Corps responds to recent lake level study

DETROIT -- The U.S. Army Corps of Engineers offers the following comments on the Georgian Bay Association news release on perceived lower Lake Michigan-Huron water levels.

This news release was issued to coincide with the completion of a report, for the Georgian Bay Association (GBA), prepared by W.F. Baird & Associates. The purpose of the report was to investigate a perceived drop in the water levels of Lakes Michigan-Huron relative to Lakes St. Clair and Erie. A final version of this report has been made available, and the Corps and its Canadian counterparts are reviewing it. The Corps has some significant technical concerns with the report.

The report is based on the premise that the difference in water levels between Lakes Michigan-Huron and the lower lakes is becoming smaller over time. While all parties agree that the difference between water levels on Lake Michigan-Huron and the lower lakes is getting smaller, there is some disagreement on why this is happening. GBA's report states that the levels of Lake Michigan-Huron are falling, while the Corps and other Great Lakes experts contend that a review of historic data show that the level of Lake Michigan-Huron is not falling but that the level on Lake Erie is rising over time. A stable Lake Michigan-Huron level and a rising Lake Erie level would also cause the difference in water levels between the two lakes to become smaller.

An important factor to consider is the issue of crustal rebound. The earth's crust in some parts of the Great Lakes basin is still rebounding from the weight of the glaciers. The Georgian Bay area has one of the highest rebound rates in the basin, ranging from 7 to 12 inches per century. This has an impact on where the current water level meets the shoreline. As the earth's crust is rising, the water level appears to be receding, when in fact it may not be. The crustal rebound issue may also be having a significant impact on Lake Erie water levels. The impact of this phenomenon on measured water levels throughout the lakes and the differing rate of rebound across the basin need detailed technical analyses. This issue has been too quickly dismissed by the report as not being significant.

Investigations need to be made into the role of changes in the water supply (precipitation and evaporation) to the upper and lower lakes over time as well. Initial thoughts have been that the Lake Erie basin is becoming wetter over time in relation to the Lakes Michigan-Huron basin. This change in the supply of water to the lakes can also have an impact on the relative difference between their water levels. This issue has also been too quickly dismissed by the GBA report as not being significant.

The last major dredging project in the St. Clair River was completed in 1962. Studies completed at that time determined that there would be an impact on

upstream water levels and that the system would reach a new equilibrium balance in time. Comparisons of historic river bottom data show some areas where the river is getting shallower and some areas where it is getting deeper over time. Ongoing erosion has not been sufficiently documented over time, nor can it be linked to dredging operations at this time.

The news release references areas at the head of the St. Clair River being now over 60 feet deep. Historic survey information shows that areas of the upper river were around that depth in the past. These deeper areas have been documented historically, are natural river depths, and have never been dredged. Commercial vessels generally utilize water depths of no more than 30 feet, so they have been able to freely move through these naturally deep areas without any dredging.

U.S. and Canadian government agencies monitor water levels in the Great Lakes. From 1968 to 1998, water levels were above average on Lake Michigan-Huron for all but four years in the late 1980s when levels were near average. In fact, Lake Michigan-Huron set two record high levels during that time, first in 1974 then again at a higher level in 1986. Levels declined below their long-term averages in early 2000 due to factors such as decreased precipitation and increased evaporation. This recent natural fluctuation toward lower levels has caused many to seek reasons outside of natural influences.

The Corps is committed to studying the issues of a perceived drop in the water levels of Lakes Michigan-Huron relative to Lakes St. Clair and Erie, in coordination with our Canadian counterparts. We believe these issues are part of a complex, dynamic system and all aspects need to be thoroughly investigated for the governments to make sound decisions that affect the environment and economy of the Great Lakes region.

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