United States Department of State

Washington, D.C. 20520

August 1, 2008

Missisquoi Bay Reference

Charles A. Lawson
Secretary, United States Section
International Joint Commission
2401 Pennsylvania Avenue, NW
Fourth Floor
Washington, DC 20440

Dear Mr. Lawson:

The Province of Quebec and the State of Vermont are working both individually and jointly, through their transboundary partnership in the Lake Champlain Basin Program (LCBP), to further reduce phosphorus concentrations in Missisquoi Bay. While these important efforts have reduced the phosphorus loads of some tributary streams, there is still room for improvement to reach acceptable in-lake concentrations of phosphorus.

Special challenges of phosphorus reduction in the Missisquoi River Basin are described in the 2002 *Memorandum of Agreement* between the Province of Quebec and the State of Vermont that apportions responsibility for phosphorus load reduction as 40% and 60% respectively. Recent monitoring data indicates that load reductions have been very difficult to achieve. There has been a reduction in phosphorus concentration in the Québec sector (Pike River) but the comparatively larger Vermont sector of the Missisquoi River drainage basin is particularly problematic.

All parties wish to accelerate load reductions through effective management planning and implementation of pollution prevention actions, especially concerning non-point source nutrient loading. From 2004 to 2007, acting in an area of its jurisdiction, the Province of Quebec has invested more than $1million in research, monitoring and modeling of agricultural non-point loading to identify sensitive areas and critical sources of nutrient loads and the effectiveness of best management practices. Management planning in critical source areas of the Quebec sector of the watershed is supported by hydrologic modeling techniques, detailed soil information, microtopographic terrain analysis based on LIDAR elevation data, together with multispectral remote sensing imagery and program and regulation enforcement. Plan implementation efforts benefit greatly from the research, monitoring and modeling on which Quebec's management plan is particularly based.

In the Vermont sector of the Missisquoi Bay watershed the non-point source nutrient loading challenge is greater (60%) in part due to its greater areal extent. In order for nutrient

management planning to be effective in the Vermont sector of the Missisquoi Bay watershed similar research, monitoring and modeling of agricultural non-point loading to identify sensitive areas and critical sources of nutrient loads is required.

In accordance with Article IX of the Boundary Waters Treaty, the Governments of Canada and the United States request that the International Joint Commission assist in the implementation of this complementary transboundary initiative to reduce phosphorus loading. Recognizing the recent advances made by the Province of Quebec within its areas of jurisdiction, the Commission is requested to coordinate the following tasks on the US side of the border, in close partnership with the Lake Champlain Basin Program.

i. Organization of a critical source area management workshop to explore the optimal parameters for identification and definition of critical source areas, specific algorithmic options available for the use of SWAT and related geographical analysis techniques in the US sector of the Missisquoi watershed, and the methodology for projecting the spatial extent and nutrient loading significance of spring flooding and tributary monitoring needs through the year.

ii. Acquisition and compilation of LiDAR and digital photographic imagery over the watersheds draining into Missisquoi Bay.

iii. Oversight of short-term synoptic tributary monitoring over a two-year period at ten or more new monitoring stations in the Vermont sector.

iv. Compilation and analysis of information on critical sources of phosphorus loading of tributary drainage in Vermont sector in order to consider and characterize all major phosphorus sources, as well as sources of dissolved phosphorus, nitrogen and suspended sediments.

The Commission is then asked to compile the outcomes of this work with the outcomes of the work undertaken in Quebec to provide a transboundary picture of the watershed that complements the efforts of Quebec and Vermont in this region.

The Commission is requested to produce a final report of their work by December 2011. The Governments request the Commission to pursue its activities and examinations expeditiously, and to make periodic reports to the Governments as appropriate. Reporting should include an initial work plan in December 2008 and an interim report towards study goals in December 2009. The Commission is requested to consider the annexed Concept Paper in designing and carrying out the above tasks.

The Governments further request the Commission to initiate its work on these tasks acknowledging the work already undertaken in Quebec as Canada's contribution and aiming to recognize this contribution through spending of US funds on the Vermont portion of Missisquoi Bay. US Federal appropriations to the Commission may be applied to assist this work in the Vermont sector of the Missisquoi Bay watershed. The Governments of Canada and Québec have already provided the full commitment of research and funds.

An identical letter is being sent to the Secretary of the Canadian Section of the Commission by the Canadian Department of Foreign Affairs.

Sincerely,

Edwin R. Nolan
Director
Office of Canadian Affairs
United States Department of State

Annex: A Concept Proposal