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**Caring for, Monitoring, and Protecting
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DOCTORING OUR WATER: FROM A POLICY OF PROTECTION TO A POLICY OF SUBMISSION

**REGARDING THE
THE PROVINCIAL HEALTH OFFICER'S
"ANNUAL REPORT FOR 2000: DRINKING WATER QUALITY IN
BRITISH COLUMBIA: THE PUBLIC HEALTH PERSPECTIVE"**

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EXECUTIVE SUMMARY

The following report, *Doctoring our Water: From a Policy of Protection to a Policy of Submission*, was ‘inspired’ by a series of recent public and inter-governmental processes and reports in the province of British Columbia, from March 1999 - February 2002, on the issue of drinking water source mismanagement. In particular, the annual report of the Provincial Health Officer (PHO), *Drinking Water Quality in British Columbia: the Public Health Perspective*, released in November 2001, raised a number of red flags. A primary example:

One of the most contentious issues is logging in watersheds. B.C.’s economy has been built through forestry, and it is still one of the larger employers in the province. From the broader public health perspective, British Columbia should not focus solely on the quality of our drinking water as the most important factor that imparts good health to its citizens.... It is neither feasible nor necessary to ban all logging in watersheds that feed drinking water supplies. (page 81)

This and similar statements in the PHO’s report ¹ are responsible for compelling us to examine, within constrictive time lines and limited access to information, the history of the Ministry of Health’s policies regarding the protection of drinking water sources. This history is presented in Appendix A as a series of quotations from historic documents, obtained almost exclusively from government files and reports (Exhibits 1-86).

In stark contrast, the PHO’s report omits this history, which began in the late 1800s, and the remarkable efforts of medical health inspectors and public health engineers within the Ministry of Health whose avocation was the protection of drinking water sources. The Ministry of Health had a very strong vision, mandate, and legislative framework to act as guardians to “protect” drinking water sources in order to protect human health, unlike the present PHO and other senior administrators in the Ministry of Health who appear to subscribe to the risky assumption that technology obviates the need for “protection” of water processes. It is clear that this historic role and policy was interfered with and then actively neglected by government administrators and politicians in order to accommodate business opportunities in community watersheds at the public’s expense – and conscientious medical health officers became flies in the ointment. The new directive, summarized generally by the philosophy of ‘multiple-use’ and ‘integrated resource management’, has unhooked the Ministry of Health from its historic mandate as the advocate for, and protector of, drinking water sources. That historic mandate has been replaced with the authority to order municipal governments to construct expensive treatment works to in order to “protect” the public from the degraded water being produced from “unprotected” watersheds.

Our findings also indicate that the PHO’s absurd statement that a ban on “all activities in community watersheds” is a recent phenomenon, which he conveniently attributes to unidentified “groups” (p.80), presumably ones such as ours. This misleading statement is incorrect. The history of this subject, which spans a century, is rife with examples to the contrary. A classic example are the three

¹ Granted, the PHO undoubtedly had assistance in compiling the report, as the extensive acknowledgement section lists many others who may have contributed to various sections of the report. Therefore, when we reference the PHO, we imply the multi-authorship of the report.

Greater Vancouver watersheds that were protected from logging beginning in 1910 and in 1927, as advocated by the Ministry of Health, by public engineers, and by well-known and out-spoken politicians. Another prime example is captured within the case history of the Arrow Creek Watershed Reserve (Will Koop, 2002, posted on the BC Tap Water Alliance website), which details the long-suffering efforts of the community of Erickson and the town of Creston to protect their drinking watershed.

The provincial government's controversial approval of "activities" (as the PHO describes them) in drinking water sources on Crown lands - road construction, logging, mining, and agriculture - have been met with widespread public disapproval and resistance, particularly since the 1960s when our provincial government began initiating dramatic changes to its policies and the legislation protecting drinking watersheds. Protection of lands that are the sources of public drinking water is rooted in administrative instruments of the late 1800s, which led to more specific federal and provincial legislation in the early 1900s enacted to protect watersheds from the forest industry.² This legislation and policy not only precipitated from the ardent and "common sense" views of the general public, but from government leaders and administrators. Since the 1960s, despite the concerns of the public and the Ministry of Health, drinking water sources have been subjected to other resource agendas both by government and industry, one of the most tragic legacies in the history of public governance in B.C.

Upon scrutinizing the PHO's report, we became aware of the following:

- the PHO failed to mention or acknowledge the prominent historic role the Ministry of Health had in "protecting" drinking water sources, or how that role was disabled;
- the PHO downplayed and underestimated the repercussions of forestry-related activities on water quality and quantity;
- the PHO is critically uninformed about some of the issues he presents;
- the PHO's emphasis is on the technologies for making water "potable" after it is degraded, which is not only responsible for the public's misperception that raw water from mountain streams and most groundwater sources is unsafe, but also serves as an expensive (to the taxpayer) rationale for further degradation of our drinking watershed sources.

Unfortunately, treatment technologies, largely developed as a result of the degradation of provincial drinking water sources, are becoming a big business. Growing concern about privatization is apparent throughout the world as a result. These conditions have put communities and individuals at risk. The public's vulnerability is heightened by the current controversial trends to de-socialize and de-regulate provincial government legislative responsibilities and by the economic hardships currently facing local governments, but is to the convenient advantage of organizations promoting "public-private-partnerships". Many of these intriguing and disconcerting trends are discussed and highlighted in a recently published book, *Blue Gold - The Battle Against Corporate Theft of the World's Water* (February 2002, by Maude Barlow and Tony Clarke).

² We recently detailed these issues in our submissions to government during the two public input processes for the Drinking Water Protection Act.

1. BACKGROUND ON THE DELAYED RELEASE OF THE B.C. PROVINCIAL HEALTH OFFICER'S 2000 REPORT

The impetus for the Provincial Health Officer's (PHO's) annual report (2000) on drinking water is directly related to two recent public processes: the March 1999 Auditor General's report, *Protecting Drinking Water Sources*; and the subsequent Select Standing Committee on Public Accounts' meetings transcripts and its April 2000 report, also called *Protecting Drinking-Water Sources*, which was charged with reviewing the Auditor General's recommendations.³ These two processes, along with the national attention resulting from the May 2000 Walkerton incident, were largely responsible for the initiation of public input and drafting of the *Drinking Water Protection Act* in the Spring of 2001.

Of significance is the Public Accounts Committee transcript of October 19, 1999.⁴ Following comments and questions by Select Standing Committee member Vancouver-Fairview M.L.A. Gary Farrell-Collins (the present Minister of Finance) about the government's lack of will to bring drinking water issues to a place of "urgency", the Ministry of Environment, Lands and Parks' representative responded that, given the growing concerns over drinking water, reports on the state of drinking water were going to be released to the public on an annual basis:

I think one of the important steps that has been taken is to assign the provincial health officer a clear mandate to report on this regularly and to make sure that it isn't forgotten and that the policy issues and actions are reported on and brought before the public and the Legislature....**I suppose the test will be whether the government of the day, a year or two years from now, implements the findings and recommendations that we've put forward.** [emphasis] But from a staff point of view, we are devoting resources to this, and we are giving it a higher priority than we would have prior to the auditor general's report. (Don Fast, Ministry of Environment, Lands and Parks, page 1074)

To place matters into the proper historical perspective, these concerns were being raised, and had repeatedly been raised since the late 1960s, far in advance of the 'Walkerton' tragedy, that received national attention in May, 2000. In this respect, it is our contention that the recent government review processes regarding drinking water sources have been far too long overdue, despite the general impression that these reviews are related to recent concerns.

3 The Provincial Health Officer's report is available at website (<http://www.healthplanning.gov.bc.ca/pho/pdf/phoannual2000.pdf>). The Auditor General's report is available at website (<http://bcauditor.com/AuditorGeneral.htm>). The Select Standing Committee's report is available at website (<http://www.legis.gov.bc.ca/cmt/36thparl/cmt12/2000/36%2D4%2Dreport02.htm>).

4 The following is a quote from the Auditor General Office website, on the role of the Public Accounts Committee: "Throughout the year, as audits are completed, the Auditor General provides reports to the Legislative Assembly and the public. These reports usually are referred by the Legislative Assembly to one of its standing committees, most often to the Public Accounts Committee. The Office supports the Public Accounts Committee and other committees by providing briefings that assist committee members in their evaluation of the areas identified for change and improvement as well as those areas that are achieving intended outcomes. The committees analyze and debate the reports' contents and, where appropriate, make recommendations."

The Ministry of Health representative Bob Smith, former Director of the Health Protection Branch (now retired), also responded on October 19th to Farrell-Collins' concern by stating that the PHO would provide a report by May, 2000, to be repeated on an annual basis, with a focus on the issue of source-water protection. Unfortunately, the PHO's report was curiously postponed for an additional **one and a half years** until its release in late November, 2001. There was some mention made of the missed May 2000 deadline in the PHO's report. However, aside from the apparent understatement of the conditions in drinking water sources which were "showing signs of strain", there was no reason provided in the PHO's report as to why the report had been delayed for so long:

A 1999 report by the Auditor General found that British Columbia's drinking water sources were showing signs of strain. The report concluded that B.C. was not adequately protecting drinking water sources from human impacts, and that this could have significant cost implications in the future (Office of the Auditor General, 1999). Following the Auditor General's report, the provincial government asked the Provincial Health Officer to develop a report examining the full spectrum of water issues from source to tap. The report was well under way when events in the small Ontario town of Walkerton in the late spring of 2000 gave the report increased impetus and brought home to governments and the public across Canada the gravity of the water issues which confront us. (Page 12)

As we alluded to in our November 29, 2001 letter to Minister of Health Planning, Sindi Hawkins (see Appendix C), the obvious and critical question to be answered by the PHO, the appropriate Minister of Health, and by the government, is why was the report delayed for so long, given the apparent state of urgency for such a report as stated by the Public Accounts Committee in October 1999? The unexplained delay of the PHO's report is inexcusable, and was most unfortunate for two important reasons:

- the public should have been provided this report in May 2001 as a reference resource, long before the January-February 2001 provincial review for input into the *Drinking Water Protection Act*;
- the public most certainly should have had this report prior to the government's second public review (October-November 2001) of the *Drinking Water Protection Act*.

Furthermore, though we find the PHO's report dodgy and hardly critical of resource mismanagement in drinking water sources, and generally unopposed to continued resource exploitation, it would have nevertheless been critical for the public to understand the politics of the PHO well before the public processes on the *Drinking Water Protection Act* began in January 2001. This is extremely important because the Ministry of Health has been identified by government and some organizations to be the "lead agency" (refer to comments in section 4 of this report) on drinking water protection, along with the Ministry of Water, Land and Air Protection (formerly the Ministry of Environment, Lands and Parks). Other than the Auditor General's report on drinking water sources, which, unfortunately, was restricted by its Terms of Reference, there is oddly no independently-based government report or document that attempts to comprehensively analyse the state of provincial drinking water sources. It is therefore little wonder that the public could not render better-informed comments for the government's recent review processes on drinking water issues.

2. THE UNTOLD STORY

Good, accurate information is essential to any decision-making and management.
(Provincial Health Officer's annual report for 2000, page 3.)

Regarding the issue of source-water protection In reality the health regions have been focusing more on drinking water from the treatment component than they have been from a source-water protection component -- [they] left that to the resource ministries and agencies and their Waste Management Act regulations. (Bob Smith, Select Standing Committee on Public Accounts', October 19, 1999, Page 1076)

A rather glaring omission in the Provincial Health Officer's (PHO's) report is the failure to impart information, even in a cursory manner, about the historic role and responsibilities the Ministry of Health actually had in "protecting" provincial drinking water sources. This, to say the least, is a fundamentally disturbing omission, given the many examples provided on this subject in Appendix A (Exhibits 1-86), examples that largely speak for themselves.

In the sub-heading, *Historical Role of Public Health in Safeguarding Water Supplies* (pages 11-15), the PHO's report briefly introduces 'philosophy' from the ancient Greeks on this subject, and then leaps to the 20th century to confine discussion to the recent introduction of a human-caused deadly bacterial strain in cattle manure and *E-coli 0157:H7*, the strain that was responsible for infecting the Walkerton distribution system, and similar, but not lethal, incidents at both Cranbrook and Kelowna.⁵ However, the PHO strangely (but, not surprisingly) ignores the historic role the Ministry of Health was assigned with regard to the protection of drinking water sources. This very rich history is readily available with the Ministry of Health, and the public should have been provided with at least one summary paragraph. To have done so, however, would have caused unwanted public attention and potential embarrassment about a highly sensitive issue. There are reasons to suggest that this history may have been knowingly erased from government's institutional memory because reminding the public about the Ministry of Health's role as guardians of drinking water sources would work against the interests of resource industries and their investments.

The following are brief summaries of this history, as introduced in Appendix A. The history of the Ministry (formerly, "Department") of Health is a long and fascinating story consisting of Medical Health Officers and Health Engineers who adhered to the vision, a tradition, if you will, handed down from the early 1900s and earlier Commons Law, of being guardians, or protectors, of the

⁵ In the PHO's report, page 14, Table 1, "Waterborne Disease Outbreaks in British Columbia, 1980-2000", under Cranbrook, "calves" were responsible for the water disease outbreak of cryptosporidium which affected over 2,000 people. Under the table column category for "preventability", there is nothing mentioned by the PHO for allowing cattle in Cranbrook's water supply source, as there is for other causes, ie., "caused by human error", or "preventable with better source protection", examples where cattle, beaver, or wildlife were to blame for waterborne problems in other provincial drinking watershed sources. On pages 55-57 the topic of cryptosporidium is briefly discussed, but there is no recommendation to remove cattle from provincial drinking watersheds, only that managers "avoid grazing **near** the water supply". There is no excuse for the PHO in not exercising his discretionary powers to recommend against the removal of cattle from the hydrographic boundaries of a drinking watershed source.

public's water supply sources. We have defined several periods in the time between 1900 and the early 1960s that characterize this history.

2(a) Appendix A: (1900-1939)

Many of the quotations from the first period (1900-1939) in Appendix A, hinge on the "resource protection" accorded the Greater Vancouver watersheds. These prominent watersheds were apparently responsible for generating the standard across British Columbia for the protection of the public's drinking water sources, which was advocated by provincial and federal authorities through legislation:

Reservation of Lands. It is needless for me to expatiate here upon the now well informed doctrines relating to the protection of municipal water supply. As I pointed out in my letter of June 7th with reference to this application, the only safe way to maintain a pure water supply is to protect from settlement every acre of the land within the catchment where the water supply is gathered. (Exhibit # 4. Report from E. Dann, Acting Chief Engineer, Water Power Branch, Department of the Interior, regarding the protection of East Canoe Creek, water supply for Salmon Arm, July 17, 1915)

PUBLIC NOTICE is hereby given that the Government of Canada has reserved for special purposes the lands surrounding and in the neighborhood of Coquitlam Lake as shown within the heavy lines on map below. Any unauthorized person in any manner occupying or taking possession of any portion of these lands, or cutting down or injuring any trees, saplings, shrubs, or any underwood, or otherwise trespassing thereon, will be prosecuted with the utmost vigour of the law. (Exhibit # 3, Official Federal Government Public Notice posted in 1910 throughout the Coquitlam municipality, for the Coquitlam Watershed Reserve)

I know we both agree as to the seriousness of the situation that is likely to develop in all our watersheds, and how very necessary it is for us to preserve our present pure water supply for the use of the public. (Exhibit #8. Letter from F.T. Underhill, Vancouver's chief medical health officer, to H.E. Young, Provincial Board of Health, October, 1916)

In further reference to my letter of today, what would you think of the suggestion of making the Watershed of Capilano and Seymour a Game and Fish Reserve. This would give us the power to prevent fishing and hunting parties going on the reserve and would greatly strengthen the hands of the City Officials in their efforts to enforce the regulations. (Exhibit # 16. Letter from Dr. H.E. Young, Provincial Officer of Health, to F.L. Fellows, Vancouver City Engineer, September 18, 1918)

In reply to your letter with reference to creating a Game and Fish Reserve, for the further protection of the watersheds of Capilano and Seymour Creek, I heartily concur in your suggestion. I think it would be a step in the right direction, and would greatly assist both Departments in maintaining and protecting our water supply.... I suggest that a bill be brought down at the next sitting of the House, creating such a reserve. (Exhibit # 18. Letter from F.L. Fellows, Vancouver City Engineer, to Dr. H.E. Young, Provincial Officer of Health, September 24, 1918)

WATERSHEDS. The sanitary protection of watersheds supplying more than half of the total population of British Columbia has thus far been accomplished through the drastic regulations formulated by your Board, and enforced by resident Inspectors under the supervision of the writer and the valuable and active co-operation of Dr. F.T. Underhill, F.R.C.S., D.P.H., F.R.S.I., M.O.H. for the City of Vancouver. Every one acknowledges that the power of the Empire is in “the silent navy,” but few people are aware that locally our future is in the sustained purity of the water-supplies, silently though zealously guarded by our Health Officers.

During the year just closing, we have been called upon to take protective action regarding water sources at Williams Lake, Gambier Island, Valdes Island, and several summer resorts. (Exhibit # 24. Frank DeGray, Chief Sanitary Inspector, Annual Provincial Board of Health Report, provincial Sessional Papers, 1924)

No one is allowed on the watersheds, which have been reserved from all other uses, unless they are subjected to tests to show the absence of the possibility of contamination.

Nature has been very kind to British Columbia in this respect, and we have, fortunately, in charge of these departments men who have realized their obligations and have proved themselves to be peculiarly situated, both from temperament and knowledge, to handle this very important question.

We have not, in British Columbia, been obliged to install a chlorinating plant. The majority of the supplies are obtained from mountain streams which are tapped at points above possible contamination, and the future in this respect is assured. (Exhibit # 25. Frank DeGray, Chief Sanitary Inspector, Annual Provincial Board of Health Report, provincial Sessional Papers, 1928-29)

During most of this first period, H.E. Young, the provincial medical health officer, carefully administered the dominant policy of drinking watershed protection.

2(b) Appendix A: (1940-early 1960s)

During the latter part of the second period (1940 - early 1960s), under the administration of Dr. R. Bowering, who continued to apply the guardianship of drinking water sources, changes to the provincial policy of protection were proposed by foresters and engineers to government administrators and politicians, presumably on behalf of private industry. There is reference to these proposed changes in 1955 by the Department of Health in Exhibit #35 regarding the “need for revision of our laws regarding watershed protection.”

2(c) Appendix A: (early 1960s to the late 1970s)

The history of drinking source protection and the Ministry of Health has both intriguing and scandalous elements running throughout it, particularly how publicly accountable and ethically-bound guardians were deliberately ignored and bullied into submission by those advocating business profiteering - who actually plotted a drinking watersheds coup against those who understood the necessity of protection. It is a story about literally manufacturing a wholesale shift in public perception, semantics, and government policy, which accommodated the new language of “watershed management” instead of watershed protection. Nothing could seemingly curb this

engineered take-over. Ultimately common-place and powerful words like “protection”, “watershed reserve” and “single-use” (see Appendix B) were replaced by “management”, “provincial forest” and “multiple” or “integrated use”:

Mr. Apsey [Deputy Minister of Forests]⁶ noted that his ministry was becoming aware of growing public concern over other use of lands around watersheds. He noted that there was the danger of losing flexibility and returning to a single use concept of land. (Environment and Land Use Technical Committee, Minutes, March 9, 1981)

A large number of provincial health officials, at the 1975 annual meeting of the Associated Boards of Health, protested against the assault on the public’s drinking water sources by other government agencies, which is summarized in the following provincial resolution:

THEREFORE BE IT RESOLVED that the Associated Boards of Health urge the provincial government to enact, or amend, legislation which: (a) would authorize the Medical Health Officer to restrict or prohibit any activity within a watershed which he feels may have a deleterious effect on the domestic water supply and, (b) would require the Lands Service to seek the concurrence of the Medical Health Officer before issuing a permit without authorizing any activity within a watershed. (Exhibit # 53, Resolution No. 15, passed at the Okanagan 1975 annual meeting of the Associated Boards of Health)

Health officials had been warning government ministers for years about the impending, cumulative crisis in British Columbia’s drinking watersheds and sources. However, instead of government politicians and senior bureaucrats heeding their concerns, the resolution was immediately struck down. Health officials were then strategically silenced, even by their own Health Minister in 1976. When participating in provincial committees and planning processes their concerns were routinely diluted, delayed, and over-ridden, or, more commonly, just simply ignored by senior government administrators and Ministers in order to permit industrial activities in drinking water sources under cover of “protection” and “priority” propaganda language:

I refer to your letter dated June 8, 1976, which requested that the Task Force on Multiple Use of Watersheds of Community Water Supplies investigate and comment on Resolution No. 15 of the Associated Boards of Health of British Columbia.

The Task Force met on August 16th and 31st [1976] to discuss this resolution. A consensus was reached by the Task Force that it could not support the resolution as passed, in that it would provide the Medical Health Officer with a veto power regarding all activities in community watershed applying both to Crown and private lands.... the impact of a veto power by the Medical Health Officer could be severe, and at variance with Provincial and Local Authority objectives. The administration of such a veto power also could be costly and time-consuming. (Exhibit # 57. Memo from J.D. Watts, Chairman, Task Force on

⁶ Mike Apsey left his senior administrative position, at the Ministry of Forests, to become the president of the Council of Forest Industries around 1985. At the initial meeting of the Seymour Advisory Committee on October 31, 1985 he apparently helped subvert the public process to designate the Lower Seymour off-catchment lands as a regional park. He helped propose the creation of the Seymour Demonstration Forest, which advocated logging in drinking watersheds. “Seymourgate”, can be viewed at the B.C. Tap Water Alliance website, under the Greater Vancouver Watersheds, or read at the Vancouver Public Library.

Multiple Use of Watersheds of Community Water Supplies, to B.E. Marr, Chairman, Environment and Land Use Technical Committee, Department of Environment, Parliament Buildings, September 23, 1976)

Mr. Watts noted that a consensus had been reached at the previous Task Force meeting that the M.H.O.'s [Medical Health Officers] should not have a veto power regarding proposed land use activities in community watersheds as requested in Resolution No. 15.

Mr. O'Gorman [D. O'Gorman, Environment and Land Use Committee Secretariat] considered that it was appropriate for the M.H.O.'s to participate in the R.R.M.C. [Regional Resource Management Committee] meetings. He envisioned the scope of their participation to be in the sense of broad overviews regarding policy approaches for emerging problems in community watersheds.

Mr. Highstead [C.J. Highstead, Ministry of Forests] suggested that the response from the Task Force to Resolution No. 15 should be that it does not agree with the veto power requested by the Associated Boards of Health, but suggest that the M.H.O.'s get involved in the R.R.M.C.'s. He suggested the emphasis be placed on low key participation by the M.H.O.'s at this stage.

Mr. Hurn [D.R. Hurn, Ministry of Fish and Wildlife] stated that the problem facing the Task Force was to ensure that the M.H.O.'s are invited to, and feel comfortable in, R.R.M.C. meetings. (Exhibit # 58. Meeting minutes of members on the Task Force on Multiple Use of Watersheds of Community Water Supplies, September 24, 1976)

I have for acknowledgment your memorandum of September 11, 1978 with respect to the referral of applications to your Branch which might lie within a watershed reserve area.... I agree with our Mr. Rhoades that it would not appear necessary at this time to initiate the referral of land applications to your Branch which fall within a watershed reserve. (Exhibit # 64. Memo from G.H. Wilson, Director of Land Management, to Wm. Bailey, Director, Environmental Engineering Division, Ministry of Health, September 26, 1978)

2(d) Appendix A: (1980s to 2002)

This period we have aptly described as the period of "darkness", where the former role by the Ministry of Health to protect drinking water sources was effectively abolished. Some protests were forthcoming, such as the 1985 resolution by the Associated Boards of Health (Exhibit #65), but their capitulating resolution lacked the resonance of its former resolution in 1975 (Exhibit #53), which was derailed by the Deputy Ministers. The agenda was set and government purposely stifled the concerted efforts being made by many B.C. communities trying to protect their drinking water sources.

In the late 1980s and early 1990s, internal committee reports and public submissions and resolutions by medical health associations to government detailed serious objections to ministerial policies and the lack of effective legislation for protecting drinking water sources:

Instead of giving priority to public health, the legislation governing the province's water gives priority to industrial values - - primarily resource extraction. According to a report commissioned for the Provincial Roundtable on the Environment and the Economy, the Ministry of Forests, under the authority of the Forest Act, "has more power over the fate of the water supplies than the regional district or municipalities who actually use the water. Paradoxically, the Ministry of Forests has no special mandate to manage water.

By the provincial government's own admission, "the Water Act neglects the vital questions of water quality and watershed planning". The Act is primarily concerned with allocation of water as a commodity: "there is no provision in the Act or any of its regulations which establish standards for safe domestic water. Further, no section provides clear authority to address public health concerns relating to domestic water". (Exhibit #70, 1991)

However, these concerns fell on deaf ears, lost in the shuffle of government committees and public processes. Even the former NDP provincial government, which had strongly advocated drinking watershed protection in its pre-election campaign - continued to ignore the scandalous management and to implement the take-over of the watershed reserves during its 10-year administration (1991-2001). Finally, following an explosive decade, with much public attention including court cases, moratoriums, and public arrests of individuals advocating the protection of drinking water sources, the Auditor General's department initiated its investigation of drinking water sources in late 1998.

3. PLACING THINGS INTO PERSPECTIVE

It is only when one has a grasp of the history of this apparent coup against the public health officials by senior government administrators, particularly within the Ministries of Forests, Mines, and Agriculture, does one see the enormity of what has transpired - the complete subjugation of the Ministry of Health and the ruination of provincial drinking water sources all over B.C. As a result, the emphasis of the Ministry of Health has shifted toward "treatment" and "potability" of drinking water, as if treatment is equally as effective as "protection" of water sources. For instance, Vancouver-Richmond medical health officer John Blatherwick, influenced by the speculative political frenzy surrounding the proposed 2010 Olympic Games, recently and publicly supported the building for a public freeway through one of the three sources of Greater Vancouver's water supply. Blatherwick's entire rationale was based upon filtration as the technological saviour.⁷

Amidst this squandering of provincial drinking sources, we still hear the now seemingly sarcastic refrain of how water is so vital to our lives:

Placing a priority on the safety of drinking water legislation is an important step to further improve B.C.'s water quality. This will ensure that drinking water systems, which may be vulnerable to microbiological, physical and chemical contamination, will be sufficiently protected while still allowing for appropriate multiple use of water sources and watersheds. There are practical and simple actions that can be taken to help protect water sources, such

⁷ In response to both Blatherwick's and speculators announcements re the proposed Olympic bid, the Greater Vancouver Water District Administration Board passed the following resolution on February 22, 2002: "That the GVWD Board oppose any highways being built through the GVWD watersheds."

as barring animal grazing, human trespass and other activities within a certain distance of a water intake. Road construction and logging practices can be conducted and regulated so as to prevent undue runoff into water sources. (Page 27, PHO's report)

The above statement by the PHO is a far cry from earlier positions as stated by the Ministry of Health, as recently as 1977, even though it was by that time making some political concessions due to the pressures being placed upon it by other ministries:

In summary, the Ministry of Health desires to maintain pristine quality of heretofore unaffected surface waters, and to upgrade adversely affected water to its previous raw quality. To achieve this, it would appear that watersheds, particularly those supplying domestic water, should be for the sole purpose producing water. This view must, by needs, be compromised due to the economic requirements of the province. The Health Ministry recognizes the necessity of some degree of multiple use of watersheds but maintains the goal stated at the beginning of this paragraph. (Exhibit #61, December 20, 1977)

As professionals, medical and health representatives have an ethical responsibility for human life, and by association the world we live in, which should be reflected in their responsibilities. It is that over-riding responsibility, that vision, which must be re-administered in the daily conduct of business by government, as it previously was, free from influences that benefit the few.

From our understanding, disseminated from public forums, interviews and private conversations over the years from members of the public, a number of provincial health officers are not living up to the expectations of being proper protectors or guardians of drinking water sources in B.C. This of course is a direct result of the government's interest to prohibit criticism of its mandate, responsible for the degradation of these sources. This issue has caused deep division and chaos within the ranks of medical health officers, to the point of which many have forgotten their historic and ethical responsibilities.

An example of this disturbing trend may be illustrated from comments by Central Vancouver Island medical health officer, Dr. Fred Rockwell, Vancouver Island Health Authority, at a public forum, held on Thursday, February 15, 2001, on the topic of the cumulative impacts of logging activities in Nanaimo's drinking watershed.⁸ The panel forum, which was radio broadcast, and video documented, was sponsored by the Unitarian Church at the Frank Beban community centre. Though invitations were forwarded to provincial government, private industry (Weyerhaeuser), and Nanaimo City Council representatives, to present the many facets of the debate, they unfortunately chose not to participate, which left the Medical Health Officer as the only 'officiating' spokesperson. What followed were disturbing comments by the medical health official about how highly toxic fertilizers and intensive logging activities were not harmful or inappropriate for the public's water supply in the Jump Creek watershed. Numerous comments from both panellists and audience members at the microphones clearly indicated how disturbed they were by the medical health officer's position, his comments and his answers to their questions.

⁸ The public input session for comments of the proposed *Drinking Water Protection Act* were wrapping up at that time. On Tuesday, February 13th, the government sponsored its 9th public meeting at the Vancouver Hotel. On Friday, January 26, Dr. Rockwell presented information on behalf of the Ministry of Health at the first public meeting in Nanaimo on drinking water quality.

4. THE SINGLE AGENCY RECOMMENDATION RESURFACES

WHEREAS municipalities, water improvement districts, irrigation districts and similar authorities are charged with the provision of consistent and safe supply of water for human, agricultural and industrial use; AND WHEREAS such provision requires control of watershed systems to yield constant supply in both quantity and quality; AND WHEREAS the increasing and varied industrial, agricultural, commercial and recreational uses being conducted in watersheds pose a threat to the prime purpose of watershed management; THEREFORE BE IT RESOLVED that for the purposes of ensuring that administration and management of resources within watersheds are coordinated between government agencies consistent with provision of water for human use, the Government of B.C. be urged to establish, by legislation, an authority or board which shall have the single responsibility of coordinating the administration of and management of land uses and natural product utilization within each watershed. (Exhibit #41. Resolution tabled by the town of Summerland, Okanagan Valley, 1971)

*There is currently no comprehensive legislation or government program which provides authority for a single agency to enforce water quality standards to protect the public from unsafe sources of drinking water. (George Bryce, *Safe Drinking Water*, in Law Reform for Sustainable Development in British Columbia. British Columbia: Canadian Bar Association, 1990. Page 198.)*

Almost ten years after the recommendation from the paper quoted above for a “single agency”, and almost thirty years after the Ministry of Health was removed from its role as the agency in charge, the March 1999 Auditor General’s report on drinking water also recommended the establishment of a single agency to be in charge of drinking water sources and drinking water objectives.

The issue was subsequently debated by government, and in early 2001 it was generally agreed that both the Ministry of Health, and the former Ministry of Environment, Lands and Parks would be the interim lead agencies in recognition of their roles in “protecting” drinking water sources. Unfortunately, both Ministries, particularly the Environment Ministry, have subjugated their policies of “protection” to the internal partnership mandate of multiple-use, which has been responsible for the resource mismanagement in B.C.’s drinking water sources.

Ironically, what the Auditor General did not understand, or did not choose to impart, in his 1999 report on drinking water sources, was that the Ministry of Health had formerly been the lead agency with regard to this issue, and that its powers had been reduced, dissolved and, by then, generally forgotten - to the point that it was now being reintroduced for consideration. The issue, however, has a convoluted twist to it. Since the government now allows “activities” in drinking water sources, the current approach taken by government ministries, and by the Auditor General, is a continuation of the practice, despite all the concerns to the contrary:

The provincial government, therefore, has primary responsibility for drinking water sources and for protecting them from harmful activities. Failure to protect B.C. drinking water sources from these activities may lead to a continuing fall in the quality of the water.

Without treatment, this will lead to increased health costs to treat water-related illnesses, and it could also have negative economic impacts on our tourism industry.

For example, we estimate that the capital costs of installing filtration for all municipalities outside Victoria and Vancouver would run at about \$700 million. We believe, therefore, that the human and financial costs of not protecting our drinking water sources would be unacceptably high.

At the same time, we recognize that protecting drinking water by shutting down all economic and social activities that might harm it is unrealistic. Accordingly, the question we set out to answer with the audit was the following: is the province adequately protecting drinking water sources from the impacts of human-related activities such as logging, agriculture, and transportation? An adequate level of protection, in our opinion, would be one which achieves an appropriate balance between the benefits of safe drinking water and the benefits of other resource uses.

We believe that the government should designate a lead agency to represent the interests of drinking water users and suppliers within government and to coordinate government action on drinking water issues. Such a lead agency could support the integrated land use management process by contributing experience and technical knowledge and by translating recommendations from the process into government action. (Auditor General George Morfitt, transcript of the Select Standing Committee, July 6, 1999)

5. ASPECTS OF THE PROVINCIAL HEALTH OFFICER'S REPORT

The Provincial Health Officer's (PHO's) "eight key messages" (pages 2-3, and repeated on pages 100-102), the "priority recommendations" (pages 5-7), and the 32 "specific recommendations" under the "Blueprint for Action" (pages 103-113), provide very little information on source protection, and contains a rather poor summary of issues pertaining to the cumulative effects of land disturbance on watershed processes.

5(a) The Sunshine Coast Watershed Reserves

Under "key message" number 4, is a summary evaluation that, given the state of all the surface fed water sources, "it will always be difficult to maintain low turbidity (cloudiness), particularly during times of high rainfall or during the spring snowmelt". This captures the PHO's pathetic response to a question about turbidity events in drinking watersheds asked during a press conference at the time of the release of his report on November 19, 2001. He replied that it simply "rains" a lot here in BC. The PHO did not account for current conditions in far too many drinking watersheds, and the cumulative effects of roads and logging with regard to the increased levels of turbidity when it "rains".

Perhaps the PHO, and his many contributors, have never heard about the source of drinking water for the residents of the Sunshine Coast, to cite one of many dozens of examples throughout British Columbia. Sunshine Coast Regional District (SCRD) residents are well educated on the advanced degradation of their watersheds as a result of logging and road building, and what happens when it

“rains”, especially during “rain on snow” events.⁹ The October 1992 SCR D statement of claim and the affidavit of the SCR D’s planner in its Supreme Court Petition against the Ministry of Forests and forest company Interfor about logging in Chapman and Gray Creeks, is evidence of those concerns:

4. The Regional District holds a valid and lawful water licence issued pursuant to the laws of the Province of British Columbia by the Crown Provincial and a watershed reserve on Chapman and Gray Creeks, which are the only accessible and viable sources of domestic water in that geographic vicinity.
7. Logging and logging related activities have caused and continue to cause deterioration to the water quality in the said creeks and watershed areas.
9. In the breach of a duty of care owed by the Crown Provincial to the Regional District to act reasonably to prevent damage to the Regional District’s water system, the Crown Provincial has negligently permitted or allowed logging activities to take place to an extent that has damaged and continues to damage the Regional District’s water system, including:
 - (a) causing silt and other materials to build up within the water distribution pipes, requiring a greater amount of chlorination to be used; and
 - (b) causing the water quality to deteriorate.(Sunshine Coast Regional District and Her Majesty the Queen in Right of the Province of British Columbia and International Forest Products Limited, October 30, 1992.)

19. Water quality in the Regional District’s system has deteriorated over the years. In 1991 the local health officials advised that the Regional District’s water system was a “high risk” for future disease outbreaks and that disinfection is not considered to be a long alternative.... The Regional District was also advised recently by the Crown Provincial that a “boil water” order for the entire Sunshine Coast was a very real possibility. (Affidavit, Sheane Reid, Planner, Sunshine Coast Regional District, Sunshine Coast Regional District and Her Majesty the Queen in Right of the Province of British Columbia and International Forest Products Limited, November 26, 1992.)

5(b) Turbidity and the Greater Vancouver Watersheds

The way in which the PHO intertwines the subject of turbidity (pages 59-60) with the state of the Greater Vancouver watersheds (pages 80-81) is misleading. First of all, the PHO avoids the fact that historic, as well as recent, road building and logging in the Greater Vancouver watersheds have been responsible for the increase and persistence of most turbidity events. Detailed in a sidebar of the report, the PHO seems to mistakenly believe the Greater Vancouver watersheds have been “closed watersheds”, which he characterizes as “highly protected and carefully managed”. Nothing could be further from the truth. Closed, or restricted to the public, yes, but previously “open” to

⁹ This is reflected in the May 2, 1998, SCR D referendum, where 87.6% of voters were opposed to future logging and mining, and supported community control over their water supply sources. More recently, SCR D residents have produced a petition signed by over five thousand residents because the provincial government has refused to honour the previous referendum and the community’s request to have long term control over their watersheds.

loggers, clearcut logging, and the construction of about 300 kilometres of logging roads (1968-1994). Furthermore, the issue about logging and turbidity in the Greater Vancouver watersheds has been well documented and understood, particularly since the late 1980s, and was also of particular concern at that time to health professionals (see exhibits 66, 68, 71, 72, 73). This causes us to wonder if the PHO, or his advisors, may be purposely downplaying these issues in the report.¹⁰

By ignoring this well-publicized information, the PHO arrives at his questionable conclusion that “even a highly protected and carefully managed watershed [such as the Greater Vancouver watersheds] may need filtration to prevent some waterborne illness”, referring to a federal study on the relationship between turbidity and gastrointestinal illnesses in Greater Vancouver.

Evidence supporting a turbidity-gastroenteritis relationship was identified. Statistically significant turbidity-gastroenteritis relationships were found among multiple age groups, among all three administrative health care data sets, and among the three water source distribution populations. Furthermore, consistencies among the associations were observed between the two modeling approaches (Poisson and Binomial regression). In general, the probability of gastrointestinal disease (as assessed by relative rates and odds ratios) increased as turbidity increased, and among several health outcome groups, relative rates/odds ratios reached values of greater than two. The apparent turbidity-gastroenteritis relationships were strongest among 2-18 year olds and 18-65 year olds, and four prominent lag-times (the period from the turbidity event to the time of the measured health outcome) were observed: 3-6 days, 6-9 days, 12-16, and 21-29 days. These lag-times are consistent with the incubation periods of common waterborne bacterial and protozoan gastroenteritis-causing organisms, or multiples of these incubation periods, and support the findings of related endemic and epidemic waterborne disease research. Additional research focusing on pathogen-specific outcomes is needed to confirm the etiological nature of the observed associations. (Executive Summary, *Drinking water quality and health care utilization for gastrointestinal illness in Greater Vancouver*, October 30, 2000)¹¹

Beginning in the early 1980s, formal complaints by Vancouver City medical health officers about the continuing increase of turbidity in the City’s distribution system, and the complications that clinging silt forming inside the distribution pipes had on bacterial re-growth, resulted in the initiation and the establishment of a formal Greater Vancouver Water District committee in late 1984, which eventually came to the conclusion in 1987 that turbidity in the watersheds was a high priority concern (Appendix D).

10 There is large amount of information on this subject, largely written between 1987-1999, related mainly to public attention on this matter. The BC Tap Water Alliance website has a number of reports, which have focused on this issue, particularly *Silty Sources*, November 1999. One the most controversial instances was a November 1990 landslide that began in a clearcut - the Jamieson landslide - and created high turbidity levels in the Seymour Reservoir for almost three weeks. The Seymour supplies almost 40% of the drinking water capacity for Greater Vancouver.

11 The Health Canada report, *Drinking water quality and health care utilization for gastrointestinal illness in Greater Vancouver*, October 30, 2000, is available at the following website address: http://www.hc-sc.gc.ca/ehp/ehd/catalogue/bch_pubs/vancouver_dwq.htm.

The Greater Vancouver watersheds formerly were (1927-1967), and are now going to be (post-1999) “highly protected” and “carefully managed”, but the period of logging under the Greater Vancouver Water District’s quasi Tree Farm Licence agreement (1967-1999) with the Ministry of Forests cannot be said to represent “careful” management. Commissioner of the Greater Vancouver Water District (1926-1952), and former provincial Water Comptroller (1918-1925), E.A. Cleveland, proudly stated that “neither filtration nor sterilization” would be required due the Water District acquiring provincial legislation to “protect” the three watersheds from logging and mining in 1927 and 1930, respectively. It is only following the recent mismanagement of these watersheds that expensive filtration is being considered to eliminate increases in turbidity events.

5(c) The Courtenay/Comox Water Source

In another side bar (page 80), the PHO makes odd statements about concentrated “multiple land use in the Courtenay/Comox Water System”. Surrounding Comox Lake, which is the water supply for Courtenay and Comox, are private homes and campsites, along with private-land logging “with high activity and multiple use”. Private land logging does not have the same restrictions imposed for community watersheds under provincial regulations and Acts, evidenced by the abuse of community watershed lands on eastern Vancouver Island, and the many formal complaints and resolutions from interior B.C. regional districts.¹² In addition, a variety of motor boats frequently use the Lake, with attendant oil and gasoline slicks and spills. Heavy doses of chlorine are regularly used “to kill microbes and to ensure there is no bacterial re-growth in the distribution pipes.” On page 69, the PHO briefly, but poorly, summarizes scientific findings on the effects of chlorine to human health, particularly bladder cancers, as “by-products are created when chlorine reacts with dissolved organic material”, which are sometimes abundant in Comox Lake. As seen in exhibit #49, concerns about private land logging by the Comox-Strathcona Regional District were already being expressed in 1973, “lands primarily in the ownership of Crown Zellerbach and which are in the course of being actively logged.”

Finally, the PHO provides the following puzzling, albeit politically correct, conclusion for the Courtenay/Comox water source:

“This illustrates that safe drinking water can still be obtained from multi-use watersheds, as long as the source water has low turbidity and is adequately disinfected. The risk of fuel contamination continues to be a concern. The challenge for the future will continue to be balancing the interests of all users of the watershed while maintaining good quality water.”

5(d) The Community of Erickson and its Battle over Chlorination

On the same page, the PHO introduces discussion on chlorine (page 69), another side bar with the title “The Battle over Chlorination in Erickson”. The brief discussion over what occurred in Erickson is not only misleading, but is part of strange and convoluted political agenda, much of which was recently unfolded in a case history report by Will Koop, *The Arrow Creek Community*

¹² The new Liberal provincial government administration are about to relax legislative regulations about logging on Crown land forests, which will include those related to drinking watersheds. These changes are related to the present government’s close association with large business associations and their business philosophy, and a directive to deregulate environmental standards and regulations.

Watershed - Community Resistance to Logging and Mining in a Domestic Watershed - A Case History (see our website).

The community of Erickson, which obtains its drinking water from the Arrow Creek Category Two Community Watershed Reserve, the source of bottling water for Kokanee beer, has never treated its water since being granted a domestic water licence in 1929. In all of those years, the community has only experienced two or three recent and temporary problems (between 1985-1991) with one or two beavers migrating over to Arrow Creek, problems that were swiftly dealt with under the local community watershed protection plans. The only other water quality consideration comes during the spring freshet. With the melting snow pack, water levels rise, bringing along minor forms of turbidity, the few weeks of which Erickson switches over to Sullivan Creek, a nearby Watershed Reserve, for clear water. Other than that, the track record of Arrow Creek is excellent and high water quality. The principal reasons for this track record is that the area has been restricted to logging, development, and human trespass. For instance, the Arrow watershed was designated a Health District and a Game Reserve, which forbade public trespassing. The previous protections are about to be dissolved (related to road building and logging proposals) and has resulted in a debate within the community about the initiation of water treatment in the 1990s, and a current proposal to spend \$11 million on a filtration plant (see Appendix E).

Contrary to the PHO's statement that the Erickson Improvement District "has been refusing to disinfect its water because of opposition to the chlorination process", is the mysterious fact that the health officials refused to grant the Erickson Improvement District with options for alternative and effective treatment processes which did not rely upon chlorine, such as point-of-entry and ultraviolet disinfection. Ironically, the alternative treatment systems later proposed by the community of Erickson have since been found acceptable by regional health officials, processes that have been approved in other communities. Originally, when the Erickson Improvement District was about to implement treatment through MIOX in the mid 1990s, a process which creates chlorine at the source, and which was promoted by health officials,¹³ the Erickson Improvement District conducted research on the health effects of this process and concluded that it was inappropriate. Scientists, who ran studies on MIOX at the U.S. Environmental Protection Agency expressed concern over the health effects of the by-products associated with this process. The community did not resist treatment, which the PHO mistakenly presents, it simply didn't want chlorine treatment. In addition, medical health officers, such as Andrew Larder who now works in the Abbotsford area, were insisting that Arrow Creek water was regularly contaminated with harmful bacteria, which greatly puzzled and frustrated the Erickson Improvement District, particularly with its long track record on excellent water quality. But when asked by the community to be presented with the evidence of the harmful bacteria from test samples, it was apparently not forwarded to them by the Health Department.

¹³ "The MIOX treatment technology would be an acceptable choice for our purposes, provided the proposed unit is of sufficient size and treatment capacity to be able to handle EID's seasonal peak flows adequately." "In order to be in compliance with the section 63 Health Act, currently outstanding against the Erickson Improvement District you must, by Friday August 21, 1998, provide this Department with an engineering report which outlines a proposal for disinfection of EID's water. This proposal cannot be for point of use/point of entry technology as outlined in your previous correspondence with this Department." (The chief environmental health officer, environmental health protection programs, East Kootenay Community Health Services Society, Don Corrigan, on behalf of Andrew Larder, August 17, 1998, to Elvin Masuch, EID.)

5(e) Pristine Sources and Treatment

One of the arguments we have heard before, and presented again in the PHO's report, is that watersheds from confined mountainous sources that are in a protected or "pristine" state cannot be relied upon for high quality drinking water:

Good source protection can prevent some contaminants from entering the water supply, but even the most pristine watershed, in which no human activity occurs, can still harbour contaminants harmful to human health. (Page 80)

This argument is later supported in another side bar of the report (page 89), where the PHO refers to an "outbreak" in Revelstoke's water supply, the Greeley Creek Category 2 Community Watershed Reserve. Greeley Creek is described as a "pristine stream", "from a mountainside watershed that had almost no human activity", where the community of 7,500 residents "felt treatment was unnecessary".¹⁴ The PHO refers to a problem encountered in 1995, which he fails to detail, related to a water-borne infection stemming from wildlife feces with "one of *Giardia*, *Campylobacter*, *Cryptosporidium* or *Yersinia*."

According to a local credible source, about 15 years ago an engineer with the City of Revelstoke excavated a large hole for a settling pond just above the intake in an experiment to resolve temporary problems encountered during some years to settle out turbidity during the brief spring freshet. Ten years later a single adult beaver had apparently taken up residence in the settling pond, which became the source of the random *Giardia* cysts. The rapid nature of Greeley Creek water flows prevented the beaver from finding shelter elsewhere in the lower watershed, and therefore chose the lax water of the settling pond. The beaver was subsequently located, shot, and sent to the University of British Columbia for examination. The previous high water quality for Greeley Creek water supply was restored. During the beaver's occupation of the settling pond, the medical health officer decided not to issue a boil water advisory, and about 70 residents later became infected with *Giardia*.

Following this beaver event, one thing led to another, and a newly arrived engineer with the City of Revelstoke, through his involvement with a newly formed water advisory committee, proposed the construction of an expensive, elaborate filtration plant. As a result, the town built a \$7 million micro-filtration plant, not including annual operating costs, with half the money contributed from the provincial government and provincial taxpayers. In other words, one beaver, which was removed, and which had never previously been encountered in the Greeley Watershed, cost the City \$7 million, plus annual maintenance costs, which has become a considerable tax-burden to the residents.

The university later asked for other resident beavers in the greater Revelstoke area to be sent to them for comparative analysis. No trace of *Giardia* cysts was apparently discovered in those beavers, which is contrary to the notion that all beavers carry *Giardia* cysts. In fact, this discovery

¹⁴ Between 1979 and 1981, the Ministry of Forests hired students to cut a fire trail alongside Greeley Creek to the mountaintop. As a result, some animals, which were previously prevented from accessing the area due to thick standing alder, rerouted themselves from their old established trails up mountain ridges.

led some residents to speculate that someone may have placed the non-resident beaver in the settling pond, for whatever purposes. Furthermore, a now-retired medical health officer, Dr. Battersby, stated in 1993 during a public meeting that there were no previous occurrences of Giardia related outbreaks from drinking water in the regional area.

The appropriate questions to be asked here are:

- was the decision to build a filtration plant, given the excellent water quality history of the “pristine” Greeley Watershed Reserve, an unnecessary and costly overreaction to a very temporary problem?;
- is it logical to deduce that expensive filtration is “necessary” for source water protection throughout British Columbia, especially in areas that are fully protected?

6. SUMMARY AND RECOMMENDATION FOR A JUDICIAL REVIEW

There are two main questions we have tried to address:

- why the Provincial Health Officer seems to be an advocate for resource exploitation in drinking water sources, and
- why he presented some information that is both one-sided and apparently poorly researched.

In light of the evidence we have submitted in Appendix A of this report, along with a number of other recent submissions to the government (BC Tap Water Alliance website), the answers are probably attributable to the erosion of the Ministry of Health’s authority and administrative powers over the last twenty odd years resulting in a position of subservience within a highly political and sensitive arena dominated by “special interests”. Our government, by catering to those special interests, has degraded and continues to degrade hundreds of drinking water sources.

Within this context we encounter the wishy-washy, mixed-up message world of the PHO. In one breath we are told how important it is to keep “contaminants out of our water supply”, because it will require “vast amounts of expensive treatments to make it potable to the consumer at the other end” (page 80). Yet, in the other breath we are told that BC’s economy and “health” is dependent upon resource activities in drinking watersheds, whereby it is “neither feasible nor necessary to ban all logging in watersheds that feed drinking water supplies.” The PHO argues that logging should not “increase the run-off and turbidity in the water” (HELLO!), and that if “companies or groups degrade the source water quality, they must bear the responsibility and cost of returning the water to the original state” (page 81).¹⁵ Treatment technologies are being put forward as a “solution” in order to gain public support for resource extraction “activities” in community drinking water sources (Exhibits # 82-84).

¹⁵ How is this possible? Liability is an issue that is not new, and has been questioned by the public for decades, particularly throughout the 1980s, when it was internally reviewed and debated by government ministries.

What is important about this report, in contrast to the Provincial Health Officer's annual report, is the context it provides with regard to the history of the Ministry of Health, and the inappropriate decisions, which have been made by politicians and senior government administrators that eventuated in the removal of the powers of the Ministry of Health officers to protect the collective drinking water sources in British Columbia. This history also contains many examples that demonstrate that the public still holds the commonly accepted view that drinking water sources should be protected, as they once were.

It may be very difficult now to attempt to re-establish the powers, prominence, and authority formerly delegated to medical health officers within the Ministry of Health to "protect" drinking water sources. That is because the Ministry of Health has been assimilated into the pervasive provincial agenda that now permits the resource exploitation of drinking watersheds. Such a pursuit might also become quite futile under the present provincial government, which apparently is a strong advocate for resource exploitation, a proponent for the systematic removal of environmental regulations, and untiring advocate for industry self-regulation of its own "performance-based" activities on Crown lands.

The February 2002 recommendations from the government appointed Drinking Water Review Panel for a new drinking water authority, and powers for drinking water officers, may never see the light of day. For example, the proposed Drinking Water Protection Act, which has gone through two public processes and was previously identified in 1999 by the current Minister of Finance as an issue of great "urgency", has yet to be implemented by the current government since the provincial election a year ago.

One of the possible theories as to why the Act has not been passed is that it may simply be a stalling tactic. The sensitive nature of the Act, along with the recommendations presented to the present government by the Drinking Water Review Panel, may present controversial precedents that would challenge the Campbell government's wide sweeping alterations to provincial legislations, policies, and related downsizing. For instance, the proposed changes to the Environmental Assessment Act in early May, 2002, would remove a number of environmental parameters and provide the Minister in charge with "discretionary powers". The rumours of a potential government initiative to dedicate the remainder of Crown forest lands outside of Parks to either "working forest reserves" (an initiative by the previous government which was defeated through public outcries in March 2001), or privatization schemes pursued by the forest industry (and various other emerging interests) are grave matters that may threaten the future "protection" of drinking water sources.

In light of the complex, controversial and well-documented history associated with the degradation of drinking water sources in BC and the present government's political philosophy, this government must pursue meaningful public consultation and an in-depth review process about the future of our drinking water sources. In the event of the failure of government to take those steps, there is an urgent need for a judicial inquiry into these issues, a process that would include the subpoena powers necessary for completing the task.

APPENDIX A: EXHIBITS

INTRODUCTION

We have provided a long series of historical and recent quotations, mostly from government documents, as evidentiary exhibits that help to form the basis of our concerns about the Department of Health's policies on source protection. These exhibits constitute a much-needed, invaluable perspective on the general administrative history of the Health Department, with issues pertaining to the formation of its administrative directives to protect drinking water sources over the span of about one hundred years.

As such, the exhibits also unfold and touch upon the general crisis, the internal government forces at work that later undermined and interfered with the Department's focus from protection to submission, forces which were undoubtedly and ultimately responsible for the compromising and weak positions stated in the Provincial Health Officer's report about British Columbia community drinking water sources.

The administrative history of the Ministry of Health, as it pertains to the protection of drinking water sources, may be divided into four periods:

- (a) The first obvious period spans exhibits 1-30, under the administration of H.E. Young, Provincial Health Inspector, who passed away in 1939. Dr. Young was nicknamed "the chief" by his staff and friends in the Department of Health. Exhibit #30 provides details from the annual report on Dr. Young's significant contributions to the administration of the Ministry of Health.
- (b) The second period roughly extends from Dr. Bowering's position of Director of Public Health Engineering in the early 1940s to the early 1960s, the end of which is when the government began to implement its internal and controversial directives to permit multiple uses in drinking water sources.
- (c) The third period roughly extends from the mid-1960s to the late 1970s, where medical health officers and engineers attempted to address the government's irresponsible actions in drinking water sources.
- (d) The fourth period, from the 1980s to the present time, is the period of darkness, so to speak, when medical health officials were routinely sidelined from having influential input into matters pertaining to the protection of drinking water sources from land use activities. It is this last period that resulted in frustration and forms of chaos, the general demise of the former Ministry of Health's policies for protection throughout the Health regions and units across British Columbia, and the calls for reform by medical health officials in the early 1990s.

THE EXHIBITS

1. **Provincial Order-In-Council #504, August 23, 1906.**

“TO HIS HONOUR, THE LIEUTENANT-GOVERNOR IN COUNCIL: The undersigned has the honour to report that records of water from Seymour Creek, in the District of New Westminster, have been granted to the Municipalities of the City of Vancouver, North Vancouver, South Vancouver, Richmond and Burnaby, for municipal purposes, and with a view of conserving, as far as possible, the water of the said Creek, and keeping the same free from all impurities, it is desirable to establish a reserve covering a portion of the watershed of the said Creek, and to recommend that all the vacant Crown land in the New Westminster District lying north of the north boundary line of the Municipality of North Vancouver and embraced within the watershed of Seymour Creek, be reserved from pre-emption, sale or other disposition. Dated this 22nd day of August A.D. 1906. Approved this 22nd day of August A.D. 1906. Richard McBride, Presiding Member of the Executive Council.

2. **Federal Order-In-Council for a watershed reserve the Coquitlam watershed, P.C. 394, March 4, 1910, signed by Wilfred Laurier.**

“Whereas representations have been made to the Department of the Interior from time to time by the City of New Westminster and by the Vancouver Power Company in connection with a reservation of the lands comprising the catchment basin or drainage area of Coquitlam lake in the Railway Belt in the Province of British Columbia;

And Whereas the City of New Westminster obtains its water supply from Coquitlam Lake and has applied for a large area surrounding the lake to protect and preserve its water from contamination;

And Whereas an engineer of the Department of the Interior after a personal inspection, reports: “...The rainfall is very heavy over the Coquitlam lake district with a consequent heavy run-off. The water supply of the City of New Westminster and the increasing requirements of the Vancouver Power Company for water for power purposes renders necessary the conserving and protection of the forest cover on all land draining into Coquitlam lake in order that the run-off may be gradual and constant.”

Therefore His Excellency in Council, in view of the Report made by the Departmental Engineer, in view of the necessity for the protection of the water supply of the City of New Westminster, and in view of the necessity for conserving and regulating the run-off of the said watershed is pleased to Order, and it is hereby Ordered, that the land described above, excepting thereout the land sold and to be sold and leased to the Vancouver Power Company for the purposes of its development, shall be reserved from all settlement and occupation and the timber thereon shall be reserved from sale....”

3. **Official Federal Government Notice posted in 1910.**

“PUBLIC NOTICE is hereby given that the Government of Canada has reserved for special purposes the lands surrounding and in the neighbourhood of Coquitlam Lake as shown within the heavy lines on map below. Any unauthorized person in any manner occupying or taking possession of any portion of these lands, or cutting down or injuring any trees,

saplings, shrubs, or any underwood, or otherwise trespassing thereon, will be prosecuted with the utmost vigour of the law.”

4. **E. Dann, Acting Chief Engineer, Water Power Branch, Department of the Interior, regarding the protection of East Canoe Creek, water supply for Salmon Arm, July 17, 1915.**

“Reservation of Lands. It is needless for me to expatiate here upon the now well informed doctrines relating to the protection of municipal water supply. As I pointed out in my letter of June 7th with reference to this application, the only safe way to maintain a pure water supply is to protect from settlement every acre of the land within the catchment where the water supply is gathered.”

5. **F.T. Underhill, Medical Health Officer, City of Vancouver, to Dr. H.E. Young, Provincial Board of Health, June 19, 1916.**

“I have been instructed by the City Council to write to you with regard to the Watershed on Seymour Creek.... We ask that our Watershed might be protected by the Provincial Government, to prevent the removal of timber and also from any possible source of contamination by the erection of logging or shingle camps.... I cannot too strongly impress upon you the necessity for the whole of our Watershed being most carefully guarded by the Provincial Health Department - with which I know you will agree.”

6. **Arthur K. Mitchell, Consulting Engineer, to Dr. H.E. Young, Provincial Board of Health, August 16, 1916.**

“That nothing should be tolerated which would menace the Vancouver water supply goes without saying. It is, I believe, quite as evident that no logging operations on the watershed above the intake can ever be carried out without imminent danger of pollution.”

“Aside from the question of pollution during logging, it would materially detract from the value of Seymour Creek as a water supply to allow the watershed to be deforested.”

“Whatever means be adopted by the Provincial Board of Health to prohibit logging operations on the watershed, it is manifest that sooner or later the City will be confronted by the necessity of purchasing all alienated lands and timber.”

“It should be borne in mind that any improvement of the Seymour Creek watershed by purchase or otherwise should properly be shared by the other Municipalities which use the water. A joint Board to control the water supply of the Burrard Peninsula and North Vancouver is of course the logical method of handling the subject, but such a development has yet to be initiated.”

7. Water Rights Branch investigation final report of the Capilano and Seymour watersheds, August 1916.

“Whatever means be adopted by the Provincial Board of Health to prohibit any logging operations on the watershed, it is manifest that sooner or later the City will be confronted by the necessity of purchasing all alienated land and timber.”

“CONCLUSION: From a standpoint of public health it is essential that no logging be allowed on the watersheds of Seymour and Capilano Creeks.”

8. F.T. Underhill, Vancouver’s chief medical health officer, letter to H.E. Young, Provincial Board of Health, October, 1916.

“I know we both agree as to the seriousness of the situation that is likely to develop in all our watersheds, and how very necessary it is for us to preserve our present pure water supply for the use of the public.”

9. H.E. Young, Secretary, Provincial Board of Health, February 27, 1917.

“MEMO FOR THE HONOURABLE, THE PROVINCIAL SECRETARY. The Water Rights Branch of the Government made an exhaustive survey and cruise of the district affected and the Health Department took the matter up on receipt of letters from the Health Department of Vancouver City and the report of the Engineer of the Provincial Health Department was that from a standpoint of public health no logging be allowed on the watersheds of Seymour and Capilano Creeks.”

10. Vancouver Daily Sun article, “Hands off the Capilano”, April 20, 1917.

“We all no doubt recognise the value of the lumber industry in this province, and we also know that this comparatively speaking small timber area is only “a drop in the bucket” in this industry. Another thing that we should all know, and that is: - That the conservation and purity of this water supply is of vastly greater importance to the inhabitants of the district, than the dollars which the merchantable timber from this area would represent to the community.”

11. H.M. Burwell, professional consulting engineer, to the Mayor and Council, City of Vancouver, September 17, 1917. Newspaper articles: April 17; April 20; April 25; May 17; September 15, 1917.

“RE VANCOUVER WATER SUPPLY. The following articles written upon the watershed situation of Capilano and the water supply of “Greater Vancouver” which appeared in the “Vancouver Daily Sun” give almost a complete review of the whole situation. The disastrous effects which will surely follow logging operations in the Capilano Watershed cannot be overlooked, and I would suggest that typewritten copies of these articles be made for the use of the Provincial Government in their consideration of this vexed question.”

12. F.T. Underhill, Medical Health Officer, Vancouver Health Department, to the Secretary, Provincial Board of Health, December 13, 1917.

“You “understand aright” with regard to our consultation in Victoria that the Provincial Board of Health should assume all responsibility. In making these or other regulations workable, it is essential that there should be one supreme authority.”

13. F.T. Underhill, Medical Health Officer, Vancouver Health Department, to the Secretary, Provincial Board of Health, December 28, 1917.

“I shall be glad to know when the Watershed Regulations have been accepted by the Government and also when they are likely put in force, in order that I may reassure the public on the question of the protection of our water supply.”

14. H.E. Young, Secretary of the Provincial Board of Health, January 2, 1918.

“MEMO. FOR THE DEPUTY ATTORNEY-GENERAL. The Department of Health intends to impose certain sanitary regulations governing Watersheds and more especially those of the Capilano and Seymour Watersheds of the City of Vancouver, and would be pleased to have your Department look over these. The matter is an important one and logging operations are being begun on these watersheds and the City is anxious to have every precaution taken to protect the purity of their water supply. These regulations are issued under the governing power of the Board of Health, see Section 7, Subsection 16, Paragraph 98, R.S. 1911.”

15. F.L. Fellows, Vancouver City Engineer, to Dr. H.E. Young, Provincial Board of Health, August 21, 1918.

“Since the receipt of your communication, I have absolutely refused, and have given directions, that we are to discourage and to refuse all permits to everybody to enter the water shed above the Intake, and that they must make application for same to the Provincial Board of Health for permission, as in accordance with the regulations, all persons must obtain permission from the Provincial Board of Health, and the said certificate must be presented to the Board’s Inspector on the works. I take it, therefore, as stated previously, you will appoint an Inspector for Seymour as well as Capilano to intercept the many people who, from time to time during the Summer season, desire to visit the Intakes and who also go above the Intakes on fishing expeditions and prospecting.”

16. Dr. H.E. Young, Provincial Officer of Health, to F.L. Fellows, Vancouver City Engineer, September 18, 1918.

“In further reference to my letter of today, what would you think of the suggestion of making the Watershed of Capilano and Seymour a Game and Fish Reserve. This would give us the power to prevent fishing and hunting parties going on the reserve and would greatly strengthen the hands of the City Officials in their efforts to enforce the regulations.”

17. **Dr. H.E. Young, Provincial Officer of Health, to A.B. Foreman, Public Works Engineer, Victoria, September 18, 1918.**

“The City of Vancouver has insisted upon health regulations being carried out on their watersheds and you, of course, must appreciate the seriousness of the situation when the purity of the water supply of the largest city in British Columbia is involved.”

18. **F.L. Fellows, Vancouver City Engineer, to Dr. H.E. Young, Provincial Officer of Health, September 24, 1918.**

“In reply to your letter with reference to creating a Game and Fish Reserve, for the further protection of the watersheds of Capilano and Seymour Creek, I heartily concur in your suggestion. I think it would be a step in the right direction, and would greatly assist both Departments in maintaining and protecting our water supply.... I suggest that a bill be brought down at the next sitting of the House, creating such a reserve.”

19. **Dr. H.E. Young, Provincial Officer of Health, January 14, 1919.**

“MEMO FOR THE HONOURABLE THE ATTORNEY-GENERAL. As the Provincial Board of Health is directly responsible for the preservation of the water to be used for the City of Vancouver and the City of North Vancouver, and as we find great difficulty in preventing people from going on these grounds for shooting purposes, the Department would respectfully ask that the area of the watersheds, as outlined in the accompanying maps, be created game reserves. It is our intention to ask the Dominion Authorities to pass an Order-In-Council preventing fishing in these waters and are assured by Mr. Babcock, Deputy Commissioner of Fisheries, that this will be done.”

20. **E.A. Cleveland, provincial Comptroller of Water Rights and Consulting Engineer of the Provincial Lands Department, *The Question of Joint Control of Water Supply to the Cities and Municipalities on Burrard Inlet*. Submitted to the provincial Minister of Lands, T.D. Pattullo, October, 1922, pages 92-93.**

“That the alienated timber in the watershed should be completely controlled by those responsible for the supply of water to the Cities and Districts concerned is beyond question.”
“The pre-eminent object to be attained is the maintenance of an adequate supply of pure (i.e. unpolluted) water - all other considerations are subordinate: and to that end the watershed should be preserved inviolate.”

21. **Frank DeGray, Chief Sanitary Inspector, Annual Provincial Board of Health Report, provincial Sessional Papers, 1922.**

“WATERSHED-PROTECTION. This branch of our work is one of vital importance, especially considering that nearly one-half of our population is dependent upon our vigilance on the Burrard Inlet watershed. The writer makes frequent visits of inspection to Capilano, Lynn Valley, and Seymour Creek watersheds, and is constantly in telephonic touch for any untoward emergency or required drastic action. The co-operation of this Department with

the Health Departments of the cities affected ensures the people's drinking-water free of contamination other than that of flood or freshet."

22. Frank DeGray, Chief Sanitary Inspector, Annual Provincial Board of Health Report, provincial Sessional Papers, 1923.

"WATERSHEDS. The sanitary protection for our watersheds, provided for some years ago by special health regulations, has proved its worth. The regulations are being observed and the drinking-water for our largest city and its environs protected against pollution by logging operations and others. The regulations are elastic and amendments made when necessary through changing conditions. It is gratifying to note that no water-borne disease has been recorded in the district served by the water from the health area under protection. Survey-inspection for water-supply extensions has been made for the City of Vernon and the City of Duncan."

23. Greater Vancouver Water District Act, 1924.

"It is considered an offence ... To convey or cast, cause or throw, or put filth, dirt or any other deleterious thing in any river from which the Greater Vancouver Water supply is obtained."

24. Frank DeGray, Chief Sanitary Inspector, Annual Provincial Board of Health Report, provincial Sessional Papers, 1924.

"WATERSHEDS. The sanitary protection of watersheds supplying more than half of the total population of British Columbia has thus far been accomplished through the drastic regulations formulated by your Board, and enforced by resident Inspectors under the supervision of the writer and the valuable and active co-operation of Dr. F.T. Underhill, F.R.C.S., D.P.H., F.R.S.I., M.O.H. for the City of Vancouver. Every one acknowledges that the power of the Empire is in "the silent navy," but few people are aware that locally our future is in the sustained purity of the water-supplies, silently though zealously guarded by our Health Officers.

During the year just closing, we have been called upon to take protective action regarding water sources at Williams Lake, Gambier Island, Valdes Island, and several summer resorts."

25. Frank DeGray, Chief Sanitary Inspector, Annual Provincial Board of Health Report, provincial Sessional Papers, 1928-29.

"SANITATION. Under the general head of sanitation, we are concerned with the larger problems in regard to water-supplies, sewerage, transportation, public buildings, and more especially with the logging and mining camps and the inspection of fruit and fish canneries. The work in regard to the conservation of water-supplies in our two principal cities is being carried out in a remarkable manner. The conservation of the water-supply is being provided for, and the present plans, which have been given effect to, will provide water-supplies under any climatic, conditions far in excess of the needs of the population to be served.

These water-supplies are under constant supervision. No one is allowed on the watersheds, which have been reserved from all other uses, unless they are subjected to tests to show the absence of the possibility of contamination.

Nature has been very kind to British Columbia in this respect, and we have, fortunately, in charge of these departments men who have realized their obligations and have proved themselves to be peculiarly situated, both from temperament and knowledge, to handle this very important question.

We have not, in British Columbia, been obliged to install a chlorinating plant. The majority of the supplies are obtained from mountain streams which are tapped at points above possible contamination, and the future in this respect is assured.

WATERSHEDS. The "Sanitary Regulations Governing Watersheds" are in force for the protection of municipal water-supply systems, the principal areas being on the north shore of Burrard Inlet; locally known as Capilano, Lynn Creek, and Seymour Creek. These watersheds supply pure water to more than one-half of our population. Each area is protected by full-time resident sanitary officers, supplemented by unannounced visits by the local Medical Health Officers and the writer. A weekly analysis of the water is made and the absence of any water-borne disease is evidence that the regulations are being faithfully observed.

It is a remarkable fact that during the past two years the Greater Vancouver Water Board has harnessed lakes, cleaned out lake-beds, bored tunnels, built dams, intake-basins, screen-chambers, employees' residences, and roads in the Seymour watershed, employing sometimes 300 or 400 men with teams and general contracting machinery; but so insistent have those responsible been in their demands for sanitary precautions from their employees that at no time has the purity of the water been affected, and thus British Columbia's greatest city is assured of ample and pure water, an asset which cannot be measured in terms of cash. The general public now recognizes the value of water-protection. Your Inspector has traveled thousands of miles in recent years to investigate alleged pollution of water sources."

26. H.E. Young, Provincial Health Officer, Annual Provincial Board of Health Report, provincial Sessional Papers, 1930.

"Our whole effort has been directed along the lines of the awakening, in the public conscience, of a sense of their responsibility, and that the results from the enforcement of the health laws can only be brought about by co-operation on the part of the public.

Governments may make laws, but they can only keep a step or two ahead of what the public desires, and to get at the desires of the public necessitates a long-continued propaganda in an effort to educate them to their responsibilities. I am pleased to say that during the past few years there has been a remarkable awakening of the public conscience in this matter. They are beginning to realize what the individual as regards his relation to the community means, and as regards the efforts he must make individually in the prevention of disease by attention to personal hygiene, the education of himself and others in the idea of the prevention of disease as distinct from its cause. The inculcation of this idea has been our aim, and our efforts have been to create a broader outlook by the health-work as carried on by the Government.

The establishment of a full-time Medical Health Officer results in his being surrounded by a useful organization, and the influence of a competent man on the job, just as in any other

business, is rapidly reflected in better water-supplies, increased sewerage facilities, better protection of milk and food, with resulting lower mortality rates.”

27. Frank DeGray, Chief Sanitary Inspector, Annual Provincial Board of Health Report, provincial Sessional Papers, 1930-31.

“WATERSHEDS. Watershed areas supplying water to our cities are now declared health areas under special rigid sanitary regulations, enforced by this Department with gratifying results. The cities thus protected have no water-borne disease traceable to their water-supply. House-boats have been prohibited from Cowichan Lake as a protective measure for the City of Duncan, which derives its supply directly from the lake.”

28. Correspondence from E.A. Cleveland, Water Commissioner, Greater Vancouver Water District, November 30, 1936 (Cleveland was the former provincial Comptroller of Water Rights, 1917-1925).

“The Coquitlam watershed was placed under a reserve on March 4, 1910. This reserve is for the conservation and protection of the purity of the water supply of the City of New Westminster.

The District’s policy is to preserve all the timber both commercially loggable and otherwise in the watersheds for the conservation of the run-off and to preserve the area from human occupation either temporary or permanent. By an Act of the Legislature passed on the 24th day of March, 1930, the watershed area “is reserved from location and acquisition” under the “Mineral Act” and the “Placer Mining Act”.

I would not attempt to set a value on the watershed lands in the Coquitlam, Seymour, and Capilano watersheds as they constitute an almost invaluable asset of the District permitting the complete and entire control of the purity of the water supply for all time so that neither now nor in the future will filtration or sterilization of the water be required.

The District is as completely protected as the laws of the Province will permit in the enjoyment of what amounts to exclusive rights to all the water.”

29. H.E. Young, Provincial Health Officer, Annual Provincial Board of Health Report, provincial Sessional Papers, 1937.

“The total number of bacteriological tests on water samples increased from 1,043 in 1936 to 2,261 in 1937, or by 117 per cent. Over twice as many tests were done, as compared with the previous year, on water samples taken routinely from the City of Vancouver supply. Many tests have also been done on behalf of the Federal Government, at no charge to it, upon water samples sent in by their Sanitary Engineering staff under the regulations applying to common-carrier services - trains, ships, and aeroplanes. Further, a large number of water samples continue to be sent in for routine bacteriological tests from logging camps and from private individuals. In almost every instance of this type, a bacteriological report upon a single sample is taken as the sole index of potability. While the Laboratories have taken the precaution of emphasizing on their report forms that the bacteriological findings should be considered only in conjunction with a sanitary survey of the water-supply in question, such a sanitary survey is very rarely made. The main reason for this deficiency is probably the fact

that there is no Sanitary Engineering Division of the Provincial Board of Health. I would respectfully urge the desirability of establishing, without delay, at least a nucleus for such a Division in British Columbia. It is perhaps not irrelevant to point out that the Sanitary Engineering Branch of the Ontario Department of Health has a larger senior staff than any other Branch of the Department. In this Province, the absence of any authority to whom the Laboratories can refer inquiries regarding the suitability of a water-supply imposes additional responsibilities upon us, of a type which we should not be called upon to carry. For a single negative bacteriological report on a water-supply, though obviously often a fallacious index of potability, is yet commonly accepted as a reliable index by the laity. The importance of the constant vigil exercised by the Laboratories on behalf of the City of Vancouver is nowhere better illustrated than by our regular bacteriological examinations of the city's water-supply. The results of these examinations, carried out over a period of years, suggest some deterioration in the quality - from the standpoint of safety - of the city's water-supply.

The expanding population of Greater Vancouver, and the growing popularity of hiking in summer and skiing in winter, on the North Shore mountains, makes more difficult every year the prevention of trespassing in the watershed area. Moreover it should be pointed out that a negative Widal test, which the by-law requires of every prospective visitor to this area, is not an adequate safeguard."

"WATER-SUPPLIES. North Vancouver City and District receives its water-supply from seven sources, all located on a guarded watershed. The fact that the shed is not exposed to contamination by disease of human origin obviates the necessity of treatment by filtration and chlorination, thereby effecting a considerable saving to taxpayers. There have been no epidemics of water-borne disease in the history of the Health Unit; culture of water samples shows freedom of those germs which cause human disease."

30. Annual Provincial Board of Health Report, provincial Sessional Papers, 1939.

"THE DEATH OF DR. HENRY ESSON YOUNG. The passing of Dr. Henry Esson Young, late Provincial Health Officer, on October 24th, 1939, brought to a close an active life which, for over forty years, had been spent in service to the people of British Columbia."

"On June 1st, 1916, Dr. Young became Provincial Health Officer and commenced the reorganization of public-health service in British Columbia, one of his first accomplishments being the annual medical examination of every school child. He was the leader in the establishment of the public-health nursing services and health units. He built slowly but carefully, adding a service here and a service there as funds permitted. During his regime the foundations were laid for the creation of the Divisions of the Provincial Board of Health: Laboratories, Tuberculosis Control, Venereal Disease Control, and Public Health Engineering. It was his vision that, in 1911, brought about the transfer of the registration of births, deaths, and marriages from the Attorney-General's Department to the Provincial Board of Health, where he guided its growth into the Division of Vital Statistics in 1939, for, as Provincial Health Officer, he was ex-officio Registrar of Births, Deaths, and Marriages. The administration and problems in this work seemed to be his hobby and relaxation."

"The positions to which he was elected in the leading professional organizations demonstrated the esteem in which he was held by his colleagues. In 1919-20 he was President of the Canadian Public Health Association; in 1936 he was President of the State

and Provincial Health Authorities of North America; and in 1937 he was President of the Western Branch of the American Public Health Association. He was a member of the Advisory Council to the Federal Minister of Health, Vice-President of the Canadian Tuberculosis Association; Vice-President of the National Social Hygiene Association; Honorary Vice-president of the St. John Ambulance Association; a member of the National Committee for Mental Hygiene; a member of the American Child Hygiene Association; a member of the Advisory Council of Connaught Laboratories, University of Toronto; Fellow of the Royal Society of Tropical Medicine and Hygiene; Fellow of the Academy of Science of British Columbia; Vice-president and Governor of the Canadian Welfare Council and also Chairman of the Section on Maternal and Child Hygiene; Director of the Royal Alexandra Solarium for Crippled Children; and a member of the Council of the Canadian Medical Association.

Dr. Young had a brilliant scholastic career and, in 1925, the University of British Columbia conferred upon him the honorary degree of Doctor of Laws. He had received similar honorary degrees from both Toronto University and McGill University.

Admired and respected by his colleagues, Dr. Young brought to his position a kindness and rare wealth of understanding. Many will recall that remarkable gift of silence so often to be found in truly great men; that clear vision of the future; that courage and tenacity of the sturdy pioneer; and that unswerving loyalty and innate modesty so characteristic of this leader of men.

During the years Dr. Young gave himself entirely to the development of his plans for his beloved British Columbia, and in so doing forged for himself a lasting monument as a health authority of international repute, a scientist, a true patriot, and a friend of the people.

31. R. Bowering, Public Health Engineer and Chief Sanitary Inspector, Report of the Public Health Engineering Division, Annual Provincial Board of Health Report, provincial Sessional Papers, 1941.

“WATER-SUPPLIES. In British Columbia, due to the nature of the terrain and the climatic conditions, the problem of obtaining a good water-supply from most communities is relatively easy. Centres of population are located close to mountainous watersheds, making possible in most cases a gravity supply. In addition, most of these watersheds are uninhabited, making the chances of contamination of the public water-supply relatively slight. Some of our watersheds have been created health districts for watershed purposes. These are guarded in order to keep the public off the watersheds.

During the past year a good deal of information regarding our water-supplies was studied by the Division. A number of sanitary surveys of watersheds were made. In addition, a number of waterworks operators sent in samples for bacteriological examination regularly. These surveys, together with the bacteriological examinations, showed that many of our water-supplies,

some of which were at one time free of contamination, are now subject to intermittent contamination, and are, therefore, of doubtful sanitary quality. In some instances, chlorination was recommended to the proper authorities. As a result, chlorinating equipment was installed at Ashcroft, Kamloops, and Duncan during the past year. With the advent of war on the Pacific late in the year, a circular letter was addressed to all the owners of water

systems in the Province, giving them a summary of practices that have proved helpful in Britain. In addition, a portable gas chlorinator was purchased by the Division to be used in war emergency work.

During the coming year, the policy of making sanitary surveys will be continued, and the use of chlorine will be stressed as a safeguard of water-supplies against both the extra chances of pollution occasioned by the movement of military personnel over watersheds and the chances of sabotage by enemy agents.

Equipment and supplies for the treatment of water have a high priority rating, since it is realized by the Federal Government that no community can afford to have a water-borne epidemic at a time when the need for a high standard of health is essential in our war effort.”

32. R. Bowering, Public Health Engineer and Chief Sanitary Inspector, Report of the Public Health Engineering Division, Annual Provincial Board of Health Report, provincial Sessional Papers, 1942.

“During the coming year sanitary surveys of additional watersheds will be made. It is hoped that soon all the watersheds from which public water-supplies are taken will be covered.”

33. R. Bowering, Public Health Engineer and Chief Sanitary Inspector, Report of the Public Health Engineering Division, Annual Provincial Board of Health Report, provincial Sessional Papers, 1943.

“WATER-SUPPLIES. It is estimated that over 75 per cent of the people of the Province receive water from public water-supply systems, of which there are over 150. Most of these are publicly owned. Due to the topography and climate, the majority of the water-supplies are drawn by gravity from mountain streams or lakes. There are very few public water-supplies in the Province drawn from wells or springs.”

34. Division of Public Health Engineering, Provincial Ministry of Health, Annual Report, 1953.

“There are very few water-treatment plants in British Columbia. This is because in British Columbia most sources of water provide satisfactory water for domestic consumption without expensive treatment.

It is estimated that 80 to 85 percent of the population of British Columbia receives water through public water-supply systems. The fact that there has been no evidence of water-borne illnesses in British Columbia for the past several years speaks well for the care that is being taken in British Columbia by water authorities to provide for a safe water for the citizens.”

35. Division of Public Health Engineering, Provincial Ministry of Health, Annual Report, 1955.

“It is gratifying to note that, in keeping with the normal trend, there have been no known water-borne epidemics resulting from the use of public water-supplies in British Columbia this year. The fact that there has been no evidence of water-borne illness in our Province

over the past several years indicates, to a certain extent, the care being taken by the various water authorities to provide a safe water for the citizens of British Columbia....There is also need for revision of our laws regarding watershed protection. The Division is always ready to assist any water-supply authority with respect to water-supply problems that may have an effect on the public health.”

36. Division of Public Health Engineering, Provincial Ministry of Health, Annual Report, 1960.

“Water-supply is one of the traditional fields of responsibility of public health engineers. Generally in British Columbia the water-supply sources are good, and expensive treatment of the water is not usually required. Most of the large water systems in British Columbia obtain water from relatively uninhabited mountain watersheds. Water from this type of terrain usually does not require sedimentation or filtration.”

37. C.B. Dunham, Vice-President, Forest Operations, Celgar Limited, presentation to the 14th B.C. Natural Resources Conference, Kelowna, September 5-7, 1962.

“Competition between those who would protect and harvest the timber from forest land, and those who would clear the forest or prohibit harvesting has a long history....City watersheds, as well as national, provincial and civic parks, generally prohibit the harvesting of trees. Where multiple use is possible it is generally logical for harvesting to be combined with other uses. Where forest growth must be removed it should be utilized where possible.”

38. W. Bailey, P.Eng., Public Health Engineering, to W.G. Hughes, Management Director, Ministry of Forests, August 30, 1966.

“As you realise our prime concern is to protect, as far as possible, quality and continuity of domestic water supplies. Since other departments, notably Forestry and Mines regulate operations that will at times pose a threat to the continuance of satisfactory domestic water supplies we feel that co-operative controls of these works is necessary.”

39. Recommended British Columbia Health Branch Water Quality Standards, Department of Health Services and Hospital Insurance, 1968.

“**PURPOSE.** The British Columbia Health Branch has adopted recommended water quality standards contained in the comments and tables which follow.

These recommended standards will be used as a basis for decisions that are required respecting water uses and waste water treatment.

POLICY. The policy of the Health Branch regarding all surface, ground and salt waters is to encourage and promote programmes which will provide waters of the best possible condition consistent with the protection of public health in the Province. The aims of this policy will be achieved by:

1. Conserving in their best condition consistent with the requirements for the protection of public health those waters that have not yet been adversely affected;
2. Restoring to a condition which is necessary for the protection of public health those waters which are presently below the desired quality.”

40. **W. Hamilton, Public Health Engineering Branch, Ministry of Health, to the Secretary of the Naramata Irrigation District, September 22, 1969.**

“On September 10, 1969, Mr. Alcock of your Irrigation District, with Mr. Shannon of the South Okanagan Health Unit, and myself, discussed the Naramata Irrigation District facilities with particular reference to the problem of cattle wandering around in your watershed resulting in contamination and possibly damage within your reservoirs.... It has come to our attention that the Department of Lands will establish watershed reserves where it can be shown that these areas are needed and in the best interest of all parties concerned to do so. The first step necessary to initiate this protection for your watershed ... will be to write to Mr. W.R. Redel, Director of Lands, Parliament Buildings.”

41. **Resolution #48, 1971, tabled by the town of Summerland in the Okanagan, requested that the government coordinate a single agency to watch over community water supplies.**

“WHEREAS municipalities, water improvement districts, irrigation districts and similar authorities are charged with the provision of consistent and safe supply of water for human, agricultural and industrial use;
AND WHEREAS such provision requires control of watershed systems to yield constant supply in both quantity and quality;
AND WHEREAS the increasing and varied industrial, agricultural, commercial and recreational uses being conducted in watersheds pose a threat to the prime purpose of watershed management;
THEREFORE BE IT RESOLVED that for the purposes of ensuring that administration and management of resources within watersheds are coordinated between government agencies consistent with provision of water for human use, the Government of B.C. be urged to establish, by legislation, an authority or board which shall have the single responsibility of coordinating the administration of and management of land uses and natural product utilization within each watershed.”

42. **Health and Our Environment, Ministry of Health Annual Report, 1971.**

“It is noted that water quality for many municipal water systems is deteriorating with respect to aesthetic features such as colour and turbidity. Unless the water purveyor is prepared to buy the land which effectively controls access to his watershed or gain this control in some other way, water treatment plants will be necessary in order for these municipalities to meet the high standards for acceptable drinking water supplies.”

43. **J.S. Allin, Coordinator, Lands, Forests and Water Resources, to J.D. Watts, Chairman, Task Force on the Multiple Use of Watersheds of Community Water Supplies, July 20, 1972.**

“The Grazing Division, B.C. Forest Service, has the prime responsibility for administration of Grazing on Crown Land and the management of such. However, a more final result of any controls imposed to limit access to water by livestock would be the effect on the agriculture industry necessitating drastic changes in the method of livestock production,

particularly beef. It should also be noted that in spite of frequently quoted high coli counts as an indicator of water quality, there is no evidence to prove that the presence of livestock in a watershed area or watercourse is responsible for the introduction of pathogenic micro flora generally believed to be harmful to man.”

44. Ruth D. Shannon, Naramata, to Hon. Bob Williams, Minister of Lands, Forests, and Water Resources, November 30, 1972.

“I am very concerned over the irreparable damage which is being done to our environment by logging companies which denude the hills by logging everything off and then burning everything that is left.” “Of particular interest to us is the absolute destruction of our water sheds in this area caused by logging. The Penticton water shed is a prime example. Creeks have been almost destroyed by logging practices and are left muddy morasses. Every spring and after every rain the miles and miles of water lines in the Penticton water system as well as the reservoirs are clogged with mud. The drinking water turns to mud, sprinklers plug up and the mountain water system must be shut off and cleaned. Is it fair that Northwood should be allowed to destroy water sheds, the 20,000 people below them in the valley? Unfortunately unless something is done soon it will be too late! We live in Naramata now and the water supply is better however the logging carried out by Northwood last summer above us in Naramata Creek area is virtually a desert and muddy water races down the mountain in the spring putting so much silt in the system we can’t drink the water.”

45. Health and Our Environment, Ministry of Health Annual Report, 1972.

“It was apparent from numerous discussions with the Medical Health Officers throughout the Province that they shared the concern of this Division regarding the need for “preventive” measures to be taken in our struggle with environmental control and management.... While regulations may be unpopular with many people, they do assist to preserve the environment. Water quality for municipal water supplies continues to be a concern to this Division. While treatment with chlorination is often sufficient to make the water potable, many supplies are being affected by various activities in the watershed which contribute to the turbidity, colour, and other aesthetic features. It is hoped that the “Task Force on Multiple Use of Watersheds of Community Water Supplies,” set up by the Ministers’ Environment and Land Use Committee, will be effective in its efforts to maintain good aesthetic water qualities for many of the British Columbia communities.”

46. Hon. Robert Williams, Minister of Lands, Forests, and Water Resources, to F.W. Spence, Municipal Clerk, District of Salmon Arm, January, 1973.

“Thank you for your letter of January 9 enclosing a copy of the resolution requesting that Canoe Creek be designated a Water Conservation Reserve.

As you know, I am very concerned with the problem of maintaining the quality and quantity of domestic water supplies. There are a number of studies now underway investigating various aspects of the water problem which will give us additional knowledge on what must be done in specific cases but I cannot agree that the solution is to lock up individual drainages for a single purpose unless there is an absolute necessity that such must be done.”

47. **Newspaper article, Timber sale near Vernon opposed as threat to rural valley's water, June 2, 1973.**

“Vernon - About 60 residents of a rural valley near here have appealed to Resources Minister Bob Williams to stop a logging project that they fear could endanger their water supply. Their concern involves a proposed timber sale on 600 acres of mountain slope overlooking their homes at Cherryville some 30 miles south-east of Vernon.”

48. **Hon. David D. Stupich, Minister of Agriculture, to Hon. Dennis Cocke, Minister of Health Services and Hospital Insurance, June 5, 1973.**

“I was very distressed by your reply of May 22 concerning removal of cattle from the Naramata watershed. My major concern is that your Department appears to be taking unilateral action in connection with the multiple use concept as it relates to the Naramata watershed.”

49. **J.E. Hiebert, Secretary-Treasurer, Regional District of Comox-Strathcona, to I.T. Cameron, Chief Forester, June 13, 1973.**

“Re: Watershed Protection. One of the responsibilities of the Regional District is that of bulk water supply to the communities of Courtenay and Comox. The larger part of the watersheds which generate our supply are made up of privately held lands primarily in the ownership of Crown Zellerbach and which are in course of being actively logged.”

50. **Wm. Bailey, Task Force Committee member, Health Branch, Victoria, to J.D. Watts, Chairman, Task Force on Multiple Use of Watersheds of Community Water Supplies, November 19, 1973.**

“The idea of wilderness areas is becoming more popular these days and I would like to see them tied in to watershed use for the protection of domestic water supplies.”

51. **Eugene L. Lee, Regional Planning Director, Regional District of East Kootenay, to B. Marr, Chief, Water Investigations Branch, Water Resources Service, November 22, 1973.**

“This Planning Department is presently preparing a Zoning By-Law for the City of Kimberley covering that area recently annexed into the City. Upon study, it is discovered that the Marysville water supply watershed is located in the area of concern as well as a large number of mineral claims presently held by the Cominco Company. It is found that the preservation of the water quality in this watershed may be in conflict with the Cominco Company's plans for mining explorations and potential mining activities.”

52. ***Health Security for British Columbians. The Report of Richard G. Foulkes, to the Minister of Health, Dennis G. Cocke, December, 1973, page IV-C-7-1.***

“1. Problem. There is no effective programme in B.C. for environmental health. There are at present eight different departments of Government concerned with the problem with definite conflicts arising between various departments such as the Pollution Control Branch of the Department of Lands, Forests and Water Resources and the Health Branch of the Department of Health.”

53. **Resolution passed at the 1975 annual meeting of the Associated Boards of Health.**

“#15. RE: PROTECTION OF WATERSHEDS. WHEREAS many domestic waterworks systems depend upon surface supplies as a source of water, AND WHEREAS many conflicting activities prevail within the watersheds of these surface water supplies which may degrade the water quality and/damage the constructed works e.g. logging, cattle grazing, recreation, mining, residential development, etc., AND WHEREAS the Lands Service of the Department of Lands, Forests and Water Resources presently issue permits authorizing various activities within watersheds, THEREFORE BE IT RESOLVED that the Associated Boards of Health urge the provincial government to enact, or amend, legislation which:

- (a) would authorize the Medical Health Officer to restrict or prohibit any activity within a watershed which he feels may have a deleterious effect on the domestic water supply and,
- (b) would require the Lands Service to seek the concurrence of the Medical Health Officer before issuing a permit without authorizing any activity within a watershed.”

54. **Memorandum of Understanding, August 18, 1976. It was presented to the Task Force on Community Watersheds on August 31, 1976. The MOU was initiated by a Resource Deputy Ministers’ Memorandum of May 18, 1976, “Information and Organization Necessary for the Management of Forest and Range Lands.”**

I. PURPOSE. This Memorandum of Understanding establishes policy and general guidelines for use by the signatory agencies in coordinating certain of their activities in: (a.) developing and implementing management plans for renewable natural resources; (b) allocating the renewable resources on Crown lands; (c) working with representatives of resource-oriented local groups and industries, private landowners, and others in developing and implementing sound resource management and conservation programs.

II. POLICY. The Lands Service, Forest Service, Fish and Wildlife Branch, and Marketing and Extension Division, herein called the signatory agencies, will co-ordinate to the fullest extent possible with each other in developing and implementing management plans for renewable resources.

IV. CO-ORDINATED PLANNING. Co-ordinated planning has proven to be an effective and efficient procedure for achieving development, improvement and management of renewable resources. Its objective is to produce: (a) compatibility between the uses being made of renewable resources, including forestry, watershed, wildlife, livestock grazing and recreation.

This procedure is designed to handle simple or complex situations. The area selected for planning may consist of a forestry, ranch or farm operating unit or a watershed, range unit, stream corridor, wildlife area, or other types of areas. It can be made up of Crown land only or of Crown, and interdependent or inter-related private lands. It can occur in once block or in scattered tracts.”

55. Report from J. Barber-Starkey, Environmental Engineering Division, Health Department, to the Task Force on Multiple Use of Watersheds of Community Water Supplies, August 30, 1976.

“2. LEGISLATIVE POWER IN HEALTH ACT REGARDING WATERSHEDS.... Our Departmental Solicitor advises that there is authority in the Act for the Medical Health Officer to prohibit access to watersheds and the Regulations could be revised to this end. 3. MEDICAL HEALTH OFFICER INPUT INTO CONTROL OF WATERSHEDS. ... A matter of immediate concern to the Medical Health Officer is to be aware of what types and amount of activity are currently taking place in watersheds serving the communities for whose health he is responsible. For example, if it is known that a mining operation employing 25 men, a contract logging operation with 16 men adjacent to a main stream, and a grazing permit allows 200 head of cattle in a designated area, he has the essential background which enables him to be prepared to take the measures he considers essential to protect the public health. He cannot do a good job if he does not have the facts.”

56. Dr. W. McInnes, Medical Health Officer, Upper Fraser Valley Health Unit, to the Chief Engineer, Water Investigations Branch, Parliament Buildings, September 21, 1976.

“Re: Elk Creek Waterworks - Water Shed. We understand an application has been made by Whonnock Lumber for a Timber Harvesting License in the watershed area, which is the source of domestic water for the City of Chilliwack and Chilliwack Municipality, both with substantial and growing populations. We are opposed to logging in this watershed, and recommend that the watershed be left undisturbed in its natural state, in order to protect, and to ensure a continued water supply to the community.”

57. J.D. Watts, Chairman, Task Force on Multiple Use of Watersheds of Community Water Supplies, to B.E. Marr, Chairman, Environment and Land Use Technical Committee, Department of Environment, Parliament Buildings, September 23, 1976.

“I refer to your letter dated June 8, 1976, which requested that the Task Force on Multiple Use of Watersheds of Community Water Supplies investigate and comment on Resolution No. 15 of the Associated Boards of Health of British Columbia. The Task Force met on August 16th and 31st to discuss this resolution. A consensus was reached by the Task Force that it could not support the resolution as passed, in that it would provide the Medical Health Officer with a veto power regarding all activities in community watershed applying both to Crown and private lands.... the impact of a veto power by the Medical Health Officer could be severe, and at variance with Provincial and Local Authority

objectives. The administration of such a veto power also could be costly and time-consuming.”

58. Meeting minutes of members on the Task Force on Multiple Use of Watersheds of Community Water Supplies, September 24, 1976.

“Mr. Watts [J.D. Watts, Chairman of the Task Force] read Resolution No. 15 to the meeting and noted that there is authority in the Health Act for the M.H.O.’s [Medical Health Officers] to prohibit access to watersheds, but under the existing regulations a full time sanitary inspector is required.

Mr. Barber-Starkey [Ministry of Health] noted that revisions are required to the Health Act to make the M.H.O.’s powers practical in the case of small community watersheds.

Mr. Watts noted that a consensus had been reached at the previous Task Force meeting that the M.H.O.’s should not have a veto power regarding proposed land use activities in community watersheds as re-requested in Resolution No. 15.

Mr. O’Gorman [D. O’Gorman, Environment and Land Use Committee Secretariat] considered that it was appropriate for the M.H.O.’s to participate in the R.R.M.C. [Regional Resource Management Committee] meetings. He envisioned the scope of their participation to be in the sense of broad overviews regarding policy approaches for emerging problems in community watersheds. He considered the pilot scheme a reasonable approach which should be attempted. Mr. O’Gorman noted that the M.H.O.’s had powers when a major health hazard was identified. He suggested that the pilot scheme may result in guidelines that are adaptable to other Health Units in the Province.

Mr. Highsted [C.J. Highstead, Ministry of Forests] suggested that the response from the Task Force to Resolution No. 15 should be that it does not agree with the veto power requested by the Associated Boards of Health, but suggest that the M.H.O.’s get involved in the R.R.M.C.’s. He suggested the emphasis be placed on low key participation by the M.H.O.’s at this stage.

In response to a question from Mr. McMinn [E.R. McMinn, Ministry of Lands], Mr. Watts stated that there are no individual catchment authorities for the majority of community watersheds in the Province. The exception is the Vancouver and Victoria watersheds where the lands are leased and owned, respectively, by the community water authority and the population served is large enough to afford a watershed management organization. He noted that a large number of community watersheds in the Province serve a small population that cannot afford a proper management authority and, in many cases, these watersheds are small in area and consequently very sensitive to the effects of land use activities.

Mr. Hurn [D.R. Hurn, Ministry of Fish and Wildlife] stated that the problem facing the Task Force was to ensure that the M.H.O.’s are invited to, and feel comfortable in, R.R.M.C. meetings.

Mr. Watts noted that there appeared to be a general consensus that the pilot scheme be explored in the S.O.H.U. [South Okanagan Health Unit] with the cooperation of the R.R.M.C. at Kamloops.

Mr. Hurn noted that a portion of the S.O.H.U. was located in the area covered by the Okanagan Implementation Agreement. After further discussion it was concluded that the proposed

pilot scheme would not duplicate the activities being undertaken as a result of the Agreement.

Mr. Watts stated that a letter would be prepared requesting the response of the R.R.M.C. at Kamloops to the proposed pilot scheme involving the S.O.H.U.

Mr. O’Gorman suggested that the letter indicate the willingness of selected Task Force members to meet with the R.R.M.C. along with the M.H.O. to discuss the pilot scheme and develop a methodology for its implementation.

Mr. Harkness [G. Harkness, Ministry of Municipal Affairs] noted that the proposed pilot scheme would not include activities on private lands. After some discussion, it was concluded that zoning information on private lands could be provided by the Department of Municipal Affairs to the M.H.O. when the scheme gets underway.”

59. K.I.G. Benson, Associate Deputy Minister, Public Health Programs, to Ben Marr, Deputy Minister, Environment Department, December 6, 1976.

“Re: Management of Forest and Range Lands. Attached is a copy of an undated four-page memo headed Appendix B on the referenced subject which should receive some attention from the Ministry of Health concerning Environmental Engineering input respecting watershed protection for public drinking water supplies as a renewable resource.

We note that the Forest Act does not cover the protection of “water quality” which should be included specifically in some legislation.

When the forested land is within an existing watershed, it should be classified by priority as a “Major Impact and Use Conflict”. We would like to think that our Environmental Engineers and Local Public Health Inspectors would be called upon for their expertise as agents of the Ministry of Health.”

60. K. Milner, Planning, Nelson Ministry of Forests Regional office, to the Chief Forester, comments on the draft Watershed Management Guidelines document for Watershed Reserves, October 28, 1977.

“Some consumers will have other ideas about treatment of their drinking water, but there should be recognition of the fact that it may be cheaper to treat surface waters (or to provide wells) rather than impose severe restrictions on logging or forego timber harvest altogether.”

61. D.G. Levang, Kootenays Regional Engineer, Ministry of Health, comments on Watershed Reserves Watershed Guidelines, December 20, 1977.

“It may be true that in law that the water purveyor is charged with delivery of a potable product. However, I would like to see the legal precedent holding a purveyor responsible for upstream contamination by another individual after the purveyor began drawing water. It does not make sense to me that if an individual is contaminating water, then someone else should be responsible for cleaning it up. This removes the responsibility from the polluter. My view would seem to be supported by Sections of the Water Act, Pollution Control Act, and Health Act.”

“The point is made that it is unrealistic to protect waters to a degree that some form of treatment is unnecessary. While the policy of the Ministry of Health is to require at least

disinfection of new surface supplies there may be many communities using surface supplies of excellent quality and have been doing so for some years. I do not agree that activities should be allowed in a watershed that suddenly make treatment necessary. To me that is unacceptable degradation of the supply and the purveyor is certainly not responsible for it.” “In summary, the Ministry of Health desires to maintain pristine quality of heretofore unaffected surface waters, and to upgrade adversely affected water to its previous raw quality. To achieve this, it would appear that watersheds, particularly those supplying domestic water, should be for the sole purpose producing water. This view must, by needs, be compromised due to the economic requirements of the province. The Health Ministry recognizes the necessity of some degree of multiple use of watersheds but maintains the goal stated at the beginning of this paragraph.”

62. Ministry of Health Watershed Policy, For the Protection of Drinking Water Supplies, March 21, 1978.

“INTRODUCTION. The policy of the Ministry of Health on drinking water supplies is to encourage and promote programmes which provide waters of the best possible condition consistent with the protection of public health in the Province. The aims of this policy will be achieved by:

1. Conserving in their best condition consistent with the requirements for the protection of public health, those waters that have not yet been adversely affected;
2. Restoring to a condition which is necessary for the protection of public health, those waters which are presently below the desired quality.

Water supplies for drinking, culinary and other domestic uses should be free of pathogenic organisms and their indicators, and deleterious chemical substances including radioactive materials and should also be palatable and devoid of objectionable colour, odour and taste. The requirements are described more completely in the “Recommended Water Quality Standards”

published by the Ministry.

WATERSHEDS. Natural waters from protected watersheds can be used safely if properly chlorinated and special care is taken in the watershed to exclude human sources of contamination and control erosion of soil. Whenever simple disinfection is the only water treatment provided, the senses of sight, smell, taste and touch are good quality indicators. Anything that is offensive to these senses is not acceptable in the water supply and can be removed with appropriate water treatment equipment. However, because of the unknown relationships between human health and many of the hundreds of chemicals found in our drinking water supplies, the Ministry advocates the use of the cleanest source of water available. The technology needed to remove some of these chemicals from our water when present in very low concentrations is extremely sophisticated and costly. Therefore, polluted sources may be considered for use only when the provision of personnel, equipment and operating procedures can be depended upon to purify and otherwise protect the drinking water continuously.

The Ministry of Health, in respect to the reservation and protection of watersheds to be used for drinking water supplies, advocates the following:

1. Investigations be conducted by the Ministries of the Environment and Health, where applicable, to establish watersheds which are owned largely by the Crown and can be easily

managed. The water from these watersheds must meet the B.C. Recommended Water Quality Standards. The investigation is to include all surface sources for existing community waterworks serving more than 100 full-time residents.

2. Those watersheds presently operated primarily for the purpose of supplying drinking water, be encouraged and assisted to continue this practice.

3. Where it is possible to make existing multiple use watersheds into single use watersheds for drinking water supply without causing undue economic hardship, these watersheds be assisted to achieve that objective using pre-established control measures which will safeguard the water quality until such time as the watershed becomes single purpose.

4. Where watersheds are subject to multiple use and where a change to single use is impractical, or uneconomic, the various uses be controlled according to pre-established control measures to prevent the degradation of the existing resources and uses.

5. Where it is impractical or uneconomic to find a watershed that produces a water which meets the B.C. Recommended Water Quality Standards, due to either multiple use or natural causes in a single purpose watershed, water treatment facilities be required to produce water that meets the B.C. Recommended Water Quality Standards.”

63. Wm. Bailey, Director, Environmental Engineering Division, Ministry of Health, to J.D. Watts, Chairman, Task Force on Multiple Use of Watersheds of Community Water Supplies, May 29, 1978.

“The matter of referrals of land use applications is of interest to this Ministry. We did receive a referral two or three years ago, soon after map reserves were made on a large scale. We thought this practice was worthwhile and would continue but others have not followed. Is it possible that only this single application has been made in all this time?

The Medical Health Officer has full responsibility for matters dealing with the quality of drinking water in the province. Since multiple use of watersheds creates the potential for change in water quality, it seems proper that he be made aware of the situation in advance and be given an opportunity to comment. In our view, the appropriate time would be when the land use application is being processed. For consistency of review, it is suggested that these applications be sent to this Division for onward transmission to the appropriate Medical Health Officer.”

64. G.H. Wilson, Director of Land Management, to Wm. Bailey, Director, Environmental Engineering Division, Ministry of Health, September 26, 1978.

“I have for acknowledgment your memorandum of September 11, 1978 with respect to the referral of applications to your Branch which might lie within a watershed reserve area.... I agree with our Mr. Rhoades that it would not appear necessary at this time to initiate the referral of land applications to your Branch which fall within a watershed reserve.”

65. Resolution passed at the Associated Boards of Health annual meeting, September 17, 1985.

“RESOLUTION NO. 18: WATER, LAND USE. WHEREAS recognizing that an adequate supply of safe potable water is a prime preventative strategy in public health, and WHEREAS the multiple use of watershed areas for resource extraction, recreational use and possible private ownership, etc. is an acknowledged fact, and WHEREAS there is difficulty in enforcing the British Columbia Drinking Water Standards, THEREFORE BE IT RESOLVED that meaningful participation in watershed management be given to the Medical Health Officer and/or his delegate by legislative authority.”

66. B.C. Medical Association Resolution.

“1990 - WATER QUALITY. BE IT RESOLVED: That the BCMA recommend to the provincial and municipal governments of BC that they initiate an independent study of watershed management practices in all major water systems in the province; and That the focus of such studies be to determine the contribution of agricultural, industrial, forestry and recreational activities within watersheds on the presence of turbidity, chemical contamination, and pathogenic microorganisms in the water supply prior to its entry into the public water system; and That as a first step such an independent study be funded by the Greater Vancouver Regional District in the Coquitlam, Seymour and Capilano watersheds, the single largest water supply district in B.C.”

67. Submission to the Royal Commission on Health Care and Costs. Submitted by the Executive of the British Columbia Branch of the Canadian Institute of Public Health Inspectors, February 1991.

“C. Watershed Use and Management. At present 50% of the public drinking water systems serving 85% of the population of B.C. utilize surface waters as their source of supply. This includes streams, rivers and lakes. Only the Greater Vancouver Water District has control over the use and access to its three watersheds. Throughout the remainder of B.C. the concept of “multiple use of watersheds” is practised. This can include mining, logging, road construction, animal grazing, installation and maintenance of energy transmission lines, and their right-of-ways, plus recreational uses such as hunting, fishing, camping and boating.

At present the control of watershed usage rests with the Ministry of Forests in cooperation with the Ministry of Environment. Although public health staff are often invited to participate in discussions and planning regarding the multiple use of watersheds, health officials, and for that matter the operators of public water systems, have no legal status to restrict access or implement controls. This situation exists even if the multiple uses may be having an adverse impact on the quality of the drinking water. In 1980 the provincial government developed the “Guidelines for Watershed Management of Crown Lands used as Community Water Supplies”. This was done in response to public health concerns which were raised at that time. Unfortunately these “guidelines” are not legally binding and do not provide sufficient consideration for the

public health concerns presented.

It is recognized that in B.C. the multiple use of watersheds is unavoidable in many cases. However it is concluded that a better and stronger process, which actively considers health concerns and directly involves the Ministry of Health or the municipal health agency, in the regulating process is urgently needed.

Recommendations.

1. The 1980 "Guidelines for Watershed Management of Crown Lands used as Community Water Supplies" should be redrafted to include the concerns of public health officials and operators of public water systems.
2. These "guidelines" should be upgraded to the status of legally enforceable regulations.
3. The Ministry of Health, or the appropriate municipal health agency, should be included in the regulating process of multiple-use watersheds when public water systems are involved."

"The old saying "an ounce of prevention is worth a pound of cure", is directly applicable in this case.

Environmental Health Officers and Public Health Inspectors are key to the prevention of illness in B.C."

"In 1989 the Ministry of Health publicly acknowledged that the Ministry was seriously

understaffed with respect to Public Health Inspectors. It was indicated that staffing levels

had not been increased in approximately ten years even though the population in this Province has been steadily increasing. As population densities increase in the rapidly growing urban areas around this province, greater demands are being made upon the local

EHO/PHI to provide more protection and service. These requests for protection and assistance are seen in a tremendous diversity of environmental problems not only in the

home but on a neighbourhood and even a community wide basis."

"Society is now recognizing the ever-increasing affect which adverse environmental factors are having on human health. Without an increased focus on environmental health protection, health care costs will continue to be seriously impacted. In light of these potential problems we urge the Royal Commission to endorse the Ministry of Health's Environmental Health Protection Plan. This should be seen as an essential part of the process to restrict unnecessary health care expenditures and to protect the health of the public of this province."

68. Tom Perry, M.D., M.L.A., Vancouver-Point Grey (Opposition Health Critic), to Ben Marr, Commissioner, Greater Vancouver Water District, February 28, 1991.

"John Cashore (New Democrat environment critic in the Legislature) and I have received frequent representations of concern over the last two years regarding logging practices in the Greater Vancouver Water District. The problems of increased turbidity in the water during the high rainfall period of November-December 1990 heightened our concern about the status of the watershed. The concerns raised by the City of Vancouver Health Department regarding increased turbidity and the need for additional chlorination have also elicited my

