

MICHIGAN DREDGING

How much does it cost?

Funding Availability?

What are the alternatives?

Sustained drop in water levels.

Adaptive Measures?



Dredging Costs

Yr.	State of Michigan	Army Corps of Eng.
2004	\$3,724, 016	\$3,735,443
2005	\$2,463,247	\$4,344,500
2006	\$725,208	\$5,351,761
2007	\$992,341	\$3,643,346
2008	\$306,407+	1,057,165 cu. yd



Estimated Annual Costs

State of MI + local gov't \$3,952,406

Army Corps of Engineers \$9,274,716



Funding Availability

STATE AND LOCAL RESPONSIBILITIES

Waterways Fund Appropriations

Waterways Grants

Local Harbor Restricted Funds

ACOE RESPONSIBILITIES

Federal budget earmark process



What are the alternatives?

No Dredging

Dredging to higher depths

Dredging to new depths



Sustained Lower Lake Levels

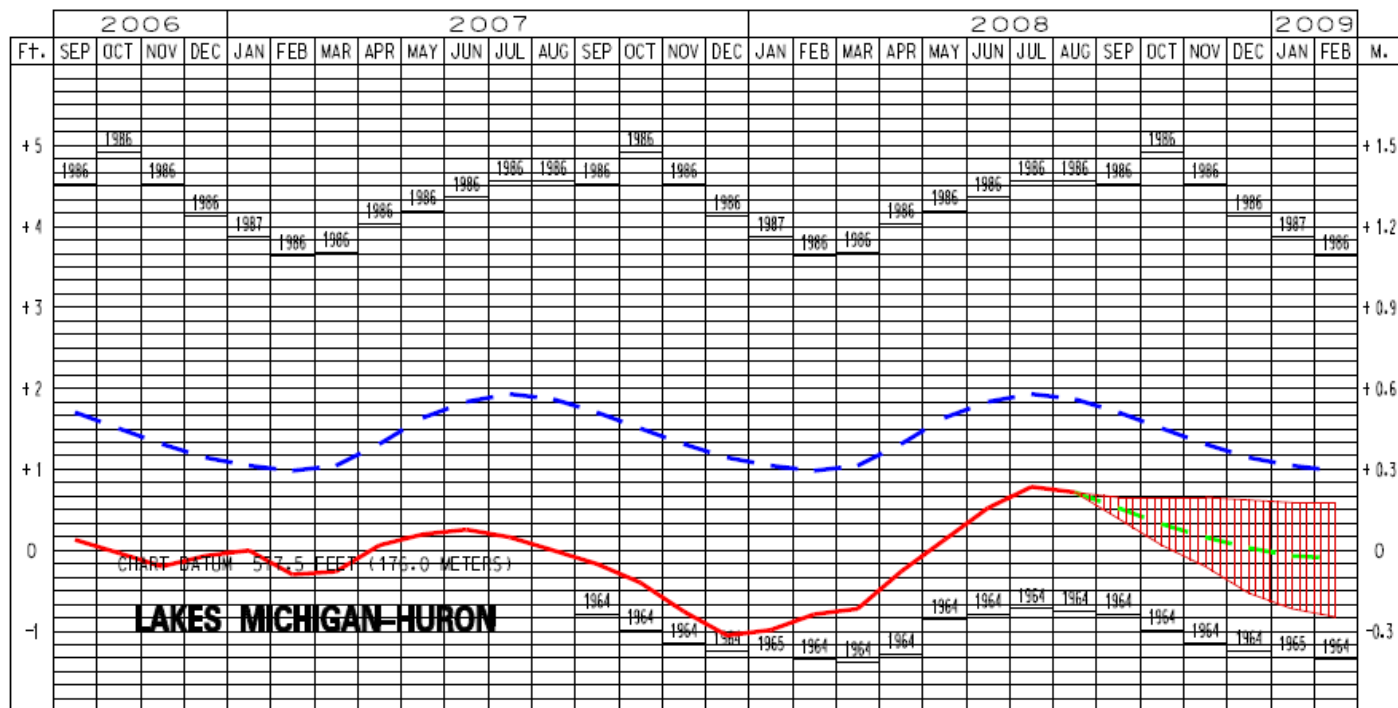
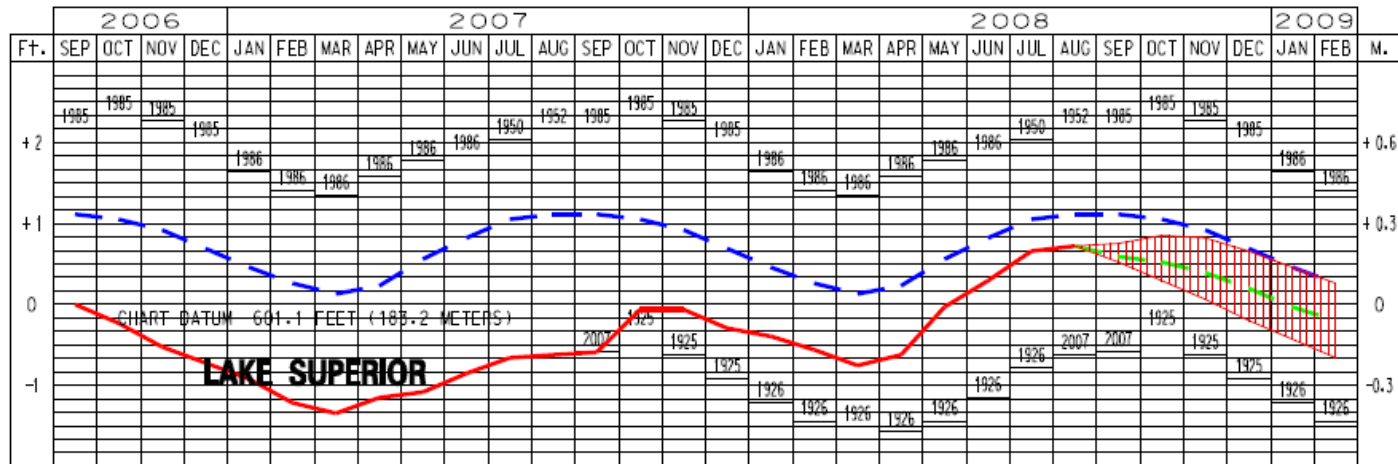
Annual cycles of lake levels

Historic cyclic lake levels – high and low

New Territory – Record-breaking lake levels



ANNUAL CYCLES OF GREAT LAKES WATER LEVELS



LEGEND

LAKE LEVELS

RECORDED

PROJECTED

AVERAGE **

MAXIMUM **

MINIMUM **

1985 1985 1973 1973

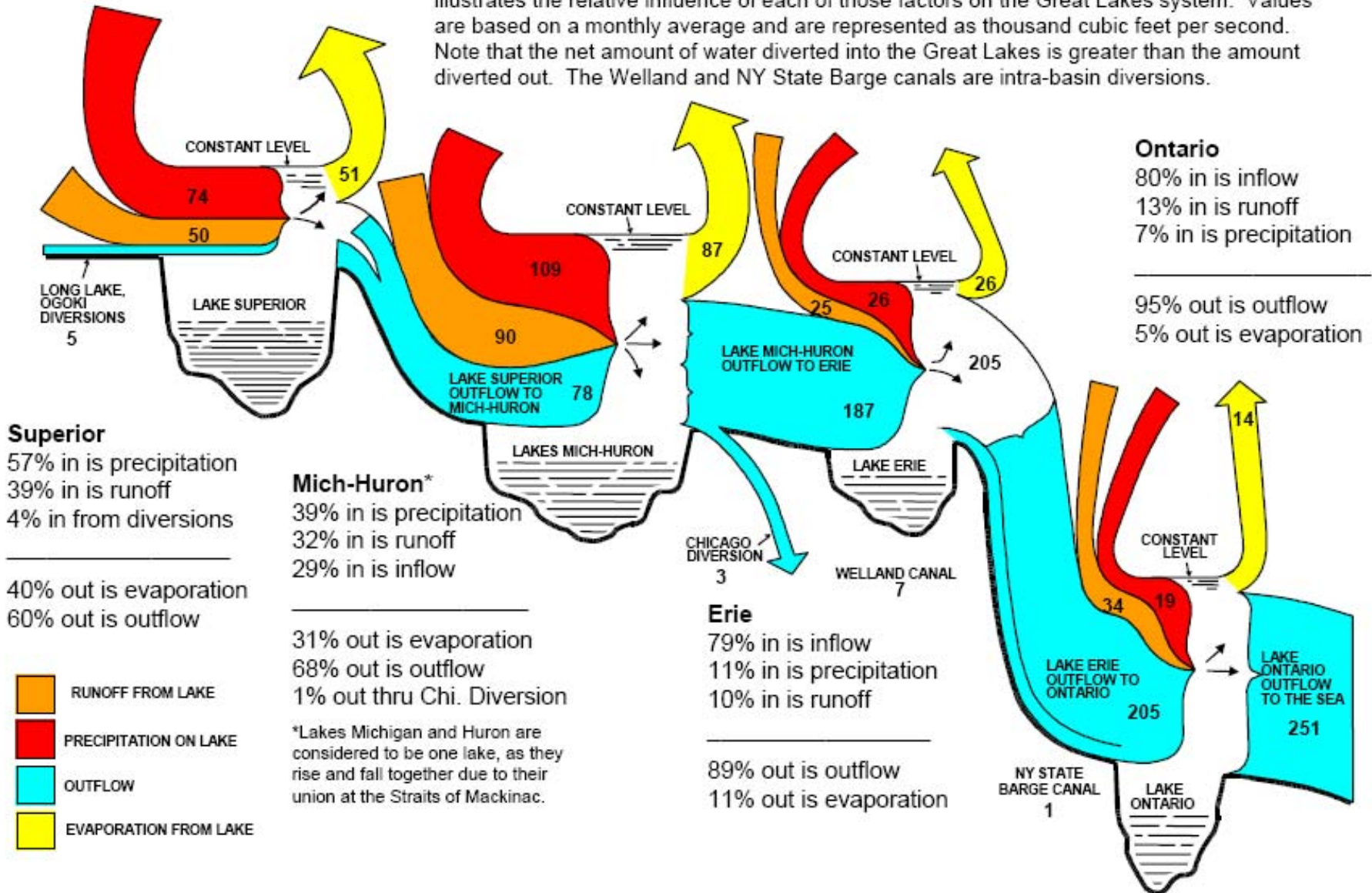
1936 1934 1926 1934



U.S. Army Corps of Engineers
 Detroit District
<http://www.lre.usace.army.mil>

Hydrologic Components

Flow from upstream lakes, evaporation and precipitation influence lake levels. This graph illustrates the relative influence of each of those factors on the Great Lakes system. Values are based on a monthly average and are represented as thousand cubic feet per second. Note that the net amount of water diverted into the Great Lakes is greater than the amount diverted out. The Welland and NY State Barge canals are intra-basin diversions.



Adaptive Measures

Dredge Deeper

Extend Infrastructure to deeper water

Relocate?



Close?

