

**Manitoba Wildlands Comments –
Lake Winnipeg Stewardship Board (LWSB)
Interim Report on Action Needed to Reduce
Nitrogen and Phosphorus Levels in Lake Winnipeg to Pre-1970s Levels**

***Attachment: Reports, Recommendations, and Excerpts Related to the
Health of Lake Winnipeg***

Note: The LWSB may be familiar with some of the reports and recommendations below, while others have not to our knowledge been discussed or acknowledged by the Board. The intent is to provide examples of existing documents and recommendations that could provide a foundation for the LWSB recommendations and activity.

With exception of comments by Manitoba Wildlands (indicated by small caps), all text is quoted/excerpted from reports as indicated.

Recommendations / ideas of particular importance are highlighted in blue.

Clean Environment Commission Winnipeg Wastewater Hearings

Report Title:

*BETTER TREATMENT - 'TAKING ACTION TO IMPROVE WATER QUALITY':
Report on Public Hearings City of Winnipeg Wastewater Collection and
Treatment Systems
Clean Environment Commission
August 2003*

Access:

http://www.cccmanitoba.ca/files/Final_Report.pdf
<http://www.cccmanitoba.ca/files/Recommendations.pdf>

Relevance:

THE WINNIPEG WASTEWATER HEARINGS ARE DIRECTLY RELEVANT TO THE MANDATE OF THE LWSB BECAUSE WINNIPEG'S TREATED WASTEWATER FLOWS INTO THE RED RIVER, THIS BEING A MAJOR POINT SOURCE OF NUTRIENTS. (OVERFLOW OF SEWAGE FROM WINNIPEG'S SYSTEM ALSO FLOWS INTO THE RED RIVER AND THEN INTO LAKE WINNIPEG. NUTRIENTS ADDED TO THE ASSINIBOINE RIVER FROM AGRICULTURE, INDUSTRIAL PLANTS, AND OTHER HUMAN ACTIVITY ALSO AFFECT WINNIPEG'S WATER TREATMENT PROCESS, AND FLOW INTO LAKE WINNIPEG.

Specific Recommendations:

Re: Wastewater Treatment Plant Licencing

3. Manitoba Conservation should establish 'interim' effluent limits for Winnipeg's three water pollution control centres in accordance with Manitoba's Water Quality Standards, Objectives and Guidelines.

The Commission supports the effluent limits proposed by the Environmental Approvals Branch as follows:

- Biological Oxygen Demand (BOD5) – 30 mg/L
- Total Suspended Solids – 30 mg/L
- Fecal Coliform – 200 Colony Forming Units/100 mL
- Total Coliform – 1,500 Colony Forming Units/100 mL
- Ammonia based on 75% assimilative capacity using the 1913 to 2002 flow record

Given the evidence that the proposed treatment of centrate at the North End Water Pollution Control Centre will not result in compliance with the *Canadian Environmental Protection Act 1999*, an alternative technological solution appears to be required. Until site-specific studies are complete, the licences should reflect Manitoba's water quality objective for ammonia.

Comment:

THE CCME WATER QUALITY STANDARDS (WHICH MANITOBA HELPED ESTABLISH) NEED TO BE PART OF THE LWSB'S PROCESS TO DETERMINE RECOMMENDATIONS..

Re: Nutrient Management Strategy

5. Manitoba Conservation should accelerate the schedule to complete the Nutrient Management Strategy for Southern Manitoba by December 2004.

Identification and implementation of actions necessary to reduce nitrogen and phosphorus levels in Lake Winnipeg to pre-1970 levels will be subject to direction provided by Manitoba's nutrient management strategy. The deteriorating condition of Lake Winnipeg reported during the hearing illustrates the nature and extent of the "nutrient" problem. Reducing nutrients from point and area sources in southern Manitoba should commence much sooner than presently contemplated.

6. The City of Winnipeg should be directed to plan for the removal of nitrogen and phosphorus from its municipal wastewaters, and to take immediate steps in support of the nutrient reduction targets established for Lake Winnipeg. The City's nutrient removal plan should be a key element of a licence review hearing to be scheduled within two years.

The City of Winnipeg should develop a plan to remove nutrients from its municipal wastewaters rather than deferring this until completion of Manitoba's nutrient management strategy. Priority should be placed on phosphorus. Other municipal jurisdictions in the Red and Assiniboine rivers basin have already implemented phosphorus removal, with effluent limits of 1 to 2 mg/L total phosphorus, and are also moving towards nitrogen removal. The City should also take immediate steps to reduce nutrients by accelerating the implementation of technological solutions at one or more of its water pollution control centres and controlling other point and area sources. Targets of 10 per cent for phosphorus and 13 per cent for nitrogen should be achievable within a two-year period.

Re: Combined Sewer Overflow Reduction

7. The City of Winnipeg should be directed to shorten the timeframe to complete its combined sewer overflow plan from the proposed 50 years to a 20 to 25-year period.

The shorter timeframe is necessary to address public concerns over the effects of sewage from combined sewer overflows on public health, recreation, tourism and aesthetics, and to further reduce nutrient loadings to Lake Winnipeg.

8. The City of Winnipeg should be directed to take immediate action to reduce combined sewer overflows by instrumenting outfalls, adjusting weirs, accelerating combined sewer replacement, advancing the pilot retention project and undertaking other reasonable measures to reduce combined sewer overflows within two years.

The City of Winnipeg should install instruments at combined sewer outfalls, collect required monitoring data and conduct necessary studies to verify the accuracy of modeling to predict overflow events. The City should determine actual volume of wastewaters entering the rivers from combined sewer overflows during the entire calendar year. Contributions of ammonia, nutrients, pathogens, metals and other parameters of concern from combined sewer overflows to the Red and Assiniboine rivers and Lake Winnipeg can then be determined and used to assess the impact on the aquatic environment, social and economic conditions, and human health. Information from monitoring combined sewer overflows can also be used to identify districts where sewers are to be replaced on a priority basis. The City should further target combined sewer overflow mitigation through replacement and other means in districts with high volumes of wastewater and heavy industrial and commercial use.

14. The City of Winnipeg should be directed to stop the practice of disposing of landfill leachate at its water pollution control centres within a period of eighteen months.

Disposal of leachate from the City's landfills at the North End Water Pollution Control Centre is an unacceptable practice. Leachate contains many contaminants of concern that are on the *Canadian Environmental Protection Act* 1999 Priority Substances Lists. These substances are toxic to aquatic life, persistent and bioaccumulative in the environment and prohibited by other jurisdictions. Municipal wastewater treatment facilities are not designed to remove these contaminants and only serve to dilute them before they are released into the environment. Many of the contaminants in leachate end up in the biosolids, which are then applied to agricultural land.

Relevant Excerpts from the Full Report:

pg.22

The Province of Manitoba should complete its *Nutrient Management Strategy for Southern Manitoba* as soon as possible. Implementation of the strategy is a prerequisite to the reduction in nutrient loadings targeted for Lake Winnipeg.

Water quality objectives for nitrogen and phosphorus in Manitoba's rivers and receiving lakes are required for this purpose.

The Commission is concerned that only limited progress has been made by the City of Winnipeg toward nutrient reduction in its wastewaters and that, until recently, Manitoba Conservation has not provided adequate direction in this regard. It is noted that other upstream municipalities along the Red and Assiniboine rivers in Canada and the United States have already, or are in the process of, implementing phosphorus or total nutrient removal from their wastewaters.

Based on the evidence presented at the public hearing, the Commission concludes that the City of Winnipeg must begin the process of removing nutrients from its municipal wastewaters in the near future. Nutrient removal should include both technological changes to the wastewater treatment processes and control measures to limit nutrients from other sources. The priority for nutrient removal is phosphorus followed by nitrogen. The testimony of Environment Canada and the Department of Fisheries and Oceans supports this conclusion.

The Commission also notes that Manitoba's *Water Quality Standards, Objectives and Guidelines* do not provide sufficient guidance for nitrogen and phosphorus levels in wastewaters or receiving environments.

Comment:

BOTH MANITOBA'S NUTRIENT MANAGEMENT STRATEGY AND THE PROVINCE'S WATER QUALITY STANDARDS, OBJECTIVES AND GUIDELINES MUST BE FINALIZED.

pg. 27

Based upon the statements made by Environment Canada, the Commission believes the City of Winnipeg must now develop pollution prevention and compliance strategies to adhere to the regulatory and policy provisions of the *Canadian Environmental Protection Act* 1999 and the *Fisheries Act* with respect to ammonia. While the timeframe to complete a pollution prevention plan and to achieve compliance is to be worked out with Environment Canada, the provincial priority placed on protecting Lake Winnipeg should also be recognized. The Commission believes that the regulatory requirement to reduce ammonia provides an opportunity for the City to reduce nutrient levels at the same time, and encourages Manitoba Conservation to support that direction.

The Environment Canada requirement for Winnipeg to prepare pollution prevention plans for its three water pollution control centres provides a balanced approach to ammonia reduction including the prevention of pollution at source and the virtual elimination of ammonia in municipal wastewaters. This approach will facilitate protection of the downstream environment including Lake Winnipeg and resource users including recreational and commercial fishers, Aboriginal communities, tourism outfitters and the general public.

pg. 49

The Commission observed that there does not appear to be an integrated water quality monitoring network for the Red and Assiniboine rivers and Lake Winnipeg. Such a network is required to identify baseline or background water quality conditions, detect trends or changes due to pollutant sources or spill events, and provide a basis for regional planning and effective decision making. . .

The Commission believes that separate federal, provincial and municipal research and monitoring programs may not be the most cost-efficient and effective approach to environmental protection and management for the Red and Assiniboine rivers and Lake Winnipeg. A cooperative, cost-shared monitoring program is required to define baseline conditions, address information deficiencies and provide answers to questions about the impact of municipal wastewaters and other sources of pollution on the environment and human health.

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Clean Environment Commission Hearings - Simplot

Report Title:

Report on Public Hearings Simplot Canada Ltd. Potato Processing Plant, Portage la Prairie, Manitoba City of Portage la Prairie Water Pollution Control Facility Alterations

Clean Environment Commission
February 2002

Access:

<http://www.cccmanitoba.ca/reports/pdf/ACF217.pdf>

Relevance:

SIMPLOT IS A SIGNIFICANT INDUSTRIAL POINT SOURCE FOR WASTEWATER INTO THE ASSINIBOINE RIVER, WHICH DRAINS INTO THE RED RIVER AND INTO LAKE WINNIPEG.

Specific Recommendations:

pg. 17

5.3 The Commission recommends that the proposed license alterations for the City of Portage La Prairie Water Pollution Control Facility upgrade and biosolid utilization program (including the amendment for a single waste activated sludge treatment facility) as well as the Rural Municipality of Portage La Prairie pumping station and forcemain be approved subject to the following four conditions:

5.3.1 Phosphorous removal should be required to levels consistent with those established in other prairie cities including Regina, Moose Jaw, Saskatoon and Calgary.

Scientific evidence suggests that eutrophication of surface waters in Southern Manitoba, including Lake Winnipeg, is a developing problem. Phosphorous, which is cumulative in ecosystems, is a principle contributor to the eutrophication process. The Commission understands that phosphorous can be easily removed from effluent using readily available technology. Cost-sharing arrangements between various levels of government and Simplot would ensure that the financial burden of this initiative does not fall to municipal government alone.

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International Joint Commission and Associated Bodies – The Red River

Relevance:

THE REPORTS LISTED BELOW ALL RELATE TO THE RED RIVER AND NUTRIENT LOADING ISSUES RELATED TO FLOODING OF THE RED RIVER.

Report Title:

‘The Next Flood – Getting Prepared’ – International Red River Basin Task Force Final Report to the IJC

Final Report of the International Red River Basin Task Force to the International Joint Commission
April 2000

Access:

<http://www.ijc.org/rel/pdf/nextfloode.pdf>

Specific Recommendations:

**For recommendations, see ‘Living With the Red’ (which is the Final report endorsed and edited by the IJC)

Report Title:

Living with the Red – A Report to the Governments of Canada and the United States on Reducing Flood Impacts in the Red River Basin

International Joint Commission
November 2000

Access:

<http://www.ijc.org/php/publications/html/living.html>

Appendix 2 – Conclusions and Recommendations

<http://www.ijc.org/rel/pdf/001590app2e.pdf>

Main Body of Report – Living With the Red

<http://www.ijc.org/rel/pdf/001590part1e.pdf>

Specific Recommendations:

IJC 23 - Governments should take immediate steps to ensure that all banned materials such as toxaphene are removed from the Red River basin. Governments should also ensure that potentially hazardous materials are not stored in the 500-

year floodplain, although reasonable quantities of such substances could be maintained in the floodplain for immediate use. (Page 57)

TF 34. Governments should continue to monitor toxaphene in the Lake Winnipeg ecosystem until concentrations decline to pre-1997 levels. (Page TF-91)

Relevant Excerpts:

Re: Lake Winnipeg Water Quality

pg. 55

In its interim report, the Task Force highlighted some of the key environmental issues related to the 1997 flood. These included: releases of hazardous materials, both commercial and residential; untreated discharges from sewage and related facilities; handling of dead animal carcasses; contamination of groundwater; human health concerns related to residence flooding; and the potential for a Red River–Upper Mississippi basin hydraulic connection that might result in a transfer of species between basins. In its final report, the Task Force elaborated further on the hydraulic connection at Lake Traverse and flood effects on water quality in Lake Winnipeg.

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Because of its importance to the economy of Manitoba, both from a recreational and commercial fishery perspective, the Task Force addressed the impact of the flood on the water and aquatic resources of southern Lake Winnipeg. While elevated levels of nutrients, trace elements (cadmium, chromium, arsenic, zinc), and some pesticides were noted, it was not possible to confirm whether these were attributable to the flood event or whether they reflected normal ranges. The only significant finding related to toxaphene apparently released during the flood. Concentrations of this pesticide have increased in fish tissue since 1997 but do not pose a health risk. As recommended by the Task Force, the Commission encourages governments to continue to monitor toxaphene in the Lake Winnipeg ecosystem until concentrations decline to pre-1997 levels. Other trace organics, such as PCBs and DDT, generally increased in fish tissue following the flood event, but their concentrations remained well below consumption guidelines for the protection of human health. Detection of these persistent toxic contaminants, whether related to the flood event or not, is a cause for concern. While voluntary programs may be in place in the various jurisdictions to collect used pesticide containers and other household and on-farm wastes, there does not appear to be a systematic program in any jurisdiction to verify the efficacy of the voluntary programs or to eliminate the potential for accidental release of banned and other hazardous chemicals through enhanced voluntary or mandatory measures. While use of some hazardous materials may be beneficial in agricultural operations when properly used, only minimal quantities should be stored in the 500-year floodplain to reduce the risk to human and environmental health during flood events. There is no cogent reason for banned materials to be stored in the floodplain.

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*Stewart, A.R. et al. *Influence of the 1997 Red River Flood on Contaminant Transport and Fate in Southern Lake Winnipeg*. Fisheries and Oceans Canada, Winnipeg, Manitoba, March 2000.

Report Title:

Flood Preparedness and Mitigation in the Red River Basin
International Red River Board
October 2003

Access:

<http://www.ijc.org/php/publications/pdf/ID1536.pdf>

Relevant Excerpts:

pg. 22

The province is developing new nutrient management zones based on soil classification and topographical features to identify areas more vulnerable to nutrient loss to ground and surface water. Zones will be defined and described in one of four categories with requirements attached to each zone.

Comment:

THE LWSB SHOULD FAMILIARIZE ITSELF WITH THE ABOVE PROCESS (IF IT HAS NOT ALREADY DONE SO), MONITOR ITS PROGRESS, AND MAKE USE OF RESULTS AS THEY BECOME AVAILABLE.

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Lake Winnipeg Research Consortium

<http://www.lakewinnipegresearch.org/>

Physa Snail web page on LWRC:

<http://www.lakewinnipegresearch.org/lwrc%20pages/featuredspecies.htm>

Report Title:

Fish Species at Risk in Manitoba. Rarely Seen Fish and the Conditions which Threaten Their Survival.
Manitoba Conservation / Government of Canada
March 2002

Access:

<http://www.lakewinnipegresearch.org/pdfs/fish%20SAR%20in%20MB.pdf>

Relevance:

LISTS SIX SPECIES OF FISH THAT ARE ENDANGERED AND PROVIDES BASIC INFORMATION ABOUT THEM.

Comment:

RECOVERY OF ENDANGERED SPECIES WILL BE AND SHOULD BE CONSIDERED AN INDICATOR OF THE HEALTH OF LAKE WINNIPEG

Report Title:

COSEWIC Assessment and Status Report on the Lake Winnipeg Physa Physa sp. In Canada (Endangered 2002)
COSEWIC
2002

Access:

http://www.lakewinnipegresearch.org/pdfs/sr_lake_winnipeg_physa_e.pdf.pdf

Relevance:

DISCUSSES THE STATUS AND THREATS TO THE ENDANGERED *PHYSA* SNAIL IN LAKE WINNIPEG.

Relevant Excerpts:

pg. 13

Two major factors are of concern for the future survival of this snail:

- A. The shallow, nearshore habitat, where human intrusion and disturbance are the most intense.
- B. The eutrophication of the lake, which has accelerated substantially during the past decade.

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This physid is known only from Lake Winnipeg. The population is fragmented within the lake, and it is not clear why this gastropod has not colonized more areas of similar habitat type. It has disappeared from two sites where it was previously known to occur, and has not recolonized, indicating that it is sensitive to environmental changes. The projected escalation in destructive land and water use practices in and around the lake may pose increased threats to the survival of this snail in the near future.

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Other Reports

Report Title:

Assiniboine River Water Quality Study – Nitrogen and Phosphorus Dynamics - May 2001 to May 2002
Manitoba Conservation
November 2002

Access:

http://www.gov.mb.ca/conservation/watres/assiniboine_river_water_quality_report_2002_10.pdf

Relevance:

UPDATED STUDIES EXPECTED IN THE NEAR FUTURE THAT MAY HAVE RELEVANCE FOR THE LWSB.

Report Title:

Sustainable Livestock Development in Manitoba – Finding Common Ground
Report prepared for the Government of Manitoba by the Livestock Stewardship Panel

Livestock Stewardship Panel
December 2000

Access:

<http://www.gov.mb.ca/agriculture/news/stewardship/stewardship.html>
<http://www.gov.mb.ca/agriculture/news/stewardship/livestock.pdf>

Relevance:

THIS DOCUMENT MAY BE USEFUL IN IDENTIFYING GAPS IN KNOWLEDGE REGARDING ILOS AND WATER QUALITY ISSUES. THE REPORT MAKES REFERENCES TO A LACK OF INFORMATION, MONITORING DATA REGARDING THIS ISSUE.

Report Title:

Nutrient Management Study, Manitoba Government

Access:

http://www.gov.mb.ca/conservation/watres/water_quality.html

Relevance:

FINAL DRAFT AND/OR FINAL VERSION HAS NOT YET BEEN RELEASED

Report Title:

Nutrient Management Strategy – Public Consultation – A Proposal
Clean Environment Commission
November 2002

Access:

http://www.cccmanitoba.ca/reports/pdf/Nutrient_Management_Strategy_Consultation.pdf

Relevance:

CONTAINS RECOMMENDATIONS, ELEMENTS A PUBLIC CONSULTATION PROCESS THAT COULD BE CONSIDERED BY THE LWSB

Ontario Source Water Protection Statement of Expectations

August 16, 2004

The undersigned environmental and community groups agree that Ontario's new source water protection regime must, at a minimum, include the following provisions in order to ensure that our water resources and aquatic ecosystems remain safe and healthy for future generations.

The full version of this document will soon be available on this site.

1. Universal Level of Protection

The government should require that the source water protection planning framework be used in all watersheds in Ontario.

The new legislation must protect individual well users as well as municipally operated systems.

The new legislation must protect watersheds in the north as well as south of the Canadian Shield.

The new legislation must protect groundwater and surface water sources from non-point, cumulative and point source threats.

The new legislation must protect water sources with respect to both water quality and water quantity.

Source protection planning must be based on the precautionary principle.

The Ministry of the Environment must retain ultimate accountability and responsibility for source water protection planning.

2. Appropriate Planning Scale and Scope

Each watershed should have its own source protection plan, with watersheds grouped into appropriate planning areas to enable more effective and efficient sharing of resources among source protection planning authorities.

All waters must be protected, as well as watershed features such as shorelines, wetlands, and woodlands because of their integral ecological contribution to source water protection.

Source protection plans should recognize the intrinsic relationship between groundwater and surface water within and between watersheds.

3. Thorough Public Participation

Thorough public participation in planning and implementing source protection is crucial to successful protection of source waters. At a minimum, public participation means:

- Any member of the public has the opportunity to participate in source protection planning committees through an application process that is open and transparent.
- Those who do participate on source protection steering committees and sub-committees receive some financial support for the costs of their participation.
- The public has easy access, including electronic web access, to all information, including policy instruments and scientific data, relevant to source protection.
- Source Protection Terms of Reference, Assessment Reports and Source Protection Plans, are prescribed for notice and comment in the Environmental Bill of Rights Registry.

4. Integration with Existing Legislation

The new source water protection regime must be integrated with existing legislation and given primacy where needed.

Other relevant legal instruments (including the *Environmental Protection Act*, the *Environmental Assessment Act*, the *Municipal Act*, the *Planning Act*, the *Provincial Policy Statement*, and others) must be reviewed and amended where necessary to be consistent with the source water protection legislation.

Source Protection Plans must supercede all other relevant policy instruments (including Certificates of Approval for discharges to air and water, Permits to Take Water and others).

The legislation should include a paramountcy clause, such as "No person shall issue or amend a prescribed instrument that conflicts with or is inconsistent with an approved Source Protection Plan". The list of prescribed instruments should be specified in an accompanying regulation, and the province must have the authority to amend the list.

Once Source Protection Plans are in place, all existing relevant provincial and municipal regulatory and policy instruments should be revised in order to be consistent with them.

Source protection plans should be integrated with other federal and provincial water protection programs, including:

- Great Lakes programs
- Flood and drought management plans
- Fisheries protection programs
- Species at Risk habitat protection and species recovery programs
- Historic Canal protection programs

Where those programs include more stringent requirements for water quality or quantity than would otherwise be included in the Source Protection Plan, the Source Protection Plan should adopt the more stringent requirements.

5. First Nations

In recognition and respect of First Nations' traditional environmental knowledge, as well as their aboriginal and treaty rights, the province must pursue a strategy with the federal government and First Nations that will support the ability of First Nations (and their technical designates) to be full participants in source water protection planning and implementation. This includes facilitating their involvement in the development of the plan, and their participation on source protection

planning committees, in the consultation process, and in the implementation of watershed-based source protection planning through agreements.

6. Conservation Authorities

The responsibilities and accountability of Conservation Authorities must be specifically delineated in source protection legislation so that their roles are supported by their governance structures and by the public.

Conservation Authorities, and others responsible for source protection, must be provided with adequate resources (including funding or funding tools, technical expertise and training, etc.) to match their new responsibilities and allow them to carry them out within the necessary timeframes.

7. New Municipal Powers, Roles and Requirements

The province should work with municipalities and other stakeholders to develop appropriate new municipal powers that should be made available for the purposes of source water protection. In particular, these powers should include:

- the ability to impose water conservation and efficiency requirements on all users, and to collect and report data on water use by sector; and
- the ability to restrict the construction of impervious surfaces in all new developments.

Municipal accountability and authority for its role in source protection must be specifically delineated in source protection legislation. The legislation must also clearly describe some prescriptive requirements for municipalities to manage threats to drinking water sources.

Municipalities should be required to update their Official Plans to be consistent with their approved Source Protection Plans.

Municipalities should be required to pass pesticide by-laws and sewer/septic system use by-laws incorporating provincially set standards and provisions.

Municipalities should be required to develop and implement water conservation plans, which in general should include metering for users of municipally supplied water. Municipalities should not be issued any new water-taking permits until a water conservation plan is in place.

Municipalities should be required to provide water to new developments first from what can be saved through conservation measures, before being issued permits to take additional water, with the goal of achieving no net increase in their total water use.

8. Adequate Funding

All authorities responsible for the development and implementation of source protection plans (including Conservation Authorities, municipalities, First Nations and others) must be provided with adequate resources (including funding or funding tools, technical expertise and training, etc.) to match those responsibilities and allow them to carry them out within the necessary timeframes.

9. Cost Recovery and Conservation

All those who impact water quality or quantity, as well as those who benefit from the provision of clean water should contribute to the costs of source protection, to a degree appropriate to their impact or benefit.

Source protection plans must include the development of water budgets and water conservation standards for all watersheds within the planning area. These goals must be:

- based on an assessment of the cumulative impacts of all water takings in the watersheds;
- publicly reported, along with the cumulative impacts assessment; and
- reflected in each and every Permit to Take Water in the planning area, as specific, measurable, and enforceable conservation requirements of the Permit holder.

10. Water Taking Charges

The new source water protection regime must apply charges/levies to water taking activities, and the revenue from those charges should be entirely allocated back to the source protection system. Examples of areas for allocation include:

- development of relevant components of Source Protection Plans
- data collection and dissemination
- research
- public education programs
- implementation of certain source protection measures such as land acquisition, easements and capital works
- monitoring water quality and quantity

None of these areas should depend entirely on the revenue generated by water taking charges to continue operating.

11. Infrastructure

Provincial Class Environmental Assessment processes, as well as other decision-making processes for water, sewer and highway infrastructure must be reviewed and amended where necessary to be consistent with Source Protection Planning legislation.

Approval of new infrastructure should be deferred by the province until Source Protection Plans are completed, and all future approvals must be made consistently with the approved Source Protection Plans.

12. Integration with Great Lakes Protection

The new source water protection regime must be fully integrated with Great Lakes protection. Communities with existing and future Great Lakes demands must be required to fully participate in drinking water source protection, including research, funding and programs for point and non-point discharges.

When participating in inter-jurisdictional negotiations regarding the Great Lakes (including current negotiations around the Great Lakes Charter Annex 2001), the province must work to have the principles of source water protection incorporated into the resulting agreements.

13. Enforceable Timelines

The first Source Protection Plans must be developed and approved in all regions within three years of the legislation being passed.

Where a Source Protection Planning Authority is unable to complete a Source Protection Plan within that time frame, the Province should be prepared to impose a Source Protection Plan.

14. Strong Interim Measures

The province, municipalities and conservation authorities must use their available powers to protect water sources by taking immediate action with respect to high-risk activities and land uses until Source Protection Plans are approved and implemented.

Vulnerable or sensitive areas should be identified, and preliminary measures taken to protect them, within one year of the legislation being passed; adequate funding for the identification process must be provided, and criteria for identification should be specified by regulation.

No new policy instruments with the potential to cause significant or irreversible harm to water sources (including Certificates of Approval and Permits to Take Water) should be issued until Source Protection Plans are in place.

15. Long-term Monitoring

Data must be collected and publicly reported for, at a minimum, all of the outcome measures listed in the April 2003 Report of the Source Protection Advisory Committee, including:

- the number of completed source protection plans;
- the proportion of the province protected by approved watershed-based source protection plans, as measured geographically and by population;
- the number of municipalities that have well head protection plans;
- the availability of data to the public, academia and public interest groups;
- the level of public reporting and evidence that Ontarians are aware of the effort being made to protect water resources for present and future generations;
- increased industry and public participation in water preservation and conservation activities;
- occurrences of pathogens and viruses in water;
- source water quality after wet weather events, as measured by turbidity, total coliform, E. coli (e.g., number of beach closures);
- levels of inorganic chemicals, nitrates, phosphorous, pesticides and fecal contaminants in surface waters, especially streams, and groundwater where applicable;
- health of biota in surface waters, including wetlands, disclosing less stress and adverse impacts from contaminants;
- number and lengths (kilometers) of surface waters meeting all provincial water quality objectives set by the province;
- fish tissue concentration for key contaminants;
- multi-year average stream base flow volumes and groundwater levels;
- number of municipalities managing within water budget; and
- change in total hectareage or percentage of landscape comprised of wetlands, riparian zones and forested lands that perform a

significant hydrological function within the headwater, recharge and discharge zones of a watershed or subwatershed.

All technical data on water quality and quantity indicators (including an inventory of all existing Permits to Take Water) should be consolidated in a central province-wide, user-friendly database, accessible by the general public.

16. Review of Source Protection Plans

Source Protection Plans should be reviewed and updated regularly to reflect emerging data and science regarding water resources, changes in the watershed and the results of outcome monitoring under Source Protection Plans.

http://www.ec.gc.ca/ea-ee/communication/reports/annual_rep_2001_2002_e.asp-topofpage

http://www.ec.gc.ca/ea-ee/communication/reports/annual_rep_2001_2002_e.asp#NRH_4_3

**Environmental Assessment Program
Annual Report 2001-2002
December 2002**

Simplex Potato Processing Plant and City of Portage la Prairie's Wastewater Treatment Plant Expansion

EC's Prairie and Northern Region participated in the provincial EA process for the Simplex potato processing plant and subsequent expansion of the City of Portage la Prairie's wastewater treatment plant (WWTP) in Manitoba. EC's two main concerns with the WWTP were high phosphorus and ammonia loadings to the Assiniboine River; phosphorus concentrations in the river already exceed provincial water quality criteria. Environmental Protection - Prairie and Northern Region made a verbal and written submission to the Manitoba Clean Environment Commission (CEC) at its public hearings. Dr. Patricia Chambers, one of the Department's experts on nutrient enrichment in aquatic ecosystems, also made a presentation to the CEC. EC's intervention was supported by environmental groups and was successful insofar as the CEC, in its report to the provincial Minister of Conservation, supported EC's recommendations for phosphorus removal at the Portage la Prairie WWTP and for limiting ammonia discharges to the river. However, Manitoba Conservation rejected the recommendations for phosphorus removal in revising the City's licence, although it did limit the allowable ammonia discharges for certain months.

For more information about Dr. Chambers' work, see <http://www.nwri.ca/staff/patriciachambers-e.html>