CANADIAN ENVIRONMENTAL LAW ASSOCIATION
L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT

Renegotiation to Amend the *Great Lakes Water Quality Agreement*: Response to the Binational Webinars June 7 to 9, 2010

Submission by: Canadian Environmental Law Association July 9, 2010

Description of the Canadian Environmental Law Association (www.cela.ca)

The Canadian Environmental Law Association (CELA) is a public interest legal aid clinic with a mandate to represent low income people in matters of environmental justice. This mandate includes environmental law and public policy reform to strengthen environmental and health protection. Much of this work has focused on the Great Lakes where our Toronto office has been located for forty years. This history includes involvement in the last renegotiation of the Great Lakes Water Quality Agreement in 1987 and extensive writing on the history of the Agreement.

CELA produces regular reports on discharges of pollutants to the Great Lakes www.pollutionwatch.org with Environmental Defence Canada. The most recent report from PollutionWatch, *Partners in Pollution 2: An Update on the Continuing Canadian and United States Contributions to Great Lakes-St. Lawrence River Ecosystem Pollution,* was released in March 2010. Our organization has participated in several Remedial Action Plans. We currently serve on the Advisory Panel to the Regional Body administering the Great Lakes St. Lawrence River Basin Sustainable Water Resources Agreement. CELA recently co-authored a report to the International Joint Commission's Work Group on Chemicals of Emerging Concern in the Great Lakes titled, *The Challenge of Substances of Emerging Concern in the Great Lakes Basin: A review of chemicals policies and programs in Canada and the United States* (www.cela.ca). CELA staff was also involved in four of the Working Groups that examined the Agreement as part of the preparation for the Agreement Review Committee (ARC) Report in 2006. CELA is currently on the Stakeholder Advisory Panel to the Canadian negotiators of the GLWQA. Our comments here

will include responses to the questions you have posed in your webinar and additional recommendations based on our lengthy experience in the Great Lakes.

GENERAL REMARKS

Great Expectations for the Great Lakes

It is our expectation that the next *Great Lakes Water Quality Agreement* will have much more practical and explicit guidance to drive the programs needed to protect the ecosystem from both chronic and new problems. The focus of the new Agreement should include prevention so we do not compound the challenges to this fragile ecosystem.

At this point in the negotiating process we have several overarching concerns.

Concern 1. **Will we end up with a more rigorous Agreement in our rush to the December 2010 deadline?**

The Agreement Review Committee Report of 2007 identified a number of chronic problems which need to be addressed and overcome for the new Agreement to drive effective implementation and protection into the 21st century. CELA concurs that the Agreement could be improved by outlining a farsighted vision based on much more precise definitions and concrete Articles defining goals and objectives. This could mean that the Agreement would not become dated and may not need to be reviewed as often. However **we would only support this approach if there are also Annexes to the new Agreement that are reviewed more frequently and if these Annexes contained specific commitments to prescriptive programs with targets and timetables for action which can be measured regularly in progress reports released to the public.** We are very concerned that the Parties are entering the drafting Phase for the new GLWQA this summer without yet gauging with the public what the specific options for actions and programs should be. To date, the discussions on a new Agreement have been largely limited to goals, principles and approaches.

CELA has joined other groups around the Basin to insure that more care and attention are taken now by the two governments to achieve a living yet practical Agreement which deals comprehensively with all of the stressors to ecosystem integrity. This is preferable to having a weak and incomplete Agreement to meet the December 2010 deadline established for this process.

If this deadline is tied to the renewal of the Canada-Ontario Agreement (COA), we would also prefer to wait to have a COA that is far more comprehensive, prescriptive, effective, durable and transparent.

CELA urges that the public have adequate opportunity to review a draft of the actual Agreement under consideration. Without seeing the actual definitions, scope and language of the Agreement it is impossible at this point to be confident that selecting among the discrete options reviewed by the June 2010 webinars, will result in the comprehensive vision and programs needed to protect and restore one of the world's largest most complex ecosystems. There is significant value in providing stakeholders an opportunity to review and comment on draft legal text prior to the finalization of the Agreement. It significantly improves transparency and engagement of stakeholders in the process and negotiators are provided insight on scope, principles, and approach proposed in the draft Agreement by stakeholders.

Concern 2. The U.S. Great Lakes Restoration Initiative, an unprecedented and long-term commitment to implementing Agreement commitments must be integrated into the new Agreement. Will its Great Lakes Accountability System (GLAS) or an equivalent be replicated in Canada so that there is equitable right-to-know and transparency mechanism throughout the Great Lakes Community?

One issue that has gone unaddressed in the review process to date is just how the U.S. Great Lakes Restoration Initiative will be integrated into the new Agreement. If it is omitted, the next Agreement will not be relevant or reflective of the activities of one Party. While the Initiative is not addressing all of the Agreement commitments, its inclusion is necessary.

The transparency commitments made in the Great Lakes Accountability System (GLAS) will mean disclosure of Great Lakes Program budgets, spending allocations for individual programs, regular updates of progress and funds remaining in the U.S. Great Lakes. There is no equivalent commitment to similar transparency or accountability in Canada. **CELA recommends that binational equity needs to be added to the list of underlying principles of the Agreement. This would include a commitment by the governments to adopt a reporting mechanism modelled after "GLAS".**

Concern 3. Has the ecosystem fallen off the negotiating table?

It has been difficult to discern if the ecosystem is still central to the Agreement and if it is well understood in 2010. Many of the choices in the options shift the Agreement focus to place-based approaches focusing on the nearshore or on individual Lakes. Although the ARC report and IJC reports have suggested a watershed focus, no real options to include the full tributaries in this focus were offered in the webinars. CELA is concerned that the focus on an ecosystem approach has not been emphasized throughout these negotiations. Also missing are serious new options requested in the ARC report for integration of groundwater as an integral part of the Great Lakes watershed. The IJC has just released a report elucidating the key role that groundwater

plays as part of the ecosystem and CELA's expectations are that a modern Agreement would extend protections to groundwater and to the tributaries whose flows feed the Lakes and in turn are fed by groundwater within the Great Lakes watershed.

Also key to the ecosystem approach is the interaction of all aspects that contribute to the integrity and well being of all of the system's waters. The current Agreement definition Article 1(g) includes components of air, land and water and living organisms within the drainage Basin…yet there is a tension with the Agreement definition Article 1(h) "Great Lakes system means all of the streams river, lakes and other bodies of water that are within the drainage basin"… . Both of these definitions are restricted to the political boundaries of "the St. Lawrence River at or upstream from the point at which this river becomes the international boundary between Canada and the US. In Article 1 (w) "Tributary waters of the Great Lakes System means all of the waters within the Great Lakes System that are not boundary waters" (as defined in the Boundary Waters Treaty). **There needs to be specificity and even-handedness in the application of ecosystem protection in the next Agreement which protects consistently as much of the natural ecosystem-functioning of the whole Great Lakes watershed as possible.**

Concern 4. We can no longer afford to focus on one issue at a time in the Great Lakes. Managing the largest freshwater ecosystem in the world means concerted simultaneous and consistent programs to address prevention of ALL of the stresses to the Great Lakes ecosystem.

In discussions about the new Agreement, several Industry representatives have suggested that we should move away from a focus on toxics to other issues. This suggestion fails to appreciate that we have in no way resolved the ongoing chronic contamination of the Great Lakes with man-made chemicals. With new evidence emerging on the presence of toxic chemicals in the Great Lakes basin, the work in response to toxic chemicals is significant. Indeed, we now have increasingly complex new threats from pharmaceuticals, nano-particles and hormone disruptors. The one lesson we have learned in the Great Lakes is that the surest way to reduce loadings is to ban the most harmful substances. **This makes the retention of virtual elimination a necessity. Programs to achieve this should move from only Superior to all of the Lakes.**

Parallel programs that have a common goal of **prevention** need to be developed for all chronic stressors as well as for new stressors to the Lakes. These programs should be adequately resourced by the Parties. What has changed since the last Agreement is that Great Lakes scientists are now having difficulties linking cause and effect in the Great Lakes because the growth in stresses to the Lakes is interfering with and changing ecosystem functioning and interactions in ways that are confounding easy solutions. **All stresses will need to receive consistent attention in the next Agreement.**

Concern 5. Will the next iteration of the Agreement address Human Health issues in the Great Lakes?

Consistent programs on human health research and toxic exposure prevention in the region need to be central to the next Agreement. Two major studies have been done on human health in the Areas of Concern in the Great Lakes. In Canada, there are the Great Lakes Health Effects Program Reports on Canadian Areas of Concern in 1998, and the Agency for Toxic Substances and Disease Registry 2008 report to the IJC on their studies on U.S. Great Lakes Areas of Concern *ATSDR Studies on Chemical Releases in the Great Lakes Region*. These reports identified that:

- fish contamination was above levels thought to pose a risk to human health,
- there is inadequate understanding of exposure pathways, and
- there are inadequate data on some important health effects associated with health exposures such as neurobehavorial, endocrine, reproductive and immune effects.

The public expectations are that the next steps recommended in these reports be taken and incorporated into commitments in the next Agreement. These recommendations include:

- collection of data on environmental contaminants and characterization of air, soil, foods, consumer goods as pathways of exposure,
- increased biomonitoring, linkages of health with environmental data,
- new data collection on the other health outcomes listed above, and
- much more analytical epidemiological studies and public health action based on these new efforts.

The ASTDR report states: "Given the magnitude of needed actions, the needed additional work will require a coordinated, collaborative effort by the relevant State, Federal agencies and their partners". The new Agreement is the best way to achieve this coordination and ensure that efforts are binational.

Concern 6. Will key constituents of the Great Lakes - its residents and the International Joint Commission have a role in the next Agreement?

Keeping the Great Lakes great requires all hands on deck. The loss of a public constituency in the Great Lakes can be traced to less Inclusionary governance choices that were made in the last 1987 Agreement revisions. Public reporting on Great Lakes programs that once went to the IJC who reported publicly on progress on Agreement obligations went "in house" as the governments reported to each other at the Binational Executive Committee and in biennial SOLEC conferences. Citizens who poured their efforts and hopes for decades into the Remedial Action Plans have been disenfranchised by the lack of concerted action on those plans and by the shift to designating these Areas "in recovery" in lieu of active remediation.

It is troubling that no explicit suggestions have been made during Governance discussions on a continuing or enhanced role for the IJC. There needs to be an arms length agency that has the responsibility to review and research chronic, new and emerging issues in the Great Lakes. This Agency should be separate from governments. While the IJC cannot be considered to be completely arms length, their oversight and reports remain crucial in defining needs in the Great Lakes.

The IJC has struggled to continue this function without adequate resourcing over the past several decades. The roles of the IJC Science Advisory Board, the Water Quality Board and their Great Lakes Regional office also have not been explored in the Governance discussions. **The new Agreement should provide for the IJC to retain its role for proactive oversight in the Great Lakes. Mechanisms should be reinstated to have the Parties report to them on progress on the GLWQA. The IJC needs to be adequately funded by the Parties for their ongoing role in the Great Lakes.**

Also a role which can give voice to public interest in the Great Lakes has not been adequately explored. Building a renewed constituency for the Lakes is central to its protection. **CELA and other groups have called for a public advisory committee to the International Joint Commission to serve this function.** There are many people and public interest organizations who have worked for enhanced protection of the Great Lakes and St. Lawrence for decades who could serve on this group and there is a pressing need to include youth to ensure new generations carry on this commitment. The creation of such an Advisory Group should not preclude the responsibility of the governments to consult widely with and include the Great Lakes community in all policy development and programs.

CELA will next endeavour to respond to some the options put forward in the webinars in the areas where we feel we have the expertise. These are the areas of governance (see page 7), toxic substances (see page 11), nutrients, and climate change (see page19). We will also be identifying other options which were not presented and instances where multiple options are viable.

CELA has been fortunate to have participated in public networking, meetings and discussions convened by Great Lakes United and the National Wildlife Federation on this renegotiation and have been impressed with the breath of basin-wide public support for a strengthened GLWQA. For areas where our other environmental partners have greater expertise and provide additional commentary on specific issue areas, CELA has endorsed their collective submissions.

GOVERNANCE INCLUDING PLACE-BASED APPROACHES PARTICIPTION IN BINATIONAL MANAGEMENT PROCESS POTENTIAL MECHANISMS

CELA supports making the membership of the Binational Executive Committee (BEC) more inclusive by including First Nations and Tribes and Municipalities that have responsibilities for achieving GLWQA objectives. However, this inclusion will not be productive unless it comes with commitments of resources to assist these sectors to participate in BEC meetings and most importantly resources to implement Agreement goals.

If the BEC is to be formalised in the new Agreement then CELA recommends that its roles and responsibilities and procedures also need to be spelled out in detail in the Agreement. As we pointed out above, the accountability of the BEC as it serves the obligations of the Parties must be made explicit. Its relationship to the functions of the International Joint Commission as articulated in Articles VII, VIII, IX, X, XI, XII and XIII of the current Agreement should also be clarified.

If the BEC's powers are to be extended to setting priorities for science and action and agreeing on strategies and targets to address Great Lakes issues, then formal procedures should be put in place to do this and to ensure that these decisions are recorded, made public and transparent. Without clear mandates for all BEC members formalised, the responsibilities of the Parties could be obfuscated by the implication that everyone who serves on the BEC will have equal responsibility for Agreement implementation.

To ensure roles are well understood and strategic, the BEC should be charged with immediately developing a durable work plan for the Great Lakes based on the GLWQA and ensure procedures are in place to review and update this plan. The IJC Water Quality Board is well placed to carryout such a review. Care should be taken to have nongovernmental and broad representational membership on the Water Quality Board. Currently, no IJC Boards include membership from non-governmental organizations.

The Science Advisory Board of the IJC should have the role of evaluating the scope and adequacy and strategic value of science in the Great Lakes Basin that would include gap analyses. The State of the Great Lakes Ecosystem efforts should feed into this broader evaluative process.

The formation of BEC has led to less accountability and public reporting on the Great Lakes. **CELA recommends that either the Parties or the IJC should have the responsibility to formally report regularly to the U.S. Congress and to the Canadian Parliament on progress on their obligations in the next Agreement. These reports should be accessible and made part of the public record.**

PRINCIPLES, GOVERNING CONCEPTS AND TOOLS APPLICABLE TO IMPLEMENTING THE GLWQA

As we have outlined above **CELA could not support an Agreement reduced to principles, governing concepts and tools unless it is accompanied with Annexes with explicit prescriptive implementation programs, with targets and timetables for all of the major stresses to the Great Lakes Basin.**

CELA recommends adding another important principle to the list suggested and that is Binational Equity and Parity. Because commitments to Great Lakes programs have become very uneven, access to information on Great Lakes Budgets, and program reports have led to disparities between Canada and the U.S. CELA supports broad right-to-know initiatives in all of the Great Lakes. **The Great Lakes Restoration Initiative program commitments must be integrated into the Annexes to the new Agreement. The elements of the GLAS Accountability System should be replicated for Great Lakes programs in Canada to ensure Canadians have equitable right to know about their government's budget programs and spending in the Great Lakes.**

CELA maintains that an over-arching principle of adaptive management should not be included as an objective or goal in the Great Lakes Water Quality Agreement. It is one approach that should not supersede all others. Taken at its narrowest interpretation it could be misused to condone an exclusively reactive agenda for the Great Lakes and could work against a proactive protective plan. The intent should be to allow for fast reaction to harmful surprises and threats in the system. This might be better expressed as flexibility for rapid intervention.

CELA recommends that the preventative precautionary principle should be added to the list of principles guiding the next Agreement. See our discussion on application of this principle on page 12 of this submission.

CELA will reserve support for the proposed list of principles until we see the actual definitions applied to these principles (see our discussion above in Concern 3 about confusing definitions about the geography of the ecosystem). We hope for rigour, clarity, precision, durability and modern understanding to be part of new Agreement definitions.

REVIEW OF THE GLWQA

It is difficult to determine how often the Agreement should be reviewed without seeing how the Agreement is structured and the issue based sections (Annexes) are addressed. As there has been no commitment yet to Annexes, we will wait to determine what the appropriate frequency should be for the review

of the Agreement and programs which might flow from it. **CELA urges the Canadian and U.S. governments to ensure Annexes are retained to address specific issues facing the Great Lakes basin.**

CELA may support a less frequent review of a general Agreement limited to goals and principles if there are explicit commitments and mechanisms to review and update issue action Annexes every few years and include triggers for immediate response for emergency issues. All reviews should provide for public consultation.

The second option on page 25 implies that Agreement review and implementation cannot occur at the same time. This approach has been a chronic impediment to progress on both. **The new Agreement should have provisions to compel the Parties to remain on schedule and to complete comprehensive reviews on schedule so that programs to restore and protect the Great Lakes no longer lapse or are stalled until review outcomes are completed.**

LAKEWIDE MANAGEMENT PLANS

As we have emphasized above, action on all stresses to the chemical, physical and biological integrity of the Great Lakes and St. Lawrence River need to be enabled by the new Agreement. We are concerned that shifts in emphasis may not accomplish this if other areas are ignored as a consequence. One serious question we need to ask ourselves is - are we trying to make the largest freshwater ecosystem on earth more manageable by circumscribing our view of it? The assumption made in these options is that Lake-specific approaches best address these integrity issues. However, this approach may ignore the importance of cumulative impacts which may be lost using place-based approaches. More attention to cumulative impacts is required in the new Agreement to effectively ensure the physical, chemical, and biological integrity of the Great Lakes and St. Lawrence Rive Basin.

CELA understands the need to address nearshore zones that have not been part of the Remedial Action Plans, including these areas in the connecting channels and in the St. Lawrence River. However, this should not lead to the exclusion of other parts central to the whole health of the Lakes. Understanding of deep water offshore health and integrity and the unique interactions in each Lake between offshore and nearshore zones influenced by currents, seasonal temperatures and human activities must also remain priorities in a new Agreement.

REMEDIAL ACTION PLANS

While much has been accomplished by the Remedial Action Plans (AOCs) to date there is still considerable work to be done particularly in the costly and

complex area of contaminated sediments that impact all AOCs. These plans are testimony to the dedication, concerns and hopes of local residents that the Great Lakes can and must be restored and protected. The public's involvement in drafting these Plans has spanned several decades. Many of the approaches that are being suggested for the new Agreement such as taking a watershed and a nearshore approach were advocated for by the public advisory committees in the early days of the RAP planning. The public did not see the value of limiting these plans to the waters without addressing the origins of their impaired uses from nearshore and tributary watershed sources of contamination and degradation of functioning. The need to take a more holistic approach has long been a public priority and the essence of an ecosystem approach. Integration is still a necessity to achieve RAP and Agreement goals and drafters of the new Agreement must take care to mandate processes to study and integrate new and emerging issues with the ongoing challenges of the RAPs. **CELA recommends that there be regular reviews of the RAPs with a goal of not only reporting on progress but of assuring that new remedial actions are added to address new stresses to those areas. Integration of RAPs with nearshore, lakewide and watershed priorities will be important to the success of the new Agreement.**

The Water Quality Board is still well placed to carryout these reviews and should once again resume a schedule to examine each RAP.

CELA recommends that additional requirements be added to Annex 4 to clarify current practices of designation of areas of recovery. The designation of "area of recovery" and "natural recovery" for a RAP area should be conditional and those conditions should be clear in the new Agreement. The Parties should demonstrate that all sources of contamination have been curtailed and that all clean-up options have been exhausted. A lack of funds for remediation or a desire to be delisted should not be acceptable reasons for an "area of recovery" designation. There also need to be requirements to verify that recovery is actually occurring.

The options presented on page 22 assume that conditions in RAP areas do not change. This will be unlikely as we learn more about emerging substances of concern, impacts of invasive species and climate change on ecosystem functioning. **Integration of actions to address these impacts on AOCs should be required by a new Agreement**.

ADDRESSING THE NEARSHORE ZONE

The nearshore is the place where numerous impacts and interactions occur from a range of largely human activities that have not been adequately controlled or curtailed. Each of these will require their own actions in remedial and preventative programs. It is unclear how rounding these issues up into the nearshore terminology will result in the most effective action. While this

approach will demonstrate that cumulative effects occur from these interactions, each of these wide ranging activities will still need to be addressed individually. **CELA recommends another option that requires nearshore issues be addressed on an individual and specific basis AND that an overall health assessment and gap analysis is done which can assist in setting priorities for nearshore recovery and prevention of new problems.**

SCIENCE COORDINATION

Strategic science should be a priority of the next Agreement. Science coordination is a necessity and much more of this science should be field work in the Lakes to study the health and functioning of species dependent on these waters. Questions of ecosystem health and functioning need to be much better understood. The State of the Lakes Conferences and reports are not strategic because they are not comprehensive but rather act as a showcase for research underway. The next Agreement needs to define the science needed to support the Agreement commitments but it also needs to further our understanding of occurrences that are now baffling the science community i.e. the recurring eutrophication of Lake Erie. Assessing the health of the Great Lakes population as well as the wildlife are important indicators for the health of the Great Lakes. Health exposures need to be central to this science to better understand prime pathways of exposure. Biomonitoring should be used as a tool to achieve this.

The next Agreement should specify that a Strategic Science Plan be done for the Great Lakes and St. Lawrence River which includes recommendations for coordination of this work. This Plan should be done by an arms-length agency so that involvement in research underway does not influence decision-making on future research needed.

The Parties and their partners should be required to report on their budgets to support science and coordination set out in the Strategic Science Plan to ensure funds are included in the Parties' annual budget commitments for the Great Lakes. This Plan should be reviewed and updated regularly and have provisions for adding new work on priorities.

TOXIC SUBSTANCES

The Great Lakes and St. Lawrence River Ecosystem has been one of the first places in the world which pioneered work on the understanding of the impacts of toxic substances in freshwater ecosystems. In this ecosystem toxic substances have been found to persist and to bioconcentrate as they move up the food web. Children of fishers who ate more Great Lakes fish were found to have neural and learning deficits. Some of the first disturbing impacts of hormone mimicking chemicals were found here first in deformed bird and fish populations.

The preventative concept of virtual elimination and zero discharge were pioneered in the GLWQA and other jurisdictions such as the European Union have followed this lead by incorporating these goals into their chemicals management legislation. International agreements addressing toxic chemicals such as the Stockholm Convention on Persistent Organic Pollutants have also been significantly influenced by the concepts and intentions of virtual elimination and zero discharge. The application of zero discharge in the Great Lakes proved to be successful when the persistent toxic substances PCBs and DDT were banned. In those cases we saw the greatest reductions of specific toxic chemicals, and yet we have not taken that experience to heart. The current approach focuses efforts to control releases while continuing to use toxic substances in significant amounts. Huge volumes of these toxic substances make their way into this ecosystem every year through multiple pathways: from air, land, and products (including personal care products and pharmaceuticals). This year the IJC stated that they were no longer able to recommend the consumption of Great Lakes fish since they could not say the health benefits outweigh the health risks.

"VIRTUAL ELIMINATION AND ZERO DISCHARGE"

CELA supports the continued use of "Virtual Elimination" and "Zero Discharge" in a revised GLWQA with clear definitions NOT simply as guiding philosophies in the Agreement. The inclusion of the two concepts form the basic foundation of the GLWQA in addressing chemical threats—both existing chemicals and chemicals considered chemicals of emerging concern—to the Great Lakes ecosystem. The absence of this foundation would essentially weaken the Agreements approach on toxic chemicals.

CELA rejects the option to replace the terms "virtual elimination" and "zero discharge" in a renewed Agreement. An approach that does not include such concepts provides very limited, if any, guidance for the elimination of these toxic chemicals in the Great Lakes. CELA recommends the interpretation made by the International Joint Commission through its Fifth and Sixth Biennial Reports on the Great Lakes Water Quality Agreement in the

1990s which continues to represent the level of action needed to address the chemical threats seen in the Great Lakes ecosystem.

Currently, the Canadian approach on toxic chemicals diverges from this and relies on a risk based approach that focuses on managing chemicals at the point of release to the environment rather than on the use of chemicals at the source. **We urge the government to ensure that the Agreement provides careful consideration of preventing toxic chemicals at source NOT just managing toxic chemicals before they are released to the environment.**

Additional comments related to "virtual elimination" and "zero discharge"

CELA supports the continued use of the terms "virtual elimination" and "zero discharge," and recommends that the Parties should extend the use of these terms to other toxic chemicals in addition to persistent toxic chemicals. The term and the objectives in the Agreement should apply to chemicals that are found to be, but not limited to persistent toxic chemicals, carcinogenic, mutagenic, reproductive and neurodevelopmental toxicants, and endocrine disrupters. This broader approach would capture chemicals of emerging concern in the Great Lakes which may exhibit these hazardous properties.

Annex 12(2) is a critical provision in the GLWQA as it notes the importance of these two concepts and its relationship with human health impacts as well as outlining the regulatory regime required to address toxic chemicals in the Great Lakes. The ecosystem and human health relationship should be emphasized in the context of toxic chemicals for the Agreement to effectively support an ecosystem approach.

The new Agreement may be further strengthened to address chemicals of emerging concern with an addition of a provision aimed to identify and develop elimination strategies for toxic chemicals that exhibit very specific health and ecosystem impacts.

WATER QUALITY OBJECTIVES

CELA continues to support specific water quality objectives but does NOT support the proposal that substance specific objectives be established in an independent manner for consideration by the Parties. It is critical that these efforts be undertaken by both Parties as a binational requirement set out in a new Agreement. A binational and coordinated approach for identification of chemicals and development of management strategies is necessary to reflect that the Great Lakes is a shared ecosystem and requires the commitment of both governments in their efforts to eliminate toxic chemicals in the Great Lakes.

This process should be a dynamic framework that identifies chemicals meeting one or more of the following hazard criteria of persistence, bioaccumulation, carcinogenetic, mutagenicity, reproductive and developmental toxicity, endocrine disruption, neurodevelopmental toxicity. The new National Academy of Sciences report on Science and Decisions could assist in this effort. These criteria should be applied to existing and new chemicals in the Great Lakes Basin, including chemicals from pharmaceuticals, pesticides, personal care products, nanomaterials and other products.

To ensure that current specific objectives exist for all substances in current use or new in the Great Lakes, the list of chemicals to be a focus for elimination and reduction strategies should be updated on a regular basis annually and with subsequent action plans for elimination and reduction aimed within 2 years of listing. This comprehensive approach would rely on **reviewing** the hazard properties of the substances as well as results obtained from monitoring or biomonitoring programs that have been developed for the Great Lakes. Other requirements should apply to the list of chemicals to consider their cumulative impacts and synergistic effects on the health of organisms and ecosystems. There should also be a provision for automatically listing chemicals under the Agreement if they are added to other authoritative lists (for example, U.S. EPA and European Union).

Other issues to integrate in the efforts to revise the list of chemicals should include a mechanism to allow citizens to petition for additional chemicals to be added to the list.

As noted previously, the process to update the list of chemicals should also include a mechanism to prioritize chemicals based on their hazard (listed above). Prioritization should trigger the development of chemical action plans by Governments where they are required to provide a plan that will demonstrably reduce the loading of the pollutants of concern with benchmarks and timelines for achieving elimination goals for these substances.

CELA does NOT support the approach of relying on establishing specific objectives for the Great Lakes based solely on Great Lakes Science. Data obtained from other regions on specific chemicals provides important information on the substances that may not be available from any other source. This type of information should not be disregarded. Furthermore, many substances in the market today continue to have significant information gaps. Relying on only Great Lakes science to establish specific objectives on chemicals is neither precautionary nor preventative.

The new Agreement should have proactive programs to address chemicals in the Great Lakes. This will only be successful if resources to accomplish this are made available.

The current Great Lakes programs lag in program development to establish the necessary foundation to seek reduction or elimination of toxic chemicals. In the current climate, it is impossible to prevent toxic chemical deposition from the Great Lakes region because the science and program commitments have not kept pace with the identification of chemicals of concern in the Great Lakes. Waiting for new science is an approach that condemns the region to "a wait and see" position. Taking this approach means we would need to gather evidence of the harm and presence of a chemical in the Great Lakes before any actions to reduce or eliminate it would be considered. This reactionary approach should not be acceptable, as it does not promote acting in a precautionary manner.

There has been very limited action on chemicals that have been identified in the GLWQA with specific objectives. It is necessary to support the listing of identified chemicals, followed up with political commitments for reduction and elimination. The listing itself signals to the market and industries (who are interested in continuing to use these chemicals) that the identified and listed chemicals have the potential to harm human health and/or the environment.

ESTABLISH ECOSYSTEM OBJECTIVES SPECIFIC TO THE GREAT LAKES

CELA does NOT support this approach because it relies primarily on demonstrating acceptable standards for the presence of chemicals in the Great Lakes. Very little is known about how chemicals act and interact once they are in the ecosystem. What is determined to be safe in a laboratory setting may not be safe in the environment. CELA supports a framework that is both preventative and precautionary. CELA recommends shifting the approach to identification of chemicals of concern based on the inherent hazard of a chemical rather than the risk based approach that aims to establish an acceptable level of safety for a chemical.

This is not to say that we should not cleanup and remediate the historic legacy of toxics now in the Lakes and the sediments. We have learned that once historic pollution is in the Great Lakes it is extremely difficult and costly to remove and treat. The uptake and bioconcentration of these chemicals have impacted aquatic and terrestrial wildlife and human health and has devastated the freshwater fisheries in the Lakes. We have had to shelve commitments to implement recommendations of the Remedial Action Plans for sediment cleanup and remediation because it is unaffordable.

It is important that the GLWQA aim to prevent toxic chemicals from entering all environmental media to protect and maintain the water quality in the Great Lakes basin. However, the establishment of ecosystem objectives that are truly protective rely on various factors and is very complex. Other factors may include the sensitivity of the modelling approach; the technology to detect

presence of toxic chemicals; the appropriate margins of safety applied to address uncertainties; the availability of data on the substances; even the presence of industry interest on a specific chemical may influence the establishment of appropriate ecosystem objectives.

TOXIC SUBSTANCES MANAGEMENT

CELA cannot support the reliance on the current national and binational programs (Chemicals Management Plan and Binational Toxics Strategy in Canada) to management toxic chemicals in the Great Lakes. Indeed, a significant enhancement of these programs would be required before they are considered comprehensive programs for the management of toxic chemicals in the Great Lakes.

The Chemicals Management Plan does not have the necessary elements to address:

- new chemical threats to the Great Lakes in a systematic way as it relies on working from a very narrow list of chemicals for consideration. It cannot identify pharmaceuticals, pesticides or nanomaterials that require management strategies.
- collection of required information on chemicals that are Great Lakes specific to this date;
- has provided limited opportunities to identify and seek the use of alternatives to toxic chemicals; and
- application of its risk assessment or development of management options on toxic chemicals with a Great Lakes lens only.

The Binational Toxic Strategy:

- is a voluntary approach that does not include mandatory requirement for reduction or elimination by participating industry stakeholders;
- does not provide a substantive framework for identifying chemicals for management action; and
- has not achieved virtual elimination of persistent toxic chemicals that have been targeted for action in earlier phases of the BTS.

The approach to be undertaken in the Great Lakes to identify and develop appropriate management plans should have the following components:

i. The first step would be to categorize the substances based on their hazardous properties including whether they are persistent, bioaccumulative, carcinogenic, mutagenic, endocrine disrupting, respiratory toxic, neurotoxic, or have potential reproductive or developmental impacts.

ii. A second set of factors is the behaviour of substances in the environment, incorporating criteria such as: degree of bioaccumulation and biomagnification; persistence based on biodegradability oxidation potential; long range transport; and quantity in use. Such a system would rank substances based on ability to contaminate open water, such as the Great Lakes, and the food web.

iii. Additional considerations, such as potential for exposure to sensitive and/or at-risk populations (i.e., children, women, Tribes, First Nations, Métis, workers, new immigrants, people of low income, etc.) should also be included.

iv. Precedents for this work are in place, such as the European Union's Registration, Evaluation & Authorization (REACH) program, the U.S. EPA Toxic Substance Control Act (TSCA) Inventory, and Canada's Categorization of the Domestic Substances List required under CEPA 1999. All provide categorization (screening) models. Other useful filters are the lists maintained by the International Agency for Research on Cancer, and California's Proposition 65. Once a substance is identified as having hazardous properties it should automatically be listed under the relevant Agreement Annex.

v. Efforts to categorize these substances should include an effective public engagement component. The results of testing for these criteria should be made public.

vi. To operationalize the precautionary principle, substances that have not been adequately tested or do not have sufficient toxicity information should also be prioritized by governments for additional testing.

Include commitments to develop a binational framework to identify and implement risk management strategies for emerging and re-emerging, persistent or continuously-available (pseudo-persistent) toxic substances.

CELA supports in principle the need to develop a binational framework to identify and implement management strategies for emerging chemicals of concern including those chemicals that are continuously available. However, the framework would need to consider the following elements: inclusion of nanomaterial and products, pharmaceutical, substances from personal care products and pesticides and focus on alternatives that do not possess inherent hazards such as persistence, bioaccumulation, carcinogenicity, mutagenicity, reproductive and developmental toxicity, endocrine disruption and neurodevelopmental toxicity to replace toxic or pseudo persistent substances. Various tools to identify alternatives should be applied including green chemistry.

Include commitments for cooperative monitoring, research and surveillance to inform risk management of the success of implemented measures and the need for further action.

CELA is supportive of enhanced monitoring programs and biomonitoring programs through binational approach in the Great Lakes basin that should include human and wildlife populations in the Great Lakes basin. There is particular interest to ensure that monitoring and biomonitoring efforts should include a focus on emerging chemicals/substances of concern including nanomaterials and technology, endocrine disruptors, pharmaceuticals, flame retardants and chemicals from personal care products.

However, it is important to note that monitoring efforts should not be used to delay management actions on chemicals already identified as meeting criteria of toxicity demonstrating potential harm to the Great Lakes environment or human health. The role of monitoring or biomonitoring programs could significantly enhance the strength of the action plans taken on toxic chemicals by evaluating the efficacy of interventions and actions on toxic chemicals.

Due to technology development and approved protocols for detection methodology, existing monitoring programs may simply support a reactionary approach to managing chemicals in the Great Lakes. Due to the cost of developing, monitoring and reporting on results of monitoring programs, these monitoring programs may be limited in the number and type of substances targeted for monitoring; where they monitor and how many samples are monitored.

Include commitments for monitoring and research to identify emerging issues due to emerging and re-emerging persistent and pseudo-persistent toxic substances.

CELA is supportive of commitments for monitoring and research to identify emerging substances and continuously persistent toxic chemicals. See above comments.

ADDITIONAL COMMENTS

Improving Loadings and Sources Data

- The governments should assist in the development of a database including details and trends on the use, generation, release, disposal and transfer of toxic substances in the Great Lakes. These data should be made publicly available in a user-friendly format. The database should be developed and administered by the IJC. The data would be supplied by government agencies based on a specific protocol describing what information has to be submitted to the IJC, with timelines attached.

Proactive Measures for New Data and New Chemicals

- The Parties should establish a process for consideration and evaluation of new data (including biomonitoring data) on both existing and new chemicals. Governments should immediately form a scientific working group under the auspices of the IJC to report on new chemical threats (such as pharmaceutical products, various flame retardants and the implications of nano-particles and nano-technology) to the Great Lakes and to the health of its residents.

Need for Targets and Timelines for Acting on Toxic Substances

- In keeping with comments made on effectiveness of the Agreement, we have noted the importance of outlining targets and timelines for action. The scientific working group recommended above should report to the Parties on the effectiveness of measures taken to address such threats including bans, enforceable timelines for phase out of toxic substances, as well as the success of other strategies such as product return and substitution.

- Timelines should include the following:
  - Substances identified as persistent, bioaccumulative and inherently toxic (PBiT) should be considered priorities for action and the Parties should collaborate to ensure that regulatory measures designed to eliminate the substances are in place within one year of such identification;
  - For persistent and inherently toxic (PiT) or bioaccumulative and inherently toxic (BiT) substances, (1) a management plan should be in place within two years; and (2) the management plan should be implemented within one additional year.
- Toxics Use Reduction Institute
  - A binational Great Lakes toxics use reduction institute should be set up under the auspices of the IJC, funded jointly by the governments, to provide technical assistance to businesses to meet elimination and reduction goals, with assistance in green chemistry and clean production.

Additional comments related to management of toxic chemicals in the Great Lakes is presented in the NGO submission, *Comments and Recommendations on Governance and Specific Issues for Consideration During the 2010 Renegotiation of the Great Lakes Water Quality Agreement* (July 9, 2010).

NUTRIENTS

Specific comments responding to the GLWQA webinar focused on nutrient provisions in the Agreement were electronically submitted on June 8, 2010 through www.binational.net by Theresa McClenaghan, Executive Director at CELA.

CLIMATE CHANGE

CELA does not support limiting provisions on climate change in the new Agreement to studies and adaptation strategies. It is not too late to limit impacts from this region's contributions to global, North American as well as Great Lakes climate change problems. The principle of prevention should apply to all Great Lakes problems addressed by the new Agreement not just to selected stresses.

We already have a considerable body of research on current and future climate change impacts on the Great Lakes that point to preventative and adaptive actions that could commence immediately where these impacts and vulnerabilities are known. We have already wasted valuable time when actions could have mitigated the enormity of this problem.

CELA recommends that climate change impacts and actions be addressed in a new separate section of the Agreement but also integrated into actions on other stressors.

We will probably never exhaust the need for more research and modeling on climate change impacts but there is considerable risk in waiting for verification of our worst fears of climate change while impacts deepen. Yet the only options offered in the webinar involve focusing on predictions.

CELA recommends that precautionary actions should be identified and prioritised in a climate change plan for the Great Lakes and St. Lawrence ecosystem. This plan should focus on actions with endpoints and timetables. We have some very good examples to draw on right here in the Region. Municipalities like the City of Toronto have created plans to limit greenhouse gases in their region and actions to deal with other outcomes of climate change such as emergency measures for extreme heat and cold conditions. During the Agreement Review Process there was discussion of whose responsibility it was to deal with climate change and of whether climate change belongs in the new Agreement. At the same time, many scientists speculated that current impacts were already confounding ecological functioning in the Great Lakes. Clearly all levels of jurisdictions should act to address climate change impacts.

The Canadian Environmental Law Association believes that the Great Lakes Water Quality Agreement is the most logical and appropriate way to address actions on the many ways that climate change is and will continue to impact water quality, and the health of Great Lakes species and populations. To fail to address it with specific actions would be irresponsible and a failure to protect future generations of Great Lakes residents.

CELA recommends that a Great Lakes Climate Change Action Plan needs to be stipulated in the new Agreement. A panel made up of expert as well as a

broad range of Great Lakes sectors including the public and youth should be stipulated to guide this work. New solutions of green energy and green infrastructure should be examined by this plan.

If there is a lesson to be learned from previous Agreements, it is the consequences of failing to act quickly and completely on stresses as they emerge. The economic costs of inaction have been profound on all aspects of the health and well being of the region. Economic think tanks like the Brookings Institute are now telling us that the Great Lakes should step up and make long term and visionary decisions that will ensure that the Region maximises its place as the second largest economy in the world. No where is this more relevant for the Region than on the path it chooses on climate change.

CONCLUSION

CELA has been grateful for the opportunity to serve on the Stakeholder Advisory Committee to the Canadian negotiating team and to work with others in the Great Lakes community to breathe new life into the GLWQA. We look forward to the opportunity to see and comment on the draft language of the new Agreement this fall. CELA urges the negotiators to allow ample time for full public consultation on this draft since it will be shaping the fate of the Great Lakes for generations to come.

This submission was prepared by CELA researchers, Sarah Miller and Fe de Leon, with production assistance from Leah Harms.

For more information please contact:

Sarah Miller, Senior Researcher, millers@lao.on.ca, telephone: (416)960-2284 ext. 213.

REFERENCE: CELA Publication #732