

# Safer to Drink? Comments on Proposed BC Drinking Water Protection Plan

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## BACKGROUND

Since 1974, West Coast Environmental Law (WCEL) has provided legal services to members of the public concerned about harm to the environment. WCEL supports the introduction of new water protection legislation. The establishment of a legal mechanism to protect drinking water is long overdue. In 1994, the government issued a set of discussion papers titled *Stewardship of the Water of British Columbia*.<sup>[1]</sup> Since then, few changes have been made.

In March 1999, the provincial Auditor-General released a report “Protecting Drinking Water Sources” (the Auditor’s Report) that made a number of recommendations regarding effective protection of drinking water in BC. The Auditor’s Report, combined with the tragedy in Walkerton, Ontario and increasing public concern over drinking water quality lead to the Ministry of Environment, Lands and Parks release of the “Drinking Water Protection Plan” (the Provincial Plan) in January, 2001.

While the Provincial Plan includes several practical steps that should mitigate drinking water contamination in BC, additional regulatory changes

are clearly needed to protect drinking water in BC.

This report expands on the WCEL- BCEN report of June 2000, and provides detailed comments on how the province can improve legal protection for water so that it is safe to drink. The report discusses:

1. Essential elements of a right to clean water,
2. The Plan and WCEL's response to the Plan's proposals, and
3. Other regulatory changes required for safe drinking water.

## **RIGHT TO CLEAN WATER**

New legislation should enshrine a "right to clean water" for BC residents. Such a right would include:

- requirements for public officials to take actions when legally enforceable provincial standards are not met;
- citizen rights to participate in enforcement of standards; and
- clarification of common law riparian rights to quality of water.

The *Safe Drinking Water Regulation* under the *Health Act* does not establish a right to clean water. Section 3 of the Regulation requires a medical health officer or public health inspector to require a water purveyor to notify all users of any health hazard posed by water quality. Where a risk of a waterborne disease has been identified by the health authorities, the water purveyor must take immediate action to minimize the risk. Mere notification and response when waterborne diseases are discovered is not enough. A right to safe drinking water must be enshrined in the new plan.

## **PRESERVATION OF THE COMMON LAW RIPARIAN RIGHT TO WATER QUALITY**

At common law, a riparian landowner (riparian means adjacent to a river or other water source) had certain basic rights with respect to water flowing across his land, above or beneath the surface, in defined channels or streams. Riparian rights gave every owner of real property bordering a stream "a proprietary right to have the water flow to him in its natural state in flow, quantity and quality, neither increased nor diminished, whether he has made use of it or not".

In most jurisdictions, including BC, riparian rights have been qualified or totally abrogated by statute. It is clear that the common law riparian right to the *use* of water in BC has been changed by statute. The *BC Water Act* provides that:

- the right to the use of water is vested in the Crown; and
- the right to the use of water is dependent upon the holding of a licence.

However, the legal status of the common law riparian right to water *quality* in BC is unclear. Authorities are divided on the question of whether the riparian right to clean water has been changed by statute.[\[2\]](#)

Most recently, the decision *Slocan Forest Products v. John Doe, 2000 BCSC 150* has been interpreted as deciding there is no continuing common law right to quality of water. This case involved an attempt by residents to protect their water supplies from alleged interference from tree cutting and road building. The judge refused an application for an injunction to restrain logging and road building on the grounds that courts should not interfere with discretionary decisions made by specialized decision-makers such as Ministry of Forest employees.

...those who have impeded Slocan have offered no arguable legal right to do what they do. They have set up a competing "right" to clean water, but do not suggest that this right has any legislated or common law status as against the clearly defined rights of Slocan Forest Products. Whether this is as it should be is not a legal question, but a question of social policy. Any change would be the province of legislators, not judges. (emphasis added)

In fact, the decision simply notes the failure of the respondent to base an alleged right to clean water in the common law. Similar judicial statements have been misconstrued in other cases.[\[3\]](#)

It is unlikely that the Legislature intended the *BC Water Act* to take away any common law rights to clean water that did exist from riparian rights. To remove any doubt about this issue, BC's new plan should clearly state that there is a continued common law riparian right to unimpaired water quality, and that the *Water Act* does not affect this right.

**Recommendation 1: The *Water Act* should be amended to clearly state that the citizens of BC have a right to clean water and that all common law rights and remedies related to water quality are preserved.**

## **PRIORITY FOR DRINKING WATER USES IN WATERSHED RESERVES**

Water users should have priority over all other uses in watershed reserves. The province should designate "watershed reserves" for all domestic use watersheds in which logging, road-building, mining, grazing, and any

residential, commercial or industrial development is restricted by legislation.

There should be a presumption against other land use activities in domestic use watersheds unless assessments demonstrate that the activities can be carried out without risk to water sources. Rather than the regulators proving that other uses could damage the water supplies, the proponent would have the onus to prove that their activities would not cause such damage.

It is not appropriate to shift responsibility away from those who carry out potentially contaminating activities on to water purveyors for ensuring source protection (e.g. costs of assessments etc.), unless such activities are under their control. The emphasis should be on water users' "right to clean water" and the responsibility of other land users, and the Province not to infringe on this right.

**Recommendation 2: The province should designate "watershed reserves" for all domestic use watersheds in which logging, road-building, mining, grazing, and any residential, commercial or industrial development is restricted by legislation.**

**Recommendation 3: The proponent of any activity in a watershed reserve other than domestic water supply would have the onus to prove that their activities would not cause damage to drinking water.**

## **STRONG PROVINCIAL DRINKING WATER STANDARDS**

The primary responsibility for protecting quality of drinking water sources should lie with the Province, and the right to clean water should include strong provincial drinking water quality standards.

Currently in BC, regulation of drinking water standards is limited to 2 primary standards; the requirement that all surface water be disinfected and the requirement that all drinking water meets legally enforceable performance limits for total coliform and faecal coliform bacteria. In contrast, in Alberta, all the federal *Guidelines for Canadian Drinking Water Quality (GCDWQ)* are enforced under provincial legislation. In BC, the GCDWQ cannot be legally enforced and are applied at the discretion of local governments and regional health authorities. Another example of strong standards is found in the US: the USA has 79 Primary Drinking Water Standards developed and enforced by the Environmental Protection Agency.

The BC Provincial Drinking Water Plan proposes to add just one new drinking water standard for E-Coli. The Plan proposes that specific standards for drinking water quality will be established and enforced at a local level. The *Safe Drinking Water Regulation* already allows the Ministry

of Health (MoH) to set site-specific standards but the power is rarely used. Given that the current authority for MoH to establish site specific standards is under-utilized, we do not understand how this proposal will alter or improve the current situation.

The Plan does not adopt the GCDWQ standards for water quality. According to provincial Ministry of Health officials, the GCDWQ standards would not be appropriate for provincial standards because all of those substances do not pose health risks and legislating all of them would put an undue burden on local water purveyors. However, some MOH officials have unofficially acknowledged that substances in water such as nitrates, arsenic, lead and turbidity may lead to health problems and should be subject to provincial standards. Moreover, unnecessary costs can be avoided by having provincial standards with the frequency of testing dependant on the results of assessments and previous tests.

The Drinking Water Protection Plan proposes:

- Province wide source water standards for pollutants in cases where a pollutant is not naturally occurring and a tap water standard has been established;
- Site specific source water standards for pollutants in cases where a pollutant is not naturally occurring and a tap water standard has been established;
- a new province wide tap water standard for E. coli (in addition to the existing coliform standard); and
- more specific standards established and enforced at the local level, based on purveyor assessments.

This approach is weak for a number of reasons:

- **Province wide source standards are effectively limited to E. Coli and coliform.** By tying source standards to pollutants for which a tap water standard has been established the Province is effectively limiting province wide source standard to coliform and E. Coli. We see no reason for not providing all British Columbians with a uniform level of drinking water protection. Source water standards for nitrates and many other pollutants appear to be both feasible and appropriate.
- **Legal impact of source standards uncertain/weak.** Our understanding is that the province is considering two standards. Tapwater standards would be standards that purveyors are required to achieve. Source standards would be standards applied to a polluter whose actions are polluting source water. Source standards might take the form of end of pipe discharge limits. What is lacking

is an obligation on the Province to take actions that will ensure that purveyors have access to clean water. There is no requirement on the Province to ensure that end of pipe discharge limits are set or to regulate activities that are causing water pollution. Simple reliance on end of pipe discharge limits ignores the fact that the sources of water pollution are often unregulated.

- **Reliance on local authorities to develop tap water standards is inappropriate.** The Plan proposes that site specific source standards and tap water standards be established when assessments identify a need. This approach is justified on the basis that it would avoid the need for costly and unnecessary testing. This approach is problematic for a number of reasons:
  - Local authorities may have a conflict of interest in developing appropriate standards. The Plan does not state who develops local standards. However, if such standards are the responsibility of local governments there is a clear conflict of interest, as local governments are likely to bear the consequences of increased treatment costs and the political costs associated with effectively regulating activities that threaten water quality;
  - It does not guarantee a uniform tap water quality throughout BC; and
  - It places responsibility for development of standards on authorities who may have only a limited understanding of the issues.

§ **Purveyors may not be able to effectively treat certain hazards.** In many cases, the provision of safe water requires the availability of clean water to a purveyor. It may not be cost effective, or even possible, for purveyors to treat their source water. Standards need to guarantee availability of clean water to purveyors.

We recommend the use of source standards that set maximum concentrations of substances in source water from which drinking water is being withdrawn. Thus, for instance a province-wide source standard for nitrates might be x micrograms per litre. The source standard would not apply directly to polluters, but would apply instead to the government. Where maximum desirable levels of some pollutant are exceeded the government would have a statutory obligation to take actions that resolve the problem. This could include establishing special regulations that apply to an aquifer recharge area or watershed. For instance, if nitrate concentrations in the Abbotsford aquifer exceeded acceptable levels as set by province wide source standard, the government would have a statutory obligation to develop and implement a plan for remedying the nitrate problem. This could include measures such as stricter regulations for manure application, or

government development of manure storage facilities.

**Recommendation 4: The Province should adopt a broader range of province wide source standards and tap water standards. Local standards should be permitted to supplement or add to province wide standards.**

**Recommendation 5: To accommodate naturally occurring substances, these standards could have exceptions where a substance is naturally occurring (e.g. exceedance of a source standard for arsenic would not trigger a mandatory response if the exceedance is caused by natural phenomena). To avoid unnecessary costs, monitoring and testing requirements can vary according to the results of assessments and previous tests.**

**Recommendation 6: Source standards should take the form of maximum desirable concentrations of substances in the source water from which drinking water is being withdrawn.**

### **AFFIRMATIVE DUTY ON GOVERNMENT TO TAKE ACTION TO PREVENT OR STOP ACTIVITIES THAT HARM DRINKING WATER**

A right to clean water entails legally binding and enforceable standards. A key part of WCEL's recommendations to give this Plan some "teeth" is to impose a mandatory statutory obligation on health officers to remedy problems by developing and implementing drinking water protection plans or by issuing drinking water protection orders to prevent or stop activities that create a substantial threat to drinking water.

These orders to enforce an expanded range of drinking water standards would change the current situation where only the water purveyors have a duty to minimize health hazards to drinking water pursuant to the *Safe Drinking Water Regulation* under the *Health Act*. Since the activities causing the health hazard are often outside the control of the water purveyor, such as logging, farming, mining, construction and urban runoff, this legal requirement is not sufficient to protect water.

**Recommendation 7: The consequence of a source standard being exceeded should be a requirement for the lead drinking water agency to develop and implement a plan for correcting the problem within a reasonable time frame. In implementing such plans the lead agency should be given power to impose requirements normally within the jurisdiction of other agencies.**

**Recommendation 8: Drinking water protection orders should be authorized by new legislation and should be available to be made against a person, a local government or a provincial authority, or any combination of those groups. If the order is made against a person, the person can be required to stop damaging activities. If the order is made against a government authority, the government can be required to take regulatory action to stop the activity and prevent its recurrence.**

## **PUBLIC PARTICIPATION IN ENFORCEMENT OF ORDERS – PETITIONS AND APPEALS**

Enhancing the public's right to take action to protect clean drinking water is a key part of a right to clean water. Rights and remedies go hand in hand — a right is not meaningful unless it can be enforced. Not only is the current legal structure not adequately enforceable, it does not provide participation or enforcement rights to the public.

For example, in the recent *Red Mountain Residents* case, the citizens had no option but to turn to the courts to attempt to restrain logging and road building that they had good reason to believe would damage their drinking water. The court refused their application. Rather than expensive and time-consuming litigation, an ability to petition drinking water protection authorities to take action should be available. If the official does not take adequate action, an administrative appeal to the recognized experts in the environmental/health field should be available. The Environmental Appeal Board (EAB) currently has jurisdiction to hear appeals under the *Health Act* related to septic tank approvals. The right of appeal should be expanded to allow the EAB to rule on drinking water protection plans and orders.

The jurisdiction of the EAB and MELP should also be expanded so that they can consider water quality concerns when issuing or hearing appeals of *Water Act* licences, approvals or orders. In 1998, the EAB noted the need for *Water Act* reform.<sup>[4]</sup> The EAB recommended:

The Board recommends that the *Water Act* be amended to provide MELP officials with the express power to consider and address the protection of water quality and habitat when issuing an approval, licence or order. The Board further recommends that the government consider proclaiming section 3 of the *Water Act*, which deals with groundwater.

There have been a number of appeals to the Board under the *Water Act*, where water quality, groundwater and habitat issues have been raised by the parties. These issues go beyond the jurisdiction of both the Board and Ministry officials in considering licencing questions. It



is apparent from submissions made to the Board, that these are critical and important issues that need to be addressed.

The *Water Act* has not kept up with current state of knowledge on water issues. As the Act stands now, it only deals with water use and flow issues; considering quantity of water as opposed to quality. When issuing an approval, licence or order, Ministry officials are not required to take into consideration water quality, groundwater or habitat issues. The Board recommends that consideration of these issues be incorporated into the licencing provisions under the Act.

**Recommendation 9: To ensure that the right to clean water can be enforced by the public, two legal changes are required:**

- i. Ministry of Environment should have the jurisdiction to consider quality of water when issuing Water Act licenses, approvals or orders, and the EAB should have the jurisdiction to consider these issues when hearing appeals of Water Act licenses, approvals or orders.**
- ii. Citizens should have the ability to petition government to issue drinking water protection orders. The procedure could be similar to the current under-utilized procedure in the *Health Act*, which allows any person “aggrieved” by a health hazard or condition to request an investigation from the local health board. WCEL recommends expanding this procedure to allow citizens to petition the provincial government to issue a protection order. The government must be required to respond to the petition with written reasons.**
- iii. A right-of-appeal to the Environmental Appeal Board should be added for the orders or drinking water protection plans. If a citizen’s petition is denied, then s/he has a right of appeal to the EAB. The orders themselves should also be capable of being appealed. Addition of this legal remedy will significantly enhance the ability of the public to protect their drinking water.**

## **RIGHT-TO-KNOW**

The *Safe Drinking Water Regulation* under the *Health Act*, provides water users with certain rights to be informed about the water quality . But this right depends upon the initiative of water users and the discretion of local health officials.

The right to clean water also includes the right to know. US safe drinking water legislation provides a useful model. Pursuant to amendments that were made in 1996, “consumer confidence reports” became a legal requirement. Under US law, water system customers must be told annually about what contaminants, both regulated and unregulated, are in their drinking water. They have the right to be notified by mail and by publication in local papers. That same right should be provided BC water users. Finding out about the quality of our drinking water should not require hiring a lawyer to sort out the complexities of *Health Act* regulations, neither should it depend upon the discretion of public officials.

**Recommendation 10: The new legislation should include provision for all decisions, reports, assessments, orders and appeals related to safe drinking water to be placed on an electronic registry.**

## GROUNDWATER EXTRACTION

The *Water Act* should be amended to allow a system of licensing that is feasible for groundwater. While this might be different from the existing system for surface water, existing users could have reasonable limits placed on their use of groundwater. Moreover it could give priority to existing users. This would discourage over-development of aquifers — a major problem in the Gulf Islands. Excessive groundwater extraction can deplete groundwater resources leading to degradation of groundwater quality. Saltwater intrusion and higher levels of sulphur compounds in Gulf Islands wells is a result of excess demands on groundwater.

**Recommendation 11: That section 3 of the Water Act, which authorizes the application of the Act to groundwater, be proclaimed.**

**Recommendation 12: Licensing of groundwater should be required under the Water Act, with groundwater licenses only given in instances where the Comptroller of Water Rights is reasonably assured that additional extraction will not adversely affect existing users.**

## THE PLAN AND WCEL'S RESPONSE

The Drinking Water Protection Plan has four elements. Each is discussed below:

1. Water Source and Water Systems Assessments.
2. Community Planning.
3. Local Influence and Authority.

#### 4. General Drinking Water Measures.

### **ENSURING EFFECTIVE ASSESSMENTS**

The Drinking Water Protection Plan proposes that water purveyors above a specified number of water connections would be required to undertake drinking water assessments. It suggests that standards for assessments may vary depending on the size of water systems. WCEL agrees on the need for objective assessments of threats to water quality safety.

WCEL also agrees that purveyors are the logical and appropriate entity for carrying out system assessments. However, there are a number of weaknesses with applying the suggested approach to source assessments. Whether or not this appropriate for large municipal systems, it is inappropriate and unworkable for the small water systems that the Auditor-General, Ministry of Health and Ministry of Environment have identified as posing the highest risk to human health from water borne disease.[\[5\]](#)

- **Purveyors lack technical expertise.** Assessments of the threats to drinking water sources involves a number of widely different technical issues. Placing responsibility for assessments onto public agencies with necessary expertise is likely to ensure a higher quality assessments.
- **Duplication of effort.** Requiring each purveyor to conduct a separate source assessment ignores the fact that many large and small water systems may share the same water resource. Requiring each water purveyor that is drawing water from the Abbotsford Sumas aquifer creates a huge duplication of effort and is likely to result in a less thorough assessment than if responsibility for assessments is place on local government or the Province.
- **Inadequate protection for small systems.** It is not clear why the quality of assessment should be lower for a source used by 10 purveyors supplying 50 consumers each as compared to a source supplying a single a single purveyor with 500 consumers.
- **Lacks participation for water users.** Water users should participate in source assessments. The current Plan has no role for these users.

**Recommendation 13: Responsibility for completing source assessments should be placed on local governments and medical health officers jointly with standards set for minimum quality of**

assessments.

**Recommendation 14: Assessments should be approved by the Provincial Health Officer as meeting minimum standards**

**Recommendation 15: Participation of water users in source assessments should be required by statute.**

## **ENSURING EFFECTIVE COMMUNITY PLANNING AND IMPLEMENTATION**

The Drinking Water Protection Plan proposes that assessment reports be made available to Medical Health Officers, regional MELP officials and local government. It then states that local governments or purveyors could work with the province in developing drinking water protection plans.

While some local governments may be willing to take leadership over protecting local water quality, this will not always be the case. It is essential to identify who is responsible for plan development where assessments indicate a problem.

Decision-making authority over land use decisions that could affect drinking water should rest with water users (licensees/water users communities), not multi-stakeholder committees. This should be part of recognizing water source protection as the primary land use priority in domestic use watersheds.

Once developed there is no clear requirement to implement plans. Given the weak track record of BC governments in implementing plans developed in multi-stakeholder processes (e.g. GVRD Liveable Region Strategy, numerous LRMPs that have not been adopted as higher level plans), there is an increasing unwillingness of community groups to participate in multi-stakeholder planning processes. Clear commitments to implementation are essential to overcoming this problem.

**Recommendation 16: The requirement for plan development should be triggered where assessments indicate that Canadian Drinking Water Standards are not being met due to anthropogenic causes, or that human activities pose a significant threat to source water quality.**

**Recommendation 17: Legislation should specify that plans must outline measures that can reasonably be expected to maintain source water quality or ensure that source water quality will be restored to minimum standards within a reasonable timeframe.**

**Recommendation 18: Measures outlined in plans should identify responsible implementing parties and timetables for implementation.**

**Recommendation 19: Local government and provincial agency bylaws, land use decisions and approvals should be consistent with plans.**

## **LOCAL INFLUENCE AND AUTHORITY**

Simply stating that water providers are responsible for representing the interests of maintaining drinking water quality is unacceptable. For most of BC, the local government is the water provider. However, as the Auditor's report found, local governments have many interests, and most local government involvement in planning processes is focussed on local economic development. While the Ministry of Environment, Lands and Parks has had some success working with local governments conducting assessments and initiating well protection plans, primary responsibility for protecting drinking water should not be shifted to local governments.

In many cases, local governments are unwilling to remedy drinking water problems, do not have the resources to protect drinking water from contamination, and are unwilling to assist the province in regulating threats to drinking water. Moreover, many local governments show a persistent pattern of non-compliance with existing water protection standards.

For instance, nitrate pollution of the Abbotsford aquifer caused by excess application of manure has been identified as a problem for over a decade. However, municipalities have generally not taken any action to limit application of manure despite having clear powers to do so. As of 1999, only two local governments had adopted farm bylaws under the relatively new farm bylaw provisions of the *Local Government Act*, and we are not aware of any municipalities that have used longstanding powers to regulate water pollution.

In some cases, provincial action to protect drinking water sources has been thwarted by resistance of municipalities to administering relatively minor provisions. For instance, a provincial initiative to regulate underground fuel storage tanks — a major source of water contamination — was dropped when municipalities refused to accept responsibility for registering storage tanks. Moreover, in many cases municipally operated landfills are the source of contamination.

Municipalities are frequently in non-compliance with environmental protection legislation, and in several instances have been sources of drinking water contamination. Local governments account for twenty-one of the fifty-six illegal polluters listed in the Ministry of Environment's June 2000 non-

compliance list. Most of these violations are for either exceeding limits on disposal of municipal sewage into water sources; several involve leachate from municipal landfills contaminating water sources. For instance, Qualicum Beach residents complain that leachate from landfill is affecting the quality of their drinking water wells.

Finally, it is not clear that local governments are a logical regulator of practices that threaten drinking water. Often technical expertise is required to develop and enforce effective and appropriate regulations, and the consequences of poor practices extend beyond local government boundaries. Local governments do not have the capacity or technical knowledge to conduct drinking water inspections. Unless adequate resources are made available, and an appropriate accountability and transparency framework is established, it is inappropriate to assume that local government can take on this responsibility.

Although we strongly agree with enhancing the powers of municipalities to protect drinking water sources, we believe that the province should continue to have responsibility for ensuring a source protection.

**Recommendation 20: The province should be responsible for ensuring a minimum level of source water protection throughout the Province. This can be accomplished through the standards approach discussed above.**

**Recommendation 21: The new legislation should expand local government powers to protect drinking water, including:**

- **Local government approval of forest development plans in community watersheds.**
- **Local governments should be permitted to pass septic tank regulations that exceed Health Act standards.**
- **Local governments should be able to license groundwater use (if the Province does not do so).**

Finally, where more than one local government has jurisdiction over the same source water, local government should be able to enter into coordinating agreements among themselves. Municipalities should be permitted to bind themselves to take water source protection initiatives under such agreements. Thus for instance, two municipalities could bind one another to establishing a riparian management zones around a shared source water creek. Such a mechanism would be more direct and less constrained than the coordinating provisions in regional growth strategies.

**Recommendation 22: Municipalities should be permitted to bind themselves to take water source protection initiatives under such agreements.**

## **EFFECTIVE LEGAL STANDARDS**

This part of the Plan and WCEL's response is discussed above.

## **IMPROVED REGULATION OF THREATS TO DRINKING WATER SOURCES**

The Provincial Plan's focus on source protection is laudable. Good protection of water is essential to the cost-effective provision of safe drinking water. With source protection, communities may be able to avoid the cost of treatment beyond disinfection. For the roughly 100 municipalities outside Greater Vancouver and Victoria that use unfiltered surface water, the Auditor-General estimates that the cost of installing filtration plants would be \$700 million in capital costs alone. Even when further treatment is needed, poor source water quality adds to operating and capital costs of treatment. Moreover, water treatments systems are not effective 100% of the time. Milwaukee's filtration system did not protect 400,000 people from an outbreak of cryptosporidium.

Finally, a focus on source protection yields other values: it avoids pollution of water-based ecosystems, protects fish habitat, and protects recreational amenities. Reliance on treatment can have the opposite effect. Water disinfection using chloramine poses a major threat to fisheries.

While the Auditor-General's report is limited to administration of existing policy — not recommending new policy, regulations or laws — the report identifies a number of deficiencies in the existing framework to protection source water. Below we identify these and other problems with the existing regulatory and policy framework, as well as recommendations for solutions to these problems. These changes relate to:

- agricultural practices,
- forestry,
- mining,
- subdivision approval,
- underground storage tanks,
- pesticide use permits, and
- MTBE.

## AGRICULTURAL PRACTICES

Contamination of groundwater with the excess application of manure and/or pesticides is an ongoing chronic problem in a number of BC aquifers. Elevated levels of nitrate-nitrogen in excess of the Canadian Drinking Water Quality Guideline of 10 mg/L, have been found in a significant number of domestic wells in the Langley, Abbotsford, Osoyoos and Grand Forks areas of the Province. Several alterations to existing government regulations and programs would help protect drinking water from poor agricultural practices.

Better land use management practices are required to sustain groundwater resources. As more research is being done, more contamination comes to light. As one provincial authority has noted: "The known sites of contamination are probably greatly outnumbered by those that have not yet come to light".[\[6\]](#)

For example, in the areas of Matsqui, Summerland, Kelowna and Naramata, nitrate concentrations in groundwater have exceeded 10 milligrams/litre, the maximum acceptable concentration in the BC Drinking Water Quality Standards.[\[7\]](#) The main cause of this contamination is leakage from animal waste piles, the application of fertilizer and septic drain fields. Nitrate contamination has been noted in the Abbotsford aquifer and BC's poultry industry has been isolated as a main source.

**Recommendation 23: We recommend several changes to the *Agricultural Waste Control Regulation* to guard against water contamination:**

- **Make the Code Mandatory. The *Agricultural Waste Control Regulation* does not require agricultural operators to meet any requirements. Instead, it simply exempts agricultural operators from prosecution for pollution if they abide by the *Code of Agricultural Practice for Waste Management*. Agricultural operators cannot be prosecuted for breaching the *Code* unless there is evidence that waste has entered the environment. The Code is thus difficult to enforce and is routinely flouted.**
- **Make the Code Requirements more specific and stringent. The requirements of the *Code* are often vague. Provisions the *Code* which are particularly inadequate include:**
  - **Improved limits on application of fertilizer. The Code provides that manure must not be applied at rates that exceed the amount required for crop growth if runoff causes pollution of groundwater or a watercourse. According to several officials with whom we have consulted, excess application of manure continues to be**



**a major source of contamination of surface and ground water. We recommend the development of enforceable application limits that have practical meaning for farmers.**

- **Improved requirements for manure storage. The Code provides that manure storage facilities must be sufficient to allow for application of manure as fertilizer. It is our understanding that most storage facilities in the Fraser Valley are insufficient, requiring farmers to apply manure at times when it is unnecessary for growth, and largely lost to run off or groundwater. We recommend requiring storage facilities that ensure manure can be stored for the length of time between necessary applications of fertilizer. Appropriate standards should be developed for different regions and crops.**
- **Limits on density of livestock. High density industrial agriculture has emerged as one of the leading causes of aquifer contamination in the Walkerton tragedy. We recommend limits on livestock densities. The Netherlands, for instance, has places limits on densities of livestock, and charges levies on farms that produce more manure than can be absorbed by grasslands.**
- **Water protection zones. Consideration should be given to different requirements according to the environmental sensitivity of different areas. The Netherlands and Germany, for instance, restrict certain agricultural practices in designated water protection zones. Regulations could also target areas where there is a clear excess of manure application.**
- **Improve enforcement of the Code. The Auditor-General identified this as a weakness.**

**Recommendation 24: We recommend that eligibility for farm income support programs in BC — in particular the Net Income Stabilization Account program — be conditioned on farmers complying with requirements of an updated code of environmental practices.**

## **FOREST PRACTICES**

As noted by the Auditor-General: “Effective water protection hinges on managing the land uses on the surfaces over or through which water flows”. In 1997, 88% of municipal water use in BC was from surface water sources,

such as streams and lakes.

Forestry — water users conflicts are among the most contentious land use conflicts in British Columbia. The degree of conflict is highlighted by the arrests of dozens of British Columbians in recent years who have been willing to face arrest and imprisonment rather than allow their water sources to be disrupted by logging activity.

Approximately 83% of the landbase of British Columbia forms part of the Provincial Forest, and the vast majority of this land has been allocated to forestry companies through licences, or timber tenures. With the exception of the small business forest enterprise program, operational planning for forest practices is carried out by these licensees, who hold the exclusive right to harvest timber, but not to other forest values.

While water licensees also hold rights to Crown resources, unlike timber tenure holders, their rights to plan and manage water sources are not commensurate with their responsibilities. Present provincial regulatory tools do not give water licensees or water suppliers the right to control activities that may affect water sources. As the Auditor-General noted: “The *Health Act* holds a water supplier responsible for providing safe water to its customers. Even if the source has been contaminated by the activities of another party, the water supplier must carry out, and pay for, any steps required to render the tap water safe.” This situation is untenable and must change.

There are a number of inadequacies in the present protections provided to domestic use watersheds that should be addressed in the Drinking Water plan.

For many communities in the province, their water supply areas are designated as “watershed reserves” under the *Land Act*. Some communities have assumed that, as the name suggests, the watershed areas were reserved for their community water supply as the priority resource value, and that all other land use activities must yield to that priority. However, *Land Act* watershed reserves merely prevent other dispositions under the *Land Act* itself, and do not foreclose potentially incompatible activities such as logging and mining which are authorized under other legislation. In at least two cases, in the West Kootenay and Sunshine Coast areas, these issues have led to litigation over forest management and the legal status of watershed reserves. Clearly a more meaningful reserve designation is required in such areas.

Under the *Forest Practices Code of British Columbia Act* some domestic use watersheds, which are designated as “community watersheds” trigger certain forest and range practices and operational planning requirements that do not

apply elsewhere in the Provincial Forest.

To qualify as a community watershed under the *Code*, a watershed must either meet the legal definition in subsection 41(8) of the *Act* as of June 15, 1995, or be formally designated as such by a regional manager of the Ministry of Forests under subsection 41(10). To automatically qualify as a community watershed under the *Code*, the watershed must be licensed either for a waterworks purpose, or a domestic purpose, and the licence must be held by or subject to the control of a "water users' community" incorporated under section 51 of the *Water Act*. Other restrictions are that the drainage area cannot be more than 500 square kilometres, and the water licence must have been issued before June 15, 1995, (the day the *Code* came into effect).

However, many watersheds that are used and licensed for drinking water for rural residents do not automatically qualify and are not designated as community watersheds. For example, according to the Auditor-General's report there are at least 24,000 properties or households in BC that are served by individual systems whose water sources do not fit the community watershed definition. MELP estimates that there may be at least as many unlicensed individual systems. Likewise very small community systems are excluded.

Small systems are particularly vulnerable to threats to drinking water quality, in part because they are more likely to rely on small water-bodies. In addition, because small systems often serve rural areas, they are also more likely to experience activities such as logging.

**Recommendation 25: All domestic use watersheds should receive protection, not just those that have been formally designated under the *Forest Practices Code*. The existence of water licences in a drainage should automatically trigger domestic watershed protections, without reliance on a discretionary designation mechanism.**

At the present time, water users are essentially powerless to prevent land uses on public land which could potentially compromise their water sources. The Drinking Water Protection Plan does little to remedy the situation. Instead, it increases the responsibilities given to water purveyors, without ensuring that they have the right to protect water sources.

Legislative recognition should be given to water protection as the priority in domestic watersheds. Decision-making authority over land use decisions that could affect drinking water should rest with water users (licensees/water users communities). As a transition measure, at a minimum, section 41 of the *Forest Practices Code* should be amended to allow local water users a joint sign off on operational plans in their watersheds.

At a minimum, there should be a presumption against other land use activities in domestic use watersheds unless assessments demonstrate that the activities can be carried out without risk to water sources. Preferably, domestic use watersheds should become “watershed reserves” in which logging, road-building, mining or grazing is prohibited by legislation

**Recommendation 26: Decision-making authority over land use decisions that could affect drinking water should rest with water users (licensees/water users communities).**

**Recommendation: 27: All domestic use watersheds should receive legislated protection as “watershed reserves” in which logging, road-building, mining or grazing is restricted by legislation**

## MINING PRACTICES

The Auditor-General’s Report identifies mining, and in particular gravel and aggregate extraction as issues that are worthy of further examination in terms of how they may impact drinking water.

Most hard rock mining in BC occurs in remote areas, thus the likelihood of direct impacts on drinking water is minimal. However, where impacts occur, they could be deadly.[\[8\]](#) It is worth noting that the impacts of acid mine drainage, where sulphide bearing rocks are dug up and exposed to rain and snowmelt, causing acidic, metal laden runoff, can persist at mine sites for generations to come. A 1999 Report by the Sierra Legal Defence Fund identifies 26 known acid generating sites in BC, with a further 18 potentially acid generating sites that are proposed, operating or closed.[\[9\]](#)

Gravel and aggregate operations may pose a more immediate threat to drinking water, as these activities often occur nearer to residential communities and nearer to drinking water sources. The threat to groundwater from aggregate mining is more acute, particularly in situations where adjacent residents rely on wells for their drinking water. Quarry operations, which involve blasting and fracturing of rock floors, are intrusive and may well result in the percolation of dust and residue to below ground aquifers. Contamination of groundwater aquifers is extremely difficult to reverse (or can we say its irreversible, and you just have to wait til it works its way through, which could take years).

Both mining situations described above are regulated by the *Mines Act*. The Mineral Exploration Code does not apply to the environmental impacts arising from gravel and aggregate operations. The Auditor-General’s Report notes that the Mineral Exploration Code is less prescriptive than the Forest Practices Code. In addition, the *Mines Act*, which applies to both situations, only loosely refers to protection of watercourses affected by a mine, and

requiring the protection of watercourses as a condition of a mine permit is entirely discretionary under the Act.[\[10\]](#)

**Recommendation 28: That the Mines Act and the Mineral Exploration Code be amended to include strong and mandatory water protection provisions for mine permits.**

**Recommendation 29: That there be mandatory referrals in the mine permitting process to MELP and the lead agency dealing with drinking water issues.**

**Recommendation 30: That the *Mines Act* be amended to establish penalties for non-compliance with permit terms and conditions where water quality is threatened.**

## **NEW SUBDIVISIONS AND THE NEED TO PROVE POTABLE WATER AVAILABILITY**

Currently, there is no legal requirement for developers to prove that there is drinking water available for proposed new subdivisions. This has created problems on numerous occasions in BC.

Section 86 (1) (c) of the Land Title Act lists the factors that an approving officer may consider when making a decision on subdivision approvals. None of these factors specifically relates to water quality. The Auditor-General's report notes that approving officers can only look at each subdivision application in isolation.

**Recommendation 31: Legislative amendments are required to give more weight to water considerations in new subdivision approvals. When approving subdivision applications, approving officers should be directed to consider the cumulative effects of well water extraction on aquifers and septic tanks on water quality.**

## **UNDERGROUND STORAGE TANKS**

Development of a *Underground Storage Tank Regulation* was shelved in the early 1990s after municipalities balked at administering the regulation. Instead, the Province decided that contaminated sites legislation and non-mandatory CCME guidelines were sufficient to guard against leaky underground storage tanks.

However, almost a decade later, it appears that the CCME guidelines are not being adhered to in many cases. Typically non-compliance is occurring in small commercial operations which are more prevalent in rural areas where

groundwater is used for drinking water. Moreover, it is our understanding that a review of contaminated site profiles shows that leaking underground storage tanks are a source of drinking water contamination at several sites in British Columbia.

**Recommendation 32: Storage tank regulations should be adopted with an enforcement regime that prioritizes small operators.**

### ***PESTICIDE CONTROL ACT***

Although the Forest Practices Code provides that a person applying pesticides must stop doing so if they detect pesticides at drinking water intakes, the Auditor-General's review of *Pest Control Act* permits found that few permits issued for pesticide spraying in community watersheds included requirements for water testing.

In addition, pesticide use permits are routinely granted for aerial spraying large tracts of forest land in BC. We are not certain of the extent to which any consideration is given of potential impacts on drinking water, as we do not know the extent to which First Nations may rely upon streams and other water bodies for drinking water..

**Recommendation 33: Regulations should be amended to make permits issued for pesticide spraying in community watersheds include mandatory water testing requirements.**

## SUMMARY OF RECOMMENDATIONS

**Recommendation 1:** The *Water Act* should be amended to clearly state that the citizens of BC have a right to clean water and that all common law rights and remedies related to water quality are preserved.

**Recommendation 2:** The province should designate “watershed reserves” for all domestic use watersheds in which logging, road-building, mining, grazing, and any residential, commercial or industrial development is restricted by legislation.

**Recommendation 3:** The proponent of any activity in a watershed reserve other than domestic water supply would have the onus to prove that their activities would not cause damage to drinking water.

**Recommendation 4:** The Province should adopt a broader range of province wide source standards and tap water standards. Local standards should be permitted to supplement or add to province wide standards.

**Recommendation 5:** To accommodate naturally occurring substances,

these standards could have exceptions where a substance is naturally occurring (e.g. exceedance of a source standard for arsenic would not trigger a mandatory response if the exceedance is caused by natural phenomena). To avoid unnecessary costs, monitoring and testing requirements can vary according to the results of assessments and previous tests.

**Recommendation 6:** Source standards should take the form of maximum desirable concentrations of substances in the source water from which drinking water is being withdrawn.

**Recommendation 7:** The consequence of a source standard being exceeded should be a requirement for the lead drinking water agency to develop and implement a plan for correcting the problem within a reasonable time frame. In implementing such plans the lead agency should be given power to impose requirements normally within the jurisdiction of other agencies.

**Recommendation 8:** Drinking water protection orders should be authorized by new legislation and should be available to be made against a person, a local government or a provincial authority, or any combination of those groups. If the order is made against a person, the person can be required to stop damaging activities. If the order is made against a government authority, the government can be required to take regulatory action to stop the activity and prevent its recurrence.

**Recommendation 9:** To ensure that the right to clean water can be enforced by the public, two legal changes are required:

- i. Ministry of Environment should have the jurisdiction to consider quality of water when issuing Water Act licenses, approvals or orders, and the EAB should have the jurisdiction to consider these concerns when hearing appeals of Water Act licenses, approvals or orders.
- ii. Citizens should have the ability to petition government to issue drinking water protection orders. The procedure could be similar to the current under-utilized procedure in the *Health Act*, which allows any person “aggrieved” by a health hazard or condition to request an investigation from the local health board. WCEL recommends expanding this procedure to allow citizens to petition the provincial government to issue a protection order. The government must be required to respond to the petition with written reasons.
- iii. A right-of-appeal to the Environmental Appeal Board should be added for the orders or drinking water protection plans. If a citizen’s petition is denied, then s/he has a right of appeal to the EAB. The orders themselves should also be capable of being appealed. Addition of this legal remedy will significantly enhance the ability of

the public to protect their drinking water.

**Recommendation 10:** The new legislation should include provision for all decisions, reports, assessments, orders and appeals related to safe drinking water to be placed on an electronic registry.

**Recommendation 11:** That section 3 of the Water Act, which authorizes the application of the Act to groundwater, be proclaimed.

**Recommendation 12:** Licensing of groundwater should be required under the Water Act, with groundwater licenses only given in instances where the Comptroller of Water Rights is reasonably assured that additional extraction will not adversely affect existing users.

**Recommendation 13:** Responsibility for completing source assessments should be placed on local governments and medical health officers jointly with standards set for minimum quality of assessments.

**Recommendation 14:** Assessments should be approved by the Provincial Health Officer as meeting minimum standards

**Recommendation 15:** Participation of water users in source assessments should be required by statute.

**Recommendation 16:** The requirement for plan development should be triggered where assessments indicate that Canadian Drinking Water Standards are not being met due to anthropogenic causes, or that human activities pose a significant threat to source water quality.

**Recommendation 17:** Legislation should specify that plans must outline measures that can reasonably be expected to maintain source water quality or ensure that source water quality will be restored to minimum standards within a reasonable timeframe.

**Recommendation 18:** Measures outlined in plans should identify responsible implementing parties and timetables for implementation.

**Recommendation 19:** Local government and provincial agency bylaws, land use decisions and approvals should be consistent with plans.

**Recommendation 20:** The province should be responsible for ensuring a minimum level of source water protection throughout the Province. This can be accomplished through the standards approach discussed above.

**Recommendation 21:** The new legislation should expand local government powers to protect drinking water, including:



- Local government approval of forest development plans in community watersheds.
- Local governments should be permitted to pass septic tank regulations that exceed Health Act standards.
- Local governments should be able to license groundwater use (if the Province does not do so).

**Recommendation 22:** Municipalities should be permitted to bind themselves to take water source protection initiatives under such agreements.

**Recommendation 23:** We recommend several changes to the *Agricultural Waste Control Regulation* to guard against water contamination:

- Make the Code Mandatory. The *Agricultural Waste Control Regulation* does not require agricultural operators to meet any requirements. Instead, it simply exempts agricultural operators from prosecution for pollution if they abide by the *Code of Agricultural Practice for Waste Management*. Agricultural operators cannot be prosecuted for breaching the *Code* unless there is evidence that waste has entered the environment. The *Code* is thus difficult to enforce and is routinely flouted.
- Make the Code Requirements more specific and stringent. The requirements of the *Code* are often vague. Provisions the *Code* which are particularly inadequate include:
  - Improved limits on application of fertilizer. The *Code* provides that manure must not be applied at rates that exceed the amount required for crop growth if runoff causes pollution of groundwater or a watercourse. According to several officials with whom we have consulted, excess application of manure continues to be a major source of contamination of surface and ground water. We recommend the development of enforceable application limits that have practical meaning for farmers.
  - Improved requirements for manure storage. The *Code* provides that manure storage facilities must be sufficient to allow for application of manure as fertilizer. It is our understanding that most storage facilities in the Fraser Valley are insufficient, requiring farmers to apply manure at times when it is unnecessary for growth, and largely lost to run off or groundwater. We recommend requiring storage facilities that ensure manure can be stored for the length of time between necessary applications of fertilizer. Appropriate standards should be developed for different regions and crops.

- Limits on density of livestock. High density industrial agriculture has emerged as one of the leading causes of aquifer contamination in the Walkerton tragedy. We recommend limits on livestock densities. The Netherlands, for instance, has places limits on densities of livestock, and charges levies on farms that produce more manure than can be absorbed by grasslands.
- Water protection zones. Consideration should be given to different requirements according to the environmental sensitivity of different areas. The Netherlands and Germany, for instance, restricts certain agricultural practices in designated water protection zones. Regulations could also target areas where there is a clear excess of manure application.
- Improve enforcement of the Code. The Auditor-General identified this as a weakness.

**Recommendation 24:** We recommend that eligibility for farm income support programs in BC — in particular the Net Income Stabilization Account program — be conditioned on farmers complying with requirements of an updated code of environmental practices.

**Recommendation 25:** All domestic use watersheds should receive protection, not just those that have been formally designated under the *Forest Practices Code*. The existence of water licences in a drainage should automatically trigger domestic watershed protections, without reliance on a discretionary designation mechanism.

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## NOTES

[1] Province of British Columbia, *Stewardship of the Water of British Columbia: A Review of British Columbia's Water Management Policy and Legislation* (Victoria: Ministry of Environment Lands and Parks, 1993).

[2] See Schillinger and Ponderosa Trout Farm v. H Williamson Blacktop & Landscaping Ltd. 1977 BCSC, Steadman v. Erickson Gold Mining Corp. [1989] BCJ 444 (BCCA), “Water, Private Rights and the Rise of Regulation: Riparian Rights of Use, 1892—1939, Maureen Boyd Clark, 1992 The Advocate, Christopher Harvey, “Riparian Water Rights: Not Dead Yet”, 1992 The Advocate 517 and Christopher Harvey, “Right to Quality of Water under the Water Act, and Related Water Issues” in *Law Reform for Sustainable Development in BC* (Vancouver: Canadian Bar Association), 1990.

[3] For instance, in *Red Mountain Residents et al v. Simpson et al*, 2000 BCSC 250, McEwan said: “I pause to say that even if that is so, there is not before me an established case for the concept of a right to clean water”.

[4] Environmental Appeal Board — 97/98 Annual Report Recommendation 2.

[5] Auditor’s Report page 115.

[6] The Province of British Columbia, *Groundwater Resources of BC*.

[7] Ibid.

[8] See Sierra Legal Defence Fund, *Digging Up Trouble: The Legacy of Mining in British Columbia*, May 1998, p. 32. Environment Canada tests conducted on fish in two acid mine generating streams near the Equity Silver

Mine killed fish in 17 and 21 minutes respectively.

[9] Sierra Legal Defence Fund, *Digging Up Trouble: The Legacy of Mining in British Columbia*, May 1998, p. 3.

[10] See the mine permit provisions in sections 10(1) and 10(4)(b) of the *Mines Act*, R.S.B.C. 1996, c. 293.