

## Appendix 12



## Lake Winnipeg Regulation



## LWR CEC Submission – Appendix 12

Shoreline erosion on Lake Winnipeg is described in Section 4.3 of the main document. In response to the Clean Environment Commission's request, the following provides more information on the Lake Winnipeg Shoreline Erosion Advisory Group, the Lake Winnipeg Stewardship Board, and the Shoreline Erosion Technical Committee.

### Lake Winnipeg Shoreline Erosion Advisory Group

In response to ongoing concerns voiced by Lake Winnipeg stakeholders, the province of Manitoba established the *Lake Winnipeg Shoreline Erosion Advisory Group* (LWSEAG) in 1998 to review specific issues related to erosion of Lake Winnipeg's shorelines.

The LWSEAG membership consisted of officials from municipalities along the lake's south basin, First Nations, the Manitoba Métis Federation, Lake Winnipeg property owners and professional engineers with expertise in hydrology and erosion.

The purpose of the LWSEAG was to:

- Gather and disseminate information on erosion processes and practical shoreline protection options;
- Assist the Province in initiating a third party assessment of the accuracy and integrity of Manitoba Hydro's reporting of Lake Winnipeg water level data and methodology;
- Receive and respond to public concerns and questions regarding erosion; and
- Advise the Province and stakeholders on matters regarding erosion.

To fulfil its mandate, the LWSEAG met regularly over a period of about 18 months, toured erosion sites and beaches in the south basin of Lake Winnipeg, held public meetings to identify public concerns, received presentations from Crown corporations and government agencies and commissioned studies on technical matters.

The LWSEAG retained Baird and Associates to review the Lake Winnipeg water level reporting procedures and Pollock and Wright to confirm the benchmarks used to set the water level gauges.

“As a result of the Baird and Associates and the Pollock and Wright reports, the Advisory Group is satisfied that the Lake Winnipeg wind-eliminated water levels determined and reported by Manitoba Hydro are reasonably accurate.” (LWSEAG, 2000)

The LWSEAG retained Linnet to estimate the extent of erosion over time using aerial photography at seven areas around the south basin of Lake Winnipeg: Hnusa, Spruce Sands, Matlock, Winnipeg Lake South Ridge, Halcyon, Lester, and Traverse Bay.

“The general conclusion is that the lake shoreline is dynamic with active deposition and erosion occurring as part of the normal life cycle of the beach.”(Linnet, 2000)

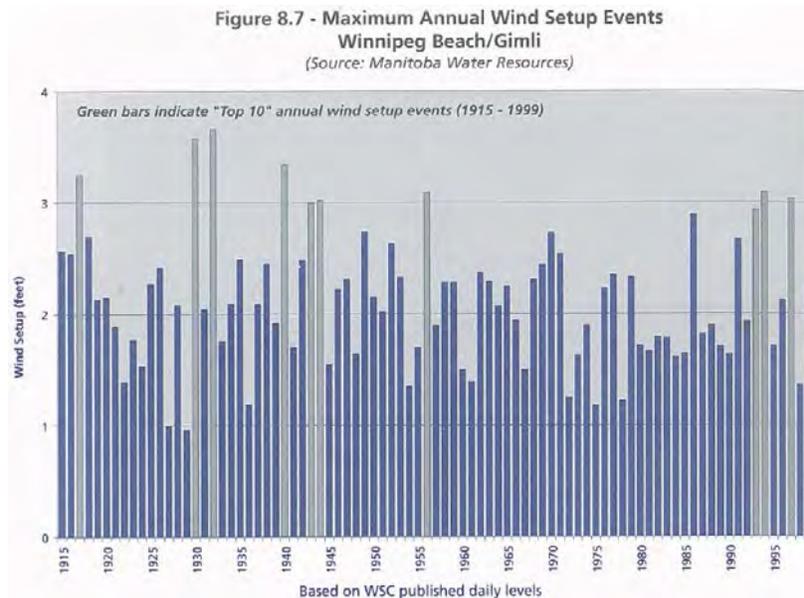
The shoreline regulatory environment was found to be a very complicated issue. A number of questions were forwarded to Manitoba Justice and the law firm Aikins, McAulay, and Thorvaldson by the LWSEAG in developing a response to this question.

“Generally, responsibility for the wise management of shoreline seems to lie with a combination of private landowners, municipal governments, and the Province. The role of each will depend on the specific circumstances of the land in question, and will depend largely on how the land was originally granted and on what caveats or conditions may have been placed on the titles over time” (LWSEAG, 2000)

The LWSEAG also retained Baird and Associates and Stantec to review the erosion factors along the shoreline of the south basin of Lake Winnipeg and to identify appropriate shoreline management options for representative sites. The following conclusion from this technical report was reiterated in the LWSEAG’s final report:

“In most instances, erosion, flooding and dynamic beach changes at the shoreline are the result of naturally occurring processes. Man-made alterations to the natural lake systems may affect the extent of erosion, flooding and dynamic beach changes, but typically to a much lesser degree than the natural processes.” (LWSEAG, 2000)

One of the main public concerns identified by the LWSEAG was the perception that erosion was occurring at a faster rate, particularly since 1992. In response, the LWSEAG requested information the Water Resources Branch of Manitoba Conservation who indicated that “Three of the ten largest wind set-up events since 1915 occurred between 1993 and 1997.” and that “The frequency of occurrence of major wind setup events doubled in the period 1992-1999 as compared to the period 1974-1991.” (LWSEAG, 2000) It was also reported that Lake Winnipeg water levels were about 0.4 ft above the long-term average during this period because of above average inflows.



Source: LWSEAG Final Report, 2000

The most significant recommendations made by the LWSEAG include:

- “The Advisory Group recommends the establishment of an ongoing advisory board that would provide a basin-wide forum to review and consider management issues related to erosion and environmental quality of the lake. This board would have representation from, and work closely with government, Manitoba Hydro, local municipalities, aboriginal communities, technical specialists, the public and local interest groups.
- It is recommended that regulations and/or legislation be enacted to control the design and placement of structures on Lake Winnipeg shorelines, that shoreline protection demonstration projects be carried out, and that there should be a long-term commitment to provide technical advisory services to municipalities and property owners.
- With respect to shoreline protection options, it is recommended that whenever possible, nonstructural solutions to erosion problems be adopted. The Shoreline Protection Handbook prepared as part of this study contains specific recommendations and guidelines for shoreline protection options for different shoreline types.” (LWSEAG, 2000)

The Province of Manitoba distributed the Lake Winnipeg Shoreline Management Handbook in March of 2001. The Handbook can be found online at:

[http://www.hydro.mb.ca/corporate/water\\_regimes/lake\\_wpg\\_regulation/lake\\_wpg\\_regulation\\_cec\\_submission.shtml](http://www.hydro.mb.ca/corporate/water_regimes/lake_wpg_regulation/lake_wpg_regulation_cec_submission.shtml)



### **Lake Winnipeg Stewardship Board**

The government of Manitoba established the *Lake Winnipeg Stewardship Board* (LWSB) in February 2003 as one of six actions under the Lake Winnipeg Action Plan. The role of the board was originally to assist the government of Manitoba in reducing phosphorus and nitrogen in the lake to pre-1970 levels. The mandate of the board was expanded in 2007 to focus on water quality and the health of the lake and to follow through/report on actions taken from recommendations from the initial board report. Board membership includes a variety of interests such as fishing, agriculture, urban land use, First Nations, federal, provincial and municipal government, and non-government organizations.

In 2006, the LWSB prepared a report for the Minister of Water Stewardship where they made recommendations aimed at protecting the health of Lake Winnipeg and its watershed. The following is recommendation 12.7:

“The Province of Manitoba should consider establishing regulations, such as minimum set back distances from shorelines for new developments, to prevent significant disturbances which would result in increased erosion along lakes and waterways.” (LWSB, 2006)

In 2009, the LWSB reported on the progress made in implementing its 2006 recommendations. In regards to recommendation 12.7, the following progress was reported:

- “The Nutrient Management Regulation established under The Water Protection Act sets out nutrient buffer zones where nutrients cannot be applied within specified distances from the high water mark of Manitoba’s streams, rivers and lakes, and restricts certain types of developments within such zones.
- Clause 4(1) of The Manitoba Crown Lands Act reserves to the Crown 1.5 chains (30 metres) from the ordinary high water mark out of every disposition or sale of Crown land. Consequently, when Crown lands are sold or leased to private owners, a setback is established of 30 metres within which development cannot occur.
- In general, all development plans established under Provincial legislation and related municipal zoning by-laws provide minimum set-back distances from shorelines for new developments to prevent significant disturbances which would result in increased erosion along lakes and waterways.
- Additionally, Manitoba Water Stewardship reviews all development proposals and subdivision applications to ensure that required minimum setbacks are included.” (LWSB, 2009)

The LWSB’s term ended in January 2010.

### **The Shoreline Erosion Technical Committee**

The Shoreline Erosion Technical Committee (SETC) was originally established as a technical advisory board on best practices for preventing and repairing shoreline erosion on Lake Winnipeg. The mandate of the SETC has recently expanded to be province wide. The SETC is a multi-disciplinary committee composed of representatives from local, provincial, and federal governments that includes expertise in fisheries, conservation, water stewardship, engineering, and land surveying.

Applications for shoreline protection works can be forwarded to the SETC from the local planning district or development permitting authority. The SETC then provides suggestions towards the design and construction of shoreline protection works and riverbank stabilization measures. In the past, the Department of Fisheries and Oceans (DFO) has partnered with the SETC and provided comments on site specific reviews through the SETC's response to the application. This coordinated application process eliminated the need for a separate application to DFO.