

St. Louis District Water Data and Watershed Management Website USER GUIDE

Joel Asunskis, P.E.

June 1, 2011



®

US Army Corps of Engineers
BUILDING STRONG®



U.S. Army Corps of Engineers - St. Louis District - Water Management - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/index_new.html

File Edit View Favorites Tools Help

U.S. Army Corps of Engin... U.S. Army Corps of Engineers... U.S. Army Corps of Engineers...

US Army Corps of Engineers

St. Louis District

BUILDING STRONG®

Water Management

The St. Louis District is responsible for maintaining the waterways that flow through a large part of Eastern Missouri and Southwestern Illinois. Located within the District's boundaries are 300 miles of the Mississippi River, including its four most southerly Lock and Dams and its confluence with the Missouri and Illinois River. Also included are several tributary rivers, dozens of other small streams, and five multi-purpose reservoirs - Lake Shelbyville, Carlyle Lake, Rend Lake, Mark Twain Lake, and Lake Wappapello. These waterways must continually be monitored and regulated to facilitate a number of purposes. The mission of St. Louis District Office of Water Control is to perform these responsibilities.

The Office of Water Management is a combination of two separate sections within the Hydrologic and Hydraulics Branch:

- Water Data Management
- Water Control Operations

How to use this website: Webguide.pdf [COMING SOON!]

Flood Fight Clarksville, MO - June 2008

Available Information

- Water Management Data
- Weather Information
- Navigation Information
- Flood Frequency Study Profiles
- Environmental Management Resources
- Research and Study Results
- Links of Interest

St. Louis District Homepage

Environmental Stewardship

Fish Spawn Information

Environmental Pool Management

A "Green" Approach to Water Management Practice

Special Notices

[16May2011 11:11]: The below link is to an updated version of the web page for the St. Louis District Water Data and Watershed Management Section. Overall content has not changed. Please take a look and send comments to the webmaster: joel.p.asunskis@usace.army.mil

Website Layout

Website Navigation Table

Special Notes/Messages



BUILDING STRONG®

Website Navigation and Content Description



BUILDING STRONG®

Available Water Data

- River and Reservoir Reports
 - ▶ 6AM Water Levels with associated 3 day forecast.
 - ▶ Updated Daily with afternoon forecasts.
- River Gage Data, Current Conditions
 - ▶ Water level plots, tables, and descriptions
 - ▶ Real time gage readings
 - ▶ Updated every 15 Minutes
 - ▶ Plots and Tables every 30 Minutes
- L&D Gate Report
 - ▶ Table of Pool, Tail water, and Gate Settings
 - ▶ Updated every 15 Minutes

Water Management Data
River and Reservoir Reports
River Gage Data, Current Conditions
Lock & Dam Gate Report
Project Flow Data
Mississippi
Missouri
Illinois
Meramec
Mississippi Tribs
Carlyle
Kaskaskia Navigation Project
Shelbyville
Mark Twain
Mark Twain Project DO Data Plots
Rend
Wappapello
Gage Precipitation
Gage Precipitation Totals with MAP
Historic Records
WC Management District Boundaries
Weather Information
Navigation Information
Flood Frequency Study Profiles
Enviromental Management Resources
Research and Study Results
Links of Interest
St. Louis District Homepage



RIVER AND RESERVOIR REPORT - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/dresriv.html

U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT, RIVER & RESERVOIR DAILY REPORT
(PHONE: 800-432-1208)

NOTE: ALL WATER LEVELS GIVEN IN STAGE, UNLESS INDICATED (GAGE ZERO + STAGE = ELEVATION {el}) FORECASTS INCLUDE OBSERVED PRECIP UP TO 6AM TODAY + EXPECTED PRECIP TO 6AM TOMORROW ONLY.

LAST MODIFIED: Tuesday - December 15, 2009 7:49 AM

River Mile	Gage Station	6am Levels	24hr Chg	National Weather Service River Forecast				Flood Level	Gage Zero	Record Level	Record Date
				Next 3 days			Forecast Time				
				12/16	12/17	12/18					
MISSISSIPPI RIVER											
309.0	Hannibal	10.8	-0.1	10.9	10.9	10.8	12/14/09 19:47	16.0	449.43	31.80	7-16-93
301.2	L&D 22 TW	5.9	0.2					16.0	446.10	29.58	7-25-93
282.9	Louisiana	12.0	-0.1					15.0	437.33	28.40	7-28-93
273.5	L&D 24 HW (elev)	449.0	-0.1						421.81		
273.2	L&D 24 TW	16.2	0.2					25.0	421.81	37.70	7-29-93
260.3	Mosier Landing (elev)	435.6	0.1					441.0	400.00	454.30	7-29-93
241.5	L&D 25 HW (elev)	434.0	0.1						407.00		
241.2	L&D 25 TW	16.1	0.3					26.0	407.00	39.60	8-1-93
218.6	Grafton	16.1	0.1	15.9	15.8	15.8	12/14/09 19:47	18.0	403.79	38.20	8-1-93
201.1	Mel Price L&D HW (elev)	419.0	0.1						395.48		
200.5	Mel Price L&D TW	7.4	0.2	7.7	7.2	6.6	12/14/09 19:47	21.0	395.48	42.70	8-1-93
180.0	St. Louis	8.4	-0.1	8.7	7.9	7.0	12/14/09 19:47	30.0	379.94	49.58	8-1-93
136.0	Brickeys Landing	10.7	-0.7					26.0	357.78	47.00	8-5-93
109.9	Chester	12.7	-0.7	12.8	12.6	11.8	12/14/09 19:47	27.0	341.05	49.70	8-7-93
52.1	Cape Girardeau	19.8	-0.2	19.5	19.0	18.5	12/14/09 21:03	32.0	304.65	47.90	8-8-93
43.7	Thebes	18.8	-0.3					33.0	300.00	45.50	8-7-93
20.2	Thompson Landing	28.9	0.0					39.0	280.00	51.95	5-28-95
2.0	Birds Point	35.1	0.6					38.0	274.53		
ILLINOIS RIVER											
263.1	Morris	0.0	0.0	6.0	5.8	5.7	12/14/09 19:17	13.0	478.50	24.60	2-24-85
224.7	La Salle	14.4	0.1	14.2	13.8	13.4	12/14/09 19:17	20.0	430.00	32.05	12-5-82
164.6	Peoria	12.9	-0.0	12.9	12.9	12.9	12/14/09 19:17	18.0	428.40	28.80	5-23-43
		14.1	-0.2	13.7	13.3	13.0	12/14/09 19:17	14.0	419.90	29.60	5-26-43
		430.7	-0.2	430.5	430.3	430.0	12/14/09 19:17	432.0	418.00	446.69	5-26-43
		11.2	-0.1	10.9	10.6	10.3	12/14/09 19:17	11.0	418.00	26.91	5-26-43
		28.5	-0.2					24.3	400.00	43.60	8-1-93
		22.7	0.0	22.6	22.4	22.2	12/14/09 19:17	25.0	400.00	42.30	8-3-93

6AM Levels and Changes

3 Day NWS Forecasts

River and Reservoir Report

- 6AM Water Levels with associated 3 day NWS forecast.
- Update Daily with afternoon forecasts.



River and Reservoir Report

- Lake Information at Bottom of Page
 - ▶ Includes USACE Lake Level Forecast after rain events

dsf – day second feet, averaged daily flow

cfs – cubic feet per second, instantaneous reading

BIG MUDDY RIVER

Lake	Midnight Pool Level (elev)	24hr Chg	Storage Utilized (Consr) Flood	Precip (in.)	Yesterdays Inflow (dsf)	Controlled Outflow (cfs) Midnight Evening	Seasonal Rule Curve (ft.)	Pool Forecast (Crest) Date	Record Level	Record Date
Shelbyville	613.62	0.10	100.0 42.2	0.00	2840	1930 1930	594.0	< 614.0 12/14	620.26	6-29-1974
Carlyle	450.25	0.19	100.0 21.5	0.00	9390	6220 6220	443.0	450.5 12/15 PM	459.80	5-18-2002
Rend	408.85	0.17	100.0 75.4	0.00	2510	690 710	405.0		413.83	5-19-1995
Wappapello	370.37	-0.24	100.0 24.7	0.00	1650	3400 3400	354.74		399.09	4-16-1945
Mark Twain	609.49	-0.80	100.0 7.7	0.00	510	8570 4000	606.0		640.36	7-30-2008



River Gage Data, Current Conditions

- Water level tables with gage descriptions links
- DCP gage readings
- Table updated every 15 Minutes



BUILDING STRONG®

Gage	Stage (ft)	Flow (24hr)	River Mile	Datum	Flood Level
L&D 19 (Keokuk), IA	518.23 ft (0.08) 06-01-2011 6:00	-	364.20	MSL 1912	493.83
L&D 20 (Canton), MO	16.04 ft (-0.02) 06-01-2011 6:00	-	343.20	MSL 1912	14.00
L&D 21 (Canton), MO	18.43 ft (-0.23) 06-01-2011 6:00	-	324.90	MSL 1912	17.00
L&D 22 (Canton), MO	17.70 ft (-0.41) 06-01-2011 6:00	-	309.00	NGVD	16.00
L&D 23 (Canton), MO	19.07 ft (-0.16) 06-01-2011 7:15	0.00			
L&D 24 (Canton), MO	11.44 in 06-01-2011 7:15	0.00			
L&D 25 (Canton), MO	18.67 ft (0.01) 06-01-2011 6:00	6910 cfs (0)			
L&D 26 (Canton), MO	1.20 ft 06-01-2011 6:00	0.00			

29.46 ft
25JUL1993 TW MAX
-2.90 ft
01JAN1940 TW MIN

Jump to Project Flow Data Plots

Latest Water Level and 24hr Change – Link to tabularized data and plot

Record Highs and Lows

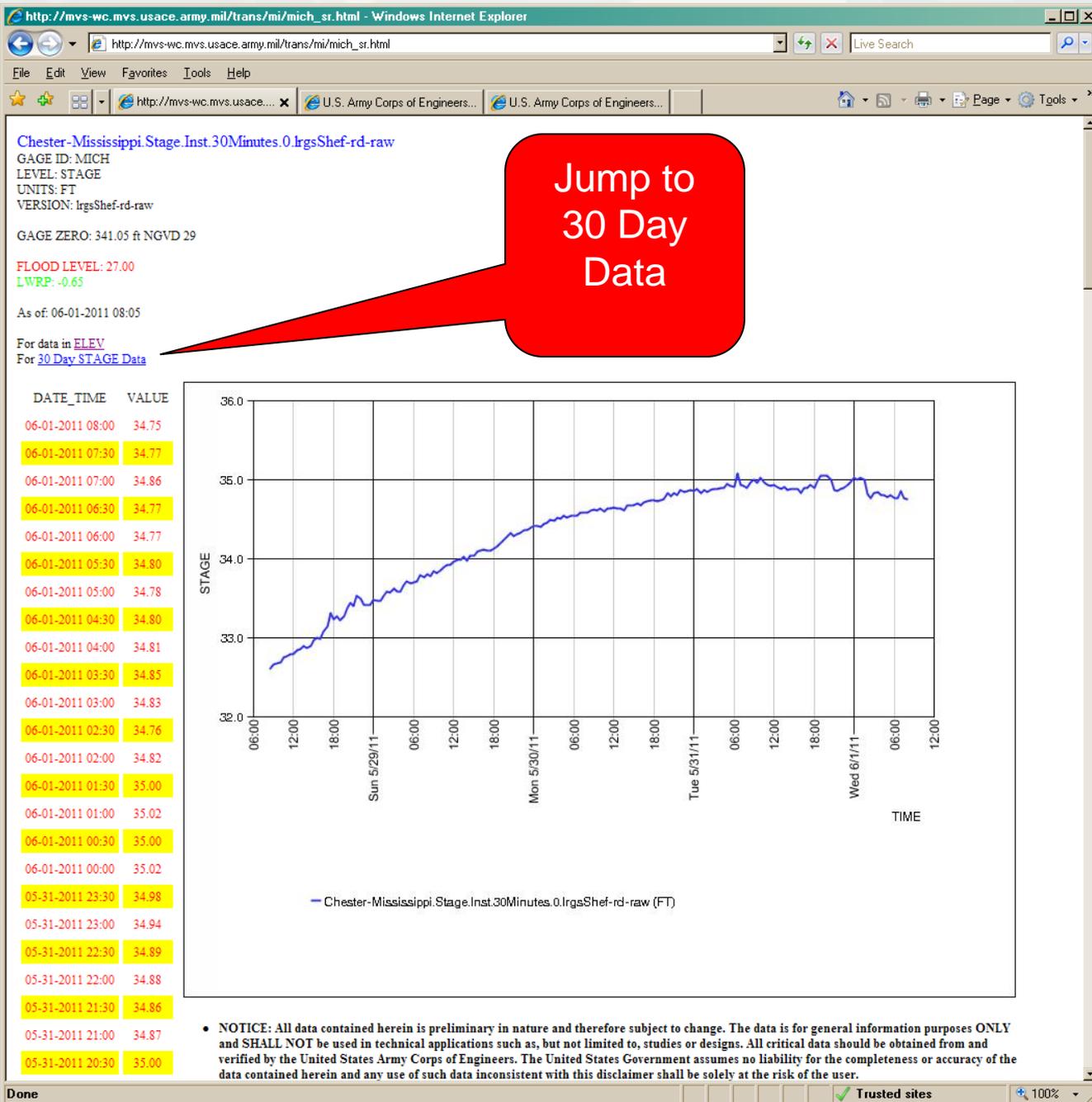
Jump to the Different Rivers

NWS Flood Levels

Gage Description Links and Google Earth Mapped Locations

Time of Last reading

6 and 24 Hr Incremental Rainfall – Link to tabularized data and plot



Plots and Tabular Data

- Plots and tables showing past 4 or 30 days of gage readings
- Updated every 15 Minutes (30 day data once a day)



BUILDING STRONG®

Lock and Dam Gate Report

MYS L&D Report - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/realtime/ga

MVS L&D REPORT
As of: 12-15-2009 07:33

MISSISSIPPI RIVER AT L&D 24

Date	Pool (ft)	Tailwater (ft)	Tainter (ft)
12-15-2009 07:00	448.95	16.19	
12-15-2009 06:00	448.98	16.17	23
12-15-2009 05:00	448.99	16.21	
12-15-2009 04:00	448.99	16.19	23
12-15-2009 03:00	448.96	16.21	
12-15-2009 02:00	448.94	16.19	23
12-15-2009 01:00	448.97	16.18	
12-15-2009 00:00	448.98	16.18	23
12-14-2009 23:00	448.96	16.17	
12-14-2009 22:00	448.96	16.16	23
12-14-2009 21:00	448.91	16.25	
12-14-2009 20:00	448.95	16.19	23
12-14-2009 19:00	448.95	16.18	
12-14-2009 18:00	448.94	16.2	23
12-14-2009 17:00	448.97	16.21	
12-14-2009 16:00	448.94	16.19	23
12-14-2009 15:00	448.94	16.17	
12-14-2009 14:00	449	16.14	23
12-14-2009 13:00	449.05	16.08	
12-14-2009 12:00	449.09	15.97	21.5
12-14-2009 11:00	449.11	15.93	
12-14-2009 10:00	449.07	15.93	20.5
12-14-2009 09:00	449.07	15.94	
12-14-2009 08:00	449.07	15.94	20.5
12-14-2009 07:00	449.06	15.95	

MISSISSIPPI RIVER AT L&D 25

Date	Pool (ft)	Tailwater (ft)	Tainter (ft)	Roller (ft)
12-15-2009 07:00	434.01	16.12		
12-15-2009 06:00	434.02	16.1	49	0
12-15-2009 05:00	434.01	16.12		
12-15-2009 04:00	433.09	16.12	40	0

- Table of Pool, Tail water, and Gate Settings
- Update every 15 Minutes

Total Gate Openings Whether Tainter or Roller

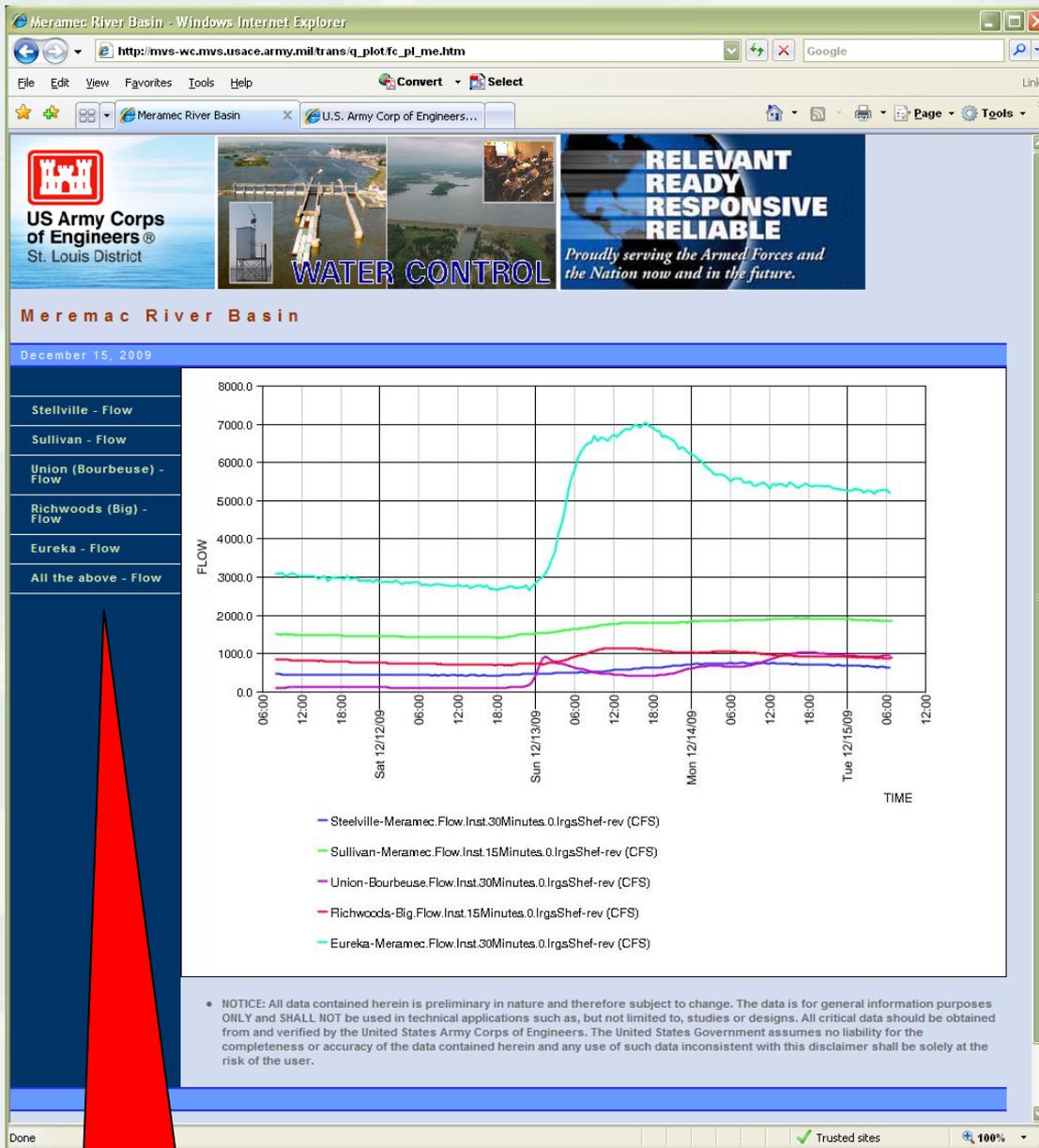


Available Water Data

- Project Flow Data
 - ▶ Various Water Level and Flow Plots by project.
 - ▶ Uses accepted USGS/USACE flow ratings.
 - ▶ Updated every 30 Minutes.
- Gage Precipitation
 - ▶ 6 Hour Incremental Precipitation Tables.
 - ▶ Updated every 30 Minutes.
- Gage Precipitation Totals
 - ▶ 6, 12, 24, 36, and 72 Hour Precipitation Total Tables.
 - ▶ Includes Google Mapped Gage Locations (24 Hour Totals)
 - ▶ Updated every 30 Minutes.
- Historic Records
 - ▶ Historic Data records of all gages owned and operated by the St. Louis District.
 - ▶ Updated as data is officially edited.

Water Management Data
River and Reservoir Reports
River Gage Data, Current Conditions
Lock & Dam Gate Report
Project Flow Data
Mississippi
Missouri
Illinois
Meramec
Mississippi Tribs
Carlyle
Kaskaskia Navigation Project
Shelbyville
Mark Twain
Mark Twain Project DO Data Plots
Rend
Wappapello
Gage Precipitation
Gage Precipitation Totals with MAP
Historic Records
WC Management District Boundaries
Weather Information
Navigation Information
Flood Frequency Study Profiles
Enviromental Management Resources
Research and Study Results
Links of Interest
St. Louis District Homepage

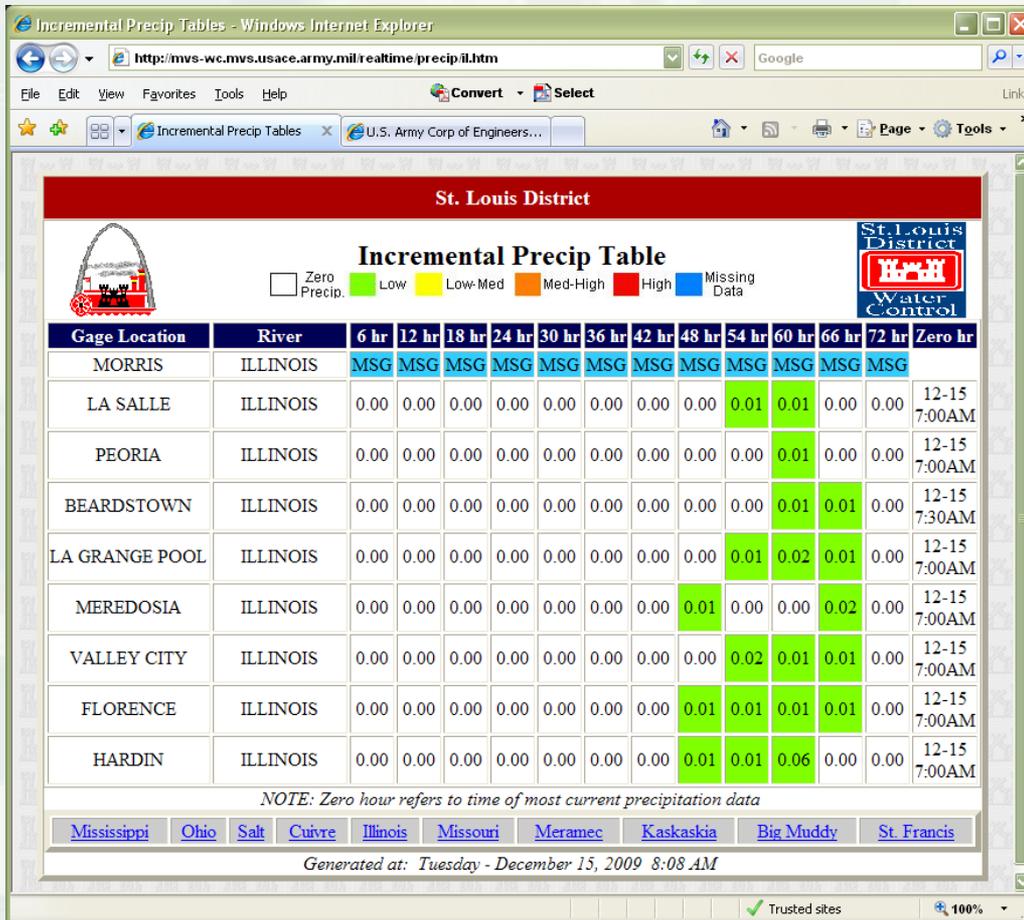




Project Flow Data

- Various Water Level and Flow Plots by project.
- Uses accepted USGS/USACE flow ratings.
- Updated every 30 Minutes.





Gage Precipitation

- 6 Hour Incremental Precipitation Tables.
- Updated every 30 Minutes.



Gage Precipitation Totals

- 6, 12, 24, 36, and 72 Hour Precipitation Total Tables.
- Updated every 30 Minutes.

Cumulative Precip - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/realtime/precip/mis2.htm

St. Louis District

Cumulative Precipitation Table

Zero Precip.
 Low
 Low-Med
 Med-High
 High
 Missing Data

Gage Location	River	6 hr	12 hr	24 hr	48 hr	72 hr	Zero hr
L&D 22 TW	MISSISSIPPI	0.00	0.00	0.00	0.00	0.02	12-15-2009 7:00 AM
L&D 24 TW	MISSISSIPPI	0.00	0.00	0.00	0.00	0.03	12-15-2009 7:00 AM
STERLING LDG	MISSISSIPPI	0.00	0.00	0.00	0.01	0.12	12-15-2009 7:00 AM
L&D 25 POOL	MISSISSIPPI	0.00	0.00	0.00	0.01	0.15	12-15-2009 7:00 AM
GRAFTON	MISSISSIPPI	0.00	0.00	0.00	0.00	0.27	12-15-2009 7:00 AM
MEL PRICE POOL	MISSISSIPPI	0.00	0.00	0.00	0.00	0.54	12-15-2009 7:00 AM
L&D 27 TW	MISSISSIPPI	0.00	0.00	0.00	0.00	1.59	12-15-2009 7:00 AM
BRICKEYS LDG	MISSISSIPPI	0.00	0.00	0.00	0.01	0.33	12-15-2009 8:00 AM
CHESTER	MISSISSIPPI	0.00	0.00	0.00	0.00	0.15	12-15-2009 8:00 AM
RED ROCK LDG	MISSISSIPPI	0.00	0.00	0.00	0.01	0.12	12-15-2009 8:00 AM
GRAND TOWER	MISSISSIPPI	0.00	0.00	0.00	0.00	0.09	12-15-2009 8:00 AM
MOCCASIN SPRINGS	MISSISSIPPI	0.00	0.00	0.00	0.00	0.23	12-15-2009 8:00 AM
CAPE GIRARDEAU	MISSISSIPPI	0.00	0.00	0.00	0.00	0.22	12-15-2009 7:00 AM
COMMERCE	MISSISSIPPI	MSG	MSG	MSG	MSG	MSG	
PRICE LDG	MISSISSIPPI	0.00	0.00	0.00	0.01	0.58	12-15-2009 7:00 AM
THOMPSON LDG	MISSISSIPPI	0.00	0.00	0.00	0.02	0.33	12-15-2009 7:00 AM
BIRDS POINT	MISSISSIPPI	0.00	0.00	0.00	0.00	0.24	12-15-2009 7:00 AM

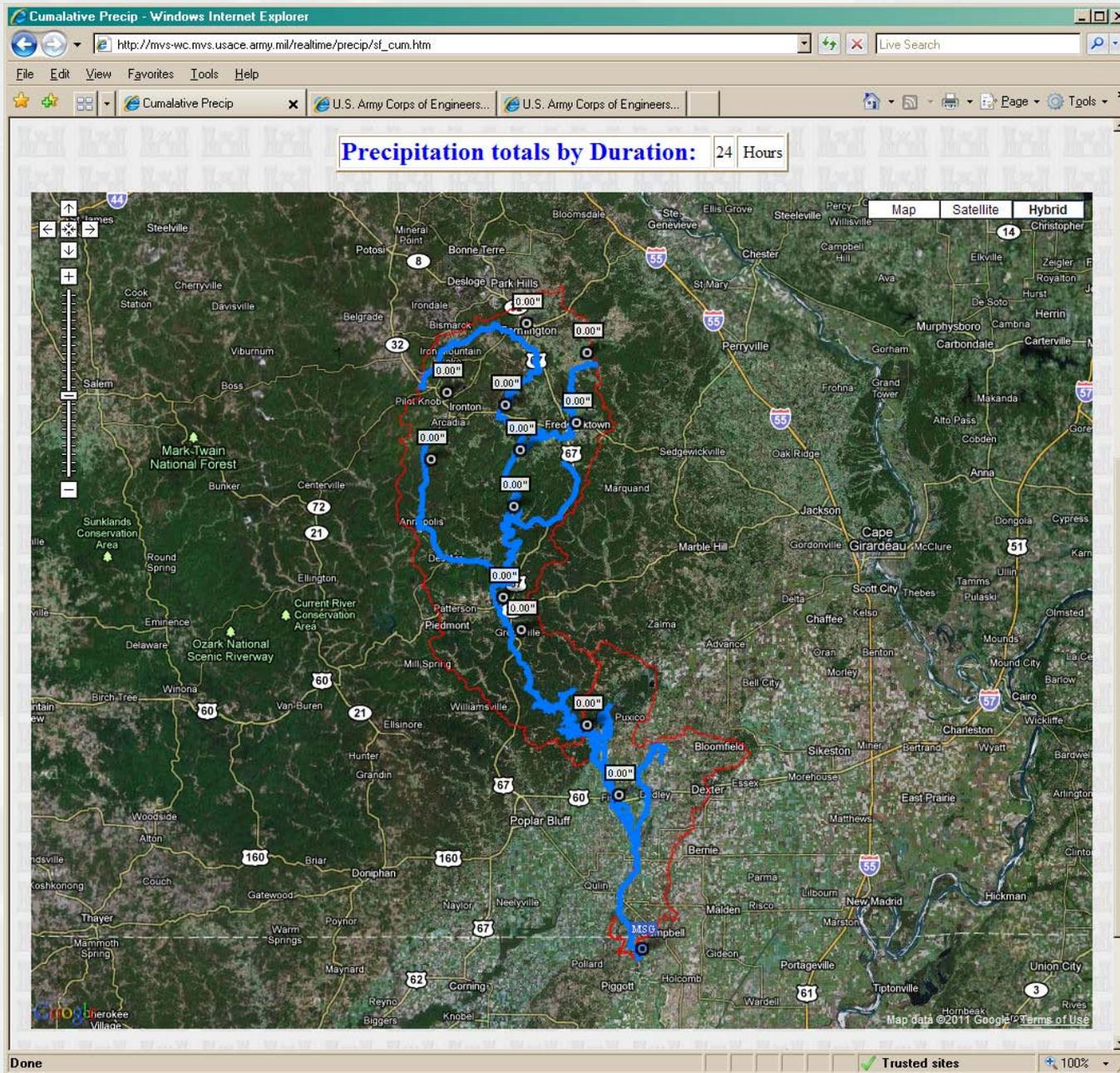
NOTE: Zero hour refers to time of most current precipitation data

[Mississippi](#)
[Ohio](#)
[Salt](#)
[Cuivre](#)
[Illinois](#)
[Missouri](#)
[Meramec](#)
[Kaskaskia](#)
[Big Muddy](#)
[St. Francis](#)

Generated at: Tuesday - December 15, 2009 8:05 AM

Done Trusted sites 100%





Gage Precipitation Totals

- Map Gages with 24 Hour Totals with Watershed and Stream Segments
- Updated every 30 Minutes.



BUILDING STRONG®

Introduction to the Historic Records - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/archive/archindex.html

File Edit View Favorites Tools Help Convert Select Links

Introduction to the Histor... U.S. Army Corp of Engineers...

NEWSROOM ABOUT US RIVER & RESERVOIR GAGE READINGS CONTACT US KIDS CORNER

 **US Army Corps of Engineers®**
St. Louis District

 **WATER CONTROL**

**RELEVANT
READY
RESPONSIVE
RELIABLE**
Proudly serving the Armed Forces and the Nation now and in the future.

» Engineering » District Projects » Emergency Operations » Office of Counsel » Job Opportunities
 » Construction » Navigation » Centers of Expertise » Small Business » Real Estate
 » Permits/Regulatory » Lakes/Recreation » Contracting » Public Affairs » Water Control

Mississippi River	Illinois River	Missouri River	Kaskaskia River	Salt River
Cuivre River	Meremac River	Big Muddy River	St. Francis River	Ohio River

INTRODUCTION

This publication is a compilation of the calendar year observed daily river levels, computed daily flow rates, and stream flow measurements of the Mississippi River and its tributaries. Most stations are within the boundaries of the St. Louis Engineer District.

Traditionally, surveyors and mapmakers tried to simplify their task by using the average (or mean) sea level as the definition of zero elevation, because the sea surface is available worldwide. For this reason, the zero surface to which elevations or heights (including river levels) were referred was formerly called "Sea Level Datum of 1929" or "Mean Sea Level (msl)" in this series of reports.

The zero surface currently in use is the National Geodetic Vertical Datum of 1929 (NGVD). This datum was obtained by taking the average sea level over a period of about 19 years at 26 tidegaging stations along the Atlantic, Gulf of Mexico and Pacific Coasts.

Although the datum was derived using average tidal measurements, it is not meant to represent local mean sea level at any specific place or time. In addition, while NGVD represents a standard zero surface in both Canada and the United States, it should not be confused with zero gage datum.

In this publication, both the time of the readings and the zero gage datum of each gage appear directly over the tabulation. Central Standard Time/Daylight Savings Time is used. Stage readings occur daily at 8:00 AM and discharges are mean daily inflow or outflow estimates unless stated otherwise. The station mileages for the Mississippi River are the distances from the mouth or the Ohio. The station mileage for a tributary is generally measured from the mouth of the tributary.

The discharge or flow rate is the quantity of water flowing past a cross section of the stream in a unit of time, and is expressed in cubic feet per second (cfs). The location of the discharge range is given in the footnotes after the tabulation of observed discharges for each station.

DATA FILES AVAILABLE ON THIS SERVER

The files located on this server are organized by their DATREP ID (i.e. storage ID). To illustrate how the files can be downloaded or viewed, first navigate to the through the website until you find the page of interest.

Trusted sites 100%

Historic Data

- Historic Data records of all gages owned and operated by the St. Louis District.
- Updated as data is officially edited.



http://mvs-wc.mvs.usace.army.mil/archive/mi/mi6b/mi6b_1913.pdf - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/archive/mi/mi6b/mi6b_1913.p

File Edit Go To Favorites Help Convert Select Links

1 / 1 75.4%

3913 Daily Values
MISSISSIPPI - 26 TW (GAGE)

Location: LAT. 38-53-08, LONG. 90-10-54 MILE 202.7 ABOVE THE MOUTH OF THE OHIO RIVER, AT DOWNSTREAM END OF INTERMEDIATE LOCK WALL OF LOCK AND DAM 26.
Gage: LEUPOLD-STEVENS REMOTE REGISTERING WATER LEVEL RECORDER, READ AND MAINTAINED BY THE ST. LOUIS DISTRICT, CORPS OF ENGINEERS.
General Information: DRAINAGE AREA, 171,470 SQUARE MILES. FLOOD STAGE, 417 FEET. A MEAN STAGE OF 405.73 FEET HAS BEEN COMPUTED SINCE THE COMPLETION OF THE CHAIN OF ROCKS LOW-WATER DAM, 1903 TO DATE. MEAN STAGE PRIOR TO THIS CONSTRUCTION, 1938 THRU 1962 WAS 402.21 FEET. COOPERATING AGENCIES, ST. LOUIS DISTRICT, CORPS OF ENGINEERS AND U. S. GEOLOGICAL SURVEY.
Records Available: STAGE, JAN. 1904 TO DATE. STAGES PUBLISHED PRIOR TO 1944 REFER TO BRIDGE GAGE AT SAME SITE (ZERO 313.48 FEET, N.G.V.D.). DEC. 1890 TO SEPT. 1893 AND JAN. 1917 TO DEC. 1939 IN REPORTS OF U. S. WEATHER BUREAU. DISCHARGE, 1913 TO DATE, COMPUTED DAILY SINCE 1890. SINCE OCT. 1927 IN REPORTS OF U. S. GEOLOGICAL SURVEY. NOTE: THE TERMS "TO DATE", "PERIOD OF RECORD", AND "TO PRESENT" REPRESENT DATA THROUGH DEC. 31 OF PREVIOUS YEAR FROM DATE PRINTED.
Mean Level: PERIOD OF RECORD, 405.25 FT.
Extreme Level: PERIOD OF RECORD, DAILY HIGH OF 429.30 FT. ON 09 JUN 1903 & PERIOD OF RECORD, DAILY LOW OF 395.50 FT. ON 31 DEC 1892.
Zero Gage Datum: 0.00 R.N.O.V.D. NOTE: SUBTRACT DATUM FROM ELEVATION TO OBTAIN STAGE.
ALL VALUES RECORDED AT SAME ELEVATION IN FT.

Day	January	February	March	April	May	Month	July	August	September	October	November	December
1	399.30	402.00	401.20	415.70	410.30	409.70	406.80	403.10	400.00	399.60	400.50	400.50
2	399.40	401.60	400.70	415.50	409.90	409.70	406.30	402.80	400.00	399.60	400.50	400.40
3	399.80	401.40	400.30	415.30	409.50	409.50	405.60	402.70	400.00	399.60	400.50	400.40
4	400.20	401.00	400.30	415.30	409.10	409.30	405.10	402.70	400.10	399.70	400.50	400.50
5	400.10	400.70	400.30	415.60	408.60	409.00	404.90	402.70	400.10	399.70	400.40	400.80
6	399.70	400.40	400.50	416.30	408.40	408.80	404.80	402.60	400.10	399.80	400.40	400.30
7	400.30	400.10	400.70	416.20	408.20	408.80	404.40	402.40	400.10	399.70	400.40	400.60
8	398.80	399.60	400.70	415.70	408.10	408.50	404.00	402.10	400.00	399.70	400.40	400.70
9	398.90	399.40	400.80	416.90	408.70	408.40	403.70	401.90	400.00	399.70	400.20	401.20
10	398.90	398.90	401.10	418.20	409.30	408.10	403.80	402.00	400.10	399.60	400.20	401.90
11	399.10	398.90	401.50	418.50	409.50	407.90	403.80	402.00	400.00	400.00	400.00	402.10
12	398.90	399.10	402.50	418.50	409.20	408.20	403.50	401.90	400.10	400.00	400.00	402.20
13	398.30	398.90	404.00	418.50	408.70	408.70	403.40	401.80	400.10	399.90	400.10	401.90
14	397.70	398.90	405.10	418.70	408.10	408.70	403.20	401.90	400.00	400.00	400.30	401.80
15	397.90	399.10	406.10	418.60	407.70	408.50	403.00	401.80	399.90	400.20	401.00	401.70
16	398.20	399.10	406.70	418.50	407.30	408.00	403.00	401.70	399.70	400.20	402.00	401.50
17	399.30	399.50	407.10	418.30	407.30	407.70	403.20	401.60	399.60	400.20	402.20	401.20
18	401.20	400.00	407.40	418.10	407.60	407.60	403.20	401.40	399.70	400.30	401.60	400.80
19	401.20	400.20	408.00	417.80	408.10	406.80	403.40	401.30	399.80	400.40	400.70	400.70
20	400.80	400.20	408.90	417.20	408.50	406.60	403.20	401.40	399.70	400.50	400.50	400.70
21	401.70	400.10	409.40	416.20	409.10	406.10	403.20	401.60	399.70	400.50	400.70	400.70
22	401.00	400.10	409.90	415.40	409.20	406.00	403.40	401.70	399.70	400.50	400.30	400.60
23	400.60	401.80	410.40	414.80	408.70	406.20	403.40	401.60	399.70	400.90	400.00	400.40
24	402.00	402.70	411.10	414.30	408.10	405.80	403.50	401.60	399.60	400.90	399.80	400.40
25	403.50	401.80	413.40	413.80	408.10	405.70	403.40	401.70	399.60	400.70	400.10	400.30
26	403.20	401.00	416.60	413.20	408.70	405.90	403.60	401.60	399.60	400.50	400.30	400.30
27	403.10	400.70	417.70	412.70	409.30	406.40	403.60	401.40	399.50	400.50	400.30	399.90
28	402.10	400.90	417.50	411.90	409.70	406.50	403.60	401.10	399.60	400.60	400.30	399.80
29	402.30	---	417.00	411.30	409.70	406.70	403.60	400.70	399.90	400.70	400.30	399.50
30	402.00	---	416.50	410.80	409.70	407.00	403.60	400.40	399.70	400.70	400.30	399.50
31	402.00	---	416.00	---	409.70	---	403.40	400.10	---	400.70	---	---
Mean	400.37	400.29	407.08	415.93	408.78	407.69	403.89	401.78	399.86	400.17	400.49	400.78

Done Unknown Zone

Historic Data

- Records available in PDF format



Historic Data Mining - Step 1

Introduction to the Historic Records - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/archive/archindex.html

File Edit View Favorites Tools Help

Convert Select

Introduction to the Histor... U.S. Army Corp of Engineers...

DATA FILES AVAILABLE ON THIS SERVER

The files located on this server are organized by their DATREP ID (i.e. storage ID). To illustrate how the files can be downloaded or viewed, first navigate to the through the website until you find the gage of interest.

For example lets assume we are looking for the St. Louis gage records for the year 1984.

1. St. Louis gage record information is located in the Mississippi River Basin:

Introduction to the Historic Records - Microsoft Internet Explorer provided by CEMYS

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites

Address http://mvs-wc.mvs.usace.army.mil/archive/archindex.html

Google Search Z1 blocked ABC Check AutoLink AutoFill Options

NEWSROOM ABOUT US RIVER & RESERVOIR GAGE READINGS CONTACT US KIDS CORNER

 **US Army Corps of Engineers**
St. Louis District

 **WATER CONTROL**

**RELEVANT
READY
RESPONSIVE
RELIABLE**
Proudly serving the Armed Forces and the Nation now and in the future.

MORE »
» Engineering
» Construction
» Permits/Regulatory

» District Projects
» Navigation
» Lakes/Recreation

» Emergency Operations
» Centers of Expertise
» Contracting

» Office of Counsel
» Small Business
» Public Affairs

» Job Opportunities
» Real Estate
» Water Control

Mississippi River	Illinois River	Missouri River	Kaskaskia River	Salt River
Cuivre River	Meremac River	Big Muddy River	St. Francis River	Ohio River

INTRODUCTION

This publication is a compilation of the calendar year observed daily river levels, computed daily flow rates, and stream flow measurements of the Mississippi River and its tributaries. Most stations are within the boundaries of the St. Louis Engineer District.

Traditionally, engineers and operators used to simplify their job by using the gages (or gauges) as level in the definition of mean elevation, because the sea surface is available worldwide. For this reason...

Trusted sites 100%



Introduction to the Historic Records - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/archive/archindex.html

File Edit View Favorites Tools Help Convert Select

2. Select the St. Louis - Mississippi link. NOTE - the Datrep ID for the St. Louis gage is MISL:

Historic Data for MI - Microsoft Internet Explorer provided by CEWMS

http://mvs-wc.mvs.usace.army.mil/archive/mi.html

Cuivre River Meremac River Big Muddy River St. Francis River Ohio River

Mississippi River Basin - Historic Data

Location	Datrep ID	Type	River Mile	Gage Zero	Flood Level
L&D 22 TW - MISSISSIPPI	MI2Q	FLOW	301.20	-	-
L&D 22 TW - MISSISSIPPI	MI2T	STAGE	301.20	446.10	16.00
MOSIER LANDING - MISSISSIPPI	MIML	ELEV	260.30	400.00	441.00
MUNDYS LANDING (GAGE READER) - MISSISSIPPI	MIMU	STAGE	293.00	441.85	14.00
LOUISIANA - MISSISSIPPI	MILO	STAGE	282.90	437.33	15.00
24 POOL - MISSISSIPPI	MI4P	ELEV	273.50	421.81	-
24 TW - MISSISSIPPI	MI4T	ELEV	273.20	421.81	25.00
RIP RAP LANDING (GAGE READER) - MISSISSIPPI	MIRI	STAGE	265.00	426.03	17.00
STERLING LDG - MISSISSIPPI	MIST	ELEV	250.80	420.48	-
25 POOL - MISSISSIPPI	MI5P	ELEV	200.50	407.00	-
25 TW - MISSISSIPPI	MI5T	ELEV	241.20	407.00	433.00
DIXON LANDING (GAGE READER) - MISSISSIPPI	MIDL	STAGE	228.30	410.62	16.00
GRAFTON - MISSISSIPPI	MIGR	STAGE	218.60	403.79	18.00
ALTON - MISSISSIPPI	MIAL	ELEV	203.00	400.00	-
26 TW - MISSISSIPPI	MI6B	ELEV	-	-	-
26 POOL - MISSISSIPPI	MI6A	ELEV	-	-	-
MEL PRICE POOL - MISSISSIPPI	MI6P	ELEV	201.10	395.48	-
MEL PRICE TW - MISSISSIPPI	MI6T	ELEV	200.50	395.48	21.00
HARTFORD - MISSISSIPPI	MIHA	ELEV	196.80	350.00	67.00
CHAIN OF ROCKS (GAGE READER) - MISSISSIPPI	MICR	STAGE	190.40	313.91	101.00
27 POOL - MISSISSIPPI	MI7P	ELEV	185.30	350.00	-
27 TW - MISSISSIPPI	MI7T	ELEV	185.10	350.00	-
ST. LOUIS - MISSISSIPPI	MISL	STAGE	179.60	379.94	30.00
ENGINEERS DEPOT (GAGE READER) - MISSISSIPPI	MIED	STAGE	176.00	370.50	20.00

http://mvs-wc.mvs.usace.army.mil/archive/mi/misl/

Trusted sites 100%

Historic Data Mining - Step 2



Introduction to the Historic Records - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/archive/archindex.html

3. Recalling from the previous screen that the datrep ID is MISL, Search for MISL_1984.pdf (datrep ID yyyy.pdf). Once the file is located, right click on the file and choose to Save Target As... (or Save As... using Netscape) to download file to your computer:

Index of /archive/mi/misl - Microsoft Internet Explorer provided by CEMVS

Address http://mvs-wc.mvs.usace.army.mil/archive/mi/misl/

File Name	Date	Time	Size
misl_1964.pdf	23-Mar-2006	07:12	60k
misl_1965.pdf	23-Mar-2006	07:12	61k
misl_1966.pdf	23-Mar-2006	07:12	60k
misl_1967.pdf	23-Mar-2006	07:12	60k
misl_1968.pdf	23-Mar-2006	07:12	61k
misl_1969.pdf	23-Mar-2006	07:12	60k
misl_1970.pdf	23-Mar-2006	07:12	60k
misl_1971.pdf	23-Mar-2006	07:12	60k
misl_1972.pdf	23-Mar-2006	07:12	60k
misl_1973.pdf	23-Mar-2006	07:12	60k
misl_1974.pdf	23-Mar-2006	07:12	60k
misl_1975.pdf	23-Mar-2006	07:12	60k
misl_1976.pdf	23-Mar-2006	07:12	60k
misl_1977.pdf	23-Mar-2006	07:12	60k
misl_1978.pdf	23-Mar-2006	07:12	60k
misl_1979.pdf	23-Mar-2006	07:12	60k
misl_1980.pdf	23-Mar-2006	07:12	61k
misl_1981.pdf	23-Mar-2006	07:12	60k
misl_1982.pdf	23-Mar-2006	07:12	61k
misl_1983.pdf	23-Mar-2006	07:12	61k
misl_1984.pdf	23-Mar-2006	07:12	60k
misl_1985.pdf	23-Mar-2006	07:12	61k
misl_1986.pdf	23-Mar-2006	07:12	61k
misl_1987.pdf	23-Mar-2006	07:12	60k
misl_1988.pdf	23-Mar-2006	07:12	60k
misl_1989.pdf	23-Mar-2006	07:12	60k
misl_1990.pdf	23-Mar-2006	07:12	60k

Right-click context menu for [misl_1984.pdf](#):

- Open
- Open in New Window
- Save Target As...
- Print Target
- Cut
- Copy
- Copy Shortcut
- Paste
- Add to Favorites...

Historic Data Mining - Step 3



Weather Information

- Radar
 - ▶ Link to National Mosaic NWS Radar – Loop Option
 - ▶ Link to Local Radar – Loop Option – Intellicast
 - ▶ Link to Local Radar – Loop Option – St. Louis NWS WFO
- Weather Channel Weekly Planner
 - ▶ Precipitation/snow forecast for the next 10 days
- NWS St. Louis Weather Forecast Office (WFO)
- Quantitative Precipitation Forecast (QPF)
 - ▶ Future Quantitative Precipitation estimates for the next 3 to 5 days or 5 day total.

Water Management Data
Weather Information
Radar
National Radar Loop - NWS
Local Radar Loop - Intellicast
Local Radar Loop - NWS St. Louis
Weather Channel Weekly Planner
NWS - St. Louis (WFO)
Quantitative Precipitation Forecast (QPF)
Day 1
Day 2
Day 3
Day 4-5
5 Day Total
Navigation Information
Flood Frequency Study Profiles
Enviromental Management Resources
Research and Study Results
Links of Interest
St. Louis District Homepage



Navigation Information

- Navigation Notices/ITCS Memos
 - ▶ Coast Guard/USACE Notices
 - ▶ Memos from RIAC with respect to Navigation
 - ▶ Information posted by the River Industry Bulletin Board which is a product of the River Industry Action Committee (RIAC)
 - Website <http://www.ribb.com>
- OMNI Lockage System
 - ▶ Upper Mississippi River Navigation Information
 - Includes Vessel Queuing and Lockage information

Water Management Data
Weather Information
Navigation Information
River Industry Bulletin Board
Navigation Notices ITCS Memos
Navigation Home
OMNI Lockage System - Navigation Information
Flood Frequency Study Profiles
Environmental Management Resources
Research and Study Results
Links of Interest
St. Louis District Homepage



Flood Frequency Study Profiles

- Flood Flow Frequency Analysis – January, 2004
 - ▶ Study produced flood flow frequency profiles.
 - ▶ Links to:
 - Flow/Stage Calculator and Profiles
 - Flood Frequency study homepage
 - Flow Frequency final report

Water Management Data

Weather Information

Navigation Information

Flood Frequency Study Profiles

Flow/Stage Frequency

Calculator

Flood Frequency Study

Homepage

Flow Frequency Study

Final Report

Enviromantal Management Resources

Research and Study Results

Links of Interest

St. Louis District Homepage



Flow Frequency Calculator And Frequency Profile Plots

Flow Frequency Query
Upper Mississippi River
United States Army Corps of Engineers
Mississippi Valley Division
Developed by Rock Island District

Disclaimers [Info]

River: Mississippi River

Date: 1929

Returns Period: 100-year

River Mile: 179.6

Flow: 910,000 CFS (Interpolated)

Surface Elevation: 430.8 Ft (Interpolated)

River Mile selection:

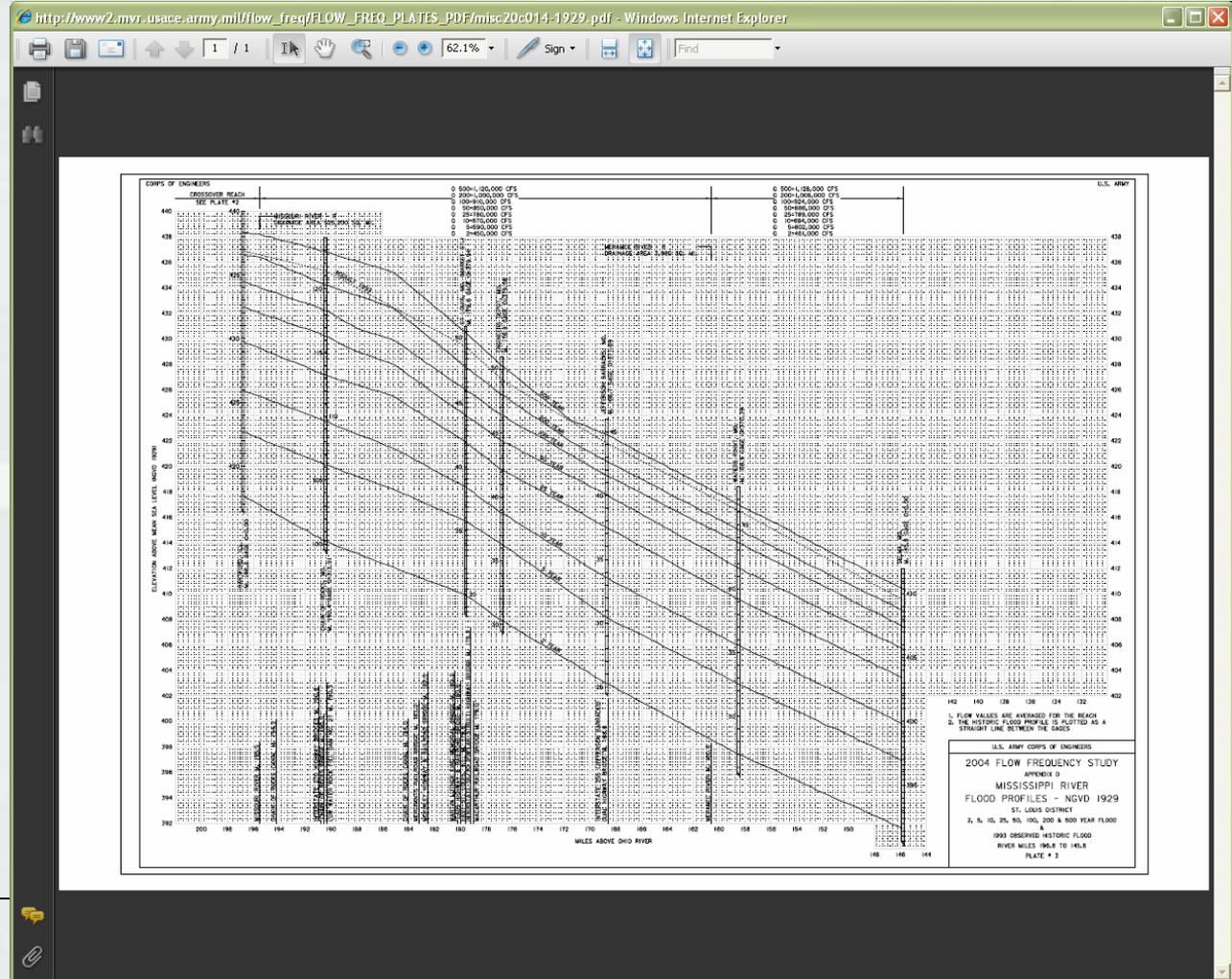
Select a PDF Plate of Pool

From 1830 to 1929 are only available for the pools for the Mississippi and Illinois Rivers. All downloadable PDF Plates are about 600 kb

Disclaimers

River Locations of Interest

Location	River Mile
St. Paul, MN	822.3
Peasport, WI	811.1
Red Wing, MN	781.0
Winona, MN	741.1
U.S.N.S. State Boundary	673.0
Geneseo, IA	611.0
Dubuque, IA	573.0
Clinton, IA	511.0
Quad Cities, IA, IL	482.0
New Boston, IL	471.1
St. Louis, MO	179.6
St. Louis, MO	179.6
St. Louis, MO	179.6
Charter, IL	108.0
Cape Girardeau, MO	51.1
Ohio River	0.0



Flow Frequency Data Display

Black [Flow Frequency Home]

Location: St. Louis, MO
Basin: Mississippi River
River Mile: 179.60
Date: 1929
District: USACE-MVS

Distances interpolated data

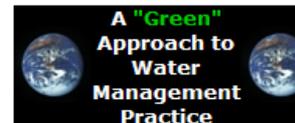
Exceedance Probability	Stage (ft)	Surface Elevation (ft)	Flow (cfs)
2-year	29.96	409.90	470000
5-year	29.86	409.80	490000
10-year	31.76	415.70	500000
25-year	31.76	415.70	500000
50-year	38.48	418.40	670000
100-year	38.46	418.40	670000
250-year	41.95	421.90	780000
500-year	44.06	424.00	850000
1000-year	44.06	424.00	850000
2000-year	46.06	426.00	910000
5000-year	46.06	426.00	910000
10000-year	47.86	427.80	1000000
20000-year	47.86	427.80	1000000
50000-year	50.56	430.50	1120000
100000-year	50.56	430.50	1120000

Environmental Management Resources

- Environmental Pool Management
 - ▶ Details status of the L&D management program
 - Plots for drawdown targets for each of the St. Louis District Operated Mississippi River Lock and Dams.
- Fish Spawn Information
 - ▶ Documentation of the St. Louis Districts contribution to the Spring Fish Spawn at the reservoir projects.

Water Management Data
Weather Information
Navigation Information
Flood Frequency Study Profiles
Environmental Management Resources
Environmental Pool Management Fish Spawn
Research and Study Results
Links of Interest
St. Louis District Homepage

Environmental Stewardship



Environmental Pool Management

- Details status of the L&D management program
 - Plots for drawdown targets for each of the St. Louis District Operated Mississippi River Lock and Dams.

Environmental Pool Management - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/epm/epmindex.html

File Edit View Favorites Tools Help

Convert Select

Environmental Pool Management

St. Louis District -- Water Control Management

Environmental Pool Management (EPM) implemented in 1994 attempts to create thousands of acres of critical wetland vegetation in the navigation pools, while still maintaining a safe and dependable navigation channel. A successful environmental pool management year is to keep the already drawn down pools (due to high flows), continued drawn down 0.5 to 2.0 feet for at least 30 days. This pool drawdown occurs between May and August, with the May-June period being the most desirable for vegetation growth and seed production. It should be noted that maximum drawdown (4-6 feet) at the pools are not related to EPM. These drawdowns are done to reduce the flooding upstream of the project. After the gates are placed in the water, the pool is raised. Typically, the pools are raised as quickly as possible until the drawdown target is achieved. These drawdown targets are usually:

- 0.5-1.0 Feet @ L&D #24
- 1.0-2.0 Feet @ L&D #25
- 0.5-1.0 Feet @ MP L&D

Drawdown targets greater than these are not attempted due to the possible negative recreational impacts.

The St. Louis District originally developed Environmental Pool Management, and applied this method of regulation at Lock and Dam 24 (River Mile 273), Lock and Dam 25 (River Mile 241), and Melvin Price Lock and Dam (River Mile 201). Graphs of the daily pool elevations are available here, with drawdown depths indicated. Click on the pictures for information from the current year, or select a previous year.

NOTE: Previous years will be added when data are summarized. Data for future years will be added each year during Environmental Pool Management.

[View the EPM Final Report for 2003](#)

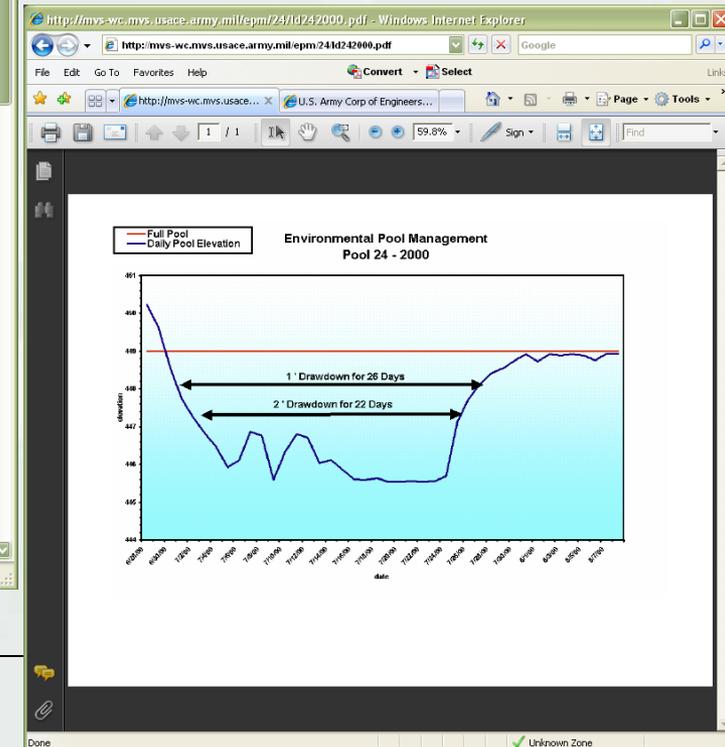
[2001 Environmental Pool Management Pictures](#)



Lock and Dam 24, Clarksville, MO

- [L&D 24, 2008 Environmental Pool Management](#)
- [L&D 24, 2007 Environmental Pool Management](#)
- [L&D 24, 2006 Environmental Pool Management](#)
- [L&D 24, 2005 Environmental Pool Management](#)
- [L&D 24, 2004 Environmental Pool Management](#)
- [L&D 24, 2003 Environmental Pool Management](#)
- [L&D 24, 2002 Environmental Pool Management](#)
- [L&D 24, 2001 Environmental Pool Management](#)
- [L&D 24, 2000 Environmental Pool Management](#)
- [L&D 24, 1999 Environmental Pool Management](#)
- [L&D 24, 1998 Environmental Pool Management](#)
- [L&D 24, 1997 Environmental Pool Management](#)
- [L&D 24, 1996 Environmental Pool Management](#)
- [L&D 24, 1995 Environmental Pool Management](#)
- [L&D 24, 1994 Environmental Pool Management](#)

Done Trusted sites 100%



Fish Spawn Information

- Documentation of the St. Louis Districts contribution to the Spring Fish Spawn at the reservoir projects.

Fish Spawn Information - Windows Internet Explorer

http://mvs-wc.mvs.usace.army.mil/fish/fishindex.html

Fish Spawn Information

st. Louis District -- Water control Management



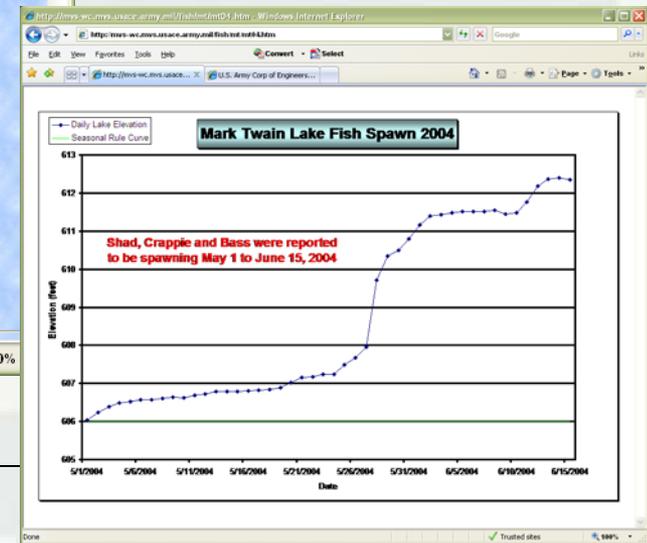
This page documents the contribution of the Army Corps of Engineers to the Spring Fish Spawn. In cooperation with other responsible agencies, the Corps seeks to maintain steady pool elevations which enhance the quality of spawning. Information is available for Mark Twain Lake, Carlyle Lake, and Lake Shelbyville. Graphs of the pool elevation are shown for available years.

(Click on pictures for lake information, or select a year for fish spawn information.)



Mark Twain Lake, Missouri

- [Mark Twain Lake - 2008 Fish Spawn](#)
- [Mark Twain Lake - 2007 Fish Spawn](#)
- [Mark Twain Lake - 2006 Fish Spawn](#)
- [Mark Twain Lake - 2005 Fish Spawn](#)
- [Mark Twain Lake - 2004 Fish Spawn](#)
- [Mark Twain Lake - 2003 Fish Spawn](#)
- [Mark Twain Lake - 2002 Fish Spawn](#)
- [Mark Twain Lake - 2001 Fish Spawn](#)
- [Mark Twain Lake - 2000 Fish Spawn](#)
- [Mark Twain Lake - 1999 Fish Spawn](#)
- [Mark Twain Lake - 1998 Fish Spawn](#)
- [Mark Twain Lake - 1997 Fish Spawn](#)
- [Mark Twain Lake - 1996 Fish Spawn](#)
- [Mark Twain Lake - 1995 Fish Spawn](#)
- [Mark Twain Lake - 1994 Fish Spawn](#)



Research and Study Results

- Various research documents, feasibility, and case studies.

Water Management Data

Weather Information

Navigation Information

Flood Frequency Study Profiles

Environmental Management Resources

Research and Study Results

Water Control Data System Backup/Oracle Database Backup and Recovery St. Louis District Transition to an Oracle Based Data System (Corps Water Management System, CWMS)

Perception and Reality Concerning the 1993 Mississippi River Flood: An Engineers' Perspective Protecting Society From Flood Damage: A Case Study from the 1993 Upper Mississippi River Flood Geomorphology Study of the Middle Mississippi River

Environmental Pool Management on the Upper Mississippi River Thompson Bend Riparian Corridor Project

Kaskaskia River

1992 Environmental Assessment of Kaskaskia 1993 FONSI Determination for Temporary Deviation Sept 2004 Environmental Assessment and FONSI

Links of Interest

St. Louis District Homepage



Links of Interest

- Links to external government agencies.
- Links to other Hydraulics/Geospatial St. Louis District and USACE offices.

Water Management Data
Weather Information
Navigation Information
Flood Frequency Study Profiles
Environmental Management Resources
Research and Study Results
Links of Interest
Applied River Engineering Center
Technical Center of Expertise-Photogrammetric Mapping
US Army Corps of Engineers
US Geological Survey
USGS Illinois Water Resources
USGS Missouri Water Resources
Department of Conservation
Missouri Department of Conservation
Illinois Department of Natural Resources
National Oceanic Atmospheric Administration (NOAA)
St. Louis District Homepage



Water Management Operational Information



BUILDING STRONG®

Lock and Dam Pool Management

- The pools in the St. Louis District are maintained based upon their hinge point limits.
- As the flows **increase** and the upper limits of the hinge point is approached, the pool level is lowered to compensate until the flows start **decreasing** or maximum drawdown is reached.
- As the flows **decrease** and the lower limits of the hinge point is approached, the pool level is raised to compensate until the flows start **increasing**.



Lock and Dam Pool Management

- The limits at the hinge points are defined based upon:
 1. Navigational needs
 2. Authorized U.S. Government easements
- The lower limit at the hinge points are defined by the lowest river level allowable for a safe and dependable navigational channel.
- The upper limit is defined by the highest river level that can be maintained by the dam. This is because the land above this limit is not owned by the U.S. Government, thus not authorized to be inundated by the project.



Lock and Dam

Hinge Point
Control Operation

— Government Owned Land

▒ Non-Government Owned Land Flooded

Low
Flow



Hinge Point

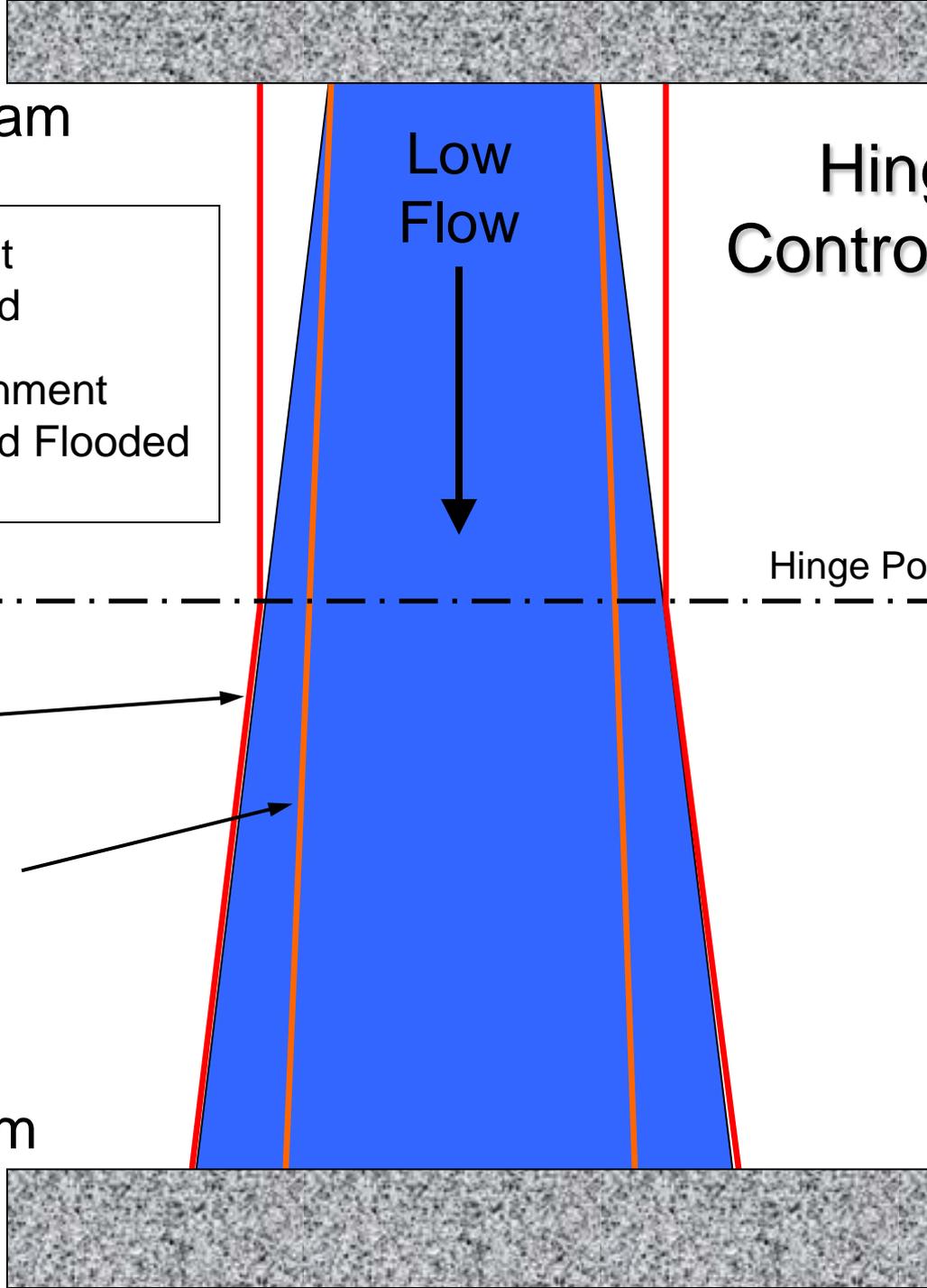
Upper Limit



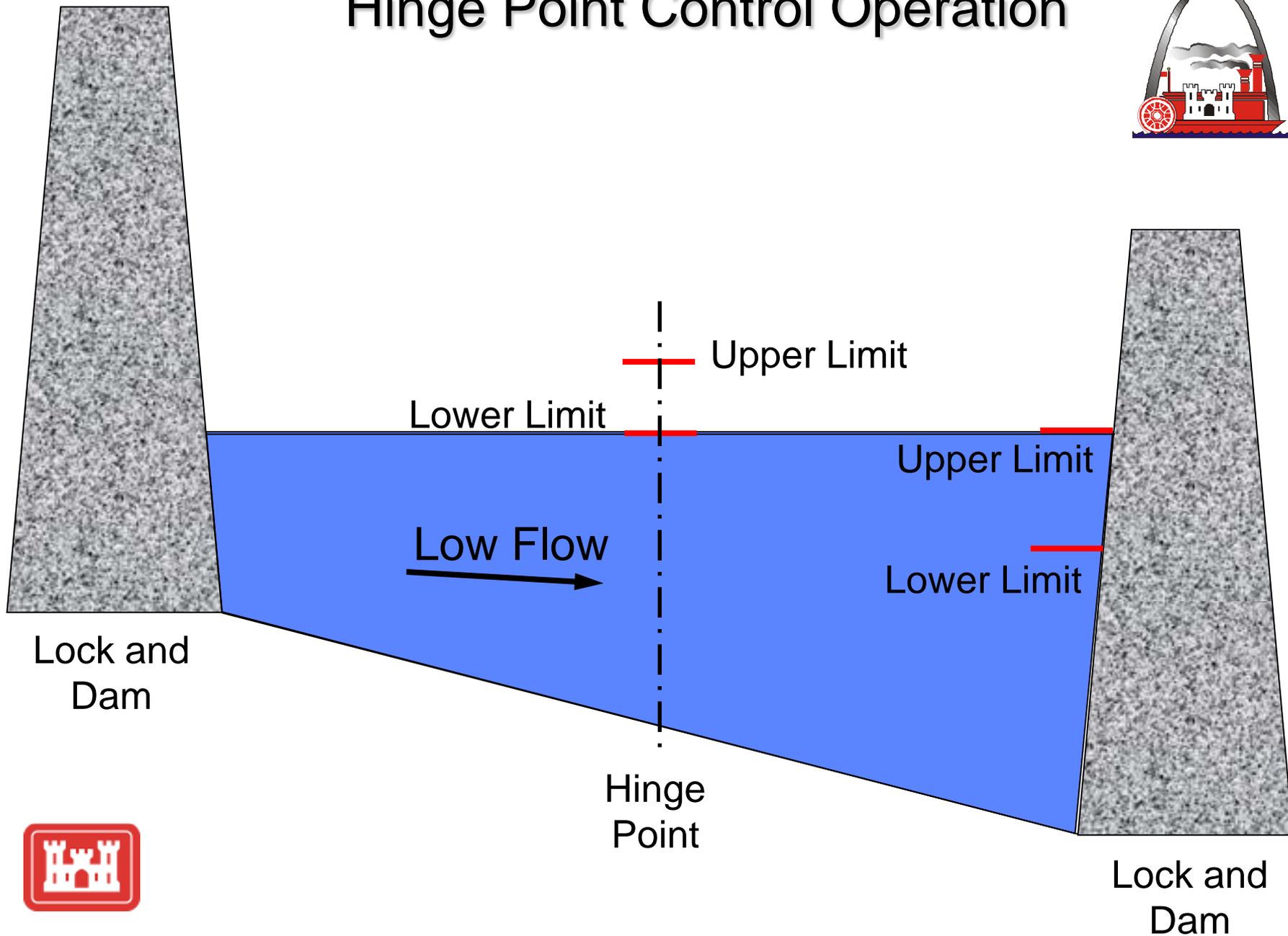
Lower Limit



Lock and Dam



Hinge Point Control Operation



Lock and Dam

Hinge Point

Lock and Dam

Lock and Dam

Hinge Point
Control Operation

— Government Owned Land

▒ Non-Government Owned Land Flooded

High Flow



Hinge Point

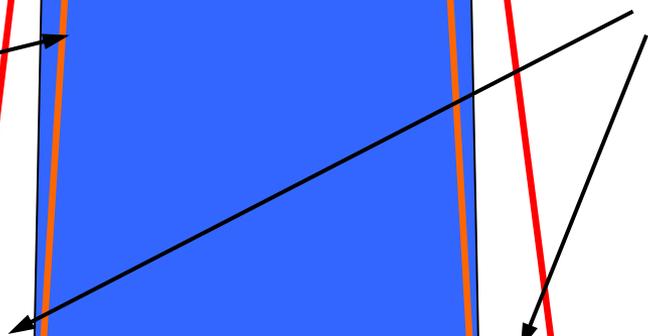
Upper Limit



Lower Limit

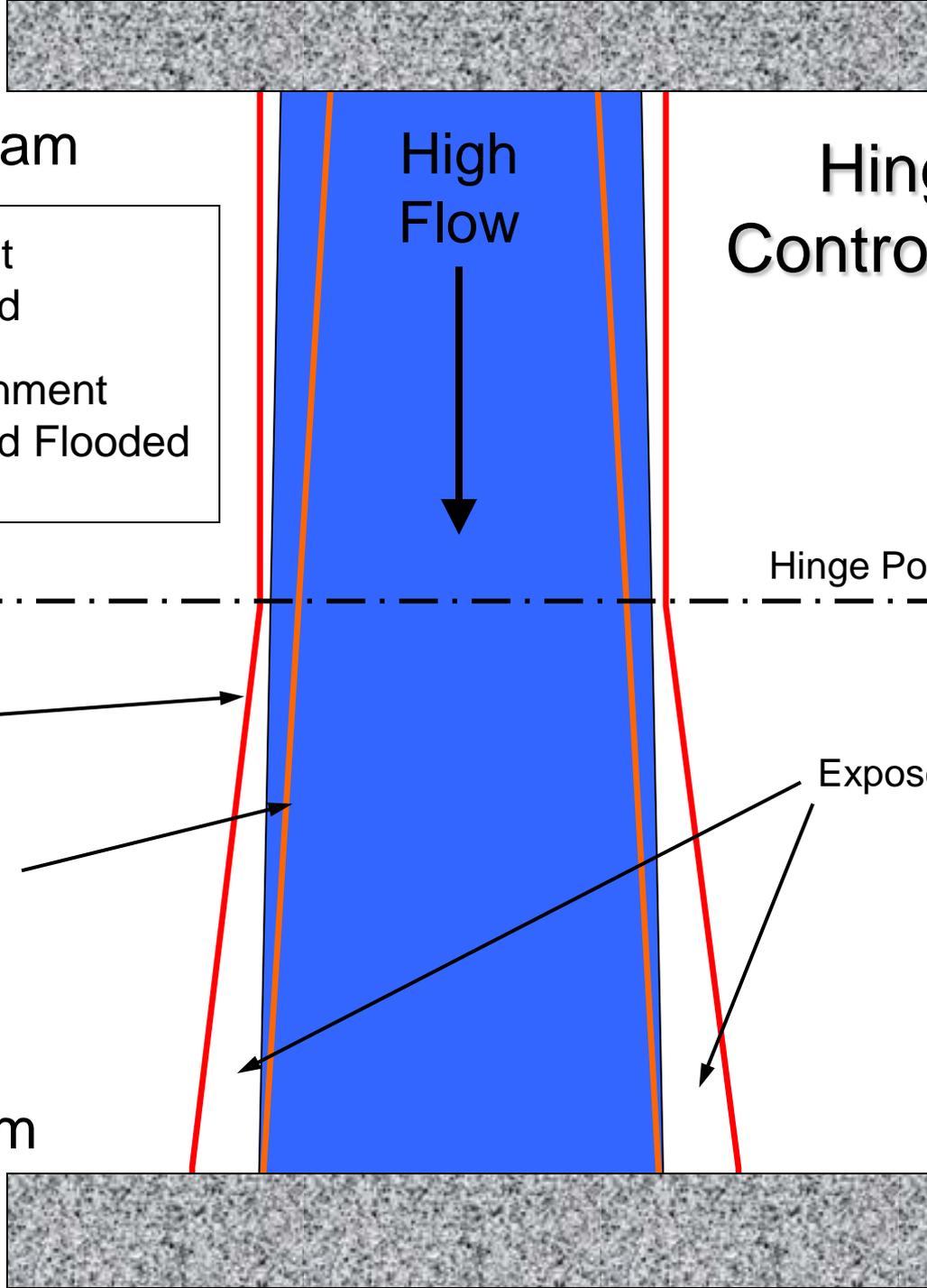


Exposed Areas

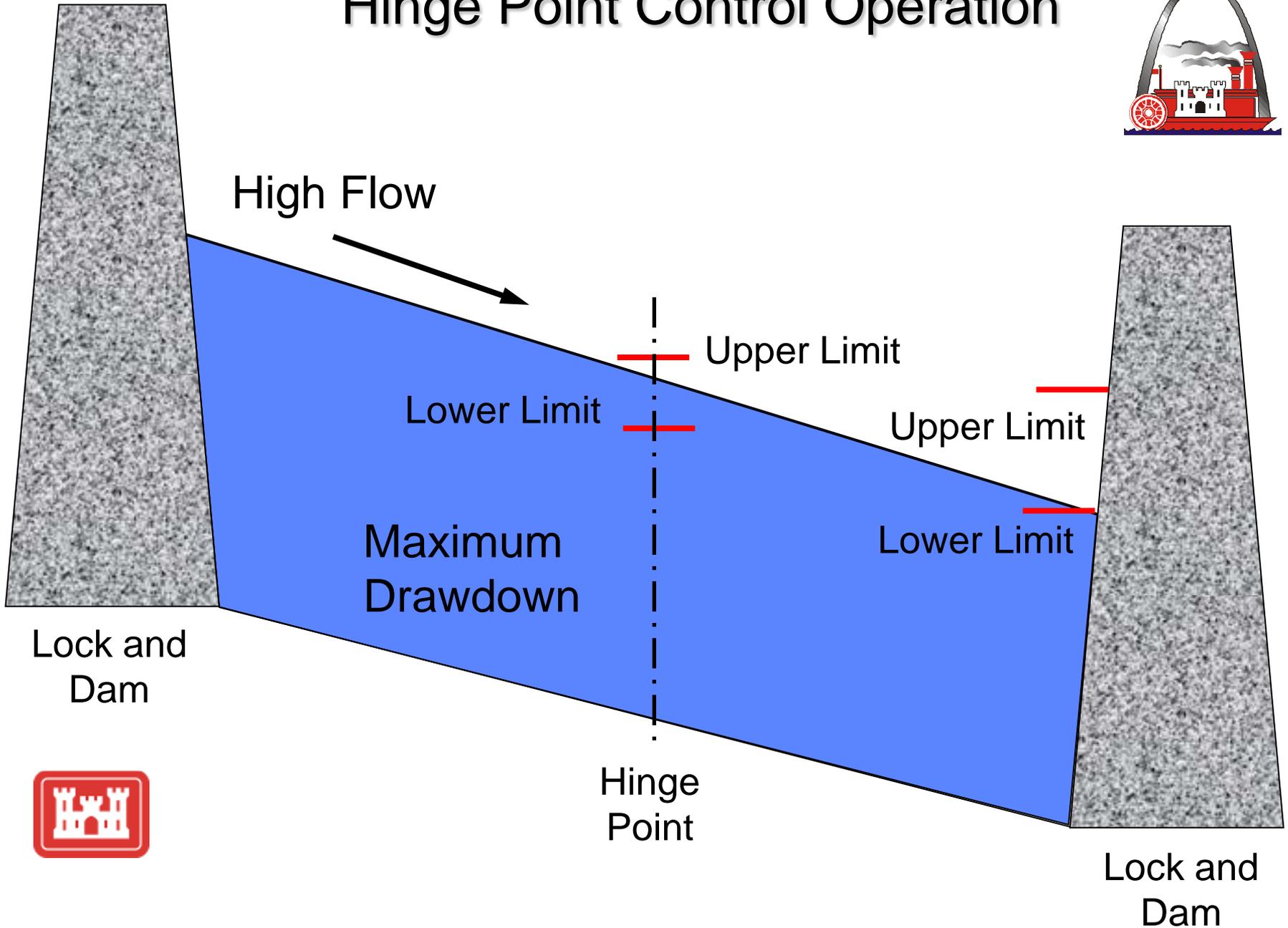


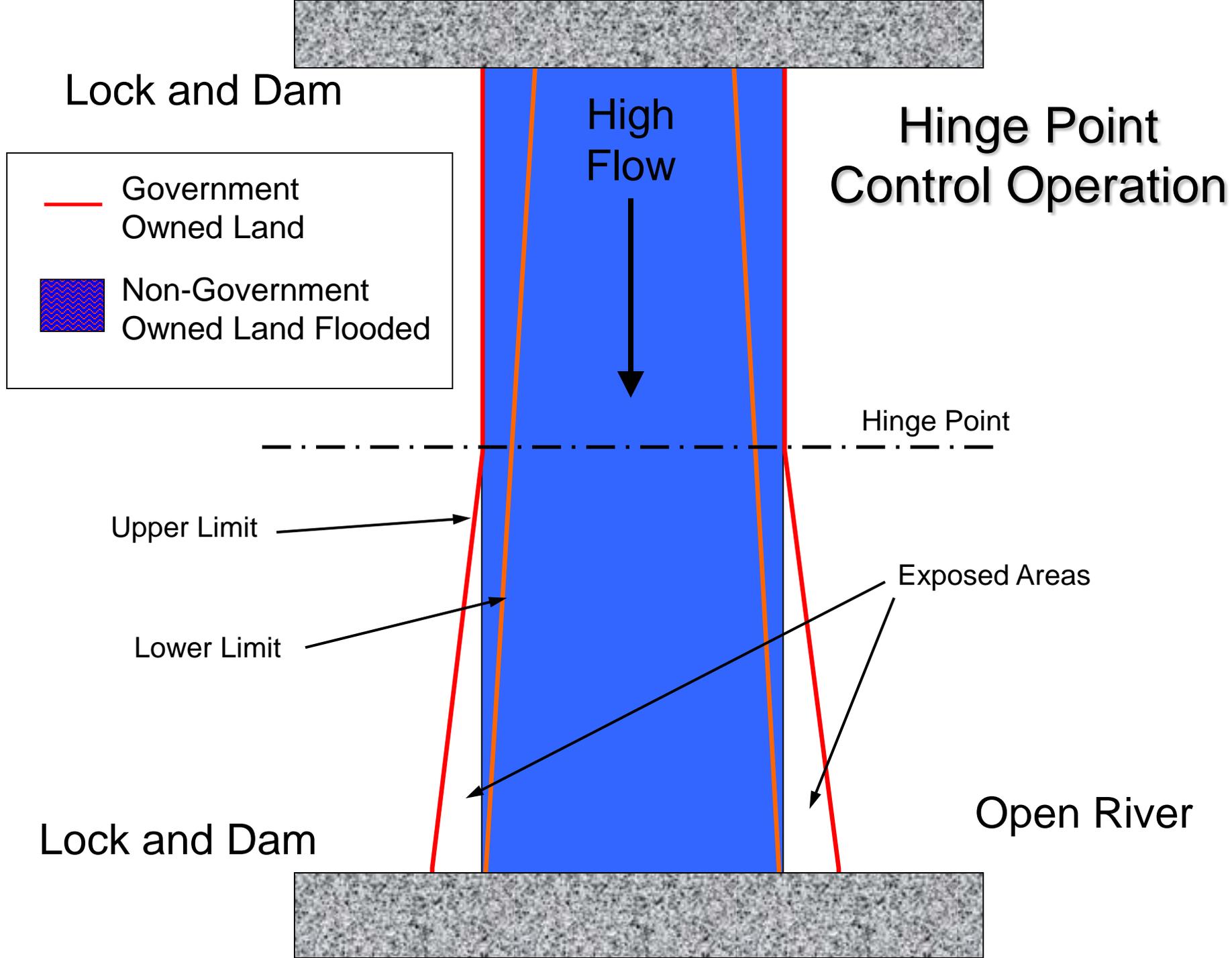
Lock and Dam

Maximum Drawdown

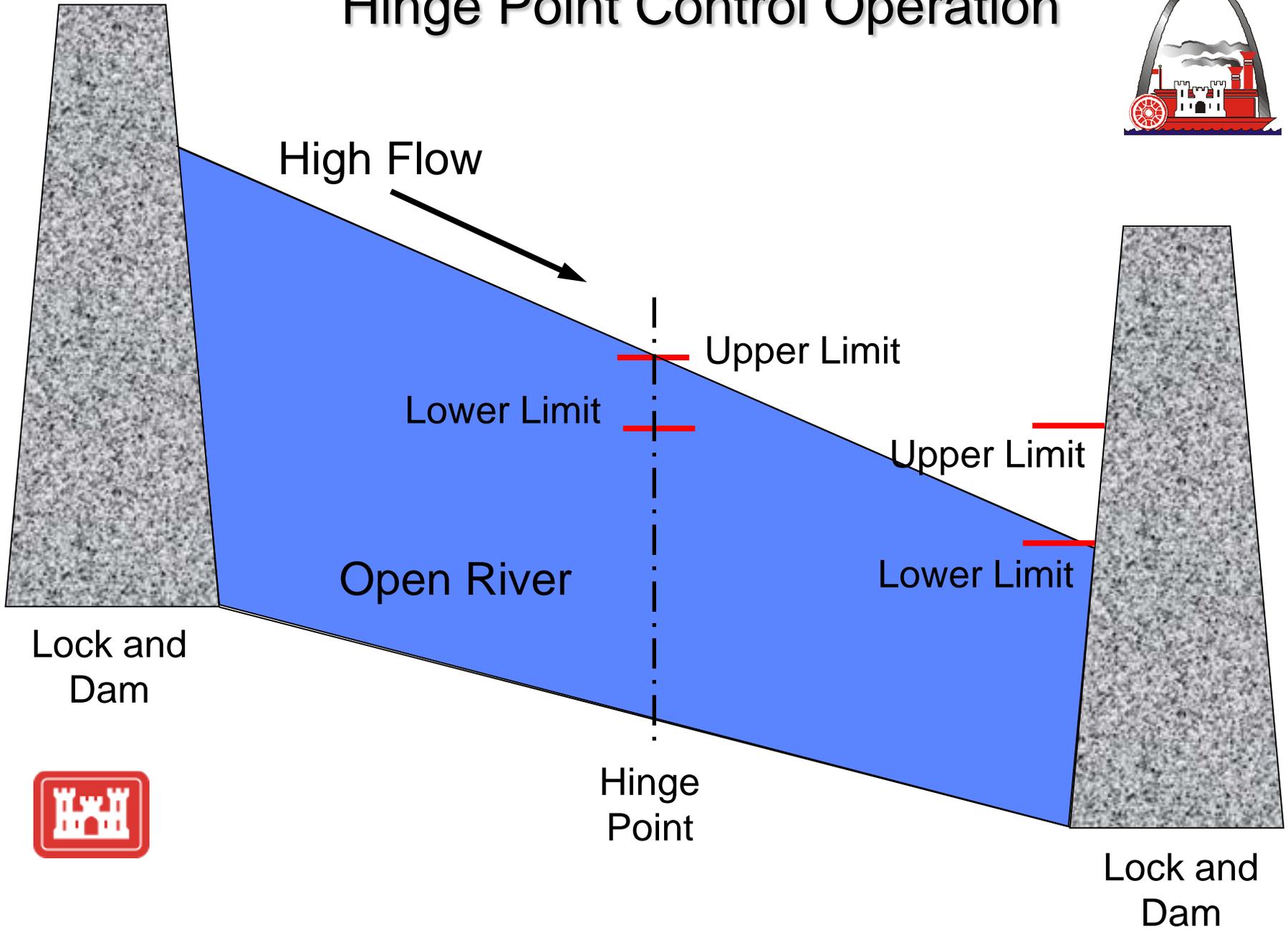


Hinge Point Control Operation





Hinge Point Control Operation



Lock and Dam

— Government Owned Land

■ Non-Government Owned Land Flooded

Extremely High Flow



Hinge Point Control Operation

Hinge Point

Upper Limit

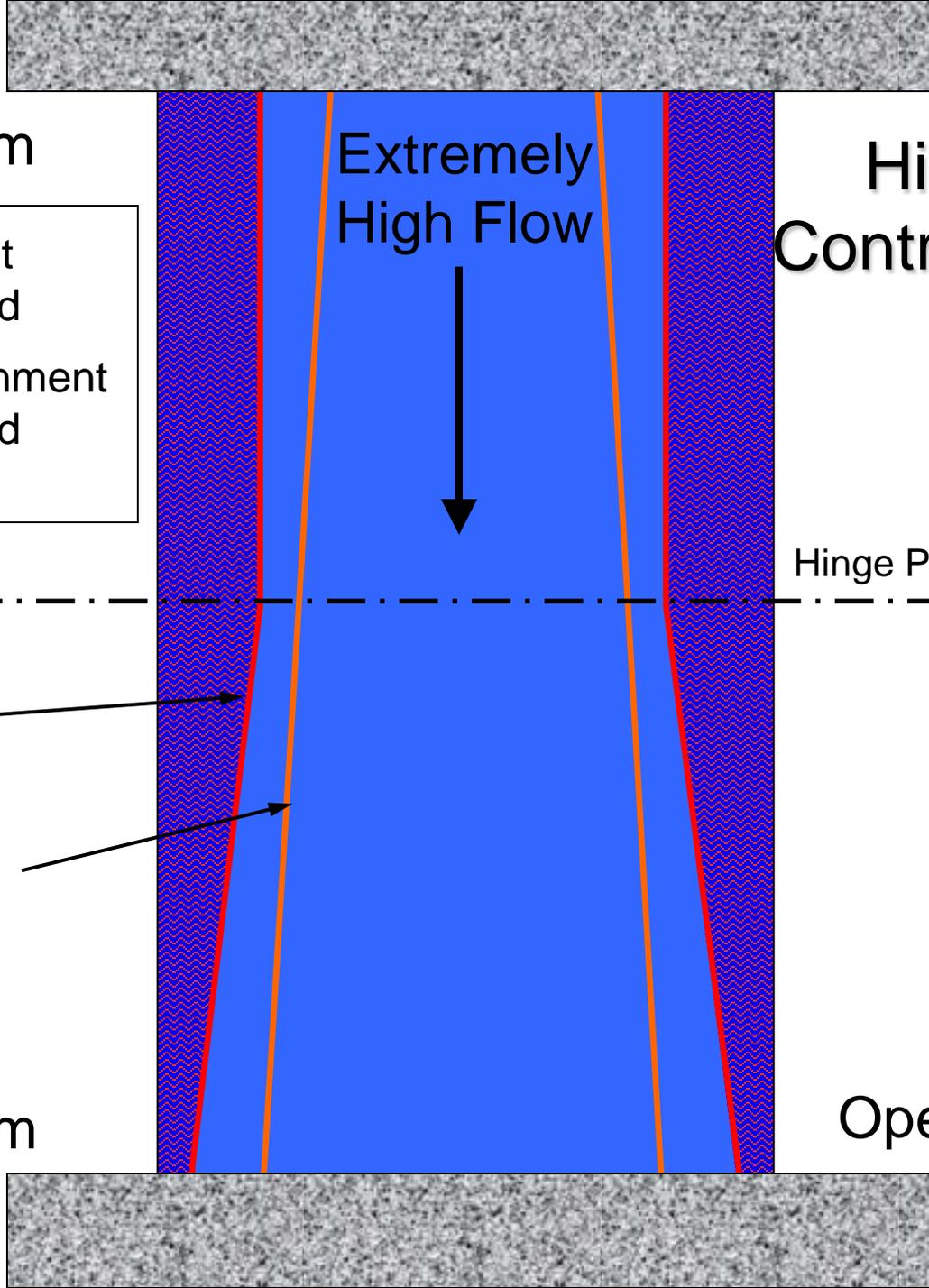


Lower Limit

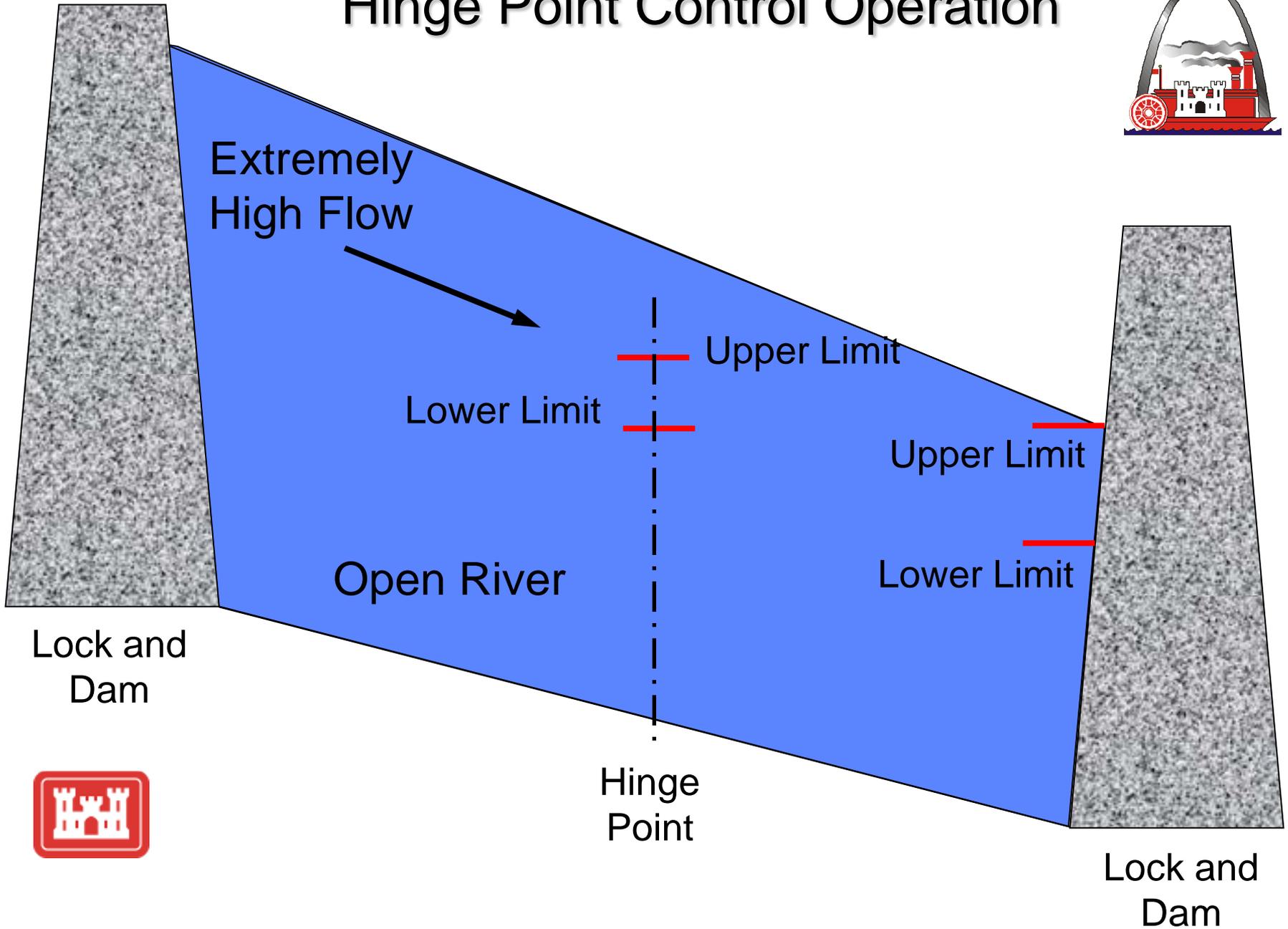


Lock and Dam

Open River



Hinge Point Control Operation



Lock and Dam 22

- Maintained by the Rock Island District Army Corps of Engineers
- Pool Limits
 - Limits: 13.0 – 13.5 ft. (Stage)



MVS Lock and Dam Hinge Points and Limits

- Lock and Dam 24
 - Pool Limits: 445.5 - 449.0
 - Hinge Point Limits, Louisiana: 11.5 - 12.2 (May be exceeded if at maximum drawdown)
- Lock and Dam 25
 - Pool Limits: 429.7 - 434.0
 - Hinge Point Limits, Mosier Landing: 434.0 - 437.0 (May be exceeded if at maximum drawdown)
- Melvin Price Locks and Dam
 - Pool Limits: 412.5 - 419.0 Alton Lower Limit: 414.0
 - Hinge Point Limits, Grafton: 14.2 - 16.2 (May be exceeded if at maximum drawdown, or Alton at 414.0)
- Kaskaskia Lock and Dam
 - Pool Limits: 363.0 - 368.8
 - Hinge Point, Red Bud: 368.0 - 370.0 (May be exceeded if at maximum drawdown)



Environmental Pool Management (EMP)

- Environmental pool is managed within hinge point limits.
 - If the pool is lowered below the defined EMP limits it is due to the upper limits of the hinge point being encroached upon.
 - Time Frame (pending upon flows): April thru July (ideally 60 days)
- Lock and Dam 24
 - EMP Limits: 447.5 – 449.0 ft.
- Lock and Dam 25
 - EMP Limits: 432.0 – 434.0 ft.
- Melvin Price Locks and Dam
 - Limits: 418.0 - 419.0 ft.



Definition of Terms

- **Crest** – the highest stage or level of a flood wave as it passes a point.
- **Cubic Feet per Second (cfs)** – the flow rate or discharge equal to one cubic foot of water per second or about 7.5 gallons per second.
- **Day Second Feet (dsf)** – an average of the cfs throughout the day, a volume equivalent to 1 cfs for 1 day, 86,400 ft³.
- **Flood Frequency** - The calculation of the statistical probability that a flood of a certain magnitude for a given river will occur in a certain period of time. Each flood of the river is recorded and ranked in order of magnitude with the highest rank being assigned to the largest flood.
- **Flood Level/Stage** – the stage at which overflow of the natural banks of a stream begins to cause damage in the reach in which the elevation is measured
- **Gage Zero** – the arbitrary "zero plane" from which all stage measurements are taken from. Usually set below the natural bottom of the channel so all stage height readings will be greater than zero
- **G.O.E.S. Telemetered Data Collection Platform (DCP)** –This satellite-based system collects a variety of environmental data from locations in the western hemisphere.
- **Hydrograph** – A graphical representation of stage, flow, velocity, or other characteristics of water at a given point as a function of time. .
- **National Geodetic Vertical Datum (NGVD)** – also known as mean sea level, is defined by the observed heights of 26 tide gauges, located around North America, and by the set of elevations of all bench marks, resulting from the adjustment.
- **Period of Record** – the record of the gage's data from the first to last day data was collected



Definition of Terms

- **Pressure Transducer** – An instrument component that detects a fluid pressure and produces an electrical signal related to the pressure. Also known as electrical pressure transducer.
- **Pool Level** - The stage or elevation of water measured on the upstream side of a dam.
- **River Mile** – just like a highway mile marker, there are mile markers along the river that start at 0 at the river's mouth and increases moving upstream.
- **Slope Gage** – an inclined staff gage. Typically placed on the slope of the river bank.
- **Staff Gage** – a simple non-recording gage that is either mounted vertical or inclined and can be used as a reference gage in a stream or river as an outside gage.
- **Stage** – the height of a water surface above an established "zero" plane, or datum
- **Tailwater Level** - The stage or elevation of water measured on the downstream side of a dam.
- **Watershed** - An area of land that drains to a single outlet and is separated from other watersheds by a divide.
- **Wire Weight** – this gage obtains a manual reading of the river level by lowering a weight on a wire, that is mounted over the water surface, until it touches the water surface.

