

Regional Flood Risk Management Program

Mississippi Valley Division

2012 Flood Preparedness Reference Guide

30 March 2012

Purpose of this Document:

- This document describes the results of the MVD Regional 2012 Flood Season Preparedness effort and explains how to access the tools and products recently completed to improve communication and understanding of current Mississippi River system risks.

Purpose of Preparedness Effort:

- The preparedness effort was implemented to complete priority activities prior to the next flood season (30 March 2012) to manage and mitigate risks caused by 2011 flood damages to the Mississippi River and Tributaries (MR&T) Project and other Mississippi River Flood Risk Reduction Projects. This regional effort identified key risks within the MR&T, how risks are being addressed, and effectively communicates this information to partners and stakeholders.

Background:

- USACE HQ supported Mississippi Valley Division in moving forward with regional flood season preparedness due to the damaged state of the system and elevated risk to life safety
- IRTF and other emergency management partners clearly expressed support for this effort
- This initiative builds on prior work done through the MR&T Damage Assessment Reports, the prior System Performance Evaluation, and District preparedness efforts already underway
- The preparedness effort was advanced as a coordinated system approach focused on three key aspects of flood season preparedness including Risk Identification, Risk Management, and Risk Communication

Regional Flood Risk Management Program

RISK IDENTIFICATION

(Attachment A: Risk Identification Products)

- Preparedness efforts focusing on risk identification were implemented to clearly identify and communicate the elevated risks caused by 2011 flood damages to the system. These efforts produced regionally consistent tools and products that effectively convey Risk (including both probability and consequence of failure).
- Products and Tools:

Information Papers

- Risk Information Papers provide details on risks and potential consequences at damaged system locations.
- **Product Access:** These regionally consistent documents can be accessed through CorpsMap at the following link (see CorpsMap Brochure as well):
<http://www.mvr.usace.army.mil/PublicAffairsOffice/FRMP/floodseason.htm>

Sub-System Risk Documents

- Sub-system Risk Documents provide details on elevated risks associated with a levee sub-system. The 3-4 page standardized documents include a map, table and text discussing and comparing risks of all damaged locations within the sub-system. These documents were prepared for the following locations:

Memphis District

1. Mississippi & Ohio River Levee at Cairo and Vicinity
2. Combined Levees from Near Cape Girardeau, MO to Marianna, AR
3. Hickman, KY - Obion Levee
4. Birds Point New Madrid Floodway Levee System

Vicksburg District

5. AR-LA Mississippi River Levee System
6. East Bank Mississippi River Levee and the Yazoo Backwater West Levee

New Orleans District

7. Mississippi River East Bank Levee System
 8. St. Bernard Polder Levee System
 9. Belle Chasse Polder Levee System
 10. Mississippi River West Bank - Above Old River Levee System
 11. Wax Lake West Levee System
 12. Mississippi River West Bank - Below Morganza Levee System
 13. Westwego/Harvey/Algiers Levee System
- **Product Access:** The sub-system documents and supporting risk information can be requested through the appropriate USACE District.

Regional Flood Risk Management Program

Inundation Maps

- Regionally standardized inundation maps displaying potential timing, depth, and consequence of inundation were prepared for eight high risk areas in the Mississippi River Valley including:
 - St. Paul District
 1. Souris River
 - St. Louis District
 2. Len Small
 3. Cairo
 - Memphis District
 4. Fulton County
 - Vicksburg District
 5. Francis
 6. Wilson Point
 7. Winterville
 8. Tara
- A regional team is also poised to quickly prepare these standardized maps as needed.
- **Product Access:** A standardized regional method of distributing this information is currently under development, however, hard copy maps and other supporting inundation information are available by request through the appropriate USACE District.

RISK MANAGEMENT

[\(Attachment B: Risk Management Products\)](#)

- Preparedness efforts focused on risk management were implemented to develop and share information about how system risks were being addressed (e.g., through construction efforts) and what risks remain.
- Products and Tools:
 - Risk Management Information Papers***
 - Flood Risk Management Information Papers describe how risks at damaged locations are being addresses through construction, interim measures, and flood fight preparation. The information paper is formatted into one easy to digest page describing the status of risk management efforts prior to this upcoming flood season. It also identifies mobilization activation stages and has a link to the NWS site for current stage forecasts.
 - **Product Access:** These regionally consistent documents were developed for 45 high-risk locations and can be accessed through CorpsMap at the following link (see

Regional Flood Risk Management Program

CorpsMap Brochure as well):

<http://www.mvr.usace.army.mil/PublicAffairsOffice/FRMP/floodseason.htm>

Flood Season Preparedness and Emergency Response Summary Report

- This document has been developed to capture in general terms, the efforts USACE has undertaken to manage and mitigate risks associated with the flood of 2011 and in preparation for the next flood event. It is intended to be used as a tool and in conjunction with other products produced under Operation Watershed Recovery (OW-R) in an effort to communicate both internally and externally the risks which remain to the public in the wake of the 2011 flood event.
- The document includes discussion of the 2011 flood, damages and immediate needs, recovery needs, interim plans for reservoir/floodway operations, and development of a regional risk communication plan and products.
- **Product Access:** This document will be distributed to IRTF partners for review on 29 March and will be served through the MVD Flood Season Preparedness website after it becomes final:

<http://www.mvr.usace.army.mil/PublicAffairsOffice/FRMP/floodseason.htm>

RISK COMMUNICATION

(Attachment C: Risk Communication Products)

- Preparedness efforts focused on improving risk communication were implemented to better prepare USACE and our partners for the upcoming flood season. Feedback from our partners and lessons learned from the 2011 flood event provided the team with ways to improve risk communication processes and products

- Products and Tools:

Flood Season Preparedness Workshop

- A workshop was developed as part of this effort to advance regional communication and coordination of flood season preparedness between MVD, six Mississippi Valley Districts, Federal and State partners.
- The workshop was broken into two primary sections which focused on:
 1. Mississippi Valley Regional Risk Overview - risk identification, management, and communication showcasing publically available regional tools, e.g., CorpsMap
 2. District Case Studies - District overviews and specific examples of flood season preparedness for high risk areas in the system, showcasing best practices and lessons learned from the 2011 flood event
- The workshop was well attended with over 80 participants and the net result was improved situational awareness and partners more fully understanding the current elevated risks on the system and how they can more effectively work with the Corps and public in addressing those risks.

Regional Flood Risk Management Program

- **Product Access:** Workshop materials are available at the MVD Flood Season Preparedness website:
<http://www.mvr.usace.army.mil/PublicAffairsOffice/FRMP/floodseason.htm>

CorpsMap

- CorpsMap is being used to regionally serve several products through this preparedness effort in a GIS format that allows public users to quickly locate risk information via map queries.
- **Product Access:** The public CorpsMap site can be accessed at the following location (see CorpsMap Brochure as well):
<http://www.mvr.usace.army.mil/PublicAffairsOffice/FRMP/floodseason.htm>

Flood Seasons Preparedness Website

- An MVD Flood Season Preparedness website and brochures were developed to improve communication of regional risk communication products, tools and programs.
- **Product Access:** The website can be accessed at the following link:
<http://www.mvr.usace.army.mil/PublicAffairsOffice/FRMP/floodseason.htm>

Flood Season Preparedness Risk Communication Plan

- A communication plan was developed to provide structure and guidance on how to best communicate system risks brought about by 2011 flood damages. This document focuses on effective internal and external communication processes with partners, stakeholders, and the public.
- The plan includes a clearly laid out communication strategy and public affairs guidance for consistent risk communication across the region.
- **Product Access:** The communication plan is being distributed as part of the *Flood Season Preparedness and Emergency Response Summary Report*. This document will be distributed to IRTF partners for review on 29 March and will be served through the MVD Flood Season Preparedness website after it becomes final:
<http://www.mvr.usace.army.mil/PublicAffairsOffice/FRMP/floodseason.htm>

Regional Flood Risk Management Program


Attachment A

Risk Identification Products

Regional Flood Risk Management Program

RISK IDENTIFICATION: Risk Information Papers provide details on risks and potential consequences at damaged system locations. These regionally consistent documents are served and quickly accessible through the public CorpsMap site.

Last Update: 31 August 2011



**US Army Corps
of Engineers**
Vicksburg District

Information Paper Buck Chute

OPERATION WATERSHED RECOVERY – CRITICAL REPAIR SITES

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OVERVIEW

DISTRICT: Vicksburg District
TYPE: Boils and Seepage
RM: RM 459.6 (110+00 BEL)
FRAGO CLASS: 1 – High Potential for Loss of Life
RISK: 3,996 residents, \$188.5M infrastructure
REPAIR: Berm, 30 Relief Wells, and 12 Horiz. drains
EST. REPAIR COST: \$2,640,000

Damage Assessment

In early 2010, MVK was notified of multiple boils in the project area. In early summer of 2010, the boils were sandbagged as River Levels reached flood stage and the flow of the boils increased. In February, 2011, when conditions in the project area were dry, two of the largest boils were pumped, revealing voids at boil sources as wide as 20 ft and as deep as 10 ft. The voids revealed no obvious “pipes” that continued downward or laterally from the void bottom. As River levels continued to rise and approach flood stages in March 2011, the boil area voids were backfilled with sand material, covered with a nonwoven filter fabric, and either sandbagged or earthen dams were constructed around them. In May 2011, an emergency berm was constructed over the area which encompassed the worst known boil areas. The top of the berm was constructed to approximate elevation 85.0 ft. Because of the high exit gradients for the predicted flood stages for the known boil areas, and the consequences of failure at this location, it was decided to flood the entire project site by raising water levels in Eagle Lake to approximate elevation 90.0 ft through the use of Muddy Bayou Control Structure. In order to reduce the risk of failure without raising water levels in Eagle Lake, remediation is recommended prior to the next high water season.

Risk and Consequence

If the East Bank Mississippi River Levee System were to fail at the Buck Chute site, the population at risk would be 3,996. The value of the non-residential structures is \$31,141,000, and the value of the 1,436 residential structures is \$157,396,000.




Figure 1. Aerial view of Buck Chute during 2011 flood fight.

Critical Repairs

The reset recommendation for this site includes a 1700 ft reach of earthen berm 200 to 240 ft wide and relief wells from Station 106+50 to 123+50. A 400 ft section of the berm includes a drainage and collection feature, including horizontal drains and a pervious sand layer. The item includes 30 relief wells and 12 horizontal drains. In-place berm volumes will be approximately 13,600 cubic yards of sand for the drainage feature and 150,000 cubic yards for the remaining berm.

Special Considerations

The site is covered under the 1998 MRL SEIS, as item 458-L, and covers multiple work items. The SEIS does not cover planned relief wells for this site; however, an EA was prepared to cover these wells and a FONSI signed. Coordination under Section 9 of the Endangered Species Act has been completed. The 404 water quality permit for the project has been obtained, and all project impacts have been mitigated for, as this site is part of the existing MRL mitigation program. This segment of EBMRL is not currently certified, but this fix, along with other work MVK currently has planned in the area, will allow certification of the levee system. The Board of Mississippi Levee Commissioners has acquired the necessary ROW for the project.

Schedule

Bids solicited - 10 Aug 2011
Contract Awarded - 30 Aug 2011
Anticipated contract duration 120 days. Scheduled completion in January 2012.

Acquisition Strategy

Unrestricted competitive bid awarded 30 Aug 2011 to Phylway Construction, LLC for \$3,100,225.00. This site was combined with No. 8 site, Albermarle.

FOUOPRE-DECISIONAL

Regional Flood Risk Management Program

RISK IDENTIFICATION: Regionally standardized **Inundation Maps** display potential timing, depth, consequences of inundation. These maps were prepared for eight high risk areas within the valley this Spring. A regional team is also poised to quickly prepare these standardized maps as needed. A standardized regional method of distributing this information is currently under development.

A graphic example of the inundation map could not be displayed in this document due to current guidance on distribution of this type of sensitive information. How to obtain hard copies of the inundation maps and supporting information is discussed in the beginning of this document.


Regional Flood Risk Management Program

Attachment B

Risk Management Products

Regional Flood Risk Management Program

RISK MANAGEMENT: Flood Risk Management Information Papers describe how risks at damaged locations are being addresses through construction, interim measures, and flood fight preparation. It is formatted into one easy to digest page describing the status of risk management efforts prior to the upcoming flood season. The document will also identify mobilization activation stages and have a link to the NWS site for current stage forecasts. These documents are currently accessible through CorpsMap.



OPERATION WATERSHED UPDATE

2012 Interim Measures / Flood Fight Preparations

Francis


Feb. 06, 2012

Greenwood Project Office –Rosedale SectorVicksburg District

Risk and Consequences

Sand boils and seepage damage from 2011 flooding left this site in a condition of high risk. During the post-flood damage assessment phase, this site was listed as a FRAGO Class 2 priorities for significant potential for loss of life and significant economic damage.

If the East Bank Mississippi River Levee System were to fail at the Francis site, the population at risk would be 67,180. The value of the non-residential structures is \$561,855,000, and the value of the 22,599 residential structures is \$2,261,510,000.



Risk Management Status

Flood fight measures taken place last spring will remain in place until further construction/interim measures can be implemented. Plans and specifications are currently underway with an expected Request to Advertise in June of 2012. Award date for construction contract expected in August of 2012.

Construction/Interim Measures

Remediation consist of approximately 2,200 feet of Relief Wells from Sta. 146+00 - 156+00 (Francis) and Sta. 3742+00 - 3754+00 (Above Greenville - Winterville).

Flood Fight Preparations

Mobilization of District forces to assist the Levee Board will take place in two successive phases. All flood fight roster positions have been filled and training on both traditional and innovative flood fight techniques will be conducted by 1 Apr. A meeting with the Levee Board and USACE will be conducted on 24 Feb in preparation for the upcoming flood season. Maintenance has been performed on pumps and flood fight supply inventories including sandbags and Hescos have been replenished. A request has been made to the Engineering Research and Development Center (ERDC) regarding availability to provide smartphones, utilized during last year's flood event, which use the phone's GPS, camera, and data capabilities to collect field data and automatically upload it to a server database. The sand bag rings and earthen dike placed at this site during last year's flood are still in place. These features were constructed to create a water berm to mitigate several large and small sand boils. The Levee Board has arrangements with the landowner to leave these features in place until permanent measures can be designed and constructed. The Levee Board has constructed a fence around the area to keep livestock out of the area and is keeping the grass mowed. Staging areas have been identified on site for stockpiling materials to mitigate a larger area in the event sand boils arise outside the current measures in place. Sources for materials have been identified in close proximity to the site should such need arise.




Image 1 — Sandbag ring around boils at Francis

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Area Engineer: Lamar Jenkins (662) 455-0244
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The Greenwood Area Office is located at 100 Moore St.,
Greenwood, MS 38930

Flood Fight Phase Mobilizations

Information stated below is based on the Arkansas City Gage station

Flood Stage:	37 ft.
Phase I Mobilization:	38 ft.
Phase II Mobilization:	44 ft.

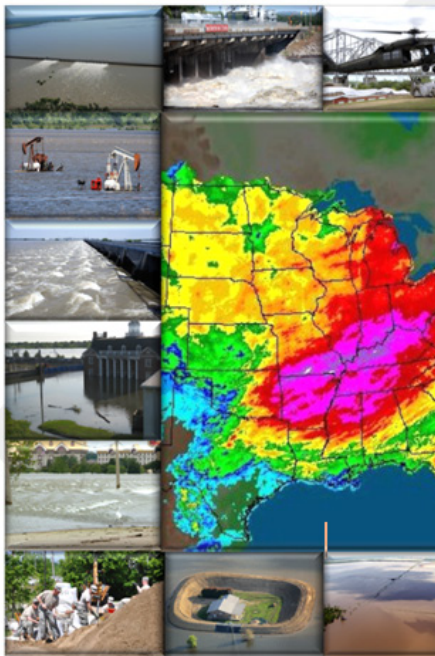
[Link to NWS site for current stage forecast conditions](#)

Regional Flood Risk Management Program

RISK MANAGEMENT: A Flood Season Preparedness and Emergency Response Summary Report was developed to provide a regional summary of how the elevated 2012 Mississippi River system risks are being addressed through construction, interim measures, flood fight activity, or modified operations. It includes explanation of priority activities which are underway in an effort to manage and mitigate risks caused by 2011 flood damages to the Mississippi River and Tributaries (MR&T) Project and other Flood Risk Reduction Projects prior to the next flood season (30 March 2012).

OPERATION WATERSHED – RECOVERY

2012 Flood Season Preparedness and Emergency Response Summary



March 2012

2012 Flood Season Preparedness and Emergency Response Summary

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 - A. OVERVIEW
 - B. KEY DECISIONS & EMERGENCY ACTIONS/REPAIRS REQUIRED DURING FLOOD
3. SECTION III - DAMAGES & IMMEDIATE NEEDS (Self funded projects)
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 - 3.2 PHYSICAL COMPONENTS/FEATURES
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 - ii. CI Items
 - iii. Dredging Items
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Regional Flood Risk Management Program

Attachment C

Risk Communication Products

Regional Flood Risk Management Program

RISK COMMUNICATION: A **Regional Flood Season Preparedness Workshop** was developed as part of this effort to advance regional communication and coordination of flood season preparedness between MVD, six Mississippi Valley Districts, Federal and State partners.

**REGIONAL FLOOD RISK
MANAGEMENT PROGRAM**



US Army Corps
of Engineers
Mississippi Valley Division



Regional Flood Risk Management

Draft Regional 2012 Flood Season Preparedness Workshop

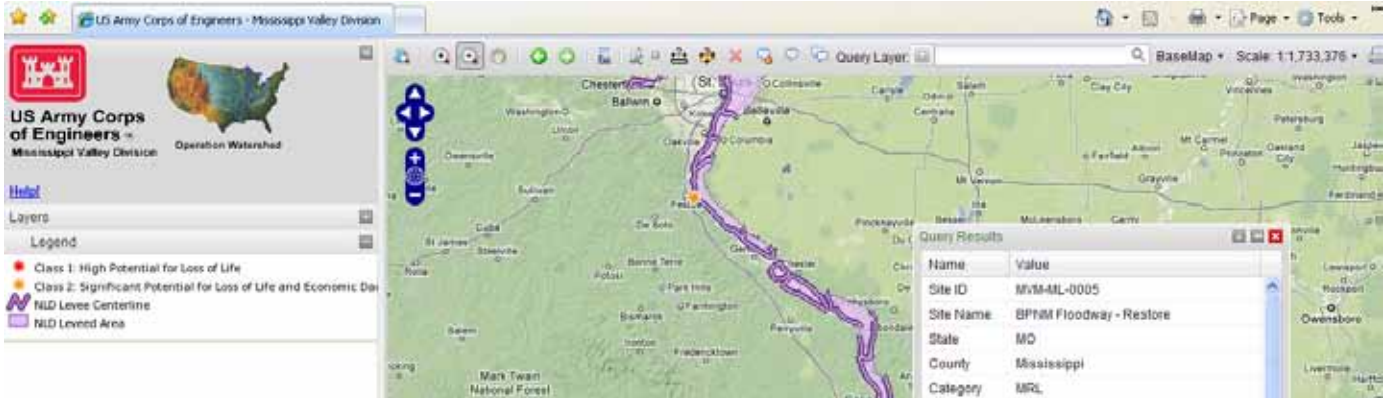
23 February 2012

Workshop Purpose: To clearly convey risks imposed on the system from the 2011 flood, by identifying, managing, and communicating those risks through the use of regional tools

8:00	Welcome & Introduction <ul style="list-style-type: none">• MG Peabody• Memphis District Commander
8:15	NWS Spring Forecast – Ben Weiger
8:30	Regional Risks <ul style="list-style-type: none">• 2012 Flood Season Preparedness Introduction – Hank DeHaan• Risk Identification – Jeff Stamper<ul style="list-style-type: none">○ MR&T damage, inundation maps, life safety, economic risk, environmental risk• Risk Management – Ben Robinson<ul style="list-style-type: none">○ Construction, interim measure, flood fight, modified operation• Risk Communication – Gloria Piazza<ul style="list-style-type: none">○ Workshop, CorpsMap/web tools, talking points, regional communication plan
11:00	LUNCH
12:00	Case Study #1 – Souris River (St. Paul District, Terry Zien) <ul style="list-style-type: none">• District Flood Season Preparation• Souris River Risk Identification, Management, Communications
12:30	Case Study #2 – Regional Flood Fight Center - (Rock Island District, Rodney Delp)
1:00	Case Study #3 – Len Small (St. Louis District, Mike Rodgers)
1:30	Case Study #4 – Fulton County (Memphis District, Steve Barry)
2:00	Case Study #5 – Frances MRL (Vicksburg District, Gordon Watkins)
2:30	Case Study #6 – Morganza (New Orleans District, Mike Stack)
3:00	Discussion – next steps, institutionalizing annual flood preparedness workshops
3:30	Adjournment

Regional Flood Risk Management Program

RISK COMMUNICATION: CorpsMap provides stakeholder and public access to regionally standardized risk maps and documents including risk information and risk management information papers.



Last Update: 31 August 2011

US Army Corps of Engineers
Memphis District

Information Paper

Birds Point New Madrid Floodway "Make Safe & Stable Operations"

OPERATION WATERSHED RECOVERY – CRITICAL REPAIR SITES

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OVERVIEW

DISTRICT: Memphis District
TYPE: Levee Damage – Three (3) Artificial Crevasse
RN: 951R to 890R
FRAGO CLASS: 1 - High Potential for Loss of Life and Significant Economic Damage
RISK: Unexploded Ordinance, Scour hole through county road, Loss of protection to 133,000 Acres agricultural land.
REPAIR: Remove residual blasting agent. Limit access along county road. Sand fill scour holes and construct interim clay levee.
REPAIR COST: \$18,000,000

Damage Assessment
 Three sections of the frontline levee were artificially crevassed by MVM on 2 May 2011 for the purpose of activating the 133,000 acre Birds Point New Madrid Floodway. The combined length of crevasses is approximately four miles. Detonation of blasting agent used in creating crevasses was incomplete and the residual material that remained on site was assumed to be a viable product. Inflow thru the middle crevasse created a 45' deep scour hole across a county road. There was additional damage to levee sections adjacent to intentional crevasses from natural overtopping. Significant damage to public infrastructure and private property located within the floodway.

Risk and Consequence
 The risk to the public by not removing the residual blasting agent and erecting road closures was deemed unacceptable. Failure to provide interim level of protection creates tremendous economic hardship on the local economy and in particular Mississippi and New Madrid counties.

Critical Repairs
 The removal of residual blasting agent and providing safe traverse is critical to public safety.

Special Considerations
 An Environmental Assessment is out for Public Comment that addresses construction of the interim levee at the middle crevasse and future Restore Operations for all three crevasses. We are also operating a Claims Information Center located in New Madrid, MO.

Schedule
 CEMVVG guidance provided 15 Jun 11 to commence "Make Safe & Stable" operations based on a target elevation of 51' on the Cairo gage. Construction commenced on 16 Jun 11 and construction is scheduled for completion NLT 30 Nov 11.

Acquisition Strategy
 Work is being accomplished by MVM hired labor forces that are being supplemented with other regional hired labor forces. We are also making use of supply services contracts for delivery of materials.

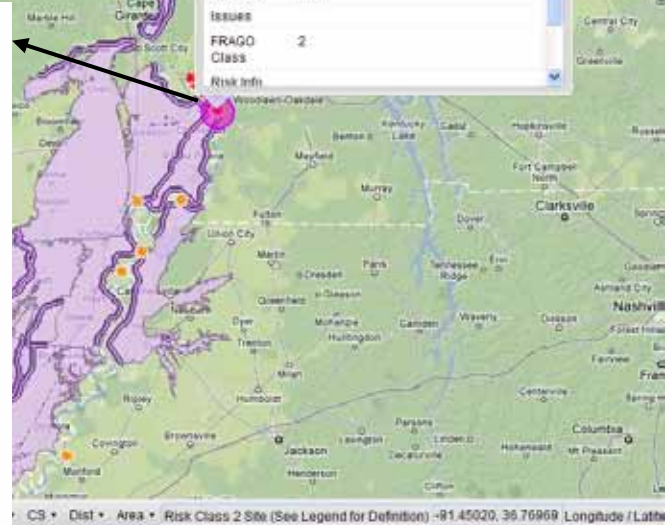



Figure 1: BPNM Floodway Vicinity Map


Regional Flood Risk Management Program

RISK COMMUNICATION: A Flood Season Preparedness Website and Brochures were developed to improve communication of regional risk communication products, tools and programs.



US Army Corps of Engineers

Mississippi Valley Division



WHO WE ARE
MISSION
Other USACE Links
MS River Commission (MRC)

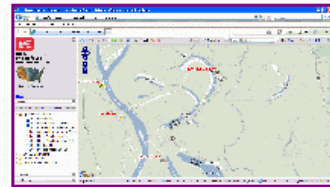
Regional Flood Risk Management

Flood Preparedness

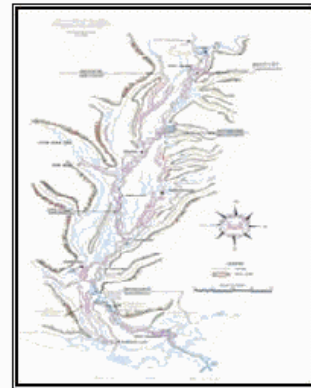
- CorpsMap: Risk Information
- CorpsMap Brochure
- Workshop Materials
- Log-in
- Press Releases
- Emergency Response Documents

Flood Season Preparedness

With the damaged condition of levees and other flood damage reduction structures and the seasonal spring floods in mind, the Corps created a Regional 2012 Flood Preparedness Team in order to mitigate flood risks to an already vulnerable system. The team is focusing on: 1.) Risk identification – what are the risks? 2.) Risk mitigation – how are risks being addressed, and 3.) Communication – how are we communicating the information to our partners and stakeholders?



Risk Identification involves identifying areas at elevated risk using available damage assessment reports, after action reports from the flood, and the system performance evaluation interim report. This information is then reviewed by structural, hydraulics, and



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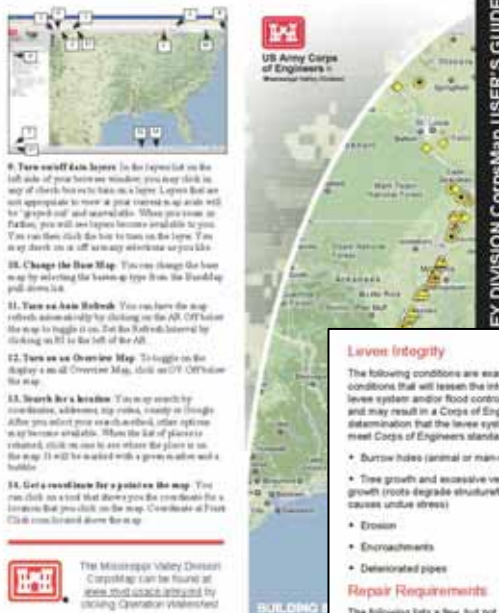
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How To Guide

1. **Reload the map.** To "refresh" or "reload" the map, just click on the browser refresh button. If you are looking at a view from a previous session, the default view for your map. All open the layers folder and turn off all layers.
2. **Be aware of the map.** You can "pan", or zoom, around the map by clicking on the mouse wheel or dragging a line that indicates your area of interest.
3. **Zoom in.** You can zoom in by clicking on the Zoom-In tool located above the map canvas, or dragging a line that indicates your area of interest.
4. **Zoom out.** You can zoom out by clicking on the Zoom-Out tool located above the map canvas, or dragging a line that indicates your area of interest.
5. **Go Back to the Previous View.** You can return to the most of previous views by clicking on the Previous View tool located above the map. There is an icon for each previous view you can return to.
6. **Find layer information.** There are two ways to find layer information on a layer. By default, the last layer you turned on is the layer list because the active query layer. The Active Query Layer is always shown on the status bar below the map. If the active query layer is not what you want, click the query layer by using the "Query Layer" pull-down menu above the map. This list contains links to just the layers you have turned on. Then, you can select the "Query Layer" button which will display the layers information in a bubble where you have your a feature on the map. When the bubble pops up, you can click on any "Link" and another web page will open. All of the layers will have additional clickable links.

Alternatively, you may select the "Click to Query" button, which allows you to select features on the map by clicking and dragging on the map.

7. **See what the search areas.** You can bring up a legend by clicking on the Legend tool left of the map. Only the layers that you checked on in the legend will be shown.
8. **Print the map on the screen.** You can print the map by clicking on the Print icon on the right of the tool bar. The legend will be visible on the right of the map. After the map is printed, click Print.



MISSISSIPPI VALLEY DIVISION CORPSMAP USER'S GUIDE

Levee Integrity

The following conditions are examples of conditions that will lessen the integrity of a levee system and/or flood control project and may result in a Corps of Engineers determination that the levee system does not meet Corps of Engineers standards:

- Burrow holes (animal or man-made)
- Tree growth and excessive vegetation (roots degrade structures/weight causes undue stress)
- Erosion
- Encroachments
- Deteriorated pipes

Repair Requirements

The following lists a few, but not all, considerations for PL34-99 repairs:

- If emergency supplemental funds are not congressionally authorized for PL34-99 repairs, repairs will be prioritized by HQUSACE.
- Rehabilitation Assistance projects must have a favorable Benefit-to-Cost Ratio (i.e., > 1.0) in accordance with the Principles and Guidelines contained in Chapter 6, EIR 1332-2-100, regarding National Economic Development (NED) Benefit Cost Analysis.
- If it is the levee districts responsibility to provide borrow materials to repair their respective levee, Levee districts are encouraged to be proactive and seek lands available for borrow prior to a flood event. When additional soil is required in order to complete the repair, a borrow site is required. A borrow site is a location where soil is removed to be used in the repair of damages to existing levees, in order for federal funding to be used for a levee repair, the borrow site must be approved by the Corps.

Things To Remember

- Levees do not eliminate flood risk.
- The number one goal of the Levee Safety Program is public safety.
- It is important to communicate accurate and timely information about the risk of living and working behind levees so informed decisions can be made about safety.
- Levee safety is a component of a broader flood risk management approach.
- A sustainable, system-wide, and collaborative approach is the most effective way to manage and assess levees and other flood risk reduction methods.
- A levee system is only as strong as its weakest levee.
- Levee safety is a shared responsibility.

National Levee Database

The National Levee Database (NLD) allows users to search and visualize attributes of levees and floodwalls related to flood fighting, design, construction, operation, maintenance, repair and inspection.

To access the database, visit www.nld.usace.army.mil



US Army Corps of Engineers
St. Louis District

For more information on the PL34-99 Levee Rehabilitation Program, visit www.mva.usace.army.mil or call (314) 331-8000

PUBLIC LAW 84-99 (PL 84-99)

Regional Flood Risk Management Program

RISK COMMUNICATION: A **Flood Season Preparedness Risk Communication Plan** was developed to provide structure and guidance on how to best communicate system risks brought about by 2011 flood damages. This document focuses on effective internal and external communication processes with partners, stakeholders, and the public.

Flood Season Preparedness Draft Risk Communication Plan

Purpose

The plan provides a structure and guidance to discuss internally and with partners, stakeholders, and the public the damages caused by the 2011 monumental flooding of the Mississippi River Valley, and the associated risks to the watershed. Taking into account the vulnerable condition of the MR&T project and projected National Weather Service Spring forecast, the Corps mobilized a Regional 2012 Flood Preparedness Team in mid December to develop plans to manage, mitigate and communicate flood risks throughout the MR&T system. This regional effort will identify key risks within the MR&T, ways to minimize risk, and effectively communicate this information to partners, stakeholders and the public. This internal document will communicate the strength, safety, and reliability of the MR&T project and the coordinated flood fighting efforts among the Corps, its stakeholders, the media, and the public. The public will be given the opportunity to view and understand our efforts prior to and during the upcoming flood season through the use of regional tools and products.

There are three major parts (1) the introduction, which includes principles of open and transparent communication, goals and objectives, background, target audience and timeline, (2) Communication Strategy which identifies tools, methods, resources and protocols for communicating and (3) the public affairs guidance which includes the key messages, suggested public affairs package for release, follow up activities, and appendices with sample materials.

PART I: INTRODUCTION

During this historic flood event, the MR&T system has been operating as it was designed, and the existing water control plan has worked to protect the lives and livelihoods of millions of people. Due to the success operation of the Mississippi River & Tributaries project, flood damages prevented are currently estimated at more than \$110 billion. Without the proper operation of the MR&T system, more lives and property would have been put at risk. Without repairing this system before the next high water event, it may not be able to prevent the tens of billions of dollars in damages as it's doing right now. As is, another record flood in this system might cause a natural and economic disaster.

PRINCIPLES OF OPEN AND TRANSPARENT COMMUNICATION:

- a. Empathetic to impacts
- b. Consistent regionally, locally tailored and delivered
- c. Focus on life safety, risk, actions, and path forward (shared solutions)
- d. Focus on effective discussion/communication of damages and associated risks

GOALS & OBJECTIVES:

- Start the discussion with sponsors, stakeholders and the public about risks associated with the system and the shared responsibility for risk management;
- Improve understanding of risk;