



**Forest
Practices
Board**

The Forest Practices Board Experience with Forestry and Water Users

*Comments on the Modernization of the Water Act
Special Report*

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Comments from the Forest Practices Board

The Forest Practices Board (the Board) has been involved in many cases where domestic water users are concerned about forestry activities in their watershed. While forest licensees generally carry out their practices in a manner that minimizes negative impacts to water, unintended consequences can, and sometimes do, happen.

This report was prepared following the release of a government discussion paper on modernization of the *Water Act*. Since that discussion paper was drafted, government has released its policy proposal for a new Water Sustainability Act for BC.¹ The policy document addresses some key issues, and includes proposals to integrate planning and management of the water resource, develop provincial water objectives, consider those objectives in land use decisions and expand compliance and enforcement.

A key priority is the protection of stream health and aquatic environments. As discussed in this report, the *Forest and Range Practices Act* (FRPA) does provide protection for most streams, with added recognition for community watersheds. However, FRPA does not cover all situations where the public relies on streams for domestic water supply—for example unlicensed water users. FRPA also delegates decisions to forest licensees without an adequate conflict resolution mechanism for situations where water users do not feel a forest licensee is protecting their interests.

The Board has received many complaints from water users about such situations. However, rarely is there an actual problem with water quality, quantity or rate of flow reported after logging. Rather, the problem is usually unrealistic expectations on the part of the water users. The Board cannot resolve such concerns. Government should help to ensure water users have realistic expectations; regulation is not a substitute for improved interactions among resource users. This may require that decision-makers address conflicts between water users and forest licensees when they cannot resolve them themselves.

The Board is hopeful that the proposed Water Sustainability Act will include measures to help address these recurring issues and assure the public of a sustainable, quality water supply.

In addition, the Board previously published a special report on the limited utility of water quality objectives for enforcement in the forest practices context.² The Board noted that such objectives are most useful to make resource management decisions. Those conclusions are relevant to establishment of provincial water objectives which are proposed for a Water Sustainability Act.³

¹ Ministry of Environment. *BC's Water Act Modernization: Policy Proposal on British Columbia's new Water Sustainability Act*. December 2010.

² Forest Practices Board. *A Special Report on the use of Water Quality Objectives Under Forest Practices Legislation - Lessons for the Future*. FPB/SR/14, February 2003.

³ *Policy Proposal* at 8, 9.

Introduction

1. The Board's Involvement with Water Issues

This report summarizes the Board's experience resulting from 15 years of interaction with people who use BC forests for domestic water purposes.⁴ Government is engaged in a review of the *Water Act* and this paper is intended to help inform that process.

The Board's involvement with water protection comes mainly through its role as a forest and range management "watchdog." The Board has received and investigated some 30 complaints from people who draw consumptive or irrigation water from forested public lands. Protection of water during forest and range operations has been the subject of several Board audits. The Board also issued a special report on the use of water quality objectives under forest practices legislation.⁵

Based primarily on the results of complaint investigations, the Board concludes that the most significant problem with protection of water in the forestry context is dealing with a perceived risk of harm to water quality, quantity or timing of flow. Successive governments have confirmed that logging is acceptable in watersheds with domestic water licences, and the Board's experience is that forest management and logging usually occur in a carefully planned way, even though this does entail some additional risk to water supplies.

If problems do arise, cause and effect can be difficult to determine in a forestry context because cumulative impacts of various resource developments, or natural disturbances, can obscure a root cause. This leaves water users in a poor and potentially unfair situation; while government and industrial tenure holders are the ones authorized to make risk decisions, it is the water users who are left to deal with any impacts to their water supply. The Board has found that this tends to leave water users highly dissatisfied.

2. The Legal Framework for Water Management

There are three statutes that set out most of the law concerning the conservation, management and use of water in BC:

- the *Water Act*;
- the *Drinking Water Protection Act*; and
- the *Forest and Range Practices Act*.

The *Water Act* (WA) is the primary law for managing the public's water resources. Under it, government awards and regulates water licences to divert and use water in streams (water allocation) and to construct works or to make other changes in and about a stream. However, the WA is one of the province's oldest statutes, reflecting issues and practices appropriate to a

⁴ The Board provided comments on its experience with range practices and water users in a separate letter (see http://www.fpb.gov.bc.ca/SR40_DAVID_BORTH LETTER Comments on Water Range Use Issues.pdf)

⁵ See Note 2.

time when BC's population was small, water was abundant and industrial and agricultural demands were a fraction of what they are today. Therefore, the government is considering modernizing the WA.⁶

The *Drinking Water Protection Act* (DWPA) is the primary legislation that directly protects the province's drinking water in terms of health hazards. It creates obligations on water suppliers, including requirements to provide potable water, monitor water quality and ensure that suppliers have written emergency response and contingency plans in place. That Act also establishes drinking water officers in the regional health authorities as statutory decision-makers and places prohibitions on people who are not water suppliers, including forest agreement holders, from doing things that are likely to result in a drinking water health hazard.

The *Forest and Range Practices Act* (FRPA) and its associated regulations are the primary legislation protecting drinking water sources from damage by forest practices on Crown land. This is where the Board is involved. Since 1995, the Board has conducted audits and complaint investigations and issued public reports on how well the forest industry and government are meeting the intent of BC's forest practices legislation. In its reports, the Board can recommend improvements to forest practices. Those recommendations often concern mitigation of risks to the environment, including risks to water.

The Board's Experience with Water Users

1. Forest Practices and Water

Water is an important indicator of ecosystem health and function. Water bodies include not just the water flowing through them, but the food webs and nutrient cycles that operate within their beds and on their banks. Water bodies are a complex mix of physical structures that include plants, animals and insects that together are needed to ensure full functioning condition. Over the long term, healthy freshwater systems are vital for sustaining many ecosystem services for future generations and for maintaining the ecological capacity to adapt to environmental changes, such as global climate change. Government has recognized that there is substantial public support for legislation that will protect watershed health in land use and resource development decisions and practices.⁷ The close land/water interrelationship and how land use practices affect water quality, quantity and timing of flow, are recognized in government's proposals to modernize the WA, specifically in the policy proposal to protect stream health and aquatic environments.⁸

⁶ Ministry of Environment. *BC's Water Act Modernization: Discussion Paper*. February 2010 (hereinafter *Discussion Paper*).

⁷ Ministry of Environment. *BC's Water Act Modernization: Report on Engagement*. September 2010 at 4.

⁸ *Policy Proposal* at 8.

Forest practices can affect water quality in a number of ways.⁹ Disturbance of forest stands, either through harvesting or the killing of trees by insects such as the mountain pine beetle, results in a variety of hydrological effects within a watershed. The peak flow in streams is linked to the area of timber harvesting in each stream's watershed. Depending on the amount of harvesting or "equivalent clearcut area,"¹⁰ the net effect can be higher peak flows occurring earlier in the season, compared to those that generally occur in a mature, non-harvested forest. These higher peak flows can affect both water quality and stream channel stability.

Prescribed burning, often used to dispose of logging debris and expose soil to create conditions favourable to reforestation, changes the physical character and chemical composition of the soil, which can affect water. Soil can become more prone to erosion after a burn, and a change in its chemical composition can cause new chemicals to dissolve into streams or other water bodies.

Road construction and use, and forest harvesting, can increase the runoff of sediment into water bodies and destabilize stream banks. Health officials recommend that surface water, even in its natural state, be treated before use, but turbidity from sedimentation can make treatment ineffective or require very expensive filtration equipment. For example, the auditor general estimated that adding filtration systems to municipalities outside of Vancouver and Victoria would cost \$700 million in capital costs and \$30 million annually.¹¹

As the discussion paper notes, forest-related land and water activities may need to change if stream health and aquifer health objectives are not being met.¹²

2. FRPA and Water Quality

The scope of the WA modernization includes examining how the WA interacts with other legislation, including the water quality provisions of FRPA.¹³ FRPA includes two government objectives for water. One applies generally to water quality at the "landscape" level. The other applies in community watersheds.

⁹ Forest practices include timber harvesting, road construction, road maintenance, road use, road deactivation, silviculture treatments, botanical forest product collection, and use, control and suppression of fire.

¹⁰ Equivalent clear-cut area is the area in a watershed that has been harvested, cleared or burned. Its effect is influenced by the silvicultural system, regeneration growth, and location of the clearings within watershed.

¹¹ Office of the Auditor General of BC, *Protecting Drinking-water Sources*, Report 1998/1999: 5 at 13.

¹² *Discussion Paper* at 3.

¹³ *Discussion Paper* at 2.

At the landscape level, the general objective for water quality is set out in section 8 of the *Forest Planning and Practices Regulation* (FPPR), which states:

The objective set by government for water, fish and biodiversity within riparian areas is, without unduly reducing the supply of timber from British Columbia's forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.

FRPA allows forest licensees to choose how to contribute to meeting that objective. They may follow specified practice requirements, which are described below, or they may propose their own results or strategies as long as they are consistent with the section 8 objective. In general, where a licensee has its own results or strategies in an approved forest stewardship plan (FSP), that licensee is exempt from the generic practice requirements.

The generic practice requirements include measures to protect riparian areas.¹⁴ For example, inside riparian reserves, trees must be retained, herbicides cannot be broadly applied, and site disturbance by machines or burning is prohibited.¹⁵ Outside those riparian reserves are riparian management zones where forest practices can be restricted, if necessary, to maintain the integrity of the riparian reserves. Regulations limit road construction and road maintenance in both riparian reserves and riparian management zones. Stream crossings must be constructed so that the stream channel and stream bank immediately above and below each stream crossing are protected, and stream channel disturbance must be minimized.

In addition to the general objective in section 8, there is also an objective specifically for community watersheds,¹⁶ in FPPR section 8.2. This is an objective for water diverted for human consumption through a licensed waterworks in a community watershed. The objective is to make sure that the cumulative hydrological effects of forestry activities do not:

- have a material adverse impact on the quantity of water or the timing of the flow; or
- cause the water to have a material adverse impact on human health that cannot be addressed by any required water treatment.

The objectives in section 8 and 8.2 apply only to the extent that they do not unduly reduce timber supply.

¹⁴ "Riparian" areas are areas adjacent to streams, lakes and wetlands. They are important for maintenance of water quality, stream channel stability, and fish and wildlife habitat. Riparian areas also provide important watering sites for livestock and contribute significantly to livestock forage.

¹⁵ There is no riparian reserve zone for streams less than 1.5 metres wide if the stream is a fish stream or is in a community watershed. For streams that are not fish streams and are outside community watersheds, there is no riparian reserve zone.

¹⁶ Some 467 community watersheds have been designated in natural watershed areas on which a community holds a valid water licence. As the name indicates, a community (not an individual) must have a licence for domestic water use to qualify.

In community watersheds, licensees must include in FSP's a result or strategy consistent with the section 8.2 objective. Once such a result or strategy has been approved, the licensee is partly exempt from some of the relevant practices requirements. These concern material harmful to human health, activities near water intakes, and sedimentation from excavated or bladed trails. The exemption is only to the extent these requirements relate to "cumulative hydrological effects on water quality affecting human health." Other practice requirements, specifying that roads must be more than 100-metres upslope from a spring in a community watershed, prohibiting damage to licensed waterworks, and prohibiting application of fertilizer within 100-metres upslope of a licensed waterworks, also apply.

In addition, all forest licensees must ensure that no damage to the environment results from their forest practices, except as authorized.

However, FRPA does not require a licensee to carry out an assessment of the potential impact of forestry activities on licensed waterworks, nor does it require periodic testing of water quality. Without such baseline information, it is difficult to quantify any change in water quality and almost impossible to attribute any change to specific activities. As the Board concluded in a recent investigation,¹⁷ despite the FRPA prohibitions on the introduction of material harmful to human health into water, it is unclear how that could be proven without baseline information.

In general, community watershed designation may be desirable for a group of water users because protection of water from forestry-related impacts is likely to be improved over domestic watersheds. However, even in eligible watersheds, community watershed status has become more difficult to acquire in the last decade, as government has focused on cancelling unnecessary community watersheds, not on creating new ones. In one case investigated by the Board, government delayed more than five years in making a decision on a request for community watershed designation.¹⁸

Beyond regulations, forest professionals have a responsibility to the public to advocate and practice good stewardship of forest land, including water, based on sound ecological principles to sustain resource values. Forest professionals and other resource professionals such as hydrologists therefore play an important role in influencing the design of plans and practices that address the concerns of licensed water users, and in minimizing risks to water rights and values. As a result, forest licensees have frequently committed to water users in domestic watersheds that forest practices in their areas of concern would be carried out as though they were in community watersheds, even when no such designation had been made.

Nevertheless, despite these legislated, policy-based and practice-based precautions to maintain water quality, the Board has found that water users still consider them inadequate. In part, this is due to the limited role of regulatory agencies in mitigating impacts of forest practices on water. The Board has commented on government agencies' withdrawal from an earlier

¹⁷ Forest Practices Board. *Road Construction in Mounce Creek Domestic Watershed*. FPB/IRC/162, May 2010.

¹⁸ Forest Practices Board. *Water Protection at Anderson Lake*. FPB/IRC/124, April 2007.

leadership role in coordinating the activities of forest licensees around water.¹⁹ The current role of the Ministry of Natural Resource Operations (MNRO) is to monitor forest licensees' compliance with the default practice requirements in regulation, or with alternative results and strategies in the licensees' FSPs. Those plans do not show site-level details, and involvement of the public in review of such site-level details is left to the discretion of the licensee. MNRO does not become involved in most forestry/water management concerns, except when responding to problems after they occur. This places responsibility on water suppliers and forest licensees to work issues out between themselves.

The Board has some concern with the WA modernization discussion paper's explicit assumption that FRPA "addresses forestry activities and stream health."²⁰ The Board notes that the forestry sector's comments on the government's discussion paper support that assumption, considering FRPA to be sufficient and asking that any WA changes be consistent with FRPA, and not require extra effort or planning.²¹

However, the Board's experience is that FRPA does not deal comprehensively with the concerns of water users about potential impacts of forest activities on water. Instead, government expects, but does not require, licensees to conduct whatever hydrological assessments forest licensees deem necessary and to conduct their practices in a manner that avoids problems. This approach does not appear to be sufficient, because water users continue to complain to the Board that FRPA does not adequately address the risk to "their water" from forestry activities.

3. Water Users' Concerns

In the course of investigating water users' concerns about forest practices, the Board has concluded that the underlying problem is that it is difficult to guarantee the outcomes of forest operations. This uncertainty is significant because even a small risk is of concern to a water user who, understandably, wants no, or minimal, risk to his or her water supply. The lack of a means to deal with this concern is a weakness in the FRPA regulatory system, which effectively allows a forest licensee to introduce a risk to a water licensee, who has little recourse or avenue of appeal once an FSP has been approved by government.

The water users' concerns persist, even though the Board's experience has been that water quality, quantity and timing of flow have seldom been directly affected by harvesting and road building. Board investigations have tended to confirm that forest licensees have largely been successful at carrying out forest practices in a way that minimizes their impacts on water.

¹⁹ Forest Practices Board. *Audit of Water Management in Norns and Springer Creek Community Watersheds*. FPB/ARC/82, August 2006, at 2.

²⁰ Discussion Paper at 38.

²¹ Report on Engagement at 44.

The Board has also conducted audits that assessed forest practices in community watersheds and the results of those practices as they related to water quality, particularly turbidity.²² The audits examined forest practices to determine if they were effective in minimizing impacts to water quality, quantity and timing of flow. The Board assessed forest licensees' awareness of water supply systems and erosion risk in the community watersheds, and their management of those risks. Those audits confirmed that, on the whole, forest practices were effective in minimizing impacts to water quality.

Nevertheless, these findings have not resolved water users' concerns, concerns which have not diminished despite improvements to forest practices over the years. Water users remain suspicious that forest licensees will not fairly evaluate their interests or, having done so, will not act appropriately to address them. Dissatisfaction among water users generally concerns three issues:

1. How much risk to water is acceptable;
2. The need for, and the desirability of, water treatment; and
3. Who is responsible for stream health and water quality?

How much risk to water is acceptable?

Typically, those involved in a water-related dispute will disagree about how much additional logging a watershed can sustain without causing undue impact on water resource values. Local water users tend to argue that a safe level of development has already been exceeded. Government typically responds that the watershed of concern has room for additional forestry-related development. The forest licensee normally concurs that the watershed can sustain some additional development without undue effects on water.²³

Even when most recommendations by professional hydrologists had been implemented, the Board found that water users tend to focus on what more could be done to protect water (e.g., seasonal restrictions, selective harvesting, review of drainage adequacy after every significant rainfall, more hydrological assessments). In such situations, the Board has recommended additional communication and dialogue among water users, the regulatory agency and the forest licensee. However, that has rarely resolved the complainant's concerns.

Dissatisfaction remains because water users see themselves as among those most likely to be negatively affected by forest practices should something go wrong. Therefore, their complaints reflect disagreement about what level of risk to water is acceptable. The forest licensee must ensure that its activities do not cause material harmful to human health to be deposited in water used for human consumption. A forest licensee would be expected to analyze the risk and

²² Forest Practices Board. *Audit of Water Management in Norns and Springer Creek Community Watersheds*. FPB/ARC/82, August 2006; Forest Practices Board. *Audit of Forest Planning and Practices within the Penticton and Mission Creek Community Watersheds*. FPB/ARC/109, October 2009.

²³ See, for example, Forest Practices Board. *Watershed Assessments for Little Cayuse Creek, near Castlegar, BC*. FPB/IRC/16, May 1999.

propose logging practices that reduce that risk so that damage to water is sufficiently unlikely. However, the water licensee has to live with the result if something goes wrong and the water licensee has no incentive to accept any increase in risk to the water—even if that risk has been minimized.

This strong risk aversion is not an easy issue for the Board to resolve, given that the risk to water usually appears to have been well-managed and be quite low.²⁴ Resolution is complicated by other factors that appear to underlie public perceptions of risk. Research indicates that the persistent conflict between water users and forestry practitioners may well be influenced by several factors that have little to do with forest practices:²⁵

- Concerns about risk do not stem from any simple deficit of knowledge about the science or an 'ignorance' of uncertainty and probability. Perceptions of risk, therefore, are unlikely to disappear in the presence of evidence.
(FPB comment - in other words, just because forest activities have not caused damage to water quality, and the probability of impacts is low, water users' perception of risk to water quality is unlikely to diminish.)
- People's acceptance of risks is related to the benefits of the activity – they are willing to accept risks if the benefits are high enough.
(FPB comment - in this situation, the water users are exposed to the risks, but not to the benefits, so they have no incentive to accept any level of risk.)
- People are most concerned about risks that are involuntary, or beyond their control (the dread factor). The public will accept roughly 1000 times greater risk from voluntary hazards (e.g., driving or skiing) than from involuntary hazards (e.g., food preservatives).
(FPB comment - in this case, the water users have no control over the forest practices, so are unwilling to accept risk from those practices, regardless of how small they may be.)
- In some cases, the risk concern is not really about the risk at all – it may be a surrogate for other ideological concerns.

In summary, the Board has found that a significant cause of persistent dissension between water users and those planning and carrying out forest practices is the water users' much lower tolerance of risk to water compared to that of forest licensees and government.

The need for, and desirability of, water treatment

Another recurrent source of water user dissatisfaction is a fundamental disagreement between many rural water users and health officials. Many water users have, for years, simply diverted drinking water from small streams without treating it. They have an expectation that the water is safe, as there are laws in place regulating activities in and around water to help ensure and maintain water quality/quantity. Health officials, however, maintain that consumption of raw, untreated water is not prudent. There are serious threats to human health from agents borne by

²⁴ Forest Practices Board. *Effectiveness of Investigations: Water-Related Complaints Case Study*, FPB/SR 2006, at 5.

²⁵ Slovic, P. *Perception of Risk*, Science, New Series, Volume 236, Issue 4799, 1987.

wildlife—giardia and cryptosporidium, for example. However, the water users often are suspicious of water treatment and want their water source to remain pure and unaffected so that treatment continues to be unnecessary.

This disagreement emerges in a forest practices context when government or a forest licensee concludes that simple water treatment should resolve a water user's concerns about the impact of forest practices. Even if that is true, many water licensees remain opposed to treating the water.

Even if treatment is acceptable, one Board investigation revealed compelling arguments against installing a water treatment system.²⁶ A local community experienced elevated peak flows in a creek used for domestic water purposes, which caused debris torrents that disturbed water intakes, damaged water boxes, filled in settling ponds, blocked culverts and damaged a road. The water users anticipated that additional logging would increase water turbidity and knew this would reduce the effectiveness of treatments against pathogens. The water users' community was willing to install a system to filter and disinfect the water to meet the local health authority's objective. However, until it was certain that the creek would remain stable, the community was unwilling to invest the capital; the risk of damage to a proposed water treatment system was perceived as too high.

Who is responsible for stream health and water quality?

The Board has identified some jurisdictional issues and concerns around water management. These would make it difficult for concerned members of the public to identify who to approach with problems and concerns. That uncertainty exacerbates and amplifies water users' concerns.

In some investigations, the Board has found that the risk to water quality is greatest from material input from private land.²⁷ Even within one resource sector—forestry—activities on private and Crown forest lands are controlled under different regulations and administered by different government agencies. In order to try to protect water quality, quantity and rate of flow, concerned water users have to deal with different legislation and different agencies about development in the same watershed.²⁸ Even if forest practices are restricted to Crown land, there are often other types of activities, such as placer mining, that are not necessarily subject to the requirements of FRPA, but that may contribute to water quality impacts. It can be extremely difficult to isolate the source of the impacts where multiple activities with different regulatory requirements are taking place in the same watershed.

²⁶ Forest Practices Board. *Eagle Creek Pine Salvage*. FPB/IRC/130, November 2007.

²⁷ For example, see Forest Practices Board. *Audit of Water Management in Norns and Springer Creek Community Watersheds*. FPB/ARC/82, August 2006.

²⁸ There are even different complaint mechanisms, as people concerned about quality of drinking water can complain to the Board about forestry activity under FRPA, or to the local health authority under the DWPA.

A final jurisdictional concern is another artificial separation, one that is apparently accepted in the discussion paper. It notes that the WA protects stream habitat by regulating the changes that may be made in and about a stream. Thus, the WA provisions for changes in and about a stream apply only in, and immediately adjacent to, streams in areas where FRPA has very limited application.²⁹ On the ground, there is no such boundary; water flows from upland areas where FRPA applies into streams where WA provisions apply. Such compartmentalization is illogical; effective protection of water must be consistent and compatible wherever that water flows.

Summary of Findings

Based on over 30 audits and investigations into the interaction of forest practices on domestic water supplies, the Board has found the following:

1. Those carrying out forest practices have generally complied with current forest practices legislation and the Board has found very little evidence of, and received very few reports of, water quality impacts associated with forestry activity. However, those observations were not enough to alleviate water users' concerns, likely because water users tend to be highly risk-averse when it comes to "their" drinking water.
2. FRPA provides for additional protection for water in "community watersheds," but few licensees operate in community watersheds, and such designation is limited and difficult to obtain.
3. FRPA places responsibility on water users and forest licensees to work things out between themselves, without an adequate appeal mechanism once forest operations have commenced.
4. Beyond compliance with riparian zone regulations, no management of cumulative hydrological impacts resulting from harvesting is required (outside of a community watershed) under FRPA.
5. FRPA does not require a watershed assessment of the impact of forestry activities on licensed water—it is up to the forest licensee to decide if it wishes to do such work.

²⁹ Discussion Paper at 7.

Conclusions

The current review of the WA provides government with an opportunity to consider the experience the Board has accumulated over a 15-year period, under both the Forest Practices Code and FRPA. Unlike most of the Board's reports, in this case we do not have specific solutions to recommend. These issues are complex and are largely about public perceptions, and not necessarily about real consequences on the ground. However, perception is a significant force, and process can influence perceptions as much as outcomes can.

The current policy proposals related to protecting stream health and aquatic environments, and establishing provincial water objectives for consideration in land use decisions, are all moving in the right direction. However, the Board sees some specific issues where government, in developing a new Water Sustainability Act, needs to find solutions to the continuing concern of water users about water quality and forestry activities. These are:

1. Ensuring tenure holders are fully informed of the rights to Crown resources that their tenures convey, so that their expectations are realistic. For example, a water licensee should be clearly informed that a water licence does not guarantee water quantity or quality, only the right to draw water.
2. Where conflicts between tenure holders persist, it may be necessary for government to step in and mediate concerns, and in some cases, ultimately make the decision about how potentially conflicting activities will proceed. This isn't just about water users and forestry; the problems can arise anywhere that overlapping tenures are issued.
3. Strengthening water licensees' involvement in, and potentially influence on, resource use activities in and about sources of domestic water.

While the Board is under no illusion that complaints from water users will disappear in future, progress on these issues may help to reduce concerns and provide greater public confidence in management of domestic water resources. New regulatory laws can improve the interaction of a proposed Water Sustainability Act, the *Drinking Water Protection Act* and the *Forest and Range Practices Act*. However, regulation alone is not enough; government needs to manage expectations. Public confidence in compatible management of forest resources and domestic water supplies may also require some government involvement in the interactions of water licensees and forest licensees.



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