

Shifting Mandates and Climate Change Policy Capacity: The Forestry Case

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Abstract. The original hypothesis is that forests will be a policy subsector in which the challenges of climate change adaptation lead to broader policy mandates but that the declining role of the industry in the Canadian economy will cause departmental resources to be stable or decreasing. The result will be ineffective policy capacity, leading to adaptation policies that are poorly designed, incomplete or missing altogether. This paper provides some evidence to support this hypothesis, though the situation is complicated by the dominant role played by the provinces in both ownership and jurisdiction. While the leading federal department, Natural Resources Canada, has shed other mandates to focus on climate change, provincial agencies are already caught between the added costs of addressing climate change impacts, notably wildfire, and the need to plan for and implement long term adaptive policies with stable or declining resources. Much will depend on coordination between First Nations, the provinces and the federal government in a policy subsector with a history of conflict between the different orders of government.

Keywords. Forest policy; climate change adaptation; policy capacity; governance; British Columbia; Alberta

Introduction

Climate change is expected to pose significant challenges to the Canadian forest sector. The series of warmer winters that has created the conditions for the catastrophic outbreak of the mountain pine beetle in the western provinces is believed to be a precursor of warmer, drier conditions over much of the continent. As a result, many types of forests will suffer significant stress from fire, disease, drought and extreme weather events. Predictions of growth, yield and forest extent may need substantial modification. Assessing policy capacity to meet these challenges in Canada's forestry sector is complicated by the decentralization that characterises the sector. Not only do almost all aspects of forest planning and forest management fall squarely within provincial jurisdiction, but provinces have also largely divested themselves of

Résumé. L'hypothèse originale est que les forêts seront un sous-secteur de politiques publiques dans lequel les défis de l'adaptation au changement climatique conduit à des mandats politiques plus larges, mais que le rôle en déclin de l'industrie dans l'économie canadienne occasionnera une stabilité ou une baisse de ressources du ministère. Cela produira une capacité de politiques publiques inefficace, conduisant à des politiques d'adaptation mal conçues, incomplètes ou totalement inexistantes. Cet article apporte des éléments pour soutenir cette hypothèse, bien que la situation soit compliquée du fait du rôle dominant des provinces, à la fois concernant leur responsabilité et leur compétence. Alors que le ministère fédéral, Ressources Naturelles Canada, s'est défait d'autres mandats pour se concentrer sur le changement climatique, les agences provinciales sont prises entre les coûts additionnels pour faire face aux conséquences du changement climatique, en particulier les feux de forêt, et le besoin de mettre sur pieds des politiques flexibles sur le long terme en tenant compte de ressources stables ou en baisse. Beaucoup dépendra de la coordination entre Premières Nations, les provinces et le gouvernement fédéral, dans un sous-secteur de politiques publiques avec une histoire conflictuelle entre les différents niveaux de gouvernement.

Mots clefs. Politique forestière; adaptation au changement climatique; capacité de politiques publiques; gouvernance; Colombie britannique; Alberta

operational responsibility for the extensive forests on Crown land in favour of on-the-ground management by long-term licensees.

In these circumstances, forest policy in the provinces is presented as finding a balance between supporting an industry in an increasingly difficult competitive position in world markets and setting a regulatory framework to ensure that forest management is conducted sustainably, capturing the full range of public and private goods found in forests. While climate change is likely to make striking this balance even more difficult, it will also test the ability of these decentralized governance arrangements to pursue a consistent long term goal such as climate change adaptation in the face of the competing ideas and interests of a wide range of actors. Policy capacity in such a decentralized subsector is something more than the sum of federal and provincial capacity;

it is also a function of successful coordination or governance. For this reason, it is necessary to consider policy capacity at both levels while paying particular attention to the sectoral governance arrangements.

Background: Forests and Climate Change

The meso-level sectoral case studies in this volume are all directed at the larger question of the relationship between policy analytical capacity and Canada's ability to meet the challenges of climate change adaptation. The case studies explicitly recognize that the severity of the challenges will depend on the nature of the issues, the strengths and weaknesses of the governance arrangements and the resources of government, more narrowly defined, which will all vary from sector to sector. In forestry, the issues raised by climate change, though relatively easy to describe, are often quite novel and surrounded by a significant degree of uncertainty. In addition, the governance architecture is relatively complex, involving provincial, national, regional and international components along the vertical dimension and a variety of non-state actors promoting new governance arrangements across the horizontal dimension (Howlett and Rayner 2006; Howlett, Rayner and Tollefson, 2009; Capano, Rayner and Zito, 2012). Both the crosscutting nature of the issues and the complexity of the sectoral governance architecture are tending to blur the identity of forest policy, which now exists at the intersection of a host of more sharply defined policy sectors, and this development is reflected in changes in the organizations of government responsible for forest policy and, ultimately, in the policy capacity to address the challenges posed by climate change.

The nature of the issues

Policy capacity is obviously very much a function of the nature of the issue and the characteristics of the surrounding policy field (Frey 2010: 673). A relatively simple and tractable problem about which a great deal is already known is likely to require much less capacity in order to provide sound advice than more difficult and novel issues over which the main policy actors continue to disagree. Traditional forest policy was a mix of relatively well structured problems (Simon 1973), such as managing public forest lands to ensure a constant flow of wood fibre to the forest industry, and some classic "wicked" problems (Rittel and Webber 1973; Nie 2003), such as those involved in designing protected area and biodiversity conservation policies. Climate change adaptation is generally considered to present a very challenging set of issues that fall into the latter category. Features such as novelty, scientific uncertainty, and the need to bring about behavioural change in target populations create difficulties on the analytical side, while the cross-sectoral linkages and the unequal burdens that climate change adaptation will place on different provinces create fairly severe governance challenges.

Specifically, in the forestry case there continue to be uncertainties about the precise impacts of climate change given

the wide variability and broad brush scope of climate change scenarios over the long time horizons of 50 years or more typically involved in forest planning and management. First, changes in growing conditions threaten the ongoing efforts of forest managers to match tree species and subspecies to appropriate sites when replanting after harvest, with consequent loss of productivity. Given that the calculation of current allowable cuts are based on estimates of productivity far into the future, these changes threaten even the narrow definition of "forest sustainability" as the ability to produce a constant or growing volume of timber in perpetuity (British Columbia 2007). Second, the prediction of hotter and drier conditions for the southern edge of the boreal forest from northern Ontario, through Manitoba, Saskatchewan and into northern Alberta (and even BC and Alaska in some models), suggests an increase in the frequency, extent and severity of forest fires (Wotton, Nock and Flannigan 2010). As noted below, provincial forest agencies are already expending significant extra resources fighting these fires (resources that are not available to increase policy analytical capacity). In the end, climate change may force a strategic change in the management of wildfire, allowing many more of these fires to burn with consequences for forest composition and extent (McKenzie, Millar and Falk 2011). Similar issues exist where the dynamics of forest pest infestations are changed by warmer winters or drier summers, as the mountain pine beetle outbreak in the interior of BC has shown. Again, while these new conditions are predicted in many climate change scenarios, their precise timing and extent remain highly uncertain.

Third, the network of protected forest areas that has been created to address biodiversity conservation goals (notably the efforts to combine the 12% minimum protection promoted after Rio with conservation biologists' desire for the protection of "representative ecosystems") may soon be unable to meet these goals. As an Ontario climate change assessment notes:

Current protected areas may no longer contain the "best" representative examples of features, ecosystems and species. As species move and ecological boundaries change in response to climate change, ecological communities will change and some may be lost from within the fixed boundaries of protected areas (Ontario n.d.: 10)

Given the bitter legacy of the battles to create the existing protected areas, adding new ones or even changing the boundaries of current protected areas poses a significant challenge to forest policy. With conflicting problem definitions and the sense of an endlessly moving target, the protected area issue has the potential to reopen a classic wicked problem that many thought had been largely resolved through a series of high profile public engagement processes and agreements.

Fourth, the forest industry and forest dependent communities will be challenged to adapt to these new conditions, often by being encouraged to adapt by responding to other opportunities provided by the new climate change policy agenda. For example, mitigation and adaptation are closely linked when the industry is urged to replace existing trees

species with fast growing hardwood species that can sequester carbon or provide biomass for energy (Park and Wilson 2007). The interest in developing “second generation” biofuels from wood waste is a related development. At this point, adaptive policy within the forest policy sector becomes inextricably linked to a host of other policy areas, including larger climate change mitigation goals, energy policy, science and innovation policy and more.

Advice on how to tackle these problems will generally be framed within the dominant policy paradigm of Sustainable Forest Management (SFM). The SFM paradigm developed in response to criticisms that twentieth century forest management was narrowly focused on the production of fibre for industrial forest products users, neglecting not only the many other values potentially available in forests but also the entire social dimension of forest use. SFM draws on the language of sustainable development to propose the achievement of a long term, sustainable balance between social, economic and ecological values as the overarching goal of forest policy (Burton et al. 2003). While championing a more participatory approach to the development of forest policy as the best way to achieve this balance, SFM is nonetheless the language of professional forestry and forest economics. There is a large and well-recognized expert community of scientists and managers working within the SFM paradigm who regard Canada as a world leader in the development of forest practices that implement SFM principles (Rayner and Howlett 2007). There is also a lively debate about the extent to which climate change considerations can be accommodated within those principles and practice or will require some significant modifications to them (Klenk et al. 2011).

Without diminishing the fact that the existence of the unified SFM paradigm increases policy analytical capacity and promotes evidence-based policy making, these are arguably not the paradigm’s most important consequences. As its name implies, SFM is primarily focused on management and the gap between management and policy has proved difficult to close. Forest scientists typically have little to say about policy options, which are often confused with or restricted to regulatory changes. Where forest managers and scientists recognize the existence and relevance of policy at all, they generally describe the kinds of considerations that enter into policy analysis as “socio-economic factors” that lie outside their own expertise (Spies et al. 2010). Forest economics still dominates the professional framing and assessment of policy options (Luckert, Haley and Hoberg 2011). However, by promoting a common discourse, the existence of an expert policy community that transcends jurisdictional boundaries (including national boundaries) gives a huge boost to coordination efforts in forestry policy. In particular, SFM has promoted the development of a number of sophisticated information instruments based on criteria and indicators that have the potential to improve governance as well as track the performance of forest management under new conditions.

Governance

Governance arrangements are a critical dimension even in the simplest case where a single government agency has a unique and all-encompassing mandate to address a policy problem. The capacity to successfully address the problem at hand will be a combination of the agency’s ability to coordinate its own activities with its ability to coordinate those of other key actors, including the target populations of the policy (Gleeson et al. 2011). The challenges of this kind of coordination will be different at different stages of the policy cycle, usually greater at agenda setting, formulation and implementation than during decision-making and evaluation but always present to some degree. As usual, there is a problem of the independence of the two dimensions here because successful coordination is likely to enhance the analytical capacity of the agency by drawing in capacity from other actors, while failure is likely to lead to key gaps in information and analysis.

The situation is slightly more complex when policy responsibilities are divided between multiple departments and more complex still when they are divided between multiple departments in multiple jurisdictions. While even a single, dominant government department may face very significant challenges of policy coordination, successful governance arrangements that span multiple jurisdictions and divided departmental responsibilities are by no means unknown. These considerations all bear on the forestry case, where the federal government has a very restricted range of governance options to coordinate provincial activities, and where climate change policy is usually divided between environment ministries (often the lead agency) and the “resource development” ministries where responsibility for forest policy and coordination with the forest industry itself are located.

In the provinces, the delegation of responsibility for forest management planning to licensees who are focused on the short term problems of staying in business in highly competitive markets is another challenge to the kind of long term policy development required to address adaptation to climate change (Luckert, Haley and Hoberg, 2011). Much of the data gathering and monitoring required for analysis are also conducted by these licensees and analytical capacity is ultimately a joint problem of government and industry. These coordination challenges are not insuperable and once again, the presence of a shared discourse and professional training is very helpful. Nonetheless, as much of the recent history of forest policy illustrates only too well, attending to the challenges of coordination often crowds out the need to communicate with other stakeholders and the attentive public (Howlett et al. 2009; but see the symposium introduced by Robson and Parkins 2010), a common problem in “compound” political systems characterized by multi-level governance and dispersed authority (Schmidt 2007). Addressing communication deficits puts a further strain on policy capacity at the provincial level. The strain is likely to be increased as adaptation to climate change leads to controversial policy changes initiated within the professional forest policy community that need to be communicated to a larger audience, for example, new fire management practices

that aim to control the build up of fuels in forests that are also used for recreation. For all these reasons, the discursive construction of the departmental mandates will be an especially important element in assessing policy capacity.

Federal organizational capacity: Natural Resources Canada

Discursive construction of the mandate

Natural Resources Canada (NRCan) was created in 1993 by the merger of Forestry Canada and the Department of Energy, Mines and Resources, providing a relatively stable home for federal forestry after several decades of departmental reorganizations. Brief periods as a standalone forestry department from 1960-66 and 1989-1993 punctuated a confusing round of post-war changes in which forests were combined with, successively, mines, resources, northern affairs, rural development, fisheries, environment, agriculture, back to environment again, and finally full circle to resources. It is hard to escape the impression that the federal forestry file is an orphan in search of a home. In fact, it could hardly be otherwise, given the provinces' constitutional jurisdiction over crown forests. Efforts to assert federal "leadership" in this sector have always been resented or rebuffed, even when they took the form of shared cost programs (Howlett 2001).

In recent years the federal mandate has revolved around a core group of activities, closely related to both federal jurisdictional responsibilities and the legacies of previous departmental affiliations (Table 1). First, the export orientation of the forest industry has been connected to the international trade mandate and thence to programs supporting industry competitiveness and market access. Second, federal responsibility for First Nations and Metis has produced several programs to develop and support Aboriginal forestry and, by extension, to support forest dependent communities generally. The latter is largely a research function, though some spending is conducted through the Model Forests Program. Third, the existence of international multi-lateral negotiations on forestry issues since Rio has created an interest in maintaining a Canadian "profile" in these negotiations to protect Canadian interests. Fourth, NRCan inherited the research resources of the Canadian Forest Service (CFS) and continues to operate them in support of a number of programs, including innovation and economic forecasting but also climate change adaptation. Finally, NRCan provides the secretariat and other support services for the federal-provincial governance group, the Canadian Council of Forest Ministers (CCFM).

Table 1 suggests that NRCan's forestry mandate has remained relatively stable over the last five years. The three core activities of innovation, competitiveness and communities attract a shifting cast of related programs but the number of activities remains broadly similar. Nonetheless, this is probably an oversimplified interpretation. In particular, the replacement of climate change reporting by the disturbance and adaptation theme represents both a broadening of the mandate itself and a move from a fairly fixed focus to a potentially more open-ended one. The explicit recognition of

adaptation in this theme suggests another attempt to coordinate activities that are already taking place in a more disjointed way in the provinces.

Table 1: NRCan program activities, 2006-2010.

	2006	2007	2008	2009	2010
Innovation	x	x	x	x	x
Science and technology governance					x
Energy-based sustainability in pulp and paper					x
Economic market value from forests				x	
Competitive Industry/secure markets	x	x	x	x	x
Maintain forest area	x	x			
Ecosystem risk management/science application			x	x	x
International recognition for Canada	x	x	x	x	
Climate change reporting	x	x			
Forest disturbance/adaptation			x	x	x
Forest dependent communities	x	x	x	x	x

The major shift in the discursive construction of the federal forestry mandate can be illustrated by the transformation of one of the key efforts at federal provincial coordination, the National Forest Strategy (NFS), formerly the National Forest Sector Strategy (Table 2). Essentially an agenda setting and network building exercise, the NFS showed a distinct tendency towards mission creep over the first 20 years of its existence. The Strategy and its accompanying Accord, signed by an ever larger and more diverse group of stakeholders, were characterized by an effort at inclusiveness that only encouraged a lengthening list of increasingly vague aspirations. The introduction of reporting requirements in the later strategies merely allowed signatories to engage in self-congratulatory exercises in cherry-picked categories without providing much evidence of overall progress or failure. Certainly no attempt was made to benchmark or to identify leaders and laggards (Rayner and Howlett 2007).

In 2008 the Strategy was replaced by a CCFM “Vision” document that focuses on just two strategic priorities, transforming the forest industry’s competitive position and addressing climate change mitigation and adaptation. This is reflected in the 2010 strategic priorities of NRCan, so that the overall impact of the growing salience of the climate change issue seems to have been to force the federal government to engage in priority setting. The political difficulties of focusing the vision in this way should not be underestimated, as each of the themes from the old NFS represented the concerns of a particular set of interests, who fought to maintain their place in the Strategy. Whether the new focus on climate change adaptation as part of the “vision” will actually be translated into programmatic activity and how that activity will be divided between the federal and provincial governments remains to be seen.

Changes in the nature of the network

The changes in the Virtual Policy Network confirm many of the inferences from the mandates data. While the earlier network is clearly centralized on NRCan, whose centrality would be even higher if the CFS links were added, the latest VPN shows the rapid internationalization of climate change adaptation in forestry. Moreover, the strong showing of research organizations, including university departments and industry-university innovation centres, in the earlier VPN is replaced in the second crawl by social media that are typically used by non-governmental organizations or by international organizations seeking to mobilize global civil society. Finally, while the key role of SFM discourse in organizing the network and maintaining its boundaries is apparent in the first crawl, the proliferation of new actors and global civil society, especially international organizations whose primary focus is not forestry but some other forest-related issue, will inevitably introduce new ideas.

All of the previous observations support the inference that the VPNs are networks focused on agenda-setting and policy formulation rather than policy implementation. While network density is relatively low in both networks, suggesting that new ideas can be introduced into the networks and circulated relatively rapidly, the tendency of this openness will be to destabilize the SFM consensus rather than promote policy learning based on experience and reflexivity. The kind of learning that will take place here is similar to what Dunlop and Radaelli (2013) call framing learning, where the participants have very little control over either the means and content of learning, so that the learning experience will operate through issue framing in the context of a given over-arching goal. Unfortunately, learning of this kind, while it may eventually produce a common understanding of the nature of the problem and promote legitimation, will be unlikely to increase policy analytical capacity. The latter, it may be surmised, requires a much more focused and constrained kind of learning than this loose and open network can engender.

In short, the earlier VPN suggested a surprising degree of governance capacity, with NRCan as a nodal organization and the network configured in such a way as to answer the

innovation mandate and to promote learning about climate change adaptation within the SFM framework. The new network, on the other hand, represents loss of steering capacity by the federal government on this issue (hardly surprising given the present government’s approach to climate change) and a tendency to fragmentation involving actors at a number of different levels, both state and non-state. As Knill and Lehmkuhl (2002) have observed, the overall governance capacity of a network of this kind will depend very much on the capacities of the non-state actors involved and the kinds of non-state actors that reach nodal positions (Howlett and Rayner 2006; McNutt 2010)

Resources

According to the theoretical framework used for this study, policy capacity is a function of the relationship between mandates and resources. In the forestry case, the initial hypothesis is that climate change adaptation will expand the mandate while government priorities will fail to deliver the resources necessary to match the expansion. As with mandates, the picture on the resource side at the federal level is more complicated. Around half of all NRCan spending in the period under review was accounted for by transfer payments under the Atlantic Offshore Accord and hence not relevant to the forestry mandate. Moreover, the latest representation of NRCan’s mandate over the last decade, focusing on the relationship between the three “strategic outcomes” and the various activities that contribute to achieving them makes it increasingly difficult to separate forest-related expenditures from those on unrelated activities that contribute to the same goal.

Table 3: NRCan Total Expenditure, Forest-Related Expenditures and FTEs

Fiscal Year	Overall Department Spending (actual, \$ millions)	Forestry Spending Specific	FTE staff	FTE staff forestry
2005 - 2006	1680	158.7	4565	
2006 - 2007	1685.7	178.1	4379	974
2007 - 2008	3341	206.7 (268.3)	4320	892
2008 - 2009	4677.5	(264.8)	4486	
2009 - 2010	3185.1	(121.9)	4556	

(figures in parentheses are calculated on a different basis from the earlier series)

Nonetheless, it is clear from Table 3 that NRCan showed a significant increase in spending in the second half of the decade. As the Department’s performance report emphasizes, these increases are directed primarily at energy and climate change mitigation rather than forests and adaptation, relating primarily to the Biofuels, Clean Energy and the ecoEnergy Retrofit Programs. Forest Market Diversification appears to be the only direct forest-related new expenditures and that objective is a very traditional one relating to the

health of the industry. All that can be said with certainty is that, for the years for which forest-related expenditures can be broken out, they run at between 6 and 12 per cent of total departmental spending. There is no evidence that forest-related expenditures have gone above or below those bounds in spite of the increasing salience of the climate change agenda and the likely expansion of mandates that will follow in its wake. To see where real tension between an expanding agenda and pinched resources is being felt, we must examine the role of the provinces.

Provincial capacity

In an extremely decentralized subsystem such as forestry, the picture is radically incomplete without a consideration of provincial policy capacities. Not only do provinces own and control the extensive forests on provincial Crown land in Canada, but they regulate forestry activities on both Crown and private lands and, in many cases, derive substantial direct and indirect revenues from forestry. In addition, in a development that mirrors the situation in the United States, since the federal government has been reluctant to take action on the climate change file, provinces and even municipalities have moved into climate change policy in the absence of federal leadership (Rabe 2007). Forest-related adaptation is embedded in larger provincial climate change strategies of a kind that barely exist at the federal level in Canada.

Considerations of space preclude an analysis of all ten provinces, or even of the half-dozen where significant forestry activity takes place, comparing instead two neighbouring provinces, British Columbia and Alberta. Both face significant problems of climate change mitigation, mainly from the emissions of the energy and transportation sectors, raising the salience of climate change issues generally. Though no longer a dominant presence in the provincial economy, forestry is far more important as an economic driver in BC than in Alberta, where revenues from forestry are dwarfed by those from oil and gas, particularly, of course, from the oil sands (Woodbridge Associates 2009). BC has also sought to be a national leader in climate change policy, an early adopter of a carbon tax and setting ambitious goals for emissions reductions (Smith 2010; Sodero 2011). Alberta has taken a more conservative stance, promoting the idea of reductions in emission intensities rather than in absolute values as the key to protecting the oil sands (Charpentier et al. 2009). Both have also publicly endorsed the importance of a long-term adaptation strategy, though, to date, only BC has produced one.

Alberta

Modern forest policy in Alberta dates back to the 1980s, when Premier Lougheed set in motion a renewed attempt to diversify the provincial economy from its increasing reliance on the oil and gas sector. In addition to further growth of the softwood lumber industry that had developed along the

eastern slopes of the Rocky Mountains, the government offered a series of controversial new tenures in the northern boreal forest based on the utilization of fast-growing hardwood species for pulp and paper production (Pratt and Urquhart 1994). The policy was extremely successful on its own terms, creating and, equally important, retaining new jobs and increased revenues from the forest industry at a time when the industry from coast to coast entered a very difficult period.

However, the next upturn in the world oil market saw the take off of oil sands development, both in the mineable area around Fort McMurray and in the deeper subsurface pockets. In the latter, the bitumen is recovered by injecting steam into the formation and pumping out the liquefied deposit, a process known as Steam Assisted Gravity Driven (SAGD) recovery. In both cases, the footprint of the oil industry, from the cutting of seismic lines and the building of drilling platforms through to the network of pipes, storage facilities and pumping stations, is a large one. Much of the recoverable oil sands lies underneath the new forest tenures and, by the middle of the last decade, the forest industry began to fear the loss of the merchantable timber that had been included in its forest management plans (Brownsey and Rayner 2009), fears which have proved entirely justified.

Given the importance and political influence of the energy industry in the province, the government has been reluctant to take action. It has enforced the penalty provisions in provincial legislation where trees on management license areas have been damaged by oil and gas activity. It has tried to level the playing field between the resources by increasing oil royalty payments only to reverse that decision in the face of falling oil prices. And the government did at least follow through on its commitment to create a provincial Land Use Framework. The Framework employs a priority zoning system that, in theory, designates areas where forestry will continue as the dominant use and areas where energy development will take priority. Nonetheless, forestry remains a poor relation in a family of resource departments and their client industries dominated by energy.

Discursive construction of the mandate

Unsurprisingly, forest policy and management in Alberta is one of the responsibilities of an "integrated" resource ministry, Sustainable Resource Development. However, not only is forest policy just one element of SRD's overall mandate, but SRD itself exists in complex administrative constellation that includes separate departments covering energy and mining in addition to the usual Ministry of Environment. As a result, the mandate of Sustainable Resource Development is a largely defensive one in which it finds itself isolated from provincial policy priorities and without the policy levers it needs to support the industry and protect provincial forests for forestry. Climate change adaptation provides some opportunities, notably in support for the industry through the development of cellulose as a biofuels feedstock, and some challenges, particularly the appearance of the mountain pine beetle in Alberta. Nonetheless, it is hard to escape the conclusion that forestry issues are essentially a minor footnote

to the climate change policy challenges posed by the oil and gas industry. SRD is barely a player in provincial climate change policy.

Table 4: Forest policy mandate changes for Alberta Sustainable Resource Development

Years	Forest Protection	Forest Management
2001–2004	Protect Alberta's forests and forest communities by preventing and suppressing wildfires.	A "balanced" approach that maximizes benefits to Albertans Encourage SFM Protection from diseases and pests Increase value of forest products
2005-2008	Provide a preparedness framework that enables the Province to respond to wildfires.	A balanced approach that optimizes the benefits Albertans receive from forests and forest lands. Manage infestations Ensure SFM through appropriate planning mechanisms Support the Forest Industry Partner with other jurisdictions to resolve softwood lumber dispute Ensure Albertans get a fair return for the use of public forest lands
2009-2011	Provide a preparedness framework that enables the Province to respond to wildfires	A balanced approach that optimizes the benefits Albertans receive from forests and forest lands. Aggressively manage infestations Ensure SFM through appropriate planning mechanisms Support the Forest Industry to become more innovative and support leading practices through education Consult with First Nations Protect biodiversity and watersheds Ensure Albertans receive benefits from the use of forest land to produce fibre

As shown in Table 4, SRD's forestry mandates have gradually expanded during the period under study. Grouped around the two key areas of forest protection and forest management, they all have a utilitarian focus. Forest and rural communities are to be protected from the hazards posed by wildfire, while forests are to be managed to maximize (or, later, optimize) the economic benefits that Albertans receive from their public forests. The number of strategic objectives under the forest management heading gradually increases

over the decade, adding biodiversity and watershed protection and consultation with First Nations. Support for the industry is generally restricted to promoting (or, in the earlier period "unleashing") innovation. Alberta has also developed a series of performance measures related to these objectives, for example, the level of sustainable timber harvest as a measure of the extent to which SRD is delivering on the goal of managing Alberta's forests to optimize economic benefits. While the general trend has been expansion, it is noteworthy that climate change adaptation has not explicitly added to these mandates nor contributed to loss of focus.

The extent of resources available

Although forestry expenditures have held up quite well in nominal terms over the period studied, increasing by 50% over the decade, this increase masks two significant trends. First, forest-related expenditures are a declining proportion of all SRD expenditures. Second, data from the first half of the decade suggest that most of the expenditures are wildfire related. Given that the expansion in mandates have occurred in forest management rather than the forest protection area, this suggests serious erosion of policy capacity, with SRD being asked to do more with less. If this trend continues when climate change adaptation is eventually added to the list of management responsibilities, the outlook for successful policy intervention will be poor.

Table 5: Alberta SRD, Forest Related Expenditures

Year	Forest Related Expenditure, including fire management (\$000)	Fire Management Expenditure (\$000)
2002	204.0	176.3
2003	321.2	297.0
2004	326.5	204.9
2005	208.5	199.8
2006	351.6	269.4
2007	348.1	238.0
2008	339.2	266.6
2009	306.1	233.4
2010	308.5	200.8

British Columbia

Forest policy in BC in the period under review has been dominated by the Liberal government's efforts to effect a "revitalization" of the strategically important forest sector, removing or modifying many of the traditional forest policy instruments of the previous decades. Reversing the previous government's focus on shoring up employment in the sector, the stress has been on trying to create a more profitable forest industry while winding down the extensive participatory land use planning exercises that had been the response to the "war in the woods" of the 1990s. Government to government negotiations with First Nations, on the other hand, became a priority, and the award of forest tenures or other forms of control over public forests is an important bargain-

ing chip in these negotiations. Whatever the merits of these policy changes, the sector has been battered by a series of shocks, including a new round of the long-running softwood lumber dispute with its major trading partner, the devastating mountain pine beetle infestation in the southern interior, and the global recession and resulting overcapacity in the industry around the world.

In the latter part of the decade, BC became a leading province in the development of climate change policy, originally focused on mitigation (including a controversial carbon tax) but later on the development of adaptation policies and, belatedly, an adaptation strategy. Climate change concerns have played an ever more significant role in forest policy, driven in part by the belief that the mountain pine beetle infestation and a series of bad fire seasons, if not actually caused by climate change, offer a preview of the challenges that a warmer climate will pose for the forest sector. The BC Bioenergy Strategy, which promotes the use of beetle-killed wood and wood waste for renewable energy and creates new bioenergy forest tenures, provides an example of the growing linkages between mitigation and adaptation policies.

Mandates

The province was, for many years, an outlier in administrative organization in Canada, with a dedicated Ministry of Forests (now the Ministry of Forests, Lands and Natural Resource Operations) instead of an integrated resource department. The development of the mandate of the Ministry falls into three periods. Prior to the election of 2001, the mandate is organized into two programmatic areas, promoting forest sustainability and ensuring that forest and range resources “contribute to the economic well being” of British Columbians. Within these two categories were a series of very ambitious policy goals that were aspirational rather than realistic, reflecting the inflated rhetoric of the 1990s “war in the woods” (Cashore et al. 2001). In the early years of the Liberal government, the Ministry’s mandate became more focused, with associated performance measures, but the major categories changed from year to year as the government made a series of legislative and policy changes in the sector. Finally, around 2006, the categories stabilize around sustainable forest and range resources and sustainable socio-economic benefits from forest and range resources, ironically the same basic categories as the pre-2001 mandate.

Under these broad goals, however, the Ministry is charged with tackling an ever increasing and complex set of objectives, involving managing the salvage cut and replanting in the mountain pine beetle affected areas, working with First Nations and forest dependent communities as the difficult economic and trade situations exact a toll, and, eventually, adaptation to climate change. Climate change appears for the first time in 2006 under “sustainable forest and range resources”, as a commitment to “work with the Ministry of Environment to further policy on carbon credits and climate change.” In 2007, adaptation makes its first appearance as the objective to “adapt forest stewardship policy and practices to changing social, economic and envi-

ronmental conditions (climate change, energy sector development), “subsequently becoming a standalone forest adaptation policy seeking to “ensure the appropriate standards are in place to increase ecosystem resilience and adapt forest and range practices for a changing climate.”

Resources

Like the rest of the BC public administration, the Ministry of Forests and Lands was affected by the government austerity program initiated in the early years of the Campbell government as a result of attempting both to reduce government deficits and follow through on a campaign promise to make significant cuts in corporate and personal taxation. By 2004, the Ministry lost about \$100 million from its budget and fell below 3000 FTE staff. By 2005, however, the purse strings were opened again for the provincial election and the Ministry saw its resources growing for the rest of the decade. The growth in FTE complement continues to lag behind expenditures, reflecting the general trend to move policy capacity outside the public service and rely ever more heavily on contracts and consultants.

Table 7: BC Ministry of Forests and Lands, Expenditure and FTE staff

Year	Expenditure (\$ millions)	FTE Staff
2000	512.0	
2001	537.8	4061
2002	621.2	3470
2003	564.9	3070
2004	524.3	2942
2005	644.5	3245
2006	743.7	3559
2007	730.1	3698
2008	799.9	
2009	1032.1	

Conclusions

The horizontal crosscutting character of climate change and the close linkages between policies to address adaptation make it increasingly difficult to break out specific policy components and examine the relationship between mandate and resources. Given the gaps in reporting critical information, such as forest-related FTEs in government departments with multiple resource programs, the conclusions presented here must be necessarily tentative. However, the evidence from both federal and provincial forest policy subsystems does support the original hypothesis in which mandates are increasing but resources are stable or decreasing, leading to ineffective policy capacity and the adoption of short-term expedients when a longer view is required.

The situation is relatively clear at the federal level but complicated in the provinces by the growing proportion of expenditures devoted to fire protection, In Alberta, policy

capacity is driven by the interaction of stable mandates with stable or declining resources, creating the possibility of policy failure when Alberta finally catches up with BC and starts to expand climate change adaptation mandates. In BC, on the other hand, the development of an adaptation strategy is relatively well advanced and significant new resources have been made available to the Ministry of Forests, Lands and Natural Resource Operations although not necessarily for longer term adaptation. Responding to the weak position of the forest industry, new hybrid mitigation/adaptation programs are in vogue. For example the BioEnergy Strategy, which responds to international demand for biomass, and the "Wood First" policy that attempts to increase the domestic market for forest products by stressing the climate change benefits of building with wood rather than more energy intensive materials, are already in place as outputs of the adaptation strategy. Here the challenge will be to set priorities and match capacity with demand as the adaptation mandate becomes more complex and the low-hanging fruit that offers something for everyone is picked.

The government of Alberta identified the need for a provincial adaptation strategy in 2008 but has yet to produce one, although a "framework" exists (Alberta 2010). BC published a provincial adaptation strategy in 2010 that consists of four pages of text (British Columbia 2010), asserting that the strategy will be built on a strong foundation of knowledge, the integration of adaptation into government planning and program implementation, and risk assessment. Though unusually brief, the report's lack of specifics, neglect of the very many barriers to the implementation of an effective adaptation policy and "limited appreciation of the wider governance context in which both climate change and its management will manifest" (Preston et al. 2010) are all typical of such documents. The evidence of policy outputs such as these suggest that policy analytical capacity is lacking at the highest levels. In the forest policy field, where adaptation continues to be tackled at the level of management plans rather than by coordinated policy initiatives, the existing gap between capacity and demand can only widen as the challenges of adaptation become better understood and policy in this area is likely to be ineffective or to fail altogether.

As emphasized in this chapter, and as the VPNs confirm, governance, in the sense of policy coordination and steering is in many ways the key to improving policy capacity for adaptation in the very decentralized Canadian forest sector. The specific challenge here will be how well the sector can deal with the continuing policy vacuum at the federal level. At present, the lack of a coherent federal climate change policy is having two predictable effects: driving agenda setting and policy framing out of Canada into the international arena then bringing policy back in at the provincial and community level. These developments are given further impetus by the tendency towards further decentralization in forest policy and governance over the last decade, including greater involvement for First Nations and resource dependent communities. The challenge will be to steer this heterogeneous and sometimes mutually antagonistic cast of players

towards achieving adaptation goals. Given that much of the environmental movement continues to be suspicious of adaptation efforts as diverting attention from mitigation and that adaptation measures may risk further erosion of the industry's already precarious competitive position, forest governance will be no easy task. Without improvements in this area, though, ineffective policy capacity is likely to characterize the forest sector for some time to come.

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Table 2: Thematic Areas of National Forest Strategies, 1981-2003

		1981	1987	1992	1998	2003
Items Included in Strategy Statement	Overall Priority	Wood Supply	Forest management	Forest ecosystems	Forest ecosystems	Ecosystem-based Management
				Forest management	Forest management	
	Economic Focus	Markets and Market Opportunities	Trade and investment	Forest industry	Forest industry	Forest Products Benefits
				Global forests	Global view	
	Employment Focus	Human Resources	Employment	Forest communities	Forest communities	Sustainable Forest Communities
	Technology Focus	Research and development	Research and development	Forest science	Forest science	Knowledge and Innovation
	Role of Public		Public awareness	Public participation	Public participation	The Urban Forest and Public Engagement
	First Nations inclusion			Aboriginal Peoples	Aboriginal Peoples	Rights and participation of Aboriginal Peoples
	Private Suppliers			Private woodlots	Private woodlots	Private woodlots
Governance Mechanisms						Reporting and Accountability

Table 6. BC Ministry of Forests and Lands Mandates

	2001	2003	2005	2007	2009
Priority and focus	Sustainable management	Measurable improvement of resource and benefits	Measurable improvement of resource and benefits	Compliance and enforcement	Sustainable management and benefits
Forest protection	Protection from fire and pests	Protection from fire and pests	Protection from fire and pests to meet objectives	Wildfire and pests are detected, managed and prevented	
Forest management	Sustainable management of ecosystems	Improve long term sustainability and health. Ensure monitoring and enforcement of performance standards	Ensure principles of sustainability guide management Monitor, evaluate and improve forest management	Exemplary stewardship of forest resources Compliance with statutory obligations	Well-managed, healthy and productive forest and range resources
Economic focus	Ensure that resources contribute to economic wellbeing of citizens and communities	Enhance opportunities to generate wealth from resources	Ministry programs manage resources to deliver sustainable benefits		Sustainable socio-economic benefits from resources