



DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
BOX 1027
DETROIT, MICHIGAN 48231-1027

June 1, 2004

MEMORANDUM FOR: Shippers Transiting the Lower St. Marys River during June 2004

SUBJECT: Expected St. Marys River Daily Flows.

The June Lake Superior outflow has been set at 2,210 m³/s (78,000 cubic feet per second (cfs)) effective June 2, 2004. This is an increase from the May outflow of 2,010 m³/s (71,000 cfs). During June levels in the Lower St. Marys River, particularly in the Soo Harbor area below the Soo Locks, can be expected to fluctuate several inches. Natural factors such as wind (strength, direction and duration) and barometric pressure changes are significant factors contributing to these level fluctuations in the Lower St. Marys at this time as well as all Great Lakes connecting channels. Variations in hydropower plant outflows during June can also contribute to these fluctuations. See the attached Table 1 for a schedule of the expected St. Marys River flows during June. Tables 2 and 3 show projected end of month water levels and monthly mean outflows respectively for Lakes Superior and Michigan-Huron over the next six months.

The June mean U.S. Slip level is expected to be above Chart Datum. However, levels may fluctuate above and below the mean level during the month. The Board will allow the hydropower companies to pond, or flow at decreased rates on weekends and holidays, during the periods indicated in Table 1. However, the hydropower companies will be flowing near their available capacity most of the time in June so that the impacts of ponding operations should be minimal. The Board will review this decision and issue a notification of any change by mid-June. Note that Edison Sault Electric Company is planning to reduce flows to facilitate diving work in their power canal later in June. Notification of the impacts of this work and a modified Table 1 will be issued when details are known.

The seasonal rise of water levels continues. As indicated above, adverse weather conditions (winds, barometric pressure changes, etc.) may be a significant cause of level fluctuations. Refer to Table 1 for the expected weekday and weekend flow rates. Soo Harbor water level fluctuations due to variations in hydropower flows are expected to be on the order of +/- 5 cm (+/- 2 inches) in addition to those caused by natural conditions. Water levels may drop during periods of reduced flows and rise again during periods of increased flows.

The hydropower operators (ESEC, GLPL and U.S. Government) have been requested to notify "Soo Traffic" and the Lockmaster at the Soo Locks Tower of any significant flow changes other than those indicated in Table 1.

It is suggested that USCG Soo Control and the Lockmaster at the Soo Locks be contacted by shipmasters to find out what prevailing conditions are on the St. Marys River and in the vicinity

of the Soo Locks prior to reaching the area. Information on conditions in the vicinity of the Soo Locks can be obtained by contacting the U.S. Coast Guard "Soo Traffic" by radiotelephone on VHF-FM Channels 12 and 16. Reference the U.S. Coast Pilot 6, 30th Edition, Chapter 12, "St. Marys River", Par. (37).

For information on matters related to canal operation, traffic movement through the locks, and for emergency purposes only, the chief lockmaster at the Soo Locks operates a vessel dispatch station from the administration building on the pier between the Poe and MacArthur Locks. The station operates on VHF-FM channels 14 and 16; call sign WUE-21. The voice call for the station is "WUE-21" or "Soo Locks". Upbound vessels intending to transit the locks shall contact the lockmaster initially, immediately before the turn at Mission Point, at the intersection of Course 1, Bayfield Channel and Course 2, Little Rapids Cut for lock assignment. Downbound vessels shall make initial contact at Ile Parisienne, then at Big Point for lock assignment. In order that the dispatch made will cause the least delay to the vessel involved, vessel masters are requested to refrain from making their dispatch calls prior to reaching the above locations. This station is considered to have an effective operating range of 50 miles. **Again, operation is limited to communication with vessels on matters related to canal operation, traffic movement through the locks, and for emergency purposes.** Reference the U.S. Coast Pilot 6, 30th Edition, Chapter 12, "St. Marys River", Par. (90).

Information Sources:

1. Rock Cut Gage: Direct access to the Rock Cut Gage water level readings is available via telephone modem by dialing (906) 647-8952.

2. Internet: Water level information is available by going to the U.S. Army Corps of Engineers, Detroit District Home Page at the Internet address below and following the suggested pathways:

<http://www.lre.usace.army.mil/>

a. Lake and Connecting Channel Levels: Detroit Home Page > Great Lakes > Hydraulics and Hydrology > Great Lakes Water Levels > Current Conditions.

b. Weekly updates of expected weather, levels, outflows and channel conditions for the Great Lakes and connecting channels are provided each Thursday at: Detroit Home Page > Great Lakes > Hydraulics and Hydrology > Great Lakes Water Levels > Water Level Forecasts > Weekly Great Lakes Water Levels.

c. Specifically for the NOAA PORTS system at the Soo Locks:

-- <http://co-ops.nos.noaa.gov/slports/slports.html>

d. Historic and preliminary water level data is available at NOAA's CO-OPS (Center for Operational Oceanographic Products and Services) site at:

-- http://co-ops.nos.noaa.gov/data_res.html

e. This memorandum is posted on the Internet at:

<http://www.lre.usace.army.mil/Storage/HH/IJC/Superior/index.shtml>

The POC, should further information be required, is Carl Woodruff by telephone at (313 226-2202, or by e-mail at: Carl.L.Woodruff@lre02.usace.army.mil.

TABLE 1 -- Expected St. Marys River Flows For the period June 1 through June 30, 2004 (1), (2)

Time Period /Day (3)	0000 Hrs to 0700 Hrs	0700 Hrs to 0800 Hrs	0800 Hrs to 1600 Hrs	1600 Hrs to 2200 Hrs	2200 Hrs to 2300 Hrs	2300 Hrs to 2400 Hrs
Weekdays June 1 - 4	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,260 m ³ /s (79,800 cfs)	2,260 m ³ /s (79,800 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)
Weekend June 5 & 6	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)			
Weekdays June 7 - 11	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,260 m ³ /s (79,800 cfs)	2,260 m ³ /s (79,800 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)
Weekend June 12 & 13	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)			
Weekdays June 14 - 18	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,260 m ³ /s (79,800 cfs)	2,260 m ³ /s (79,800 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)
Weekend June 19 & 20	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)			
Weekdays June 21 - 25	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,260 m ³ /s (79,800 cfs)	2,260 m ³ /s (79,800 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)
Weekend June 26 & 27	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)			
Weekdays June 28 - 30	2,170 m ³ /s (76,600 cfs)	2,180 m ³ /s (77,000 cfs)	2,260 m ³ /s (79,800 cfs)	2,260 m ³ /s (79,800 cfs)	2,180 m ³ /s (77,000 cfs)	2,170 m ³ /s (76,600 cfs)
<i>Weekdays July 1 - 2 (Prov.)</i>	<i>2,170 m³/s (76,600 cfs)</i>	<i>2,180 m³/s (77,000 cfs)</i>	<i>2,260 m³/s (79,800 cfs)</i>	<i>2,260 m³/s (79,800 cfs)</i>	<i>2,180 m³/s (77,000 cfs)</i>	<i>2,170 m³/s (76,600 cfs)</i>

TABLE 1 -- Expected St. Marys River Flows For the Period June 1 through June 30, 2004 -- Notes

- (1) Estimated flows may vary +/- 10 m³/s to 20 m³/s (400cfs to 700 cfs) due to affects of weather influenced level fluctuations on the hydropower operations.
- (2) Note that the hydropower plants will be operating at, or near their available capacity during June so peaking and ponding operations will be minimal as indicated in Table 1 above.
- (3) Note the time periods are shown using a twenty-four hour clock.
- (4) Holidays: None in June
- (5) *Prov.* -- Provisional flows are shown in Italics.
- Units: m³/s = cubic meters per second
cfs = cubic feet per second

TABLE 2

PROJECTED END-OF-MONTH WATER LEVELS (Meters) FOR
LAKES SUPERIOR AND MICHIGAN-HURON
PLAN 1977-A

End of Month	LAKE SUPERIOR				LAKES MICHIGAN-HURON			
	Recorded 2003	Projected			Recorded 2003	Projected		
		Supply 5%	Probability 50%	Probability 95%		Supply 5%	Probability 50%	Probability 95%
Jun 04	183.23	183.43	183.40	183.37	176.02	176.36	176.33	176.30
Jul	183.29	183.50	183.44	183.39	176.05	176.41	176.35	176.29
Aug	183.28	183.54	183.46	183.38	175.99	176.42	176.32	176.23
Sep	183.30	183.56	183.45	183.35	175.90	176.41	176.28	176.15
Oct	183.26	183.55	183.41	183.29	175.84	176.38	176.22	176.06
Nov	183.24	183.52	183.36	183.22	175.91	176.36	176.17	175.98

TABLE 3

PROJECTED MONTHLY MEAN OUTFLOWS (10 m³/s) FOR
LAKES SUPERIOR AND MICHIGAN-HURON
PLAN 1977-A

End of Month	LAKE SUPERIOR				LAKES MICHIGAN-HURON			
	Recorded 2003	Projected			Recorded 2003	Projected		
		Supply 5%	Probability 50%	Probability 95%		Supply 5%	Probability 50%	Probability 95%
Jun 04	216	223	221	218	452	498	495	492
Jul	202	278	263	225	458	518	510	501
Aug	210	279	247	225	458	529	516	503
Sep	199	265	238	214	446	536	517	499
Oct	204	265	231	206	448	539	515	492
Nov	173	247	211	172	453	539	511	484