

**\*\*\* FINAL 01NOV2012\*\*\***

**ACTION PLAN TABLE – LOW WATER CONDITIONS UPPER MISSISSIPPI RIVER,  
Low Water Zone 28**

CRITICAL REACH DESCRIPTION	ST. LOUIS TRIGGER READING	THEBES TRIGGER READING	TREND	TRIGGER FLOW	DESCRIPTION	PHASE	ACTION
<b>UPPER MISSISSIPPI RIVER</b>  <b>Zone 28</b>  <b>Miles 0.0 to 185.4</b>  Reference Gage: St. Louis RM 179.6  Low Water Reference plane for St. Louis Harbor: -3.5/9 ft. channel	15'	22'	Falling		Normal Operations	Watch	USACE continues normal survey efforts and channel patrols to identify dredging locations. Based on forecast, determines dredging start date.
	5'	12'	Falling		Normal Operations w/Advisory	Action	Monitor channel conditions and traffic. Consider initiating communications plan. USACE to plan additional channel reconnaissance surveys and obtain river forecasts. Continue standard methods of survey and communication practices to maintain awareness of channel conditions and known buoy locations. Prioritize dredging, aids to navigation (buoys), and data collection.  <b>Realign green buoys at Thebes as a precautionary measure, if necessary.</b>
	0'	7'	Falling		Low Water Channel narrows in various conditions	Action	Initiate communication plan. Issue advisories to indicate low water between UMR miles 0 to 185, and mariners should exercise caution, beware of shifting channels, transit at slow speed near fleet areas, and place heavy barges in middle of tow. USACE initiates increased channel reconnaissance surveys, monitors potential problem areas, and provides updates on dredging actions. Communications between USACE, USCG and Industry as needed to discuss problem areas, potential impacts and possible solutions. <b>USACE considers requesting permission to capture extra water in</b>

<p><b>UPPER MISSISSIPPI RIVER</b></p> <p><b>Zone 28</b></p> <p><b>Miles 0.0 to 185.4</b></p> <p><b>Reference Gage: Thebes Bridge RM 43.7</b></p> <p><b>Low Water Reference Plane for Thebes Bridge: 4.8ft.</b></p>						<p>reservoirs and assesses boat ramp availability for survey vessel access.</p> <p>Industry considers moving deep draft barges out of Zone 28.</p> <p>Issue BNM for towboat operators to use caution and avoid RDB buoy line at MM 42-43 due to dangerous rock pinnacles. Reset buoys within that reach, as necessary.</p> <p>*** At (STL gage -2.0) Thebes gage 5.0, rock pinnacle cluster mid-channel at MM 38.5 becomes hazard to navigation, mark with buoys. ***</p>
	-3'	4'	Falling	Extreme Low Water	Channel continues to narrow and channel depth decreases	<p>Action</p> <p>Issue advisories or establish safety zones, if necessary, to indicate extreme low water between UMR miles 0 and 185. Consider draft limits and tow size restrictions. Reiterate for mariners to be mindful of speed and wake near fleeting areas. Reset buoys in narrow channel locations within reach. USACE will continue increased channel reconnaissance. Emergency dredging may be required at some locations. Consider press release and/or Joint Information Center, and formation of Incident Command Post if needed. <b>Continue to assess boat ramps.</b></p> <p>Industry confirms fuel/water and fleet area/space logistics in the event of prolonged closures/restrictions.</p> <p>Realign channel to best mark hazardous pinnacles between MM 45-46 by resetting buoys within that reach. Discuss possible actions to reduce risk at pinnacle cluster mid-channel MM 38.5.</p>

<p><b>UPPER MISSISSIPPI RIVER</b></p> <p><b>Zone 28</b></p> <p><b>Miles 0.0 to 185.4</b></p>							<p>At Grand Tower area, adjust red buoys near MM 79.3LDB to account for encroaching rock.</p> <p>*** At (STL gage -4.0) Thebes gage 3.0, there is additional rock encroaching on the channel at multiple locations between MM 39.4 and 46. Adjust buoys where appropriate using USACE overlay files, observed depths and industry input. Some tow size restrictions may be necessary depending on final channel widths after buoys are set. ***</p>
<p>COTP Responsibility USCG Sector Ohio Valley Miles 0.0-109</p> <p>USCG Sector Upper Mississippi River Miles 109-185</p>	-5'	2'	Falling		<p><b>Minimum Navigation</b></p> <p>In many areas of zone, channel is at best 300-ft wide by 9-ft deep</p>	Action	<p>Establish safety zones between UMR miles 0 and 185 with restrictions if conditions warrant. Fleeting may continue if conditions warrant. Survey, dredge (if possible) and re-buoy critical areas. Monitoring channel conditions and communication between USACE, USCG, RIAC and other affected agencies likely occurs on a daily basis. Consider USCG/USACE/Industry Joint Information Center, Incident Command Post, and Marine Transportation System Recovery Unit. <b>Continue to assess boat ramps. Consider ice effects on drafts.</b></p> <p><b>Consider any combination of these actions:</b></p> <ul style="list-style-type: none"> <li>• draft restrictions (Industry should be prepared for a 1-foot under keel safety factor at discretion of COTP with consultation of RIAC, e.g. 8-ft draft restriction in 9-ft channel depth)</li> <li>• restrictions on tow size (equate to dry cargo barge dimensions)</li> <li>• helper boat requirements</li> <li>• daylight only operations</li> </ul>

<p><b>UPPER MISSISSIPPI RIVER</b></p> <p><b>Zone 28</b></p> <p><b>Miles 0.0 to 185.4</b></p> <p><b>NOTE: St. Louis and Thebes reference gages do not directly coincide. These trigger readings are for planning purposes only.</b></p>						<p><b>Consider one-way traffic between MM 38-47. Consider establishing VTS to support vessel queue management. Discuss with industry whether mariners have transited the route recently.</b></p> <p><b>At Grand Tower area, readjust red buoys from MM 79.1 to 79.3 to account for additional rock reducing channel width.</b></p>
	-6'	1'	Falling		<b>Below Minimum Navigation</b>	<p>Action</p> <p>USCG Safety Zones with navigation restrictions. Consider all USACE/USCG/Industry actions and options to mitigate risk. Fully Staff USCG/USACE/Industry Joint Information Center, Incident Command Post and Marine Transportation System Recovery Unit. Joint Public Affairs press release.</p> <p><b>Discuss Grand Tower area (should be at 9' channel depth). There is rock mid-channel at MM80.</b></p>
	-7'	0'	Falling		<b>Historic Low Water</b>	<p>Action</p> <p><b>Evaluate additional COTP restrictions.</b></p>
	-5'	2'	Rising		<p><b>Minimum Navigation</b></p> <p>Channel continues to improve and channel depth increases</p>	<p>Recovery</p> <p>Issue advisories to indicate extreme low water between UMR mile 0 and 185. USACE continues channel reconnaissance surveys and identifies/monitors potential problem areas. Continue communications between USACE, USCG and Industry as needed to discuss specific problem areas, potential impacts and possible solutions.</p>

	<b>0'</b>	<b>7'</b>	Rising		Low Water Channel returning to normal	Recovery	Continue advisories to indicate low water. Continue to monitor channel conditions for possible repeat of extreme low water. USCG will monitor buoys in narrow channel locations within reach. USACE will continue increased level of channel reconnaissance. Lift advisories as river conditions warrant. Continue communications as needed. Cancel any notices, advisories and safety zones as channel conditions improve.
	<b>3'</b>	<b>10'</b>	Rising		Normal Operations	Recovery	Cancel all advisories and commence normal operations. Report any hazardous conditions to USCG.