# RECOMMENDATIONS AND RATIONALE

# CONCERNING

# SOURCE PROTECTION

# (FOR WALKERTON INQUIRY, PART II, PUBLIC HEARING NO. 4)

# BY


**JULY 2001**

1. The Ontario Public Service Employees Union (OPSEU) is very pleased to be able to continue its involvement in Part II of the Walkerton Inquiry by offering recommendations and accompanying rationale in respect of source water protection.

2. For ease of reference, all of the relevant recommendations are set out below. The rationale for those recommendations follows.

**Recommendation #1:**

- **That a necessary principle for a complete drinking water policy is the "multi-barrier" approach, which must include source protection as an integral component.**

**Recommendation #2:**

- **That, in the context of a drinking water policy, the Water Branch of the Ministry of the Environment co-ordinate the development and implementation of a source protection sub-policy.**

**Recommendation #3:**

- **That the Water Branch of the MOE co-ordinate a provincial groundwater assessment and monitoring program to be carried out by the Water Resources unit in each regional office in conjunction, where appropriate, with conservation authorities and municipalities;**
- **That the provincial groundwater assessment and monitoring program be properly resourced.**

**Recommendation #4:**

- **That the Water Branch of the Ministry of the Environment develop a further surface water monitoring program to be carried out by the Ministry of the Environment and/or others to whom responsibilities are assigned.**

**Recommendation #5:**

- **That the Permit to Take Water Program be revitalized so as to respond to the concerns raised by the Environmental Commissioner of Ontario in his January 2001 brief to the Walkerton Inquiry.**

**Recommendation #6:**

- **That the Water Well inspection program be re-established, and the necessary staffing be put into place.**

**Recommendation #7:**

- **That the Ministry of the Environment place a high priority on its participation in the land use planning system and allocate appropriate resources to do this. This extends to the re-construction of the Ministry's capability of providing timely and sound scientific information and technical application of same, in the planning process;**

- **That the Planning Act be amended to require municipal planning to comply with provincial policy relating to water source protection;**

- **That the Minister of Municipal Affairs and Housing designate the Ministry of the Environment as a "public body" pursuant to Section 1, Clause 3 of the Planning Act R.S.O. c. P-13;**

- **That the Minister of Municipal Affairs and Housing (MMAH) immediately advise planning approval authorities to circulate all official plans, official plan amendments and plans of subdivision which potentially impact existing or future drinking water sources of supply to MMAH and the Ministry of the Environment;**

- **That Section 2 of the Planning Act be amended to specifically include the protection of sources of drinking water supply;**

- **That the Minister of Municipal Affairs and Housing direct municipalities to amend their official plans to incorporate policies and measures sufficient to protect existing and potential future sources of drinking water, including establishing well field protection zones, as enabled by Section 23 of the Planning Act within, say, one to two years of notification. If municipalities refuse, the Minister of Municipal Affairs and Housing should make the necessary amendments;**

- **Amend Section 51, Clause 1, Paragraph 17 of the Planning Act to require applications for subdivision approval to identify any sensitive groundwater recharge/discharge areas or sources of drinking water supply or municipal and/or communal well on or adjacent to the lands to be subdivided;**

- **Amend Section 51, Clause 1, Paragraph 24 of the Planning Act to require consideration of protection of sources of drinking water supply;**

- **Amend Section 51, Clause 1, Paragraph 24 of the Planning Act to require consideration of the adequacy and security of utilities and municipal services.**

**Recommendation #8:**

- **That an improved land use planning process be utilized to establish well head protection zones.**

**Recommendation #9:**

- **That the Water Branch be adequately resourced with the technical expertise to engage in source water protection;**
- **That the Water Branch be supplied with the necessary tools, including equipment and software**.

**Recommendation #10:**

- **That, as part of fostering a more watershed focused approach to source protection issues, that the provincial government establish a coherent sub-policy for watershed management including:**

    - **Definition of the role of conservation authorities;**
    - **Fostering the capacity of conservation authorities to fulfill that role;**
    - **Substitution of the province where conservation authorities do not exist;**
    - **Adequate funding of conservation authorities;**
    - **Minimum standards for conservation authority operations and monitoring of compliance with such standards;**
    - **The development of tools for conservation authorities to use.**

## Recommendation #1: Source Protection is an Integral Part of a Needed Multi-Barrier Approach

3. The Ministry of the Environment's mandate "…is to protect the quality of the natural environment to safeguard the ecosystem and human health…". This is from the Ministry's Statement of Environmental Values under the Environmental Bill of Rights (EBR). Furthermore, the MOE commits itself under the EBR to "…adopt an ecosystem approach to environmental protection and resource management." (For the complete Statement of Environmental Values, see:

http://www.ene.gov.on.ca/envision/env_reg/er/sevs/sa4e0001.htm

4. Ministry staff believe it is necessary to take "an ecosystem approach to protect and manage Ontario's water resources and to ensure the delivery of safe drinking water (OPSEU, Renewing the Ministry of the Environment, para. 12). Ecosystems are the producers of drinking water. Healthy ecosystems provide water in sufficient quantity and remove or dilute contaminants.

5. The reasons for a "source protection barrier" have been articulated a number of times during the course of the work of the Walkerton Inquiry (Expert Meeting Notes, May 3 and 4) and it is not proposed to repeat those references. One new statement of the importance of source protection can be found in a recent speech by the Environmental Commissioner of Ontario, Mr. Gord Miller, to the Safe and Clean Drinking Water Strategies Conference, July 10, 2001. In that speech he stated:

- There have been several developments relating to groundwater, including a permanent monitoring network and better information systems, but we are still a long way from a comprehensive ground water strategy.

  Our communities do reuse water sometimes several times down a river system and we think nothing of it. What happens to the water between communities such that it's quality improves so much that it is again acceptable to treat at low cost with standard technologies and yields safe drinking water? There is some dilution effect but much more than that is happening. The answer is, of course, that the natural communities in the ecosystem are constantly working and processing the water and the nutrients and other dissolved solids. The natural bacteria, protozoas, rotifers and crustaceans are filtering and consuming the organic matter and pathogens. Plants uptake nutrients and metals ions. In short, the natural ecosystem functions pre-treat the water for us.

  Thus, a healthy ecosystem pre-treats and substantially lowers our cost of water. And, cheap water is a source of wealth for us. It is part of our natural capital from which we make our living. It is wealth created by the ecosystem that sustains our economy and we tend to take it completely for granted.

  But, these ecosystem functions are not invulnerable. If we don't cultivate and protect these living systems, they will degrade and their treatment functions will be lost. Or, if we load a huge amount of contaminants into our watercourses we will overwhelm the ability of the natural systems to clean the water.

  In the public rush to provide safe drinking water the tendency is to embrace only solutions that involve treatment technologies because they can be supported by capital spending, they give reassurance because we (sort of) understand them and building something seems like tangible action.

  However, as I have said, technology has limitations. It is not an iron wall between ourselves and the nasty things in the natural world; it is only the thinnest of veils. The veil is enough to

> obscure our ability to see what is going on but not enough to protect us from the hazards that lurk beyond it. And, hidden from public view behind the false security of that veil, those hazards will continue to grow until they overwhelm the capabilities of the technology. And then what happens to the private water takers and small communal systems that can't afford the expensive technological barrier? That is why treatment technology is not the whole answer.
>
> The true protection for all our drinking water, therefore, lies upstream of the treatment plant. If the water is relatively free from pathogens and contaminants before it enters the intake, there will be no problem even if the treatment technology becomes dysfunctional. By all means have good treatment, but first and foremost we should be looking at our watersheds to see that there is sufficient green space and stream protection so that the natural functions of the ecosystem are operating. And secondly, we should be looking in those watersheds for all sources of contaminants whether they are storm water, agricultural runoff or direct dischargers, and minimizing or mitigating those sources.

The role of healthy ecosystems in the provision of safe drinking water should be fully recognized.

**Recommendation #1:**

- **That a necessary principle for a complete drinking water policy is the "multi-barrier" approach, which must include source protection as an integral component.**

## Recommendation #2: Source Protection Focus to be located in Ministry of the Environment Water Branch

6. There has been a lack of concentrated Ministry of the Environment focus on the necessary components of a source protection policy. This is documented in part in Blundell, A Thirty Year History of Hydrogeological Research in Canada, and the section on the Ministry of the Environment. The decline of focus on water source protection has produced "a confused patchwork" out of which "the contours of a clearly defined, comprehensive groundwater strategy have yet to emerge" (Environmental Commissioner of Ontario, The Protection of Ontario's Groundwater and Intensive Farming, July 27, 2000, p. 8).

7. Part of the problem is a lack of a Ministry organizational focus on water source protection. As documented in early submissions, there has been a decline in the media

focus of the MOE (OPSEU, Public Hearing Submission #1, Recommendation #7; Public Hearing Submission, para. 9). In the words of one Ministry staff member,

> I've got to say here the MOE seriously lacks the will to take on this sort of endeavour. This is the sort of thing that the Water Resources Commission was created to do. When the Commission became the MOE we continued with this type of work, but it has gone out of favour, and I doubt it will come back. I am losing faith.

8. Just as a clear policy commitment to source protection is needed, so is a clear institutional commitment. That requires focussed institutional leadership. The proposed Water Branch of the Ministry of the Environment should have the responsibility to develop the source protection policy and then implement it.

**Recommendation #2:**

- **That, in the context of a drinking water policy, the Water Branch of the Ministry of the Environment co-ordinate the development and implementation of a source protection sub-policy.**

## Recommendation #3: Improved Groundwater Assessment and Monitoring

9. Groundwater is the hidden water source. We know much less about its locations, quantity, and quality than we do about surface water. This is a major deficit. The importance of groundwater monitoring and source protection was the subject of informative testimony by Dr. Ken Howard. He pointed out that "over 80 per cent of the rural population depend on groundwater for domestic use" (Dr. Ken Howard, Inquiry Testimony, October 16, p. 23). Groundwater source protection strategies need to be crucially informed by a thorough understanding of the nature of the resource. Well-head protection models rest on understanding the range of groundwater that feeds the well and hence the range of land-use that needs to be zoned (Dr. Howard, Inquiry Testimony, October 16, pp. 94-95).

10. Dr. Howard further points out that Ontario has:

> …unfortunately in this province, actually in much of Canada, we got out of the business of mapping our aquifers and monitoring water levels extensively and creating reports on our water resources many, many years ago.
>
> We've sort of somewhat got behind the game in terms of understanding where our water is, understanding our groundwater above it, how much is getting in, how much is getting out. I think

> we have got behind the game when it comes to understanding how our systems work.
>
> In most parts of the – certainly the developed world, certainly the parts of the world that rely quite heavily on groundwater you will find that they will have mapped the aquifers, mapped the water tables, carried the calculations of recharge, looked at the discharge conditions and understood the aquifers sufficiently to manage them…
>
> I mean, there's a big difference between issuing permits to take water and managing a resource and to manage a resource you really need to know how the system is working. There's absolutely no reason at all why we can't get to that stage, but I think we are a little bit behind the game certainly in Ontario (Dr. Howard, Inquiry Testimony, October 16, pp. 103-104).

11. The Environmental Commissioner would agree. The Commissioner notes that O. Reg. 285/99, Water Taking and Transfer Regulation, requires assessment of "protection of the natural functions of the ecosystem" when reviewing water takings (Environmental Commissioner of Ontario, Ontario's Permit to Take Water Program and the Protection of Ontario's Water Resources, January 2001, Brief to the Walkerton Inquiry, pp. ii). He questions whether this requirement is being achieved. Front line staff can advise that there are real shortcomings, due to a major shortage of badly needed information.

12. Some steps are being taken. The Ministry announced a new groundwater monitoring and protection program in October, 2000. Parts of the program were new. Other parts, such as the Provincial Water Protection Fund, the new water-taking regulation under the *Ontario Water Resources Act*, and the province's still-incomplete assessment of intensive agriculture, were existing initiatives being re-announced. The Water Protection Fund includes *studies* on:

- Groundwater Resource Assessment: to identify and assess key groundwater areas;
- Contamination Assessment: to identify and assess the sources of contamination to the aquifers that supply the municipality with water for drinking and other uses;
- Groundwater Management and Protection Measures: including land use policies to protect critical groundwater areas, and operational policies with respect to fuel storage, performance standards, watershed stewardship and other measures;
- Contingency Planning and Emergency Response capacity for early detection of potential threats to groundwater systems and the identification of replacement groundwater supplies or alternative sources available in an emergency.

13. These are positive steps, but they fall far short of what is required. In 2000, the Environmental Commissioner reminded the province of what had been previously recommended by the former Commissioner in 1997:

> - A publicly accessible inventory of groundwater resources and a data management system;
> - A long-term monitoring network of water levels for major aquifer systems;
> - A system to identify and protect sensitive aquifers and groundwater recharge areas;
> - An inventory of current and past uses of groundwater and sources of groundwater contamination and an evaluation of their potential effects on health and ecosystems, including cumulative impacts;
> - A strong regulatory program aimed at preventing contamination;
> - An economic assessment of groundwater value, including current and replacement value;
> - A means of coordinating decision making between all ministries and agencies that have jurisdiction over groundwater (Environmental Commissioner, Protection of Ontario's Groundwater, p. 3).

14. The current provincial program will not achieve the needed results. OPSEU members recommend that the groundwater monitoring network as proposed should be expanded with significant regional staff involvement to ensure that monitoring points are adequate and that the data produced will meet the needs of future reviews and assessments. It is vital that regional staff are actively involved in the planning, site assessment, and information gathering and manipulation process in order to ensure that they can satisfy the requirements of O.Reg. 285/99 regarding cumulative and ecosystem impacts of proposed water takings.

15. The provincial groundwater assessment and monitoring program should be the responsibility of the Ministry of the Environment, coordinated by the Water Branch, working with the Water Resources Unit in each regional office. This would allow the program to be developed and implemented on a regional or aquifer scale independent of municipal and surface watershed boundaries. Ultimately, the data collected will be utilized by the regional offices for groundwater assessments, Permit To Take Water reviews, and enforcement activities.

16. The program must first identify and inventory major aquifer systems within the province. It should then quantify water resources within these systems and assess current demands on the resource. Regional staff should also map groundwater recharge and discharge zones in order to adequately protect these areas from contamination sources.

**Recommendation #3:**

- **That the Water Branch of the MOE co-ordinate a provincial groundwater assessment and monitoring program to be carried out by the Water Resources unit in each regional office in conjunction, where appropriate, with conservation authorities and municipalities;**
- **That the provincial groundwater assessment and monitoring program be properly resourced.**

## Recommendation #4: Improved Surface Water Monitoring

17. In the past the Ministry took a very strong role in surface water management. The Ministry operated a province-wide network of surface water quality stations at locations within a watershed that would/could be susceptible to impact from point sources, such as downstream from Water Pollution Control Plants (sewage treatment plants), farming areas where there was a concern with the application of manure, International Joint Commission ("IJC") stations in association with Canadian and US Federal/Provincial and State agreements. Samples were obtained upstream and downstream of discharge locations, and at confluence locations to the Great Lakes. Sample results were compared to provincial standards or guidelines for compliance.

18. The Ministry operated numerous surface water stream flow stations. Specific points in several watersheds were continuously monitored using water level recorders, which included the verification of the data through manually measuring the stream flow. Some of the stations were operated annually and others seasonally.

19. As well, the Ministry conducted sampling programs on the Great Lakes and inland lakes. The data collected was used to determine fluctuations in lake quality, as well, for inland lakes, to control the development of cottage/residential properties that could impact on the lake quality.

20. There has been a real decline in these surface water monitoring activities. These Ministry programs need to be rejuvenated as they form an important part of a surface water monitoring strategy.

21. Certain portions of surface water monitoring can be assisted with or in part carried out by conservation authorities or other public bodies. In addition, ancillary surface monitoring is something that is quite susceptible to being done by volunteers and community groups. The key point that the Ministry staff wish to make is that surface water monitoring does need to be carried out according to agreed protocols and the results need to be collected and tabulated so that they can be usefully made available to all.

**Recommendation #4**

- **That the Water Branch of the Ministry of the Environment develop a further surface water monitoring program to be carried out by the Ministry of the Environment and/or others to whom responsibilities are assigned.**

## Recommendation #5: Meaningful Permits to Take Water

22. The Environmental Commissioner of Ontario has noted information shortcomings in Ontario's Permit to Take Water Program. In his January 2001 brief, Ontario's Permit to Take Water Program, the Environmental Commissioner notes the inconsistencies and deficiencies in leadership, policy and resources surrounding Permits to Take Water. The Environmental Commissioner correctly identifies shortcomings in internal Ministry guidance documents, the posting and public information processes for Permits to Take Water and the construction of a database to control and assemble all of the relevant information. The front line staff of the Ministry are of the view that these comments are well founded, and that the shortcomings need to be remedied.

**Recommendation #5:**

- **That the Permit to Take Water Program be revitalized so as to respond to the concerns raised by the Environmental Commissioner of Ontario in his January 2001 brief to the Walkerton Inquiry.**

## Recommendation #6: Reinstate the Private Well Program

23. As front-line MOE staff pointed out in Renewing the Ministry of the Environment, there are approximately 500,000 private wells in Ontario providing water to three and a half million people. There are currently no programs to ensure that these well water supplies are properly constructed or maintained. Protection of private wells is required for two reasons:

1) to ensure that the people of Ontario have access to adequate sources of safe drinking water, and

2) to ensure that private wells are constructed and maintained in a sanitary condition in accordance with Ministry regulations to protect the aquifers of Ontario. This is necessary to ensure private wells do not pollute other people's water (Renewing, para. 139).

24. The Ministry previously employed Well Inspectors to inspect the construction of wells and to monitor the activities of well contractors for compliance with the Ontario Water Resources Act ("OWRA") and associated regulations. These inspectors would

inspect well head condition to ensure the proper construction of a well to prevent the access of contaminants into an aquifer. That is no longer done.

25. In order to ensure private wells are healthy, the Ministry should re-establish the Water Well Inspection Program. This would require trained staff, dedicated to the inspection and enforcement of existing water well regulations for Ontario.

**Recommendation #6:**

- **That the Water Well inspection program be re-established, and the necessary staffing be put into place.**

## Recommendation #7: Make Land Use Planning an Effective Source Protection Mechanism

26. At its base, land use planning is a means of allocating [natural] resources amongst varying public and private interests so that community objectives are met. Therefore the very first step needed in order for land use planning to effectively protect drinking water supply is a clear expression that the protection of drinking water supplies is of paramount public importance.

27. Land use planning can contribute to the protection of existing and potential sources of drinking water, whether they be ground or surface water, by regulating land uses at and in the vicinity of those sources and by ensuring that land uses throughout the capture zone (whether that be the cone of influence of a well or well field) or the watershed (for a surface water source of supply) do not diminish or disrupt the flow and/or impair the quality of water. This latter aspect requires an ecosystem approach to land use planning and that has not been effectively developed in the planning profession in Ontario.

28. Land use planning can contribute to the protection of municipal and communal well fields by regulating the land uses at and around those sites.

29. Land use planning in the Province of Ontario is legislatively defined and governed by the Planning Act. The Planning Act regulates the use of land in two basic ways.

30. Firstly, Section 24(1) sets out the requirement that all municipal public works (for example, the construction of a new road or a sewage treatment facility or a water treatment facility) must conform to the municipality's official plan. This clause directly controls only the use of public lands. Not all municipalities, however, are required to have official plans (although most do).

31. The use of private land is controlled through the exercise of zoning (and similar instruments) under Sections 34, 36, 38, and 39. Zoning is subject to the direction/limitation of Section 24(1).

32. Under s. 70.2, a development permit system could be established. Such a system could possibly take the place of zoning and site plan control, or at least as practiced for many years in the United Kingdom and in the Niagara Escarpment area since 1975.

33. A development permit system is generally more flexible than zoning in setting permitted uses on specific properties and addressing a broader range of site development matters. Notwithstanding that authority for a development permit system has been in place since the mid 1990s, there is little experience of its use in Ontario.

34. Interestingly, Paragraph 3.1 of Section 34.1 of the Planning Act empowers municipalities to enact zoning by-laws to prohibit "any use of land and erecting, locating or using any class or classes of buildings or structures on land ... [which] is a sensitive groundwater recharge area or head water area or on land that contains a sensitive aquifer". There is little experience of zoning by-laws being enacted for this express purpose and that is likely partly because of the lack of knowledge locally of where these "features" are.

35. In exercising land use planning authority, municipalities (and, indeed, ministries) are required by Section 3.5 of the Planning Act "to have regard for" [provincial] policy statements issued under Section 3. Section 51.24(a) also requires municipalities to consider provincial interests when considering plans of subdivision.

36. The Province exerts its authority in land use planing through the issuance of policy statements and the lodging of appeals against municipal decisions. Since 1996, that role has been reduced. The requirement for municipalities to "have regard" to government policy statements used to be a requirement that planning decisions "be consistent with" such statements (d'Ombrain, Machinery of Government for Safe Drinking Water in Ontario, para 259-260). The Province, through the Ministry of Municipal Affairs and Housing (MMAH), no longer approves all official plans, official plan amendments and plans of subdivision. Since 1996, this authority has largely been assigned to upper tier municipalities and separated cities and towns. Upper tier municipalities have, in turn, delegated some approval authority to lower tier municipalities.

37. The provincial role in planning has been reduced and so has the particular role of the Ministry of the Environment. Its involvement in planning occurs generally through MMAH. The MOE can no longer appeal municipal planning decisions itself (d'Ombrain, Machinery, para. 260).

38. The Ministry of the Environment used to thoroughly review plans of subdivision. The municipal facility had to have the capacity to handle the additional load of supplying drinking water and dealing with sewage. Where a private water system was proposed, the

proponent and municipality would need to demonstrate that no municipal services could reasonably be connected. The private system had to meet provincial standards. Well water had to meet health and aesthetic parameters. Septic systems had to operate properly.

39. Technical studies would be required to prove adequate quality and quantity of water supply. Developers would need to demonstrate how the quality of water would meet the health parameters under the Ontario Drinking Water Objectives. Concerning discharges, studies were required to show how discharges were going to be contained or ameliorated. With regard to septic systems, the Ministry used to require technical studies to show lot sizes were sufficient, that they did not adversely impact groundwater.

40. None of that monitoring is done by the provincial government any more. It has all been devolved to the municipalities. They may or may not engage in equivalent reviews. There is no monitoring through the planning process of whether municipalities are carrying out this responsibility.

41. The Ministry's role in planning is now confined to reviewing municipalities' official plan documents and official plan amendments. Municipalities are encouraged to include well head protection policies and official plans and to discourage uses in well head areas that would cause problems. However, the ability to have influence through the planning process is limited by the statutory scheme in place since 1996.

42. In addition to the decreased direct role for the Ministry of the Environment and environmental concerns in the process of planning, there was a new and less stringent provincial policy statement adopted under the Planning Act (Dr. Winfield, Inquiry Testimony, May 28, pp. 81-84). Pursuant to these changes, it is still the case that groundwater needs to be protected and enhanced but there are no longer prohibitions on deleterious development.

43. Consistent with this "watered down" approach, provincial participation is effectively limited (by choice) to providing the policy framework, to providing information and tools and to providing comment and interpretation as requested by municipalities. There is little meaningful provincial participation in actual decision-making and minimal oversight (at least to date). In fact, the Province has actively discouraged municipalities from seeking the advice of the ministries.

44. What this means is that opportunities for MOE to effectively participate in land use planning decisions is limited. Provincial policy does not have adequate effect. This also means that municipalities must find sources of environmental, technical and scientific expertise elsewhere or else make decisions on incomplete information or on information provided by a proponent. There is a wide variation in municipal ability, and interest, in pursuing environmental concerns. There is more susceptibility to compromising of standards. Smaller, less wealthy and more remote (rural) municipalities are at a distinct disadvantage.

45. Following from the previous observations, one of the most significant impediments to making informed planning decisions around drinking water source protection (and, indeed, around the "environment" generally) is the lack of good technical and scientific information from which to identify groundwater recharge areas, sensitive aquifers and hydrogeological-ecological functions sufficient to delineate areas/functions requiring protection.

46. Most often land use planning disputes arise around the delineation of "sensitive" areas requiring protection. A major planning need then is to rebuild the necessary scientific/technical expertise in the Ministry of the Environment; to make it available to municipalities and the public; and to re-engender public confidence in it.

47. In addition, the Ministry of the Environment, as the lead ministry, must be able to effectively participate in the land use planning system. This will require amendments to the Planning Act to require municipal planning to comply with provincial policy and to enable the MOE to appeal municipal decisions which are not consistent with a new Provincial Water Protection Policy. It will require administrative changes to require municipalities to circulate and notify the Ministry of pending applications.

48. The Ministry itself must place a higher priority on its participation in land use planning and allocate appropriate resources to allow it to effectively participate. This need extends to the re-construction of the Ministry's capability of producing sound scientific information and technical application of that knowledge.

49. The Planning Act and the Provincial Policy Statement ought to be amended to expressly require the protection of existing and potential future sources of drinking water supply as a matter of the highest order of Provincial interest.

50. As enabled by Section 23 of the Planning Act, the Minister of Municipal Affairs and Housing could request all existing municipal official plans to be amended within, say one or two years, to incorporate drinking water source supply protection. If the request is refused the Minister should be prepared to make the amendments as authorized under this section.

**Recommendation #7:**

- **That the Ministry of the Environment place a high priority on its participation in the land use planning system and allocate appropriate resources to do this. This extends to the re-construction of the Ministry's capability of providing timely and sound scientific information and technical application of same, in the planning process;**

- **That the Planning Act be amended to require municipal planning to comply with provincial policy relating to water source protection;**

- **That the Minister of Municipal Affairs and Housing designate the Ministry of the Environment as a "public body" pursuant to Section 1, Clause 3 of the Planning Act R.S.O. c. P-13;**

- **That the Minister of Municipal Affairs and Housing (MMAH) immediately advise planning approval authorities to circulate all official plans, official plan amendments and plans of subdivision which potentially impact existing or future drinking water sources of supply to MMAH and the Ministry of the Environment;**

- **That Section 2 of the Planning Act be amended to specifically include the protection of sources of drinking water supply;**

- **That the Minister of Municipal Affairs and Housing direct municipalities to amend their official plans to incorporate policies and measures sufficient to protect existing and potential future sources of drinking water, including establishing well field protection zones, as enabled by Section 23 of the Planning Act within, say, one to two years of notification. If municipalities refuse, the Minister of Municipal Affairs and Housing should make the necessary amendments;**

- **Amend Section 51, Clause 1, Paragraph 17 of the Planning Act to require applications for subdivision approval to identify any sensitive groundwater recharge/discharge areas or sources of drinking water supply or municipal and/or communal well on or adjacent to the lands to be subdivided;**

- **Amend Section 51, Clause 1, Paragraph 24 of the Planning Act to require consideration of protection of sources of drinking water supply;**

- **Amend Section 51, Clause 1, Paragraph 24 of the Planning Act to require consideration of the adequacy and security of utilities and municipal services.**

## Recommendation #8: Use Well Head Protection Zones

51. A crucial part of protecting groundwater is safeguarding the structure of the well and the lands within the recharge area of the well. Limiting the activities on the land above the zone from which the well obtains its water supply helps to prevent contaminants from entering the system and impacting the groundwater supplying the well.

52. Even in respect of untreated manure, well head protection zones are needed. Currently, there is no regulation preventing farmers spreading untreated manure right up to wells in any amount and as often as the farmer wishes. This may change with the Nutrient Management Act, although that Act has neither been passed, nor have the regulations been tabled. (OPSEU will further comment on that Act.)

53. There are guidelines for the spreading of treated sewage sludge and legally binding approvals need to be granted in each case. The guidelines limit the amounts, periods of the year and sludge quality (pathogens, metals and nitrogen). The guidelines govern which crops can be grown and the separation distance between the area of sludge application and wells and water courses.

54. However, Nutrient Management Act guidelines will likely not take into account individual aquifer parameters and well hydraulics. In certain geological settings, hydraulic connections can extend over wide areas that may be much greater than the normal setbacks for sludge applications. Also the potential exists for added nutrients and pathogens to overwhelm the slow natural purification processes that take place as the water percolates through to the aquifers.

55. As part of an increased environmental role and land use planning, well head protection zones should be implemented.

**Recommendation #8:**

- **That an improved land use planning process be utilized to establish well head protection zones.**

## Recommendation #9: Adequate Resourcing of Source Protection

56. In order to monitor and protect groundwater and surface water quantity and quality, substantial technical expertise is required, including hydrologists and hydrogeologists (to review reports, such as, ground and surface water impacts from aquifer pumping, landfill site contamination plumes), environmental planners (to review development proposals including groundwater availability) ecologists, water quality chemists and scientists, engineers (to review proposed PTTW applications).

57. The Ministry used to employ Well Inspectors and other technical staff in the Regional Technical Support Units to respond to complaints from the public to groundwater quality and quantity concerns. Investigation of the complaints would involve obtaining samples of the groundwater for chemical analysis, determining the level of the groundwater and flow direction of the aquifer. The officers would prepare reports for the complainant and take action necessary against the responsible party to correct the impact. As well, technical staff would conduct studies of surface water receiving bodies to determine whether a proposed discharge activity would impair the quality of a surface watercourse. Staff actually carried out source monitoring and protection, but that function is now largely absent.

58. In addition to the necessary expertise, there is a need for the equipment and software to collect access and manipulate the necessary data. Currently, the Ministry of the Environment has a large but increasingly dated set of documentation dealing with the

groundwater resources. It is now time to move forward with fully interactive databases with other participants and information holders.

**Recommendation # 9:**

- **That the Water Branch be adequately resourced with the technical expertise to engage in source water protection;**
- **That the Water Branch be supplied with the necessary tools, including equipment and software**.

## Recommendation #10: Fostering of Conservation Authorities

59. Part II of the Inquiry has consistently discussed a greater need for a watershed or regionally based approach to source protection. It is obviously important to have some further strengthening of watershed or regionally based institutions. However, as they point out, conservation authorities cannot be given responsibility without also being given capacity. Indeed, the resourcing of conservation authorities is in and of itself a job for the provincial government. It is clearly a job that needs to be done. Conservation Ontario, in its paper "The Importance of Watershed Management in Protecting Ontario's Drinking Water Supplies", page 44, summarizes the need for provincial leadership.

**Recommendation # 10:**

- **That, as part of fostering a more watershed focused approach to source protection issues, that the provincial government establish a coherent sub-policy for watershed management including:**
  - **Definition of the role of conservation authorities;**
  - **Fostering the capacity of conservation authorities to fulfill that role;**
  - **Substitution of the province where conservation authorities do not exist;**
  - **Adequate funding of conservation authorities;**
  - **Minimum standards for conservation authority operations and monitoring of compliance with such standards;**
  - **The development of tools for conservation authorities to use.**