LEVEL news

Great Lakes - St. Lawrence River Water Levels

Volume 15, Number 5 **May 7, 2007**

Seasonal Rise Weakens on Lower Lake during April

Daily water levels on lakes Superior and Michigan-Huron experienced near-average increases during April; however, below-average increases in levels on lakes St. Clair, Erie and Ontario suggest that the seasonal rise on these lakes may have already started to weaken.

Daily water levels on lakes Superior and Michigan-Huron increased seven and eight centimetres, respectively, during April, just one or two centimetres less than average for the month. Conversely, daily water levels on lakes St. Clair, Erie and Ontario increased five centimetres less than average during April. The levels of lakes St. Clair, Erie and Ontario rose four, seven and 16 centimetres, respectively during the month.

As indicated in the water level information table, the level of Lake Superior remains well below average. The lake is currently some 32 centimetres lower than it was a year ago and approximately 34 centimetres below the lake's chart datum elevation. Lake Superior is not expected to rise above chart datum this summer unless very wet conditions are experienced over its basin during May, June and July.

Although levels are also well below average on Lakes Michigan-Huron, levels on these lakes are a few centimetres above chart datum and are expected to remain so throughout the summer. Levels on Lake St. Clair are a few centimetres below average. Levels will likely fall further below average over the next few months, but remain above chart datum. Levels on lakes Erie and Ontario are currently above average, but it looks like both these lakes will be below average this summer. Levels on both lakes will remain well above their respective chart datum elevations.

About Chart Datum

Water-level gauges are referenced to the same

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Great Lakes Water Level Information

Lake	April 2007 Monthly Mean Level		Beginning of May 2007 Level	
	Compared to Monthly Average (1918-2006)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918-2006)	Compared to One Year Ago
Superior	42 cm below	31 cm below	46 cm below	32 cm below
Michigan-Huron	39 cm below	1 cm above	41 cm below	same
St. Clair	8 cm below	8 cm above	3 cm below	15 cm above
Erie	11 cm above	16 cm above	14 cm above	22 cm above
Ontario	13 cm above	18 cm above	11 cm above	24 cm above

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vertical datums that are used for navigation charts. For safety, depths on a navigation chart are shown from a low-water surface or a low-water datum called chart datum. On most lakes, a single, level surface is adopted as chart datum over the whole lake. Along a river, chart datum is a sloping surface that approximates the slope of the river surface under low water conditions. Ideally, water levels on a lake or river will seldom fall below its chart datum elevation and only rarely will there be less depth available than what is portrayed on the chart. This, as demonstrated by the current conditions on Lake Superior, is not always the case and it is therefore very important that recreational boaters on the Great Lakes, their connecting channels and St. Lawrence River have up-to-date navigation charts and know how water levels compare to chart datum whenever and wherever they cruise or sail.

In non-tidal waters, such as the Great Lakes, chart datums are often assigned an elevation on some vertical reference system. On the Great Lakes, water level and chart datum elevations are presently referenced to International Great Lakes Datum 1985 (IGLD 1985). A new reference system is required approximately every 25-30 years to correct for differential movement of the earth's crust in the Great Lakes region.

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April Precipitation over the Great Lakes

As a percentage of the long-term April average:

Great Lakes Basin	**108%**	**Lake Erie (including Lake St. Clair)**	**93%**
Lake Superior	**113%**		
Lakes Michigan-Huron	**114%**	**Lake Ontario**	**97%**

NOTE: These figures are preliminary

Lake Ontario Outflow Strategy

After a review of conditions in the Lake Ontario-St. Lawrence system in late April, the International St. Lawrence River Board of Control (the Board) announced its intent to gradually restore water to Lake Ontario, as conditions allow. The Board had released nearly 23 centimetres more water from Lake Ontario than specified by the regulation plan in order to reduce the risk of Lake Ontario exceeding 75.37 metres, its upper limit, this year. Restoration of the water occurs as the Board releases less water than specified by the regulation plan.

As of May 7 the Board has restored approximately three centimetres of water to the lake. Conditions permitting, the Board intends to restore most of the water by the end of the year. Restoration of the water will be discontinued should the lake approach its upper limit, or if required to meet critical needs. For further information about the Board and its activities, please visit the Board's Web site at: **http://www.islrbc.org/**.

April Outflows from the Great Lakes

As a percentage of the long-term April average:

Lake Superior	**71%**	**Lake Erie**	**103%**
Lake Huron	**89%**	**Lake Ontario**	**111%**

NOTE: These figures are preliminary