizing about global interdependencies. For instance, local noise bylaws or even (in most cases) the location of municipal sewage plants rarely have global ramifications. With respect to water resources, a dam on an interprovincial river may produce interjurisdictional externalities whereas water uses on an intraprovincial river may have only local consequences. Thus, while there are hard cases for the externalities criterion, easy ones are also fairly common. The fact remains, however, that the principle of affected interests provides limited guidance in deciding when the external effects are too remote to justify institutional accommodation or what considerations weighing against centralization should be taken into account in making this judgement.

The third problem identified by Dahl is that an individual's "interests" may be determined by subjective factors. Dahl suggests, for instance, that his own interests include protecting the right of Southern blacks to vote and the health of West Virginia coal miners since these "interests" are a product of his "beliefs and values about the well-being of others."⁵⁷ The consequence of this approach is to expand both the range of one's interests and the possibility that they will be affected by decisions made by others. The global communications network removes all boundaries in this regard. "The temptation," Dahl states, "is to practice altruistic imperialism and thus become the busybody of the world."⁵⁸

The issue is relevant to water management since environmental issues may be perceived as involving subjective interests. To loggers in the Queen Charlotte Islands, the efforts by eastern Canadian environmentalists to protect trees on Lyell Island might appear to be an instance of Dahl's "imperialism," albeit of a non-altruistic type, based on subjective values regarding wilderness preservation. Environmentalists could respond that as inhabitants of the global ecosystem, and as Canadians concerned with preserving examples of the country's natural heritage, their objective interests are affected by the fate of South Moresby.

Dahl suggests that criteria of economy (limits on the time and energy people can or will devote to political activities) and competence (certain types of decisions should be left to those with specialized knowledge) constrain the jurisdictional expansion implied by the subjectivity of interests. The

56 Ibid., pp. 784-85.

57 Dahl, *After the Revolution?* p. 66.

58 Ibid.

identification of competing criteria, however, is of limited assistance in difficult line-drawing. Perhaps a principle of "nonpaternalism" could be devised to weed out illegitimate claims to democratic participation based on subjective interests. For instance, merely arguing that how other people live their lives affects one's "interests" would not be sufficient to generate a right to participate in decisions. It would be necessary to adduce arguments that the conduct of others has a material impact on one's life choices, or perhaps violates a basic principle of international law. Even if this approach eliminates a range of spurious claims, hard cases will remain.

Dahl's three problems — the multiplicity of possible jurisdictions, the slippery slope of centralization, and the subjectivity of interests — show that the principle of affected interests must be applied with care. The next section argues that while this approach is a useful *operational principle* for federalism, it has important limitations as applied to the *design* of federations.

LIMITATIONS ON THE EXTERNALITIES OR AFFECTED INTERESTS APPROACH TO THE DESIGN OF FEDERALISM

The minimization of interjurisdictional externalities has two limitations as a guiding principle of federal design. The first is that it may place undue emphasis on the externalities problem, which frequently underlies arguments for centralization, at the expense of other values or criteria for choice in federalism. Second, it fails to note that interjurisdictional externalities can be addressed in other ways than through the design of the division of powers.

The first limitation of the minimization of interjurisdictional externalities is that it does not take account of other "criteria for choice." While it may, in some cases, justifiably be the dominant criterion, this determination should be made using a framework that accommodates other values. The absence of such a framework may also contribute to the problem of determining jurisdictional boundaries. Allocating powers inevitably involves weighing the benefits of internalizing externalities against the costs of centralization. An approach is needed that includes both the interjurisdictional externalities analysis and Simeon's other criteria for choice and that permits relatively clear conclusions regarding the appropriate division of powers in particular policy areas.

The second limitation of the principle that interjurisdictional externalities should be minimized is the mistaken assumption that these externalities can only be addressed through a reallocation upward of jurisdiction. According to Breton and Scott:

[A]ll the gains in efficiency from capturing economies of scale [and] from eliminating spill-overs ... could be reaped, not only by transferring powers from

one jurisdiction level to another, but as well through co-ordination of policies between the governments involved [emphasis in original].⁵⁹

In addition to identifying interjurisdictional externalities it is necessary to determine when problems can, or should, be dealt with through intergovernmental negotiations rather than a transfer of powers and when competing criteria for choice weigh against greater centralization.

SUMMARY

This section discussed the principle that interjurisdictional externalities should be minimized in terms of the democracy and functional effectiveness criteria of choice and Dahl's approach to affected interests. It is suggested that this principle embodies a fundamental insight into federalism and can serve as an operational principle for federal systems. As such, it has particular relevance to water management. The minimization of interjurisdictional externalities is, however, inadequate as a principle for the design of the federal division of powers. A framework of analysis for the design issue, which takes into account the interjurisdictional externalities problem and which places this problem in a broader analysis of the appropriate division of powers, is required. The next section considers an example of this type of framework.

59 Breton and Scott, *Design of Federations*, p. 23.

THE MINIMIZATION OF ORGANIZATIONAL COSTS AS A FRAMEWORK FOR ALLOCATING POWERS IN FEDERALISM

In this section, the Breton and Scott framework of analysis for the design of federal systems is examined and applied to water management in Canada. First, their argument that organizational costs in federalism should be minimized and their view of intergovernmental competition are briefly outlined. Mobility costs, signalling costs, administration costs and coordination costs are then discussed in turn, with particular attention to their relevance to jurisdiction over water management. The consequences of the competitive model of federalism for water management are also discussed. Scott's application of the Breton and Scott analysis to fisheries jurisdiction is then reviewed and the implications of this framework for the design of federalism in the area of water management are summarized.

THE BRETON AND SCOTT APPROACH TO FEDERALISM

Breton and Scott suggest an approach to the design of federations based on two central elements: the minimization of organizational costs within the federal system and the encouraging of intergovernmental competition. These two elements are outlined and the link between the first of these and the problem of interjurisdictional externalities is noted.

The first element of the Breton and Scott approach to federalism is the principle that powers should be allocated so as to minimize the total "organizational costs" in the system.⁶⁰ The following four categories of costs are defined to be all-inclusive: administration and coordination costs (incurred by governments), and signalling and mobility costs (incurred by citizens). Administration and coordination costs refer not to the allocation of resources which constitutes the policies themselves, but rather to the costs of dealing with policy issues within one governmental unit or through the cooperation of two or more. Relevant considerations fall generally within "functional effectiveness" criteria for choice. Mobility and signalling costs, in contrast, arise from citizen responses to policies and tend to be associated with the "democratic theory" perspective on federalism.⁶¹ The Breton and Scott view suggests that since, in many cases, the organizational costs associated with particular policies vary with the size or number of jurisdictions in a federal system, the objective of

60 Breton and Scott, *Design of Federations*, pp. 23-5.

61 As means of influencing or responding to collective choice within organizations, Breton and Scott's concepts of mobility and signalling costs correspond to the categories of "exit" and "voice" in A.O. Hirschman, *Exit, Voice, and Loyalty Responses to Decline in Firms, Organizations, and States* (Cambridge: Harvard University Press, 1970).

cost minimization yields useful conclusions as to how specific powers should be allocated. It should be noted that this approach does not require putting a dollar value on these costs. Rather, it provides a useful framework for identifying and organizing arguments about the division of powers.

The second element of the Breton and Scott approach to federalism is an emphasis on the value of intergovernmental competition. This perspective is based in part on traditional Madisonian arguments concerning the virtues of fragmenting political power as a means of preserving individual liberty and in part on a "public choice" approach which predicts greater satisfaction of citizen (i.e., "consumer") preferences through a free and competitive political market.⁶² The implication of this competitive model for the division of powers is that duplication, overlap and competition between governments may be virtues in a federal system. Once again, this perspective provides a useful focal point for arguments about jurisdiction over water policy.

It should be noted that the operational principle that interjurisdictional externalities should be minimized is a significant factor in the Breton and Scott approach, particularly since these externalities can be an important source of organizational costs. As the following passage shows, their approach is also sensitive to other criteria for choice in federal systems. Breton and Scott state that:

We will devote space below to a discussion of these four classes of costs and examine their various components in some detail. We must, however, emphasize now that governments on the one hand and citizens on the other incur these costs because of the presence of economies of scale in production, procurement, and/or distribution and because many public policies possess the characteristics of public and non-private goods and display external economies and diseconomies. To illustrate, assume that there are economies of scale in the provision of sewage services. To ensure that these economies are as fully exploited as possible, governments may find it advantageous to negotiate with each other and to co-ordinate their activities. The economies of scale may, in other words, induce governments to incur co-ordination costs. The general idea is that the use of resources on administration and co-ordination by governments and on signalling and mobility by citizens rests on the presence of economies of scale, on the publicness of certain goods and services, on externalities, or on all of these provides a bridge between the models to be developed in the forthcoming chapters and the older — and ... less satisfactory — approach to federalism.⁶³

They also note that:

62 Breton and Scott, *Design of Federations*, pp. 13-14.

63 A. Breton and A. Scott, *The Economic Constitution of Federal States* (Toronto: University of Toronto Press, 1978), pp. 7-8.

[I]n our approach spill-overs are one of the principal influences that give rise to "organizational" activities. The reader who doubts this need only recall that "organizational" activities include co-ordination between governments and co-ordination is necessary to mitigate, or compensate, for the effects of externalities.⁶⁴

Interjurisdictional externalities, thus, are an important source of organizational costs. It will be argued that, in certain policy areas of water management, this factor dominates other elements of the Breton and Scott framework.

The next four sections examine each of the four organizational costs and consider their implications for water management. Although the Breton and Scott framework calls for the minimization of the sum of all organizational costs in allocating jurisdiction, it is more convenient to assess each of these costs individually at the outset. In addition to water examples, reference will be made to Scott's application of organizational cost minimization to jurisdiction over fisheries.⁶⁵ His analysis is relevant here since fish and water share important characteristics as natural resources. Fisheries management has public good characteristics, thus providing a *prima facie* market failure rationale for government intervention.⁶⁶ In addition, the fishery is a common property resource with the result that "[p]rivate fishing activity is replete with interdependencies" in the form of external economies and diseconomies.⁶⁷ Finally: "Policy-makers realize that their decisions have a close interdependency with those of adjoining jurisdictions."⁶⁸ All of these characteristics apply as well to water management.

MOBILITY COSTS

Mobility costs are associated with "exit" or "voting with one's feet" and are incurred when individuals move from one jurisdiction to another out of dissatisfaction with government policies.⁶⁹ Mobility can occur between countries, provinces or local government units; within a federal system, the greater the number of subnational units, the lower will be mobility costs. Similarly, if more powers are allocated to provincial governments, there is likely to be a greater diversity of policies available through the "exit" option. The objective of minimizing mobility costs, then, points towards greater decentralization.

The significance of these costs for division of powers analysis, however, is open to some doubt. Constraints on mobility, not directly related to decentralization or the number of jurisdictions, suggest that people may be unable or

64 Ibid., p. 15.

65 Scott, "Regulation and the Location of Jurisdictional Powers."

66 Ibid., p. 782.

67 Ibid., pp. 782-83.

68 Ibid., p. 783.

69 Breton and Scott, *Design of Federations*, pp. 16-17.

unwilling to resort to moving as political "exit." These constraints include location-specific employment, residence requirements for social services or benefits, social and cultural ties, lack of information about alternative jurisdictions and feelings of community loyalty.⁷⁰ Even Breton and Scott suggest that "political mobility is sometimes given a much exaggerated place in the literature on federalism," although they note the exodus of anglophones from Quebec as evidence that the phenomenon can occur.⁷¹ This example, however, may well be the exception that proves the rule. There have clearly been many occasions throughout history when people, especially minorities, have preferred to emigrate rather than endure policies deemed to be unacceptable, or even a threat to their very existence. It seems unlikely, however, that many people would respond in this way to water policy in Canada.

Assessing the importance of mobility costs in his discussion of fishery powers, Scott notes that while fishing by its very nature allows some mobility, people cannot take the resource with them and therefore changing jurisdictions likely entails a change of occupation. As a result, "mobility is probably always too costly a form of citizen response to regulatory policies to be widely used, whatever the degree of decentralization."⁷² The situation with water is similar. For those whose livelihoods are closely linked to the resource, the costs of moving are probably particularly high. As for the average citizen, variations in water policies between jurisdictions, even at the local level where mobility costs are presumably the lowest, likely play an insignificant role in decision making about location. Consequently, in terms of minimizing organizational costs in the area of water management, the advantage of decentralization and multiple jurisdictions from the perspective of mobility appears to be quite small.

SIGNALLING COSTS

Signalling costs are borne by citizens as a result of their participation in democratic processes of public choice. In Hirschman's terms, these costs are associated with the "voice" option. They are, therefore, a central indicator of the extent to which a federal system achieves values associated with the democratic theory criteria for choice. Breton and Scott list a wide range of signalling activities including: attempting to influence lobbies, large pressure groups and politicians; participating directly in social movements; the private provision of nonprivate goods; altering one's own economic behaviour; and

70 Prichard and Benidickson, "Securing the Canadian Economic Union," pp. 23-4.

71 Breton and Scott, *Design of Federations*, p. 17.

72 Scott, "Regulation and the Location of Jurisdictional Powers," p. 789.

voting or other acts of supporting or withholding support from political parties or specific policies.⁷³

According to Breton and Scott, signalling costs tend to be lower with decentralization.⁷⁴ This situation is not due to local governments being inherently more responsive than national ones. Rather, it is the result of greater homogeneity within the populations in small governmental units. Since policy preferences among citizens will tend to be more uniform, governments more easily ascertain these preferences and most citizens simply acquiesce in the resulting policy outcomes.

A related argument goes beyond the immediate cost of signalling to consider the likelihood of voter satisfaction.⁷⁵ Given regionally differentiated policy preferences, people are more likely to engage in successful signalling (i.e., to be in the majority on policy issues) if decision making is decentralized. If successful signalling yields benefits that offset its costs, decentralization may be advantageous.

There are two reasons, however, why signalling costs may increase with decentralization. The first relates to the effectiveness of signalling in achieving policy objectives and the second concerns the number of governments to which signalling must be directed on a particular issue.

First, as noted above, signalling costs can be related to expected policy outcomes. While political participation may be a virtue in itself,⁷⁶ people often engage in it as a means of achieving policy objectives. The value (or costs) of signalling must therefore take account of the ability of the government to which the signalling is directed to address the problem. Signalling directed at a government which does not have the power to achieve the desired policy objective is wasted, and therefore costly. This fact suggests that signalling costs associated with interjurisdictional externalities may increase with decentralization. For example, signalling displeasure over the downstream consequences of hydroelectric development to the government of Alberta may be of relatively little use if the decisions about dam construction are made in British Columbia.

Dahl outlines the implications of this insight for jurisdictional size as follows:

As a function of the effect of your vote on the outcome of the election, your effectiveness necessarily decreases with the number of voters, but as a function of the value of the consequences, your effectiveness often increases with the size of the association. For the larger association can often cope with certain matters

73 Breton and Scott, *Economic Constitution of Federal States*, p. 32.

74 Breton and Scott, *Design of Federations*, p. 16.

75 See footnote 34.

76 See C. Pateman, *Participation and Democratic Theory* (Cambridge: Cambridge University Press, 1970).

more effectively than the smaller association. In which are you potentially most effective in liberating yourself from upstream pollution of your water supply: an association with 10,000 members and no jurisdiction over the polluters or an association with 100,000 members, including the polluters? To exist without being poisoned is, surely, a rather basic liberty. If to guarantee that liberty requires the larger association, does it make sense to say that you must necessarily have less liberty in the large association?⁷⁷

Norrie, Simeon and Krasnick also note that increasing the power of local governments may increase policy spillovers. As a result:

[S]ome citizens will be directly affected by a government over which they have no political recourse. They cannot vote for or against the policy. Whatever improvement in democratic access to their own government was achieved through decentralization is compromised by being cut out of the decision process in a greater number of instances.⁷⁸

It is surely a false economy if reduced signalling costs result in an inability to influence decisionmakers at all.

A second reason why signalling costs may increase with decentralization and more subnational units is that not all signalling activities are limited, as is voting, by location of residence. As Breton and Scott observe, signalling can involve participating in lobbying, social movements and other activities aimed at influencing policymakers in several jurisdictions. In this context, however, the interdependencies inherent in interjurisdictional water management cast doubt on any simple correspondence between smaller jurisdictional size and lower signalling costs. Take the case of a river flowing through three provinces. Given the objective of integrated watershed management, an environmental group seeking improvements in water quality or an agricultural lobby concerned with allocation for irrigation will have to focus attention on three provincial governments. If jurisdiction is also shared with the federal government, as it undoubtedly is in Canada, a fourth government must be approached. It is far from clear in this case that signalling costs are lower than they would be if authority over interjurisdictional aspects of water management were centralized and lobby groups could focus their efforts on decisionmakers in only one government.

Scott recognizes these problems in his discussion of the fishery. Noting that national constituencies tend to be larger and more diverse than provincial ridings, he observes that:

A local representative member may easily be persuaded to carry the complaints of his voters to his legislature. But this is unlikely to be effective. With a smaller

77 Dahl, *After the Revolution?* pp. 100-1.

78 Norrie et al., *Federalism*, p. 75.

constituency, and hence fewer and less diverse interests behind him, he may have less bargaining power when he gets there. Such a representative may be more "responsive", but his fellow legislators may be less likely to cater to his priorities. In brief, signalling costs may vary with the size of the jurisdiction to which regulatory powers are assigned, but the direction of the variation is difficult to predict, and indeed, may vary from power to power.⁷⁹

An evaluation of the particular policy issues in question is clearly required before conclusions are possible.

This discussion indicates that signalling costs may be increased by decentralization in a situation of interjurisdictional externalities. By itself, however, this observation is not a conclusive argument for centralization. The Breton and Scott critique of the minimization of interjurisdictional externalities as a guide to allocating powers makes the argument that intergovernmental cooperation is an alternative to reallocation of authority. Cooperation is also relevant to the discussion of signalling costs, since signalling directed at a local government without direct authority over polluters may still benefit downstream interests if that government can negotiate effectively with upstream jurisdictions. For this reason, the costs and effectiveness of signalling in the case of interjurisdictional issues cannot be separated from coordination costs, the fourth category of organizational costs proposed by Breton and Scott. Before turning to this topic, however, the third category, administration costs, is considered.

ADMINISTRATION COSTS

Administration costs are associated with activities such as setting up legislatures, constructing buildings for new jurisdictions, and selecting, implementing and overseeing policies.⁸⁰ Not included in these costs are the resources that constitute the policy output itself. Administrative costs also include search costs to determine both citizen preferences and the appropriate method or technology to achieve policy objectives. In general, administration costs relate the functional effectiveness criteria for choice.

The implications of administration costs for the allocation of powers, however, are not straightforward. For example, costs of determining voter preference may be lower with greater homogeneity, but identifying the appropriate technology for policy making may exhibit economies of scale, thereby constituting a lower per capita cost in larger jurisdictions. Breton and Scott offer the following opinion:

We postulate that administration activities in each jurisdiction decline as the size of jurisdictions declines, but that the consequent decline in administration costs

79 Scott, "Regulation and the Location of Jurisdictional Powers," pp. 788-89.

80 Breton and Scott, *Economic Constitution of Federal States*, pp. 32-33.

is matched by a simultaneous increase in the number of governments undertaking administration activities. On balance, therefore, we believe that total administration costs remain roughly constant as the structure of government is varied.⁸¹

In applying an administration cost analysis to specific policies, it should be noted that in large jurisdictions, these costs may mirror coordination costs between smaller units. In the fisheries context, Scott concludes that:

[Administration] costs will probably be greatest when there is complete centralization of power over fishing. In this circumstance, the decision-makers not only must familiarize themselves with the problems and opportunities in separate fisheries, but also must investigate the pros and cons of combinations of national uniform, rather than regionally-differing policies. Because they must investigate their political support under these alternatives, they indeed would seem to have internal difficulties, politically and administratively, equivalent to the external difficulties of coordination if many small and separate governments, each responsive to its own electorate, had to harmonize their respective fisheries policies.⁸²

The overall picture with respect to administration costs, therefore, remains somewhat cloudy.

Two comments relevant to water management emerge from this discussion. First, in light of significant regional variation in resource use and distribution, to the extent that regionally specific policies are desirable there may be increased administration costs associated with greater centralization. The problem, however, is that many water issues, while not national in scale, extend beyond the boundaries of any one province. One solution would be to insert an intermediate level of government to deal with these issues. The problem, as Scott notes in his comments about regulating the Atlantic fishery, is that this approach would involve significant administration and political costs, and relations between a narrow functional government and the other more broadly based levels might prove problematic.⁸³

Second, it may be possible to identify areas where there are significant economies or diseconomies of scale in policy making. Certain aspects of water management, for instance, require extensive scientific information relating to climatic and hydrological conditions and trends, national patterns of water use and available technology. In collecting and interpreting this information, large jurisdictions may have substantial cost advantages. In other areas, such as enforcing discharge standards, decentralization may be administratively more efficient.

One is left to conclude, therefore, that the principle of minimizing administration costs is of limited assistance in determining the appropriate distribution

81 Breton and Scott, *Design of Federations*, p. 54.

82 Scott, "Regulation and the Location of Jurisdictional Powers," p. 787.

83 *Ibid.*, p. 788.

of powers over water management. To further complicate the picture, these costs might also be reduced through techniques, such as administrative decentralization within jurisdictions and interdelegation among jurisdictions, which do not require a formal reallocation of constitutional authority.

COORDINATION COSTS

Coordination costs are incurred through the bargaining and information sharing between governments needed to coordinate policies and resolve conflicts.⁸⁴ Governments may negotiate to achieve joint production of goods or policies characterized by economies of scale. Governments may also aim to capture external benefits, such as the downstream flood control benefits of a hydroelectric dam, which would otherwise be unobtainable. The downstream jurisdiction has an incentive to negotiate since a failure to pay for these benefits may result in their underproduction by upstream decision-makers. Alternatively, negotiations may be concerned with negative externalities, as occur when two or more jurisdictions share a body of water used for waste disposal. With greater decentralization and more numerous jurisdictions in a federal system, coordination costs increase since more policy areas are subject to interjurisdictional externalities.

The nature of externalities and the incentive structure associated with bargaining are relevant to determining the likely coordination costs of decentralization in a particular policy area. Since the prevalence of interjurisdictional externalities in Canadian water management was noted earlier in this paper, the discussion here focuses on bargaining issues. The argument is that obstacles to successful bargaining give rise to high coordination costs. In addition, it is suggested that coordination costs should include the costs of suboptimal policies resulting from intergovernmental bargaining and the costs of a failure of governments to achieve policy coordination.

Six sources of coordination costs relevant to water management are identified. The first concerns uncertainty about the respective rights of the parties. Second, bargaining may be difficult given the need for transfers to facilitate agreement. Third, parties may shift costs to each other and avoid unilateral action on interjurisdictional problems as part of a bargaining strategy. Fourth, an imbalance in bargaining power, particularly in the case of one way externalities, may mean that one party has little reason to reach an agreement. Fifth, the border itself may complicate negotiations and lead to suboptimal policies. Finally, the intergovernmental bargaining may produce unsatisfactory policy outcomes from the perspective of responsiveness or coherence.

84 Breton and Scott, *Economic Constitution of Federal States*, p. 33.

A useful starting point is Scott's discussion of institutional arrangements for dealing with transfrontier pollution.⁸⁵ Although his analysis concerns pollution between countries, it has important implications for the structure of interprovincial bargaining over water issues in Canada.

The first source of coordination costs is uncertainty about the rights of parties. Scott argues that, for bargaining to succeed, the parties must have some agreed idea of respective rights.⁸⁶ In the transfrontier pollution context, Scott describes the situation as follows:

[T]o the upstream state, "rights" to use a river for waste disposal are immensely important, because in subsequent bargaining they can free that state from any obligation to abate, to pay the costs of abating or recompense those downstream who are harmed by TFP [transfrontier pollution]. Similarly, to the downstream nation, "rights" to receive the waters in their natural state (uncontaminated by TFP) are valuable because in subsequent bargaining it may be able to require abatement, demand payment for TFP, or both.⁸⁷

Rights, then, are the bargaining chips that parties bring to the negotiations. In addition, procedural "rights" may set out how disputes are to be resolved. Both procedural and substantive rights structure the parties' approach to interjurisdictional externalities. Problems may arise, however, when the framework of rights is inadequate or absent.

In Canada, possible sources of rights regarding interjurisdictional disputes are the constitution, federal and provincial statutes and the common law. In the area of water resources, however, guidance from these sources is virtually absent. The situation is summarized by several commentators who, after noting the emergence of a line of judicial decisions dealing with the division of powers over *in situ* resources, state that:

The same, unfortunately, cannot be said of water and other common resources such as air. The constitutional uncertainty that surrounds these resources is extremely disturbing when one considers that their mismanagement can have devastating long-term ramifications. These may very well generate the "crisis" issues between now and the turn of the century. Yet there is a near vacuum in the law as to appropriate principles for resolving the federal-provincial and interprovincial disputes that loom on the horizon.⁸⁸

85 A. Scott, "Transfrontier Pollution: Are New Institutions Necessary?" in OECD, *Economics of Transfrontier Pollution* (Paris: OECD, 1976), p. 177.

86 *Ibid.*, pp. 178-79, 185.

87 *Ibid.*, p. 203.

88 N.D. Bankes, C.D. Hunt and J.O. Saunders, "Energy and Natural Resources: The Canadian Constitutional Framework," in M. Krasnick, *Case Studies in the Division of Powers* (Toronto: University of Toronto Press, 1986), p. 76.

While the absence of mechanisms or principles to resolve disputes is of concern in itself, this "vacuum" also increases bargaining uncertainty and costs. One observer notes that clarification of jurisdictional issues is desirable because disputes and distrust between governments "can be resolved better through clear mutual understanding of each other's rights and responsibilities."⁸⁹

Second, coordination costs can result from the need for transfers in the form of direct or in-kind payments in most agreements.⁹⁰ According to Breton and Scott, agreements addressing spillovers between jurisdictions at the same level of government are rarely observed, even allowing for the possibility of a *quid pro quo* in the form of reciprocal services rather than cash. A number of factors, including the difficulty of agreeing on transfers, explain this situation:

First the difficulties involved in two adjoining jurisdictions coming to a workable agreement may be great. One or both parties may look for some other way to remedy the spill-over situation than that to be attained by co-ordination. Second, the difficulties will be compounded when more than two jurisdictions are involved. Additional jurisdictions may now be free riders on the agreements reached by the first two, unless by bargaining some wider agreement may be reached. The costs and difficulties of involving free riders, plus those to implement domestically the policies agreed upon to deal with the spill-overs, may also inspire governments to attempt to avoid the need for co-ordination.

From the politicians' point of view the answer may lie in recourse to a level of government higher than those that are unable to arrive at an agreed contractual payment. For example, in the case of an environmental spill-over, difficulties might be avoided if a higher level of government acted as an agency for the reduction of, or the compensation for, trans-frontier pollution. In this case, funds might flow, indirectly, from one jurisdiction to its neighbour, although they would appear to represent the working of a central government mechanism.⁹¹

Where transfers are required to deal with the interjurisdictional externalities frequently found in water management, coordination or bargaining costs between provinces may be so high that a federal role is required for agreement to be reached.

Third, coordination costs may be the result of incentives in bargaining to shift costs to the other party as a tactical manoeuvre and to avoid addressing interjurisdictional externalities unilaterally. Scott argues that:

[T]he tactics of delay and obstruction, quite consistent with an ideal allocation of resources within each nation, are surely wasteful from their combined point of view. Indeed, the separate countries may deem it worthwhile to devote resources to misinformation, making sure that eventual cooperation is based upon faulty

89 P.Z.R. Finkle, "Canadian Environmental Law in the Eighties: Problems and Perspectives," *Dalhousie Law Journal*, 7 (1983), p. 274.

90 Scott, "Transfrontier Pollution," p. 178.

91 Breton and Scott, *Economic Constitution of Federal States*, pp. 149-50.

data. From a "cosmopolitan" point of view, however, real costs incurred with the aim of loading more of the costs onto the other party (even though well-spent from a national point of view) should be regarded in relation to the minimum amount needed to obtain agreement, having regard not only to the eventual levels of abatement and damage costs but also the costs of information, monitoring, agreeing and private transactions.⁹²

At the very least, Scott advocates an independent agency to produce technical, economic and social data acceptable to all jurisdictions.⁹³

Tactical behaviour in anticipation of bargaining can also impose costs. Since interjurisdictional externalities are themselves bargaining chips, by limiting them unilaterally a government undermines its position in subsequent negotiations. According to Scott:

While the preliminary debate on TFP [transfrontier pollution] responsibility is proceeding, countries that might otherwise independently help to clean up lakes and seas, find it prudent not to do so for fear of suffering worse bargains later.⁹⁴

This behaviour constitutes a classic collective action dilemma. While rational from the perspective of each jurisdiction, the consequence is continued environmental degradation which ultimately makes everyone worse off.

The fourth source of coordination costs is an imbalance in bargaining power which reduces the incentives for one party to reach an agreement. This obstacle to bargaining occurs in upstream-downstream relationships or situations of one way externalities. When an upstream jurisdiction's use of a river imposes costs on those downstream but the latter have no reciprocal power, there is no economic or political incentive for the upstream government to reach a cooperative solution to the problem.⁹⁵

This problem is far from hypothetical in the Canadian context of extensive provincial water jurisdiction and legal uncertainty over rights and dispute resolution procedures for interjurisdictional water conflicts. In the Mackenzie River basin, for instance, the Bennett Dam in British Columbia had (and continues to have) significant downstream consequences. With the prospect of further hydroelectric projects, negotiations commenced between the affected governments. Progress, however, has been slow. According to Barton:

92 Scott, "Transfrontier Pollution," p. 189.

93 Ibid., pp. 178, 199

94 Ibid., pp. 194-95.

95 D.G. LeMarquand, *International Rivers: The Politics of Cooperation* (Vancouver: Westwater Research Centre, 1977), p. 10; D.A. Davis, "Intergovernmental Administrative Coordination and Environmental Accords" in D. Tingley (ed.), *Environmental Protection and the Canadian Constitution* (Edmonton: Environmental Law Centre, 1987), p. 76.

The upstream jurisdiction has nothing to lose from delay unless and until the downstream interests find a way to exert pressure on it. There is a temptation for British Columbia to stall on any cooperative activities that could only lead to restrictions on its use of its own water resources.⁹⁶

Given the incentives for delay and obstruction, the upstream-downstream relationship typical of much water use is likely to be a source of high coordination costs.

Fifth, coordination costs arise because disputes over interjurisdictional issues, such as transfrontier pollution, may be resolved in a suboptimal manner if left to bargaining.⁹⁷ Scott argues that the border may alter individuals' perception of costs and make accommodation more difficult because upstream polluters, for example, may take a different view of those downstream depending on whether the latter are part of their political community. The border may also create incentives that impede efficient solutions. An example is the intergovernmental agreement establishing the Prairie Provinces Water Board. Barton has noted that this agreement includes a principle of equalizing regional opportunity along the river basins, an allocative criterion which is economically inferior to the maximization of total benefits.⁹⁸ The functional criterion underlying this analysis is the "common market" argument. While this criterion supports centralization, it should be noted that a central government may, for electoral reasons, pursue suboptimal policies based on regional preferences.⁹⁹ In addition, negotiations between jurisdictions may reflect real differences since, as Scott observes, "the border ... may symbolize a discontinuity ... in tastes, incomes, relative prices, land use, role of government, language, infrastructure, and so forth."¹⁰⁰ These differences and the need to accommodate them in policy making would not disappear, at least in the short term, with the elimination of the border. Nonetheless, coordination costs should be recognized when intergovernmental bargaining creates a bias towards economically suboptimal policies.

The sixth source of coordination costs concerns policy coherence and responsiveness to new problems. Negotiations may involve logrolling, which occurs

96 B. Barton, "Cooperative Management of Interprovincial Water Resources," in J.O. Saunders (ed.), *Managing Natural Resources in a Federal State* (Toronto: Carswell, 1986), p. 247. See also Gibson, "The Constitutional Context of Canadian Water Planning," p. 87.

97 Scott, "Transfrontier Pollution," p. 188.

98 B.J. Barton, "The Prairie Provinces Water Board as a Model for the Mackenzie Basin," in B. Sadler (ed.), *Institutional Arrangements for Water Management in the Mackenzie River Basin* (Calgary: University of Calgary Press, 1984), pp. 48-49, 57.

99 Pritchard and Benidickson, "Securing the Canadian Economic Union," pp. 36-7.

100 Scott, "Transfrontier Pollution," p. 189.

when otherwise unrelated issues are linked together and traded off by the parties according to the intensity of their respective preferences. While this practice may have advantages as a means of political accommodation, the quality of water management is not likely to be improved through the inclusion of other issues in the negotiations. In addition, intergovernmental bargaining may reduce responsiveness to policy problems. Sadler argues that management of transboundary rivers is hindered by institutional self-interest and is vulnerable to the changing climate of federal-provincial relations. He concludes that "[p]olicy and institutional change in these circumstances is cautious and incremental and seldom exceeds the margins of the *status quo*."¹⁰¹ These impediments to responsiveness may be serious handicaps in an area of rapidly changing policy concerns.

In this section, it is argued that coordination costs in interjurisdictional water management arise from a number of factors, i.e., uncertainty about the respective rights of the parties; the difficulty of agreeing on financial transfers; tactical cost shifting in bargaining; imbalances in bargaining power; rigidities associated with the border; and unsatisfactory coherence and responsiveness in policy making. The discussion of these costs leads to the conclusion that interjurisdictional water issues are likely to generate substantial coordination costs in a decentralized federal system. This observation corresponds with Scott's own analysis of the fisheries context¹⁰² and suggests the need for some centralization of jurisdiction in this area.

The case for centralization is further strengthened when one considers the costs of policy failure. Given the importance of water to Canada's ecosystems and economy, an inability of Canadian political institutions to achieve effective water management will have serious consequences. As a result, an allocation of powers within the federal system which minimizes the coordination costs associated with water management is essential. Before reaching conclusions regarding the design of federalism in the area of water management, however, the issues of competition, conflict and jurisdictional overlap in federalism are considered.

101 B. Sadler, "North to the Arctic and East to the Bay: Policy and Institutional Perspectives on Western River Management," in B. Sadler (ed.), *Water Policy for Western Canada: The Issues of the Eighties* (Calgary: University of Calgary Press, 1983), p. 11.

102 Scott, "Regulation and the Location of Jurisdictional Powers," p. 787.

COMPETITION, CONFLICT AND JURISDICTIONAL OVERLAP

The second general element in the Breton and Scott approach to federalism is the emphasis on the virtues of interjurisdictional competition. They explain the competitive model as follows:

In one sense, competition refers to government-versus-government conflicts, involving controversies, disputes, apparent bickering and quarrelling, as well as haggling and chaffering in negotiations and transactions. These conflicts are desirable in the same sense that the checks and balances and hence the conflicts that arise from the division of governments in three branches ... are desirable: they provide restrictions to the use of power by a governmental unit.

In another sense, the existence of competition is attractive because it suggests that choices are possible and that preferences can be satisfied in more than one way. For example, as between units at the same level in a federal structure, competition enables the citizen to compare and to choose between jurisdictions — to migrate to the bundle of policies they like best. Also, as between higher and lower levels of government, competition frees the citizen from complete dependence on a particular government; alternative public goods and services, or superior recourse or appeal may be available when there are more than one level. In general, competition implies the existence of alternatives. This is widely recognized, and often criticized, as involving duplication and overlap; but those who fault federalism for competitiveness and duplication fault it for its main virtue!¹⁰³

This position was reiterated by Breton in his Supplementary Statement in the Macdonald Commission final report.¹⁰⁴ He argues that interjurisdictional competition is the political analogue of the free market mechanism for maximizing voter satisfaction and that cooperative federalism generally decreases competition, shifts it from the political into the bureaucratic realm and, because of its hostility to unilateral action, "is ... a disguised ploy to shackle the federal government, to prevent it from addressing the problems it alone can resolve and is constitutionally responsible for resolving."¹⁰⁵

The consequences of competition, conflict and jurisdictional overlap are not, however, unambiguously beneficial for federal systems. In this section, eight disadvantages of the competitive model of federalism are noted. First, it may result in duplication of effort or deadlock, grounds for criticism on criteria of functional effectiveness. Second, intergovernmental conflict may narrow the range of policy options which are considered. Third, jurisdictional overlap may undermine the democratic accountability of governments. Fourth, the benefits of interjurisdictional competition may differ depending on the type of governmental activity. Fifth, competition may drive down regulatory standards. Sixth,

103 Breton and Scott, *Design of Federations*, p. 14.

104 Breton, "Supplementary Statement."

105 *Ibid.*, p. 493.

policies such as water pricing, which involve imposing costs, may be more difficult to implement where decentralization creates intergovernmental competition. Seventh, the decentralization necessary for intergovernmental competition may benefit certain geographically concentrated interests who can exert particular influence over provincial governments. Eighth, in some situations the level of conflict may poison intergovernmental relations, to the detriment of policymaking in areas of mutual concern and policy interdependence. As the discussion shows, many of these disadvantages are particularly relevant to water management.

The first disadvantage of the competitive model is the risk of policy duplication or deadlock. While shared jurisdiction and decentralization may produce policies more carefully attuned to local needs, overlapping and ill-defined jurisdictional boundaries may lead to duplication in expenditures or regulation and the possibility of mutual frustration if the policy objectives of two governments conflict. Stevenson argues that policy deadlocks, resulting in part from jurisdictional rivalries, have occurred in areas such as industrial, regional, energy, transportation, communications and health policy.¹⁰⁶ In addition, he suggests that this conflict exacerbates the fiscal crisis experienced by both levels of government. Echoing similar themes, Fletcher and Wallace state that "there is little doubt that divided jurisdiction leads to duplication, gaps in program coverage, conflicting regulations, buck-passing and so on, creating problems for citizens and conflicts between governments."¹⁰⁷ They note, however, that many of these problems are not unique to federal systems.

A second disadvantage, related particularly to intergovernmental conflict, is reduced flexibility in policy making. According to Fletcher and Wallace, case studies in energy, health, social welfare and energy policy suggest that the range of policy options open to governments has been narrowed by federal-provincial conflict.¹⁰⁸ This outcome is especially significant in a complex area such as water management, where the widest possible array of options and information should be included in policy making.¹⁰⁹

A third disadvantage of the competitive model concerns accountability. From the democratic theory perspective, the advantage of competition fostered by jurisdictional overlap lies in the increase in policy packages from which voters can choose. The cost, however, is highlighted by Stevenson's criterion of

106 Stevenson, "Division of Powers," pp. 110-11.

107 F.J. Fletcher and D.C. Wallace, "Federal-Provincial Relations and the Making of Public Policy in Canada: A Review of Case Studies," in R. Simeon, *Division of Powers and Public Policy* (Toronto: University of Toronto Press, 1985), p. 143.

108 *Ibid.*, p. 141.

109 See Foster and Sewell, *Water*, pp. 80-81 for a discussion of "the need to expand the range of options considered in planning and policy making" in their chapter entitled "Toward a National Water Policy."

use.¹¹⁸ Water pricing would encourage efficient use and conservation, facilitate allocation according to users' willingness to pay, raise revenue to cover costs of water supply and waste disposal, and ensure that those who benefit from the provision of water bear the associated costs. This proposal was endorsed in the 1987 Federal Water Policy¹¹⁹ and has the support of commentators such as Foster and Sewell.¹²⁰ For constitutional reasons, however, the ability of the federal government to implement this type of policy is in doubt. DePape states the problem of interjurisdictional competition as follows:

There appears to be a growing recognition that water pricing is an important dimension of future water management. The combination of increasing water scarcity and the need for revenues to offset fiscal cutbacks is making this an increasingly appealing option to consider. At the same time, individual provinces are reluctant to move into this area because if they act alone, the competitive position of their economies could be adversely affected. This seems to be an appropriate situation for federal leadership and a province-wide agreement program would appear to be a suitable mechanism. A key to being able to carry out such a program would be getting several provinces to enter into agreements at the same time during the initial phase of the program. For the reason noted above, it is unlikely that any province would be willing to be the first in.¹²¹

As the Breton and Scott framework makes clear, this behaviour alone does not make the case for federal jurisdiction. Coordination among governments may achieve the desired outcome. The point here is simply that the result of interjurisdictional competition has been suboptimal policy.

A seventh disadvantage of the competitive model is that the decentralization which it implies may benefit geographically concentrated interests who oppose the type of regulation frequently required in water management. The systematic advantage for these interests is explained, in part, by the distinction between regulatory and service providing or spending functions of government. Spending programs or subsidies are frequently aimed at specific groups and financed out of general revenues. Thus, the benefits are significant for a small group while the costs are diffuse, borne by all citizens in the form of marginally higher taxes or deficits. Regulatory policies, such as environmental protection, often exhibit the opposite pattern. The costs are concentrated on specific industries or sectors while the benefits, in the form of improved environmental quality, accrue in a marginal way to everyone. On the assumption that political

118 Canada, Inquiry on Federal Water Policy, *Currents of Change* (Final Report) by P.H. Pearse, F. Bertrand and J.W. MacLaren (Ottawa: September 1985), pp. 98-100.

119 Environment Canada, *Federal Water Policy*, p. 5.

120 Foster and Sewell, *Water*, pp. 91-2.

121 Inquiry on Federal Water Policy, *Federal-Provincial Co-Operation in Water: An Exploratory Examination* (Research Paper, no. 9) by D. DePape (1985), p. 41.

mobilization is easier when a discrete group has a lot to gain or lose than when individually small gains or losses are widely spread throughout the population,¹²² this incentive structure suggests a bias in democratic government towards service provision and spending and away from regulation.

For present purposes, this conclusion is significant because this bias may be exaggerated by a decentralized federal system. The argument is that provincial governments may be more vulnerable to interests resistant to the environmental regulation needed for effective water management. Commenting on the general consequences of federalism for interest group influence, Norrie, Simeon and Krasnick observe that:

[I]nterests which are territorially concentrated (and which therefore loom large in the constituency of a single province) are likely to be advantaged by federalism, since they will find themselves with aggressive tribunes in intergovernmental discussion. Interests whose members are scattered more nationally will be disadvantaged, especially if jurisdiction over matters that concern them most is in the provincial domain.¹²³

Fletcher and Wallace also identify this phenomenon in the environmental context.

It is ... hard to dismiss the notion that interprovincial competition for investment and the dependence of many provinces on a few key industries (combined with a significant degree of provincial jurisdiction), has helped those industries to weaken government regulations or gain assistance that might not have been forthcoming from a more distant and autonomous federal government. Labour and environmental groups often feel disadvantaged at the provincial level.¹²⁴

In sum, the decentralization conducive to interjurisdictional competition may render environmental protection difficult to achieve by worsening the democratic bias in favour of concentrated, and against diffuse, interests.

The eighth disadvantage of the competitive model is that, in certain circumstances, the intensity of intergovernmental conflict may undermine effective policy making. Breton's counter-intuitive insight is that cooperative federalism may not be the ideal model of intergovernmental relations. While he concedes that "at times competition in the Canadian federation has been less than efficient, possibly even destructive," Breton claims it usually constitutes a desirable system of checks and balances and leads to a more accurate reflection of citizen preferences in government.¹²⁵ In light of intergovernmental conflicts

122 M. Olson, *The Logic of Collective Action Public Goods and the Theory of Groups* (Cambridge: Harvard University Press, 1971), pp. 126-28, 144, 165-67.

123 Norrie et al., *Federalism*, p. 146.

124 Fletcher and Wallace, "Federal-Provincial Relations," p. 149.

125 Breton, "Supplementary Statement," pp. 488, 498-501.

over natural resources, what can be said about conflict in general and what does the future hold in the area of water management?

Concern over the level of federal-provincial conflict in Canada has been expressed by a number of commentators. One reason for this concern is the interdependence of the two levels of government. This interdependence is attributed to four factors: first, reliance by both levels on policy instruments which extend into areas previously reserved for the other; second, use of the federal spending power to influence provincial programs and priorities; third, overlap in taxing power; and fourth, functional concurrency (i.e., concurrent jurisdiction not explicitly delineated in the text of the *Constitution Act, 1867*) resulting from the emergence of new policy areas which fit uneasily with the categories set out in the constitution.¹²⁶ Given the growth in governmental intervention in the economy and society at large in recent decades, federalism is sometimes viewed as "a single system comprised of two main levels of government *sharing responsibility* for governance" rather than as involving two relatively independent levels of government, each pursuing policies within separate and autonomous spheres.¹²⁷

The consequence, according to Schultz, is that effective policy making depends on cooperation between governments from an early stage in the process.¹²⁸ Conceding that the elimination of all competition and conflict is neither possible nor desirable, he concludes that their harmful manifestations must be contained.

Conflict and competition that poison intergovernmental relations, that produce barriers to effective relationships, or that undermine collaborative mechanisms can hardly be acceptable either to governments or, more especially, to the public which governments are expected to serve.¹²⁹

The final report of the Royal Commission on the Economic Union and Development Prospects for Canada (Macdonald Commission) also found that "[t]here was simply too much conflict, too much bitterness and mistrust" in federal-provincial relations.¹³⁰ This conflict, according to the commissioners, "diverts attention from the substance of policy and threatens to undermine confidence in our political institutions, perhaps even in the legitimacy of the

126 Norrie et al., *Federalism*, pp. 49-51.

127 R.J. Schultz, *Federalism and the Regulatory Process* (Montreal: Institute for Research on Public Policy, 1979), p. 22.

128 *Ibid.*, p. 23.

129 *Ibid.*, p. 23.

130 Royal Commission on the Economic Union and Development Prospects for Canada, *Report*, vol. 3 (Ottawa: Minister of Supply and Services, 1985), p. 251 [hereinafter Macdonald Commission].

constitutional order itself."¹³¹ In addition, they identified a threat to democratic values arising from overlapping jurisdiction and the secretive and bureaucratic intergovernmental processes which make it increasingly difficult for citizens to hold governments accountable. While recognizing both the inevitability and the advantages of some functional overlap and competition in federalism, the commissioners advocated "a system that helps to clarify disputes over jurisdictional boundaries, renders intergovernmental processes more visible and therefore more accountable, and moderates the excesses of competition."¹³²

Water management may give rise to major federal-provincial and interprovincial conflicts. Many water projects have important consequences for economic development in sectors from industry and agriculture to tourism and may, in the case of hydroelectric projects, generate large revenues. Sadler notes that, like energy, water issues have important regional dimensions, especially in western Canada. In his view, conflicts over water "appear more subtle, but possibly further reaching, than those associated with energy development."¹³³ Sadler explains that:

While the debate regarding oil revenues was strident and divisive, it largely came down to a matter of federal-provincial relationships. As a trans-boundary resource, water presents more complex and widely distributed issues. Upstream and downstream conflicts are a perennial problem in river basin management, and they become magnified where major jurisdictional divisions are involved. The major river systems of western Canada, flowing north to the Arctic, west to the Pacific, and east to Hudson Bay, traverse provincial, territorial, federal and international boundaries. ... Several development schemes which, because of their size and location, likely have basin-wide effects, presently are under detailed or preliminary consideration for trans-boundary rivers. They bring regional water issues into concrete focus and give them a degree of urgency.¹³⁴

As to the implications of this situation for federalism, Sadler states that:

The geo-political division of powers and responsibility for water resources in western Canada means that such conflicts have strong federal-provincial overtones and also assume wider importance in respect to northern constitutional developments. All systems of jurisdictional boundaries, however structured, must confront the problem of balancing different levels of the public interest, whether local versus national or provincial against regional. Overlapping jurisdictions, furthermore, appear to help rather than hinder this process according to the literature on public choice theory. This kind of system, however, does place considerable stress on the kind of collective institutions for making or enforcing

131 Macdonald Commission, *Report*, p. 251.

132 *Ibid.*, p. 23.

133 Sadler, "North to the Arctic and East to the Bay," p. 1.

134 *Ibid.*, pp. 1-3.

agreements which do not appear to deal very successfully with regional conflicts over resources and the environment.¹³⁵

Sadler concludes by emphasizing "the importance of developing integrated strategies of water management which are both rigorously evaluated and responsive to regional socio-economic needs and environmental imperatives."¹³⁶ It is doubtful that this objective can be achieved in an atmosphere of overlapping and uncertain jurisdictional boundaries and intergovernmental conflict.

Eight disadvantages of the competitive model of federalism were reviewed in this section. Excessive competition, conflict and jurisdictional overlap may lead to duplication and deadlock in policy making, a reduction in available policy options, the undermining of democratic accountability, disadvantages for policies involving regulation or taxation, downward pressure on regulatory standards, obstacles to policies such as water pricing, a strengthening of certain interests opposed to environmental regulation, and a poisoning of intergovernmental relations. It is suggested that many of these disadvantages are relevant to water management. In particular, implementing integrated watershed management in the context of interjurisdictional externalities and a growing risk of water use conflicts will likely be difficult given significant intergovernmental conflict or jurisdictional overlap and uncertainty. Before summarizing the implications of the Breton and Scott framework for water resource management, Scott's conclusions regarding fisheries jurisdiction will be noted.

THE FISHERIES ANALOGY: A REVIEW OF SCOTT'S CONCLUSIONS

This section briefly reviews Scott's application of the Breton and Scott framework to fisheries jurisdiction.¹³⁷ It is argued that his distinction between two examples of fisheries policy has direct relevance to water management.

Scott begins with the case of a small local fishery where "an isolated groundfish or crustacean stock [is] exploited by a local labour force, fleet, port and processing plant."¹³⁸ In this context, where the fish are not vulnerable to outside interference (i.e., interjurisdictional externalities), Scott concludes that the local community is the optimal size of jurisdiction.

The second situation is where fisheries are linked, stocks are exploited by different techniques and by vessels from different ports, vessels from each port exploit multiple stocks and stocks themselves are mobile and intermix. The situation is one of complex interdependencies among users and, as Scott notes,

135 Ibid., p. 10.

136 Ibid., p. 14.

137 Scott, "Regulation and the Location of Jurisdictional Powers," pp. 799-805.

138 Ibid., p. 799.

"[t]his nightmare actually confronts managers in Canada and abroad."¹³⁹ Scott reaches the following conclusion regarding the allocation of powers:

It seems clear that under such circumstances a single management — a government empowered to regulate having jurisdiction broad enough to encompass all these locations, fish and persons — would have decidedly lower costs of co-ordination than would smaller jurisdictions. Unless its enforcement, search, signalling, migrating and information costs were so high as to swamp these external costs, organization costs would be lower. The higher the government the more inclusive jurisdiction. Indeed, regulation by either a central government or by a council of lower governments is most commonly to be expected in these circumstances.¹⁴⁰

If all fishery powers are to be assigned to one level of government, the minimization of organizational costs dictates federal jurisdiction.

Taking account of managerial, proprietary and distributional questions, however, Scott suggests that some specific functions could be handled at the provincial level.

The federal government's accustomed role as manager of fish stocks and umpire of the fishing derby would continue, relieved, however, of much of the task of deciding who shall fish or of arranging fish management to give each class of vessel, gear or fisherman an equal chance at the stocks during a short season.¹⁴¹

In other words, in the context of central authority to provide integrated resource management and limit interjurisdictional externalities, provinces could be assigned enforcement, allocative and administrative responsibility within their boundaries. This arrangement may lead to the minimization of administration costs.

The significance of these conclusions for water requires little emphasis. The fisheries management "nightmare" described by Scott bears striking similarities to problems facing water policy-makers concerned with integrated watershed management in the context of multiple and conflicting uses and interprovincial waters. Furthermore, Scott's use of the Breton and Scott framework is consistent with the arguments reviewed in this paper. Scott's analysis suggests that while local water problems and certain administrative functions are properly matters of provincial jurisdiction, the management of interjurisdictional water issues is best achieved through federal authority.

139 Ibid., p. 800.

140 Ibid.

141 Ibid., p. 803.

IMPLICATIONS OF THE BRETON AND SCOTT FRAMEWORK FOR
CANADIAN WATER MANAGEMENT

The application of the Breton and Scott framework to water management in Canada yields the following conclusions. Mobility costs appear to be of little importance and administration costs, while reflecting potential economies and diseconomies of scale in particular circumstances, do not point clearly towards centralization or decentralization. While some signalling costs may be reduced with smaller jurisdictions, in a policy area characterized by important inter-jurisdictional externalities these reductions may be more than offset by the inability of smaller units to regulate the source of these externalities. In this context, the effectiveness of signalling directed at local or provincial governments is a function of coordination costs. Finally, a number of arguments were examined which point to potentially significant coordination costs associated with decentralization in water management, at least in the context of inter-jurisdictional externalities. These relate primarily to the incentive structure of bargaining. It appears, therefore, that the coordination costs are more significant than the other three organizational costs in the Breton and Scott framework. As a result, the minimization of all organizational costs in the case of water management requires particular attention to coordination costs and to the underlying problem of interjurisdictional externalities. The implication for federal design is that authority in this area should be centralized.

Two other points support centralization. First, organizational costs should reflect the consequences of success or failure of the activity in question. Given a decentralized distribution of powers, intergovernmental cooperation is one way to deal with the interjurisdictional externalities prevalent in water use.¹⁴² If cooperation is impossible to achieve, the consequences of policy failure in terms of environmental and economic harm should be included in measuring coordination costs. In the context of water management, high costs of policy failure support the need for centralized authority over interjurisdictional externalities.

The second point supporting federal authority is that certain features of water management raise doubts about the benign interpretation of the competitive model of federalism. Water management is primarily regulatory rather than service providing and conflicts between users and governments have zero-sum characteristics. In addition, experience with natural resource issues suggests that intergovernmental conflict can have serious costs in terms of effective policy making and even national unity. This perspective on interjurisdictional competition suggests that a clear allocation of water management jurisdiction

142 Litigation is another possible way to deal with interjurisdictional externalities. For a discussion of constitutional issues raised by this option, see Kennett, *Managing Interjurisdictional Waters in Canada*, pp. 103-90.

to a level of government able to take decisive measures is preferable to extensive competition, conflict and jurisdictional overlap.

In conclusion, where interjurisdictional issues are important, coordination costs are high and competition may be destructive, the Breton and Scott framework provides a strong argument for paramount central authority. In particular, Parliament should have authority over interjurisdictional water use externalities.¹⁴³

This conclusion regarding the design of federalism is not simply based on the operational principle that interjurisdictional externalities should be minimized. The Breton and Scott framework includes a variety of criteria for choice and explicitly evaluates the possibility of resolving interjurisdictional externalities through intergovernmental cooperation. This option is rejected because of high coordination costs and the absence of significant organizational cost advantages of a decentralized approach to the interjurisdictional elements of water management.

143 For a discussion of the constitutional basis for this jurisdiction, see Kennett, *Managing Interjurisdictional Waters*, pp. 191-227.

CONCLUSION

The management of Canada's water resources is likely to be an urgent and complex policy challenge in the coming years. It is also one which, at least in its interjurisdictional aspects, raises significant constitutional and intergovernmental issues. From the perspective of the design of federalism, the fundamental water management question concerns the location of regulatory authority within the division of powers. This paper has argued that this question can be approached in a systematic fashion, drawing on fundamental values of federalism.

After noting the appropriateness of water management as the focus for discussing the design of federalism, basic criteria for choice were reviewed and the operational principle that interjurisdictional externalities should be minimized was examined. The weaknesses of this principle as a guide to the allocation of powers led to consideration of the two elements of the Breton and Scott framework: the minimization of organizational costs and the competitive model of federalism. On the basis of this analysis, it was concluded that Parliament should have jurisdiction over interjurisdictional externalities in water use.

Although this conclusion points to greater federal authority, its impact on the allocation of powers is constrained. The approach taken here does not simply characterize water management as inherently interjurisdictional and propose that authority rest exclusively with Parliament. Rather, federal jurisdiction over water is limited, on this analysis, to the context of interjurisdictional externalities. In that context, however, there is a strong case for central authority to ensure integrated watershed management and respect for the basic values of federalism related to criteria of democracy and functional effectiveness.