

# Sector Ohio Valley Waterways Action Plan

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# 1. Geographic Description

## 1.A. USCG Sector Ohio Valley – Area of Responsibility

Sector Ohio Valley is comprised of all of Kentucky and West Virginia; in Missouri: Perry, Cape Girardeau, Scott, Mississippi and New Madrid Counties; in Tennessee: that portion of Lake County north and west of a line drawn from the Mississippi River at latitude 36° 20' N and longitude 89° 32' 30" W due east to Highway 78, thence northeast along Highway 78 to the Kentucky/Tennessee state line, and all other counties except Shelby, Tipton, Lauderdale, Dyer and Obion Counties; in Alabama: Colbert, Lawrence, Morgan, Marshall, Lauderdale, Limestone, Madison, and Jackson Counties; that portion of Pennsylvania south of latitude 41° 00' N and west of longitude 79° 00' W; those parts of Indiana and Ohio south of latitude 41°00'N; in Illinois: Jackson, Williamson, Saline, Gallatin, Union, Johnson, Pope, Hardin, Alexander, Pulaski and Massac Counties, and in Randolph County, that part of the Upper Mississippi River below mile 109.9, including both banks; that part of the Lower Mississippi River above mile 869.0.

<b>CG Marine Safety Unit Pittsburgh – Area of Responsibility</b>	
Ohio River	MM 00.0 - MM 127.2
Monongahela River	MM 00.0 – MM 128.7
Allegheny River	MM 00.0 – MM 72.0
<b>CG Marine Safety Unit Huntington – Area of Responsibility</b>	
Ohio River	MM 121.6 – MM 374.8
Kanawha River	MM 00.0 – MM 97.0
Big Sandy River	MM 00.0 – MM 26.8
Elk River	MM 00.0 – MM 190.0
Muskingum River	MM 00.0 – MM 112.5
Little Kanawha River	MM 00.0 – MM 122.0
<b>Sector Ohio Valley (Louisville) – Area of Responsibility</b>	
Ohio River	MM 531.5 – MM 867.3
Green River	MM 00.0 – MM 199
Kentucky River	MM 00.0 – 258.6
Wabash River	MM 00.0 – MM 585.0
White River	MM 00.0 – MM 51.6
Rough River	MM 00.0 – MM 29.0
Cumberland River	MM 517.0 – MM 694.2
<b>CG Marine Safety Detachment Cincinnati – Area of Responsibility</b>	
Ohio River	MM 374.8 – MM 531.5
Licking River	MM 00.0 – MM 3.0
Miami River	MM 00.0 – MM 117.6
<b>CG Marine Safety Unit Paducah – Area of Responsibility</b>	
Ohio River	MM 867.3 – MM 981.0
Upper Mississippi River	MM 000.0 – MM 109.9
Lower Mississippi River	MM 869.0 – MM 953.8
Tennessee River	MM 000.0 – MM 080.0
Cumberland River	MM 000.0 – MM 080.0
<b>CG Marine Safety Detachment Nashville – Area of Responsibility</b>	
Tennessee River	MM 080.0 – MM 652.2
Cumberland River	MM 080.0 – MM 385.7
Tennessee – Tombigbee Waterway	MM 412.0 – MM 450.5

## 1.A.2. Hydrologic and Meteorological Factors Affecting Waterways Management

General:	<p>The Ohio River and its tributaries form a complex system spread out over millions of square miles. In order to predict changes in conditions in this system, waterway managers must constantly monitor a number of hydrologic and meteorological factors. These include water flow, soil moisture, snow cover, precipitation, temperature, weather patterns and most importantly geography. Effective waterways managers must constantly monitor these factors and forecast river conditions in order to ensure they are adequately prepared to deal with a regional transportation emergency.</p> <p>Numerous variables affect how much water is in the system at any given time. Listed below are some of the key variables:</p>
Base Flow:	<p>The amount of water flow (measured in cubic feet per second (CFS)) along a section of river (usually measured at a dam). The USACE has established an average flow rate for each section of river. Average rates are based on flows consistent with normal weather patterns. A comparison of actual flow against the base flow is an indicator of increased or decreased water levels. The flow rate does not provide an indication of the duration of increased/decreased flows. Base flows and flow rate information are available from the USACE.</p>
Soil Moisture:	<p>The amount of moisture concentrated in the soil. High soil moisture content means a large percentage of new precipitation will not be absorbed into the soil. This will result in increased runoff and a corresponding increase in water levels. Soil moisture averages and current levels are available from the U. S. Geological Survey (USGS) and state water/soil conservation agencies.</p>
Precipitation:	<p>The amount of rain/sleet, etc. This becomes runoff and impacts water levels in the river systems. The amount and duration of precipitation are equally important factors. Precipitation averages and totals can be obtained from the USGS, the National Oceanic and atmospheric Association (NOAA), the National Weather Service (NWS) and State agencies.</p>
Snow Cover:	<p>Snow cover is the buildup of snow that will melt and enter the water table and/or turn into runoff. Increase in snow cover will result in a corresponding increase in runoff and spring water levels. Information on snow cover can be obtained via NOAA, NWS and State weather services.</p>
Temperatures:	<p>Average fall and winter temperatures determine the depth of frost, the amount of water entering the soil and the amount and duration of river ice. Below normal temperatures in the fall and winter increase the depth of frost, allowing less water to enter the soil during periods of precipitation, increasing the amount of runoff. This situation may also cause an increase in ice and subsequent problems due to ice dams or gorges, and difficulties with the lock and dam system. Above normal temperatures in the spring increases the amount of runoff from snow melt. Temperature information is available from USGS, NOAA, NWS and State agencies.</p>

Geography Terrain:

The physical characteristics of the river bend and shoreline. These characteristics impact river currents and the rate of change in water levels. Steep banks, levees, revetments, narrow channels, rock bottoms, adjacent flood plains and wetlands are just a few of the factors that determine how the river will rise or fall. In addition, geography has an effect on ice build up, the effect of flooding, the time and complexity of maintenance and dredging and the effectiveness of traffic control measures.

River Slope:

Rivers slope downstream toward their mouths. Slope is the change in elevation of the river, expressed as a ratio of the change in elevation between reference points and the number of miles between reference points. A working knowledge of slope is one of the best tools to quickly determine river conditions and the duration of low/high water events. As flow rates from the upper dams increase, the slope will increase as the upper end of the river in the vicinity of the upper dam increases in depth. If the increased flow rates remain constant, water levels downstream will rise and be sustained. As upper river water flow decreases, the river slope will decrease and water levels will crest sequentially down the river. The term for this decrease in flow and subsequent decrease in slope is called "leveling." Once the crest has passed through the system, and flow rates become more consistent, water levels and slope will return to normal.

"Leveling" also occurs when low water conditions prevail in the system. As the dams reduce flow in order to maintain their pools, less water becomes available downstream. As each successive dam reduces flow to maintain the nine foot channel, short term low water is caused in the next pool downstream until that dam holds enough water to maintain its required level. When dams are only able to maintain minimum pool or unable to maintain a minimum channel depth, traffic management may have to be initiated.

Weather Pattern Changes:

Changes in weather patterns impact the river system by themselves and in conjunction with the factors listed above. One of the best known examples of this is the abnormal pattern that contributed significantly to the Great Flood of 1993. In this case, a wet-weather pattern persisted over the upper mid-west for over six months. This was caused by a weather front convergence zone which generated frequent and prolonged thunderstorms. In addition to the excessive rain, the area experienced an early snow melt, increasing spring runoff.

## 2. Parties and Roles

### 2.A. General

USACE POSITION	DUTIES AND RESPONSIBILITIES	EQUALS	USCG POSITION	DUTIES AND RESPONSIBILITIES
Head Lock operator	Coordinate Traffic, L&D Operations, Maintains Pool		MSU Prevention/Response Department Heads	Manages daily waterways management and casualty operations
<b>REPORTS TO:</b>				
Lock Masters	Oversees supervision and maintenance of project L&D		MSU CO/XO	Manages and supervises MSU daily operations
<b>REPORTS TO:</b>				
Assistant Operations Manager	Maintenance and oversight of District L&D projects		Deputy Sector Commander	Oversees Sector operations and management
<b>REPORTS TO:</b>				
Operations Manager	Planning and Control of District L&D Projects		Sector Ohio Valley Sector Commander	Senior Officer in Charge.

The successful management of any river crisis is dependent on the cooperation of the waterway system participants. This includes agencies of the federal, state and local governments, industry groups, and the general public (See 2.A.1. below for listing of industry groups by AOR), this chapter identifies the key organizations in these areas, outlines their authority and responsibilities, and explains their roles during a river crisis. They groups serve a vital role in serving as a liaison between industry and federal agencies. These groups address waterways conditions for the Allegheny, Monongahela, Ohio, Upper Mississippi, Lower Mississippi, Tennessee and Cumberland Rivers.

This plan should be used in conjunction with existing plans. Its purpose is to pull together information from existing plans and identify critical problem areas based on federal agency experience, industry experience, and statistical analysis.

**\*\*\* In addition to this plan, reference the Tennessee River Waterway Management Plan and the Cumberland River Waterway Management Plan.**

#### 2.A.1 Industry Groups & Representatives (WAPI, TRPRC, CORMIG, ICE, RIAC, LOMRC, TRVA and TCWC)

##### MSU Pittsburgh AOR

**The Waterways Association of Pittsburgh (WAPI)** is an industry based association which represents the maritime industry in navigation safety, waterway infrastructure, commercial vessel regulation and maritime labor issues in the Pittsburgh AOR. Various committees of the association review matters relating to vessel safety, navigation safety, maritime industry regulatory issues and waterway infrastructure.

**The Three Rivers Pollution Response Council (TRPRC)** represents a Coast Guard/Marine Industry partnership effort to meet the oil spill prevention and response mandates of the Oil Pollution Act of 1990 (OPA 90). The Council assists members in planning, organizing, drilling and training for all oil spill responses.

## **MSU Huntington AOR**

**Huntington District Waterway Association (HDWA)** is a regional association of commercial river users whose boundaries coincide with the Army Corps of Engineers Huntington District boundaries. The boundary extends on the Ohio River from Hannibal L/D to Meldahl L/D and includes the Kanawha and Big Sandy Rivers. Five different associations comprised of The Huntington District Waterways Advisory Committee, The Navigational Subcommittee, the Big Sandy Improvement Committee, The Tri-State Fleeting Association, and The Kanawha River Improvement Committee came together to form the HDWA. The group acts as a representative for industries operating on the Ohio River in the Army Corps of Engineers Huntington District. The HDWA is coordinated by a volunteer chairman from industry.

**Central Ohio River Marine Industry Group (CORMIG)** is a committee of the central Ohio River Towing companies, Coast Guard and Army Corps Representatives formed to address navigation problems during significant changes in river conditions such as extreme low water and high water events. The committee has evolved to address all issues concerning Central Ohio River navigation and is the major liaison between the towing industry, the Coast Guard, and Army Corps of Engineers for river conditions stretching from Huntington, WV to Cairo, IL. CORMIG is coordinated by a volunteer chairman from industry.

## **SOHV Louisville AOR**

**CORMIG, same organization as that listed under MSU Huntington AOR.**

## **MSU Paducah AOR**

**The Ohio River Ice Committee (ICE) MSU Paducah AOR** is an ad hoc committee of the Ohio River towing companies formed to address navigation problems during the major ice event of 1977 – 1978 on the Ohio River. Subsequent to this crisis, the committee has evolved to address all issues concerning Ohio River navigation, especially issues related to river conditions in the Lower Ohio River Valley area, and is the major liaison between the towing industry, the Coast Guard, and the Army Corps of Engineers. The Ice Committee also addresses river conditions impacting the Tennessee River and the Cumberland River. The Ice Committee is coordinated by a volunteer chairman from industry.

**The River Industry Action Committee (RIAC) MSU Paducah AOR** is a committee of the Upper Mississippi River and the lower Ohio River towing companies formed to address navigation problems during significant changes in river conditions such as extreme low water and high water events. The committee has evolved to address all issues concerning the Upper Mississippi River and lower Ohio River navigation and is the major liaison between the towing industry, the Coast Guard, and the Army Corps of Engineers for river conditions between St. Louis, MS and Cairo, IL. RIAC is coordinated by a volunteer chairman from industry.

**Lower Mississippi River Committee (LOMRC) MSU Paducah AOR** is a committee of the Lower Mississippi River and the lower Ohio River towing companies formed to address navigation problems during significant changes in river conditions such as extreme low water and high water events. The committee has evolved to address all issues concerning the Lower Mississippi River and lower Ohio River navigation and is the major liaison between the towing industry, the Coast Guard, and the Army Corps of Engineers for river conditions between Cairo, IL and Memphis, TN. LOMRC is coordinated by a volunteer chairman from industry.

**The Tennessee River Valley Association (TRVA) MSU Paducah AOR** serves as the primary committee for communicating among the towing companies operating on the Tennessee River within the Coast Guard Marine Safety Unit Paducah and Marine Safety Detachment Nashville Area of Responsibility. The TRVA Committee Chairman serves as the primary point of contact for relaying information, coordinating meetings, and setting up conference calls between all federal agencies and the towing industry. The primary purpose of the TRVA Committee is to address all issues concerning Tennessee River navigation and to act as the major liaison between the towing industry, the Coast Guard, the Tennessee Valley Authority and the Army Corps of Engineers throughout the Tennessee River Valley. The TRVA also addresses river conditions impacting the Ohio River within the Lock and Dam 52 pool from mile marker 918.5 at Smithland Lock & Dam through mile marker 938.9 at Lock and Dam 52. The TRVA is coordinated by a volunteer chairman from industry.

**The Tennessee - Cumberland Waterways Council (TCWC)** serves as the primary committee for communicating among the towing companies operating on the Cumberland River within Coast Guard Marine Safety Unit Paducah's and Marine Safety Detachment Nashville's Areas of Responsibility. The TCWC Chairman serves as the primary point of contact for relaying information, coordinating meetings, and setting up conference calls between all federal agencies and the towing industry. The primary purpose of the TCWC is to address all issues concerning Cumberland River navigation and is the major liaison between the towing industry, the Coast Guard, the Tennessee Valley Authority and the Army Corps of Engineers throughout the Tennessee River Valley. The TCWC also addresses river conditions impacting the Ohio River within the Lock and Dam 52 pool from mile marker 918.5 at Smithland Lock & Dam through mile marker 938.9 at Lock and Dam 52. The TCWC is coordinated by a volunteer chairman from industry.

2.A.2 Industry Points of Contact:

**\*\* Contact information available in password protected version.**

## **2.B. Federal Agencies**

The United States Code (USC) provides regulatory authority for establishing and authorizing work or structures constructed within the navigable waterways and provides regulations for maintaining navigation throughout U.S. territorial waters. Included as part of a national waterway system are numerous rivers, lakes and streams that comprise the inland waterway system. Navigation on these “navigable waters of the United States” is regulated primarily by the USCG. The USACE provides technical advice to the USCG to enable that agency to properly evaluate and make decisions on navigation safety. The USACE is also responsible for authorizing waterway projects, evaluating and maintaining navigable channels, and directing emergency flood control operations (such as activation of spillways). The Tennessee Valley Authority (TVA) maintains jurisdiction on the Tennessee River and Cumberland River and monitors river conditions through flows discharged from locks and dams on these rivers, such as Kentucky Lock & Dam and Barkley Lock & Dam.

### **2.B.1 United States Coast Guard (USCG)**

Title 14, USC, defines USCG roles and responsibilities in establishing and maintaining the safety of ports and waterways; 33 CFR Part 165.20 gives COTP’s and USCG District Commanders the authority to impose safety zones, security zones, and other restrictions to ensure the safe flow of navigation. Activities of the COTP’s are overseen by the Commander, Eighth Coast Guard District, in New Orleans, LA. Activities of the Marine Safety Unit Commanding Officers are overseen by the Sector Commander, Sector Ohio Valley, in Louisville, KY.

#### **2.B.1.a. Safety Advisory**

The simplest form of intervention is a Navigation Safety Advisory. It relies on the voluntary compliance of industry to limit risk and prevent vessel casualties. USCG advisories are usually issued after consultation with the USACE and industry-user groups. They can be originated by the USCG or self imposed by industry, and disseminated as a USCG Broadcast Notice to Mariners (BNTM), posted on the USACE bulletin board, posted on the River Industry Bulletin Board (RIBB), sent via the industry facsimile, or any combination of these methods. The purpose is to advise the marine industry of the existence of hazardous conditions and provide recommendations for navigating safely. Advisories can also be used to notify the marine industry of the Captain of the Port’s (COTP’s) intention to take action with respect to developing navigation conditions. Advisories are important tools that provide marine interests time to adjust their operations to avoid future problems.

#### **2.B.1.b. Safety Zone**

During extreme high or low water conditions the risk of commercial vessel navigation can become increasingly hazardous to the environment, persons and property. These extreme cases may require the establishment of a safety zone by the COTP that imposes vessel-operating restrictions. Consultation and deliberation with the USACE and industry-user groups usually precede implementation of a safety zone by the USCG. A safety zone entails the control of a portion of the river, tributary, or harbor. This enables the USCG to control access and/or prescribe operating restrictions on vessels seeking to navigate in the area. This approach can be applied to limited or large geographical areas and may involve simple or complex restrictions, such as:

- Minimum horsepower requirements per barge
- Maximum draft limits
- Maximum tow sizes
- Specific tow configurations
- Length and breadth limits
- Safe speed zones, no-passing zones, or no-meeting zones
- Helper or towboat requirements
- Traffic separation schemes
- Reporting requirements
- Tank barge prohibitions or the exclusion of all vessels from the safety zone

The establishment of a safety zone may include active control of vessel traffic through an area or it may be conducted passively, relying on compliance to limit risk. Safety zones using passive control have been imposed on other waterways during periods of high or abnormally low water and when local construction or pollution response cleanup operations are impacted by passing traffic.

### **2.B.1.c. Security Zone**

In some cases a security zone may be implemented to protect persons, property and the environment from actual or potential threats related to terrorism or destruction. These extreme cases may require the establishment of a security zone by the COTP that imposes restrictions on a vessel or a specific area of the river. Consultation and deliberation with the USACE, and industry-user groups usually precede implementation of a security zone by the USCG. A security zone entails the control of a portion of the river, tributary, or harbor. This enables the USCG to control access and/or prescribe restrictions on vessels and persons. This approach can be applied to limited or large geographical areas and may involve simple or complex restrictions. The establishment of a security zone may include active control of vessel traffic and intensive screening of persons entering through an area.

### **2.B.1.d. Captain of the Port Order (COTP Order)**

Captain of the Port Orders are specific directions to an individual, facility, or vessel. They are detailed and exact in scope. Issued under the authority of the Ports and Waterways Safety Act, compliance with COTP Orders is required, and failure may result in civil or criminal penalty action. In general, COTP Orders will only be used when a terminal or vessel appears to be operating in an unsafe manner or to reduce damage to the environment or property.

## **2.B.2 United States Army Corps of Engineers (USACE)**

Title 33 U.S.C., defines the USACE roles and responsibilities regarding development of, or change to, waterfront facilities, weirs, dams or dikes. Specifically, the USACE is authorized to review and approve all changes to hydrodynamic structures for the purposes of maintaining a navigable channel. In addition, the USACE is charged with conducting operations to maintain the physical nature of a navigable channel on particular waterways. Generally, the USACE has the responsibility to maintain a nine foot congressionally authorized project depth within the navigable channel on the Ohio River System. The USACE is also responsible for directing emergency flood control operations and collecting information on flood stages and damage.

## **2.B.3 Tennessee Valley Authority (TVA)**

Under the TVA Act of 1993, as amended, 6 U.S.C. 831 – 831 dd (1994), TVA is authorized to construct and operate dams and reservoirs in the Tennessee River and its tributaries to promote navigation and to control destructive floods. Also under the TVA Act, TVA has broad responsibilities for the “development of the natural resources of the Tennessee River drainage basin and of such adjoining territory as may be related to or materially affected by the development for the general purpose fostering an orderly and proper, physical, economic, and social development of said areas. The broad responsibilities placed on the Tennessee Valley Authority relate to navigability, flood control, reforestation, marginal lands, and agricultural and industrial development of the whole Tennessee Valley.” Those responsibilities specifically include the construction and maintenance of the dams and reservoirs in the Tennessee River and its tributaries and providing a nine-foot channel in the river.

3 – Communications:  
3.A. Ohio River Communications Plan

**\*\* Contact information available in password protected version.**

### 3.A.1. MSU Pittsburgh AOR Communications Plan

If and when the Watch Phase occurs on the Ohio, Monongahela, or Allegheny Rivers, the WAPI will enact the “Waterways Association of Pittsburgh Calling Tree” seen below. In order to ensure that this calling tree remains accurate, annual audits will be conducted to ensure the accuracy of these calling trees and any changes should be immediately reported to the WAPI. In addition, when the trigger openings are met Coast Guard Marine Safety Unit (MSU) Pittsburgh will make notifications in accordance with Section 4 via Broadcast Notice to Mariners (BNM) through USCG Sector Ohio Valley Command Center.

**\*\* Contact information available in password protected version.**

In addition, Coast Guard Sector Ohio Valley broadcasts river stages over VHF-FM radio channel 16. Scheduled broadcasts and river stages for the Ohio River and its tributaries are made at 11:00 a.m. EST. To obtain 24 hour information services, recorded messages on river gauges, predictions and weather forecasts with 7:00 a.m. and 1:00 p.m. updates, call these numbers:

Emsworth L/D – Ohio River	412-766-4555
Pike Island L/D – Ohio River	304-277-4646
Maxwell L/D – Monongahela River	724-785-3247
4 L/D – Allegheny River	724-224-0228

### **3.A.2. MSU Huntington AOR Communications Plan**

**\*\* Contact information available in password protected version.**

### **3.A.3 Sector Ohio Valley (Louisville) AOR Communications Plan**

**\*\* Contact information available in password protected version.**

### **3.A.4. MSU Paducah AOR Communications Plan**

**\*\* Contact information available in password protected version.**

### 3.A.5 Ohio River Internet Information Communications Plan

INTERNET SITE PURPOSE	ADDRESS
River Industry Bulletin Board (R.I.B.B.)	<a href="http://www.ribb.com/index.php">http://www.ribb.com/index.php</a>
National Response Center (NRC) – Report Pollution / Terrorist Activity	<a href="http://www.nrc.uscg.mil/nrchp.html">http://www.nrc.uscg.mil/nrchp.html</a>
Ohio River Lock & Dam Vessel Queues	<a href="http://www.ribb.com/riverstatus/river_locks.php">http://www.ribb.com/riverstatus/river_locks.php</a>
River GAUGES	<a href="http://www.riverGAUGES.com">www.riverGAUGES.com</a>
Kentucky / Barkley Lock & Dam Information	<a href="http://explorekentuckylake.com/weather.htm">http://explorekentuckylake.com/weather.htm</a>
National Weather Service (NWS) – River Forecasts	<a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a>
U.S. Army Corps of Engineers – River GAUGES	<a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a>
U.S. Army Corps of Engineers – River Navigation Charts	<a href="http://www.lrl.usace.army.mil/">http://www.lrl.usace.army.mil/</a>
Tennessee Valley Authority (TVA) – TNR / CMR	<a href="http://www.tva.gov/river/lakeinfo/index.htm">http://www.tva.gov/river/lakeinfo/index.htm</a>
Tennessee Valley Authority (TVA) – Barkley L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info</a>
Tennessee Valley Authority (TVA) – Kentucky L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a>
The River School – River Training & Orientation	<a href="http://www.riverschool.com/">http://www.riverschool.com/</a>
Incident Command System (ICS) Courses – Response Training	<a href="http://training.fema.gov/EMIWEB/IS/crslist.asp">http://training.fema.gov/EMIWEB/IS/crslist.asp</a>
National Incident Management System (NIMS) Courses – Response Training	<a href="http://training.fema.gov/EMIWEB/IS/crslist.asp">http://training.fema.gov/EMIWEB/IS/crslist.asp</a>
U.S. Coast Guard Port Security Directorate	<a href="http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm">http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm</a>
U.S. Coast Guard – Eighth District Site – New Orleans, LA	<a href="http://www.uscg.mil/d8/units.htm">http://www.uscg.mil/d8/units.htm</a>
U.S. Coast Guard – Sector Ohio Valley – Louisville, KY	<a href="http://www.uscg.mil/d8/sector/ohiovalley/index.htm">http://www.uscg.mil/d8/sector/ohiovalley/index.htm</a>
U.S. Coast Guard - Marine Safety Office - St. Louis, MS	<a href="http://www.uscg.mil/d8/mso/stlouis/index.html">http://www.uscg.mil/d8/mso/stlouis/index.html</a>
U.S. Coast Guard - Marine Safety Unit – Paducah, KY	<a href="http://www.uscg.mil/d8/mso/paducah/">http://www.uscg.mil/d8/mso/paducah/</a>
U.S. Coast Guard - Marine Safety Unit – Huntington, WV	<a href="http://www.uscg.mil/d8/mso/huntington/hunms.htm">http://www.uscg.mil/d8/mso/huntington/hunms.htm</a>
U.S. Coast Guard – Sector Lower Mississippi River – Memphis, TN	<a href="http://www.uscg.mil/d8/Sector/LwrMsRvr/">http://www.uscg.mil/d8/Sector/LwrMsRvr/</a>

### 3.B. Mississippi River Communications Plan

#### 3.B.1. Upper Mississippi River

**The River Industry Action Committee (RIAC)** is a committee of the Upper Mississippi River and the lower Ohio River towing companies, formed to address navigation problems during significant changes in river conditions such as extreme low water and high water events. The committee has evolved to address all issues concerning the Upper Mississippi River and lower Ohio River navigation and is the major liaison between the towing industry, the Coast Guard, and the Army Corps of Engineers for river conditions between St. Louis, MO and Cairo, IL. RIAC is coordinated by a volunteer chairman from industry.

##### 3.B.1.a. Upper Mississippi River Towing Industry Communications Plan (RIAC)

\*\* Contact information available in password protected version.

##### 3.B.1.b. Upper Mississippi River Government Agency Communications Plan

\*\* Contact information available in password protected version.

##### 3.B.1.c. Upper Mississippi River Internet Information Communications Plan

INTERNET SITE PURPOSE	ADDRESS
River Industry Bulletin Board (R.I.B.B.)	<a href="http://www.ribb.com/index.php">http://www.ribb.com/index.php</a>
National Response Center (NRC) – Report Pollution / Terrorist Activity	<a href="http://www.nrc.uscg.mil/nrchp.html">http://www.nrc.uscg.mil/nrchp.html</a>
Ohio River Lock & Dam Vessel Queues	<a href="http://www.ribb.com/riverstatus/river_locks.php">http://www.ribb.com/riverstatus/river_locks.php</a>
Kentucky / Barkley Lock & Dam Information	<a href="http://explorekentuckylake.com/weather.htm">http://explorekentuckylake.com/weather.htm</a>
National Weather Service (NWS) – River Forecasts	<a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a>
U.S. Army Corps of Engineers – River GAUGES	<a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a>
U.S. Army Corps of Engineers – River Navigation Charts	<a href="http://www.lrl.usace.army.mil/">http://www.lrl.usace.army.mil/</a>
Tennessee Valley Authority (TVA) – TNR / CMR	<a href="http://www.tva.gov/river/lakeinfo/index.htm">http://www.tva.gov/river/lakeinfo/index.htm</a>
Tennessee Valley Authority (TVA) – Barkley L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info</a>
Tennessee Valley Authority (TVA) – Kentucky L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a>
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National Incident Management System (NIMS) Courses – Response Training	<a href="http://training.fema.gov/EMIWEB/IS/crslist.asp">http://training.fema.gov/EMIWEB/IS/crslist.asp</a>
U.S. Coast Guard Port Security Directorate	<a href="http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm">http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm</a>

U.S. Coast Guard – Eighth District Site – New Orleans, LA	<a href="http://www.uscg.mil/d8/units.htm">http://www.uscg.mil/d8/units.htm</a>
U.S. Coast Guard – Sector Ohio Valley – Louisville, KY	<a href="http://www.uscg.mil/d8/sector/ohiovalley/index.htm">http://www.uscg.mil/d8/sector/ohiovalley/index.htm</a>
U.S. Coast Guard - Marine Safety Office - St. Louis, MS	<a href="http://www.uscg.mil/d8/mso/stlouis/index.html">http://www.uscg.mil/d8/mso/stlouis/index.html</a>
U.S. Coast Guard - Marine Safety Unit – Paducah, KY	<a href="http://www.uscg.mil/d8/mso/paducah/">http://www.uscg.mil/d8/mso/paducah/</a>
U.S. Coast Guard - Marine Safety Unit – Huntington, WV	<a href="http://www.uscg.mil/d8/mso/huntington/hunms.htm">http://www.uscg.mil/d8/mso/huntington/hunms.htm</a>
U.S. Coast Guard – Sector Lower Mississippi River – Memphis, TN	<a href="http://www.uscg.mil./d8/Sector/LwrMsRvr/">http://www.uscg.mil./d8/Sector/LwrMsRvr/</a>

### 3.B.2. Lower Mississippi River

**Lower Mississippi River Committee (LOMRC)** is a committee of the Lower Mississippi River and the lower Ohio River towing companies, formed to address navigation problems during significant changes in river conditions such as extreme low water and high water events. The committee has evolved to address all issues concerning the Lower Mississippi River and lower Ohio River navigation and is the major liaison between the towing industry, the Coast Guard, and the Army Corps of Engineers for river conditions between Cairo, IL and Memphis, TN. LOMRC is coordinated by a volunteer chairman from industry.

#### 3.B.2.a. Lower Mississippi River Towing Industry Communications Plan (LOMRC)

\*\* Contact information available in password protected version.

#### 3.B.2.b. Lower Mississippi River Government Agency Communications Plan

\*\* Contact information available in password protected version.

#### 3.B.2.c. Lower Mississippi River Internet Information Communications Plan

INTERNET SITE PURPOSE	ADDRESS
River Industry Bulletin Board (R.I.B.B.)	<a href="http://www.ribb.com/index.php">http://www.ribb.com/index.php</a>
National Response Center (NRC) – Report Pollution / Terrorist Activity	<a href="http://www.nrc.uscg.mil/nrchp.html">http://www.nrc.uscg.mil/nrchp.html</a>
Ohio River Lock & Dam Vessel Queues	<a href="http://www.ribb.com/riverstatus/river_locks.php">http://www.ribb.com/riverstatus/river_locks.php</a>
Kentucky / Barkley Lock & Dam Information	<a href="http://explorekentuckylake.com/weather.htm">http://explorekentuckylake.com/weather.htm</a>
National Weather Service (NWS) – River Forecasts	<a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a>
U.S. Army Corps of Engineers – River GAUGES	<a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a>
U.S. Army Corps of Engineers – River Navigation Charts	<a href="http://www.lrl.usace.army.mil/">http://www.lrl.usace.army.mil/</a>
Tennessee Valley Authority (TVA) – TNR / CMR	<a href="http://www.tva.gov/river/lakeinfo/index.htm">http://www.tva.gov/river/lakeinfo/index.htm</a>
Tennessee Valley Authority (TVA) – Barkley L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info</a>
Tennessee Valley Authority (TVA) – Kentucky L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a>
The River School – River Training & Orientation	<a href="http://www.riverschool.com/">http://www.riverschool.com/</a>
Incident Command System (ICS) Courses – Response Training	<a href="http://training.fema.gov/EMIWEB/IS/crslist.asp">http://training.fema.gov/EMIWEB/IS/crslist.asp</a>
National Incident Management System (NIMS) Courses – Response Training	<a href="http://training.fema.gov/EMIWEB/IS/crslist.asp">http://training.fema.gov/EMIWEB/IS/crslist.asp</a>
U.S. Coast Guard Port Security Directorate	<a href="http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm">http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm</a>
U.S. Coast Guard – Eighth District Site – New Orleans, LA	<a href="http://www.uscg.mil/d8/units.htm">http://www.uscg.mil/d8/units.htm</a>
U.S. Coast Guard – Sector Ohio Valley – Louisville, KY	<a href="http://www.uscg.mil/d8/sector/ohiovalley/index.htm">http://www.uscg.mil/d8/sector/ohiovalley/index.htm</a>
U.S. Coast Guard - Marine Safety Office - St. Louis, MS	<a href="http://www.uscg.mil/d8/mso/stlouis/index.html">http://www.uscg.mil/d8/mso/stlouis/index.html</a>

U.S. Coast Guard - Marine Safety Unit – Paducah, KY	<a href="http://www.uscg.mil/d8/mso/paducah/">http://www.uscg.mil/d8/mso/paducah/</a>
U.S. Coast Guard - Marine Safety Unit – Huntington, WV	<a href="http://www.uscg.mil/d8/mso/huntington/hunms.htm">http://www.uscg.mil/d8/mso/huntington/hunms.htm</a>
U.S. Coast Guard – Sector Lower Mississippi River – Memphis, TN	<a href="http://www.uscg.mil./d8/Sector/LwrMsRvr/">http://www.uscg.mil./d8/Sector/LwrMsRvr/</a>

### 3.C. Tennessee River Communications Plan

**The Tennessee River Valley Waterways Committee (TRVA)** serves as the primary committee for communicating among the towing companies operating on the Tennessee River within the Coast Guard Marine Safety Unit Paducah and Marine Safety Detachment Nashville Area of Responsibility. The TRVA Committee Chairman serves as the primary point of contact for relaying information, coordinating meetings, and setting up conference calls between all federal agencies and the towing industry. The primary purpose of the TRVA Committee is to address all issues concerning Tennessee River navigation and is the major liaison between the towing industry, the Coast Guard, the Tennessee Valley Authority and the Army Corps of Engineers throughout the Tennessee River Valley. The TRVA also addresses river conditions impacting the Ohio River within the Lock and Dam 52 pool from mile marker 918.5 at Smithland Lock & Dam through mile marker 938.9 at Lock and Dam 52. The TRVA is coordinated by a volunteer chairman from industry.

#### 3.C.1 Tennessee River Towing Industry Communications Plan (TRVA)

\*\* Contact information available in password protected version.

#### 3.C.2 Tennessee River Government Agencies Communications Plan

\*\* Contact information available in password protected version.

#### 3.C.3 Tennessee River Internet Information Communications Plan

INTERNET SITE PURPOSE	ADDRESS
River Industry Bulletin Board (R.I.B.B.)	<a href="http://www.ribb.com/index.php">http://www.ribb.com/index.php</a>
National Response Center (NRC) – Report Pollution / Terrorist Activity	<a href="http://www.nrc.uscg.mil/nrchp.html">http://www.nrc.uscg.mil/nrchp.html</a>
Ohio River Lock & Dam Vessel Queues	<a href="http://www.ribb.com/riverstatus/river_locks.php">http://www.ribb.com/riverstatus/river_locks.php</a>
Kentucky / Barkley Lock & Dam Information	<a href="http://explorekentuckylake.com/weather.htm">http://explorekentuckylake.com/weather.htm</a>
National Weather Service (NWS) – River Forecasts	<a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a>
U.S. Army Corps of Engineers – River GAUGES	<a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a>
U.S. Army Corps of Engineers – River Navigation Charts	<a href="http://www.lrl.usace.army.mil/">http://www.lrl.usace.army.mil/</a>
Tennessee Valley Authority (TVA) – TNR / CMR	<a href="http://www.tva.gov/river/lakeinfo/index.htm">http://www.tva.gov/river/lakeinfo/index.htm</a>
Tennessee Valley Authority (TVA) – Barkley L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info</a>
Tennessee Valley Authority (TVA) – Kentucky L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a>
The River School – River Training & Orientation	<a href="http://www.riverschool.com/">http://www.riverschool.com/</a>
Incident Command System (ICS) Courses – Response Training	<a href="http://training.fema.gov/EMIWEB/IS/crslist.asp">http://training.fema.gov/EMIWEB/IS/crslist.asp</a>
National Incident Management System (NIMS) Courses – Response Training	<a href="http://training.fema.gov/EMIWEB/IS/crslist.asp">http://training.fema.gov/EMIWEB/IS/crslist.asp</a>
U.S. Coast Guard Port Security Directorate	<a href="http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm">http://cgweb.comdt.uscg.mil/g-mp/g-mp.htm</a>
U.S. Coast Guard – Eighth District Site – New Orleans, LA	<a href="http://www.uscg.mil/d8/units.htm">http://www.uscg.mil/d8/units.htm</a>

U.S. Coast Guard – Sector Ohio Valley – Louisville, KY	<a href="http://www.uscg.mil/d8/sector/ohiovalley/index.htm">http://www.uscg.mil/d8/sector/ohiovalley/index.htm</a>
U.S. Coast Guard - Marine Safety Office - St. Louis, MS	<a href="http://www.uscg.mil/d8/mso/stlouis/index.html">http://www.uscg.mil/d8/mso/stlouis/index.html</a>
U.S. Coast Guard - Marine Safety Unit – Paducah, KY	<a href="http://www.uscg.mil/d8/mso/paducah/">http://www.uscg.mil/d8/mso/paducah/</a>
U.S. Coast Guard - Marine Safety Unit – Huntington, WV	<a href="http://www.uscg.mil/d8/mso/huntington/hunms.htm">http://www.uscg.mil/d8/mso/huntington/hunms.htm</a>
U.S. Coast Guard – Sector Lower Mississippi River – Memphis, TN	<a href="http://www.uscg.mil./d8/Sector/LwrMsRvr/">http://www.uscg.mil./d8/Sector/LwrMsRvr/</a>

### **3.D. Cumberland River Communications Plan**

**The Tennessee - Cumberland Waterway Council (TCWC)** serves as the primary committee for communicating among the towing companies operating on the Cumberland River within the Coast Guard Marine Safety Unit Paducah and Marine Safety Detachment Nashville Area of Responsibility. The TCWC Chairman serves as the primary point of contact for relaying information, coordinating meetings, and setting up conference calls between all federal agencies and the towing industry. The primary purpose of the TCWC is to address all issues concerning Cumberland River navigation and is the major liaison between the towing industry, the Coast Guard, the Tennessee Valley Authority and the Army Corps of Engineers throughout the Tennessee River Valley. The TCWC also addresses river conditions impacting the Ohio River within the Lock and Dam 52 pool from mile marker 918.5 at Smithland Lock & Dam through mile marker 938.9 at Lock and Dam 52. The TCWC is coordinated by a volunteer chairman from industry.

#### **3.D.1 Cumberland River Towing Industry Communications Plan (TCWC)**

**\*\* Contact information available in password protected version.**

#### **3.D.2 Cumberland River Government Agencies Communications Plan**

**\*\* Contact information available in password protected version.**

#### **3.D.3 Cumberland River Internet Information Communications Plan**

INTERNET SITE PURPOSE	ADDRESS
River Industry Bulletin Board (R.I.B.B.)	<a href="http://www.ribb.com/index.php">http://www.ribb.com/index.php</a>
National Response Center (NRC) – Report Pollution / Terrorist Activity	<a href="http://www.nrc.uscg.mil/nrchp.html">http://www.nrc.uscg.mil/nrchp.html</a>
Ohio River Lock & Dam Vessel Queues	<a href="http://www.ribb.com/riverstatus/river_locks.php">http://www.ribb.com/riverstatus/river_locks.php</a>
Kentucky / Barkley Lock & Dam Information	<a href="http://explorekentuckylake.com/weather.htm">http://explorekentuckylake.com/weather.htm</a>
National Weather Service (NWS) – River Forecasts	<a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a>
U.S. Army Corps of Engineers – River GAUGES	<a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a>
U.S. Army Corps of Engineers – River Navigation Charts	<a href="http://www.lrl.usace.army.mil/">http://www.lrl.usace.army.mil/</a>
Tennessee Valley Authority (TVA) – TNR / CMR	<a href="http://www.tva.gov/river/lakeinfo/index.htm">http://www.tva.gov/river/lakeinfo/index.htm</a>
Tennessee Valley Authority (TVA) – Barkley L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info</a>
Tennessee Valley Authority (TVA) – Kentucky L&D Flows	<a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a>
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U.S. Coast Guard – Sector Ohio Valley – Louisville, KY	<a href="http://www.uscg.mil/d8/sector/ohiovalley/index.htm">http://www.uscg.mil/d8/sector/ohiovalley/index.htm</a>
U.S. Coast Guard - Marine Safety Office - St. Louis, MS	<a href="http://www.uscg.mil/d8/mso/stlouis/index.html">http://www.uscg.mil/d8/mso/stlouis/index.html</a>
U.S. Coast Guard - Marine Safety Unit – Paducah, KY	<a href="http://www.uscg.mil/d8/mso/paducah/">http://www.uscg.mil/d8/mso/paducah/</a>
U.S. Coast Guard - Marine Safety Unit – Huntington, WV	<a href="http://www.uscg.mil/d8/mso/huntington/hunms.htm">http://www.uscg.mil/d8/mso/huntington/hunms.htm</a>
U.S. Coast Guard – Sector Lower Mississippi River – Memphis, TN	<a href="http://www.uscg.mil./d8/Sector/LwrMsRvr/">http://www.uscg.mil./d8/Sector/LwrMsRvr/</a>

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#### **4. Action Plan**

Actions taken during waterways crisis span a wide range of controls and responses from all involved parties including industry and federal government agencies. In general, actions taken by industry will be intended to reduce marine casualties during low & high water situations. Some actions taken by industry during extreme low water conditions include reducing loads or lightering barges, which reduce vessel drafts. During high water conditions, industry may reduce tow sizes to allow more positive control over the tow to more effectively utilize towboat horsepower. The federal government, including the U.S. Coast Guard, U.S. Army Corps of Engineers, and the Tennessee Valley Authority, is also required to take specific and timely actions to aid in preventing marine casualties while facilitating commerce. Some of these actions include the USCG's issuance of Broadcast Notice to Mariners (BNM), establishment of Safety Zones, dredging operations by the USACE, and adjustment of flow rates from locks and dams by the Tennessee Valley Authority (TVA). The enclosed Safety Advisory and Safety Zone templates are recommended for use, but can be modified or combined to meet the needs of the situation.

#### 4.A. Ohio River Action Plan

##### 4.A.1. Emsworth Lock and Dam High Water Operations

<p><b>EMSWORTH LOCK AND DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 6.2</b></p> <p><b>FLOOD STAGE READING: 30' LG</b></p> <p><b>OTHER USEFUL DATA:</b>          NORMAL POOL 16' ON UG &amp; 12' ON LG          MAX. DAM OPENING 105'          CEASE LOCKING 30' LG</p> <p>TABLE USES DAM OPENINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH THE LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.</p> <p><b>CAUTIONARY NOTE 1:</b>          SEVERE OUTDRAFT DURING HIGH WATER.</p> <p><b>GAUGE READINGS:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a></p>	65' DAM OPENING	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	65'+DAM OPENING	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	85'+ DAM OPENING	Rising & projected to continue rising rapidly	Extreme High Water/Extreme High Flow Conditions	Action	Continue monitoring river conditions, continue issuing initial broadcast (Enc. 1) and issue Safety Advisory (Enc. 2).  Note: Double lockages restricted to a maximum of three barge lengths at 90' of dam opening and a maximum of two barge lengths between 90' – 94'. * No restrictions with helper boat.
	95'+ DAM OPENING	Rising & projected to continue rising rapidly	Extreme High Water/Extreme High Flow Conditions	Action	Continue monitoring river conditions, continue broadcasting advisories (Enc. 1 & 2).  Note: Small lock chamber taken out of operation when dam openings exceed 95'. Double lockages restricted to a maximum of one barge length at and above 95' of dam opening. * No restrictions with helper boat.
	95'- DAM OPENING	Falling	High Water/ High Flow Conditions	Watch	Continue monitoring river conditions, continue broadcasting advisories (Enc. 1 & 2).
	85'- DAM OPENING	Falling	High Water/ High Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisories (Enc. 3).

**Enclosure 1 (example)**

THE GATE OPENING AT EMSWORTH DAM (MILE MARKER 6.2 ON THE OHIO RIVER) IS GREATER THAN 65 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

1. VESSELS TRANSITING THE OHIO RIVER:

1.A. WHEN TRANSITING DOWNRIVER WITH THE INTENTION OF USING THE FRONT CHANNEL PAST BRUNOT ISLAND (MILE MARKER 1.5), KEEP TOWARDS THE RIGHT DESCENDING BANK WHILE ENTERING THE FRONT CHANNEL TO AVOID SEVERE SET TOWARDS THE ISLAND.

1.B. WHEN TRANSITING UPRIVER WITH THE INTENTION OF USING THE BACK CHANNEL PAST BRUNOT ISLAND (MILE MARKER 3), EXERCISE CAUTION WHILE ENTERING THE BACK CHANNEL TO PREVENT BEING SET AGAINST THE LEFT DESCENDING BANK.

1.C. EXERCISE EXTREME CAUTION WHILE TRANSITING THROUGH EMSWORTH, DASHIELDS, AND MONTGOMERY LOCKS.

2. VESSELS TRANSITING THE ALLEGHENY RIVER:

2.A. EXERCISE EXTREME CAUTION AND ENSURE VERTICAL CLEARANCE IS SUFFICIENT WHILE TRANSITING UNDER THE BRIDGES LOCATED BETWEEN MILE MARKERS 0 AND 3.

3. VESSELS TRANSITING THE MONONGAHELA RIVER:

3.A. EXERCISE EXTREME CAUTION AND ENSURE VERTICAL CLEARANCE IS SUFFICIENT WHILE TRANSITING UNDER THE BRIDGES LOCATED BETWEEN MILE MARKERS 0 AND 9.

**Enclosure 2 (example)**

THE GATE OPENING AT EMSWORTH DAM (MILE MARKER 6.2 ON THE OHIO RIVER) IS 85 FEET OR GREATER. DUE TO HIGH WATER CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY. EXERCISE **EXTREME** CAUTION WHILE TRANSITING IN THE AREA OF THE EMSWORTH AND DASHIELDS LOCK AND DAMS (MILE MARKERS 13.3 TO 15 ON THE OHIO RIVER) DUE TO THE STRONG CURRENTS IN THE AREA. SOUTHBOUND TOW VESSELS ARE RECOMMENDED TO HAVE A HELPER BOAT PRESENT TO ASSIST WHEN EITHER:

(1) PUSHING A TOW CONSISTING OF TWO BARGE LENGTHS OR GREATER WHEN AT LEAST ONE BARGE IS A TANK BARGE.

(2) OR CONDUCTING A DOUBLE LOCKAGE, THROUGH EMSWORTH, DASHIELDS, OR MONTGOMERY LOCKS.

**Enclosure 3 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**4.A. Ohio River Action Plan**

**4.A.2. Dashields Lock and Dam High Water Operations**

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>DASHIELDS LOCK AND DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 13.3</b></p> <p><b>FLOOD STAGE READING: 23' LG</b></p> <p><b>OTHER USEFUL DATA:</b>            NORMAL POOL 12' ON UG &amp; 12' ON LG            CEASE LOCKING 23' UG</p> <p>TABLE USES UPPER AND LOWER GAUGE READINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH THE LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.</p> <p><b>CAUTIONARY NOTE 1:</b>            SEVERE OUTDRAFT DURING HIGH WATER. OUTDRAFT INCREASES AS RIVER RISES.</p> <p><b>CAUTIONARY NOTE 2:</b>            MARINERS ARE ALSO ADVISED TO CLOSELY MONITOR CONDITIONS AND DAM OPENINGS AT EMSWORTH LOCK AND DAM, WHILE TRANSITTING IN THE VICINITY OF DASHIELDS. UNEXPECTED INCREASES IN FLOW, CURRENT AND SEVERE OUTDRAFTS DURING HIGH WATER CONDITIONS, MAY BE ENCOUNTERED.</p> <p><b>GAUGE READINGS:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a></p>	20' UG	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	20'+ UG	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	24'+ UG	Rising & projected to continue rising rapidly	Extreme High Water/ Extreme High Flow Conditions	Action	Continue monitoring river conditions, continue broadcasting advisories (Enc. 1).
	24' - UG	Falling	High Water/ High Flow Conditions	Watch	Continue monitoring river conditions and consider canceling Safety Advisories (Enc. 2).
	20' - UG	Falling	Normal Operations/ Flow Conditions	Recovery	Locking operations normal.

**Enclosure 1 (example)**

THE UPPER GAUGE AT DASHIELDS DAM (MILE MARKER 13.3 ON THE OHIO RIVER) READS GREATER THAN 20 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY FOR ALL BARGE FLEETING FACILITIES LOCATED ON THE OHIO RIVER.

1. FLEETING FACILITIES ARE ADVISED TO REVIEW AND ACT IN ACCORDANCE WITH THEIR WATERFRONT FLEET OPERATIONS GUIDE AND ANY COMPANY CONTINGENCY PLANS.
2. FLEETING FACILITIES ARE ADVISED TO ASSIGN A PERSON TO BE IN CONTINUOUS SURVEILLANCE AND TO OBSERVE THE BARGES IN THE FLEETING FACILITY.
3. FLEETING FACILITIES ARE ADVISED TO DOUBLE-UP LINES ON THE HEAD OF THE FLEET AND PROVIDE AN ADEQUATE NUMBER OF SPRING AND BREAST LINES BETWEEN THE DOCK AND THE BARGES IN THE FLEET.
4. FLEETING FACILITIES ARE ADVISED TO REVIEW THEIR NEED TO SECURE TOWBOAT ASSISTANCE.

**Enclosure 2 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**4.A. Ohio River Action Plan**

**4.A.3. Montgomery Lock and Dam High Water Operations**

<p><b>MONTGOMERY LOCK AND DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 31.7</b></p> <p><b>FLOOD STAGE READING: 20' UG</b></p> <p><b>OTHER USEFUL DATA:</b>          NORMAL POOL 12' ON UG &amp; 12' ON LG          CEASE LOCKING 20' UG          MAX. DAM OPENING 100'</p> <p>TABLE USES DAM OPENINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH THE LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.</p> <p><b>CAUTIONARY NOTE 1:</b>          SEVERE OUTDRAFT DURING HIGH WATER.</p> <p><b>GAUGE READINGS:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a></p>	40' DAM OPENING	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	40'+ DAM OPENING	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	65'+ DAM OPENING	Rising & projected to continue rising rapidly	Extreme High Water/ Extreme High Flow Conditions	Action	Continue monitoring river conditions, continue issuing initial broadcast (Enc. 1) issue Safety Advisory (Enc. 2). When dam openings exceed 65', small lock chamber taken out of operations and no up bound double lockages without the assistance of a helper boat.
	65' - DAM OPENING	Falling	High Water/ High Flow Conditions	Watch	Continue monitoring river conditions, cancel safety advisory (Enc. 2), continue issuing broadcast (Enc. 1).
	40' - DAM OPENING	Falling	Normal Operations/ Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 3).

**Enclosure 1 (example)**

THE GATE OPENING AT MONTGOMERY DAM (MILE MARKER 31.7 ON THE OHIO RIVER) IS GREATER THAN 40 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

1. EXERCISE EXTREME CAUTION WHILE TRANSITING IN THE AREA OF THE MONTGOMERY LOCKS AND DAM (MILE MARKERS 31.7 TO 40 ON THE OHIO RIVER) DUE TO THE NARROW CHANNEL, ABUNDANCE OF FLEETING AREAS, RIVER BENDS AND FAST CURRENTS IN THAT AREA.
2. EXERCISE EXTREME CAUTION WHILE TRANSITING UNDER THE NEWELL HIGHWAY BRIDGE (MILE MARKER 44.5 ON THE OHIO RIVER) DUE TO THE STRONG SET AND CURRENTS IN THAT AREA.
3. UPBOUND TOW VESSELS, ARE ADVISED THAT WHEN PERFORMING A SET OVER OR KNOCK OUT THROUGH THE MONTGOMERY LOCKS, TO SECURE THE HEAD OF THEIR TOWS TO THE LOCK WALL USING THE CLOSEST PIN POSSIBLE BEFORE THE SET OVER OR KNOCK OUT IS INITIATED, AND ENSURE THAT TOWS ARE FULLY SECURED PRIOR TO LEAVING THE VICINITY OF THE LOCKS.
4. DOWNBOUND TOW VESSELS PERFORMING A DOUBLE LOCKAGE ARE STRONGLY ADVISED TO HAVE A HELPER BOAT ASSIST THE TOWS IN KEEPING ALONGSIDE THE GUIDE WALL WHILE ENTERING THE LOCKS.

**Enclosure 2 (example)**

THE GATE OPENING AT MONTGOMERY DAM (MILE MARKER 31.7 ON THE OHIO RIVER) IS 65 FEET OR GREATER. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD, HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

1. EXERCISE **EXTREME** CAUTION WHILE TRANSITING THROUGH THE MONTGOMERY LOCKS (MILE MARKER 13.3 ON THE OHIO RIVER).
2. EXERCISE **EXTREME** CAUTION WHILE TRANSITING UNDER THE P. L. & E. RAILROAD BRIDGE (MILE MARKER 25.8 ON THE OHIO RIVER) DUE TO THE STRONG SET IN THAT AREA.
3. TOW VESSELS ARE RECOMMENDED TO HAVE A HELPER BOAT WHEN TRANSITING THROUGH THE MONTGOMERY LOCKS, IF THEY ARE PUSHING TWO BARGE LENGTHS OR GREATER.

**Enclosure 3 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**4.A. Ohio River Action Plan**

**4.A.4. New Cumberland Lock and Dam High Water Operations**

<p><b>NEW CUMBERLAND LOCK AND DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 54.4</b></p> <p><b>FLOOD STAGE READING: 37' LG</b></p> <p><b>OTHER USEFUL DATA:</b>          NORMAL POOL 12' ON UG &amp; 12' ON LG          CEASE LOCKING 37' LG          MAX. DAM OPENING 143'</p> <p>TABLE USES DAM OPENINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH THE LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.</p> <p><b>CAUTIONARY NOTE 1:</b>          OUTDRAFTS DURING HIGH WATER.</p> <p><b>GAUGE READINGS:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a></p>	50' DAM OPENING	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	50'+ DAM OPENING	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	50'- DAM OPENING	Falling	Normal Operations/ Flow Conditions	Recovery	Continue monitoring river conditions, consider canceling safety advisories. (Enc. 2).

**Enclosure 1 (example)**

THE GATE OPENING AT NEW CUMBERLAND DAM (MILE MARKER 54.4 ON THE OHIO RIVER) IS GREATER THAN 50 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

1. EXERCISE **EXTREME** CAUTION WHILE TRANSITING PAST BROWNS ISLAND (MILE MARKERS 60.5 TO 64 ON THE OHIO RIVER) DUE TO THE NARROW CHANNEL, ABUNDANCE OF FLEETING AREAS, AND FAST CURRENTS IN THAT AREA.
2. EXERCISE **EXTREME** CAUTION WHILE TRANSITING PAST CABLES EDDY (MILE MARKERS 64.5 TO 65.5 ON THE OHIO RIVER) DUE TO THE NARROW CHANNEL AND SHARP BEND IN THAT AREA.

**Enclosure 2 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**4.A. Ohio River Action Plan**

**4.A.5. Pike Island Lock and Dam High Water Operations**

<p><b>PIKE ISLAND LOCK AND DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 54.4</b></p> <p><b>FLOOD STAGE READING: 37' LG</b></p> <p><b>OTHER USEFUL DATA:</b>          NORMAL POOL 12' ON UG &amp; 12' ON LG          CEASE LOCKING 37' LG          MAX. DAM OPENING 194'</p> <p>TABLE USES DAM OPENINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH THE LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.</p> <p><b>CAUTIONARY NOTE 1:</b>          OUTDRAFTS DURING EXTREME HIGH WATER.</p> <p><b>CAUTIONARY NOTE 2:</b>          DURING LOW WATER, UPBOUND TOWS ARE REMINDED TO BE CAUTIOUS OF OUTDRAFTS TOWARDS THE RIVER WALL.</p> <p><b>GAUGE READINGS:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a></p>	50' DAM OPENING	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	50'+ DAM OPENING	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	50'- DAM OPENING	Falling	Normal Operations/ Flow Conditions	Recovery	Continue monitoring river conditions, consider canceling safety advisories. (Enc. 2).

**Enclosure 1 (example)**

THE GATE OPENING AT PIKE ISLAND DAM (MILE MARKER 84.2 ON THE OHIO RIVER) IS GREATER THAN 50 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

1. EXERCISE **EXTREME** CAUTION WHILE TRANSITING UNDER THE INTERSTATE 470 BRIDGE (MILE MARKER 91.8 ON THE OHIO RIVER) DUE TO THE STRONG SET TOWARDS THE LEFT DESCENDING BANK IN THAT AREA.
2. EXERCISE **EXTREME** CAUTION WHILE TRANSITING UNDER THE CSX RAILROAD BRIDGE (MILE MARKER 94.5 ON THE OHIO RIVER) DUE TO ITS LIMITED (320 FEET) HORIZONTAL CLEARANCE.
3. TO MAINTAIN PROPER COURSE AND SPEED TOW VESSELS ARE RECOMMENDED TO HAVE A HELPER BOAT WHEN TRANSITING UNDER THE CSX BRIDGE (MILE MARKER 94.5 ON THE OHIO RIVER), IF THEY ARE PUSHING AHEAD.

**Enclosure 2 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**4.A. Ohio River Action Plan**

**4.A.6. Willow island Lock and Dam High Water Operations**

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>WILLOW ISLAND LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 161.7</b></p> <p><b>FLOOD STAGE READING: 37' LG</b></p> <p><b>REFERENCE: WILLOW ISLAND DAM</b></p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 176'            GATES ALL OUT 34.5' LG            CEASE LOCKING 41.4' LG</p> <p>TABLE USES DAM OPENING. THE POTENTIAL FOR VESSEL ALLISIONS WITH WILLOW ISLAND L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE APPROACHING LOCK DOWNBOUND. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            DRIFT TENDS TO ACCUMULATE IN THE UPPER APPROACH.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 150' OF GATE OPENING.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a></p>	<50'	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	50'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	100'+	Rising	<u>Extreme</u> High Water/ <u>Extreme</u> High Flow Conditions	Action	MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	100'-	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate.
	50'-	Falling	Normal Operations / Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.7. Belleville Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>BELLEVILLE LOCK &amp; DAM</b></p> <p>OHIO RIVER</p> <p>MILE MARKER: 203.9</p> <p>FLOOD STAGE READING: 45' LG</p> <p>REFERENCE: BELLEVILLE DAM</p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING: 176'            GATES ALL OUT 33' LG            CEASE LOCKING 43.0' LG</p> <p>TABLE USES DAM OPENING. THE POTENTIAL FOR VESSEL ALLISIONS WITH BELLEVILLE L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE APPROACHING LOCK DOWNBOUND. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            DRIFT TENDS TO ACCUMULATE IN THE UPPER APPROACH.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 150' OF GATE OPENING.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a></p>	60'	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	60'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	90'+	Rising	<u>Extreme High Water/ Extreme High Flow Conditions</u>	Action	MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.  Note: Ohio River MM 209 – 211(long bottom bend) recommended one way traffic
	90'-	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate.
	60'	Falling	Normal Operations / Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**4.A. Ohio River Action Plan**

**4.A.8. Racine Lock and Dam High Water Operations**

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>RACINE LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 237</b></p> <p><b>FLOOD STAGE READING: 38' LG</b></p> <p><b>REFERENCE: RACINE DAM</b></p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING: 200'            GATES ALL OUT: 34' LG            CEASE LOCKING: 49.9' LG</p> <p>TABLE USES DAM OPENING. THE POTENTIAL FOR VESSEL ALLISIONS WITH RACINE L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE APPROACHING LOCK DOWNBOUND. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            DRIFT TENDS TO ACCUMULATE IN THE UPPER APPROACH.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 180' OF GATE OPENING.</p> <p><b>CAUTIONARY NOTE 3:</b> MM 265 TO 267 (MOUTH OF THE KANAWHA RIVER) IS A HIGH TRAFFIC AREA</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a></p>	<50'	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	50'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	150'	Rising	<u>Extreme High Water/ Extreme High Flow</u> Conditions	Action	MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.  Note: MM 245 to 247 (sliding hill bend) recommended one way traffic.
	150'-	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate.
	50'-	Falling	Normal Operations / Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**4.A. Ohio River Action Plan**

**4.A.9. Robert C. Byrd Lock and Dam High Water Operations**

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>ROBERT C. BYRD LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 279.2</b></p> <p><b>FLOOD STAGE READING: 50'LG</b></p> <p><b>Reference:</b> ROBERT C. BYRD DAM</p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 144'            GATES ALL OUT 33.5' LG            CEASE LOCKING 53' LG</p> <p>TABLE USES DAM OPENING. THE POTENTIAL FOR VESSEL ALLISIONS WITH ROBERT C. BYRD L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENTS INCREASE. VESSELS EXPERIENCE OUTDRAFT WHILE APPROACHING LOCK DOWNBOUND. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            EXERCISE CAUTION DEPARTING CANAL UPBOUND IN HIGH FLOW CONDITIONS; HEAD OF LOADED TOW MAY DIVE.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 130' OF GATE OPENING.</p> <p><b>CAUTIONARY NOTE 3:</b> MM 265 TO 267 (MOUTH OF THE KANAWHA RIVER) IS A HIGH TRAFFIC AREA</p> <p><b>CAUTIONARY NOTE 4:</b> MM 304 TO 328 (HUNTINGTON CATLETTSBURG HARBOR) IS A HIGH TRAFFIC AREA</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a></p>	<40'	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	40'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	144'+	Rising	<u>Extreme</u> High Water/ <u>Extreme</u> High Flow Conditions	Action	MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	144'-	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate.
	40'-	Falling	Normal Operations / Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.10. Greenup Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>GREENUP LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 341.0</b></p> <p><b>FLOOD STAGE READING: 54' LG</b></p> <p><b>Reference:</b> GREENUP DAM</p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 242'            GATES ALL OUT 42' LG            CEASE LOCKING 59' LG</p> <p>TABLE USES DAM OPENING. THE POTENTIAL FOR VESSEL ALLISIONS WITH GREENUP L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE APPROACHING LOCK DOWNBOUND. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            DRIFT TENDS TO ACCUMULATE IN THE UPPER APPROACH.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 180' OF GATE OPENING.</p> <p><b>CAUTIONARY NOTE 3:</b> MM 304 TO 328 (HUNTINGTON CATLETTSBURG HARBOR) IS A HIGH TRAFFIC AREA</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a></p>	<100'	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	100'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	200'	Rising	<u>Extreme High Water/</u> <u>Extreme High Flow</u> Conditions	Action	MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	200'-	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate.
	100'-	Falling	Normal Operations / Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.11. Meldahl Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>MELDAHL LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 436.2</b></p> <p><b>FLOOD STAGE READING: 51' LG</b></p> <p><b>REFERENCE: MELDAHL DAM</b></p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 360'            GATES ALL OUT 41.6' LG</p> <p>TABLE USES DAM OPENING TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH MELDAHL L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE ENTERING SOUTHBOUND LOCK CHAMBER. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 300' OF GATE OPENING.</p> <p><b>CAUTIONARY NOTE 2:</b>            WHEN TRANSITING BETWEEN MM 462 AND MM 473 MARINERS SHOULD BE AWARE OF A HIGH CONCENTRATION OF PLEASURE CRAFTS DURING SUMMER MONTHS AND SPECIAL EVENTS.</p> <p><b>CAUTIONARY NOTE 3:</b>            RADIO COMMUNICATIONS ARE POOR BETWEEN MM 462 AND MM 473. MARINERS ARE ADVISED TO USE ALL AVAILABLE MEANS OF COMMUNICATION TO ENSURE SAFE TRANSIT.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.weather.gov/ahps/">http://www.weather.gov/ahps/</a></p>	60'	Rising	Normal Operations/ Flow Conditions **Note 1**		Locking operations normal.
	60'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	90'+	Rising	<u>Extreme</u> High Water/ <u>Extreme</u> High Flow Conditions	Action	COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Consider implementation of Safety Zone (Enc. 2). Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.  Note: RNA (Enc. 3) is initiated when the Cincinnati Gauge reads 45'.
	90'-	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate. Consider Safety Advisory, (Enc. 1) verses Safety Zone (Enc. 2).
	60'-	Falling	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory.

**Enclosure 1 (example)**

**High Water**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJ: WESTERN RIVERS BROADCAST NOTICE TO MARINERS

1. THE COTP OHIO VALLEY HAS ESTABLISHED A SAFETY ZONE FROM \_\_\_\_\_ TO \_\_\_\_\_ ON THE OHIO RIVER. ALL MARINERS ARE TO PROCEED WITH CAUTION AND REMAIN IN THE NAVIGABLE CHANNEL ON THE OHIO RIVER DUE TO INCREASING WATER LEVELS. ALL VESSELS ARE TO MONITOR RIVER CONDITIONS AND ENSURE ADEQUATE HORSEPOWER FOR VESSEL TRANSITS. ALL MARINE CASUALTIES SHALL BE REPORTED TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**Enclosure 3**

**Cincinnati Regulated Navigation Area**

SUBJ: WESTERN RIVERS BNM XXXX-XX OV

SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV  
OHIO RIVER

DUE TO THE HIGH WATER LEVEL AT THE CINCINNATI GAUGE BEING 45 FEET OR GREATER, A REGULATED NAVIGATION AREA IS IN EFFECT IN THE CINCINNATI HARBOR FROM MI 466.0 TO 473.0. ENTRY INTO THIS ZONE BY ALL D/B VESSELS TOWING CARGOES REGULATED BY TITLE 46 CFR SUBCHAPTER D AND O WITH A TOW LENGTH EXCEEDING 600 FEET, EXCLUDING TOWBOAT, ARE PROHIBITED FROM 1/2 HOUR BEFORE SUNSET TO 1/2 HOUR AFTER SUNRISE. IAW THE PROVISIONS OUTLINED IN TITLE 33 CFR 165.821, THIS REGULATED NAVIGATION AREA WILL REMAIN IN EFFECT UNTIL THE CINCINNATI GAUGE DROPS BELOW 45 FEET. ALL MARINERS ARE URGED TO USE CAUTION WHEN TRANSITING THIS AREA. FOR FURTHER INFORMATION CONTACT MARINE SAFETY DETACHMENT CINCINNATI AT (513) 921-9033 OR SECTOR OHIO VALLEY COMMAND CENTER AT 1-800-253-7465.

#### 4.A. Ohio River Action Plan

#### 4.A.12. Markland Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>MARKLAND LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 531.5</b></p> <p><b>FLOOD STAGE READING: 16' UG</b></p> <p><b>REFERENCE: MARKLAND DAM</b></p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 480'            GATES ALL OUT 47' LG            CEASE LOCKING 55' LG</p> <p>TABLE USES A COMBINATION OF DAM OPENING AND LOWER GUAGE READING. THE POTENTIAL FOR VESSEL ALLISIONS WITH MARKLAND L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENTS INCREASE. VESSELS EXPERIENCE OUTDRAFT WHILE ENTERING SOUTHBOUND LOCK CHAMBER. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            DOWNBOUND MARINERS NEED TO BE AWARE OF POCKET AND PROTRUDING POINT THAT HAS A POTENTIAL TO SADDLEBAG THE TOW ON THE LEFT DESCENDING BANK AT MM 531.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 400' OF GATE OPENING.</p> <p><b>CAUTIONARY NOTE 3:</b>            WHEN TRANSITING BETWEEN MM 462 AND MM 473 MARINERS SHOULD BE AWARE OF A HIGH CONCENTRATION OF PLEASURE CRAFTS DURING SUMMER MONTHS AND SPECIAL EVENTS.</p> <p><b>CAUTIONARY NOTE 4:</b>            RADIO COMMUNICATIONS ARE POOR BETWEEN MM 462 AND MM 473. MARINERS ARE ADVISED TO USE ALL AVAILABLE MEANS OF COMMUNICATION TO ENSURE SAFE TRANSIT</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.weather.gov/ahps/">http://www.weather.gov/ahps/</a></p>	80'	Rising	Normal Operations/Flow Conditions	Watch	Locking operations normal.
	80'+	Rising & projected to continue rising rapidly	High Water/Increased Flow Conditions	Watch	Participate in up river high water conference calls. COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	280'+	Rising	<u>Extreme High Water/Extreme High Flow Conditions</u>	Action	COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Consider implementation of Safety Zone (Enc. 2). Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.  Note: RNA (Enc. 3) is initiated when the Cincinnati Gauge reads 45'.
	280'-	Falling	High Water/Increased Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate. Consider Safety Advisory, (Enc. 1) verses Safety Zone (Enc. 2).
	80'-	Falling	Normal Operations/Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory.

**Enclosure 1 (example)**

**High Water**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJ: WESTERN RIVERS BROADCAST NOTICE TO MARINERS XXXX-XX OV

SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV OHIO RIVER

1. THE COAST GUARD HAS ESTABLISHED A SAFETY ZONE FOR MARKLAND L/D, OHIO RIVER MILE MARKER 526.5 TO 536.5.

1.A. THE MARKLAND L/D IS NAVIGABLE UNDER THE FOLLOWING CONDITIONS: ALL DOWNBOUND VESSELS ARE RESTRICTED TO DAYLIGHT HOURS ONLY WHILE TRANSITING THROUGH THE MARKLAND L/D. MINIMUM HP PER LOADED BARGE IS 250 HP. TOWS COMPRISED OF CARGOES REGULATED BY TITLE 46 CFR SUBCHAPTER D AND O (KNOWN AS RED FLAG BARGES) AND/OR MORE THAN 6 BARGES LOADED WITH ANY PRODUCT, ARE RESTRICTED TO DAYLIGHT TRANSIT ONLY. THE MARKLAND L/D LOCK OPERATOR WILL ESTABLISH THE TRANSIT QUEUE. TOWS SHOULD NOTIFY THE LOCK OPERATOR WHEN APPROACHING MARKLAND L/D. A CARRIER MAY REQUEST AN EXCEPTION TO THE ABOVE. REQUESTS SHOULD BE MADE DURING NORMAL BUSINESS HOURS TO THE CAPTAIN OF THE PORT OHIO VALLEY AT 1-800-253-7465. THE CAPTAIN OF THE PORT OHIO VALLEY MAY CONSULT WITH THE CENTRAL OHIO RIVER MARINE INDUSTRY GROUP (CORMIG) CHAIRMAN, BUT IT WILL BE THE CAPTAIN OF THE PORT OHIO VALLEY WHO WILL MAKE A FINAL DETERMINATION ON EACH REQUEST. MARINERS ARE ADVISED THAT FAILURE TO FOLLOW THIS REGULATION MAY RESULT IN A CIVIL PENALTY. NOTICE OF CANCELLATION WILL BE MADE VIA BROADCAST NOTICE TO MARINERS.

**Enclosure 3**

**Cincinnati Regulated Navigation Area**

SUBJ: WESTERN RIVERS BNM XXXX-XX OV

SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV  
OHIO RIVER

DUE TO THE HIGH WATER LEVEL AT THE CINCINNATI GAUGE BEING 45 FEET OR GREATER, A REGULATED NAVIGATION AREA IS IN EFFECT IN THE CINCINNATI HARBOR FROM MI 466.0 TO 473.0. ENTRY INTO THIS ZONE BY ALL D/B VESSELS TOWING CARGOES REGULATED BY TITLE 46 CFR SUBCHAPTER D AND O WITH A TOW LENGTH EXCEEDING 600 FEET, EXCLUDING TOWBOAT, ARE PROHIBITED FROM 1/2 HOUR BEFORE SUNSET TO 1/2 HOUR AFTER SUNRISE. IAW THE PROVISIONS OUTLINED IN TITLE 33 CFR 165.821, THIS REGULATED NAVIGATION AREA WILL REMAIN IN EFFECT UNTIL THE CINCINNATI GAUGE DROPS BELOW 45 FEET. ALL MARINERS ARE URGED TO USE CAUTION WHEN TRANSITING THIS AREA. FOR FURTHER INFORMATION CONTACT MARINE SAFETY DETACHMENT CINCINNATI AT (513) 921-9033 OR SECTOR OHIO VALLEY COMMAND CENTER AT 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.13. McAlpine Lock and Dam High/Low Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>MCALPINE LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 606.8</b></p> <p><b>FLOOD STAGE READING: 23' UG</b></p> <p><b>REFERENCE: MCALPINE L&amp;D</b></p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 113'            GATES ALL OUT 28'-30' LG            CEASE LOCKING 66' LG</p> <p>TABLE USES A COMBINATION OF DAM OPENING AND LOWER GAUGE READING. THE POTENTIAL FOR VESSEL ALLISIONS WITH MCALPINE L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENTS INCREASE. VESSELS EXPERIENCE OUTDRAFT WHILE ENTERING SOUTHBOUND PORTLAND CANAL. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            THE VANE DYKE AT THE ENTRANCE TO THE LOUISVILLE AND PORTLAND CANAL AT OHR MM 604.3 EXPERIENCES STRONG OUTDRAFTS ON THE UP STREAM END DURING HIGH FLOWS.</p> <p><b>CAUTIONARY NOTE 2:</b>            SEDIMENT SHOALING FROM MM 606 TO 609 RESTRICTS VESSEL TRAFFIC AT 10' ON THE LOWER GAUGE; VESSELS SHOULD USE CAUTION WHEN TRANSITING THIS AREA.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.weather.gov/ahps/">http://www.weather.gov/ahps/</a></p>	60'	Rising	Normal Operations/ Flow Conditions	Watch	Locking operations normal.
	60'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	100'+ or 13' UG	Rising	<u>Extreme</u> High Water/ <u>Extreme</u> High Flow Conditions	Action	COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.  Note: Safety Zone (Enc. 2) is initiated when the McAlpine L&D reaches 13.0' UG (VTS Louisville activated).
	100'- or < 13' UG	Falling	High Water/Increased Flow Conditions	Watch	Continue conference calls, monitor conditions, and adjust restrictions as appropriate. Consider Safety Advisory, (Enc. 1) and cancel Safety Zone (Enc. 2) once river levels fall below 13' UG.
	60'-	Falling	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.
	9.0' LG >20' Dam Opening	Falling	Normal Operations/ Normal Flow Conditions	Watch	Locking operations normal.
	8.9' – 8.5' LG	Falling	Low Water / Low Flow Conditions	Watch	COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG; discuss draft and tow size recommendations under falling river conditions. COTP Ohio Valley issues Safety Advisory (Enc. 1.a.).
	8.5' - LG	Falling	<u>Extreme</u> low Water/ <u>Extreme</u> low Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate. Consider Safety Zone (Enc. 3) verses Safety Advisory. Mile marker 637-677 may warrant one-way traffic during low water conditions.
	8.5' + LG	Rising	Low Water/ Low Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

**High Water**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 1.a. (example)**

**Low Water**

SUBJ: WESTERN RIVERS BROADCAST NOTICE TO MARINERS \_\_\_\_-05 OV

USCG EIGHTH DISTRICT NOTICE TO MARINERS NR \_\_\_\_-05 OV

OHIO RIVER

SHOALING HAS BEEN REPORTED IN THE VIC OF MI \_\_\_\_ (LDB/RDB). MCALPINE L/D GAUGE READING \_\_\_\_ FT AND FALLING ON DD MMM YY. VESSELS ARE TO USE CAUTION WHEN TRANSITING THE MCALPINE L/D POOL AND REPORT ANY GROUNDING TO COTP OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJ: WESTERN RIVERS BROADCAST NOTICE TO MARINERS 0269-05 OV

SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

USCG EIGHTH DISTRICT NOTICE TO MARINERS NR 0269-05 OV

OHIO RIVER

THE VESSEL TRAFFIC SYSTEM LOUISVILLE, KY WAS ACTIVATED ON DD MMM YYYY. THIS SYSTEM IS FROM MI 593.0 TO 606.8 AND WILL REMAIN IN EFFECT WHILE MCALPINE L/D UPPER GAUGE READS 13.0 FT AND ABOVE. OPERATING PROCEDURES AND INSTRUCTIONS TO MARINERS ARE DESCRIBED IN 33 CFR 161.

**Enclosure 3 (example)**

SUBJ: WESTERN RIVERS BROADCAST NOTICE TO MARINERS

1. THE COTP OHIO VALLEY HAS ESTABLISHED A SAFETY ZONE FROM \_\_\_\_\_ TO \_\_\_\_\_ ON THE OHIO RIVER. ALL MARINERS ARE TO PROCEED WITH CAUTION AND REMAIN IN THE NAVIGABLE CHANNEL ON THE OHIO RIVER DUE TO DECREASING WATER LEVELS. ALL VESSELS MUST MONITOR CHANNEL DEPTHS AND ENSURE THAT ADEQUATE WATER EXISTS FOR THEIR VESSEL DRAFTS. VESSEL DRAFTS SHALL NOT EXCEED \_\_\_\_ FT. ALL GROUNDINGS SHALL BE REPORTED TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**4.A. Ohio River Action Plan**

**4.A.14. Cannelton Lock and Dam High Water Operations**

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>CANNELTON LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 720.7</b></p> <p><b>FLOOD STAGE READING: 42' LG</b></p> <p><b>REFERENCE: CANNELTON DAM</b></p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 420'            GATES ALL OUT 34.5'-35.0' LG            CEASE LOCKING 51' LG</p> <p>TABLE USES DAM OPENING TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH CANNELTON L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENTS INCREASE. VESSELS EXPERIENCE OUTDRAFT WHILE ENTERING SOUTHBOUND LOCK CHAMBER. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 400' OF GATE OPENING.</p> <p><b>CAUTIONARY NOTE 2:</b>            WHEN LEAVING THE LOCK NORTHBOUND WITH LOADED TOWS, MARINERS SHOULD BE AWARE OF AN AREA OF SLACK WATER FROM THE CHAMBERS TO A DIKE SEVERAL HUNDRED YARDS UPRIVER. MARINERS SHOULD CONSIDER REDUCING POWER IN ANTICIPATION OF INCREASED CURRENTS WHEN LEAVING SLACK WATER AS THEY PASS THE DIKE, TO PREVENT BREAKAWAYS OR DIVING.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.weather.gov/ahps/">http://www.weather.gov/ahps/</a></p>	10'	Rising	Normal Operations/Flow Conditions	Watch	Locking operations normal.
	100'+	Rising & projected to continue rising rapidly	High Water/Increased Flow Conditions	Watch	Participate in up river high water conference calls. COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	120'+	Rising	Extreme High Water/Extreme High Flow Conditions	Action	COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Consider implementation of Safety Zone (Enc. 2). Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	120'-	Falling	High Water/Increased Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate. Consider Safety Advisory, (Enc. 1) verses Safety Zone (Enc. 2).
	100'-	Falling	Normal Operations/Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

**High Water**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJ: WESTERN RIVERS BNM XXXX-XX OV

SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV OHIO RIVER

CANNELTON L/D AT MILE MARKER 720.7 OHIO RIVER HAS CEASED LOCKING. THE CANNELTON L/D HAS REPORTED HIGH WATER CONDITIONS AND DAMAGE TO SURROUNDING STRUCTURES DUE TO VESSEL WAKES. VESSEL TRANSITS ARE CEASED UNTIL WATER CONDITIONS SUBSIDE AND DAMAGE CAN BE PREVENTED.

#### 4.A. Ohio River Action Plan

##### 4.A.15. Newburgh Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>NEWBURGH LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 776.1</b></p> <p><b>FLOOD STAGE READING: 38' LG</b></p> <p><b>REFERENCE: NEWBURGH DAM</b></p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 252'            GATES ALL OUT 27.5'-28.0' LG            CEASE LOCKING 47' LG</p> <p>TABLE USES DAM OPENING TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH NEWBURGH L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENTS INCREASE. VESSELS EXPERIENCE OUTDRAFT WHILE ENTERING SOUTHBOUND LOCK CHAMBER. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            THERE IS NOTICEABLE SHOALING DURING LOW WATER CONDITIONS FROM MM 723 TO MM 737.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE ON THE UPPER SIDE OF THE LOCK DUE TO HIGH FLOWS.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.weather.gov/ahps/">http://www.weather.gov/ahps/</a></p>	60'	Rising	Normal Operations/Flow Conditions	Watch	Locking operations normal.
	60'+	Rising & projected to continue rising rapidly	High Water/Increased Flow Conditions	Watch	Participate in up river high water conference calls. COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	100'+ or 47' LG	Rising	<u>Extreme</u> High Water/ <u>Extreme</u> High Flow Conditions	Action	COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Once the LG reaches 47' LG implement Safety Zone (Enc. 2) advising mariners that the Newburgh L&D has ceased locking and the weir is navigable. <b>Consider implementing the following restrictions: 250 HP minimum per loaded barge, daylight transits only for tows comprised of barges carrying cargoes regulated under Title 46 CFR Subchapter D &amp; O and/or more than 6 barges loaded with any product, and/or a standby assist vessel of appropriate HP to provide assistance as needed.</b> Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	100'-or 47' LG	Falling	High Water/Increased Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate. Cancel Safety Zone (Enc. 2) Consider Safety Advisory, (Enc. 1).
	60'-	Falling	Normal Operations/Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

**High Water**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJ: WESTERN RIVERS BNM XXXX-XX OV

SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV OHIO RIVER

NEWBURGH L/D MILE MARKER 776 OHIO RIVER HAS CEASED LOCKING. THE NEWBURGH WEIR IS NAVIGABLE. MARINERS ARE URGED TO PROCEED WITH CAUTION ALONG THE KENTUCKY SHORELINE. ALL MARINE CASUALTIES SHALL BE REPORTED TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465

#### 4.A. Ohio River Action Plan

##### 4.A.16. J. T. Myers Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>J. T. MYERS LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKER: 776.1</b></p> <p><b>FLOOD STAGE READING: 37' LG</b></p> <p><b>REFERENCE: J. T. MYERS DAM</b></p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 270'            GATES ALL OUT 30' LG            CEASE LOCKING 47' LG</p> <p>TABLE USES DAM OPENING TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH J. T. MYERS L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFTS WHILE ENTERING SOUTHBOUND LOCK CHAMBER. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            SHALLOW WATER OFTEN EXISTS BELOW THE LOCK FROM MM 847 TO MM 851 DUE TO OUT FLOW FROM THE WABASH RIVER.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE ON THE UPPER SIDE OF THE LOCK DUE TO HIGH FLOWS.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.weather.gov/ahps/">http://www.weather.gov/ahps/</a></p>	100'	Rising	Normal Operations/Flow Conditions	Watch	Locking operations normal.
	100'+	Rising & projected to continue rising rapidly	High Water/Increased Flow Conditions	Watch	Participate in up river high water conference calls. COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	150'+ or 47' LG	Rising	<u>Extreme High Water/Extreme High Flow Conditions</u>	Action	COTP Ohio Valley and/or CORMIG will initiate a phone conference between CG, USACE and CORMIG. Once the LG reaches 47' LG implement Safety Zone (Enc. 2) advising mariners that the J. T. Myers L&D has ceased locking and the weir is navigable. Consider implementing the following restrictions: 250 HP minimum per loaded barge, daylight transits only for tows compromised of barges carrying cargoes regulated under Title 46 CFR Subchapter D & O and/or more than 6 barges loaded with any product, and/or a standby assist vessel of appropriate HP to provide assistance as needed. Additional factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	150'-or <47' LG	Falling	High Water/Increased Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate. Cancel Safety Zone (Enc. 2) Consider Safety Advisory, (Enc. 1).
	100'-	Falling	Normal Operations/Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

**High Water**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE CENTRAL OHIO RIVER MARITIME INDUSTRY GROUP, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT USCG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJ: WESTERN RIVERS BNM XXXX-XX OV

SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV OHIO RIVER

1. THE COAST GUARD HAS ESTABLISHED A SPECIAL LOCAL REGULATION FOR J. T. MYERS L/D, OHIO RIVER MILE MARKER 846.

1.A. J. T MYERS L/D HAS CEASED LOCKING. THE J. T. MYERS WEIR IS NAVIGABLE UNDER THE FOLLOWING CONDITIONS: MINIMUM HP PER LOADED BARGE IS 250 HP. TOWS COMPRISED OF BARGES CARRYING CARGOES REGULATED UNDER TITLE 46 CFR SUCHAPTER D AND O (KNOWN AS RED FLAG BARGES) AND/OR WITH MORE THAN 6 BARGES LOADED WITH ANY PRODUCT, ARE RESTRICTED TO DAYLIGHT TRANSIT ONLY. A STANDBY ASSIST BOAT WITH APPROPRIATE HP IS ON SCENE TO PROVIDE ASSISTANCE AS NEEDED. AT FIRST LIGHT, NORTH BOUND TOWS WILL BE CLEARED FIRST, FOLLOWED BY SOUTHBOUND TOWS. THE J. T. MYERS LOCK OPERATOR WILL ESTABLISH THE TRANSIT QUEUE. TOWS SHOULD NOTIFY THE LOCK OPERATOR WHEN APPROACHING J. T. MYERS L/D. A CARRIER MAY REQUEST AN EXCEPTION TO THE ABOVE. REQUESTS SHOULD BE MADE DURING NORMAL BUSINESS HOURS TO THE CAPTAIN OF THE PORT OHIO VALLEY AT 1-800-253-7465. THE CAPTAIN OF THE PORT OHIO VALLEY MAY CONSULT WITH THE CENTRAL OHIO RIVER MARINE INDUSTRY GROUP (CORMIG) CHAIRMAN, BUT IT WILL BE THE CAPTAIN OF THE PORT OHIO VALLEY WHO WILL MAKE A FINAL DETERMINATION ON EACH REQUEST. MARINERS ARE ADVISED THAT FAILURE TO FOLLOW THIS REGULATION MAY RESULT IN A CIVIL PENALTY. NOTICE OF CANCELLATION WILL BE MADE VIA BROADCAST NOTICE TO MARINERS.

#### 4.A. Ohio River Action Plan

#### 4.A.17. Smithland Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING UPPER GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>SMITHLAND LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p>MILE MARKER: 918.5</p> <p>FLOOD STAGE READING: 20'0"</p> <p>REFERENCE GAUGE: SMITHLAND DAM UPPER</p> <p><b>OTHER USEFUL DATA:</b> VESSEL ALLISIONS WITH SMITHLAND L&amp;D TEND TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE ENTERING SOUTHBOUND LOCK CHAMBER. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS (LOCAL PRACTICE IS TO USE THE LAND CHAMBER DOWNBOUND)</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a></p>	12'0"	Rising		Normal Operations	Watch	Locking Operations Normal.
	12'5" - 15'5"	Rising & projected to continue rising rapidly		High Water	Watch	Lockmaster contacts CG MSU Paducah. Notify ICE Committee. CG MSU Paducah issues Safety Advisory BNM (Enc. 1); indicate high water, exercise caution while entering lock chamber. Consider ICE Committee Meeting.
	20'0"	Rising		Extreme High Water	Watch	Lockmaster contacts CG MSU Paducah. Hold ICE Committee conference call. Safety Advisory in effect.
	27'4"	Rising		Max Locking Ability	Action	Lockmaster contacts CG MSU Paducah. Smithland L&D ceases locking vessels. CG MSU Paducah implements Safety Zone (Enc. 2). Hold ICE Committee conference call. Vessels will experience delays. Consider pre-identified lay-up areas in the event of river closure.
	29'0" & above	Rising		Potential Weir Navigation Weir elevation is 14 ft	Action	Lockmaster contacts CG MSU Paducah. Hold ICE Committee meeting to determine potential for weir navigation. If the weir is navigable MSU Paducah implements Safety Zone. Consider assist vessel on stand-by for up-bound traffic. Determine appropriate horsepower per tow restrictions and one way traffic patterns in order to navigate weir. Consider providing local Pilot knowledge of weir characteristics.
	29'0"	Falling		Potential Weir Navigation	Action	Lockmaster contacts CG MSU Paducah. Hold ICE Committee meeting to determine potential for weir navigation. Safety Zone in effect.
	27'4"	Falling		Resume Locking Ability	Recovery	Lockmaster contacts CG MSU Paducah. Smithland L&D resumes locking vessels. CG MSU Paducah cancels Safety Zone and re-issues Safety Advisory; indicate high water, exercise extreme caution. Notify ICE Committee.
	20'0"	Falling		Extreme High Water	Recovery	Safety Advisory in effect; indicate high water, exercise caution while entering lock chamber.
	12'5" - 15'5"	Falling		High Water	Recovery	CG MSU Paducah cancels Safety Advisory.
	12'0"	Falling		Normal Operations	Watch	Locking Operations Normal.

## 4.A. Ohio River Action Plan

### 4.A.18. Smithland Lock and Dam Low Water

CRITICAL AREA DESCRIPTION	TRIGGER READING LOWER GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>SMITHLAND LOCK &amp; DAM</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKERS:</b> 918.5</p> <p><b>REFERENCE GAUGE:</b> SMITHLAND DAM LOWER</p> <p><b>OTHER USEFUL DATA:</b> TO DETERMINE NAVIGABILITY OVER MITER SILLS CONSULT LOCKMASTER. L&amp;D 52 MAINTAINS AN AVERAGE LOWER GAUGE OF 12'4" AT SMITHLAND L&amp;D. LOWER SIDE OF SMITHLAND L&amp;D TO THE FOOT OF CUMBERLAND ISLAND IS ONE WAY TRAFFIC AT ALL TIMES.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a></p>	12'0" and above	Falling		Normal Operations	Watch	Lock Operations Normal.
	11'0"	Falling		Low Water	Watch	Lockmaster contacts CG MSU Paducah. Notify ICE Committee. Notify division ACOE, TVA. Discuss draft and tow size recommendations under falling river conditions. CG MSU Paducah issues Safety Advisory ( <b>Enc. 3</b> ); indicate low water, exercise caution.
	10'5"	Falling		Extreme Low Water	Action	Lockmaster contacts CG MSU Paducah. Notify ICE Committee consider meeting. Discuss draft and tow size recommendations under falling river conditions. Safety Advisory in effect.  Note: Vessels draft must have <b>one foot of clearance</b> over miter sills to enter and exit lock chamber.
	10'0"	Falling		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. Hold ICE Committee Meeting. Smithland L&D considers ceasing locking vessels. Safety Advisory in effect.
	9'8" and below	Falling		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. CG MSU Paducah implements Safety Zone ( <b>Enc. 4</b> ) due to extreme low water between MM 918.5 – MM 934.0 OHR. Vessels will experience delays.
	9'8" and below	Rising		Restrict Lock Operations	Recovery	Safety Zone in effect. Vessels will experience delays.
	10'0"	Rising		Resume Lock Operations	Recovery	Notify ICE Committee. Smithland L&D resumes locking vessels CG MSU Paducah cancels Safety Zone; re-issues Safety Advisory; indicate low water, exercise caution.
	10'5"	Rising		Extreme Low Water	Recovery	Lockmaster contacts CG MSU Paducah. Notify ICE Committee. Discuss draft and tow size recommendations under rising river conditions. Safety Advisory in effect.
	11'0"	Rising		Low Water	Watch	Lockmaster contacts CG MSU Paducah. CG MSU Paducah cancels Safety Advisory.
	12'0" and above	Rising		Normal Operations	Watch	Lock Operations Normal.

### **Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS THROUGH \_\_\_\_.
2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

### **Enclosure 2 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.
2. THE COTP OHIO VALLEY, IN CONSULTATION WITH THE ARMY CORPS OF ENGINEERS AND THE TOWING INDUSTRY, HAS ESTABLISHED A SAFETY ZONE ON THE OHIO RIVER FROM MILE MARKER 917.0 TO MILE MARKER 922.0 IN THE VICINITY OF SMITHLAND LOCK AND DAM. THIS SAFETY ZONE INCLUDES THE CLOSURE OF SMITHLAND LOCK AND DAM DUE TO HIGH WATER WITH THE UPPER GAUGE READING 29.0 FEET. NORTHBOUND VESSELS ARE PROHIBITED FROM NAVIGATION OVER THE WEIR PASS. SOUTHBOUND VESSELS WITH 9'0" DRAFT AND ADEQUATE HORSEPOWER ARE AUTHORIZED NAVIGATION OVER THE WEIR WITH AN ASSIST VESSEL IMMEDIATELY AVAILABLE IN CASE OF EMERGENCY. THESE SAFETY ZONE RESTRICTIONS WILL BE REEVALUATED UPON CHANGES IN STATUS OF WATER LEVELS. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-994-7385 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

### **Enclosure 3 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BCSTS BEGINNING \_\_\_\_ THROUGH \_\_\_\_.
2. QUOTE: THE COTP OHIO VALLEY HAS ISSUED THIS SAFETY ADVISORY DUE TO LOW WATER CONDITIONS IN THE VICINITY OF SMITHLAND LOCK AND DAM. VESSELS DEPARTING THE LOCK AND DAM WHILE TRANSITING SOUTHBOUND ARE EXPERIENCING GROUNDINGS. UNTIL RIVER CONDITIONS STABILIZE, DRAWDOWN CONDITIONS ARE OCCURRING IN THE L/D 52 POOL. RIVER LEVELS IN THE VICINITY OF SMITHLAND LOCK AND DAM ARE NOT FORECASTED TO RISE SIGNIFICANTLY DURING THIS PERIOD. THE ARMY CORPS OF ENGINEERS GUARANTEES AN 9'0" CHANNEL. MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING THESE AREAS WITH DRAFTS GREATER THAN 9'0". MARINERS ARE ALSO ADVISED TO CONSIDER RISKS OF NAVIGATING LOW WATER WHEN PUSHING CERTAIN DANGEROUS CARGOES. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY AT 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.19. Lock & Dam 52 Low Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING UPPER & LOWER GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>LOCK &amp; DAM 52</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKERS:</b> 939.0</p> <p><b>FLOOD STAGE READING:</b> 37'0"</p> <p><b>REFERENCE GAUGE:</b> L &amp; D 52</p> <p><b>OTHER USEFUL DATA:</b> ONE GAUGE READING EXISTS WHEN WICKETS ARE DOWN. WHEN WICKETS ARE RAISED THERE IS AN UPPER AND LOWER GAUGE READING. IDEAL POOL CONDITIONS FOR LOCK &amp; DAM 52 WHEN WICKETS ARE RAISED: 18.6 ON THE UPPER GAUGE AND 10.0 OR GREATER ON THE LOWER GAUGE. NAVIGATION OVER THE BEAR TRAPS WILL BE CONSIDERED WHEN THE UPPER GAUGE REACHES 36.0. MINIMUM LOCKING ABILITY ON LOWER GAUGE IS 9.0. <b>HARRAHS CASINO STOPS PASSENGER OPERATIONS WHEN L&amp;D 52 GAUGE REACHES 51'0"</b>.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/navrpt.i.txt">http://www.lrd-wc.usace.army.mil/text/navrpt.i.txt</a></p>	U 15.6 & above	Falling		Normal Operations	Watch	Wicket dam is normally down. Vessels navigating the wicket pass. Vessels not required to use lock chamber.
	U 15.5 – 15.0	Falling		Low Water	Watch	Lockmaster contacts CG MSU Paducah. L&D 52 Lockmaster considers raising wickets. Vessels may experience delays during this stage. CG MSU Paducah issues Safety Advisory (Enc. 1 ); indicate low water, drawdown exercise caution. Notify ICE Committee.
	U 14.9 L 10.0	Falling		Low Water	Watch	Wickets unable to maintain adequate pool. Lockmaster contacts CG MSU Paducah. Notify ICE Committee. Vessels exercise caution within buoyed areas within L&D 52 pool (MM 927 OHR). L&D 52 pool experiences draw down condition prior to pool regenerating resulting in low water in the tail end of the pool near Smithland L&D.
	U 14.7 and below L 9.0 and below	Falling		Extreme Low Water	Action	Wickets unable to maintain adequate pool. Lockmaster contacts CG MSU Paducah. CG MSU Paducah considers implementation of Safety Zone (Enc. 2 ) due to extreme low water. Emergency situation. Hold ICE Committee meeting. Vessels will experience delays. Lock chamber unable to accommodate commercial vessels.  Note: Vessels draft must have <b><u>one foot of clearance</u></b> over miter sills to enter and exit lock chamber.
	U 15.5 L 10.0	Rising		Low Water	Action	CG MSU Paducah cancels Safety Zone; if implemented and issues Safety Advisory; indicate low water, exercise caution. Notify ICE Committee. Resume locking of commercial vessels.
	U 15.6 L 12.0	Rising		Low Water	Recovery	Locking vessels. Mariners should consider potential out-drafts. CG MSU Paducah cancels low water Safety Advisory.
	U 18.6 L 15.0	Rising		Normal Operations	Recovery	Lockmaster considers lowering all wickets. Locking vessels.
	U 18.8	Rising		Normal Operations	Action	Lockmaster lowers wickets to maintain upper pool.
	U 19.1	Rising		Normal Operations	Recovery	Wicket dam is normally down. Vessels navigating the pass. Vessels not using lock chambers.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BCSTS BEGINNING \_\_\_\_\_ THROUGH \_\_\_\_\_.
2. QUOTE: THE COTP OHIO VALLEY HAS ISSUED THIS SAFETY ADVISORY DUE TO LOW WATER CONDITIONS IN THE VICINITY OF LOCK AND DAM 52. VESSELS DEPARTING THE LOCK AND DAM WHILE TRANSITING SOUTHBOUND ARE EXPERIENCING GROUNDINGS. UNTIL RIVER CONDITIONS STABILIZE, DRAWDOWN CONDITIONS ARE OCCURRING IN THE L/D 52 POOL. RIVER LEVELS IN THE VICINITY OF LOCK AND DAM 52 ARE NOT FORECASTED TO RISE SIGNIFICANTLY DURING THIS PERIOD. THE ARMY CORPS OF ENGINEERS GUARANTEES A 9'0" CHANNEL. MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING THESE AREAS WITH DRAFTS GREATER THAN 9'0". MARINERS ARE ALSO ADVISED TO CONSIDER RISKS OF NAVIGATING LOW WATER WHEN PUSHING CERTAIN DANGEROUS CARGOES. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJECT: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.
2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, UNDER THE AUTHORITY OF THE PORTS AND WATERWAYS SAFETY ACT, HAS ESTABLISHED A SAFETY ZONE ON THE OHIO RIVER FROM MILE MARKER XXX TO MILE MARKER XXX EXTENDING THE ENTIRE WIDTH OF THE RIVER. THE SAFETY ZONE IS IN EFFECT FROM XXX UNTIL XXX LOCAL TIME UNLESS CANCELLED SOONER. THIS SAFETY ZONE HAS BEEN ESTABLISHED DUE TO EXTREME LOW WATER CONDITIONS REPORTED ON THE OHIO RIVER BETWEEN MILE MARKER XXX AND MILE MARKER XXX. COMMERCIAL VESSELS ARE PROHIBITED FROM ENTERING OR TRANSITING IN THIS SAFETY ZONE UNLESS PERMITTED BY CAPTAIN OF THE PORT OHIO VALLEY. COMMERCIAL VESSELS REQUESTING TO ENTER OR TRANSIT IN THIS SAFETY ZONE MUST CONTACT THE MSU PADUCAH COMMAND DUTY OFFICER FOR PERMISSION AT 1-270-994-7385. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.20. Lock & Dam 53 Low Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING UPPER & LOWER GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>LOCK &amp; DAM 53</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKERS:</b> 963.0</p> <p><b>REFERENCE GAUGE:</b> L &amp; D 53</p> <p><b>OTHER USEFUL DATA:</b> ONE GAUGE READING EXISTS WHEN WICKETS ARE DOWN. WHEN WICKETS ARE RAISED THERE IS AN UPPER AND LOWER GAUGE READING. IDEAL POOL CONDITIONS FOR LOCK &amp; DAM 53: 16.9 ON THE UPPER GAUGE AND 10.0 ON THE LOWER GAUGE. NAVIGATION OVER THE BEAR TRAPS WILL BE CONSIDERED WHEN THE UPPER GAUGE REACHES 32.0. MINIMUM LOCKING ABILITY ON LOWER GAUGE IS 4.0.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a></p>	U 16.0 & above	Falling		Normal Operations	Watch	Vessels navigating the pass.
	U 16.0 – 14.0	Falling		Normal Operations	Watch	Lockmaster contacts CG MSU Paducah. Lockmaster considers raising wickets. CG MSU Paducah issues Safety Advisory (Enc. 1 ); indicate low water drawdown conditions, exercise caution. Notify ICE Committee. Consider resetting buoys. Discuss draft and tow size recommendations. Vessels may experience delays during this stage.
	U 13.6 L 10.0	Falling		Low Water	Watch	Wickets unable to maintain adequate pool. Lockmaster contacts CG MSU Paducah. Hold ICE Committee meeting. Vessels exercise caution within buoyed areas between L&D 53 to mouth of OHR.
	U 13.3 and below L 9.0 and below	Falling		Extreme Low Water	Action	Wickets unable to maintain adequate pool. CG MSU Paducah considers implementation of Safety Zone (Enc. 2) due to extreme low water. Cease locking of commercial vessels. Hold ICE Committee meeting.  Note: Vessels draft must have <b><u>one foot of clearance</u></b> over miter sills to enter and exit lock chamber.
	U 13.4 L 9.0	Rising		Extreme Low Water	Action	Lockmaster contacts CG MSU Paducah. CG MSU Paducah cancels Safety Zone; if implemented and issues Safety Advisory; indicate low water, exercise caution. Lock chamber unable to accommodate commercial vessels.
	U 13.6 L 10.0	Rising		Low Water	Recovery	Locking vessels. Mariners should consider potential out drafts.
	U 16.9 L 11.0	Rising		Normal Operations	Recovery	Locking vessels.
	U 17.0 L 12.0	Rising		Normal Operations	Action	Lockmaster considers lowering some wickets to maintain upper pool. Locking vessels.
	U 17.2	Rising		Normal Operations	Recovery	Lockmaster contacts CG MSU Paducah. Lockmaster considers lowering all wickets. Vessels navigating the pass. Vessels not locking.

### **Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BCSTS BEGINNING \_\_\_\_\_ THROUGH \_\_\_\_\_.
2. QUOTE: THE COTP OHIO VALLEY HAS ISSUED THIS SAFETY ADVISORY DUE TO LOW WATER CONDITIONS IN THE VICINITY OF LOCK AND DAM 53. VESSELS DEPARTING THE LOCK AND DAM WHILE TRANSITING SOUTHBOUND ARE EXPERIENCING GROUNDINGS. UNTIL RIVER CONDITIONS STABILIZE, DRAWDOWN CONDITIONS ARE OCCURRING IN THE L/D 53 POOL. RIVER LEVELS IN THE VICINITY OF LOCK AND DAM 53 ARE NOT FORECASTED TO RISE SIGNIFICANTLY DURING THIS PERIOD. THE ADVERTISED NAVIGABLE DRAFT IS 9'0". MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING THESE AREAS WITH DRAFTS GREATER THAN 9'0". MARINERS ARE ALSO ADVISED TO CONSIDER RISKS OF NAVIGATING LOW WATER WHEN PUSHING CERTAIN DANGEROUS CARGOES. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

### **Enclosure 2 (example)**

SUBJECT: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.
2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, UNDER THE AUTHORITY OF THE PORTS AND WATERWAYS SAFETY ACT, HAS ESTABLISHED A SAFETY ZONE ON THE OHIO RIVER FROM MILE MARKER XXX TO MILE MARKER XXX EXTENDING THE ENTIRE WIDTH OF THE RIVER. THE SAFETY ZONE IS IN EFFECT FROM XXX UNTIL XXX LOCAL TIME UNLESS CANCELLED SOONER. THIS SAFETY ZONE HAS BEEN ESTABLISHED DUE TO EXTREME LOW WATER CONDITIONS REPORTED ON THE OHIO RIVER BETWEEN MILE MARKER XXX AND MILE MARKER XXX. COMMERCIAL VESSELS ARE PROHIBITED FROM ENTERING OR TRANSITING IN THIS SAFETY ZONE UNLESS PERMITTED BY CAPTAIN OF THE PORT OHIO VALLEY. COMMERCIAL VESSELS REQUESTING TO ENTER OR TRANSIT IN THIS SAFETY ZONE MUST CONTACT THE MSU PADUCAH COMMAND DUTY OFFICER FOR PERMISSION AT 1-270-994-7385. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.21. Irvin Cobb Bridge Operations

CRITICAL AREA DESCRIPTION	TRIGGER	TREND		DESCRIPTION	PHASE	ACTION
<b>IRVIN COBB BRIDGE</b>  <b>OHIO RIVER</b> <b>MILE MARKERS:</b> 937.4  <b>OTHER USEFUL DATA:</b> MARINERS SHOULD EXERCISE EXTREME CAUTION WHEN NAVIGATING THESE SPANS AND ENSURE ADEQUATE CLEARANCE OF VESSEL UNDER BRIDGE DURING HIGH WATER CONDITIONS.	Locking at 52	Locking at 52		Normal Operations	Watch	Vessels normally run Illinois channel span when L&D 52 is locking.
	Not locking at 52	Not locking at 52		Normal Operations	Watch	Vessels normally run Kentucky channel span when L&D 52 is not locking.

#### 4.A. Ohio River Action Plan

##### 4.A.22. I-24 Bridge

CRITICAL AREA DESCRIPTION	TRIGGER	TREND		DESCRIPTION	PHASE	ACTION
<b>I-24 BRIDGE</b>  <b>OHIO RIVER</b> <b>MILE MARKERS:</b> 940.9  <b>OTHER USEFUL DATA:</b> MARINERS SHOULD EXERCISE EXTREME CAUTION WHEN NAVIGATING THESE SPANS AND ENSURE ADEQUATE CLEARANCE OF VESSEL UNDER BRIDGE DURING HIGH WATER CONDITIONS.	Locking at 52	Locking at 52		Normal Operations	Watch	Vessels normally run Illinois channel span when L&D 52 is locking. Vertical clearance is 20' less on Illinois span and may not be adequate to transit high water conditions.
	Not locking at 52	Not locking at 52		Normal Operations	Watch	Vessels normally run Kentucky channel span when L&D 52 is not locking.

#### 4.A. Ohio River Action Plan

##### 4.A.23. I.C. Railroad Bridge & Route 60/62 Bridge

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTION
<p><b>I.C. RAILROAD BRIDGE AND ROUTE 60 / 62 BRIDGE</b></p> <p><b>OHIO RIVER MILE MARKERS:</b> 977.7 980.4 <b>FLOOD STAGE READING:</b> 40'0" REFERENCE GAUGE: CAIRO &amp; L &amp; D 53 <b>OTHER USEFUL DATA:</b> THIS CHART USES THE CAIRO GAUGE AND THE LOCK AND DAM 53 GAUGE. THE L&amp;D 53 GAUGE CAN BE COMPARED TO THE CAIRO GAUGE TO DETERMINE HAZARDOUS CONDITIONS / FLOWS. SIMILAR CONDITIONS EXIST FOR THE CAIRO HIGHWAY BRIDGE AT MM 980.4 FOR VESSELS TRANSITING DOWNBOUND. UNDER THESE CONDITIONS MARINERS SHOULD NAVIGATE WITH CAUTION. HIGH CONSEQUENCE ALLISIONS MAY OCCUR IN THIS AREA UNDER HIGH WATER CONDITIONS RESULTING IN MARINE CASUALTIES AND VESSEL SINKINGS. HARRAHS CASINO STOPS PASSENGER OPERATIONS WHEN L&amp;D 52 GAUGE REACHES 51'0".</p> <p><b>BIRDS POINT FLOOD PLAIN OFFICE:</b> 901-544-3401 <b>CAIRO GAUGE READING:</b> PHONE #: 1- 618 - 734 - 0577 <b>GAUGE READINGS REPORT:</b> <a href="http://www.srh.noaa.gov/lmr/forecasts/rva.shtml">http://www.srh.noaa.gov/lmr/forecasts/rva.shtml</a></p>	35'0" & below	Rising	3.0 mph	Normal Operations	Watch	Operations normal.
	35'0"	Rising & projected to continue rising rapidly	3.0 mph	High Current	Watch	CG MSU Paducah issues Safety Advisory (Enc. 1); be alert for swift currents, report unusual conditions to Coast Guard. Transit area with extreme caution. Notify ICE Committee.
	38'0"	Rising	4.0 mph	High Current	Watch	Safety Advisory in effect. Notify ICE Committee. Discuss horsepower and tow size recommendations. Consider use of assist vessel.
	40'0"	Rising	5.0 mph	Very High Current	Action	Safety Advisory in effect. Hold ICE Committee conference call. Consider transit of vessel traffic on a vessel-by-vessel basis based on horsepower and tow size. Consider use of assist vessel. Fleet managers secure fleeting areas.
	40'0" & above	Rising	5.0 mph	Very High Current	Action	Consider need for Safety Zone (Enc. 2). Hold ICE Committee Meeting. Consider transit of vessel traffic on a vessel-by-vessel basis based on horsepower and tow size. Consider use of assist vessel. Fleet managers secure fleeting areas.  Note: At 49' on Cairo gauge, consult Birds Point Floodway Plan. At 56' on Cairo gauge, CG requested on scene.
	39'0"	Falling	4.0 mph	Very High Current	Recovery	CG MSU Paducah cancels Safety Zone; if implemented and re-issues Safety Advisory; indicate swift currents, be alert for out-drafts, report hazardous conditions to Coast Guard. Notify ICE Committee. Consider use of assist vessel.
	38'0"	Falling	3.5 mph	Very High Current	Recovery	Safety Advisory in effect. Notify ICE Committee. Discuss horsepower and tow size recommendations.
	35'0"	Falling	3.0 mph	High Current	Recovery	CG MSU Paducah cancels Safety Advisory. Notify ICE Committee.
	35'0" & below	Falling	3.0 mph	Normal Operations	Recovery	Operations normal.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS THROUGH 01 MAY 2006.
2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING NEAR MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.
2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY IN CONSULTATION WITH THE ARMY CORPS OF ENGINEERS AND THE TOWING INDUSTRY, HAS ESTABLISHED A SAFETY ZONE ON THE OHIO RIVER FROM MILE MARKER XXX.X TO MILE MARKER XXX.X IN THE VICINITY OF THE I.C. RAILROAD BRIDGE AND ROUTE 60 / 62 BRIDGE. NORTHBOUND VESSELS ARE PROHIBITED FROM NAVIGATION OVER THE LOCK AND DAM 53 WEIR PASS. SOUTHBOUND VESSELS WITH 9'0" DRAFT AND ADEQUATE HORSEPOWER ARE AUTHORIZED NAVIGATION OVER THE WEIR WITH AN ASSIST VESSEL IMMEDIATELY AVAILABLE IN CASE OF EMERGENCY. THESE SAFETY ZONE RESTRICTIONS WILL BE REEVALUATED UPON CHANGES IN STATUS OF WATER LEVELS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-994-7385 OR CG SECTOR OHIO VALLEY AT 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.24. Grand Chain & Post Creek Vicinity

CRITICAL AREA DESCRIPTION	TRIGGER READING L&D 53 UPPER GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<b>GRAND CHAIN &amp; POST CREEK VICINITY</b>  <b>OHIO RIVER</b>  <b>MILE MARKERS:</b> 959.0 – 962.0  <b>REFERENCE GAUGE:</b> L & D 53  <b>NAVIGATION CHANNEL PROJECT DEPTH OR OTHER USEFUL DATA:</b> THIS AREA EXPERIENCES EXCESSIVE SHOALING RESULTING IN VESSEL GROUNDINGS WITHIN THE CHANNEL. DURING LOW WATER OR WHEN ALL L&D 53 WICKETS ARE DOWN, GROUNDINGS MAY INCREASE SIGNIFICANTLY. VESSEL DRAFTS SHOULD BE CAREFULLY WATCHED WHEN TRANSITING THIS AREA. VESSELS MAY REQUIRE LIGHTERING DURING EXTENDED PERIODS OF LOW WATER.  <b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/navrpti.txt">http://www.lrd-wc.usace.army.mil/text/navrpti.txt</a>	16'0" and above	Falling		Normal Operations	Watch	Operations Normal. CG, Industry chairman, & ACOE monitor L&D 53 GAUGE. Mariners report all missing Aids to Navigation to CG Sector Ohio Valley.
	15'0"	Falling		Low Water	Action	Notify ICE Committee. Discuss draft and tow size recommendations under falling river conditions. CG MSU Paducah issues Safety Advisory (Enc. 1); indicate low water, exercise caution. Notify ACOE discuss surveys and dredging. Notify CG Buoy Tender to survey & set buoys.
	14'8"	Falling		Low Water	Action	CG, Industry chairman, & ACOE monitor L&D 53 GAUGE. Notify ICE Committee. Safety Advisory in effect. Notify ACOE discuss surveys and dredging. Notify CG Buoy Tender to survey & set buoys.
	14'2"	Falling		Extreme Low Water	Action	Hold ICE Committee conference call. Discuss draft and tow size recommendations under falling river conditions. Safety Advisory in effect. CG Buoy Tender on scene. ACOE plan potential dredging.
	13'8"	Falling		Extreme Low Water	Action	CG, Industry chairman, & ACOE monitor L&D 53 GAUGE. Hold ICE Committee meeting. Identify specific critical low water areas. Review surveys. Safety Advisory in effect. Consider need for Safety Zone (Enc. 2).
	13'5" and below	Falling		Restrict Navigation	Action	CG MSU Paducah considers implementation of Safety Zone due to extreme low water. Vessels will experience delays.
	13'5" and below	Rising		Restrict Navigation	Recovery	Safety Zone in effect. Vessels will experience delays.
	13'8"	Rising		Extreme Low Water	Recovery	Notify ICE Committee. CG MSU Paducah cancels Safety Zone; if implemented and issues Safety Advisory; indicate low water, exercise caution. Discuss draft and tow size recommendations.
	14'2"	Rising		Extreme Low Water	Recovery	CG, Industry chairman, & ACOE monitor L&D 53 GAUGE. Hold ICE Committee conference call. Discuss draft and tow size recommendations under rising river conditions. Safety Advisory in effect. ACOE plan potential dredging.
	14'8"	Rising		Low Water	Recovery	Discuss draft and tow size recommendations. Safety Advisory in effect. Notify ACOE discuss surveys and dredging.
	15'0"	Rising		Low Water	Recovery	CG MSU Paducah cancels Safety Advisory. CG Buoy Tender survey area for missing buoys.
	16'0" and above	Rising		Normal Operations	Recovery	Operations Normal.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE COTP OHIO VALLEY HAS ISSUED THIS SAFETY ADVISORY DUE TO LOW WATER CONDITIONS IN THE GRAND CHAIN AND POST CREEK VICINITY. VESSELS DEPARTING LOCK AND DAM 53 WHILE TRANSITING SOUTHBOUND ARE EXPERIENCING GROUNDINGS. UNTIL RIVER CONDITIONS STABILIZE, DRAWDOWN CONDITIONS ARE OCCURRING IN THE L/D 53 POOL. RIVER LEVELS IN THE VICINITY OF LOCK AND DAM 53 ARE NOT FORECASTED TO RISE SIGNIFICANTLY DURING THIS PERIOD. THE ARMY CORPS OF ENGINEERS GUARANTEES A 9'0" CHANNEL. MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING THESE AREAS WITH DRAFTS GREATER THAN 9'0". MARINERS ARE ALSO ADVISED TO CONSIDER RISKS OF NAVIGATING LOW WATER WHEN PUSHING CERTAIN DANGEROUS CARGOES. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJECT: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, UNDER THE AUTHORITY OF THE PORTS AND WATERWAYS SAFETY ACT, HAS ESTABLISHED A SAFETY ZONE ON THE OHIO RIVER FROM MILE MARKER XXX TO MILE MARKER XXX EXTENDING THE ENTIRE WIDTH OF THE RIVER. THE SAFETY ZONE IS IN EFFECT FROM XXX UNTIL XXX LOCAL TIME UNLESS CANCELLED SOONER. THIS SAFETY ZONE HAS BEEN ESTABLISHED DUE TO EXTREME LOW WATER CONDITIONS REPORTED ON THE OHIO RIVER BETWEEN MILE MARKER XXX AND MILE MARKER XXX. COMMERCIAL VESSELS ARE PROHIBITED FROM ENTERING OR TRANSITING IN THIS SAFETY ZONE UNLESS PERMITTED BY CAPTAIN OF THE PORT OHIO VALLEY. COMMERCIAL VESSELS REQUESTING TO ENTER OR TRANSIT IN THIS SAFETY ZONE MUST CONTACT THE MSU PADUCAH COMMAND DUTY OFFICER FOR PERMISSION AT 1-270-994-7385. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.A. Ohio River Action Plan

##### 4.A.25. American Bar & Mound City Bar Vicinity Low Water operations

CRITICAL AREA DESCRIPTION	TRIGGER READING CAIRO GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>AMERICA BAR &amp; MOUND CITY BAR VICINITY</b></p> <p><b>OHIO RIVER</b></p> <p><b>MILE MARKERS:</b> 969.0 – 972.0 973.0 – 975.0</p> <p><b>REFERENCE GAUGE:</b> CAIRO</p> <p><b>NAVIGATION CHANNEL PROJECT DEPTH OR OTHER USEFUL DATA:</b> THIS AREA EXPERIENCES EXCESSIVE SHOALING RESULTING IN VESSEL GROUNDINGS WITHIN THE CHANNEL. DURING LOW WATER OR WHEN ALL L&amp;D 53 WICKETS ARE UP, GROUNDINGS MAY INCREASE IN THIS AREA. VESSEL DRAFTS SHOULD BE CAREFULLY WATCHED WHEN TRANSITING THIS AREA. VESSELS MAY REQUIRE LIGHTERING DURING EXTENDED PERIODS OF LOW WATER.</p> <p><b>HISTORICAL LOWS:</b> 1988 – CAIRO GAUGE – 5’5” 1997 – CAIRO GAUGE – 6’8” 2005 – CAIRO GAUGE – 7’5”</p> <p>EMERGENCY CONDITIONS EXIST WHEN THE CAIRO GAUGE FALLS BELOW 9’0” FOR AN EXTENDED PERIOD OF TIME.</p> <p><b>CAIRO GAUGE READING:</b> PHONE #: 1- 618 – 734 – 0577</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a></p>	11’0” and above	Falling		Normal Operations	Watch	Operations Normal. CG, Industry chairman, & ACOE monitor Cairo GAUGE. Mariners report all missing Aids to Navigation to CG Sector Ohio Valley.
	10’0”	Falling		Low Water	Watch	Notify CG MSU Paducah of Cairo GAUGE reading 10’0”. CG MSU Paducah issues Safety Advisory (Enc. 1); indicate low water, exercise caution. Report missing Aids to Navigation to CG.
	9’5”	Falling		Low Water	Watch	CG, Industry chairman, & ACOE monitor Cairo GAUGE. Notify ICE Committee. Discuss draft and tow size recommendations under falling river conditions. Safety Advisory in effect. Notify ACOE discuss surveys and dredging. Notify CG Buoy Tender to survey & set buoys.
	9’0”	Falling		Extreme Low Water	Action	Hold ICE Committee conference call. Discuss draft and tow size recommendations under falling river conditions. Safety Advisory in effect. CG Buoy Tender on scene. ACOE plan / begin dredging.
	8’8”	Falling		Extreme Low Water	Action	CG, Industry chairman, & ACOE monitor Cairo GAUGE. Hold ICE Committee meeting. Identify specific critical low water areas. Review surveys. Safety Advisory in effect. Consider need for Safety Zone (Enc. 2). CG Buoy Tender on scene. ACOE plan / begin dredging.
	8’3” and below	Falling		Restrict Navigation	Action	CG, Industry chairman, & ACOE monitor Cairo GAUGE. CG MSU Paducah considers implementation of Safety Zone due to extreme low water. Vessels will experience delays. ACOE continue dredging. CG Buoy Tender on-scene.
	8’3” and below	Rising		Restrict Navigation	Recovery	Safety Zone in effect. Vessels will experience delays.
	8’8”	Rising		Extreme Low Water	Recovery	CG MSU Paducah cancels Safety Zone; if implemented and issues Safety Advisory; indicate low water, exercise caution. Notify ICE Committee. CG Buoy Tender coordinates with ACOE on scene to re-open channel and survey existing ATON. Discuss draft and tow size recommendations under rising river conditions.
	9’0”	Rising		Extreme Low Water	Recovery	CG, Industry chairman, & ACOE monitor Cairo GAUGE. Hold ICE Committee conference call. Discuss draft and tow size recommendations under rising river conditions. Safety Advisory in effect.
	9’5”	Rising		Low Water	Recovery	Notify ICE Committee. Discuss draft and tow size recommendations. Safety Advisory in effect. Notify ACOE discuss surveys and dredging.
	10’0”	Rising		Low Water	Recovery	CG, Industry chairman, & ACOE monitor Cairo GAUGE. CG MSU Paducah cancels Safety Advisory. CG Buoy Tender survey area for missing buoys.
	11’0” and above	Rising		Normal Operations	Recovery	Operations Normal. CG, Industry chairman, & ACOE monitor Cairo GAUGE. Mariners report all missing Aids to Navigation to CG Sector Ohio Valley.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS

2. QUOTE: THE COTP OHIO VALLEY HAS ISSUED THIS SAFETY ADVISORY DUE TO LOW WATER CONDITIONS IN THE AMERICA BAR & MOUND CITY BAR VICINITY. VESSELS TRANSITING IN THE CAIRO VICINITY ARE EXPERIENCING GROUNDINGS. UNTIL RIVER CONDITIONS STABILIZE, DRAWDOWN CONDITIONS ARE OCCURRING IN THE CAIRO VICINITY. RIVER LEVELS IN THE CAIRO VICINITY ARE NOT FORECASTED TO RISE SIGNIFICANTLY DURING THIS PERIOD. THE ADVERTISED NAVIGABLE DRAFT IS 9'0". MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING THESE AREAS WITH DRAFTS GREATER THAN 9'0". MARINERS ARE ALSO ADVISED TO CONSIDER RISKS OF NAVIGATING LOW WATER WHEN PUSHING CERTAIN DANGEROUS CARGOES. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJECT: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, UNDER THE AUTHORITY OF THE PORTS AND WATERWAYS SAFETY ACT, HAS ESTABLISHED A SAFETY ZONE ON THE OHIO RIVER FROM MILE MARKER XXX TO MILE MARKER XXX EXTENDING THE ENTIRE WIDTH OF THE RIVER. THE SAFETY ZONE IS IN EFFECT FROM XXX UNTIL XXX LOCAL TIME UNLESS CANCELLED SOONER. THIS SAFETY ZONE HAS BEEN ESTABLISHED DUE TO EXTREME LOW WATER CONDITIONS REPORTED ON THE OHIO RIVER BETWEEN MILE MARKER XXX AND MILE MARKER XXX. COMMERCIAL VESSELS ARE PROHIBITED FROM ENTERING OR TRANSITING IN THIS SAFETY ZONE UNLESS PERMITTED BY CAPTAIN OF THE PORT OHIO VALLEY. COMMERCIAL VESSELS REQUESTING TO ENTER OR TRANSIT IN THIS SAFETY ZONE MUST CONTACT THE MSU PADUCAH COMMAND DUTY OFFICER FOR PERMISSION AT 1-270-994-7385. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

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#### 4.B. Mississippi River Action Plan

##### 4.B.1. Chester Highway Bridge High Water / High Current Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING CHESTER GAUGE	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTION
<p><b>CHESTER HIGHWAY BRIDGE</b></p> <p>UPPER MISSISSIPPI RIVER</p> <p>MILE MARKER: 109.9</p> <p>FLOOD STAGE READING: 29'0"</p> <p>REFERENCE GAUGE: CHESTER</p> <p><b>OTHER USEFUL DATA:</b> DURING HIGH WATER CONDITIONS VESSELS MAY EXPERIENCE SET WHILE NAVIGATING CHANNEL SPAN OF THE CHESTER HIGHWAY BRIDGE. DURING HIGH WATER MARINERS ARE ADVISED TO NAVIGATE THIS AREA AT SLOWEST SAFE SPEED AND EXERCISE EXTREME CAUTION DUE TO POTENTIAL OUTDRAFTS.</p> <p><b>CAPE GIRARDEAU FLOOD PLAIN OFFICE:</b> 1-573-334-8326</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.srh.noaa.gov/river/watch/forecasts/STLRVSLX_MS.shtml">http://www.srh.noaa.gov/river/watch/forecasts/STLRVSLX_MS.shtml</a></p>	20'0"	Rising	2.5 mph	Normal Operations	Watch	Operations Normal.
	22'5"	Rising & PROJECTED TO RISE RAPIDLY	3.5 mph	High Water	Watch	CG MSU Paducah issues Safety Advisory (Enc. 1); indicate swift currents, report unusual conditions to Coast Guard. Transit area with extreme caution. Notify RIAC. Discuss voluntary horsepower and tow size recommendations.
	24'5"	Rising	4.0 mph	Extreme High Water	Action	Safety Advisory in effect. Consider RIAC phone conference call. Discuss industry actions. Consider use of assist vessel. Notify levee managers. Discuss levee concerns and future actions.
	27'0" & above	Rising	5.0 mph	Extreme High Water	Action	Safety Advisory in effect. Hold RIAC phone conference call. Notify levee managers. Discuss potential for a reducing tow sizes. Consider use of assist vessel.
	27'0"	Falling	5.0 mph	Extreme High Water	Action	Safety Advisory in effect. Continue potential for a Regulated Navigation Area restricting tow sizes. Consider use of assist vessel. Discuss levee concerns and future actions.
	24'5"	Falling	4.0 mph	Extreme High Water	Recovery	Safety Advisory in effect. Consider RIAC conference call. Discuss industry actions. Consider use of assist vessel. Discuss levee concerns and future actions.
	22'5"	Falling	3.5 mph	High Water	Recovery	Cancel Safety Advisory. Notify RIAC.
	20'0"	Falling	2.5 mph	Normal Operations	Watch	Operations Normal.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE OHIO RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE OHIO RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.B. Mississippi River Action Plan

##### 4.B.2. Grays Point & Thebes Railroad Bridge High Water / High Current Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING CAPE GIRARDEAU GAUGE	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTION
<p><b>GRAYS POINT &amp; THEBES RAILROAD BRIDGE</b></p> <p><b>UPPER MISSISSIPPI RIVER</b></p> <p><b>MILE MARKER: 43.2</b></p> <p><b>FLOOD STAGE READING: 30'0"</b></p> <p><b>REFERENCE GAUGE: CAPE GIRARDEAU</b></p> <p><b>OTHER USEFUL DATA:</b> VESSELS MAY EXPERIENCE SET WHILE NAVIGATING GRAYS POINT AND CHANNEL SPAN OF THE THEBES RAILROAD BRIDGE. DURING HIGH WATER MARINERS ARE ADVISED TO NAVIGATE THIS AREA AT SLOWEST SAFE SPEED AND EXERCISE EXTREME CAUTION DUE TO POTENTIAL OUTDRAFTS.</p> <p><b>CAPE GIRARDEAU FLOOD PLAIN OFFICE: 1-573-334-8326</b></p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a></p>	12'0"	Rising	2.5 mph	Normal Operations	Watch	Operations Normal.
	20'0"	Rising & projected to continue rising rapidly	3.5 mph	High Water	Watch	CG MSU Paducah issues Safety Advisory (Enc. 1); indicate swift currents, report hazardous conditions to Coast Guard. Notify RIAC. Discuss fleeing areas.
	27'4"	Rising	4.0 mph	Extreme High Water	Action	Safety Advisory in effect. Consider RIAC phone conference call. Discuss industry actions. Discuss horsepower and tow size recommendations. Notify levee managers. Discuss levee concerns and future actions. Secure fleeing areas.
	29'0" & above	Rising	5.0 mph	Extreme High Water	Action	Safety Advisory in effect. Hold RIAC phone conference call. Discuss horsepower and tow size recommendations. Consider use of assist vessel. Notify levee managers. Secure fleeing areas. Contact Cape G. Flood Plain Office (1-573-334-8326).
	29'0"	Falling	5.0 mph	Extreme High Water	Action	Safety Advisory in effect. Discuss horsepower and tow size recommendations. Consider use of assist vessel. Secure fleeing areas. Discuss levee concerns and future actions.
	27'4"	Falling	4.0 mph	Extreme High Water	Recovery	Safety Advisory in effect. Consider RIAC phone conference call. Discuss industry actions. Discuss horsepower and tow size recommendations. Secure fleeing areas. Discuss levee concerns and future actions.
	20'0"	Falling	3.5 mph	High Water	Recovery	Cancel Safety Advisory. Notify RIAC.
	12'0"	Falling	2.5 mph	Normal Operations	Watch	Operations Normal.

**Enclosure 1 (Example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE UPPER MISSISSIPPI RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITTING MILE MARKER XXX ON THE UPPER MISSISSIPPI RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

## 4.B. Mississippi River Action Plan

### 4.B.3. Route 60 / 62 Bridge High Water / High Current Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING CAIRO GAUGE	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTION
<p><b>ROUTE 60 / 62 BRIDGE</b></p> <p><b>UPPER MISSISSIPPI RIVER</b></p> <p><b>MILE MARKERS: 1.3</b></p> <p><b>FLOOD STAGE READING: 40'0"</b> REFERENCE GAUGE: CAIRO</p> <p><b>OTHER USEFUL DATA:</b> THE CAPE GIRARDEAU GAUGE CAN BE COMPARED TO THE CAIRO GAUGE TO DETERMINE HAZARDOUS CONDITONS / FLOWS. SIMILAR CONDITIONS EXIST FOR THE LOWER OHIO RIVER BRIDGES FOR VESSELS TRANSITING DOWNBOUND. UNDER THESE CONDITONS MARINERS SHOULD NAVIGATE AT SLOWEST SAFE SPEED. HIGH CONSEQUENCE ALLISIONS MAY OCCUR IN THIS AREA UNDER HIGH WATER CONDITIONS RESULTING IN HIGH CONSEQUENCE MARINE CASUALTIES AND VESSEL SINKINGS.</p> <p><b>BIRDS POINT FLOOD PLAIN OFFICE: 901-544-3401</b></p> <p><b>CAIRO GAUGE READING</b> PHONE #: 1- 618 – 734 - 0577</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a></p>	35'0" & below	Rising	3.0 mph	Normal Operations	Watch	Operations normal.
	35'0"	Rising & projected to continue rising rapidly	3.0 mph	High Current	Watch	CG MSU Paducah issues Safety Advisory; indicate swift currents, report hazardous conditions to Coast Guard. Notify ICE Committee.
	38'0"	Rising	3.5 mph	High Current	Watch	Safety Advisory in effect (Enc. 1). Fleet managers secure fleeing areas.
	39'0"	Rising	5.0 mph	Very High Current	Action	Safety Advisory in effect. Hold ICE Committee conference call. Discuss horsepower and tow size recommendations. Consider use of assist vessel. Fleet managers secure fleeing areas.
	40'0" & above	Rising	5.0 mph	Very High Current	Action	CG MSU Paducah considers implementation of Safety Zone (Enc. 2) -Hold ICE Committee meeting. Consider coordination of vessel traffic on a vessel-by-vessel basis. Consider use of assist vessel. Vessels may experience delays. Fleet managers secure fleeing areas.  Note: At 49' on Cairo gauge, consult Birds Point Floodway Plan. At 56' on Cairo gauge, CG requested on scene.
	39'0"	Falling	4.0 mph	Very High Current	Recovery	CG MSU Paducah cancels Safety Zone; if implemented and re-issues Safety Advisory; indicate swift currents, report hazardous conditions to Coast Guard. Notify ICE Committee. Consider use of assist vessel.
	38'0"	Falling	3.5 mph	Very High Current	Recovery	Safety Advisory in effect. Notify ICE Committee. Discuss horsepower and tow size recommendations.
	35'0"	Falling	3.0 mph	High Current	Recovery	CG MSU Paducah cancels Safety Advisory. Notify ICE Committee.
	35'0" & below	Falling	3.0 mph	Normal Operations	Recovery	Operations normal.

### **Enclosure 1 (Example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE UPPER MISSISSIPPI RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE UPPER MISSISSIPPI RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

### **Enclosure 2 (Example)**

SUBJ: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY IN CONSULTATION WITH THE ARMY CORPS OF ENGINEERS AND THE TOWING INDUSTRY, HAS ESTABLISHED A SAFETY ZONE ON THE UPPER MISSISSIPPI RIVER FROM MILE MARKER XXX.X TO MILE MARKER XXX.X IN THE VICINITY OF THE ROUTE 60/62 BRIDGE. NORTHBOUND VESSELS ARE PROHIBITED FROM NAVIGATION OVER THE LOCK AND DAM 53 WEIR PASS. SOUTHBOUND VESSELS WITH 9'0" DRAFT AND ADEQUATE HORSEPOWER ARE AUTHORIZED NAVIGATION OVER THE WEIR WITH AN ASSIST VESSEL IMMEDIATELY AVAILABLE IN CASE OF EMERGENCY. THESE SAFETY ZONE RESTRICTIONS WILL BE REEVALUATED UPON CHANGES IN STATUS OF WATER LEVELS. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-994-7385 OR CG SECTOR OHIO VALLEY AT 1-800-253-7465.

## 4.B. Mississippi River Action Plan

### 4.B.4. Cairo Point Vicinity Low Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING CAIRO GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>CAIRO POINT VICINITY</b></p> <p><b>UPPER MISSISSIPPI RIVER</b></p> <p><b>MILE MARKERS: 0.3</b></p> <p>REFERENCE GAUGE: CAIRO</p> <p><b>OTHER USEFUL DATA:</b> TABLE USES CAIRO GAUGE READING. THIS AREA EXPERIENCES EXCESSIVE SHOALING RESULTING IN VESSEL GROUNDINGS WITHIN THE CHANNEL TYPICALLY ALONG THE RIGHT DESCENDING BANK. DURING LOW WATER OR WHEN ALL L&amp;D 53 WICKETS ARE UP, GROUNDINGS MAY INCREASE SIGNIFICANTLY. VESSEL DRAFTS SHOULD BE CAREFULLY WATCHED WHEN TRANSITING THIS AREA DURING LOW WATER CONDITIONS. MARINERS ARE ADVISED TO NAVIGATE THIS AREA WHILE ADHEREING TO THE CENTER OF THE CHANNEL DURING LOW WATER.</p> <p>HISTORICAL LOWS: 1988 – CAIRO GAUGE – 5’5” 1997 – CAIRO GAUGE – 6’8” 2005 – CAIRO GAUGE – 7’5”</p> <p>EMERGENCY CONDITIONS EXIST WHEN THE CAIRO GAUGE FALLS BELOW 9’0” FOR AN EXTENDED PERIOD OF TIME.</p> <p><b>CAIRO GAUGE READING PHONE</b> #: 1- 618 – 734 – 0577</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml">http://www.srh.noaa.gov/lmrfc/forecast/rva.shtml</a></p>	11’0” and above	Falling		Normal Operations	Watch	Operations Normal. CG, Industry chairman, & ACOE monitor Cairo GAUGE. Mariners report all missing Aids to Navigation to CG Sector Ohio Valley.
	10’0”	Falling		Low Water	Watch	Notify CG MSU Paducah of Cairo GAUGE reading 10’0”. CG MSU Paducah issues Safety Advisory (Enc. 1); indicate low water, exercise caution. Report missing Aids to Navigation to CG.
	9’5”	Falling		Low Water	Watch	Notify ICE Committee. Discuss draft and tow size recommendations under falling river conditions. Safety Advisory in effect. Notify ACOE discuss surveys and dredging. Notify CG Buoy Tender to survey & set buoys.
	9’0”	Falling		Extreme Low Water	Action	CG, Industry chairman, & ACOE monitor Cairo GAUGE. Hold ICE Committee conference call. Discuss draft and tow size recommendations under falling river conditions. Safety Advisory in effect. CG Buoy Tender on scene. ACOE plan / begin dredging.
	8’8”	Falling		Extreme Low Water	Action	Consider ICE Committee meeting. Identify specific critical low water areas. ACOE discuss surveys and dredging. Safety Advisory in effect. Consider need for Safety Zone (Enc. 2). CG Buoy Tender on scene. ACOE plan / begin dredging.
	8’3” and below	Falling		Restrict Navigation	Action	CG, Industry chairman, & ACOE monitor Cairo GAUGE. Hold ICE Committee meeting. CG MSU Paducah considers implementation of Safety Zone due to extreme low water. Vessels will experience delays. ACOE continue dredging. CG Buoy Tender on-scene.
	8’3” and below	Rising		Restrict Navigation	Recovery	Safety Zone in effect. Vessels may experience delays.
	8’8”	Rising		Extreme Low Water	Recovery	Notify ICE Committee. CG MSU Paducah cancels Safety Zone; if implemented and re-issues Safety Advisory; indicate low water, exercise caution, detail draft & tow size recommendations. CG Buoy Tender coordinates with ACOE on scene to re-open channel and survey existing ATON.
	9’0”	Rising		Extreme Low Water	Recovery	CG, Industry chairman, & ACOE monitor Cairo GAUGE. Hold ICE Committee conference call. Discuss draft and tow size recommendations under rising river conditions. Safety Advisory in effect.
	9’5”	Rising		Low Water	Recovery	Notify ICE Committee. Discuss draft and tow size recommendations. Safety Advisory in effect. Notify ACOE discuss surveys and dredging.
	10’0”	Rising		Low Water	Recovery	CG, Industry chairman, & ACOE monitor Cairo GAUGE. CG MSU Paducah cancels Safety Advisory. Notify ICE Committee. CG Buoy Tender survey area for missing buoys.
	11’0” and above	Rising		Normal Operations	Recovery	Operations Normal. CG, Industry chairman, & ACOE monitor Cairo GAUGE. Mariners report all missing Aids to Navigation to CG Sector Ohio Valley.

**Enclosure 1 (Example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS

2. THE COTP OHIO VALLEY HAS ISSUED THIS SAFETY ADVISORY DUE TO LOW WATER CONDITIONS IN THE VICINITY OF CAIRO POINT. VESSELS TRANSITING IN THE VICINITY OF CAIRO ARE EXPERIENCING GROUNDINGS. UNTIL RIVER CONDITIONS STABILIZE, DRAWDOWN CONDITIONS ARE OCCURRING IN THE CAIRO AREA. RIVER LEVELS IN THE CAIRO AREA ARE NOT FORECASTED TO RISE SIGNIFICANTLY DURING THIS PERIOD. THE ADVERTISED NAVIGABLE DRAFT IS 9'0". MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING THESE AREAS WITH DRAFTS GREATER THAN 9'0". MARINERS ARE ALSO ADVISED TO CONSIDER RISKS OF NAVIGATING LOW WATER WHEN PUSHING CERTAIN DANGEROUS CARGOES. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJECT: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, UNDER THE AUTHORITY OF THE PORTS AND WATERWAYS SAFETY ACT, HAS ESTABLISHED A SAFETY ZONE ON THE MISSISSIPPI RIVER FROM MILE MARKER XXX TO MILE MARKER XXX EXTENDING THE ENTIRE WIDTH OF THE RIVER. THE SAFETY ZONE IS IN EFFECT FROM XXX UNTIL XXX LOCAL TIME UNLESS CANCELLED SOONER. THIS SAFETY ZONE HAS BEEN ESTABLISHED DUE TO EXTREME LOW WATER CONDITIONS REPORTED ON THE MISSISSIPPI RIVER BETWEEN MILE MARKER XXX AND MILE MARKER XXX. COMMERCIAL VESSELS ARE PROHIBITED FROM ENTERING OR TRANSITING IN THIS SAFETY ZONE UNLESS PERMITTED BY CAPTAIN OF THE PORT OHIO VALLEY. COMMERCIAL VESSELS REQUESTING TO ENTER OR TRANSIT IN THIS SAFETY ZONE MUST CONTACT THE MSU PADUCAH COMMAND DUTY OFFICER FOR PERMISSION AT 1-270-994-7385. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

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#### 4.C. Tennessee River Action Plan

##### 4.C.1. I-24 / 62 / 641 Bridge High Water / High Current Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING KENTUCKY L&D FLOW RATE	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTION
<p><b>I-24 BRIDGE</b> <b>62 / 641 BRIDGE</b></p> <p><b>TENNESSEE RIVER</b></p> <p><b>MILE MARKER:</b> 21.1, 22.4</p> <p><b>FLOOD STAGE READING:</b> 200 CFS</p> <p><b>REFERENCE GAUGE:</b> KENTUCKY LOCK &amp; DAM GIVEN IN THOUSANDS OF CUBIC FEET PER SECOND (CFS).</p> <p><b>OTHER USEFUL DATA:</b> TABLE USES FLOW THROUGH CURRENTS ESTIMATED BY KENTUCKY LOCK &amp; DAM. CFS RATES CAN BE USED TO DETERMINE HAZARDOUS CONDITIONS / FLOWS. UNDER THESE CONDITIONS MARINERS SHOULD NAVIGATE AT SLOWEST SAFE SPEED. AREA MAY CONTAIN HIGH CURRENT CAUSING VESSELS TO EXPERIENCE UNEXPECTED SET RESULTING IN ADVERSE CONSEQUENCE.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a></p>	140 CFS and below	Rising	4.0 mph	Normal Operations	Watch	Operations Normal. TVA, CG, Industry chairman, & ACOE monitor CFS rates.
	160 CFS	Rising & projected to continue rising rapidly	4.2 mph	Normal Operations	Watch	Notify ICE Committee, TRVA, and TCWC.
	180 CFS	Rising	4.4 mph	Strong Current	Watch	Lockmaster contacts CG MSU Paducah. CG MSU Paducah issues Safety Advisory (Enc. 1); indicate high water and strong current, exercise extreme caution.
	200 CFS	Rising	4.6 mph	Strong Current	Watch	Safety Advisory in effect. Notify ICE Committee, TRVA, and TCWC. Discuss horsepower and tow size recommendations.
	220 CFS	Rising	4.8 mph	Extreme Strong Current	Action	Safety Advisory in effect. Hold ICE Committee, TRVA, and TCWC conference call. Consider need for assist vessel on stand-by when reaching 220 CFS.
	240 CFS and above	Rising	5.0 mph or greater	Extreme Strong Current	Action	Lockmaster contacts CG MSU Paducah. Safety Advisory in effect. Consider ICE Committee, TRVA, and TCWC meeting. Consider implementation of assist vessel.
	220 CFS	Falling	4.8 mph	Extreme Strong Current	Action	Safety Advisory in effect. Notify ICE Committee, TRVA, and TCWC. Consider need for assist vessel on stand-by when reaching 220 CFS.
	200 CFS	Falling	4.6 mph	Strong Current	Recovery	Safety Advisory in effect. Notify ICE Committee, TRVA, and TCWC. Discuss horsepower and tow size recommendations.
	180 CFS	Falling	4.4 mph	Strong Current	Recovery	Lockmaster contacts CG MSU Paducah. CG MSU Paducah cancels Safety Advisory. Notify ICE Committee, TRVA, and TCWC.
	160 CFS	Falling	4.2 mph	Normal Operations	Recovery	Notify ICE Committee, TRVA, and TCWC.
140 CFS and below	Falling	4.0 mph	Normal Operations	Recovery	Operations Normal. TVA, CG, Industry chairman, & ACOE monitor CFS rates.	

**Enclosure 1 (Example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE TENNESSEE RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE TENNESSEE RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.C. Tennessee River Action Plan

##### 4.C.2. Kentucky Lock & Dam Low Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING LOWER GAUGE	TREND	DESCRIPTION	PHASE	ACTION
<p><b>KENTUCKY LOCK &amp; DAM</b></p> <p><b>TENNESSEE RIVER</b></p> <p><b>MILE MARKERS: 22.4</b></p> <p>REFERENCE GAUGE: KENTUCKY LOCK AND DAM LOWER GAUGE.</p> <p><b>NAVIGATION CHANNEL PROJECT DEPTH OR OTHER USEFUL DATA:</b> THIS CHART USES THE KENTUCKY LOCK AND DAM LOWER GAUGE. THE GAUGE IS GIVEN IN FEET ABOVE SEA LEVEL. TO DETERMINE DEPTH OVER MITER SILL ADD THE STAFF GAUGE READING + 289 FEET. 289 FEET = THE MITER SILL ELEVATION ABOVE SEA LEVEL. WHEN THE STAFF GAUGE REACHES 11 FEET VESSEL MAY BE RESTRICTED FROM ENTERING LOCK CHAMBER DUE TO LOW WATER.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a></p>	302' & above 13ft	Falling	Normal Operations	Watch	Lock Operations Normal
	301' 12ft	Falling	Low Water	Watch	Lockmaster contacts CG MSU Paducah. CG MSU Paducah issues Safety Advisory; indicate low water, exercise caution.
	300' 11ft	Falling	Low Water	Watch	Safety Advisory in effect (Enc. 1). Notify ICE Committee, TRVA, and TCWC.  Note: Vessels exercise caution at MM 17.0 TNR due to low water.  When the staff gauge falls to or below 11' vessels may be restricted from entering the lock chamber based on draft and water level.
	299' 10ft	Falling	Extreme Low Water	Action	Safety Advisory in effect. Hold ICE Committee, TRVA, and TCWC conference call. Discuss draft and tow size recommendations. Limited locking ability based on vessel s draft.  Note: At Kentucky lock & dam <b>one foot of clearance over the miter sill</b> is required for vessels to enter and exit lock chambers.
	298' 9ft	Falling	Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. Hold ICE Committee, TRVA, and TCWC meeting. Limited locking ability based on vessel s draft. Consider need for Safety Zone (Enc. 2) for lower TNR.
	297' and below 8ft	Falling	Restrict Lock Operations	Action	CG MSU Paducah considers implementation of Safety Zone between MM 00.0 – MM 22.4TNR.
	297' and below 8ft	Rising	Restrict Lock Operations	Recovery	Consider need for Safety Zone between MM 00.0 – MM 22.4TNR. Manage vessel traffic on a case-by-case basis.
	298' 9ft	Rising	Restrict Lock Operations	Recovery	Lockmaster contacts CG MSU Paducah. Notify ICE Committee, TRVA, and TCWC. Limited locking ability based on vessel s draft. Consider lifting Safety Zone for lower TNR; re-issue Safety Advisory.
	299' 10ft	Rising	Extreme Low Water	Recovery	Lockmaster contacts CG MSU Paducah. Notify ICE Committee, TRVA, and TCWC. Limited locking ability based on vessel s draft. CG MSU Paducah cancels Safety Zone; if implemented and re-issues Safety Advisory; indicate low water, exercise caution, detail draft & tow size recommendations.
	300' 11ft	Rising	Extreme Low Water	Recovery	Safety Advisory in effect. Notify ICE Committee, TRVA, and TCWC. Vessels exercise caution MM 17.0 TNR.
	301' 12ft	Rising	Low Water	Recovery	Lockmaster contacts CG MSU Paducah. CG MSU Paducah cancels Safety Advisory.
	302' & above 13ft	Rising	Normal Operations	Watch	Lock Operations Normal.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS

2. THE COTP OHIO VALLEY HAS ISSUED THIS SAFETY ADVISORY DUE TO LOW WATER CONDITIONS IN THE VICINITY OF KENTUCKY LOCK AND DAM. VESSELS TRANSITING THE KENTUCKY LOCK AND DAM VICINITY ARE EXPERIENCING GROUNDINGS. UNTIL RIVER CONDITIONS STABILIZE, DRAWDOWN CONDITIONS ARE OCCURRING IN THE KENTUCKY LOCK AND DAM VICINITY. RIVER LEVELS IN THE KENTUCKY LOCK AND DAM VICINITY ARE NOT FORECASTED TO RISE SIGNIFICANTLY DURING THIS PERIOD. THE ADVERTISED NAVIGABLE DRAFT IS 9'0". MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING THESE AREAS WITH DRAFTS GREATER THAN 9'0". MARINERS ARE ALSO ADVISED TO CONSIDER RISKS OF NAVIGATING LOW WATER WHEN PUSHING CERTAIN DANGEROUS CARGOES. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJECT: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, UNDER THE AUTHORITY OF THE PORTS AND WATERWAYS SAFETY ACT, HAS ESTABLISHED A SAFETY ZONE ON THE TENNESSEE RIVER FROM MILE MARKER XXX TO MILE MARKER XXX EXTENDING THE ENTIRE WIDTH OF THE RIVER. THE SAFETY ZONE IS IN EFFECT FROM XXX UNTIL XXX LOCAL TIME UNLESS CANCELLED SOONER. THIS SAFETY ZONE HAS BEEN ESTABLISHED DUE TO EXTREME LOW WATER CONDITIONS REPORTED ON THE TENNESSEE RIVER BETWEEN MILE MARKER XXX AND MILE MARKER XXX. COMMERCIAL VESSELS ARE PROHIBITED FROM ENTERING OR TRANSITING IN THIS SAFETY ZONE UNLESS PERMITTED BY CAPTAIN OF THE PORT OHIO VALLEY. COMMERCIAL VESSELS REQUESTING TO ENTER OR TRANSIT IN THIS SAFETY ZONE MUST CONTACT THE MSU PADUCAH COMMAND DUTY OFFICER FOR PERMISSION AT 1-270-994-7385. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.C. Tennessee River Action Plan

##### 4.C.3. Kentucky Lock & Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING LOWER GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>KENTUCKY LOCK &amp; DAM</b></p> <p><b>TENNESSEE RIVER</b></p> <p><b>MILE MARKER: 22.4</b></p> <p><b>FLOOD STAGE READING:</b></p> <p><b>REFERENCE GAUGE: KENTUCKY LOCK AND DAM LOWER GAUGE.</b></p> <p><b>OTHER USEFUL DATA:</b> THIS CHART USES THE KENTUCKY LOCK AND DAM LOWER GAUGE. THE GAUGE IS GIVEN IN FEET ABOVE SEA LEVEL. ADD THE ACTUAL STAFF GAUGE READING + 289 FEET TO DETERMINE THE GAUGE READING. MONITOR TVA FLOW RATES. REFERENCE PADUCAH GAUGE (335) &amp; KENTUCKY LOCK &amp; DAM LOWER GAUGE (334).</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a></p>	302' 13ft	Rising		Normal Operations	Watch	Locking Operations Normal.
	335'	Rising & projected to continue rising rapidly		High Water	Watch	Lockmaster contacts CG MSU Paducah. CG MSU Paducah issues Safety Advisory; indicate high water, exercise caution.
	340'	Rising		High Water	Watch	Safety Advisory in effect (Enc. 1). Consider ICE Committee, TRVA, and TCWC conference call.
	341' 1ft height of guard wall remaining.	Rising		Extreme High Water	Watch	Lockmaster contacts CG MSU Paducah. Safety Advisory in effect. Hold ICE Committee, TRVA, and TCWC conference call. Consider assist vessel on stand-by for up-bound. 1ft height of guide wall remaining.
	342' Top of guard wall submerged	Rising		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. Kentucky L&D may cease locking vessels. Hold ICE Committee, TRVA, and TCWC meeting. Consider assist vessel on stand-by for up-bound. CG MSU Paducah considers implementation of Safety Zone (Enc. 2). Vessels will experience delays.
	342' & above	Rising		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. Kentucky L&D ceases locking vessels. Hold ICE Committee, TRVA, and TCWC meeting. CG MSU Paducah implements Safety Zone. ACOE may buoy guide wall.  Note: When the upper gauge reaches 374 feet Kentucky L&D closes due to debris in gate gears.
	342' Top of guard wall submerged	Falling		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. Kentucky L&D ceases locking vessels. CG MSU Paducah considers cancellation of Safety Zone.
	341' 1ft height of guard wall remaining.	Falling		Resume Locking Ability	Recovery	Lockmaster contacts CG MSU Paducah. Kentucky L&D resumes locking vessels. Hold ICE Committee Meeting. CG MSU Paducah cancels Safety Zone; if implemented and re-issues Safety Advisory; indicate high water, report hazardous conditions to Coast Guard.
	340'	Falling		Extreme High Water	Recovery	Lockmaster contacts CG MSU Paducah. Safety Advisory in effect.
	335'	Falling		High Water	Recovery	Lockmaster contacts CG MSU Paducah. Safety Advisory in effect.
302' 13ft	Falling		High Water	Recovery	Locking Operations Normal.	

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE TENNESSEE RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE TENNESSEE RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (Example)**

SUBJ: WESTERN RIVERS BNM XXXX-XX OV

1. SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

2. USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV TENNESSEE RIVER. KENTUCKY L/D AT MILE MARKER 22.4 TENNESSEE RIVER HAS CEASED LOCKING. THE KENTUCKY L/D HAS REPORTED HIGH WATER CONDITIONS AND DAMAGE TO SURROUNDING STRUCTURES DUE TO VESSEL WAKES. VESSEL TRANSITS ARE CEASED UNTIL WATER CONDITIONS SUBSIDE AND DAMAGE CAN BE PREVENTED. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**4.C. Tennessee River Action Plan**  
**4.C.4. The Gorge High Water Operations**

CRITICAL AREA DESCRIPTION	TRIGGER READING CFS IN THOUSANDS	TREND	TRIGGER CURRENT	DESCRIPTION	PHASE	ACTION
<p><b>THE GORGE</b></p> <p><b>TENNESSEE RIVER</b></p> <p><b>MILE MARKERS:</b> 446.0 – 455.0</p> <p><b>FLOOD STAGE READING: 75 CFS</b></p> <p><b>OTHER USEFUL DATA:</b> TABLE USES FLOWS THROUGH THE GORGE GIVEN IN THOUSANDS OF CUBIC FEET PER SECOND (CFS). CURRENTS ARE ESTIMATED. CFS RATES CAN BE USED TO DETERMINE HAZARDOUS CONDITIONS / FLOWS. UNDER THESE CONDITIONS MARINERS SHOULD NAVIGATE AT SLOWEST SAFE SPEED. AREA MAY CONTAIN HIGH CURRENT CAUSING VESSELS TO EXPERIENCE UNEXPECTED SET RESULTING IN ADVERSE CONSEQUENCE.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=KYH&amp;DataType=All&amp;submit=View+info</a></p>	46 CFS and below	Rising	3.0 mph	Normal Operations	Watch	Operations normal. TVA, CG, Industry chairman, & ACOE monitor CFS rates.
	65 CFS	Rising & projected to continue rising rapidly	3.2 mph	High Current	Watch	TVA, CG, Industry chairman, & ACOE monitor CFS rates. Initiate TRVA Communications Plan. CG MSU Paducah issues Safety Advisory ( Enc. 1); indicate swift currents, be alert for out-drafts, exercise caution. Report missing Aids to Navigation.
	75 CFS	Rising	3.5 mph	High Current	Watch	Hold TRVA meeting/conference call. Safety Advisory in effect; vessels transit during daylight hours only. Discuss horsepower and tow size recommendations.
	80 CFS	Rising	4.0 mph	Very High Current	Action	Safety Advisory in effect; vessels transit during daylight hours only. Discuss horsepower and tow size recommendations.
	85 CFS	Rising	5.0 mph	Very High Current	Action	TVA, CG, Industry chairman, & ACOE monitor CFS rates. Hold TRVA meeting/conference call. Safety Advisory in effect; recommends vessels transit during daylight hours only. Discuss voluntary horsepower and tow size recommendations.
	90 CFS & above	Rising	6.0 mph	Very High Current	Action	TVA, CG, Industry chairman, & ACOE monitor CFS rates. CG MSU Paducah implements Safety Zone (Enc. 2) closing navigation of the Gorge. Hold TRVA meeting/conference call.
	85 CFS	Falling	5.0 mph	Very High Current	Action	TVA, CG, Industry chairman, & ACOE monitor CFS rates. CG MSU Paducah cancels Safety Zone; re-issues Safety Advisory; transit during daylight hours only. Discuss horsepower and tow size recommendations.
	80 CFS	Falling	4.0 mph	Very High Current	Action	Hold TRVA meeting/conference call. Safety Advisory in effect; recommends vessels transit during daylight hours only. Discuss voluntary horsepower and tow size recommendations.
	75 CFS	Falling	3.5 mph	High Current	Action	Hold TRVA meeting/conference call. Safety Advisory in effect; recommends vessels transit during daylight hours only. Discuss horsepower and tow size recommendations.
	65 CFS	Falling	3.2 mph	High Current	Recovery	CG MSU Paducah cancels Safety Advisory. Report missing Aids to Navigation to CG Sector Ohio Valley.
46 CFS and below	Falling	3.0 mph	Normal Operations	Recovery	Operations normal. TVA, CG, Industry chairman, & ACOE monitor CFS rates.	

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE TENNESSEE RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE TENNESSEE RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (Example)**

SUBJ: WESTERN RIVERS BNM XXXX-XX OV

1. SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

2. USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV TENNESSEE RIVER. NAVIGATION OF THE GORGE BETWEEN MILE MARKERS 446.0 – 455.0 HAS CEASED. THE KENTUCKY L/D HAS REPORTED HIGH WATER CONDITIONS AND DAMAGE TO SURROUNDING STRUCTURES DUE TO VESSEL WAKES. VESSEL TRANSITS ARE CEASED UNTIL WATER CONDITIONS SUBSIDE AND DAMAGE CAN BE PREVENTED. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

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#### 4.D. Cumberland River Action Plan

##### 4.D.1. Barkley Lock & Dam Low Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING LOWER GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>BARKLEY LOCK &amp; DAM</b></p> <p><b>CUMBERLAND RIVER</b></p> <p><b>MILE MARKER:</b> 30.6</p> <p>REFERENCE GAUGE: BARKLEY LOCK AND DAM LOWER GAUGE.</p> <p><b>OTHER USEFUL DATA:</b> THIS CHART USES THE BARKLEY LOCK AND DAM LOWER GAUGE. THE GAUGE IS GIVEN IN FEET ABOVE SEA LEVEL. TO DETERMINE DEPTH OVER MITER SILL ADD THE STAFF GAUGE READING + 289 FEET. 289 FEET = THE MITER SILL ELEVATION ABOVE SEA LEVEL. WHEN THE STAFF GAUGE REACHES 11 FEET VESSEL MAY BE RESTRICTED FROM ENTERING LOCK CHAMBER DUE TO LOW WATER.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info</a></p>	302' & above 13ft over sill	Falling		Normal Operations	Watch	Lock Ops Normal.
	301' 12ft over sill	Falling		Low Water	Watch	Lockmaster contacts CG MSU Paducah. CG MSU Paducah issues Safety Advisory (Enc. 1); indicate low water, exercise caution.
	300' 11ft over sill	Falling		Low Water	Watch	Lockmaster contacts CG MSU Paducah. Safety Advisory in effect.  Note: When the staff gauge falls to or below 11' vessels may be restricted from entering the lock chamber based on draft and water level.
	299' 10ft over sill	Falling		Extreme Low Water	Action	Safety Advisory in effect. Hold ICE Committee, TRVA, and TCWC conference call. Discuss draft and tow size recommendations. Limited locking ability based on vessel s draft.  Note: At Barkley lock & dam <b>one foot of clearance over the miter sill</b> is required for vessels to enter and exit lock chambers.
	298' 9ft over sill	Falling		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. Hold ICE Committee, TRVA, and TCWC meeting. Limited locking ability based on vessel s draft. Consider need for Safety Zone (Enc. 2) for lower CMR.
	297' 8ft over sill	Falling		Restrict Lock Operations	Action	CG MSU Paducah considers implementation of Safety Zone between MM 00.0 – MM 30.6 CMR.
	297' 8ft over sill	Rising		Restrict Lock Operations	Recovery	Consider need for Safety Zone between MM 00.0 – MM 30.6 CMR. Manage vessel traffic on a case-by-case basis.
	298' 9ft over sill	Rising		Restrict Lock Operations	Recovery	Lockmaster contacts CG MSU Paducah. Notify ICE Committee, TRVA, and TCWC. Limited locking ability based on vessel s draft. Consider lifting Safety Zone for lower TNR; re-issue Safety Advisory.
	299' 10ft over sill	Rising		Extreme Low Water	Recovery	Lockmaster contacts CG MSU Paducah. Notify ICE Committee, TRVA, and TCWC. Limited locking ability based on vessel s draft. CG MSU Paducah cancels Safety Zone; if implemented and re-issues Safety Advisory; indicate low water, exercise caution, detail draft & tow size recommendations.
	300' 11ft over sill	Rising		Low Water	Recovery	Safety Advisory in effect. Notify ICE Committee, TRVA, and TCWC. Vessels exercise caution on lower CMR.
	301' 12ft over sill	Rising		Low Water	Recovery	Lockmaster contacts CG MSU Paducah. CG MSU Paducah cancels Safety Advisory.
302' & above 13ft over sill	Rising		Normal Operations	Watch	Lock Ops Normal.	

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS

2. THE COTP OHIO VALLEY HAS ISSUED THIS SAFETY ADVISORY DUE TO LOW WATER CONDITIONS IN THE VICINITY OF BARKLEY LOCK AND DAM. VESSELS TRANSITING THE BARKLEY LOCK AND DAM VICINITY ARE EXPERIENCING GROUNDINGS. UNTIL RIVER CONDITIONS STABILIZE, DRAWDOWN CONDITIONS ARE OCCURRING IN THE BARKLEY LOCK AND DAM VICINITY. RIVER LEVELS IN THE BARKLEY LOCK AND DAM VICINITY ARE NOT FORECASTED TO RISE SIGNIFICANTLY DURING THIS PERIOD. THE ADVERTISED NAVIGABLE DRAFT IS 9'0". MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING THESE AREAS WITH DRAFTS GREATER THAN 9'0". MARINERS ARE ALSO ADVISED TO CONSIDER RISKS OF NAVIGATING LOW WATER WHEN PUSHING CERTAIN DANGEROUS CARGOES. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (example)**

SUBJECT: REQUEST BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, UNDER THE AUTHORITY OF THE PORTS AND WATERWAYS SAFETY ACT, HAS ESTABLISHED A SAFETY ZONE ON THE CUMBERLAND RIVER FROM MILE MARKER XXX TO MILE MARKER XXX EXTENDING THE ENTIRE WIDTH OF THE RIVER. THE SAFETY ZONE IS IN EFFECT FROM XXX UNTIL XXX LOCAL TIME UNLESS CANCELLED SOONER. THIS SAFETY ZONE HAS BEEN ESTABLISHED DUE TO EXTREME LOW WATER CONDITIONS REPORTED ON THE CUMBERLAND RIVER BETWEEN MILE MARKER XXX AND MILE MARKER XXX. COMMERCIAL VESSELS ARE PROHIBITED FROM ENTERING OR TRANSITING IN THIS SAFETY ZONE UNLESS PERMITTED BY CAPTAIN OF THE PORT OHIO VALLEY. COMMERCIAL VESSELS REQUESTING TO ENTER OR TRANSIT IN THIS SAFETY ZONE MUST CONTACT THE MSU PADUCAH COMMAND DUTY OFFICER FOR PERMISSION AT 1-270-994-7385. FOR QUESTIONS REGARDING THIS BROADCAST PLEASE CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

#### 4.D. Cumberland River Action Plan

##### 4.D.2. Barkley Lock & Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING LOWER GAUGE	TREND		DESCRIPTION	PHASE	ACTION
<p><b>BARKLEY LOCK &amp; DAM</b></p> <p>CUMBERLAND RIVER</p> <p>MILE MARKER: 30.6</p> <p>FLOOD STAGE READING: 345'</p> <p>REFERENCE GAUGE: BARKLEY LOCK AND DAM LOWER GAUGE</p> <p><b>OTHER USEFUL DATA:</b> THIS CHART USES THE BARKLEY LOCK AND DAM LOWER GAUGE. THE GAUGE IS GIVEN IN FEET ABOVE SEA LEVEL ADD THE ACTUAL STAFF GAUGE READING + 289 FEET TO DETERMINE THE GAUGE READING. 289 FEET = THE MITER SILL ELEVATION ABOVE SEA LEVEL. MONITOR TVA FLOW RATES. FLOWS FROM CUMBERLAND RIVER INTO THE OHIO RIVER CAN POSE HAZARDOUS CONDITIONS.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info">http://lakeinfo.tva.gov/htbin/lakeinfo?site=BAH&amp;DataType=All&amp;submit=View+info</a></p>	302' 13ft	Rising & continues to rise rapidly		Normal Operations	Watch	Locking Operations Normal.
	345'	Rising		High Water	Watch	Lockmaster contacts CG MSU Paducah. CG MSU Paducah issues Safety Advisory (Enc. 1); indicate high water, exercise caution.
	350'	Rising		Extreme High Water	Watch	Safety Advisory in effect. Consider ICE Committee, TRVA, and TCWC conference call.
	351' 1ft height of guide wall remaining.	Rising		Extreme High Water	Watch	Lockmaster contacts CG MSU Paducah. Safety Advisory in effect. Hold ICE Committee, TRVA, and TCWC conference call. Consider assist vessel on stand-by for up-bound. 1ft height of guide wall remaining.
	352' Top of guide wall submerged	Rising		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. Barkley L&D may cease locking vessels. Hold ICE Committee, TRVA, and TCWC meeting. Consider assist vessel on stand-by for up-bound. CG MSU Paducah considers implementation of Safety Zone (Enc. 2). Vessels will experience delays.  Note: At 352 feet on the upper gauge Barkley L&D closes due to debris in the gate gears.
	352' & above	Rising		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. Hold ICE Committee, TRVA, and TCWC meeting. CG MSU Paducah implements Safety Zone. ACOE may buoy guide wall.  Note: At 352 feet on the upper gauge Barkley L&D closes due to debris in the gate gears.
	352' Top of guide wall submerged	Falling		Restrict Lock Operations	Action	Lockmaster contacts CG MSU Paducah. CG MSU Paducah considers cancellation of Safety Zone.
	351' 1ft height of guide wall remaining.	Falling		Resume Locking Ability	Recovery	Lockmaster contacts CG MSU Paducah. Barkley L&D resumes locking vessels. Hold ICE Committee, TRVA, and TCWC conference call. CG MSU Paducah cancels Safety Zone; if implemented and re-issues Safety Advisory; indicate high water, report hazardous conditions to Coast Guard.
	350'	Falling		Extreme High Water	Recovery	Lockmaster contacts CG MSU Paducah. Safety Advisory in effect. Consider ICE Committee, TRVA, and TCWC conference call.
	345'	Falling		High Water	Recovery	Lockmaster contacts CG MSU Paducah. Safety Advisory in effect.
	302' 13ft	Falling		Normal Operations	Recovery	Locking Operations Normal.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINERS

1. SAFETY AND SCHEDULED BROADCASTS.

2. THE U.S. COAST GUARD CAPTAIN OF THE PORT OHIO VALLEY, IN CONSULTATION WITH THE OHIO RIVER ICE COMMITTEE, HAS ISSUED THIS SAFETY ADVISORY DUE TO HIGH WATER AND ASSOCIATED STRONG CURRENTS THAT EXIST IN THE VICINITY OF MILE MARKER XXX OF THE CUMBERLAND RIVER. IN ACCORDANCE WITH THE INLAND RIVERS WATERWAYS ACTION PLAN, ALL MARINERS ARE ADVISED TO EXERCISE CAUTION WHILE TRANSITING MILE MARKER XXX ON THE CUMBERLAND RIVER DUE TO HAZARDOUS CONDITIONS ASSOCIATED WITH STRONG CURRENTS AND INCREASED POTENTIAL FOR OUTDRAFTS. MARINERS ARE ADVISED TO CONSIDER HORSEPOWER CAPABILITY, TOW SIZE AND POTENTIAL EFFECTS OF STRONG CURRENTS WHILE NAVIGATING LOCK CHAMBERS. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

**Enclosure 2 (Example)**

SUBJ: WESTERN RIVERS BNM XXXX-XX OV

1. SAFETY AND ALL SCHEDULED BROADCASTS UNTIL CANCELLED.

2. USCG EIGHTH DISTRICT NOTICE TO MARINERS NR XXXX-XX OV CUMBERLAND RIVER. NAVIGATION OF BARKLEY LOCK AND DAM MILE MARKER 30.6 HAS CEASED. THE BARKLEY L/D HAS REPORTED HIGH WATER CONDITIONS AND DAMAGE TO SURROUNDING STRUCTURES DUE TO VESSEL WAKES. VESSEL TRANSITS ARE CEASED UNTIL WATER CONDITIONS SUBSIDE AND DAMAGE CAN BE PREVENTED. FOR QUESTIONS REGARDING THIS BROADCAST CONTACT CG MSU PADUCAH AT 270-442-1621 OR CG SECTOR OHIO VALLEY VIA VHF-FM CH 16 OR 1-800-253-7465.

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**4.E. Allegheny River Action Plan**  
**4.E.1. Lock 4 Low Water Operations**

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<b>LOCK 4</b>  <b>ALLEGHENY RIVER</b>  <b>MILE MARKER: 24.2</b>  <b>FLOOD STAGE READING: 18' UG</b>  <b>OTHER USEFUL DATA:</b> NORMAL POOL 10.1' ON UG & 9' LG  TABLE USES LOWER GAUGE READINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL GROUNDINGS INCREASES AS THE WATER FALLS.  <b>GAUGE READINGS:</b> <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a>	9.8' LG	Falling	Normal Operations/ Flow Conditions		Locking operations normal
	9.8'- LG	Falling & projected to continue falling rapidly	Low Water/ Low Flow Conditions	Watch	Participate in low water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	9.8+ LG	Rising	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 2).

**Enclosure 1 (example)**

DUE TO LOW WATER / LOW FLOW CONDITIONS, THE COAST GUARD, HAS ISSUED THE FOLLOWING SAFETY ADVISORY WHEN THE LOWER GAUGE AT DAM FOUR (MILE MARKER 24.2 ON THE ALLEGHENY RIVER) READS LESS THAN 9.8 FEET.

PROCEED WITH CAUTION AND REMAIN IN THE NAVIGABLE CHANNEL ON THE ALLEGHENY RIVER DUE TO DECREASING WATER LEVELS. ALL VESSELS MUST MONITOR CHANNEL DEPTHS AND ENSURE THAT ADEQUATE WATER EXISTS FOR THEIR VESSEL DRAFTS. ALL GROUNDINGS SHALL BE REPORTED TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**Enclosure 2 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO RISING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**4.E. Allegheny River Action Plan**  
**4.E.2. Lock 7 High Water Operations**

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>LOCK 7</b></p> <p><b>ALLEGHENY RIVER</b></p> <p><b>MILE MARKER: 45.7</b></p> <p><b>FLOOD STAGE READING: 17' UG</b></p> <p><b>OTHER USEFUL DATA:</b>            NORMAL POOL 9' ON UG &amp; LG</p> <p>TABLE USES UPPER GAUGE READINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENTS INCREASE.</p> <p><b>GAUGE READINGS:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a></p>	16' UG	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	16+ UG	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).  Note: Cease locking at 17' on upper gauge.
	16' UG	Falling	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 2).

**Enclosure 1 (example)**

THE UPPER GAUGE AT DAM 7 (MILE MARKER 45.7 ON THE ALLEGHENY RIVER) READS GREATER THAN 16 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY FOR THE ALLEGHENY RIVER.

1. FLEETING FACILITIES ARE ADVISED TO REVIEW AND ACT IN ACCORDANCE WITH THEIR WATERFRONT FLEET OPERATIONS GUIDE AND ANY COMPANY CONTINGENCY PLANS.
2. FLEETING FACILITIES ARE ADVISED TO ASSIGN A PERSON TO BE IN CONTINUOUS SURVEILLANCE AND TO OBSERVE THE BARGES IN THE FLEETING FACILITY.
3. FLEETING FACILITIES ARE ADVISED TO DOUBLE-UP THE LINES ON THE HEAD OF THE FLEET, AND PROVIDE AN ADEQUATE NUMBER OF SPRING AND BREAST LINES BETWEEN THE DOCK AND THE BARGES IN THE FLEET.
4. FLEETING FACILITIES ARE ADVISED TO REVIEW THEIR NEED TO SECURE TOWBOAT ASSISTANCE.

**Enclosure 2 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

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#### 4.F. Monongahela River Action Plan

##### 4.F.1. Braddock Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>BRADDOCK LOCK AND DAM</b></p> <p><b>MONONGAHELA RIVER</b></p> <p><b>MILE MARKER: 11.3</b></p> <p><b>FLOOD STAGE READING: 22' UG</b></p> <p><b>OTHER USEFUL DATA:</b>            NORMAL POOL 12' ON UG &amp; 16.8' ON LG            MAX. DAM OPENING 42'            CEASE LOCKING 19' UG</p> <p>TABLE USES UPPER GAUGE AND DAM OPENINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.</p> <p><b>CAUTIONARY NOTE 1:</b>            SEVERE OUTDRAFT DURING HIGH WATER BY TURTLE CREEK ALONG UPPER GUIDE WALL</p> <p><b>CAUTIONARY NOTE 2:</b>            BRIDGE CLEARANCES AT FORT PERRY AROUND MM 11.6 RESTRICTED DURING HIGH WATER.</p> <p><b>GAUGE READINGS:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a></p>	15' DAM OPENING	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	15+ DAM OPENING	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	15 -' DAM OPENING	Falling	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 3).
	12.5' UG	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	12.5'+ UG	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 2).
	12.5' - UG	Falling	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 3).

**Enclosure 1 (example)**

THE GATE OPENING AT BRADDOCK DAM (MILE MARKER 11.3 ON THE MONONGAHELA RIVER) IS READING GREATER THAN 15 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

EXERCISE CAUTION WHILE TRANSITING UNDER THE MCKEESPORT – DUQUESNE HIGHWAY BRIDGE (MILE MARKER 14 ON THE MONONGAHELA RIVER) AND THE UNION RAILROAD BRIDGE (MILE MARKER 14.2 ON THE MONONGAHELA RIVER) DUE TO THE NARROW CHANNEL IN THAT AREA AND THE SHORT DISTANCE BETWEEN THESE TWO BRIDGES.

**Enclosure 2 (example)**

THE UPPER GAUGE AT BRADDOCK DAM (MILE MARKER 11.3 ON THE MONONGAHELA RIVER) READS GREATER THAN 12.5 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD, HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

EXERCISE CAUTION AND ENSURE VERTICAL CLEARANCE IS SUFFICIENT WHILE TRANSITING UNDER THE NORFOLK AND SOUTHERN BRIDGE (MILE MARKER 11.7 ON THE MONONGAHELA RIVER). WHEN THE UPPER GAUGE AT BRADDOCK DAM IS 12.5 FEET THE VERTICAL CLEARANCE UNDER THIS BRIDGE IS 42.5 FEET.

**Enclosure 3 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

#### 4.F. Monongahela River Action Plan

##### 4.F.2. Lock and Dam 4 High/Low Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>LOCK AND DAM 4</b></p> <p>MONONGAHELA RIVER</p> <p>MILE MARKER: 41.5</p> <p>FLOOD STAGE READING: 28' LG</p> <p><b>OTHER USEFUL DATA:</b>            NORMAL POOL 10.5' ON UG &amp; 10' ON LG            MAX. DAM OPENING 80'            CEASE LOCKING 12.5' UG</p> <p>TABLE USES UPPER AND LOWER GAUGE READINGS AND DAM OPENINGS TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.</p> <p><b>GAUGE READINGS:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a></p>	8' DAM OPENING	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	8'+ DAM OPENING	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	35'+ DAM OPENING	Rising & projected to continue rising rapidly	Extreme High Water/Extreme High Flow Conditions	Action	Continue monitoring river conditions and issue Safety Advisory (Enc. 2).
	35' - DAM OPENING	Falling	High Water/ High Flow Conditions	Watch	Continue monitoring river conditions and consider canceling Safety Advisories (Enc. 3)
	8' - DAM OPENING	Falling	Normal Operations/ Flow Conditions	Recovery	Locking operations normal.
	9.5' LG	Falling	Normal Operations/ Flow Conditions		Locking operations normal.
	9.5' - LG	Falling & projected to continue falling rapidly	Low Water/ Low Flow Conditions	Watch	Participate in low water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 4).
	9.5' + LG	Rising	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 5).

**Enclosure 1 (example)**

THE GATE OPENING AT DAM 4 (MILE MARKER 41.5 ON THE MONONGAHELA RIVER) IS GREATER THAN 8 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY. EXERCISE CAUTION WHILE DOUBLE LOCKING THROUGH LOCK 4.

**Enclosure 2 (example)**

THE GATE OPENING AT DAM 4 (MILE MARKER 41.5 ON THE MONONGAHELA RIVER) IS 35 FEET OR GREATER. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

1. EXERCISE CAUTION WHILE TRANSITING THROUGH LOCK AND DAM 4.
2. EXERCISE CAUTION WHILE TRANSITING THROUGH THE AREA BETWEEN GREENFIELD BEND (MILE MARKER 50 ON THE MONONGAHELA RIVER) AND MAXWELL DAM (MILE MARKER 61.2 ON THE MONONGAHELA RIVER).

**Enclosure 3 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**Enclosure 4 (example)** (NOTE: This BNM can be changed to reflect actual conditions and draft limitations)

DUE TO LOW WATER / LOW FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY, THE LOWER GAUGE AT DAM FOUR (MILE MARKER 41.5 ON THE MONONGAHELA RIVER) IS LESS THAN 9.5 FEET (NOTE: The lower gauge reading may change to reflect actual conditions). PROCEED WITH CAUTION AND REMAIN IN THE NAVIGABLE CHANNEL ON THE MONONGAHELA RIVER DUE TO DECREASING WATER LEVELS. ALL VESSELS MUST MONITOR CHANNEL DEPTHS AND ENSURE THAT ADEQUATE WATER EXISTS FOR THEIR VESSEL DRAFTS. VESSEL DRAFTS SHOULD NOT EXCEED \_\_\_\_\_ FEET (NOTE: Draft limitations will depend on the conditions). ALL GROUNDINGS SHALL BE REPORTED TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

**Enclosure 5**

CANCEL BNM \_\_\_\_\_ DUE TO RISING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

#### 4.F. Monongahela River Action Plan

##### 4.F.3. Maxwell Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<b>MAXWELL LOCK AND DAM</b>  <b>MONONGAHELA RIVER</b>  <b>MILE MARKER: 45.7</b>  <b>FLOOD STAGE READING:</b> 12' UG 31' LG  <b>OTHER USEFUL DATA:</b> NORMAL POOL 9' ON UG & LG CEASE LOCKING 31' LG MAX. DAM OPENING 110'  TABLE USES UPPER GAUGE TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.  <b>GAUGE READINGS:</b> <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a>	15' DAM OPENING	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	15'+ DAM OPENING	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	15'- DAM OPENING	Falling	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 2).

**Enclosure 1 (example)**

THE GATE OPENING AT MAXWELL DAM (MILE MARKER 61.2 ON THE MONONGAHELA RIVER) IS GREATER THAN 15 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD, HAS ISSUED THE FOLLOWING SAFETY ADVISORY.

EXERCISE CAUTION WHILE TRANSITING THROUGH THE AREA BETWEEN GATES LIGHT (MILE MARKER 76.1 ON THE MONONGAHELA RIVER) AND GRAYS LANDING DAM (MILE MARKER 82 ON THE MONONGAHELA RIVER).

**Enclosure 2 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

#### 4.F. Monongahela River Action Plan

##### 4.F.4. Grays Landing Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<b>GRAYS LANDING LOCK AND DAM</b>  <b>MONONGAHELA RIVER</b>  <b>MILE MARKER: 82</b>  <b>FLOOD STAGE READING: 17' UG</b>  <b>OTHER USEFUL DATA:</b> NORMAL POOL 9' ON UG & LG CEASE LOCKING 17' UG  TABLE USES UPPER GAUGE TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.  <b>CAUTIONARY NOTE 1:</b> WHEN WATER LEVELS ARE EXPECTED TO REACH OR EXCEED 21' UG, ALL GATES ARE TIED BACK SO THAT WATER CAN FLOW FREELY  <b>GAUGE READINGS:</b> <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a>	15' UG	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	15' + UG	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	15' - UG	Falling	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 2).

**Enclosure 1 (example)**

THE UPPER GAUGE AT GRAYS LANDING DAM (MILE MARKER 82.0 ON THE MONONGAHELA RIVER) READS GREATER THAN 15 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD HAS ISSUED THE FOLLOWING SAFETY ADVISORY FOR ALL BARGE FLEETING FACILITIES LOCATED ON THE MONONGAHELA RIVER.

1. FLEETING FACILITIES ARE ADVISED TO REVIEW AND ACT IN ACCORDANCE WITH THEIR WATERFRONT FLEET OPERATIONS GUIDE AND ANY COMPANY CONTINGENCY PLANS.
2. FLEETING FACILITIES ARE ADVISED TO ASSIGN A PERSON TO BE IN CONTINUOUS SURVEILLANCE AND TO OBSERVE THE BARGES IN THE FLEETING FACILITY.
3. FLEETING FACILITIES ARE ADVISED TO DOUBLE-UP LINES ON THE HEAD OF THE FLEET AND PROVIDE AN ADEQUATE NUMBER OF SPRING AND BREAST LINES BETWEEN THE DOCK AND THE BARGES IN THE FLEET.
4. FLEETING FACILITIES ARE ADVISED TO REVIEW THEIR NEED TO SECURE TOWBOAT ASSISTANCE.

**Enclosure 2 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

#### 4.F. Monongahela River Action Plan

##### 4.F.5. Point Marion Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<b>POINT MARION LOCK AND DAM</b>  <b>MONONGAHELA RIVER</b>  <b>MILE MARKER: 90.8</b>  <b>FLOOD STAGE READING: 29' LG</b>  <b>OTHER USEFUL DATA:</b> NORMAL POOL 9' ON UG & LG CEASE LOCKING 11' UG MAX. DAM OPENING 33'  TABLE USES UPPER GAUGE TO MONITOR RIVER CONDITIONS. THE POTENTIAL FOR VESSEL ALLISIONS WITH LOCK AND DAM TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES.  <b>GAUGE READINGS:</b> <a href="http://www.lrd-wc.usace.army.mil/text/pitrpt.txt">www.lrd-wc.usace.army.mil/text/pitrpt.txt</a>	20' DAM OPENING	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	20'+ DAM OPENING	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in high water conference calls. MSU Pittsburgh and/or WAPI will initiate a phone conference between CG, USACE and WAPI. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	20'- DAM OPENING	Falling	Normal Operations/ Normal Flow Conditions	Recovery	Continue monitoring river conditions and consider canceling Safety Advisory (Enc. 2).

**Enclosure 1 (example)**

THE GATE OPENING AT POINT MARION DAM (MILE MARKER 90.8 ON THE MONONGAHELA RIVER) IS GREATER THAN 20 FEET. DUE TO HIGH WATER / HIGH FLOW CONDITIONS, THE COAST GUARD, HAS ISSUED THE FOLLOWING SAFETY ADVISORY.  
EXERCISE CAUTION WHEN TRANSITING THROUGH COBURN BEND (MILE MARKERS 93 TO 95 ON THE MONONGAHELA RIVER).

**Enclosure 2 (example)**

CANCEL BNM \_\_\_\_\_ DUE TO FALLING WATER CONDITIONS. REPORT ANY HAZARDOUS CONDITIONS TO USCG SECTOR OHIO VALLEY ON VHF-FM CHANNEL 16 OR AT 1-800-253-7465.

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#### 4.G. Kanawha River Action Plan

##### 4.G.1. Winfield Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>WINFIELD LOCK &amp; DAM</b></p> <p>KANAWHA RIVER</p> <p>MILE MARKER: 31.1</p> <p>FLOOD STAGE READING: 46' LG</p> <p><b>Reference:</b> WINFIELD DAM</p> <p><b>OTHER USEFUL DATA:</b> MAX OPENING 110' GATES ALL OUT 35.5' LG CEASE LOCKING 39.8' LG</p> <p>TABLE USES DAM OPENING. THE POTENTIAL FOR VESSEL ALLISIONS WITH WINFIELD L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE APPROACHING LOCK DOWNBOUND. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b> DRIFT TENDS TO ACCUMULATE IN THE UPPER APPROACH.</p> <p><b>CAUTIONARY NOTE 2:</b> OUTDRAFT IS SEVERE AT APPROXIMATELY 30' OF GATE OPENING.</p> <p><b>GAUGE READINGS REPORT:</b> <a href="http://www.lrd-wc.usace.army.mil/text/hunrpti.txt">http://www.lrd-wc.usace.army.mil/text/hunrpti.txt</a></p>	<25'	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	25'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	40'	Rising	<u>Extreme High Water/ Extreme High Flow Conditions</u>	Action	MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	40' -	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate.
	25' -	Falling	Normal Operations / Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINER KANAWHA RIVER

1. THE CAPTAIN OF THE PORT OHIO VALLEY ADVISES ALL MARINERS TO PROCEED WITH CAUTION ON THE KANAWHA RIVER DUE TO HIGH AND FAST WATER. HIGH CURRENT VELOCITIES AND OUT DRAFT CONDITIONS EXIST AT WINFIELD LOCK AND DAM ON THE KANAWHA RIVER. MARINERS ARE URGED TO EXERCISE EXTREME CAUTION WHILE TRANSITING THIS AREA. ALL VESSELS MUST HAVE ADEQUATE HORSEPOWER TO MAINTAIN CONTROL OF THEIR TOWS. ALL FLEET OPERATORS SHALL REGULARLY CHECK THEIR FLEETS. ANY BARGE BREAKAWAYS SHALL IMMEDIATELY BE REPORTED TO USCG SECTOR OHIO VALLEY ON CHANNEL 16 VHF/FM OR AT 1-800-253-7465."

#### 4.G. Kanawha River Action Plan

##### 4.G.2. Marmet Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>MARMET LOCK &amp; DAM</b></p> <p>KANAWHA RIVER</p> <p>MILE MARKER: 67.7</p> <p>FLOOD STAGE READING: 43' LG</p> <p><b>Reference:</b> MARMET DAM</p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 85'            GATES ALL OUT 31' LG            CEASE LOCKING 34' LG</p> <p>TABLE USES DAM OPENING. THE POTENTIAL FOR VESSEL ALLISIONS WITH MARMET L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE APPROACHING LOCK DOWNBOUND. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            DRIFT TENDS TO ACCUMULATE IN THE UPPER APPROACH.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 20' OF GATE OPENING.</p> <p><b>CAUTIONARY NOTE 3:</b>            NEW LOCK CHAMBER UNDER CONSTRUCTION LANDWARD OF PRESENT CHAMBERS.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/hunrpti.txt">http://www.lrd-wc.usace.army.mil/text/hunrpti.txt</a></p>	<15.'	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	15.'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	30.'	Rising	<u>Extreme</u> High Water/ <u>Extreme</u> High Flow Conditions	Action	MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	30.'-	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate.
	15.'-	Falling	Normal Operations / Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINER KANAWHA RIVER

1. THE CAPTAIN OF THE PORT OHIO VALLEY ADVISES ALL MARINERS TO PROCEED WITH CAUTION ON THE KANAWHA RIVER DUE TO HIGH AND FAST WATER. HIGH CURRENT VELOCITIES AND OUTDRAFT CONDITIONS EXIST AT MARMET LOCK AND DAM ON THE KANAWHA RIVER. MARINERS ARE URGED TO EXERCISE EXTREME CAUTION WHILE TRANSITING THIS AREA. ALL VESSELS MUST HAVE ADEQUATE HORSEPOWER TO MAINTAIN CONTROL OF THEIR TOWS. ALL FLEET OPERATORS SHALL REGULARLY CHECK THEIR FLEETS. ANY BARGE BREAKAWAYS SHALL IMMEDIATELY BE REPORTED TO USCG SECTOR OHIO VALLEY ON CHANNEL 16 VHF/FM OR AT 1-800-253-7465."

#### 4.G. Kanawha River Action Plan

##### 4.G.3. London Lock and Dam High Water Operations

CRITICAL AREA DESCRIPTION	TRIGGER READING	TREND	DESCRIPTION	PHASE	ACTION
<p><b>LONDON LOCK &amp; DAM</b></p> <p><b>KANAWHA RIVER</b></p> <p><b>MILE MARKER: 82.8</b></p> <p><b>FLOOD STAGE READING: 43' LG</b></p> <p><b>Reference:</b> LONDON DAM</p> <p><b>OTHER USEFUL DATA:</b>            MAX OPENING 85'            GATES ALL OUT 33' LG            CEASE LOCKING 33' LG</p> <p>TABLE USES DAM OPENING. THE POTENTIAL FOR VESSEL ALLISIONS WITH LONDON L&amp;D TENDS TO INCREASE AS WATER RISES AND CURRENT INCREASES. VESSELS EXPERIENCE OUTDRAFT WHILE APPROACHING LOCK DOWNBOUND. MARINERS ARE ADVISED TO EXERCISE EXTREME CAUTION, ENTER CHAMBERS AT SLOWEST SAFE SPEED, AND PREPARE FOR POTENTIAL OUTDRAFTS.</p> <p><b>CAUTIONARY NOTE 1:</b>            DRIFT TENDS TO ACCUMULATE IN THE UPPER APPROACH.</p> <p><b>CAUTIONARY NOTE 2:</b>            OUTDRAFT IS SEVERE AT APPROXIMATELY 10' OF GATE OPENING.</p> <p><b>CAUTIONARY NOTE 3:</b>            DUE TO TOPOGRAPY, POOL LEVELS CAN RISE RAPIDLY.</p> <p><b>GAUGE READINGS REPORT:</b>  <a href="http://www.lrd-wc.usace.army.mil/text/hunrpti.txt">http://www.lrd-wc.usace.army.mil/text/hunrpti.txt</a></p>	<15.'	Rising	Normal Operations/ Flow Conditions		Locking operations normal.
	15.'+	Rising & projected to continue rising rapidly	High Water/ High Flow Conditions	Watch	Participate in up river high water conference calls. MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Topics to discuss: water conditions, concerns, future actions, weather forecasts and river stages. Sector Ohio Valley Command Center will initiate a Safety Advisory (Enc. 1).
	30.'	Rising	<u>Extreme High Water/ Extreme High Flow Conditions</u>	Action	MSU Huntington and/or HDWA will initiate a phone conference between CG, USACE and HDWA. Factors to evaluate include rate of rise, amount of drift, presence of ice and weather conditions. In extreme ice conditions consider providing local Pilot knowledge of river characteristics.
	30.'-	Falling	High Water/ High Flow Conditions	Action	Continue conference calls, monitor conditions, and adjust restrictions as appropriate.
	15.'-	Falling	Normal Operations / Normal Flow Conditions	Recovery	Continue monitoring river conditions and cancel Safety Advisory.

**Enclosure 1 (example)**

SUBJ: BROADCAST NOTICE TO MARINER KANAWHA RIVER

1. THE CAPTAIN OF THE PORT OHIO VALLEY ADVISES ALL MARINERS TO PROCEED WITH CAUTION ON THE KANAWHA RIVER DUE TO HIGH AND FAST WATER. HIGH CURRENT VELOCITIES AND OUTDRAFT CONDITIONS EXIST AT LONDON LOCK AND DAM ON THE KANAWHA RIVER. MARINERS ARE URGED TO EXERCISE EXTREME CAUTION WHILE TRANSITING THIS AREA. ALL VESSELS MUST HAVE ADEQUATE HORSEPOWER TO MAINTAIN CONTROL OF THEIR TOWS. ALL FLEET OPERATORS SHALL REGULARLY CHECK THEIR FLEETS. ANY BARGE BREAKAWAYS SHALL IMMEDIATELY BE REPORTED TO USCG SECTOR OHIO VALLEY ON CHANNEL 16 VHF/FM OR AT 1-800-253-7465."

## Section 5 – Risk Assessment

### 5.A.1. MSU Pittsburgh Casualty History by Location

MM	Casualties
0-5 OHR	17
10-15 OHR	14
30-35 OHR	14
5-10 OHR	12
90-95 OHR	12
80-85 OHR	11
5-10 MON	10
0-5 MON	9
20-25 MON	8
35-40 OHR	7
15-20 MON	7
25-30 MON	7
50-55 OHR	6
40-45 MON	6
75-80 MON	6

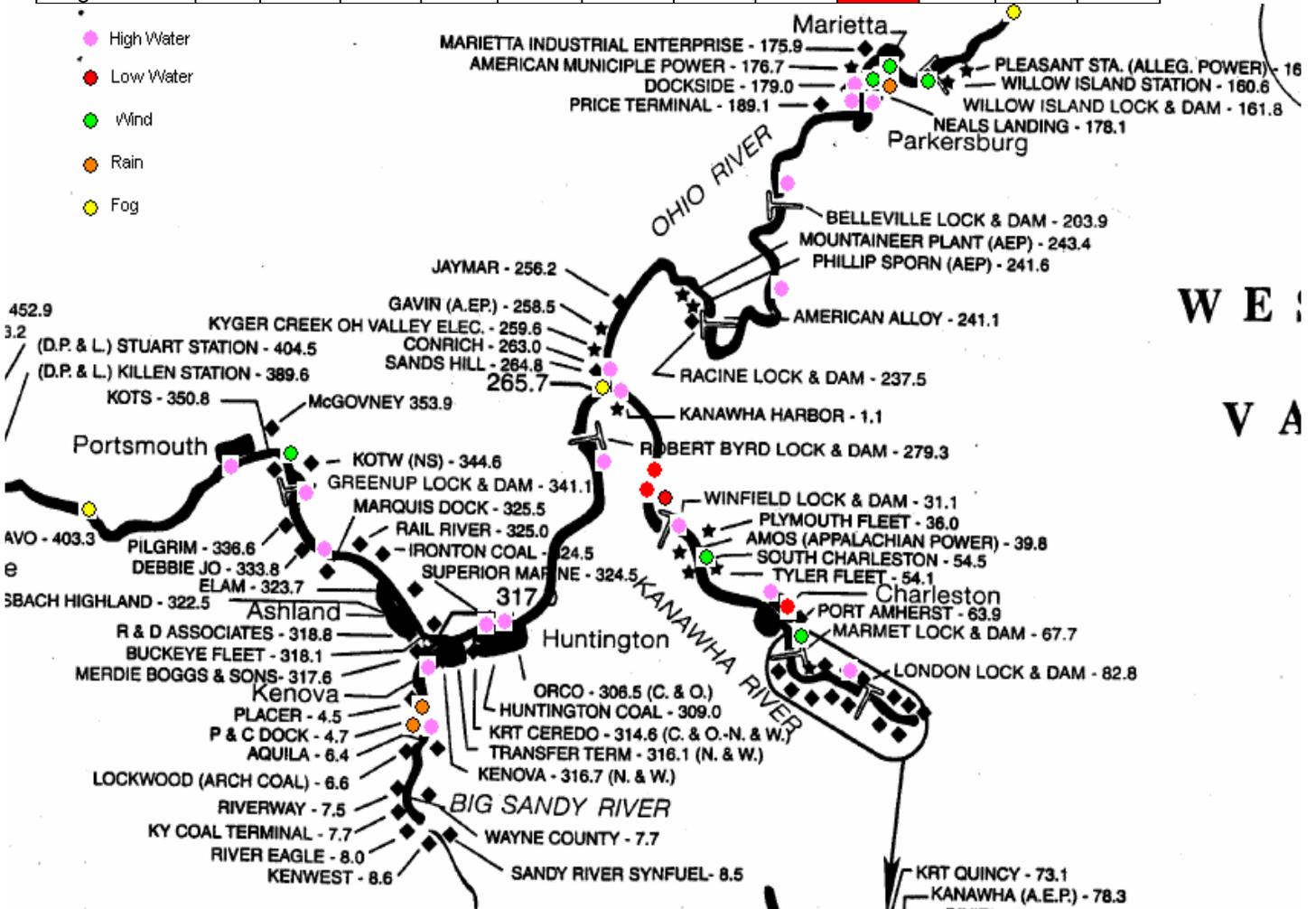
Location	Factors to Increase Likelihood of Casualty				Casualty History	Risk Score
	<a href="#">Obs to Nav</a>	<a href="#">Channel Width</a>	<a href="#">Bend Radius</a>	Congestion		
5-10 MON	High	High	Medium	High	High	510
90-95 OHR	High	High	Medium	High	High	510
5-10 OHR	High	Medium	Medium	High	High	420
10-15 OHR	High	Medium	Medium	High	High	420
30-35 OHR	High	Medium	Medium	High	High	420
80-85 OHR	Medium	High	Medium	High	High	420
75-80 MON	Low	High	High	High	Low	403
0-5 MON	High	Medium	High	High	Medium	330
0-5 OHR	Medium	Low	Medium	High	High	321
20-25 MON	High	High	Low	High	Medium	311
15-20 MON	Medium	High	Medium	High	Medium	240
25-30 MON	Low	High	Low	High	Medium	222
35-40 OHR	Low	High	Low	High	Medium	222
40-45 MON	High	Medium	Low	High	Low	213
50-55 OHR	Medium	Medium	Medium	High	Low	132

## 5.A.2. Marine Safety Unit Huntington Casualty History by Location

- Period of Analysis: 01 Jan 98 – 19 May 05
- Total Investigation Activities Considered: 522
- Casualty Types Considered: Grounding, Allision, Collision, Barge break-away, Pollution, Sinking (199 of 522)
- Total Casualties resulting from river/environmental conditions: 35
- Casualties **not** considered: Equipment failure, Personnel injuries, Drug/Alcohol use

Casualty Occurrences/Calendar Comparison (max occurrences highlighted):

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
High Water	8	2	0	2	2	2	2	0	0	0	0	1
Low Water	0	0	0	0	0	0	2	1	0	1	0	0
Wind	1	0	0	1	2	0	0	0	0	1	0	0
Rain	0	0	0	0	0	1	0	2	1	0	0	0
Fog	0	0	0	0	0	0	0	1	2	0	0	0



### 5.A.3. USCG Sector Ohio Valley (Louisville) Casualty History by Location:

Location	Factors to Increase Likelihood of Casualty				Casualty History	Risk Score
	Obs to Nav	Channel Width	Bend Radius	Congestion		
MM375-436 (Meldahl Dam Pool)	Low	Low	Low	Low	Low	6
MM437-531.5 (Markland Pool)	High	Low	High	High	Low	303
MM531-540 (McAlpine Pool Upper)	Low	Low	High	Medium	Medium	132
MM540-600 (McAlpine Pool Center)	Low	Low	Low	Low	Low	6
MM 600-609 (McAlpine Lock)	High	High	Medium	High	High	510
MM609-720.7(Cannelton Dam Pool)	Low	Medium	Medium	Low	Low	24
MM720.7-773 (Newburgh Pool)	Low	Medium	Low	Low	High	213
MM 773-781 (Newburgh Lock)	High	High	Medium	High	High	510
MM781-846 (John T. Myers Pool)	Low	Medium	Medium	High	High	321
MM846-867.2 (Smithland Pool)	Low	Low	Medium	Low	Low	15

MM	Description	Casualties	Groundings	Equipment Failures
374.9-436:	Meldahl Dam Pool	0	0	2
437-531.5:	Markland Dam Pool	4	0	3
531-540:	McAlpine Pool Lower	6	10	5
540-600:	McAlpine Pool Center	4	4	9
600-609:	McAlpine Lock	31	19	13
609-720.7:	Cannelton Dam Pool	3	13	30
720.7-773:	Newburgh Pool	8	24	32
773-781:	Newburgh Lock	6	6	9
781-846:	John T. Myers Pool	15	40	40
846-867.2:	Smithland Dam Pool	4	27	13

### 5.A.4. USCG Marine Safety Unit Paducah Casualty History by Location:

River	Location	Obs to Nav	Channel Width	Bend Radius	Congestion	Casualty History	Risk Score
Ohio River	MM846-867.2 (Smithland Dam Pool)	High	High	Low	High	High	420
	MM918.5-938.9 (Lock & Dam 52 Pool)	High	High	Low	High	High	335
	MM938.9-962.6 (Lock & Dam 53 Pool)	High	High	Low	High	High	275
	MM971.0-974.0 (Mound City Bar)	High	High	Low	High	High	410
	MM977.7 (IC Railroad Bridge)	High	High	High	High	High	510
	MM980.4 (Cairo Highway Bridge)	High	Medium	Medium	Medium	Low	350
Upper Mississippi River	MM0.3 (Cairo Point)	Low	Low	Medium	High	Medium	320
	MM1.3 (Route 60 / 62 Bridge)	High	High	High	High	Medium	420
	MM43.2 (Thebes Rail Bridge)	Medium	Medium	Medium	Medium	High	380
	MM44.0-52.0 (Grays Point)	High	High	High	Medium	High	510
	MM109.9 (Chester Highway Bridge)	Low	Low	Medium	High	Low	210
Lower Mississippi River	No problem areas to note.	Low	Low	Low	Low	Low	0
	No problem areas to note.	Low	Low	Low	Low	Low	0
Tennessee River	MM17.0-21.1 (I-24 Bridge & Vicinity)	Medium	Medium	Medium	Medium	Medium	310
	MM22.4-206.7 (Kentucky Lock & Dam Pool)	High	High	Low	High	Medium	250
	MM446.0-455.0 (The Gorge)	High	High	High	Medium	Low	320
Cumberland River	MM30.6-148.7 (Barkley Lock & Dam Pool)	High	High	High	Medium	Medium	250

MM	Description	Casualties	Groundings	Equipment Failures
<b>Ohio River</b>				
846-867.2	Smithland Dam Pool	4	27	13
918.5-938.9	Lock & Dam 52 Pool	31	28	5
938.9-962.6	Lock & Dam 53 Pool	6	23	6
971.0-974.0	Mound City Bar	5	18	0
977.7	IC Railroad Bridge	8	0	0
980.4	Cairo Highway Bridge	7	0	0
<b>Upper Mississippi River</b>				
0.3	Cairo Point	12	9	1
1.3	Route 60 / 62 Bridge	8	0	0
43.2	Thebes Rail Bridge	9	0	0
44.0-52.0	Grays Point	6	11	0
109.9	Chester Highway Bridge	5	0	0
<b>Lower Mississippi River</b>				
N/A	No problem areas to note			
<b>Tennessee River</b>				
17.0-21.1	I-24 Bridge & Vicinity	5	4	0
22.4-206.7	Kentucky Lock & Dam Pool	2	6	8
446.0-455.0	The Gorge	0	0	0
<b>Cumberland River</b>				
30.6-148.7	Barkley Lock & Dam Pool	3	5	5

## 5.B. Risk Tool Legend

Risk Factors					
Need for Precise Control	Navigational Complexity			Congestion	Casualty History (7 yr period)
	Obstructions to Nav	Channel Width (Full Banks)	Bend Radius		
<b>High</b>	Multiple Obstructions	Narrow (single passage)	sharp bend(>180 deg)	Traffic always present	>10
<b>Medium</b>	Single Obstruction	Medium (dual passage possible/likely)	gradual bend (btn 90 and 180 or	Traffic sometimes present	6>x>10
<b>Low</b>	No Obstructions	Wide (more than 2 vsl passage possible)	no bend (>90 deg) or no river crossing	Traffic rarely present	>6

## **Attachments**

1. Notice to Navigation Interests 06-88, Winter Navigation on the Ohio River and Tributaries