RENEWING THE MINISTRY OF THE ENVIRONMENT

Submission by
the Ontario Public Service Employees Union (OPSEU)
to the Walkerton Inquiry,
The Honourable Justice Dennis R. O'Connor, Commissioner

On behalf of its members employed
at the Ministry of the Environment
May 1, 2001

EXECUTIVE SUMMARY: OPSEU RECOMMENDATIONS TO RENEW THE MINISTRY OF THE ENVIRONMENT

This report is the result of a process in which Ministry of the Environment ("the Ministry" or "MOE") staff described their vision of how to renew the Ministry in order to prevent a repeat of the tragedy that claimed seven lives in Walkerton, Ontario in May 2000 when the town's water supply was contaminated with E coli.

Ministry staff hope the information outlined in this report will be of assistance to Justice O'Connor when he writes his final report.

The Ministry's Key Strengths and Weaknesses

Ministry staff participated in six workshops held by OPSEU in February and March 2001. Staff discussed the main strengths and weaknesses of the Ministry and made recommendations about how to address the weaknesses.

Strengths

Ministry staff understand that the Ministry's role is to protect Ontario's environment. Staff identified as strengths the Ministry's area, district, and regional offices located across the province, and the laws and regulations that give staff their mandate.

In all six of the workshops, ministry staff stated consistently and powerfully that the main strength of the Ministry of the Environment is its dedicated, experienced and knowledgeable staff. Cutbacks have reduced their numbers by more than 40 per cent but MOE staff remain committed to the cause of protecting Ontario's environment.

Weaknesses

Ministry staff also described the challenges they face every day. They illustrated the Ministry's weaknesses by, among many other examples, describing how staffing cuts have limited their capacity to protect the environment. They also described how the Ministry squanders resources on avoidable crises because it will not develop preventive, proactive programs.

How stripped of resources is the Ministry? Examples raised at every workshop included: twenty-five-year-old lab equipment, poorly equipped field inspectors, teams that have to rent a truck before they can get to the site of a spill. More fundamentally, members described the loss of 'human resources' such as scientific expertise. Experienced staff retire without Ministry plans to transfer their knowledge to other staff or to hire new experts.

Ministry of the Environment staff want the Ontario public to know that the Ministry has been cut past the point where staff can effectively protect the environment. They work hard every day, but every day they know they don't have the resources they need.

Fixing the Weaknesses

This report sets out the following recommendations as the *minimum* requirements for a Ministry of the Environment that properly protects the public interest in a clean and healthy environment and safe drinking water.

These Recommendations recognize two fundamentally crucial elements of a system that protects both the natural water resource and the public drinking water supply:

a) dedicated, knowledgeable people working with adequate resources to protect water resources and to inspect and enforce the proper maintenance and operation of the collection and delivery system; and
b) adequate funding to maintain water infrastructure itself.

Ministry staff observe that both a) and b) are of equal importance regardless of how they are listed in the recommendations.

Overarching Recommendation

Ministry staff repeatedly observed that no agency, body or ministry other than the Ministry of the Environment is better situated to lead and take ultimate responsibility for the protection of Ontario's water resources now and in the future. This Ministry role is the overarching requirement for a water management regime that protects the intrinsic value of clean water as a natural resource and preserves the public interest in safe and clean drinking water.

Recommendation One

> The Ministry of the Environment must hire sufficient staff to fulfill its mandate to protect the environment.

Recommendation Two

> The Ministry of the Environment must enhance the knowledge and practical expertise of existing staff, and recruit additional skilled professionals.

Recommendation Three

> The Ministry of the Environment must provide its staff with the necessary practical and legislative tools.

Recommendation Four

The Ministry of the Environment must become proactive, rather than reactive, and make use of staff expertise in policy and planning.

Recommendation Five

The Ministry of the Environment must provide adequately skilled staff and organizational support and ensure funding to build and maintain Ontario's drinking water infrastructure.

Conclusion

The recommendations in this report are offered to the Commission in the spirit of proud service to the public, with the conviction that we must learn from the tragedy and in the hope that we can move forward better prepared to protect the public interest in safe drinking water.

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PART ONE: MINISTRY OF THE ENVIRONMENT STAFF, OPSEU AND THIS REPORT

Who is OPSEU

1. The Ontario Public Service Employees Union (OPSEU) is a trade union with approximately 90,000 members. We represent employees who work directly for the provincial government. This is known as the Ontario Public Service. We also represent employees who work in the broader public service, (including funded agencies such as public health units and hospitals), community colleges and the private sector.

2. OPSEU represents all non-management and non-engineering staff at the Ministry of the Environment (MOE), or about 928 employees of a ministry total of 1,384. We also represent all non-management staff at the Ontario Clean Water Agency, or 563 employees of an agency total of 691.

3. OPSEU has a long standing commitment to participating in the public debate on public services.

Ministry of the Environment Staff Project Team

4. This report was directed by a project team of staff from the MOE, who worked long and tirelessly on behalf of their union, OPSEU, to put this report together. The project team members are:

Mike Bird, Investigations Officer
Tracey Boyd, Surface Water Technician
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Doug McDougall, Investigations Officer
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Dallas Takeuchi, Dioxin Scientist
Bill Tobin, Inorganic Air Scientist

5. The contributions of Megan Park, Campaigns Officer and Timothy G.M. Hadwen, General Counsel, are gratefully acknowledged, as are the research and writing services provided to OPSEU by the Canadian Institute for Environmental Law and Policy. We also thank our facilitator, Bev Burke, for so ably facilitating the workshops.

6. The project team would like to give their heartfelt thanks to all staff at the Ministry of the Environment who contributed to this report. The information that OPSEU members brought forward give this report its authenticity and power.

Research method

7. The main source of information for this report is MOE staff. They participated in six workshops held by OPSEU in February and March 2001. Staff discussed the main strengths and weaknesses of the Ministry and made recommendations about how to address the weaknesses. The workshops were held in London, Hamilton, Kingston, Thunder Bay and in two locations in Toronto. The method followed for the workshops and a complete workshop summary report can be found in Appendix A to this report. Members who could not attend the workshops completed surveys, the summary report for which can be found in Appendix B to this report.

8. Other sources of information include interviews with staff and OPSEU surveys of staff in July 2000, December 2000 and February 2001.

Quotes are anonymous

9. The quotes cited in the report come directly and recently from OPSEU members, unless otherwise identified. The quotes are anonymous at the direct request of members. All other sources of information are referenced.

Focus is on water, but recommendations apply equally to other areas of the MOE

10. The focus of this report is on ensuring the future safety of drinking water in Ontario as per the mandate of the Walkerton Inquiry. However, Ministry staff have stated consistently that other areas of the natural environment, such as land and air, are equally under threat. The systemic problems at the Ministry highlighted in this report, such as lack of staffing, sufficient tools and information, equally apply to those other areas.

PART TWO: THE MINISTRY'S CENTRAL RESPONSIBILITY

The Ministry's Core Role in Water Management and Protection in the Province of Ontario

11. The Ministry's mandate " … is to protect the quality of the natural environment to safeguard the ecosystem and human health…"[1] 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."[2]

12. Ministry staff believe in this approach wholeheartedly. They believe the MOE must take an ecosystem approach to protect and manage Ontario's water resources and to ensure the delivery of safe drinking water. There must be a single public organization to lead the delivery of safe drinking water and the protection of water resources in Ontario. The Ministry of the Environment is the best candidate to undertake this duty.

13. The regulatory framework that protects Ontario's water supply must include consideration of the whole complex system. The MOE, more than any other agency, body or sector, has the mandate, experience and expertise to regulate, study, and communicate to protect and conserve our water resources.

14. There is no body in society other than government charged with and accountable for protection of the public good. The provincial government has a non-transferable responsibility for ensuring the health of Ontario's people and environment. The provincial government is responsible for ensuring the safety of Ontario's drinking water.

> Central agencies and major sectoral ministries play key roles in national decision making. These agencies have the greatest influence on the form, character, and distribution of the impacts of economic activity on the environmental resources base. It is these agencies, through their policies and budgets, that determine whether the environmental resource base is enhanced or degraded and whether the planet will be able to support human and economic growth and change into the next century.[3]

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[1] For the complete Statement of Environmental Values, see: http://www.ene.gov.on.ca/envision/env_reg/er/sevs/sa4e0001.htm

[2] Ibid.

[3] The World Commission on Environment and Development (The Bruntland Commission), Our Common Future, (Oxford University Press, 1987), pp. 311-312.

15. Ministry staff believe that it's time for the provincial government to fully embrace this leadership role. It must take up this commitment to protect the needs of future generations. Checks and balances must be in place to objectively prove drinking water is safe now and will be safe for the future.

16. An ecosystem approach includes not only the mechanics of water delivery from "Source to Tap to Source." It also includes the legal framework and the people who are part of the process, from "Operators" to "Regulators" to "Consumers."

17. There are many steps involved in the delivery of safe drinking water and the conservation and protection of Ontario's water resources. There are also many competing and conflicting uses and stresses placed on water.

18. Within the regulatory framework that protects our water, there are three functional areas that best protect the public interest when kept in equal balance, and at sufficient capacity:

- **Field work, namely: Monitoring, Inspection, and Enforcement.** This functional area generates raw data for both ongoing studies and unpredictable emerging issues. This data must be collected and reported in an appropriate and timely manner, by qualified and trustworthy staff. Field work requires sufficient qualified staff to study, inspect, and collect evidence. External submissions must be verified and examined to ensure their content and accuracy. The testing and analytical components must be conducted in qualified laboratories, which must withstand scrutiny by qualified auditors of their methods and practices. Results must meet consistency and quality standards to provide a basis for comparison and analysis of cross-provincial data.

- **Understanding the system.** There must be sufficient expert knowledge of the processes and factors that can affect the system. Only public agencies can develop this expertise to work on behalf of the public without conflict of interest issues arising. This functional area compares and analyses monitoring data and "fills in the gaps". The goal is to convert "Data" into "Information" and then into "Knowledge" which can be used as the basis of policies, decisions, regulations, and long-term plans.

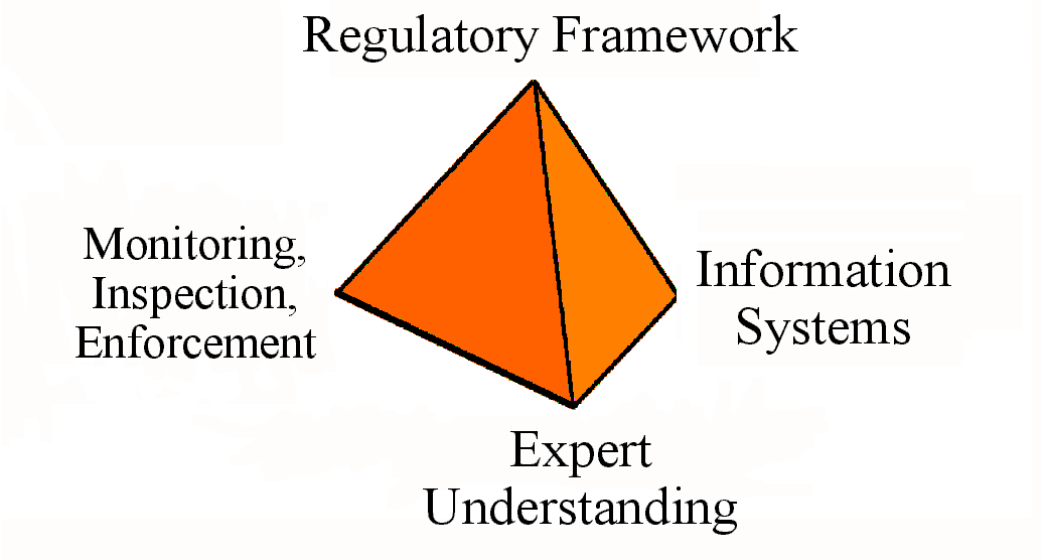
- **Information Systems.** Information must not only be produced, it must be effectively recorded, presented and shared. The public has every right to access the processes of its government and to have the opportunity to comment and question. Interested parties must be able to effectively share information and experience. Regulators must be able to analyze and report on their findings using the most current scientific methods and tools available.

19. Each functional area supports the others in an ecosystem approach. The regulatory framework provides the mandate and tools to protect the environment. Regulation and policy development requires understanding of the current state of the environment and expert consideration of potential future stresses that the environment will face. When there are offences against the environment, monitoring data provides legally defensible evidence to use before the courts, and it enables expert Ministry staff to be qualified to testify in a court of law. Finally, high-quality data that is also publicly accessible empowers people to keep watch in their own communities.

20. The current state of the environment can be understood only with appropriate field measurements taken at sufficient frequency at representative sites. This raw data requires an accredited, audited laboratory analysis.

21. Each facet depends on the others being present and effective. It is a holistic concept, with all areas relying on the proper workings of the rest.

22. The interplay of these factors can be visualized as a four-sided pyramid:



A Revitalized Ministry of the Environment

23. This image underlines a need for balance. If any one area is out of proportion with the others, the resulting structure will be unstable. In order for it to be a useful structure, it must be large enough to contain all of the objects it houses. It is crucially important to collaborate and work closely with other participants in the system but the system must

have a robust core and must be able to stand independently. This visual representation translates into reality by having sufficient qualified staff, adequate material resources, clear legal authority, and the will to effectively deliver the mandate within the Ministry of the Environment.

24. OPSEU's MOE members contend that a revitalized Ministry of the Environment, sufficiently staffed and equipped can effectively lead the delivery of safe drinking water and the protection of water resources in Ontario. OPSEU members have produced recommendations and suggestions with this revitalization in mind.

25. No one should be afraid to drink the water in Ontario. OPSEU members are committed to the delivery of safe drinking water, both as concerned professionals and as public servants.

Set up of the Ministry of the Environment

26. The Ministry of the Environment was established in 1972 as the result of an increasing public interest in safeguarding the environment. It absorbed the former Ontario Water Resources Commission which built and operated water and sewage plants across the province. In 1993, the operation side of the Ministry was severed and became a new agency, the Ontario Clean Water Agency.

27. The first contact most members of the public have with the MOE is with the Ministry's district, area and regional offices. Currently, 22 area and district offices report to five regional offices located across Ontario. They make up what's known as the Operations Division of the Ministry. The Investigations and Enforcement Branch, the Environmental Assessment and Approvals Branch, the Environmental SWAT Team and the Spills Action Centre are also part of Operations Division.

28. Environmental Officers, Investigation Officers and administrative staff are located in both the district and regional officers. Technical Support staff, for the most part, can only be found in the regional offices.

29. Environmental Officers (EOs) in the Abatement Section are responsible for ensuring that Ontario's environmental laws are complied with. EOs are also referred to as abatement officers, abatement staff or field staff. They are considered the front-line staff of the Ministry.

30. In addition to a heavy workload of assigned duties, such as carrying out inspections of sewage and water treatment plants, EOs must respond to and follow up on all calls and complaints of environmental violations coming into their office. EOs investigate all complaints and therefore are responsible for collecting evidence that will assist the Investigations and Enforcement Branch.

31. For example, if there is a spill, EOs are responsible for ensuring that the person responsible takes appropriate action to clean up and restore the damaged area. This will require the EO to make an assessment and take follow-up action to ensure the clean-up was carried out as ordered.

32. Investigation Officers (also referred to as "Investigators") in the Investigations and Enforcement Branch (IEB) are responsible for following up on violations reported by EOs, as well as responding to complaints by the public. They also follow up on violations they find through their proactive work. Investigation Officers are responsible for collecting the evidence, laying the charge and for putting the case together for prosecution in the courts.

33. The Ministry established this year the Environmental SWAT Team to target and crack down on deliberate and repeat polluters. SWAT is located in the Toronto area and is staffed by Abatement EOs and Investigation Officers.

34. EOs and Investigations Officers rely on the scientific and technical expertise of staff in the Technical Support Section. The Water Resources Unit of Technical Support is comprised of hydrogeologists, biologists, hydrologists, and environmental officers that specialize in water resource issues. Other members of the Technical Support section that deal with water issues include environmental planners and pesticide officers. These specialized staff are located, for the most part, only in the five regional offices.

35. EOs and Investigations Officers also rely on scientific expertise found in the Ministry's Environmental Sciences and Standards Division (ESSD). Laboratory technologists and scientists at the sole surviving MOE lab at 125 Resources Road in Toronto analyze water samples sent in by EOs and Technical Support staff. Lab staff also devise tests to detect and measure new chemicals.

36. Also from ESSD are drinking water treatment specialists in the drinking water, waste water and watershed standards section. They provide technical advice to EOs, municipalities and consultants about appropriate treatment technology.

37. Drinking Water Specialists in the Drinking Water Surveillance Program in ESSD gather data about municipal water supplies. DWSP monitors and evaluates the quality of drinking water at 175 municipal water supplies.

38. Technical Support staff in the Environmental Monitoring and Reporting Branch are involved in monitoring the "state of the environment." They track and analyze such things as the water quality of the Great Lakes and conduct complex investigations into water and sediment quality, among other things.

39. Environmental Officers in the Spills Action Centre (SAC) in Toronto are the communications hub through which spills are reported. The SAC operates 24 hours a day. EOs at SAC contact the appropriate authorities, including the MOE district office closest to the spill so that immediate action can be taken.

40. Policy and planning in the Ministry is spearheaded by the Integrated Environmental Planning Division. Policy and planning as they relate to the field are done out of the Assistant Director's Office of each of the five regional offices. Fiscal planning is the responsibility of the Corporate Management Division.

41. Ontario's water supply is mainly protected through four laws: the *Ontario Water Resources Act* (OWRA), the *Environmental Protection Act* (EPA), the *Environmental Assessment Act* (EAA) and the *Pesticides Act* (PA). The Drinking Water Protection Regulation, O. Regulation 459/00, from August 2000 is part of the OWRA. This regulation makes law the set of guidelines known as the Ontario Drinking Water Objectives.

42. A Certificate of Approval (C of A) and a Permit To Take Water (PTTW) are two types of legal instruments that the Ministry issues under its legislation. These two terms are used frequently in this paper.

43. A C of A is a kind of permit that provides the applicant with an approval for varied activities. The MOE issues Cs of A for air, water, sewage, landfill, PCB storage, and pesticides. The C of A identifies conditions that the applicant must meet.

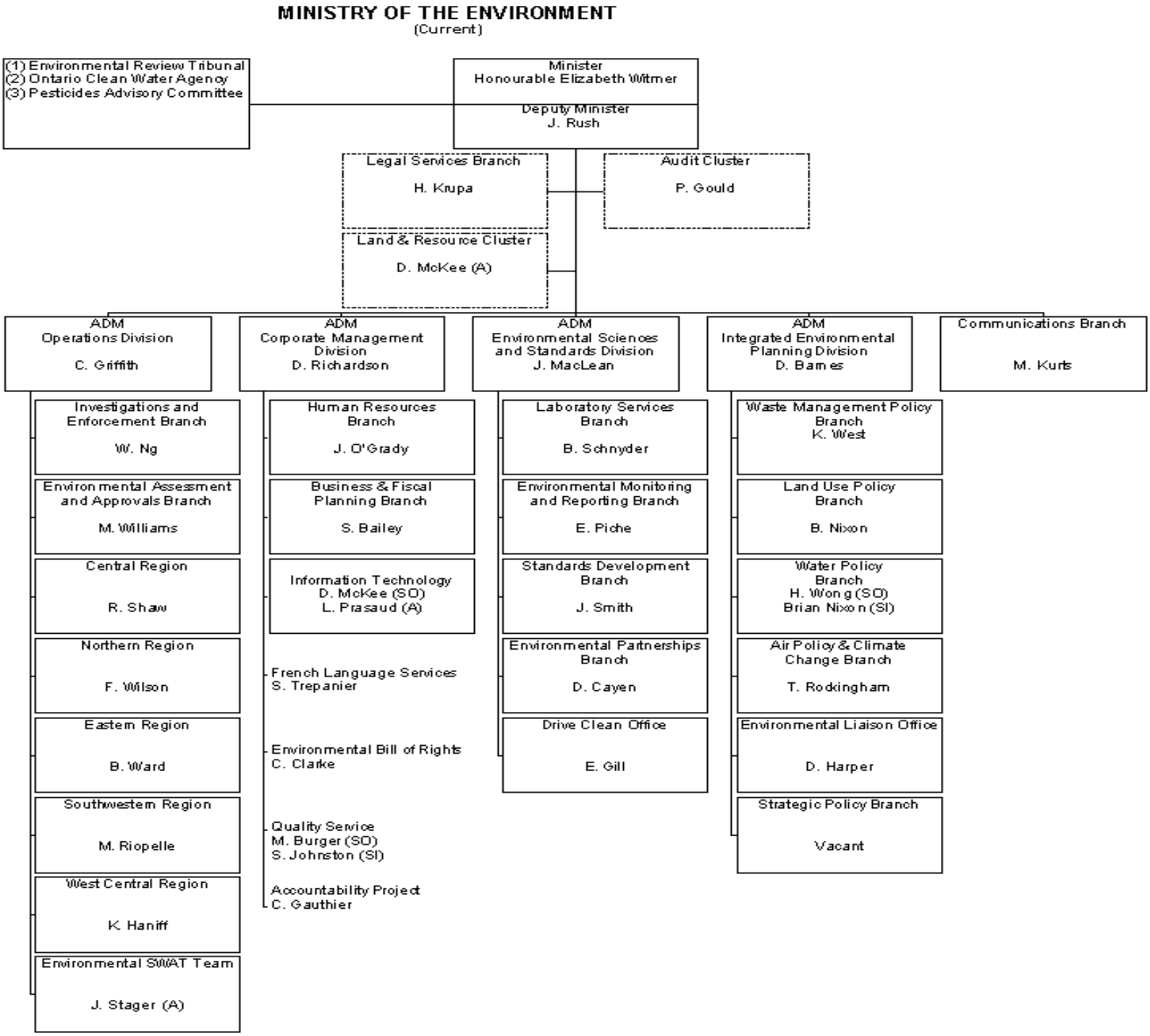
44. In terms of drinking water, municipalities requires Cs of A for their water works. The C of A is for the building, the treatment process and the pipes in the ground. A typical C of A would include conditions for sampling, when the reports should be submitted, among other things.

45. If the municipality's water works is going to take more than 50,000 litres of water per day from either ground or surface water, then it requires a Permit To Take Water. The PTTW should contain conditions requiring the permit holder to monitor volumes taken and impacts on the resource, such as well water levels and stream flows.

46. The Environmental Assessment and Approvals Branch co-ordinates the review of applications for Cs of A. The Branch sends them to the appropriate regional and district office for review. The Branch then gives the approval and issues the C of A.

47. PTTWs are reviewed by regional Technical Support staff and issued by the regional office.

48. The following organizational chart summarizes the MOE's structure[4]:



[4]MOE Organizational chart, MOE intranet site

PART THREE: RECOMMENDATIONS TO ENSURE THE MINISTRY CAN FULFILL ITS RESPONSIBILITY

49. In order to achieve an ecosystem approach to the protection and management of water resources in Ontario, OPSEU's recommendations describe the minimum requirements that must be in place.

Recommendation One: The Ministry of the Environment must hire sufficient staff to fulfill its mandate to protect the environment.

Current Situation

Cuts to staff since 1994

50. In 1994, the Ministry of the Environment had approximately 2430 staff.[5] As of December 31, 1999, less than six months before the Walkerton tragedy, the Ministry had 1277 staff.[6]

51. The Ministry achieved its staff reductions by a variety of means including offering early retirement, eliminating positions through attrition and layoffs. The major changes came with two 'surplusing' phases, one in May 1996 and another in January 1997 when 752 positions were eliminated.[7]

52. The district office in Gravenhurst was closed and the work was transferred to the Barrie and Peterborough district offices. Sub-offices in Pembroke and Parry Sound were closed.[8]

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[5] Winfield, Mark and Greg Jenish. Ontario's Environment and the "Common Sense Revolution (Toronto: The Canadian Institute for Environmental Law and Policy, 1996) at 2. In describing the 'surplusing' initiative, the report states, "Seven hundred and fifty-two staff are to be eliminated from the Ministry's total complement of 2,340 (31%)."

[6] This figure is reported in Clark, Karen and James Yacoumidis. Ontario's Environment and the Common Sense Revolution: A Fifth Year Report (Toronto: The Canadian Institute for Environmental Law and Policy, 2000) at 8. These figures and all staff allocation figures cited in all CIELAP reports come from Ministry responses to CIELAP Freedom of Information requests under the Ontario *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F-31

[7] See documents on file at OPSEU: Memorandum to All Staff of Operations Division from Sheila N. Willis, Assistant Deputy Minister, Operations Division dated May 22, 1996 for announcement of first phase of the savings as outlined in the ministry's business plan, including the elimination, Ministry-wide of 752 positions. See Memorandum to All Staff from Sheila N. Willis, Assistant Deputy Minister, Operations Division dated January 14, 1997 for announcements of reductions in District Offices from 22 to 15 and for description of staff reductions – in Operations Division only – of 279 positions.

[8] Memorandum to All Staff from Sheila N. Willis, Assistant Deputy Minister, Operations Division dated January 14, 1997.

53. Six district offices were downgraded to area offices: Sault Ste. Marie, North Bay, Kenora, Cornwall, Owen Sound and Windsor. They were twinned with the remaining district offices. For example, Owen Sound was twinned with the Barrie district office.[9]

54. Each area office kept their district supervisors, but their district manager positions were eliminated. Area offices now shared a district manager with their twin district. This resulted in overloaded district supervisors with significant work pressures. District managers had to spend more time commuting between twin districts and less time participating in the resolution of significant environmental issues.

55. The north east (Sudbury) and northwest (Thunder Bay) regional offices were amalgamated with the result that Northern Ontario has one regional office based in Thunder Bay. A skeleton crew of regional staff remained in Sudbury, now a district office.[10]

56. The Investigations and Enforcement Branch (IEB) was restructured. The regional supervisor positions were eliminated and IEB became centrally managed.[11] A number of administrative positions were eliminated.

57. The result of the closures and restructuring was layoffs among abatement, technical support, junior investigators, management and administrative staff. Fewer abatement staff were available to respond to pollution incidents, fewer technical support staff were available to offer their expertise, and travel time for field response increased. Fewer administrative staff meant that paperwork was offloaded to remaining staff.

58. Most crucially, the three regional MOE labs in London, Kingston and Thunder Bay were closed in 1996.[12] Scientific staff, including microbiologists and lab technologists, were laid off. Municipalities could no longer have their water samples analyzed by the labs and Environmental Officers could no longer consult lab staff for their scientific expertise.

59. In January 1997, the Ministry's position on the effects of surplusing was that it was not so much "reducing environmental protection activities" as it was "making [its] approach to environmental protection more effective and efficient."[13] The Ministry stated that one of the ways it would become more effective and efficient would be to establish a "Strategic and Tactical Research Unit" to prioritize field inspections and to work on special projects and inter-jurisdictional coordination.[14]

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[9] Ibid.
[10] Memorandum to All Staff of Operations Division from Sheila N. Willis, Assistant Deputy Minister, Operations Division dated May 22, 1996.
[11] Memorandum to All Staff from Sheila N. Willis, Assistant Deputy Minister, Operations Division dated January 14, 1997.
[12] Memorandum to All Staff of Operations Division from Sheila N. Willis, Assistant Deputy Minister, Operations Division dated May 22, 1996.
[13] See document, "Ministry of Environmental and Energy Phase II Business Plan Reductions, January 14, 1997" on file at OPSEU at page 4.
[14] Ibid.

60. The Ministry established the Strategic and Tactical Research Unit, but it seems to have been a very modest operation. Currently, it only has two positions assigned to it.[15] Nor by any account did it make the MOE's approach more effective or efficient.

61. The Ministry did, however, through staff and budget reductions, severely reduce its environmental protection activities.[16] By early 1997, news reports charged that Ontario was no longer enforcing its laws to the degree it had in the past.[17] Fines obtained in 1996 against corporate defendants dropped between 1995 and 1996 from $1,845,279 to $750,535[18], did significantly recover in more recent years (total fines against corporate defendants in 1998 were $622,325) and have only seen increases post-Walkerton as the government scrambles to repair its image.[19]

62. Declines in the number of enforcement activities such as investigations, charges laid and number of fines – shown in the chart below – reveal a marked loss of capacity within the ministry.[20]

Activity	**1991**	**1993**	**1995**	**1998**
Investigations	1596	1605	1372	1046
Charges Laid	1896	1570	1045	805
No. of Fines	674	464	387	391

63. There has been a reduction as well in environmental assessment hearings (only two since the *Environmental Assessment Act* was amended in 1997; none in the province in more than three years).[21]

64. In order to deal with its responsibilities with far fewer staff, the Ministry produced two priority-setting documents. They were the Procedures for Responding to Pollution Incident Reports, issued in August 1997 and the Delivery Strategies, issued in finalized form in January 1998.

65. These two documents guide staff as to which issues are priorities and which issues are not and should therefore be dealt with by another authority or level of government

[15] Walkerton Inquiry, Julian Wieder testimony, April 24, p. 163.
[16] Winfield and Jenish, 1996, at 7. The authors compared annual figures for 1995 and incomplete figures for 1996.
[17] See, among others, Guy Crittenden, "Reaping What We Sow," in Hazardous Materials Management April/May 1997 at 6; and Martin Mittelstaedt, "Ontario pollution fines plunge," in The Globe & Mail, January 10, 1997 at A6.
[18] *Per* Freedom of Information request from the Canadian Environmental Law Association to the Ministry of Environment and Energy; letter from the Ministry of the Environment to the Canadian Environmental Law Association dated June 26, 1997 on file at the Canadian Institute for Environmental Law and Policy.
[19] Tories Trumpet Pollution Fines, The Toronto Star, Saturday, December 30, 2000.
[20] Ministry of the Environment Investigations and Enforcement Branch, Annual Enforcement Summary, Calendar Years 1991 – 1998, on file at OPSEU.
[21] The Investigation and Enforcement Branch Annual Enforcement Summary for Calendar Years 1991-1998 show significant reductions as well in, among other activities, investigations, prosecutions initiated, charges laid and number of fines.

such as municipalities. The Delivery Strategies are also widely seen as an attempt by the Ministry to provide itself with a legal defense against charges of regulatory negligence.

Overwhelming workload

66. The number one challenge Ministry staff face is an overwhelming workload.

> There are not enough staff to do all of the work that we are expected to do. Field staff are tied down to the office too much, answering letters, inquiries, doing reports etc. All of which might have to be done but you can only do so much in one day. When we do go out and do a lot of inspections in a day, there is a lot of paperwork to be done.
>
> Look at the piles of work on my desk, it just keeps coming in faster than I can do it. I can't keep up by working late. I'm not even keeping my head above water. I need a snorkel! And there is always the worry that if I don't do something am I going to get sued? Staff are taking the "80" [early pension] just to get out. If the work atmosphere was better, maybe they would stay on.

Less staff means less testing, fewer reviews, more cracks in the system

67. Staff reductions have left too few people to keep up with the day-to-day business of the Ministry. The crucial point is that the Ministry's "day-to-day" work is fundamental to environmental protection. Surveys, inspections, samples, tests, reviews of monitoring reports of Certificates of Approval, among other things, are the means by which the Ministry keeps tabs with the health of the province's air, water and soil. In other words, the Ministry knows a lot less now than it did in 1994 about the health of Ontario's environment.

> The amount of field work has been slashed. I haven't taken a [field] sample in three years. The awareness if what's happening in different places really starts to slide when staff don't go into the field.
>
> The loss of local labs has affected how frequently we sample. We don't take as many samples as we used to because we know the lab can't handle them.
>
> Monitoring reports of Certificates of Approval are not being reviewed on a timely basis, due to staff shortages and less availability of technical expertise. These reports are to be submitted each year, but due to shortage of staff in the Technical

> Support Sections of each region, they do not always get reviewed annually. As a result, some reports wait for as long as three years to be reviewed. … If the reports are not reviewed on time, there is no way for the Ministry to determine the extent of potential impact to the environment (groundwater, surface water) as a result of the leachate coming from the landfill.
>
> Before 1996, MOE Regional Operations offices conducted water quality surveys of watercourses using biological and bacteriological methods. Most countries around the world conduct biological water quality surveys to protect water resources. The downsizing activity ended this assessment approach: the labs were closed, collecting equipment was sold or destroyed, staff were surplused, remaining staff were restricted from field activities. … The water quality surveys identified the potential lethal links between agriculture/industrial development and drinking water supply/ecosystem health. The water quality survey of a river close to Walkerton was conducted in 1973 and again in 1986 and was due to be conducted again in 1996-98. This never happened. As a consequence, the MOE was blind to any activities that threatened the water supply or health of the river.
>
> Environmental protections services in Northern Ontario (from Parry Sound north) were reduced from two complete Regional Offices (Northeast – Sudbury and Northwest – Thunder Bay) to one northern region office in Thunder Bay, with a skeleton crew of regional staff remaining in Sudbury. This resulted in less air, water, pesticides, approvals, environmental assessment and planning expertise support available to district staff. Some program responsibilities (ie pesticides, hazardous waste) were transferred to district staff with no increase in staff levels. Due to geographical expanses, water experts are not able to conduct field inspections and assessments nor respond to spills as expediently or efficiently as in the past. Computer systems and policy/issues staff (Assistant Director's Office) were also reduced and remaining staff reside in Thunder Bay, resulting in reduced service support and additional computer downtime.

Low morale

68. Workloads that keep rising, combined with a lack of direction from management has contributed to plummeting morale in the Ministry.

> MOE staff grew up wanting to protect and save the environment…We went to school to learn about the environment

> and looked for jobs where we could make a difference. What better place to be than the MOE? I am frustrated. I'm supposed to be protecting the environment, but I'm being told it's not our responsibility or it's not significant. We don't have the resources or the political support to allow us to protect the environment. That's what we're supposed to be doing. I do not believe I am alone in these thoughts. It is a struggle every day.

A single project or emergency can use up a whole year's resources

69. There are annual allocations, called 'lab allocations' for how many lab tests a region can submit. A disaster, such as the Plastimet Fire in Hamilton in 1997, can use up a region's whole allocation. As well, day-to-day demand for lab services is increasing. The Ministry lab work plan shows increases in the demand for general chemistry and microbiology tests between 1998 and 2001,[22] and dioxin testing exceeded allocations for 1999/00 by 32 per cent.[23]

> As an example of how an annual allocation can disappear on one project, in mid 1991, as part of a general audit of the wood preserving industry, Environment Canada conducted a soils sampling program at a facility in southwestern Ontario and asked the Ministry of the Environment's Phytotoxicology Section to participate. On April 7, 1992 the Phytotoxicology Section released the results. One sample analyzed for dioxin had a concentration of 110 ppb of 2,3,7,8 tetrachloro-dibenzo-p-dioxin. Because this high concentration was of concern, the Ministry conducted additional analyses both on and off the property. The thirty samples sent to the provincial lab by West Central Region used up the region's entire annual allocation of 25 dioxin samples.

70. The workload in the provincial lab grows every year, and demand leapt dramatically in June 2000 just after the Walkerton tragedy became news.[24] In June 1998 and 1999, the provincial lab performed 297 and 385 microbial tests, respectively.[25] In June 2000, the lab performed 2,826 microbial tests, almost a ten-fold increase since 1998.[26] The need for high quality sampling from an objective and highly qualified source is clear. What is less clear is how the lab can continue, short of staff and other key resources, to provide this necessary public service.

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[22] Ministry of the Environment, Yearly Workload Comparison, General Chemistry and Microbiology, as of end of February, 2001
[23] Ministry of the Environment, Dioxin Laboratory Workloads 1999/00 (Revised April 3, 2000).
[24] Ministry of The Environment, Laboratory Yearly Workload Comparison 1998 to 2001.
[25] Ibid.
[26] Ibid.

Less staff means legislated performance targets cannot be met

71. The Ministry has recently responded to public concerns arising from the Walkerton Tragedy and other environmental problems by enacting a few new laws and regulations. For example, over the past couple of years, the province has enacted regulations restricting groundwater taking and bulk water exports from the Great Lakes,[27] a new drinking water safety regulation[28] and has proposed a regime regulating intensive agricultural operations in rural Ontario[29] (although a Bill for this initiative still has not been tabled). However – while increasing somewhat with the announcement of the high-profile SWAT Team initiative[30] and recent hires to add numbers to water treatment plant inspectors – staff numbers have not risen enough to meet the demand of properly enforcing existing and new laws. The result is paper protection of Ontario's resources – laws on the books, but too few people to ensure they are enforced.

> According to the new regulation, Water Treatment Plants are supposed to be inspected every year. A district in southwestern Ontario has 54 or 56 water plants to inspect and there is only one field staff to do it. It is possible to do one inspection per week but then there is follow-up, reports, paperwork. If things are good, he can do it. If not, it will take a lot longer. …

Staff allocations are not according to regional needs

72. Current policies allocate roughly the same number of certain kinds of staff to each region no matter what the specific characteristics of the regional ecosystem. All regions are working with too few staff; some are even more challenged by the needs of their location.

> A rigid [staffing] template gives equal numbers to all regions. However, in Eastern Ontario we have more wells than all the other regions put together with highly vulnerable aquifers and yet we have the same [staff allocation to] ground water resources as the other regions.

Working short-staffed, OPSEU members feel pressured to rush their work

73. Ministry staff are professionals who take their work seriously. They also understand that their work is crucial to the protection of Ontario's environment.

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[27] O.Reg 285/99.
[28] O.Reg. 459/00
[29] See Environmental Bill of Rights Registry Notice Number: TC00E0001
[30] First described in the Conservative party's 1999 election campaign, the SWAT team started operations in late 2000. See Dec 29, 2000 Ministry press release at http://www.ene.gov.on.ca/envision/news/0089.htm.

> Pressure to get the work done fast is unacceptable. The work of the hydrogeologist is assessment work on land use proposals, and contaminated site clean-up. We have to assess and make recommendations that are reasonable, thorough, and professional. It takes time to evaluate a project and write it up properly, especially when it might end up in court.

Less staff equals less enforcement, equals less environmental protection

74. Lack of staff resources has a direct impact on enforcement activities. Limited resources means that, even though violations may number in the thousands, only a few will be pursued; even less will result in a prosecution. A recent report from the Sierra Legal Defense Fund[31], describing how literally thousands of pollution offences are not prosecuted, illustrates what OPSEU members have known for years:

> We can only pick our battles to the detriment of all the other violations we find. In 1998, in Sudbury/Thunder Bay there were between 800 and 900 occurrences per year. Of those occurrences, only 3 *per cent* went to Investigations and Enforcement Branch.

75. This report discusses other barriers to enforcement in Recommendations Two and Three.

A lot less staff: a lot more paperwork

76. As short-handed as the Ministry is, and as much work as there is to do in the field, Ministry staff have to deal with a tremendous amount of paperwork. A common expression among abatement staff is "we're counting what we do, instead of doing what counts."

> Count the forms. We have STAR, ORIS, ETIS, EDRIS, IIS, IDS, MIDES, SDRS. Each one of these forms takes time to fill in. They are not connected, but they use a lot of the same data, so the information has to be input over and over again. Each has its own password and log in and we all enter our own data. This is very inefficient and takes away from time we should be spending in the field.
>
> Let me get out in the field, instead of in front of a computer, counting beans.

[31] Sierra Legal Defence Fund. Who's Watching Our Waters? (Toronto: SLDF, undated, 1999?)

An example of what an inspection takes, in terms of time and paperwork

77. The following is a table showing the estimated time required to perform a water works compliance inspection. Generally, the time required to do an inspection depends on the size of the facility. Facilities range from small (a single well with disinfection and distribution) to large systems (several wells or a surface water supply that requires several treatment processes before the water is disinfected and distributed).

Activity	Small Facility	Large Facility
File review	0.25 days	0.5 days
Site Sampling - Raw Water - Treated water at plant - Distribution System	 0.15 days 0.1 days 0.2 days	 0.15 days 0.15 days 0.70 days
Sample preparation for lab analysis	0.25 days	0.5 days
Data Review - In-plant data - Inspection samples	 0.5 days 0.25 days	 1.0 days 0.25 days
Inspection of Site infrastructure	0.5 days	1.0 days
Preparation of Site Inspection Report	1 days	2 to 2.5 days
Total Before Follow Up	**3.25 days**	**6.25 to 6.75 days**
Follow up inspection - Preparation and issuance of Provincial Officer Order - Progress review of Order - Progress review of recommendations	 0.5 days 1 to 5 days 1 to 2 days	 1 day 1 to 5 days 3 to 5 days
Total Follow Up Time	2.5 to 7.5 days	5 to 11 days
Total Days Required	**5.75 to 12.75 days**	**11.75 to 20.25 days**

78. This chart shows that follow up action requires almost as much and sometimes more time than the actual inspection. However, Ministry annual work plans do not specifically include the time required to do follow up. Instead, time for follow-up work is included in each inspector's allocation for 'reactive work.'

79. To understand what this means in terms of staff capacity, the Table in Appendix B shows all the work plan programs and associated activities an Environmental Officer (EO) is responsible to administer. There are approximately 15 programs and 200 associated activities. 44 person days of an EO's time is allocated to work plan program inspections. The remainder of the time (176 person days) is supposed to be used to address all other program activities. This includes, to name only a few, responding to spills, responding to complaints, providing outreach services and following up on compliance inspection recommendations. This means that, if an inspector is to follow up on inspections, a large portion of the rest of the work does not get done. As is most commonly the case, the inspector does all he or she can do to ensure other program work is addressed, and, in almost all cases, inspection follow-up work suffers.

80. To properly document all the information collected during the day-to-day work on any of the 200 program activities and/or inspections, an inspector must enter information into one of several databases. The databases that each inspector is required to input data are:

- STAR (System for tracking activities and resources)
- ORIS (Occurrence Reporting information system)
- IIS (Interim Inspection system)
- EDRIS (Environmental Discharge Reporting information system)
- ETIS (Enforcement Tracking Information System. This stems from ORIS and is only handled by IEB)
- IDS (Integrated Data System)
- MIDES (Municipal Industrial Discharge Entry System)

81. For one activity an EO will be required to update several databases at a time. For example if a Water Treatment Plant is inspected and the facility has a backwash water discharge into a receiving stream the inspector would have to input and review data in all the following databases in order to complete his or her inspection.

- STAR data entry keeps track of time as the inspection proceeds as well as holds notes about the inspection recorded by the inspector;

- The officer will also be required to input data in ORIS if violations were noticed during the inspection;

- input data to EDRIS (online intranet system) if the discharge of from the backwash water did not meet criteria; and

- complete the IIS report (online intranet system).

82. An inspector will spend three to five per cent of his or her time to input data in STAR and will require two to three days to input data in the IIS for each facility inspected. Each violation has to be entered separately on EDRIS and ORIS and each entry can take from 15 to 20 minutes for each database.

83. Consistently throughout the workshops held to gather information for this report, Ministry staff observed that the paperwork was excessive, emphasized quantity (number of inspections) over quality (thoroughness and completeness of inspections) and that it reduced the amount of time available to officers to work in the field. Staff referred frequently to the Ministry's emphasis on "counting beans". An Integrated Data System (IDS) has long been promised to staff by the Ministry, but is not available. Work plans, however, appear to assume that IDS is in place.

Another way protecting the environment properly overwhelms staff: Permits To Take Water

84. The following is an example of how the Ministry response to a pressing environmental problem creates a tremendous burden for regional staff.

> 1998 and 1999 saw below normal levels of precipitation in southern Ontario, reducing volumes of water in aquifers and rivers. Some rivers, such as Spencer Creek near Hamilton actually ran dry. Another river in the same region, Big Creek, lost so much water it could not provide adequate assimilative capacity for sewage discharges, which hurt fish populations. There was also an increased demand on water resources for irrigation. The Ministry tried to balance all of these competing water uses and soon discovered that it had no record of either how much water was available or who was already using it. To capture information about current agricultural users, the Ministry offered a year's amnesty if agricultural users applied for a Permit to Take Water under section 34 of the *Ontario Water Resources Act*. While this effort helped the Ministry understand better than it did water demand in the region, it now has a workload problem. Surface water permits need to be renewed every five years; groundwater, every ten. More than 1000 permits, surface and groundwater were issued in the Ministry initiative. That means at least 400 permits will be renewed in 2005, and all thousand plus of them will be renewed in 2010.

85. The Ministry is divided into five regions, which are more-or-less identically staffed. In 2000, the number of Permits To Take Water (PTTW) issued by the five regions were as follows:

Central	51
Eastern	152
Northern	110
South West	410
West Central	1082

86. West Central Region which, in an effort to manage the drought of 1998-99, issued nearly 60 *per cent* of the PTTWs in the Province in 2000 has the same staff complement as those regions whose permit workload is only 3 per cent to 23 per cent of the Provincial workload. Five and ten years from now, when the permits will need to be reviewed, regional staff responsible for the review will be swamped.

To Fix the Current Situation

Increase staff complement

87. As an absolute minimum, the Ministry of the Environment should have sufficient staff to ensure that the standards of inspection and enforcement set out in Ontario law are met. As this is not currently the situation, the Ministry must hire enough of the following staff to achieve this minimum goal:

- Environmental (abatement) Officers
- Investigation Officers
- Technical Support Staff/Scientific Staff
- Laboratory Staff
- Administrative Staff

88. The Ministry needs the proper staff to do the job. Protecting the environment takes time and money. The Ministry of the Environment should be required to develop detailed staffing plans which demonstrate how every important function is to be actually carried out. Those plans should be tabled and subject to discussion with Ministry staff and the public.

Administrative staff

89. Abatement and investigations staff require administrative support so that they can spend less time filling out forms at their desk and more time protecting Ontario's environment.

Staff allocations must reflect regional needs

90. In order to ensure staff allocations are adequate, the Ministry must end 'template' staffing and assign resources to meet the needs of each region.

The Ministry's job is to protect the environment

91. To properly protect the public interest in a clean environment and safe drinking water, the Ministry must support and maintain an 'enforcement philosophy.' The Ministry is a regulatory agency. That is its function, and the role the public expects it to take. It is also the role Ministry staff expect to be able to take to do their jobs.

Reduce paperwork

92. The current load of paperwork detracts from, rather than enhancing, environmental protection and turns protecting the public interest into a numbers game. Fewer forms would 'count' ministry activities just as well as numerous forms do now. Fewer forms to fill out would give Ministry staff more time to work in the field.

Staffing is not just a numbers game

93. As of June 30, 2000, the Ministry staff population is 1,384,[32] still far short of 1994 levels, but also less experienced and less scientifically expert. Recent hires to increase water treatment plant inspection – 25 junior Environmental Officers were added to the Ministry complement – only improve the quantity of staff. The inexperience and limited training of the new EO2's means the Ministry remains under-resourced.

[32] OPSEU, Ministry of the Environment, Bargaining Unit Profile, June 30, 2000.

Recommendation Two: The Ministry of the Environment must enhance the knowledge and practical expertise of existing staff, and recruit additional skilled professionals.

Current Situation

The Ministry still sets standards of quality and expertise

94. The Ministry of the Environment still has some of the world's best water scientists on its staff.

> There is still in the MOE a strong historical knowledge base around water. Some staff have worldwide reputations in their field. Many MOE staff put in a lot of unclaimed overtime. We have staff who spend time out in the field where the problems are happening and can provide first hand information on what's going on.

95. Even in its reduced state, the scientific capacity of the MOE is significant – it sets the standard in the province. "When a sample is needed for legal purposes, the MOE lab is the one called in to do the testing and MOE staff are regularly consulted by private labs."

96. The Ministry is, however, currently under a three-fold threat: loss of existing scientific talent (and institutional memory) through retirement of senior staff; insufficient opportunities for staff to upgrade their skills through training and conferences; and new hires are few and far between and bring in very junior people with limited experience and expertise.

97. In addition, internal MOE structures limit the availability of scientific support to abatement and investigations staff. Arguably the biggest loss came when the three regional MOE labs in London, Kingston and Thunder Bay were closed in 1996. Environmental Officers speak of how they used to rely on the scientific expertise of lab staff, of how they consulted lab staff on a regular basis. A microbiologist with one of the former regional labs puts it this way:

> The laboratory system is the heart of the MOE. And what the government did is cut out the heart of the Ministry of the Environment…The government labs operated at an arms length to the clients. The lab was kind of the hub. As samples came in, the lab communicated with a huge number of people. You needed that communication. You just can't send samples to the lab. I got asked over and over what do the lab results mean? You have to place the lab samples in context of the problem. Whenever you have a test result, you have to ask a huge number of questions. Who, what, where, when and why?

98. The cutbacks have also effected the sole surviving MOE lab in Toronto. The budget cuts have limited the Ministry's capacity to develop new methodologies to deal with new substances.

Aging MOE staff

> The class of '73 [hired when the MOE was created] is about to 'graduate'…. When all previous Water Treatment Plant inspectors retired, the Ministry put no time or effort into training new inspectors.

99. Less than three *per cent* of Ministry staff is under thirty years of age. More than 65 *per cent* is over 40 years old, and more than a full quarter of the staff is over fifty years old. In other words, the Ministry is in a position where significant numbers of its staff will be retiring within a very few years and with those people will go thousands of person years of accumulated knowledge of Ontario ecosystems, watersheds, and water infrastructure.

> The average age of MOE staff is 47. People are retiring who have expertise that is not being replaced. For example, one scientist just retired who could tell by the 'smell' of a sample what the problem was - the kind of expertise that comes only with experience. There are uncompetitive pay scales for senior scientists so the MOE can't attract new people.

Recruitment and retention

100. Ministry staff observed that it is hard to attract talented people and harder to hold them in the current Ministry of the Environment.

> It is hard to attract and keep good staff in a job that is not adequately compensated or held in much regard by the employer. Morale is low in the Ministry; people don't see public servants' roles like they used to. Good people won't come into the Ministry or they leave early, fed up and frustrated.

Training

101. The Ministry of the Environment does provide training to its staff but it falls short of what is required to ensure proper protection of the environment.

102. Currently listed on the MOE's human resources intranet site are courses on Compliance Training, Management, Abatement, Industrial Processes, Clean Up of Contaminated Sites, Health and Safety (including training in the prevention of animal

attack) and Tactical Communications.[33] Except for the contaminated sites course (which requires prerequisites), these are all introductory-level courses. They focus, for the most part, on training field staff to undertake basic abatement techniques.

103. Ministry staff need advanced training, increased opportunities to share information among one another, and need increased access to internal scientific specialists.

> I have just come out of a year in abatement. [This staff person normally works in another section of the Ministry.] I took a water treatment course in 1984. I was expected to go into that water treatment plant and inspect it and I did. But I didn't know enough to be in there and say the water treatment plant is in good shape. You need experience and training to spot the small signs of potentially very big trouble.

104. Clearly, there is a connection between the need for training and the expertise of the people coming new into the Ministry. Junior staff are trained in the basics, but little else.

> 25 EO2s [junior Environmental Officers], fresh out of school, are going to inspect what … is probably the most sensitive issue we have today - waterworks - after one month's training.

105. There are too few staff to give anyone the opportunity to develop special expertise.

> We used to have people who specialized but over the last several years we have seen the rise of the generalist. Even the generalist knowledge has waned considerably from what we used to have. We are not able to develop knowledge as we used to.

106. As well, there is a direct connection between the reduction in the number of people who work at the Ministry and the level of expertise available.

> There is a lack of a critical mass so we rely heavily on the knowledge of one or two individuals. This means that when those individuals leave, we lose their expertise, and sometimes their function (such as landfill specialists). We lose continuity of staff on certain project files. Available information is also fragmented and isolated in separate databases. The best information is OLD. We have lost lab function and the ability to do surveys in order to generate new data and answer new questions and issues. Specialists have become generalists. Staff used to specialize (in water and sewage for example) but new staff members are generalists. Recently, [February 2001], the water planning people were brought together for a workshop [in Peterborough] for the first time in 8 or 9 years.

[33] As of 15 March 2001, these are the courses listed on the Ministry Intranet at Home/Training/Courses.

107. Moreover, when there are too few staff to keep up with workloads, one of the activities that gets cut or postponed is training. For example, due to increased workload, the Northern Region of the Ministry elected to defer courses in abatement training for pulp and paper and mining, due to happen this spring, until fall 2001.[34]

108. Ministry staff in other regions have faced similar problems trying to find the time to take the training. "Management tells me 'if I lose you for two weeks so you can take the training, then I have no one to replace you.' The problem is we get behind in our work. We really just don't have enough people."

Staff are isolated from in-house expertise

109. Abatement staff are not as well trained as they need to be to do their jobs. Ministry staffing policy has the effect of separating Abatement and Technical Support when the environment would be better protected if they worked more closely together.

> There is one group for enforcement (the EOs) and another for professionals (technical support) to work only in an advisory position. As a result, [inspection] methods not always rigorous, and EOs make decision on their own without professional input. Priorities (which file is done first) between MOE Abatement and MOE Technical Support are not always the same. For example, the pesticide program is compliance driven, but needs specialized knowledge. Before the new Delivery Strategy was implemented, Pesticides Officers did the same abatement and investigative work as EOs do, and had the expertise to run the program. Now, Pesticides Officers, the specialists, have been replaced by EOs, who are much less expertly trained. EOs are very capable people, but cannot be experts in everything. They receive a few days training on each type of work they handle, and there is no requirement for mandatory involvement of professionals, this can lead to errors in judgment.

Restricted access to training and expertise are barriers to enforcement

110. Abatement staff with little training or experience who also cannot access in-house expertise can be severely challenged in their role to protect the environment. These staff need both training and back-up from experienced Ministry staff to help them spot signs of serious trouble with Ontario's water resources. Without this help, they cannot be as effective.

[34] "ABT Courses Deferred," electronic mail message for all MOE Staff, Tuesday, March 20, 2001.

To Fix the Current Situation

111. The Ministry of the Environment relies on science in order to protect Ontario's environment, in particular its water resources. It follows that the Ministry must be able to attract and retain the highest quality scientific staff. Finding, and keeping, these talented people requires they be compensated at something like market rates and be given the opportunity to expand their skills and knowledge. It requires that the Ministry and the government demonstrate that they value these public servants for their contribution to environmental protection. Maintaining a professional staffing complement is a minimum requirement that, if not met, signals that the Ministry cannot adequately protect Ontario's environment.

112. The Ministry must provide more and better training to its staff, including access to advanced scientific information and training necessary to stay abreast of new technology. It is also vital that staff be given the time to take the training.

113. The Ministry must provide for succession planning, mentoring programs and other mechanisms to ensure the transfer of institutional memory and knowledge from long-serving Ministry staff to younger, less expert staff.

Recommendation Three: The Ministry of the Environment must provide its staff with the necessary practical and legislative tools

Current Situation

Lack of Tools, equipment and vehicles

114. Between 1995 and 1999, the Ministry of the Environment's capital budget was cut by 90 *per cent*.[35] A large portion of the capital budget was the provincial allocation to sewage and waterworks infrastructure. However, other capital budgets were also cut, particularly for equipment in the lab and field and other necessary elements of inspection and enforcement of environmental protection.

115. Presently staff confront challenges thrown in their path every day by the simple fact that they do not have the tools they need to do their jobs. Old lab equipment, insufficient resources in the field and inadequate, fragmented, uncoordinated information resources take a hard job and make it almost impossible to do.

> The Ministry's delivery of environmental protection programs suffers from a lack of ecosystem planning/lack of the big picture. There is no 'state of the environment' overview. We have neither the ability nor the tools to identify watersheds to set aside lands and protect them. The picture is fragmented.
>
> There is a lack of tools including software and work station configurations to do mapping and data analysis on information received electronically by the ministry, field equipment support, time. For example, there is no money for capital works (OSTAR). The water policy branch of MOE does not have any hydrogeological staff or experienced surface water staff, and has one economic analyst.
>
> The specially equipped support vehicles used for spill response are being dumped because they don't meet standardized usage requirements. Staff are told to rent them. There are only two appropriate vehicles in the whole city. Renting takes time and the two vehicles may not be available when needed. How can we respond quickly under these conditions?
>
> We are refused equipment and materials on a constant basis, i.e. insulated coveralls and maps.

[35] Clark and Yacoumidis, 2000, at page 14.

> I get [assigned] a vehicle two days a week. If something comes up in between, tough luck. The vehicles are shared which means that they are not fully equipped with safety and sampling equipment that I require. There is no access to any of our data bases since we do not have access to on-board computers. We should be spending our time in the field. It won't be long before we get a roll of quarters and a bus pass…
>
> The equipment [at the provincial lab] is 20-25 years old - which is 10 years past its prime. The capital budget has been cut by 90 per cent since 1995. Equipment funding is tied to projects or comes out of the year-end surplus, which means that there is no replacement planning. When old equipment breaks down, staff spends time fixing it. This also affects data quality (less ability to analyze new compounds, meet detection limits).

Lack of Tools Means that Legislated Standards Are Not Met by Ministry

116. Under our first recommendation, we describe how Ministry staff allotments are insufficient to maintain the level of environmental protection mandated by law. The situation is similar with other resources such as data base tools.

117. For example, during the drought of 1999, the Ministry brought in a new regulation (O.Reg. 285/99*)* prescribing that all water taking applications will be assessed on a cumulative and an ecosystem impact basis. However, the staff responsible for conducting these reviews were not given the necessary tools to perform this analysis. In fact, they were given no additional support at all. Resources such as background information, data bases, and the ability to model or predict the potential impacts as required do not exist. Therefore, even though the regulation states otherwise, the province simply does not have the capacity to make the assessment mandated by law.

118. Tools also mean legal tools, and, while Bill 82 gives field staff greater legal power to enforce, these tools are not available evenly to staff across the province (some Tech Support staff are permitted to issue Provincial Officer Orders, others, in other regions, are not).

Legal Loopholes in the Farming and Food Production Protection Act, Ontario Water Resources Act and the Environmental Protection Act

119. Legislative protection of water resources could be much stronger in Ontario than it is, giving Ministry staff better tools with which to protect the environment. Exemptions granted to agriculture should be modified to acknowledge that practices have changed.

120. In his special report on "The Protection of Ontario's Groundwater and Intensive Farming," Ontario's Environmental Commissioner observes that intensified use of rural ground and surface water – in particular by so-called 'factory farms' – has changed circumstances so much that reforms are sorely needed.[36]

121. Both the current and previous Environmental Commissioner have called for a comprehensive groundwater management framework within the province:

122. In April 1997, the ECO suggested that a groundwater management and protection strategy could contain many interrelated elements such as:

- 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.[37]

123. The province's groundwater monitoring program is discussed below in comparison to these points. For the purposes of this recommendation pertaining to tools, it suffices – with specific reference to the element noted above of "a strong regulatory program aimed at preventing contamination" – that loopholes in the *Environmental Protection Act* (EPA) and the *Ontario Water Resources Act* (OWRA) be closed until such time as a properly protective regime is in place to manage the impact on water resources of current agricultural practices.[38]

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[36] Environmental Commissioner of Ontario, The Protection of Ontario's Groundwater and Intensive Farming, Special Report to the Legislative Assembly of Ontario, Submitted July 27, 2000

[37] Ibid, at 3.

[38] The current legislative exemptions are:

The EPA:

Prohibition

> 6. (1) No person shall discharge into the natural environment any contaminant, and no person responsible for a source of contaminant shall permit the discharge into the natural environment of any contaminant from the source of contaminant, in an amount, concentration or level in excess of that prescribed by the regulations.

Exception

> (2) Subsection (1) does not apply to animal wastes disposed of in accordance with normal farming practices. R.S.O. 1990, c. E.19, s. 6.

Enforcement tools -- sampling and audit information

124. Facilities are required to monitor their operations. This data is submitted at varying frequencies to be assessed by Ministry staff to evaluate compliance. Anomalies in the data are difficult to assess months after the original sampling. While standards for quality assurance and quality control of sampling and analytical procedures have been greatly improved by recent legislative changes, the accuracy of the self-monitoring still requires independent verification.

> The Ministry currently has no choice but to believe what people tell us. Staff don't have time to verify things. For example, … we had been inspecting a sewage treatment plant for years. We had no way to verify the information from our inspections. It turned out that management staff at the plant had been falsifying records for at least a decade. The plant has an internal lab. A lab tech blew the whistle…The corporation was charged, pled guilty and the former plant supervisor accused of falsifying the records is now before the court. That's why MOE should do audits and have staff who are well trained and don't just do 'check list' inspections.

125. When Environmental Officers review monitoring reports during compliance inspections, such data include water quality results collected from groundwater monitoring wells.

The OWRA:

Interpretation

34. (1) In this section, reference to the taking of water for use for domestic or farm purposes means the taking of water by any person other than a municipality or a company public utility for ordinary household purposes or for the watering of livestock, poultry, home gardens or lawns, but does not include the watering or irrigation of crops grown for sale.

Idem

(2) In subsection (4), the reference to the taking of water for the watering of livestock or poultry does not include the taking of surface water into storage for the watering of livestock or poultry.

Taking of water regulated

(3) Despite any general or special Act or any regulation or order made thereunder and subject to subsection (5), no person shall take more than a total of 50,000 litres of water in a day,… without a permit issued by a Director.

Application to domestic and farm use

(5) Subsection (3) does not apply to the taking of water by any person for use for domestic or farm purposes or for firefighting.

"It would make a huge difference if we just had the authority to tell a farmer to get his cattle out of the creek."

126. The MOE does not verify those wells during their compliance inspections to confirm the accuracy of the data being reported. The reason for not doing such verification is simply due to the fact that the MOE does not have the sampling equipment to do the work and does not have a clear and concise protocol in place to do such verification. Consequently, we totally rely on the work performed by the owner or the third party hired by the owner.

To Fix the Current Situation

127. Ministry capital budgets must be increased to provide for planned, rational, capital expenditures to ensure they have the tools and equipment they need to carry out their jobs. Abatement, Investigations and Technical Support staff must have the necessary tools, vehicles and equipment for their work in the field. Lab staff must have equipment capable of protecting Ontario's environment with adequate test methodologies, and proper scientific standards.

Groundwater monitoring

128. Groundwater aquifers do not follow political or watershed boundaries. They should be assessed and monitored on a regional basis. The Ministry of the Environment is the logical body to carry out this mandate. The Ministry can and should take advantage of other parties with data and resources to share and aid in the overall goal of first understanding and then protecting the groundwater resources of the province.

129. 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.

130. Compare this program with the recommendations of the Environmental Commissioner:

- 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.[39]

131. The provincial program will not meet these criteria. 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 Ontario Regulation 285/99 regarding cumulative and ecosystem impacts of proposed water takings.

132. The provincial groundwater assessment and monitoring program should be the responsibility of the MOE and be coordinated by 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, therefore they should administer and guide the program.

133. 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.

[39] Environmental Commissioner of Ontario, The Protection of Ontario's Groundwater and Intensive Farming, Special Report to the Legislative Assembly of Ontario, July 27, 2000, at 3.

Well head protection

134. The Ministry should legislate well head protection zones. A crucial part of protecting ground water 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.

135. Currently, there is no regulation preventing farmers spreading untreated manure right up to wells in any amount and as often as the farmer wishes. There are only suggested codes of conduct called Best Management Practices which are not legally enforceable.

136. 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.

137. However, the guidelines do 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.

138. Several U.S. states and one Canadian province (New Brunswick) have well head or well field protection zones.

Private well program

139. 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.

140. In order to achieve these goals 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 of Ontario.

Sampling and auditing

141. Protecting Ontario's water resources requires proper sampling data, which includes providing for quality control on all labs, public and private. The Ministry should also undertake to establish a practice of random and scheduled sampling of water treatment plants. Maintaining standards and guaranteeing public safety requires scrutiny and verification.

142. To adequately assess compliance with Ministry of the Environment regulations, and groundwater guidelines and conditions of approval, inspections of facilities that have networks of monitoring wells should be conducted so that the wells are sampled at a frequency that is similar to water treatment plants and effluents from sewage treatment plants. In order to achieve this objective, each District office should have the appropriate sampling tools and a uniform protocol that will allow the collection of representative samples from groundwater wells.

Recommendation Four: The Ministry of the Environment must become proactive, rather than reactive, and make use of staff expertise in policy and planning.

Current Situation

143. Not long ago, the Ministry of the Environment senior staff were experts and scientists as well as managers. There was consultation with other staff. Formerly, non-management staff felt the Ministry 'backed them up' on their work. Recently, however, the connection between Ministry management and staff has been weakened by a managerial style that shows a preoccupation with quantity rather than quality. There is less technical expertise in environmental sciences among management staff at senior levels and, overall, less of a concern with protecting the environment.

144. OPSEU members understand this style of management is not optimal in terms of environmental protection.

145. The Ministry of the Environment now works from the top down.

> There is no upward feed in the MOE, which is a big weakness in the organization.
>
> Staff are always looking up in the organization and feel distanced from the public. Rather than serving the public, the organization serves its own bureaucratic needs. There is too much paperwork. Staff are being asked to write briefing notes which don't just give the facts, but also put the 'correct' political spin on it. … Decision-making also occurs at this higher level with no consultation with staff. This has a negative effect on performance.
>
> Top-down work planning leads to work plans which do not reflect realistic time frames for environmental protection – or all aspects (for example, subsurface disposal systems – septic tanks – are not included in the work plan although they are an important factor in water quality). Work plans are also affected by the crisis style of management. Inspection of Water Treatment Plants was an optional activity two years ago. Post Walkerton, we need to inspect every year "until the controversy dies down."

146. Senior management-level decisions concerning ministry policies and action sometimes appear to be made based on political considerations, or pressures from other ministries or other factors that do not relate to the ministry's mandate to protect the environment.

> We fight fires instead of taking a preventive approach. For example, proactive programs such as well head protection and groundwater studies are given low or no priority.
>
> There is a lack of technical skills and leadership in management. … A manager recently said that they were 'issues managers'… My manager has said "I don't want to know about that technical stuff.
>
> Priority is given to administrative and reactive work, rather than proactive areas such as well head protection. For example, one abatement officer was told not to respond to a spill that was going directly into a waterway. His priority was to write a briefing note. In preparation of the 'Delivery Strategies' document, another staff person recommended that priority should be given to wellhead protection. This was overruled.

147. Some management-level staff members have limited expertise in environmental science.

> There is a lack of expertise and knowledgeable water management leading the MOE on water issues on policies, programs and direction. Input from experienced people is not there from the unit head up. … This expertise is not there at the management and decision-making level. Lack of consultation with staff who have the expertise exacerbates the problem.
>
> Management needs to consult with staff in order to focus on the real sources of problems and acknowledge areas that have the greatest impact on environmental protection. These need to be recognized in the work plans so we focus on where we can have the best results. This will require consultation with the staff in development of the work plans.
>
> For example, take Reg. 459/00. There are great parts to this legislation, but large plants that ammoniate (such as the City of Toronto) are not accommodated. … Experienced staff were not consulted.
>
> Senior staff who have expertise should be involved in staff development.

148. Management also appears to staff to be very concerned with the measurement and counting of Ministry functions, as opposed to being concerned about environmental protection. "People can 'count' inspections whether they were cursory or thorough – or whether or not they accomplished anything for the environment. Few of our 'measures of progress' actually measure aspects of the environment itself."

To Fix The Current Situation

149. If the Ministry were concerned about saving Ontario taxpayers money, it would follow the old saying that "an ounce of prevention is worth a pound of cure." Proactive, preventive programs only seem expensive until one considers the cost of cleaning up after a disaster such as the Walkerton Tragedy. The Ministry must change its focus from 'fixing' environmental problems to 'anticipating and preventing' them.

150. In so doing, the Ministry would come closer to its own Statement of Environmental Values: "The Ministry's environmental protection strategy will place priority first on preventing and second in minimizing the creation of pollutants that can damage the environment."[40]

151. In undertaking this new, proactive direction, the Ministry could greatly improve its performance overall by consulting with its staff and involving them in decision-making about priorities, programs and policies. The staff of the Ministry of the Environment are a great resource – committed and capable – who are better qualified than anyone else in the province to build a proactive program of environmental protection.

152. Ministry procedures for policy and program development should include an internal consultation process that must also include the necessary time allotments for meaningful and effective consultation with staff.

[40] See http://www.ene.gov.on.ca/envision/env%5Freg/er/sevs/sa4e0001.htm

Recommendation Five: The Ministry of the Environment must provide adequately skilled staff and organizational support and ensure funding to build and maintain Ontario's drinking water infrastructure.

Current Situation

Provincial funding support for sewage and water treatment plants

153. In 1995 the province reduced its support for sewer and water services by cuts to MOE allocations to the Ontario Clean Water Agency (OCWA).[41] The budgetary reductions to OCWA totaled $142.5 million between 1995/96 and 1997/98.[42] These cut backs affected the Municipal Assistance Program which granted funds to municipalities for sewer and water infrastructure.

154. In addition to the budget reductions, the Province introduced Bill 107, *The Water and Sewage Services Improvement Act*, in January 1997. Enacted in May 1997, Bill 107 had two major components.[43] The first provided for the transfer of ownership of provincially owned water and sewage treatment plants to municipalities – approximately 25 *per cent* of the plants in the province, mostly in rural areas. The second major component was the government's May 1997 budget, which announced a one-time transfer of $200 million to municipalities for sewer and water infrastructure support. These funds established the Water Protection Fund, intended to ease the transfer of provincially-operated sewer and water facilities to municipalities.

The current state of Ontario's water infrastructure

155. The Water Protection Fund has expired, and many of Ontario's water treatment plants and sewage treatment plants and other elements of the water system are old, crumbling and need repair.

156. Current funding plans are not adequate to maintain Ontario's water infrastructure.

157. Small communities – Walkerton is a good example – face particular challenges in maintaining the infrastructure required to provide safe drinking water.

> Small water systems face many unique challenges in providing safe drinking water to consumers. The substantial capital investments required to rehabilitate, upgrade, or install infrastructure represent one such challenge. Although the total system need is modest compared to the needs of larger systems, the costs borne

[41] Winfield and Jenish, 1996, at 3-33 ff.
[42] Ibid.
[43] Ibid.

on a per-household basis by small systems are significantly higher than those of larger systems.[44]

158. As illustrated on the following chart, small centres cannot adequately finance safe drinking water infrastructure through property taxes alone. The *per capita* costs are too high.

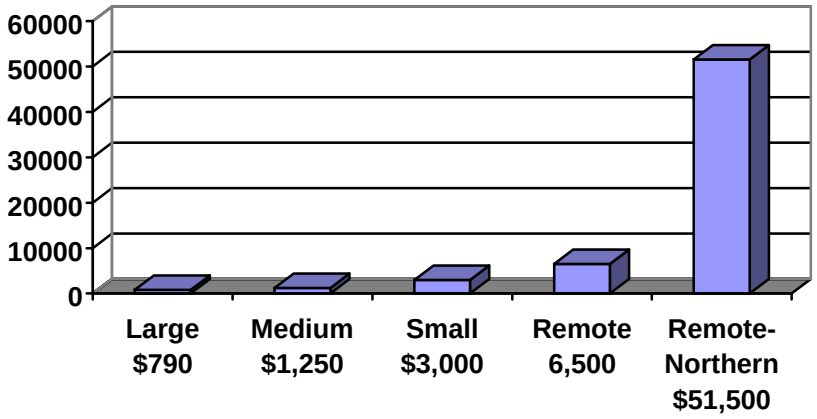

Figure 1

Per-household costs of water service delivery increases dramatically in smaller, more remote communities. Source: US Environmental Protection Agency.

159. The Ministry of the Environment is best suited to determine how Ontario's water infrastructure will be publicly supported. It must build its own capacity to make this determination. The Ministry, due to downsizing and retirement, no longer has the internal expertise required to make good decisions about how the provincial water infrastructure should be managed. Sufficient expertise is an essential element of a well-managed water system that protects the public interest. As a central source of expertise, the province would spare municipalities both the expense of seeking solutions in isolation and the cost of making sub-optimal choices.

To Fix the Current Situation

160. The proper funding and maintenance of the whole system in Ontario must be ensured. This means about two-thirds of the system (those parts outside of major urban centres with sufficient tax bases to maintain the costs of their own systems) must be maintained at least in part with public funds. Many hundreds of millions of dollars will be required.

[44] U.S. Environmental Protection Agency Office of Water. Drinking Water Infrastructure Needs Survey: Second Report to Congress (Washington DC: USEPA, February 2001)

161. As a first step, the Ministry must undertake its own evaluation of the infrastructure needs, determine priorities across the province and take the lead in determining how the overall project will be financed and implemented. (OPSEU will make other submissions about these issues. This submission is focussed on the structure of the MOE itself.) The Ministry must retain sufficient expertise to be able to make the determinations described in the last paragraph. Trained ministry staff with engineering expertise are necessary to assess community needs and the technical solutions to them. Economic and policy expertise is needed to develop an overall framework that will ensure the existence of the needed infrastructure.

162. The significant expertise of the Ontario Clean Water Agency should also be fully utilized.

163. Once the appropriate framework is in place, it must be implemented. The Ministry must have the capacity to supervise that implementation. Staff must be in place who can stay abreast of the economic and policy challenges inherent in following through with such a project. Changes in water treatment technology must be tracked and incorporated. Continuous quality maintenance must be ensured. The Ministry must redevelop the capacity to conduct the needed supervision and inspection, and to have expertise on call when problems in the field surpass the capacity of inspection staff.

Conclusion

164. For OPSEU members, the tragedy at Walkerton was deeply felt. When the crisis began, OPSEU members and retirees from across the province responded quickly and around the clock to help. They were from the Ministries of the Environment, Natural Resources and Health, from the Ontario Clean Water Agency, from hospitals in Walkerton, London and Owen Sound, from the Bruce Grey Health Unit, from land and air ambulance services and from many other workplaces. They were water treatment plant operators, lab technologists, environmental officers, hydrogeologists, administrative assistants, land and air ambulance paramedics, public health inspectors and others. OPSEU members never want to see the incidents at Walkerton repeated in any other community.

165. The recommendations in this report are offered to the Walkerton Inquiry in the spirit of proud service to the public, and with the conviction that we can and must learn from the errors that led to the tragedy. It is time to move forward better prepared to protect the public interest, the environment and communities like Walkerton – small in size, so significant in their contribution to Ontario's social fabric and economy – and fully entitled to be protected from the risks of unsafe drinking water.

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APPENDIX A: SUMMARY REPORT OF WORKSHOPS WITH OPSEU MEMBERS

The Ontario Public Service Employees Union (OPSEU) held workshops in six locations across Ontario with MOE staff represented by OPSEU in February and March 2001. The workshops were held in London, Hamilton, Kingston, Thunder Bay and two locations in Toronto. The workshops were held during work time and, in most cases, in the workplace. The employer gave approval for the participants to attend.

The participants' names and all identifying information have been with held at their request.

Summary report of workshops with OPSEU Members:
OPSEU Input to Part Two of the Walkerton Inquiry
Workshops #1 - 6
February – March 2001

Participants

At the request of the 52 participants, their names will not be released.
Facilitator: Bev Burke.

Part One: Workshop Overview

Objectives

1. Review stages in the engagement of the MOE in the water system in Ontario and the role played by participants at each stage.

2. Identify key strengths and weaknesses of MOE's engagement in the system.

3. Develop and prioritize Recommendation to address the weaknesses identified. Identify what needs to happen within the MOE for these Recommendation to be implemented.

Agenda	**12- 4:30 p.m.**
12:00	Lunch
12:30	Introductions MOE engagements in the drinking water management system in Ontario
1:00	Identify strengths and weaknesses in the system
2:15	Draft Recommendation to address weaknesses
4:00	Prioritize Recommendation (if required) Closing remarks
4:30	Adjourn

Part Two: Process and Results

Objective one:
Review stages in the engagement of the MOE in the water system in Ontario and the role played by participants at each stage

Process
A wall chart had been prepared with the stages of engagement: watershed/aquifer, raw water source, water treatment plant, water mains - storage and distribution, and service and connection. Each person was asked to write on a post-it note their name and function at each stage on the chart and to post these at the appropriate points.

Results
Workshops 1 –6 : Confidential at the participants' request.

NOTE FROM WORKSHOP #2: re: role of abatement officers
Abatement officers are frontline people who deal with the public. The term 'abatement' is not an accurate representation of their duties. There is some geographic assignment – but everything comes to abatement. They are field workers – front line 'cops', responsible for responding in order to protect the environment. There is no specialization – which is a problem. The differences noted in the descriptions below are due to factors individuals chose to highlight rather than a reflection of differences among the duties of the abatement officers.

NOTE FROM WORKSHOP #3:
- Difficult to situate ourselves given new regulations coming out and redefining water works.
- All our officers do inspections and all the jobs given the nature of the region and the size of the workplace.

NOTE FROM WORKSHOP #5:
Most participants had at least five years experience in the Ministry with the majority over 10 and several over 25 years.

Objective two
Identify key strengths and weaknesses of MOEs engagement in the drinking water system.

Process

Participants were divided into 3 groups. Each group was asked to:

- Identify two (or three) main strengths of the drinking water system in Ontario (and give an example from your own experience for each point).

- Identify two (or three) main weaknesses of the system at the point(s) of engagement where your function is involved. Be as specific as you can. For each point, give one example from your own experience.

Groups were asked to headline in large letters on post-it notes with a marker pen the strengths and weaknesses identified and to write their example for each point on the back. Groups first reported back the strengths and posted them, with related points grouped together. Weaknesses were posted on the wall chart of MOE's engagements at the relevant point .

Results: The following strengths were identified:

Workshop #1 - Strengths

- *Ability to source good quality water* The Ontario system still maintains high quality drinking water compared to other systems as a result of MOE drinking water monitoring and DWSP database over more than 10 years.

- *Well established* We have an international reputation for quality data; expertise in diverse analysis and facilities to provide efficient service.

- *New drinking water protection regulation* This makes standards a point of law, not just 'objectives'. This means that waterworks having non-compliance such as a high bacterial result can have action enforced by MOE inspectors.

- *High quality unbiased testing and reporting* MOE maintains a close supportive relationship with other MOE branches/divisions on scientific technical issues related to testing; emergency testing capabilities (example in tire fires)

- *Focus on environmental protection, not profit* Data gathering and interpretation /analysis of trends in the public interest.

- *Reference capabilities* extensive methodology; legal protocols in conjunction with IEB - court case samples. Participants noted than when a sample is needed for legal purposes, the MOE lab is the one called in to do the testing. The MOE staff are regularly consulted by private labs.

- *Formalized relationships among different stake holders* For example, between the province and municipalities.

- *Concentration of expertise in one location* Allows people to consult with other specialists, have access to a library which includes most major journals - and is cost effective.

Workshop #2 - Strengths

- *High quality and commitment of the staff* Each group noted the staff as a strength, making the following points: staff are dedicated and technically capable (for example, scientists with worldwide reputations/with many published scientific articles and qualified as expert witnesses in their field); experienced field staff and abatement staff; high quality technical support and labs- (noted importance in residue management from treatment plants.)

Comment from one participant in the report feedback. Although the group identified this as a strength for the staff remaining within the MOE, it should be recognized that the MOE has lost a significant number of its scientific staff either through staffing cuts or attrition and that these positions have not been readily filled with the experienced individuals.

Legislation and guidelines were also a strength noted by each group. MOE is more often than not effective at obtaining convictions in legal proceedings. (e.g. we win 60% of legal cases); Compliance tools (Bill 82 training) means we can search, seize, acquire equipment and can issue orders - a big change from earlier field orders; Guidelines developed for best management practice and consultation with stakeholders (for example, landfill standards, Ontario Farm Plans, Ontario Pesticides Advisory Committee).

Comment from one participant in the report feedback. Although the groups identified this as a strength, it should be recognized that this was being presented as a 'tool' available to staff to use. It should be recognized that much of Ontario's groundwater is still being managed in a manner that is framed by only guidelines and not legislation that can be easily enforced, examples being the assessment and clean-up of contaminated sites which have not caused an adverse affect off-site, assessment of large sub-surface septic systems greater than 10,000 l/d volume, spray irrigation scenarios for waste water etc.

- *Emergency response* A strength is the ability to address high profile, crisis oriented, once a decade occurrences on publicly sensitive issues. (e.g. Mississauga Train Derailment (1979), Hagersville Tire Fire (1990), Walkerton well contamination (2000), spill action, site support team 1980-1987). There is less paperwork in an emergency, and the organization is clearly focused. *Note:* A caution that some Technical Support Section staff require both training and equipment to be in a position to handle serious environmental emergencies.

- *Ability to deal with political sensitivities (flexibility)* For example, MOEs handling of relations with an industrial company or other stakeholders.

Workshop #3 - Strengths

- *Staffing* Everyone agreed that the high commitment of staff to improve water and the environment was a strength. The recent hiring of more water inspectors (both in abatement and TSS) was also seen as a move in the right direction to give EOs more staff hours and therefore more time for proactive studies.

- *Standardized approvals* Two groups saw this as a strength. The new standard formats have not been used or tested as yet. However, the review and reissue of C of As will level the playing field, be more accurate and provide uniformity across the province.

- *Mandatory abatement* More provincial officer orders issued.

- *New comprehensive, world leading regulations/legislation* Reasonable Use Guideline (B7) provides effective tool for protection of off-site water quality. Reg 459/00 means that all water supply systems are being looked at and brought up to 'standards'. First time we have a system for classifying communal water sources and specifies treatment requirements for each type. Requires engineering reports every 3 years, annual inspections, POOs written to ensure compliance, detailed sampling programs put in place.

- *Proactive funding* Water protection fund makes monies available to do proactive work (for aquifer source area delineation and for well head protection plan development) .

- *Recent MOE provincial water workshop in Peterborough* First one in a decade, provided the opportunity to look at an overview of the system.

Workshop #4 - Strengths

- *Committed and knowledgeable staff* Local staff who know the area, combined with head office specialists when needed. There is still in the MOE a strong historical knowledge base around water. Some of the MOE staff are the best in the world in their field.

- *Instruments and standards* The MOE system of legislation, policies, regulations, enforcement orders etc. (for example, Certificates of Approval, Drinking Water Standards), protect the environment when they are followed.

- *Provincial Officers Orders* Mandatory abatement to achieve compliance or amelioration. When we find a problem, we can act. The POOs give the legislation some teeth.

- *Regional and District Offices structure* This structure allows for a local presence and knowledge, and increases rapport and credibility with the local population.

- *Public access* Abatement officers located locally provide relatively easy access for the public.

NOTE: In the discussion we noted that some of these strengths (i..e. instruments and standards) are only about one year old.

Workshop #5 - Strengths

- *Dedicated, committed and knowledgeable staff* All groups came up with this as a major strength of the Ministry.

- *Legislation and Tools* All groups mentioned legislation as a strength. We have a good abatement 'tool kit'. Provincial Officers Orders require immediate action to take place. Provincial Offences Act tickets are an immediate way to take action against infractions of the law.

- *Respect for the MOE* While this is being eroded, there is still public trust - and some fear - of the MOE. If it wasn't there, how else could we go out into xx county and say "you ought to be doing this" and they do it? We have the force of law behind us.

- *Broad, public interest focus* As a provincial agency, we see the issues independent of parochial interest, political and watershed boundaries. We are in a position to see all of the problems and can rank them in order of importance and deal with trans-boundary issues effectively.

- *Field access* We have staff who spend time out in the field where the problems are happening and can provide first hand information on what's going on.

Workshop #6 - Strengths

- *People - dedicated staff* We have many people who are putting in a lot of unclaimed overtime. Staff tap into a lot of expertise among their peers, now spread across the province. We rely on the knowledge of our peers in dealing with a compliance situation. We used to rely on our regional lab people as well.

- *Legislation*

- *Compliance tools* (Bill 82) The strength is that we can act directly.

    - *Control documents* including C of As, Permits to take water, Conditions, Limits, Field Orders which is a direct response to a circumstance.

    - *WDS approval*

    - *STP approval* - the whole EA either municipal or industrial. It is important that we are involved right from the beginning so we can make Recommendation in how to design the facility to avoid problems.

    - *Official plan policies* the MOE still has a commenting role with official plans. So we do make sure that policies include protection of surface and ground water.

- *Data bases have improved* For example, water well records. There are about 500,000 records for this province and the ministry has taken the initiative to computerize all of these records. They are available to the public, to real estate people, consultants etc.

The following weaknesses were identified*:*

Workshop# 1 - Weaknesses

- *Communication problems* in the interaction between field staff analysts and the lab. For example, they are supposed to preserve the sample, but they don't; or the quality is poor and it has to be redone which is a waste of resources.

- *Workload/crisis management* Lack of an emergency response plan. For example, in the case of Walkerton people were taken from their jobs for several months and the samples pile up. With crisis management there is no slack when the crisis hits. This is affecting morale in the lab. Private labs call MOE looking for expertise and leadership. This will likely increase - further strain on workload. Municipalities want MOE testing, especially when legal standard is required. They don't trust private labs. Government labs have developed the methods, are neutral - have no stake. Workload situation also means never making method development targets.

- *Lack of training* Some people lack training; others need to have updated training in current methods - and there is a lack of resources for training.

- *Diminishing scientific expertise in the lab* (see below re no succession planning) One anecdote about what staff and expertise in the field looks like now - a 'super tech' who fills in when people need extra support in various locations, told of an experience in the field where he requested someone to talk with who had expertise in an area and being told that the 'expert' was a summer student.

- *No succession planning* The average age of MOE staff is 47. People are retiring who have expertise which is not being replaced. For example, one scientist just retired who could tell by the 'smell' of a sample what the problem was - the kind of expertise that comes only with experience. There are uncompetitive pay scales for senior scientists so the MOE can't attract new people. [Name with held] is the sole microbiologist at the lab. When she was hired they were not sure that the position (vacated by the previous sole microbiologist retiring) would be preserved. She had been at her job about a year when the Walkerton tragedy occurred, and "the Ministry would have been in a terrrible position had she not been there."

- *No enforcement of the new regulation* Waterworks are to be inspected once per year - lack of resources to do this. The reg will likely be expanded to smaller waterworks as well. This will quadruple the workload a year from now.

- *Variability of proficiency of waterworks between large cities like Toronto and small towns* For example, Toronto has its own lab and is proactive in bacterial evaluation. Small waterworks have few staff (1-2) that do everything (including snow clearance) and have no formal bacti experience.

- *Decisions politically driven, rather than scientifically driven*

- *Lack of consultation with front line staff* - for example, around the new DW regulation. Staff would have emphasized that enforcement of the regulation will mean the need for more staff to monitor, test etc. -

- *Unclear role/mandate of the MOE* Is it to be a regulatory body and reference centre (for other labs etc.) and/or a production lab that does testing. 50% of the cuts were in production - and there is less and less testing going on. However, to continue to be a credible reference centre, we also need to be doing testing.

- *Privatization- testing/auditing* Private labs will meet guidelines but censure other data while the MOE will show the complete results (dioxins, sulphates, volatile organics, chlorides might be some of the traces not included in the private lab report which would be included in the MOE report). The public should have a right to all the data. For MOE to provide sufficient oversight for private labs, there would need to be more resources allocated. MOE has reduced involvement because of the cuts - in a context where there is MORE involvement needed to ensure water quality is maintained. Instead we have more self-monitoring of industry and municipalities.

- *Outdated equipment* Equipment is 20-25 years old - which is 10 years past its prime. Capital budget cut by 90% since 1995 - drop in base line around equipment. Equipment funding either tied to projects or comes out of the end of year surplus, which means that there is no replacement planning. When old equipment breaks down, staff spend time fixing it. This also affects data quality (less ability to analyze new compounds, meet detection limits etc.)

Workshop #2 - Weaknesses

- *lack of supporting policies and programs to carry out the MOE mandate/no proactive work* We fight fires as opposed to taking a preventative approach, for example: on well head protection, groundwater studies/ strategy and framework. Proactive issues given low or no priority. Requires documentation and time to prepare pro-active water management plans. For example, provincial GW studies require stakeholder involvement, scientific consultation, resolution of issues at different scales and it would make sense to use these processes in defining provincial water policies.

- *Inadequate resources (financial and human)* There is a major imbalance between workload and staffing; For example, some files cannot be dealt with for 2-3 years because there are other pressing issues. We require C of A reports, but we don't have time to review them. Pressure to get the work done fast is an unacceptable way to manage an office. It takes time to evaluate a project and write it up properly, especially when it might end up in court. The work of the hydrogeologist is assessment work on land use proposals, contaminated site clean-up. We have to assess and make recommendations which are reasonable, thorough, professional. There is a lack of tools including software and work station configurations to do mapping and data analysis on information received electronically by the ministry,

field equipment support, time; For example, there is no money for capital works (OSTAR). Ontario does not have a ground water monitoring plant, although every developing country has one; the water policy branch of MOE does not have any hydrogeological staff or experienced surface water staff, has one economic analyst.

- *Field staff shortage* For example, Owen Sound has 54-56 water plants to inspect and there is only one field staff to do it. It is possible to do one inspection per week but then there is follow-up, reports, the paperwork. If things are good, he can do it. If not, it will take a lot longer. The Operational Plan needs to be changed. There has to be long-term plan for dealing with emergencies like Walkerton. We used to have water well inspectors but all have been fired but one. There are 651 plants in the province, and these are just municipal plants, and we don't yet include the smaller ones.

- *Lack of training and no succession planning* Up to 1996 we had a training program for field staff which was disbanded. Retirement will take away knowledgeable staff, and there is no mentoring program. The average age of MOE staff is 47 so this is a serious weakness.

- *Lack of knowledgeable management /lack of vision* There is a lack of expertise and knowledgeable water management leading the MOE on water issues on policies, programmes, direction.Input from experienced people is not there from the unit head up. The director's committee does not know what happens to your projects. Environment is the study of a lot of different subjects involving many sciences. To understand how they relate, you need an analytical mind. This expertise is not there at the management and decision-making level. Lack of consultation with staff who have the expertise exacerbates the problem.

- *Monitoring reports of C of A s not being reviewed on a timely basis* - due to staff shortage and availability of technical expertise. These reports are to be submitted each year, but due to shortage of staff in the Technical Support Sections of each region, they do not always get reviewed annually by the Ministry. As a result, some reports wait for as long as three years to be reviewed. This defeats the whole purpose of requiring operators/owners of waste disposal sites to submit an annual status report to determine the environmental conditions at the site. If the reports are not reviewed on time, there is no way for the Ministry to determine the extent of potential impact to the environment (groundwater, surface water) as a result of the leachate coming from the landfill.

- *Inadequate legislation* For example, Reg. 459/00. There are great parts to this legislation, but large plants that ammoniate (e.g. City of Toronto) are not accommodated. Need to come up with legislation now, within the next three months. Engineer reports cannot comply with the new standards as they are presently written. Experienced staff were not consulted. Should have separated the legislation into large and smaller plants.

- *No accountability at the senior level* There is a high Minister turn-over, so the government is not doing its job of overseeing senior management.

- *Decisions sometimes appear to be politically driven, rather than scientifically driven* For example, regulation 459 was put together because they needed to get a regulation out there but didn't take the time to consult. Review of development proposals is to be based on the guidelines. However, developers often have political connections. Approval for 400 houses is given based on the assessment by the Hydrogeologist and on the regulations. However, approval can sometimes be raised to 800 houses based on influence. The past 3 governments (Conservative, Liberal and NDP) would all support staff in legal matters. This government appears to give no protection from prosecution - you are on your own unless the union supports you. Employees feel that they will be made scapegoats by the government should serious environmental issues arise.

- *Lack of consultation with front line staff* Hydrogeologist is asked for input at the end of the process or not at all. Tech support is often not consulted for new policies or only consulted at the last minute. It is interesting that it is OPSEU who organized this workshop. MOE management should be doing this kind of consultation.

- *Shroud of Secrecy - lack of communication with staff* Linked to lack of consultation. For example, they are possibly going to hire 25 new inspection officers on contract, with no experience who will not have a commitment to the MOE. These people leave once they get training and experience.

- *Shortcomings of the MOE Delivery Strategy - split roles* One group for enforcement (the EOs) and professionals only in advisory position. As a result, methods not always vigorous, EOs make decision on their own without professional input. Priorities (which file is done first) between MOE Abatement and MOE Technical Support are not always the same. Example: Pesticide cases of EOs - The pesticide program is compliance driven, but needs specialized knowledge. Before the new Delivery Strategy Pesticides Officers did the same abatement and investigative work like EOs do, and had the expertise to run the program. EOs are very capable people, but cannot be experts in everything. They receive a few days training on each type of work they handle, and there is no requirement for mandatory involvement of professionals, this can lead to errors in judgment.

Workshop#3 - Weaknesses

- *Lack of experience in management* There is a lack of technical skills and leadership in management. They are out of touch with the actual hands-on work. A manager recently said that they were 'issues managers'. The sense is that the science/technical stuff can be learned on the job - all the manager needs are soft skills and an appropriate attitude. My manager has said "I don't want to know about that technical stuff". This has also led to 'bean counters' - based on political/administrative rather than environmental considerations. There are no 'beans' for protection, proactive

work. Recently, the new minister wanted every brief reformatted so she could read them. This kind of thing takes the little time we have away from protecting the environment. It also means that management is unwilling to make technical decisions. They look for input from junior people who are under undue stress and pressure. Without the technical background, management can't defend the decisions taken - and you are left with no one to back you up on issues.

- *No priority to proactive work such as wellhead protection* Priority is given to administrative and reactive work, rather than proactive areas such as wellhead protection. For example, one abatement officer was told not to respond to a spill which was going directly into a water way. His priority was to write a briefing note. In preparation of the 'Delivery Strategies' document, another staff person recommended that priority should be given to wellhead protection. This was overruled. At present there is nothing in Northern Region, and possibly other regions, in terms of wellhead protection rules. Wellhead protection is strictly in the hands of municipalities...there are no provincial regulations or guidelines.

- *Lack of checks and balances between agencies/lack of overview of the water system* There is a lack of checks and balances to ensure that there are no gaps between agencies, and to monitor how they are interpreting and enforcing their mandates. For example, the Health Units were not informed of Delivery Strategies and change in MOE role. Abatement inspections do not look at well construction or well head protection. Therefore a water system could pass the current abatement inspection and still have unsafe water entering the well.

- *Lack of continuity/crisis orientation* For example, EOs switch areas every few years but there is no mechanism in place to ensure an ongoing overview of the historical performance of the water system in differenet areas. The present focus of the ministry is on water so other things, such as sewage treatment systems, are on the back burner for the moment, waiting for a crisis. MOE staff have observed that ministry is always fully prepared for last year's crisis..

- *Inadequate resources* Not enough staff and new staff positions are one year contract rather than permanent. In the next 5 years, one half of the experienced people in technical support-water, will be retiring. As far as we know, at the moment there is only one region in which an employee performs a significant number of well inspections. Such activities are not rated as priorities in the Ministry delivery strategies. Having our own lab meant that the information was available and comprehensive and we had lab people as a resource to the EO on the water quality in the region. The specially equipped support vehicles used for spill response are being dumped because they don't meet standrdized usage requirements. Staff are told to rent them. There are only two in the city which are appropriate. Renting takes time and the two vehicles may not be available when needed. How can there be a response time that is acceptable under these conditions?

- *Problems with legislation* Legislation is implemented so quickly that working definitions do not exist- for example, 'GUDI" - groundwater under the direct influence of S.W. Need more involvement of staff in the development of new regulations. Blank approach to monitoring has resulted in hardships to municipalities that can't comply to the Reg . There is a need to define 'source' for 'six or more' communal. Trailer park owners are treated in the same category as a town and have to be certified as operators. Certification standards are impossible for these small operators - we need to find some ways to help them comply with reasonable standards.

- *Lack of regulation for small systems* We need a definition of who is responsible for which small systems. Trailer parks are the most at risk water systems. If there were a problem in a system such as Algonquin Park, it would be impossible to identify the source since people travel from all over the province (and out-or-province) so the first signs of health problems could appear anywhere. However, a manager actually said: 'you only drink the water in the provincial parks on the weekend'. In the past, we inspected small systems. However, since no other areas could get to these systems, this region was told to stop doing their inspections - otherwise it would make other regions in the MOE look bad.

- *Lack of resources and tools to do surface water predictive modeling* For example, when there is a spill of sulfuric acid into the lake system, there is no ability to model that - to see what the impact would be.

- *Distribution system* There is a lack of regs for small distribution systems. Stats would show that the majority of adverse samples are from the distribution systems but we are currently directed not to look at the distribution system when doing inspections.

- *Approvals for old C of A's* Certificates of approval can be as old as 30 years. It is not defined in the document as to what was required.

- *Data retrieval* ORIS is inadequate, due to the Y2K problem. The new system is not up and running yet. So you can't find the data you need. For example, in Walkerton, there was no one source for information on the system. It required a lot of detective work over several locations to get the information we needed.

Workshop #4 - Weaknesses

- *Inadequate resources* Both staff and support (e.g. training, tools, administrative.) There are not enough staff. And any new staff are being hired on contract rather than permanent. This means they could be gone in two years. The 50 new (contract) EO2s are being hired to reinspect WTPs already inspected. There is a lack of succession training (see below.) and training in general (for example on the new reg). Staff are asked to take on new tasks without sufficient training.The last DW training course

was 12 years ago. There is a need for support staff to assist with report writing to permit abatement officers to spend their time in the field and not at their desks.

- *Lack of succession planning* The class of '73 is about to graduate and there has been no training plan put in place to ensure that their expertise is maintained. For example, when all previous WTP inspectors retired, no time or effort was put into training new inspectors (for the 13 public WTPs in Hamilton – there are also 30-40 private). When you don't know the plant it takes much longer to do an inspection.

- *Crisis rather than proactive management* Whatever is on the front page gets top priority. We have the tail wagging the dog. For example, the Hagersville tire fire and Plastimet where they built a huge infrastructure AFTER the fact, had both been OLD issues before the actual crisis hit. The safe drinking water act had been sent to Cabinet at least 4 times but lack of resources and political lobbying from the petroleum industry blocked it - until Walkerton. However, often the response is an over-reaction. For example, new contract staff have been hired to inspect municipal WTPs that we just inspected while private water supplies and subsurface are not being touched. The Minister responds to a few vocal individuals or groups rather than to the needs of the environment. There is too much political interference.

- *Fragmentation of expertise* There is a lack of a critical mass so we rely on individuals to make decisions. This means that when those individuals leave, we lose their expertise, and sometimes their function (ie landfill specialists). We lose continuity of staff on certain project files. For example, George Hughes, Lloyd Logan when they retired , MOE lost that function. Available information is also fragmented and isolated in separate data bases. The best information is OLD. We have lost lab function and the ability to do surveys in order to generate new data and answer new questions and issues. Specialists have become generalists. Staff used to specialize (in water and sewage for example) but new staff are generalists. In the reorganization, specialized groups (water etc.) were broken up. This fragmentation does not work for the front line people. The water planning people were together (in Peterborough) for a workshop for the first time in 8-9 years.

- *Management by "bean counting"* People can 'count' inspections the same whether they were cursory or thorough – or whether or not they accomplished anything for the environment. Few of our 'measures of progress' actually measure aspects of the environment itself. There are many steps involved in any data that are sent out to the public. More work and effort is put into paperwork for the process than there is in responding to the request. Our region gets the largest number of FOI requests per year (@ 10,000) but there is no coordinated corporate data system to deal with them. We also spend a lot of time on internal reporting through STAR (System for Tracking Activities and Resources). It seems strategic - to keep staff so busy at their desks that we can't get out in the field. Tech support are no longer allowed to write occurrence reports and go out in the field. Downloading of work to'abatement'started around the cuts and continues through each crisis.

- *Top-down work planning* This process leads to work plans which do not reflect real time frames for environmental protection – or all aspects (e.g. subsurface disposal systems were not included in the work plan although they are an important factor in water quality.) Workplans are also affected by the crisis style of management. WTP inspection was an optional activity two years ago, although we did do them. Post Walkerton, we need to inspect every year "until the controversy dies down". Internally, there are not enough staff to work on orders arising from these inspections.

- *Unenforceable policies* For example the ODWS, prior to reg 459, were just objectives (policy) and so were not enforceable until we got the legislation.

- *Lab reports* There is an enormous lag in delivery (it can take 6-8 weeks turn-around time – and a month for health samples.) This means that if there is a problem we are delayed in taking action on it. The MOE lab reports are difficult to read and lend themselves to mistakes. (Private lab reports are easier to read). For example, the standards are not included and have to be looked up. The report does not list the items in the same order as the standards so one has to be extra careful in reading them. This takes time away from dealing with the problems. There used to be lab analysts who dealt with specific issues such as water quality and knew adverse water. They would phone staff directly if they found bad results ("bad news Alice")

- *Data information systems* Abatement officers have to input data in a multitude of ways (STAR, EDRIS, ORIS etc.) Leads to additional hours spent at the desk rather than out in the field.

Workshop #5 - Weaknesses

It was noted that some are the flip side of the strengths since some of these strengths are being eroded.

- *Lack of pollution prevention tools* - including policy, legislation in areas such as watershed protection. People who are keen to go out and use the tools we have get repeatedly knocked down for it until they are no longer keen.

- *Erosion of staff and management expertise* We used to have people who specialized but over the last several years, we have seen the rise of the generalist. Even the generalist knowledge has waned considerably from what we used to have. We are not able to develop knowledge like we used to. (See lack of training below) There has also been an erosion of management's technical expertise so that decision makers are often those with the least expertise. Senior staff who have expertise should be involved in staff development.

- *Lack of training* 25 out of school EO2s are going to inspect what we feel is probably the most sensitive issue we have today - waterworks - after one month's training. The MOE lacks a learning culture. We share the responsibility with our employer to keep current in our field. There are two weeks allotted to training each

year, but this is not widely known or utilized by MOE staff. The training we are receiving isn't necessarily what we need. One participant was asked by a supervisor to develop a training plan for himself. Assuming staff will get support for their training plans, this is a new practice which might help encourage more staff training.

- *Lack of resources* Some participants expressed fear that saying there is a lack of staff sounds self-serving. However in follow-up discussions, several people noted that if OPSEU doesn't express this concern on behalf of its members, who will? There was general agreement among workshop participants that more staff are required to do the job. The loss of local labs has effected the ease of sampling. Samples aren't taken because they can't be handled. For example, a few weeks ago arrangements were made for a sample to be looked at on Saturday at the lab. They called on Monday morning because the samples were received on the loading bay on Saturday but the guard didn't know what to do with them so no analysis was done. We used to do follow-up of the facility we were concerned about. Over time we handed that over to summer students, without proper guidance to insure they were inspecting properly. Now there is no physical follow-up. Some people felt that more staff would be an exercise in frustration until the management bottleneck is addressed. Another opinion was that the bargaining unit deal with demands and work load and the administrative issues be left for management to deal with.

- *Political interference/ Silo/box mentality* Staff are always looking up in the organization and feel distanced from the public. Rather than serving/interacting with the public, the organization spends too much time serving its own bureaucratic needs. There is too much paperwork (Star, frequent briefing notes. This is a new development over the last five years) Staff are being asked to write briefing notes which don't just give the facts, but also put the 'correct' political spin on it. For example, in the months leading up to a crisis, field staff send notes saying they don't know what is happening. The notes get massaged and the minister's notes eventually say that the problem is being managed effectively. The message is that you should modify your ideas to those of the government - not what you think would be effective. All of this hamstrings the field staff. One person was told last year by the regional director that his #1 job was to protect the minister. Decision-making also occurs at this higher level with no consultation with staff. This has a negative effect on performance.

- *Reactive rather than proactive* Lack of proactive abilities in agriculture, water reporting etc. We react to pollution rather than trying to prevent it. It is difficult to establish a protection zone to protect a well since it is not popular politically. The new reg is an example of really bad implementation in response to a crisis, with little regard for its impact.

- *Organizational chart distortion* We used to have a water resources branch for water resources. Now you have to go to several parts of the Ministry.

- *Lack of ecosystem planning/lack of the big picture* There is no 'state of the environment' overview. We have neither the willingness nor the tools to identify watersheds to set aside for certain land uses and protect them. The picture is fragmented.

- *Bean counting vs. the environment* The analogy might be counting the number of bumpers used at a car plant instead of looking at measures of customer satisfaction. Performance measures need to be connected to the state of the environment. At the moment we are measuring by the number of C of A's or the number of times we go to court, rather than how we enhance environmental quality.

- *Business plan does little to protect the environment* For example, one desired result is a decrease in contaminants in Lake Ontario sports fish by 15% - but the margin of error is greater than 15%! The plan focuses on the number of inspections we do so we have reduced the quality of those inspections to increase the numbers.

- To clarify the point here, in this example of a "high-end target" in the MOE business plant (i.e. a 10 to 15 per cent decrease in certain contaminants in Lake Ontario sport fish overa 10-year period) demonstrates that the bench-marking exercise by MOE is just window-dressing. This rather modest target can be achieved by simply adjusting the study parameters (for example moving the sampling points), but more importantly the contaminants of concern (PCB, DDT, Mirex) are decreasing because of MOE efforts in the 1970's – the levels are going down as these contaminants are slowly breaking down or are the Lake Ontario basin etc. There is very little connection to today's abatement efforts and any observable decrease in these contaminants. Therefore, why is MOE listing this target as if it some big deal?

Workshop #6 – Weaknesses

- *No verification/ proactive audit function* Instead, we believe what people tell us. Staff don't have time to verify things. And that is related to workload. For example, in [name of community with held], there is a sewage treatment plant that we had been inspecting for years. We had no way to verify the information from our inspections. It turned out that management staff at the plant had been falsifying records for at least a decade. The plant has an internal lab. And a lab tech blew the whistle. The lab tech was uncomfortable rigging samples, keeping two sets of books etc. The corporation …was charged, pled guilty and the former plant supervisor accused of falsifying records is now before the court. That's why MOE should do audits and have staff who are well trained and don't just do'check list' inspections.

- *Lack of technical expertise in management* In head office the goal has been to hire process managers. This is a weakness in a science based organization. Many managers actually refer to the 'tech-y- stuff", They are not hearing what we are saying. I have had managers, dealing with drinking water, say that Reg 903 is not a big deal, not a priority.

- *Lack of resources* - lack of staff, time, equipment, new technology. The resources we have are not allocated rationally. There is a rigid template which gives equal numbers to all regions ('x' hydrogeologists, surface water staff etc.) However, in Eastern Ontario we have more wells than all the other regions put together with highly vulnerable aquifers and yet we have the same ground water resources as the other regions.

- *No water resources management program.* There is no ecosystem approach. We have downloaded planning authority to municipalities. For example, with the water well program, there are 750 thousand wells that a few million people have to rely on. There is the OWRA, there is a regulation, but there is no policy and there are no guidelines to guide us. The PR PIR document tells us that we are not supposed to respond to water well complaints unless there is some sort of health concern. There needs to be integration between MNR, MOR etc. There are some Memorandums of Understanding (MOUs). We have some of the elements in MOE (quantity, sewage C of A, treatment C of A), but we are not the entire scenario. We are not resource managers. The province needs a vision that water is a resource - and then the province needs to look after it that way, like timber.

- *Small septic systems (part 8) taken out of EPA* In eastern Ontario, 90% of the development is on septic systems. Probably half of the people of Ontario are drinking their own sewage. When the MOE was involved, we tried to ensure in the planning of a subdivision that the septic system was downgradient from the wells. This role was downloaded to building inspectors who are just interested in knowing if the design meets the code and there is no serious contamination. It used to be a critical role and now we can't even be brought in.

- *No longer involved in approvals for site specific planning applications* We used to review hydrogeology studies and we had a role in making sure water treatment plant and sewage treatment plants were in compliance before there was urban development. This has been downloaded to the municipalities. They are approving all kinds of development, accepting hydrogeology sight unseen or having them peer-approved. We are hearing about 200 houses on wells. One staff was at a meeting in Brockville. The consensus was that old-time politics is deciding plans for subdivisions rather than justifying the development around water and sewage services. They don't have experienced people to deal with these issues. There are no checks and balances , no larger body that is prepared to take these issues to the OMB. Picton wants to build a 200 unit hotel country club on a little island. No one is thinking about how they will service it.

- *There is new legislation but no backup policy guidelines and procedures, PTTW regs.*

- *'Bean counting'* The emphasis is on turn-around time. What counts is how many assessments you have completed rather than the quality of the work. For example, they took the aesthetic parameters out of water treatment plant inspection forms. Taste and odor can be the tip of the iceberg.

- *Lack of integration with partners* The MOE does not have the time or the resources to get involved with other agencies with similar interests. This means that the wheel gets invented over and over again. On best farming practices we should be working closely with OMAFRA. A good example of a program that worked in this regard was CURB (Clean Up Rural Beaches). We worked with MOE, MNR, Ontario Soil Crop Improvement Association. It was the first program cut by the Harris government. When front line people do meet with those from other agencies, our problem is that we have no resources. When we come back, there is no support or leadership to make anything happen.

- *Reactive, not proactive; Crisis 'flavour of the month' management - no leadership* There is no long term plan. Our statement of environment values should require us to plan 20-50 years ahead. Walkerton could happen in Eastern Region. It has in fact happened in Newburg at the Shell Station but we don't know if there were any deaths. (It is impossible to track down all the people who might have used the water). We have reacted to Walkerton by going out and inspecting a lot of water treatment plants. But noone has gone out to assess the root causes and looked for the same kind of E. coli in wells and surface water.

- *Lack of outreach programs, or education component* The MOE is not educating the public about water. We've had outreach with waste management (the 3Rs) but never for ground water (ie the fair sharing of ground water).

- *Lack of internal training - and loss of corporate memory* There is a training guideline document but many staff are not aware of it. We have people out there working who are untrained and unqualified inspectors. For example, I have just come out of a year in abatement. I took a water treatment course in 1984. I was expected to go into that water treatment plant and inspect it and I did. But I didn't know enough to be in there and say the water treatment plant is in good shape. You need experience and training to spot the tip of the iceberg.

- *No regional lab* Because the lab lacks staff, they can only deal with so much. So we send fewer samples than we should. When we had our own lab, we could call on our own people as an important resource in follow-up on testing. That resource has disappeared.

- *Lack of consultation with staff* There is no upward feed in the MOE, which is a big weakness in the organzation.

Objective three

Develop and prioritize recommendations to address the weaknesses identified. Identify what needs to happen within the MOE for these recommendations to be implemented.

Process

Participants worked in the same small groups. They were asked to:

- Write the most important problem/weakness to be addressed at the top of a piece of flip chart paper.
- Discuss what you recommend to deal with the problem. Include in your recommendation who you think should address the problem and why - the MOE, some other government agency, another level of government (e.g. municipalities), the private sector etc.
- What would you as a front line worker need from the MOE for your recommendation to happen? (For example, new legislation, more communication with staff in other areas of the MOE or other levels of government or other government ministries (answer who for all of them), more staff, more training etc.)

People were asked to write their recommendation(s) and the resources required to make it (them) happen on the flip chart paper under the problem being addressed. Each group had come up with one recommendation which they presented to the other groups for discussion. In the full group we developed one additional recommendation on training and discussed the issue of MOE mandate. Participants felt there was no need to prioritize the Recommendation.

Results

Workshop #1 – Recommendations

Problem: Enforcement of new DW protection regulation
We felt this was the most important problem since the new reg is the main driving force of overall water quality. It sets the standard, the law that every water plan has to follow to ensure water quality.

Recommendation

- Break down the reg. into parts and identify which MOE branch and section are involved at administering and enforcement. Then identify the staffing (existing and new) and money required to properly enforce this part of the reg.

- Parts must equal the whole . Working relationships need to be established between MOE branches to properly administer the entire regulation.

- Field enforcement. Special DW Abatement inspection staff - experts.

- Communications - between MOE branches and sections and between municipality and waterworks. (At the moment many municipalities don't even know that the reg exists. It will lead to confusion and complexity so they will need help.)

Problems: Adequacy of testing and management (politically driven decisions/lack of consultation with front line staff; lack of training, equipment)

Recommendation

- Establish an arms length 'Guidance Committee' to ensure credible, science-based decision making.

- Who: MOE management and NGOs and private stake holders (consultants, labs etc.) and front line MOE staff and Municipalities and public stake holders.

- Why: Long term (10 years+) planning, unbiased knowledge-based decision-making, Inclusive of stake holders and independent of politics.

- Auditing and testing of private labs by the MOE.

- Adequate resources for high quality testing

- Training and empowerment of staff.

- Include front line workers in decision-making and actively seek expertise.

- A capital budget for equipment over the LT not tied to programs.

Problem: Workload/crisis management

Recommendation

- More resources are needed for:
  - Staffing: more staff available to fill in for response staff (For example, 5-6 super techs like xx). Funds for training
  - Equipment - more funds for additional new equipment to be used in routine and emergency response.

- A response plan developed (for the laboratory)
  - a planned emergency response protocol for management to effectively deal with resource allotment. For example, staff might be moved around in a crisis, or new people contracted. There is no policy at present to do that.
  - less red tape
  - 'slush' fund for monies to contract people or take other measures required.

Problem: Diminishing scientific expertise in lab; lack of succession planning

Recommendation

- Establish a formal training plan to ensure currency and to fill gaps.

- Establish training needs based on positions.

- Establish succession planning.

Problem: Mandate unclear

Recommendation discussion:
Note that this was not developed as a formal recommendation by the group. However a discussion towards the end of the workshop made the following points:

- the mandate needs to be clarified

- the MOE should be a regulatory body which audits other labs, develops methods/lab expertise and thus is a reference centre for other labs, and is also a production lab which does the high quality testing that the municipalities rely upon. The MOE is in fact playing all of these roles due to its past experience and present expertise.

- To play all/any of these roles effectively, more resources are required overall. Increased staff are needed - both productive and scientific. In the 'cadillac' system, we would like to see provincial labs. Government is still perceived as 'gold standard' - proven by the understanding that the government provides the best standard sample for legal proceedings.

ADDENDUM: Resources Estimate
The following report was done following the workshop to estimate workload and resources.

This estimate is based on the assumption that we are going to be both a reference centre and a production laboratory and that the appropriate field staff and inspectors are in place to accommodate **all** program increases.

PRODUCTION:
The projected workload in our section is a major increase in waters and sewage analysis and a minor increase in other things like soil, vegetation, fish and air.

Water treatment plants that have been studied in the past number around 80 and were under the DWSP program. After the implementation of the drinking water regulation 549/00, the number of plants to submit samples has gone up to approximately 600 under DWSP and SWIP. The projected number of large and small water works submitting samples in 2001 will be around 2000 or more (some think 10,000).
In addition to water works, I believe it has just been announced that 400 sewage plants across the province will be entering a sampling and analysis program of their own.

Based on the above, the workload increase in water and sewage analysis for our section will probably **double or triple** within the next year.

RESOURCES NEEDED:

Staff - 2 additional technologists for sample preparation and analysis.
- 1 scientist for program co-ordination

Cost - increase in DOE

Equipment - 2 new ICP-MS spectrometers for water analysis (one to replace an old unit 12 years old, one extra for additional workload) - approximate cost - $600,000.00

- 1 ICP-OES - for sewage analysis - approximate cost - $200,000.00

- 1 mercury analyzer - $50,000.00

- 2 Atomic Absorption Spectrophotometers (to replace old existing units - 20 years old). - approximate cost - $70,000.00

REFERENCE CENTRE

In order to fulfill our reference centre mandate, client requests come from other divisions for special analysis or environmental studies.

I will list **only two** (there are more) examples of requests from the Customer Analytical Method Request Report 2000 and staff and equipment needed for this.
Organo-Tin compounds in Water - P Kauss - EMRB

Staff - Scientific expertise is already in place, but would need one junior scientist to do bench work. DOE money

Equipment - GC-AED analyzer - approximate cost - $ 150,000.00

Metal Speciation Studies (includes several projects AsIII and AsVI in drinking water, Se VI in drinking water, CrVI in air). - EMRB, Operations Division.

Staff - Scientific expertise is already in place, but would need one junior scientist to do bench work - DOE money.

Equipment - HPLC - ICMS - approximate cost $ 200,000.00
or HPLC- Conductivity - approximate cost - $ 100,000.00
If we are proceeding as a regulatory body, absolute analysis, dispute resolution between laboratories, and standard setting is important. In order to do this we will need the best available technology. In our case, and ICP- High Resolution Mass Spectrometer should be purchased - cost - $750,000.00.

This is a lot of money relative in our terms (but look at what the government spends in other areas for non-important things), however, based on the above assumption that we are leaders in the field and can provide quality environmental protection, I think it is a necessity.

Workshop #2 – Recommendations

Problem: Lack of staff involvement in decision -making - leading to technically inadequate policy

Two groups identified this weakness as a priority to be addressed. Participants felt that the Recommendation were consistent. Both talk about committee(s) that involve/consult with staff, are controlled by the MOE technical/scientific staff and the need for committees that are structured and accountable for producing a practical product. The veto for staff is important. The committee needs to be a standing committee, not ad hoc and retain independence, not be controlled by the director of water policy. (Similar to the red tape committee)

Recommendation

- All new water policy or revisions to water policy should be submitted to a Water Policy Technical Assurance Committee comprised of staff elected by peers. The Committee will have a vetos mandate to send policy back for revision.
- Who: MOE
- Why: Legislated mandate for MOE

- Resources: One person year

Recommendation

- Scheduled/regular 'water' workshops to identify water issues and develop Recommendation by staff.

- Representation of professional (elected) staff on all water committees.

- Establish Ecosystem/Watershed Management committees involving staff, chaired by MOE, and MNR, MMAH, public, business, OMAFRA, municipalities.

- Establish interministry 'water management committee', chaired by MOE, to include MMAH, OMAFRA etc.

Resources Required:

- Expertise in geospatial analysis (distribution and depth, statistical analysis)
- Budget for equipment per work station for professional staff
- Allocation of professional staff to carry out committee work, compliance work, abatement work (EOs), approval work, assessment work.
- Include water management work tasks, programs, studies, pilot testing, software testing, software evaluation in workplans.

Problem: Lack of an inventory of groundwater and surface water resources

A lot of watersheds in Ontario are not intensively used. However, many in Southern and Eastern Ontario are heavily used by different groups. The University of Waterloo has the best groundwater program in the world and is not being consulted by the provincial government. To allocate water appropriately and fairly you have to know the quality and quantity of what's there, particularly in areas of high usage.

Recommendation

- Establish a quality and quantity groundwater monitoring network and surface water base flow network, in areas of high usage. This monitoring network would identify ground water recharge and discharge areas, together with groundwater residence time and change in groundwater storage, at a level which can satisfy ongoing peer review by the university of Waterloo groundwater centre of excellence now referred to as Crestech which represents all the contributing universities in Ontario. Concerns surrounding over allocation of water resources, mobilization/remobilization of subsurface contamination or potential for impact to other users or environmental features could then be effectively addressed through the permit-to-take-water program, under #.34 OWRA.

- Establish such a program to be carried out from the MOE regional office:
  - hire dedicated hydrogeologists, hydrologists and technicians
  - hire dedicated GW technician

- Keep program within MOE regional office to ensure the required flexibility (limited to no partnerships) Note that this is because flexibility is required and often a partnership does not give you that flexibility. In Aurora, 13 wells went dry because of heavy groundwater use in the area. To understand the cause of such a problem one must be able to access or move monitors as required. For example, you might need to pull up probes and place them in strategic monitoring areas to identify the scope of the problem and the cause. Partnerships may not be appropriate for a regulatory agency.

Who: MOE should address this because:

- GW and SW are a shared resource.
- MOE has the mandate/responsibility under OWRA and EPA to manage the water resources.
- MOE administers S.34 of OWRA - permits-to-take-water program
- Watershed boundaries are not co-incident with political boundaries.

Resources required:

- 1 person (MOE regional hydrogeologist) per regional municipality in high pressure areas
- Improved field equipment capabilities (depending on pressures)
- 1 technician (MOE regional GW technician) dedicated to regional program.

Comment from one participant in feedback to the report

There also needs to be an emphasis on the broader issues associated with the water management in Ontario which involves the management for flood control, for establishing controlled water levels for regulated rivers and lakes as well as boundary waters treaties. These issues are shared between Federal , provincial, CA's and municipalities and it is here that the partnerships and collaborative funding are essential to implementing water management systems. The systems referrred to as under the jurisdiction of the Regional operations have a different function and requires the highest quality of data verification and accuracy all together, although conceivably might be integrated with the broader scale water management issues.

Because of the forgoing comment I would recommend representatives for each of the regional offices and other relevant MOE offices for each of the broader scoped activities to include groundwater technical staff representation. The staff involved should be instrumental in co- ordinating the technical input by their specialties and should be set up to communicate their discussions with a broader audience.

Problem: Lack of experienced EOs to deliver water inspection program in its present form (one inspection per year is impossible)

Recommendation

- Operations Division (OD) has to identify this as a priority (major) in the workplan- that plants need to be inspected very year. (It used to be once every 3-4 years)

- OD has to review the status of staff availability (experience/qualified) to deliver. (We don't presently have the resources to do it). Direction for mandatory involvement of professional staff to cases handled by EOs has to be given. Effective EO status has to be reestablished to professionals to handle professional issues.

- Assess needs for succession planning. Stress proper initial training of new staff. Build in mentoring of new staff, refresher and continual training.

- Quality control of regulation: SAC/Notification procedures, Abatement inspection reports and lab. (For example -re the clearing of chlorine residuals - there is nothing presently on the form that deals with daily compliance - asking for highest and lowest levels, for example. This should be on the form.)

- Study regulatory effectiveness of other similar water inspection programs with staff input.

Who: MOE - it's our mandate

Resources required:

- Senior management willingness to work together with field staff to provide the best program possible
- Staff allocation. EO#4's, full time (not contract), qualified, experienced officers, # as determined by OD workplan
- Time - set aside # of training days and staff for all staff.
- Resources for sending MOE staff to outside conferences for technology transfer

Workshop #3 – Recommendations

Problem: Lack of checks and balances between agencies/lack of overview

Recommendation

- One agency (the MOE) be responsible for the entire system, "cradle to grave" with an overview function (audit).

- Components would be as follows:
  - Source - an aquifer or surface water
  - Intake (well) - comply with Reg 903 and be safe
  - Treatment - combination of chlorination and filtration
  - Distribution system - swabbing, deadends/diameters etc.
  - Monitoring/Reporting/Notification/Certification

Who:
The MOE has the responsibility. Owners, private labs, municipalities, consumers, district health units all have a part to play.

Why:
To ensure that there is an effective multi-barrier approach to communal water so that if any one, two or three components of the system slip below standard, people won't get sick.
Resources required:

- hundreds of millions of dollars to complete and implement aquifer source and well-head protection plans – as a one time expense spread over a number of years.
- treatment upgrades will require millions
- potential loss of property value with wellhead protection plans needs to be taken into account.
- database containing all water quality information
- meetings at least annually with all affected parties.
- mandatory program requires a fund to allow for compensation (relocating business, restricting land use, property value etc.)

Alternative to prevention:
When the system goes bad, as it did in Walkerton (and as it will more frequently if nothing is done), it costs hundreds of millions of dollars, human lives and the ongoing emotional cost of the effect of such an event. For example, I heard a six year old in Walkerton say: "It's okay, Mommy. Grandma put something in the water before I had a bath so I won't get sick and die". Public confidence in the system is seriously eroded and very difficult to restore. No limit to pay-out required in out-of-court settlement. Pro-active contingency plans should be required so that system operators/owners/users are fully aware of the cost to replace the source if it becomes contaminated.

Problem: Lack of wellhead protection plans

Recommendation

- Legislation to make wellhead protection mandatory. (Note that the Safe Drinking Water Act in the United States already does this. It also mandates an audit of the water supply system.)

Who:

- MOE make the legislation
- MOE provide short term funding (using the Blue Box model where the earlier you implement the more funding you get)
- MOE provide templates
- Municipalities conduct studies and hire consultants as required
- Municipalities implement studies after MOE approval and audit

Why:
To ensure that lack of source water protection does not kill you!!
Tries to keep high risk land use activities away from the water supply.

Resources:

- Hundreds of millions of dollars

- 20 new permanent staff MOE wide (including ground and surface water)

Time frame:
Within 5 years all communal water supplies should have this in place.

ISSUE to flag: How to deal with protection of small communal systems where the land causing the problem belongs to someone else. Depending on risk, work with owners to encourage "best management practices" orfund buy-outs of uses that are clearly unacceptable.

Problem: Lack of technical and scientific skills in management
This has led to a lack of leadership in the MOE.

Recommendation

- Make technical requirements a necessity for the ADO, District Manager, Assistant Director, and Director as well as Tech Support Manager.

- Mandatory training for all of the above, such as technical training on new regs.

- Have management's Performance Measures (including the bonus system) reviewed with an emphasis on meeting standards which reflect environmental rather than political issues.

Problem: Lack of Human Resources (Staffing)
The trend in the Ministry is towards short-term contracts. What is needed are long term permanent staff with a commitment to the environment and the MOE.

Recommendation:

- The following additional MOE staff be hired:
  - For proactive work : wellhead protection (min.) — 2 hydrogeologists per region. The SW region needs more.
  - Inspection staff (inspection and follow-up) — 2 EO4's per district
  - Outreach/Communication with plant operators* resp. — 2 EO4's per district (overlap with inspection staff.)
  - Approvals/engineers/staff (short-term to deal with reg requirements — ?
  - Administrative staff (EDRIS, ORIS, ADO requests , briefing notes, filing, tracking) — 1 per district

- Require technical skills at senior mg't levels

*We used to touch base with operators to see how they were doing and give some technical support when necessary.

Problem: Private communal systems (lack of clarity/broad brush approach)
All systems are treated the same - Thunder Bay, Toronto, a trailer park. We want to make things more doable for small operators so they can meet the reg instead of running up an expensive bill. For example, one staff informed a small operator of the new reg requirements that will cost them $10,000.

Recommendation
- Establish clear definitions of what is private communal versus 'small systems'.

- Address regulatory gaps to provide safe water to all (ie: 75 residences, 250,000 l. per day).

- Recognize different size systems within the group and tailor needs. (i.e operator certification and training)

- Carry out an inventory of all systems.

Who:
MOE should address this under OWRA
Health units or municipalities should address the 'small systems' they have the resources and contacts to cover (as they presently do).

Resources:
Depends on demand (i.e. # of systems)
one/area in the north at EO4 level

Problem: Lack of small system regulation

Recommendation
- Clearly define different systems - large and 'small' systems

- Rewrite the regulation and develop applicable standards for both large and small systems.

- Make specific regulations to recognize the differences.

Who:
MOE should implement the new regulations. Could double up on inspections - the water system and the septic system inspected on the same visit.

Resources:
Financial resources to implement the regulations
Staffing to implement (EO4)
Should be enough tools to do the job (e.g. vehicles)

Workshop #4 – Recommendations

Problem: Resource allocation/management
Lack of resources and activities that affect water issues.

Recommendation

- Increase field staff (permanent positions), specific to the District. Contract staff are not sufficient. We need expertise in permanent positions.

- Permit field staff specialization. Presently, field staff with specializations are not being well utilized - their expertise is not available to the rest of the staff. At the moment, the field staff are inspecting water plants one week, air inspection the next etc. Gaining a level of knowledge and comfort on all the issues is time consuming and not realistic given work load. Specialization within abatement staff would work somewhat like the SWAT team*, but based in the region.

- Focus on the real sources of problems. Acknowledge areas that have the greatest impact on environmental protection. These need to be recognized in the work plans so we focus on where we can have the best results. This will require consultation with the staff in development of the work plans.

- Clarify boundaries with other agencies and delegate authority/responsibility where appropriate. For example, the new reg has inappropriately shifted the responsibility for health concerns to the MOE.

- Proper support and improvement in data management. For example, eliminate the redundancy of data entry (Occurrence Reporting Information System (ORIS), Inspection report, Interim Inspection System, STAR (system for tracking activities and resources) Enforcement Tracking Information System (ETIS) etc.) If we check a violation in one system, it should carry over into the others. Ultimately it is expected that IDS will accomplish most of this.

- Shift ‘people hours’ from clerical work to field work. Every district used to have a clerk to log complaints. We need that person to field these complaints as they come in.

*The SWAT team is to come up with numbers, issue tickets. They are going after non-compliance. The problem with the SWAT team is that it is centralized and lacks local knowledge.

Problem: Lack of Mandatory Wellhead Protection
Currently voluntary with limited resources allocated.

Recommendation
Each municipality relying on wells should be required to develop a source protection plan involving land-use controls.

Who:

- Municipalities -Nutrient Management Plan (NMP) bylaw; they have zoning authority
- MOE - authority to develop a regulation (Water Policy Branch./Land Use Policy Branch.-Source Protection Plan)
  - OMAFRA – nutrient management plan

Resources:

MOE: resources to develop the new reg, guidelines and standards, including any compensation provisions; resources for monitoring.

NOTE: A regulation would force municipalities to think about wellhead protection. MOE resources for monitoring are needed since we cannot rely on municipalities to do this. For example, in one municipality the person who developed the watershed management plan was the first to violate the new regulations. There are also good examples - Waterloo is ahead on land zoning. It may require reinstating MOE responsibility to review official municipal plans.

Problem: Need for private and small waterworks well inspection
This is not covered by current legislation

Recommendation
A specialized group be developed within the MOE to provide regular inspections of private wells to be triggered by property transfer or at minimum frequency (e.g. every 5 years) or well construction.

Who:
MOE responsible for Reg 903 enforcement.
Could be implemented by another agency like TSSA or OCWA under MOE aegis.

Resources:

- Regulation required
- User Fee to pay for it. For example, before a property transfer could go through, the well would be inspected and a fee charged. This would transfer the liability.
- Staff (guess @ 200 – but this would need to be determined)

Other

Return to organization by area (water etc.)

In the discussion, the participants agreed that the specialization which existed prior to the reorganization (where there was a water group) was more effective way of organizing the work.

Clarify the MOE mandate

There was also a final discussion about the need to clarify the MOE mandate. For example, there is inconsistent application of enforcement philosophy across the Ministry. (i.e. ignore violators, encourage dischargers to comply, vigorously prosecute violators). One staff person who wanted to take a firm line on a compliance problem with a 'client' was told "all you care about is the environment" by a supervisor who preferred to negotiate a softer position.

Workshop #5 – Recommendations

Problem: Lack of one authority

Presently we have MNR, OMAFRA, MMAH, CA, Municipalities involved in water management in the province.

Recommendation

- Establish a clear Authority for water that looks at the entire watershed on a watershed basis.

Who:
The MOE, or a new Ministry of Water (MOW)

Resources:
Government commitment to such a change

Notes from the discussion:

- Question raised as to how a provincial agency can deal with what is essentially a local resource. If government is so far removed from what is actually happening in the field, they we'll never achieve anything. Some agreement that a provincial agency needed to provide oversight, but should also work with local agencies/enable local bodies to achieve joint goals.

- Agreed that the current government model doesn't work. Perhaps we could look elsewhere for ideas, such as in Minnesota where 30 (approximate number) local agencies look after the watersheds, with one government body responsible for all of the agencies. The point here is that there may be some better governance models to follow – other provinces and states should be examined to find a better way of organizing the management of water resources in Ontario.

- Most rural areas in the province haven't the resources to manage their watershed and look to the province for help. Another issue is that sometimes people locally are too directly involved and can't make the necessary decisions.

Problem: Lack of senior management support to field staff
This combines several of the weaknesses. Over the last several years there has been too much interference (reports, briefing notes, STAR etc.) which stops us from doing our jobs. One problem is that the data is being collected, but without any quality control and the data is not used for anything.

Recommendation
- Involve field staff in meaningful policy and procedure development.

- Stop assigning inexperienced policy people to critical policy positions.
- Use experienced people to inspect critical facilities. There is lack of appreciation of what is required to do the field job. For example, hiring 25 out-of-school EO2s to inspect the most sensitive complex facility - STP/WTP

Problem: Reactive, rather than proactive approach to water quality protection. Value of the resource not recognized

Recommendation
- Dedicated abatement staff be hired in the MOE to deliver new DW regulation: 2 per district/area office. With more staff, key issues like protecting the watershed will get addressed.

- Increase the technical support staff in the MOE - 4 per regional office.

- Re-establish the Water Resources Branch to provide province wide, watershed based applied science (e.g. aquifer mapping for protection and regulation.)

Who: MOE

Problem: Issues Management

Recommendation
- Expose the problem. Taxpayers need to know that people making $70-80,000 per year spend their time writing briefing notes or getting things into the correct format.

- Develop a policy which delegates specific responsibilities to junior managers or staff. For example, if there is a small spill in a creek, upper management doesn't need to know. To clarify, risk management principles should be employed to determine a cut-off below which MOE staff will not provide extensive briefing materials to the ADM's office and/or Minister's office. The higher ups don't need to know about

every little detail about minor field incidents and don't need to control every minor situation. Some protocol should be established that defines how a lower environmental risk translates into a lesser need to inform and involve senior management.

- Several participants expressed the opinion that the MOE is so dysfunctional that it would be best to abolish the Ministry, break it up into smaller units, start again. Given its performance, why should the MOE deserve to be at the top of the water management hiarchy? Why should the same bad managers be given additional resources to use/abuse? MOE's problems go far beyond needing additional resources.

Problem: Poor understanding of the resource/lack of ecosystem planning and big picture overview

It is convenient to follow a political agenda in the absence of information.

Recommendation

- Multi-agency and NGO management of research (external/arms length)

- Hire it out to get baseline understanding of effective performance measures to assess ongoing use of the resource from a standpoint of environmental protection. This might involve a group including a professor, a groundwater expert etc. Once we had the research to give us an overview of the resource, then we could move on to look at how best to manage it.

Who:
MOE to contract out the research
Oversee through RAC (Research Advisory Committee)

Discussion

- Need to look at how to involve the public at a second stage in the process.

- Re MOE's role: MOE would not do the work but would oversee it. We have staff who could do this, but it is not practical to have them drop everything and do it. Could use the Minister's Research Advisory Committee which used to provide funding for research. Specific research is funded by the MOE and the same idea could be applied here.

Workshop #6 – Recommendations

Problem Lack of integration of compliance function (IEB, Abatement, TSS)

Recommendation

- Improve communications with respect to priorities to deal with ongoing, long-term compliance issues without any consultations. For example, Haley Industries is a long term problem which involves all media: air, ground and water.

- Ideally, there would be a directive in the region that this priority list has to be resolved. (It might include waste management issues, leads to ground water contamination, leads to drinking water contamination). A district in a region would take the lead and pull together a team and set up a schedule to deal with the case. Different teams would deal with different cases. It would work like a forensic audit, dealing with long term issues that have never been resolved.

- Walkerton is a good example - the type of study that was done after the tragedy. Abatement and tech support were involved with IEB to integrate it.

Why:
To solve long term compliance issues. This would dispense with band-aid solutions and lead to effective environmental protection

Who: Role
- MOE internal process with abatement section and liaison with IEB and Tech Support
- Background information must be made available to all partners.
- IEB and abatement and Tech Support Managers set the 'tone' and the 'directive'

Resources
- None

Problem: No water management system

Recommendation
- Establish a water management system. This is needed at an interministry level and intraministry to promote water management.

- Needs a long term vision and plan. A mission statement (statement of environmental values revisited), definitions of ecosystem and natural function (so noone can twist it to their purposes), and priority of uses (fish or people guideline).

- Needs multi-ministerial participation. (MNR, MMAH, OMAFRA, MOE etc). with core teams for each Ministry. Harmonization of SEU - Policies, Guidelines etc., harmonize compliance and enforcement to give more clout.

- An example: Bill 52. MOE staff looked at a draft in its final stages and identified some serious problems with it. Someone from MOE had looked at it, but not someone who had ground level experience. They talked about quarries below water where they intersect with the aquifer. When you hit the aquifer the water spurts up. If they go into the water table, they are going to have the quarry fill up with water and drain wells in the area. That issue was missing. This is why we need time to develop regulations, policies and guidelines, and why we need knowledgeable, front line staff involved in reviewing them.

Resources:
Need those active (working on the ground) in the area of water on committees. It should not be a rewards program.

- Commitment by all Ministers, Cabinet and the public
- Funds, resources, people

Within the MOE: internal commitment

- define
- allow development time
- policies reg guidelines
- training and outreach - MOE responsibilities and role
- identify hot areas - prioritization of topics, areas of focus - guideline
- make a -plan and stick to it

Problem: Lack of leadership/staff consultation;

Recommendation

- Training of management staff is required to help staff do our jobs as best we can

- Need strong leadership, long-term vision, problem solvers, motivators. So management staff need leadership training.

- Reality is resources are limited - help and support staff to deal with this

- Consult with staff regarding program development and direction There has not been a formal process for staff consultation.

- Strong water policy direction and management, not just politically motivated. For example,we are struggling with bio-solids utilization but we need a disaster to get action on bio-solids. Val Gibbons spoke to the issue. You don't want anyone in the region to know about policy because they are worried about leaks. Staff are not allowed to collaborate. We need a policy development process that links to staff. We did have a committee for a portion of the Provincial policy statement - a document from Municipal Affairs and Housing. It has a section in there re the protection of ground and surface water. I am on that commitee but it has never met. We do have a provincial policy statement. In every official plan, there should be policies for the protection of ground and surface water. The committee is supposed to give guidance to municipalities on this. For example, what kind of well head protection? What kind of work does the municipality need to do to identify the types of activity, such as identifying groundwater recharge areas and the types of policies to put into place to protect groundwater. Now there is another planning layer - the ADO. When there was the water resources branch, you had one stop shopping. Now all is dispersed.

Problem: Lack of site specific planning

Recommendation

- The MOE should review site specific planning applications including hydrogeology studies, impact (nitrate) assessments, lake capacity studies, lake impact assessment studies, servicing scenarios and in all plans, policies for the protection of groundwater and surface water.

- The provincial agencies should lobby to get MOE back into the planning process. The private sector would support this initiative. MOE staff get a lot of calls/complaints about the planning decisions that are being made.

Role of the MOE:
To do the planning.

Resources
- Not many changes are required.
- More technical staff to speed up the process.
- More 'partners' involved in the planning (for example, municipalities, CAs, OMAFRA, MNR - on a watershed basis.

Benefits
- Proactive - really protects the water resources. If we go into a lake, we go to evaluate what sort of development it can take. We suggest regulations such as all lots develop 30 meters back, a vegetative buffer etc. It has to be done up front, and then backed up by the municipalities with by-laws and enforcement.

- B.C. went this route (downloading) and then returned to provincial involvement in site specific planning.

- Small municipalities don't have the resources, and the technical staff to do the job.

Problem: Reactive rather than proactive; lack of public education and outreach

Recommendation
Proactive commitment within the MOE to an outreach/public education program.
- Each program and Unit responsible (ie region, EBR office) to:
- define targets (municipalities, farmers, schools, businesses, other Ministries etc.)
- provide incentives (carrot first and then stick)

Clear concise communications and explanations
- web page (provincial and regional), handouts, public information meetings
- how water legislation works together (MOE and others)
- how activities affect water quality and quantity and what everyone can do about it - not just individuals
- about the water cycle and points along the cycle where the resource can be affected
- what falls under what legislation (who does what)
- how to communicate effectively with government
- relative importance of impacts on water resources

Resources:

- publications kept up-to-date and timely
- a contact point
- resources for staff, activities, publications

Benefit:
Less wasted time in staff response to individual and frivolous/minor problems.

APPENDIX B: PROGRAM ACTIVITIES OF AN ENVIRONMENTAL OFFICER

Program	Activity
	Approvals - Air & Noise
Air	Charges or P.O.A.'s
Air	Compliance Monitoring
Air	Control Documents
Air	General (No related Specific Activity)
Air	
Air	**Inspections - Refrig./Ozone Depleting Sites**
Air	**Inspections - Vehicle Emissions**
Air	Investigations - IEB
Air	Noise By-laws, Land-use, EAs
Air	Notifications (ORIS)
Air	Outreach
Air	Policy & Program Improvement
Air	Pollution Incidents Reports (ORIS)
Air	S.T.A.C.
Air	Spills (ORIS)
Air	Surveys/Impact Assessments
Air	Training
Attendance	Attendence
Attendance	Attendence
	Central Audit Team (CAT)
Contaminated Sites	Clean Up Projects via Security Account
Contaminated Sites	Compliance Driven Restorations
Contaminated Sites	Control Documents
Contaminated Sites	General (No related Specific Activity)
Contaminated Sites	Investigations - IEB
Contaminated Sites	Lender Liability Agreements
Contaminated Sites	Notifications (ORIS)
Contaminated Sites	Notifications of Contaminated Sites
Contaminated Sites	Outreach
Contaminated Sites	Policy & Program Improvement
Contaminated Sites	RSC Received
Contaminated Sites	Spills (ORIS)
Contaminated Sites	Surveys/Impact Assessments
Contaminated Sites	Training
	Class E.A.'s and ESR Reviews, Bump Ups
Environmental Assessments	Declarations and Designations
Environmental Assessments	General (No related Specific Activity)

Program	Activity
Environmental Assessments	Individual E.A. Reviews
Environmental Assessments	Outreach
Environmental Assessments	Policy & Program Improvement
Environmental Assessments	Terms of Reference Reviewed (TOR)
Environmental Assessments	Training
Multimedia	Corporate Support
Multimedia	Customer Service Complaints
Multimedia	EBR
Multimedia	FOI
Multimedia	Front Counter
Multimedia	General (No related Specific Activity)
Multimedia	Outreach
Multimedia	Policy & Program Improvement
Multimedia	Training
	Approvals - Pesticide Licence/Renewal
Pesticides	Approvals - Pesticides Permits
Pesticides	Charges or P.O.A.'s
Pesticides	Control Documents
Pesticides	General (No related Specific Activity)
Pesticides	
Pesticides	Investigations - IEB
Pesticides	Notifications (ORIS)
Pesticides	Outreach
Pesticides	Policy & Program Improvement
Pesticides	Pollution Incidents Reports (ORIS)
Pesticides	Training
	Approvals - Quasi
Planning	General (No related Specific Activity)
Planning	Hearings
Planning	Lawyers' Letters
Planning	Official Plan Ammendments Reviewed
Planning	Official Plans Reviewed
Planning	Outreach
Planning	Policy & Program Improvement
Planning	Pre-Submission Consultation (PSC)
Planning	Severences Reviewed
Planning	Subdivision Plans Reviewed
Planning	Surveys/Impact Assessments
Planning	Training
	Contingency Planning
Pollution Prevention	General (No related Specific Activity)
Pollution Prevention	Green Industry Projects
Pollution Prevention	MOU's

Program	Activity
Pollution Prevention	Outreach
Pollution Prevention	Policy & Program Improvement
Pollution Prevention	Pollution Prevention Projects
Pollution Prevention	Site Visits
Pollution Prevention	Training
	Approvals - Industrial Sewage Works
Sewage – Industrial	Approvals - Sites (Part V)
Sewage – Industrial	Approvals - Systems (Part V)
Sewage – Industrial	Charges or P.O.A.'s
Sewage – Industrial	Control Documents
Sewage – Industrial	General (No related Specific Activity)
Sewage – Industrial	**Inspections - Biosolids Sites**
Sewage – Industrial	**Inspections - Clean Water Reg. (MISA)**
Sewage – Industrial	**Inspections - Non-MISA Facilities**
Sewage – Industrial	Investigations - IEB
Sewage – Industrial	Notifications (ORIS)
Sewage – Industrial	Outreach
Sewage – Industrial	Policy & Program Improvement
Sewage – Industrial	Pollution Incidents Reports (ORIS)
Sewage – Industrial	Surveys/Impact Assessments
Sewage – Industrial	Training
Sewage – Mun., Priv. & Comm.	Approvals - Process/Transfer/Disposal (Part V)
Sewage – Mun., Priv. & Comm.	Approvals - Sewage Works
Sewage – Mun., Priv. & Comm.	Approvals - Waste Management Systems (Part V)
Sewage – Mun., Priv. & Comm.	Approvals/Ammendments to Schedule - Land Application (Part V)
Sewage – Mun., Priv. & Comm.	Charges or P.O.A.'s
Sewage – Mun., Priv. & Comm.	Control Documents
Sewage – Mun., Priv. & Comm.	General (No related Specific Activity)
Sewage – Mun., Priv. & Comm.	**Inspections - Biosolids Sites**
Sewage – Mun., Priv. & Comm.	**Inspections - Hauler/Septage Stor./Disp. Sites**
Sewage – Mun., Priv. & Comm.	**Inspections - Municipal S.T.P.'s**
Sewage – Mun., Priv. & Comm.	Investigations - IEB
Sewage – Mun., Priv. & Comm.	Notifications (ORIS)
Sewage – Mun., Priv. & Comm.	Outreach
Sewage – Mun., Priv. & Comm.	Policy & Program Improvement
Sewage – Mun., Priv. & Comm.	Pollution Incidents Reports (ORIS)
Sewage – Mun., Priv. & Comm.	Surveys/Impact Assessments
Sewage – Mun., Priv. & Comm.	Training
Support	Accommodations
Support	Assets Management
Support	Clerical Support
Support	Financial
Support	Fleet Management

Program	Activity
Support	General (No related Specific Activity)
Support	Health & Safety
Support	Human Resources
Support	Performance Management Review
Support	Records Management
Support	Recruitment
Support	Systems
	Training
Waste – Hazardous and Liquid Industrial	Approvals - Emergency Generator Numbers
Waste – Hazardous and Liquid Industrial	Approvals - PCB Reg. 362
Waste – Hazardous and Liquid Industrial	Approvals - Sites (Part V)
Waste – Hazardous and Liquid Industrial	Approvals - Systems (Part V)
Waste – Hazardous and Liquid Industrial	Charges or P.O.A.'s
Waste – Hazardous and Liquid Industrial	Control Documents
Waste – Hazardous and Liquid Industrial	General (No related Specific Activity)
Waste – Hazardous and Liquid Industrial	**Inspections - Hazardous Waste Disposal Sites**
Waste – Hazardous and Liquid Industrial	**Inspections - PCB Facilities**
Waste – Hazardous and Liquid Industrial	**Inspections - Reg 347 Generators**
Waste – Hazardous and Liquid Industrial	**Inspections -Transfer/Processing Sites**
Waste – Hazardous and Liquid Industrial	Investigations - IEB
Waste – Hazardous and Liquid Industrial	Notifications (ORIS)
Waste – Hazardous and Liquid Industrial	Outreach
Waste – Hazardous and Liquid Industrial	Policy & Program Improvement
Waste – Hazardous and Liquid Industrial	Pollution Incidents Reports (ORIS)
Waste – Hazardous and Liquid Industrial	Spills (ORIS)
Waste – Hazardous and Liquid Industrial	Surveys/Impact Assessments
Waste – Hazardous and Liquid Industrial	Training
	Approvals - Sites (Part V)
Waste – Solid, Non-Hazardous	Approvals - Systems (Part V)
Waste – Solid, Non-Hazardous	Charges or P.O.A.'s
Waste – Solid, Non-Hazardous	Control Documents
Waste – Solid, Non-Hazardous	General (No related Specific Activity)
Waste – Solid, Non-Hazardous	**Inspections - 3 R's Facillities**
Waste – Solid, Non-Hazardous	**Inspections - MNR WDS**
Waste – Solid, Non-Hazardous	**Inspections - Open Waste Disposal Sites**
Waste – Solid, Non-Hazardous	**Inspections -Transfer/Processing Sites**
Waste – Solid, Non-Hazardous	Investigations - IEB
Waste – Solid, Non-Hazardous	Notifications (ORIS)
Waste – Solid, Non-Hazardous	Outreach
Waste – Solid, Non-Hazardous	Policy & Program Improvement
Waste – Solid, Non-Hazardous	Pollution Incidents Reports (ORIS)
Waste – Solid, Non-Hazardous	Spills (ORIS)
Waste – Solid, Non-Hazardous	Surveys/Impact Assessments

Program	Activity
Waste – Solid, Non-Hazardous	Training
Waste – Solid, Non-Hazardous	Waste Management Master Plans
Water – Communal	Approvals - Water Works
Water – Communal	Charges or P.O.A.'s
Water – Communal	Control Documents
Water – Communal	General (No related Specific Activity)
Water – Communal	**Inspections - Municipal W.T.P.'s**
Water – Communal	Investigations - IEB
Water – Communal	Notifications (ORIS)
Water – Communal	Outreach
Water – Communal	Policy & Program Improvement
Water – Communal	Pollution Incidents Reports (ORIS)
Water – Communal	Training
Water – Ground	Approvals - Permits to Take Water (PTTW)
Water – Ground	
Water – Ground	Charges or P.O.A.'s
Water – Ground	Control Documents
Water – Ground	General (No related Specific Activity)
Water – Ground	**Inspections - PTTW**
Water – Ground	Investigations - IEB
Water – Ground	Notifications (ORIS)
Water – Ground	Outreach
Water – Ground	Policy & Program Improvement
Water – Ground	Pollution Incidents Reports (ORIS)
Water – Ground	Spills (ORIS)
Water – Ground	Surveys/Impact Assessments
Water – Ground	Training
Water – Surface	Approvals - Permits to Take Water (PTTW)
Water – Surface	Charges or P.O.A.'s
Water – Surface	Control Documents
Water – Surface	General (No related Specific Activity)
Water – Surface	**Inspections - PTTW**
Water – Surface	Investigations - IEB
Water – Surface	Monitoring Stations Operated
Water – Surface	Notifications (ORIS)
Water – Surface	Outreach
Water – Surface	Policy & Program Improvement
Water – Surface	Pollution Incidents Reports (ORIS)
Water – Surface	Spills (ORIS)
Water – Surface	Studies - Watershed
Water – Surface	Surveys/Impact Assessments
Water – Surface	Training