



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

October 1, 2004

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

SUBJECT: Expected St. Marys River Daily Flows.

The October Lake Superior outflow has been set at 2,380 m³/s (84,000 cubic feet per second (cfs)) effective October 2, 2004. This is an increase from the September outflow of 2,350 m³/s (83,000 cfs). During October 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 October can also contribute to these fluctuations. See the attached Table 1 for a schedule of the expected St. Marys River flows during October. 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.

Note that the Great Lakes Power Limited plant will be stopped for several hours on October 9th beginning in the morning to allow a safety inspection of underwater cables and the highway bridge piers. The flow through the Edison Sault Electric Company plant will continue to be reduced during the day from October 1st through October 8th to permit maintenance work in their power canal. These actions will result in flows and levels in the lower St. Marys River being lower than they would otherwise be during these periods as shown in Table 1.

The October mean U.S. Slip level is expected to be above Chart Datum. 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 at or near their available capacity most of the time, except as noted above, in October so that the impacts of any ponding operations should be minimal. The Board will review this decision and if a change is required a notification will be issued by mid-October.

Lake Superior appears to be nearing its seasonal peak while Lakes Michigan-Huron has experienced its seasonal peak and is now in its seasonal decline. 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 only to variations in hydropower flows are expected to be on the order of +/- 2 cm (+/- 1 inches). Except during the October 1st through the 9th period when they could be on the order of +/- 20 cm (+/- 8 inches). This is in addition to those fluctuations 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.shtml>

Note the change in the Internet address. The PORTS format has been revised. Voice access is now available by calling (301) 713-9596

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 under "Soo Harbor" at:

<http://www.lre.usace.army.mil/Storage/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 October 1 through November 2, 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 October 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) Note from October 1st through October 9 flow will be significantly reduced between the hours of 0730 and 1630 on weekdays and 0700 and 1830 on the weekends.
- (6) *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 2003-2004	Projected			Recorded 2003-2004	Projected		
		Supply 5%	Probability 50%	Probability 95%		Supply 5%	Probability 50%	Probability 95%
Oct 04	183.26	183.44	183.41	183.39	175.84	176.19	176.15	176.12
Nov	183.24	183.41	183.36	183.32	175.91	176.19	176.11	176.05
Dec	183.16	183.35	183.28	183.21	175.90	176.18	176.07	175.98
Jan 05	183.10	183.30	183.21	183.12	175.86	176.20	176.05	175.93
Feb	183.06	183.27	183.16	183.05	175.83	176.23	176.05	175.90
Mar	183.09	183.28	183.14	183.02	175.94	176.31	176.10	175.92

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 2003-2004	Projected			Recorded 2003-2004	Projected		
		Supply 5%	Probability 50%	Probability 95%		Supply 5%	Probability 50%	Probability 95%
Oct 04	204	238	238	238	448	495	492	489
Nov	173	237	225	219	453	502	492	484
Dec	178	225	212	204	454	491	474	462
Jan 05	168	214	201	182	389	442	421	404
Feb	175	208	191	170	415	458	430	409
Mar	174	204	186	165	448	498	466	440