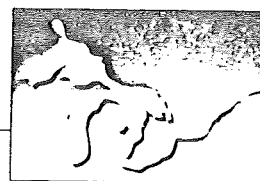


Great Lakes United



267.

## The Next Millennium

### Sustaining or Draining the Sweetwater Seas

A Submission to The International Joint Commission  
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From the Sustainable Water Resources Taskforce  
Great Lakes United

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## **The Next Millennium; Sustaining or Draining the Sweetwater Seas**

**"The Challenge now is to recognize water scarcity as an increasingly powerful cause of political and social instability, and to raise it to a higher place on the political agenda."**

**Sharon Postel, the Worldwatch Institute**

Having a privileged location next to 18% of the world's fresh water has given most Great Lakes residents a sense that they are "water rich". Is their complacency really justified? Ninety-nine per cent of the water stored in the Great Lakes comes from glacial melt. Incredibly, this means that only one per cent of the Great Lakes is actually renewable through nature's water cycle and the transport of water into and out of the ecosystem. Any substantial decrease to the volume of water in the Basin could have permanent and dramatic impacts on the ecosystem health of the Lakes and creatures dependent on them, on all the activities along their shores, and the health, economy and well-being of the region and its peoples.

### **Will the Great Lakes Hold Water in the Next Millennium?**

As we approach the next century, there are many indicators that there will be a growing number of stresses on Great Lakes water resources. The Sustainable Water Resources Taskforce of Great Lakes United has been researching these stresses to examine their potential to diminish water volumes in the Great Lakes, the consequences of water loss, and the state of current water management practices in the Basin. This work will culminate in a report which will be released early in 1996.

The Taskforce's preliminary research has revealed some disturbing trends. Population growth, continental water depletion, climate change, the loss of regional control over resource decisions, and continuous and widespread wasteful water use practices are compounding and building to a crisis early in the next millennium. In 1995 we cannot claim to have a water conservation ethic in the Great Lakes Basin. We continue to undervalue the resource and so encourage North Americans to continue to be the greatest squanderers of water on earth.

Furthermore, we are ill-prepared for the consequences of our waste and neglect. The lack of coordinated ecosystem activity on water sustainability is in stark contrast to the dedication of resources to improving water quality. Ironically, many of our water quality problems will be compounded if we do not prevent the future depletion of water volumes in the Great Lakes.

### **Charting the Great Lakes Charter**

1995 is the 10th anniversary of the signing of the Great Lakes Charter. The Charter, a declaration of intent by the Great Lakes States and Provinces is not legally binding. Its purpose is to:

- . protect the integrity of the water resources of the Great Lakes and their tributaries by ecosystem management which treats the ecosystem as a single hydrologic system and which transcends political boundaries in the Great Lakes Basin.
- . encourage a spirit of cooperation between all levels of government of Canada and the United States and the International Joint Commission to study, monitor and plan for the conservation of the Basin's water resources.
- . implement legislation establishing programs to regulate and manage the diversion and consumptive use of Great Lakes water with the provision that jurisdictions should not allow diversions that would individually or cumulatively have significant adverse impact on lake levels, in-basin uses and the Great Lakes ecosystem.
- . ensure that no major new or increased diversion or consumptive use of Great Lakes water will go forward without prior notice and consultation with all affected Great Lakes states and provinces, nor without seeking their concurrence and consent.
- . commit jurisdictions to the development and maintenance of a common water use data base to share information, and to establish a Water Resources Management Committee to coordinate research and data collection so that informed water planning and management decisions will be made which will protect the resource for generations to come.

As the terms of the Charter were first being negotiated, Great Lakes United, with other public interest groups argued that they should be stronger and legally binding. Many felt that the trigger level of 5 million gallons per day for prior notice and consultation was too high. They argued that a number of smaller withdrawals could easily escape Basin-wide scrutiny but cumulate to have an even greater impact than one larger withdrawal. Another concern expressed was that the Charter, by laying out the steps for the permitting and approvals of a diversion, could amount to a licensing system without enforcement provisions, and thus actually facilitate diversions.

What can be counted in 1995 as accomplishments of the Great Lakes Charter? Our examination of its influence in creating a conservation framework for the Basin concludes that after more than a decade, few of the principles of the Charter have been implemented. Jurisdictions have invoked the Charter, for political purposes, to protect their regional interests, but its ecosystem goals have been neglected. Management of the Basin's water resources continues to be crisis driven. At times when there have been no diversion proposals or disputes between jurisdictions, activity on Charter provisions has languished.

Indeed the Water Resources Management Committee charged with the implementation of the Charter provisions, coordinated by the Great Lakes Commission, has not met in over two years. This is particularly puzzling when at one of their last meetings at least ten pending proposals to withdraw Great Lakes water were identified by those attending. This Committee includes representatives from all of the Great Lakes States and Provinces, both federal

governments and the International Joint Commission. However, no provision has been made to include the interests of local municipal governments whose planning decisions are so critical to the use and allocation of the waters in the Great Lakes watershed. Native Nations have also not been included in their deliberations.

In 1995, the state of our knowledge of existing withdrawals, consumptive uses, their cumulative impacts and future water needs within the Basin is still very sketchy. Only seven out of ten of the Great Lakes jurisdictions have water use systems requiring registration and/or permitting of withdrawals consistent with Charter requirements. Quebec, Pennsylvania, and Illinois have not met the Charter goal of legislating water controls. Illinois, however does have a permitting system for withdrawals from Lake Michigan. Michigan states they are 2/3 through the implementation of legislation to put a data collection system in place. There is little compatibility between different jurisdictions' legislative requirements since some legislation predates the Charter. To be compatible with the Charter, legislation would require that information should be kept on all new or increased withdrawals in excess of 380,000 litres or 100,000 gallons a day averaged over a 30 day period. There is also a lack of uniformity in data currently being collected by states and provinces which makes comparisons difficult.

There are also discrepancies between jurisdictional requirements for the volumes of withdrawals which require permits or registration. Minnesota regulates withdrawals of more than 10,000 gallons per day, Ontario 50,000 litres per day, while Indiana, New York and Ohio regulate 100,000 gallons per day. Consequently, this disarray in data collection means we do not have the information necessary to manage Great Lakes water resources in an informed way as one hydrological system. Most troubling is the lack of timely submission of the information we do have. In 1995 the Annual Report of the Great Lakes Regional Water Use Data Base Repository for 1992 still isn't finalized.

The cooperation which signatories of the Charter committed themselves to is not apparent in the manner in which disputes between Great Lakes jurisdictions are being handled or in the application of the prior notice and consultation provisions of the Charter. In the past year, a dispute over the Chicago Diversion has arisen. This diversion from the Great Lakes to the Mississippi River watershed has been set at 3200 cubic feet per second (cfs) averaged over a forty year period by a 1980 Supreme Court decree. Michigan contends that Illinois is now diverting 3450 cfs from Lake Michigan and is not using conservation options to live within the limits set. With the population projections for the Chicago area to increase by 1 million people by the year 2000, these volumes are likely to increase due to increased wastewater through the diversion. Illinois argues these increases are attributable to more accurate measurement techniques and from leakage from the federal locks controlled by the Army Corps of Engineers. It seems likely that since this dispute has not been resolved by mediation or taken up by the Water Resources Management Committee that the matter will not be settled by cooperation but by the Supreme Court.

During the decade the Charter has been in effect, the application of its principle requiring

prior notice and consultation has not been used in a way which has fostered a spirit of cooperation. In several instances jurisdictions have objected to diversions they learned about in the press rather than through the formal notification process. This occurred in 1988 with a proposal to increase the flows to the Mississippi River through the Chicago Diversion to remedy low water levels temporarily impeding navigation.

The intent of the Charter to prevent harmful withdrawals from the Great Lakes has also been seriously compromised by semantical arguments that the Charter may not apply to some recent significant withdrawal proposals. This argument was made when the first of several large agricultural withdrawals for irrigation was approved over the objections of other Great Lakes jurisdictions by the State of Michigan. It is also being used to justify intra-basin transfers like the current proposal from TransCanada Pipelines to divert water from Lake Huron to the Toronto and Cambridge regions. Proponents argue that as long as water stays within the Great Lakes or is eventually returned to the Lakes, there are no impacts of bypassing and withholding waters from part of the system. However there have been no studies done to substantiate these claims which look at ecosystem impacts from approved withdrawals and their cumulative effects. Nor has the Charter generated any research which examines and monitors the viability of new proposals.

## Climate, Social and Economic Change - the Stresses Coming

### The Warming Warning

Historically, the approach to water quantity problems in the Great Lakes has been an engineering one looking at physical manipulation of the Basin for primarily human and economic benefits. The efforts have concentrated on ameliorating fluctuations of nature. Little is known conclusively about how those controls and manipulations have altered the ecosystem integrity of the Lakes. Small changes in lake levels and temperatures have the potential to harm the health and biodiversity of the web of life in the lakes. The recent collapse of the Atlantic Cod and Pacific salmon ocean fisheries should be a warning to the Great Lakes. The predictions of scientists' of the impacts of climate change on the Great Lakes are for significantly lowered lake levels due to increased evaporation and reduced flows from its tributaries. The impacts of lower lake levels will have impacts well beyond the powers of engineers to solve. Conflicts among users dependent on the waters of the Great Lakes will increase. Water poor regions in North America will turn to the Great Lakes for relief. With no conservation strategy in the Basin we will be hard pressed to deny others water.

Some still argue that climate change may not be underway. We hear little from the Great Lakes scientific community about preventative actions which could slow down human-induced climate change in the region. Cynically, research is underway on regional adaptation techniques. The Canadian government is undertaking research on drought tolerant plants that could be grown in a warmer Great Lakes Region.

This summer the Great Lakes got a wake-up call about the devastating potential of climate

change. In an article in the Globe and Mail, Canada's Environment Minister, Sheila Copps revealed that federal scientists predictions have been borne out by the length and severity of the forest fires experienced in Canada's boreal forests. There has been a two fold increase in forest fire activity since the early eighties. They predicted that the north would experience two peak fire periods, in early spring and late summer as we have in 1995. "As temperatures increase so does the stress on our forests: moisture levels fall, bogs dry up, lakes shrink and trees die, dry up and become fire fuel. The frequency of fires increases, transforming many of our forests into grasslands, permanently." Imagine the shores of Lake Superior becoming a vast prairie and the devastation which such a profound change would mean to that region.

### The Challenge of Growing Within Our Watersheds

There are already many indicators that the residents of the Great Lakes are failing to live within their water budget and themselves are beginning to borrow rather than save for the future. Several of the current water diversion proposals in the Basin are to provide for future potential for growth. Proponents of those proposals have depleted or polluted their groundwater aquifers or surface water supplies but few have conservation programmes in place. Great Lakes United staff have conducted research on municipalities just outside of the Great Lakes Basin who are not now dependent on the Great Lakes for their water. This research found that there is a high potential that proposals for new or increased diversions from the Great Lakes will come from several sources close to the Basin. These areas are: Kenosha-Pleasant Prairie, Wisconsin; Lowell, Gary and Hobart, Indiana; Waukesha, New Berlin and Milwaukee, Wisconsin; Akron, Cleveland, including the Ohio Ship Canal, increases to the diversion at Chicago, New York City and areas north and west of Toronto.

Another factor which is leading communities to turn to the Great Lakes for alternative water supplies is the strengthening of drinking water standards for harmful substances which occur naturally in groundwater. We are only beginning to understand the complex relationship between ground water and surface water relationships within the Great Lakes Basin.

Many of the RAP initiatives in the Great Lakes are pioneering planning reforms with a watershed focus. The necessity of limiting growth in the Great Lakes Basin to areas where there are water resources, adequate capacity for handling wastewater and the ability to treat stormwater will be crucial to protecting our water resources for future generations. These planning tools have great potential to contribute to sustainability but are not well understood. Many municipalities dependant on the need to expand their tax base are not adequately assessing the expensive consequences of their local planning decisions on the Great Lakes ecosystem. There is a real need to coordinate, involve and educate local governments about watershed planning principles.

### Our Evolving Economy

The Great Lakes region is in a time of great economic transition and change. Many of the changes which are now occurring have the potential to influence our ability to sustain,

conserve and protect our precious water resources. It is very important that Basin Interest groups take advantage of these transitions to plan for the long term sustainability of the resource. This must be done when there are dwindling funds to be spent on the Great Lakes.

As most of the Great Lakes RAPS are nearing completion, it is clear that governments do not have the fiscal resources to implement their costly recommendations. Much of our water wastage in the Great Lakes can be attributed to aging and outdated infrastructure in need of expensive repairs. In some of our cities it is estimated that 1/3 of our water supplies are lost through leaking pipes. The need to treat storm water to remove contaminants it carries is straining our water budgets and working against any water conservation economies which could be gained by reducing the water volumes requiring treatment. However governments continue to undervalue our water by not charging users the true cost of providing clean water. Many Great Lakes cities are not metered. Many still offer declining block rates for large users which charge them less the more they use, and do not require efficiency codes for water use devices. Most municipalities do not use the funds that they charge for water and sewage treatment for improvements. Those revenues flow to general coffers. Many economic reforms and efficiencies could be made in the Basin. We need a strategy to see these reforms are applied uniformly.

One consequence of diminishing resources which we are seeing is a trend for governments to look for private partners to help finance the distribution of our water resources and to manage the controls and locks in the Great Lakes system. There is currently a proposal to privatize the operations of the St. Lawrence Seaway. As well, the Ontario Government is considering privatizing Ontario Hydro, one of the agencies which control the flows of the Niagara River through important treaties, due soon to be renegotiated. Will conservation be a compatible goal with profit margins for private partners in water management?

### Are We Trading Away the Great Lakes?

The continentalisation of North America's water has been facilitated by international trade agreements. For some time areas of the US southwest and Mexico have been depleting non-renewable water resources. It is only a matter of time before there are major water shortages in North America. Even though ambitious water conservation programs could delay shortages, many are planning large schemes involving the Great Lakes in an engineering of the continent to move waters south. In a practical world activities requiring water would occur near to those water sources. For half of this century the Great Lakes has actually been exporting its economy to other regions. Trade agreements rely on goods, commodities and resources which could well include water being moved great distances. How can the Great Lakes begin to bring back water dependent activities to the Basin to enrich its future? Will our Great Lakes institutions have the ability to make the important decisions to protect their water resources for needs within the Basin or will trade tribunals have ascendancy over our regional governments, existing treaties and agreements?

## The Role of the IJC in Sustaining Great Lakes Water Resources

The Boundary Waters Treaty of 1909 created the International Joint Commission (IJC) to preside over matters involving the diversion and use of the waters of the Great Lakes. The IJC was given its quasi-judicial powers in approving or denying applications for the use, obstruction or diversion of boundary waters, and its investigative powers to study specific problems in a reference when requested by either or both governments. Article X of the Treaty, which has never been used, gives the IJC powers to decide on matters of difference referred to it with the consent of both governments. The IJC's mandate was enlarged by the Great Lakes Water Quality Agreement (GLWQA) to include the ecosystem defined as "the interacting components of air, water, and all living organisms including humans, within the drainage basin...". As well the parties were charged with "restoring and maintaining the chemical, physical and biological integrity of the waters of the Great Lakes Basin...".

In 1985 citizens came to the IJC biennial meeting to plea with Commissioners to protect the health of the Great Lakes by preventing rather than controlling pollution. In 1995 we are coming to the Commission to ask them to intervene to protect the integrity and health of the Basin by preventing rather than controlling the harmful losses of its waters in the future. Sustaining Great Lakes waters can no longer be achieved by engineering controls but must take place at all levels of society, in planning for growth which sustains our resources, and for a healthy basin economy. If we continue to ignore our obligations as stewards of the waters of the Sweetwater Seas we will have to account to future generations for their losses.



## **Recommendations**

### **For the International Joint Commission:**

1. That the IJC takes leadership to ensure that a Sustainable Great Lakes Water Strategy is in place by the year 2000. The IJC should ensure that the strategy:
  - a) has a goal of reducing water use by all sectors in the Basin by at least one third which would bring regional use in line with European levels,
  - b) integrates studies which evaluate the impacts of climate change, while implementing aggressive preventive measures in the Basin,
  - c) includes Basin-wide water efficiency codes for all domestic, commercial, and industrial appliances and machinery,
  - d) evaluates the impacts of international trade agreements on the protection of the water resources and economy of the region,
  - e) evaluates watershed planning options which promote sustainable growth only in areas with adequate water resources in the Basin, and
  - f) evaluates and promotes economic instruments which achieve water conservation and sustainability.
2. That the International Joint Commission should review the management and implementation of the Great Lakes Charter and make recommendations on how it could be better implemented.

### **For the Great Lakes States and Provinces**

1. That all signatories to The Great Lakes Charter act immediately to implement and to improve its provisions by:
  - a) lowering the trigger level for consideration of diversions from 5 million to 1 million gallons per day,
  - b) ensuring that a uniform data collection system for withdrawals and consumptive uses is in place within one year which includes a mechanism to track the cumulative impacts of smaller withdrawals,
  - c) including representatives of Native Nations in all Charter deliberations, and provisions,
  - d) seeking a means of effectively involving municipal governments in ecosystem planning and Great Lakes water resource discussions, and
  - e) ensuring all parties have legislation pursuant to and consistent with the terms of the Great Lakes Charter.

### **For the Public**

1. That all residents of the Basin conserve and protect water resources by conserving water in their homes and workplaces and by advocating that their local regional and national governments legislate sustainable water resource planning and practices.