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ANNEX 2001: COMMENTS ON THE REVISED IMPLEMENTING AGREEMENTS

The broad political purpose of Annex 2001 is to prevent jurisdictions outside the Great Lakes Basin from accessing water from the Great Lakes as well as to protect the waters from abuse within the Basin. There have been significant improvements over the first draft of the Annex 2001. While CIELAP supports adoption of these agreements, a few observations and recommendations that could be considered to improve the agreements, are mentioned below.

Return Flow (Article 203)

Return flow is defined as Water withdrawn (which includes groundwater and surface water) which returns to the Source Watershed after use. Unfortunately, Source Watershed is defined too broadly because withdrawn water only has to be returned to the Great Lake watershed or the watershed of the St. Lawrence River. Although there is a preference for water to be returned to the direct tributary stream watershed, this is not a requirement. Further, there is no mention of the need to return ground water to the aquifer, or recharge area for the aquifer, from which it was withdrawn. This is a significant omission for a number of reasons, including:

- Ground water provides a persistent long-term baseflow to streams and rivers, which is particularly important during times of low precipitation and drought;
- Baseflow and ground water supply to wetlands is crucial for the Basin ecosystem.
- Local communities, particularly those located away from the lakeshores may be heavily reliant on aquifers for water supply.

If water is not returned to aquifers, the ability of hydrological systems to maintain river flow during times of low precipitation is impaired, wetlands are more likely to degrade, and local communities are more likely to experience water supply problems.

Trigger Level (Articles 205/209)

The current implementing agreements would require a regional review of proposed consumptive uses in excess of 19 million litres per day over a period of 90 days. The implementing agreements also contain a requirement for jurisdictional review. This would compel the basin states and provinces to establish regulatory permit systems for

large-scale surface and ground water withdrawals (379,000 litres per day over a 90-day period). If approved, the six jurisdictions within the Basin that do not currently regulate ground water withdrawals would be required to do so.

However, the trigger levels for both regional and jurisdictional reviews are excessively high and significantly inhibit the effectiveness of the implementing agreements as they relate to ground water withdrawals within the Basin. Three of the four jurisdictions currently regulating ground water in the basin (Ontario, Quebec and Minnesota) have considerably lower permit levels.

Cumulative impacts from closely-spaced wells can occur from much lower rates of groundwater pumping than those required to trigger a jurisdictional review.

Conservation (articles 300/303)

The Great Lakes States/Provinces would be required to implement water management programs. However, the provision of economic feasibility is misleading. It is not clear how the economic feasibility would be measured and if the cost-benefit analysis would take the environmental costs/benefits into account.

Information (Article 301)

All users would be required to report their monthly withdrawals, consumptive uses and diversions on an annual basis to the Great Lakes States/Provinces (parties) who in turn will make this information available to the public. While welcoming this provision, we are of the view that the parties should be assigned more specific obligations with respect to the collection of information on groundwater. The agreements should require the mapping of all aquifers within the basin, the identification of groundwater divides and the collection of information on recharge rates, interconnections with surface water and ecosystems and the relationship between ground water and the Great Lakes. These represent current deficiencies in understanding of ground water as highlighted by the International Joint Commission and the USGS. The implementing agreements provide an excellent opportunity to facilitate the centralized collection of information and data on groundwater in the Basin.

Technical Review (Article 505)

The originating party would provide its technical review of the proposal; however, there is no mention of the need for applicants to provide a description of aquifer conditions, such as water levels within the aquifer, ground water flow, and ground water recharge. In addition, applicants should be required to show the location of other wells in the area, the distance between those wells, and obtain their actual and potential water use data from the relevant jurisdiction. Applicants should also describe the connections between ground water and surface water in the relevant area and the potential impacts of pumping on surface water and water dependent natural resources.

Measure of Consumptive Use (Appendix 1 Section C)

The measure of consumptive use as it is defined in the implementing agreements is troubling. Consumptive use is defined as the portion of water withdrawn from the Basin that is lost or otherwise not returned to the Basin due to evaporation, incorporation into products, or other processes. This definition ignores the impact that large-scale withdrawals that do not consume large quantities of water can have on the hydrological balance of the Basin. The York Region Big Pipe example is a good illustration of the consequences of large-scale withdrawals. The project has only completed its first-phase but its negative impacts on local wells and streams are already considerable. Much of the groundwater used will not be consumed, as it will be discharged as wastewater into rivers and streams but this is irrelevant for the Oak Ridges Moraine, an invaluable recharge area for groundwater, which is threatened by this project. If the implementing agreements are serious about ensuring the sustainability of the Basin's water resources and dependent ecosystems, this is precisely the type of project that should be considered under regional review.

Example: The Big Pipe project in the York Region, Ontario, exemplifies the importance of returning ground water to its source. Under a recently granted permit, sixty-six billion litres of ground water is to be withdrawn from an area close to the sensitive Oak Ridges Moraine, which is a critically important ground water recharge area. There are no plans to return the water to the aquifers once removed as the permit to take water only requires water to be put in detention ponds and discharged to rivers and streams or storm sewers. The initial phase of the project has already resulted in a drop in the water table from five to 50 metres and caused 100 wells and a number of streams to go dry. In addition, legal action has been initiated by environmental groups under the federal Fisheries Act (R.S. 1985, c. F-14) because of the impact on a trout stream which was reduced to 5% of its normal volume by the ground water pumping.

Recommendations:

- 1 Water of the Great Lakes (including groundwater) should be regarded as a public resource and not a commodity. The Annex agreements should supercede all international trade agreements.
- 2 There should be a mandatory provision for return of water to the same watershed from where it was withdrawn. That means if water was withdrawn from a tertiary watershed, it should be returned to the same tertiary watershed. Similarly, groundwater should be returned to the aquifer from which it was withdrawn.
- 3 Permit trigger levels should be no higher than that in Ontario (i.e. 50,000 litres per day).

4 Environmental benefits of conservation must be taken into account when determining the economical feasibility of conservation measures.

5 The applicants should be required to show the location of other wells in the area, the distance between those wells, and obtain their actual and potential water use data from the relevant jurisdiction. Applicants should also describe the connections between ground water and surface water in the relevant area and the potential impacts of pumping on surface water and water dependent natural resources.

6 Environmental impacts of large-scale water abstractions should be considered while measuring consumptive use.