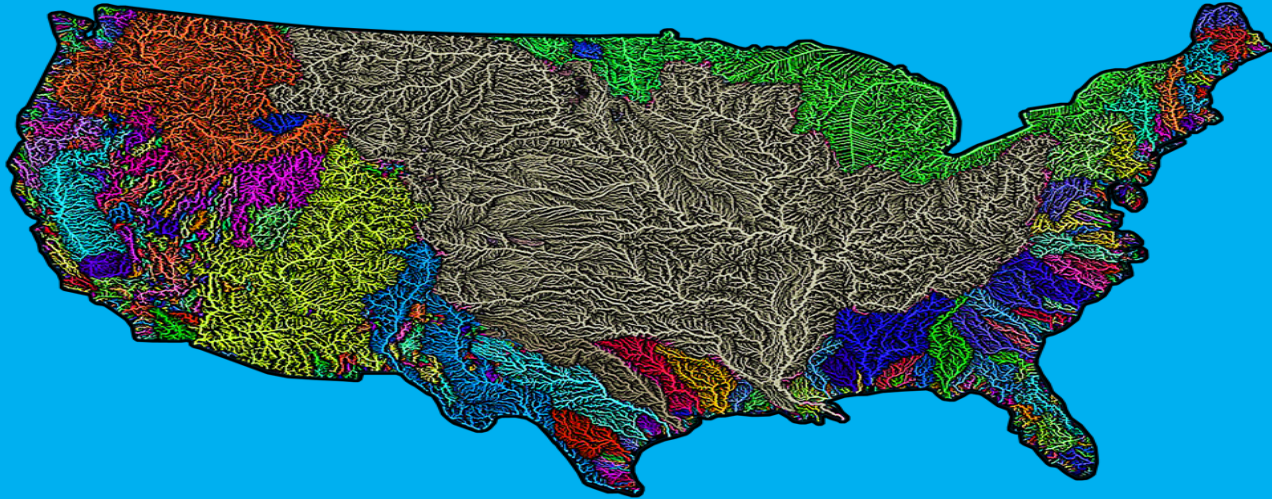


BIG RIVER COALITION

“Advocating for a Mightier Mississippi River”



“Whiskey is for drinking and water is for fighting.”

Mark Twain

USGS SCIENCE FORUM 21623

Proud of the efforts of TEAM MISSISSIPPI RIVER and to be included amongst this All Star-like group. The function and performance of this group has over the last two decades proven most effective in trying to deal with or recover from the impossible or unpredictable. In my mind this group starts with our Government Partners – as both actively engaged and regulatory required teammates.

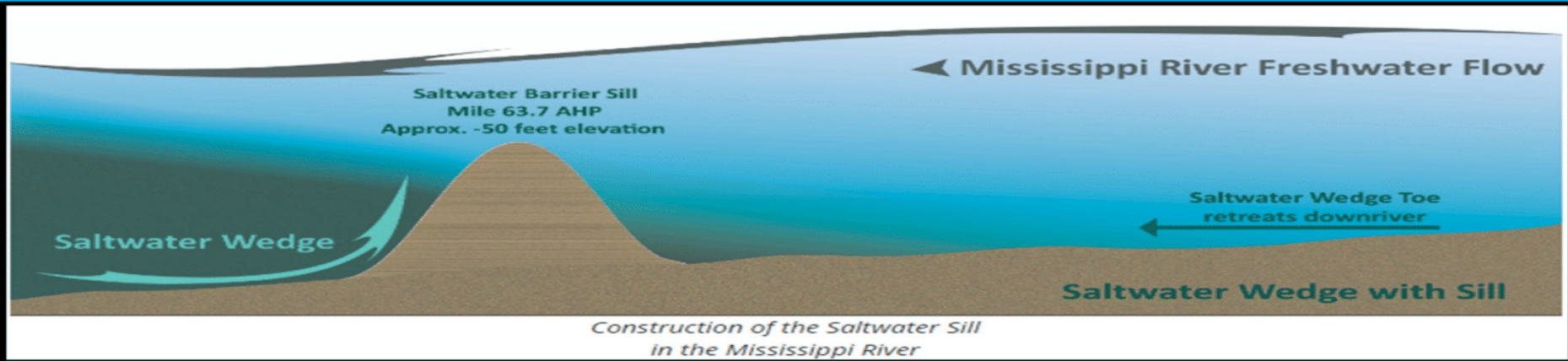
I will honor the U.S. Coast Guard's Captain Frank Paskewich's quote: "The years of the COTP on the Mississippi River are rather like dog years (7/1)." Seven years of action and exposure in one ...

Mississippi River Navigation in the Fall 2022 dealt with more simultaneous projects and problems with transit restrictions at the same time in the modern history of the Mississippi River.

CHANNEL CLOSURES LAST FEW MONTHS OF 2022:

- 1) Fiber Optic Cable Place at Baton Rouge
- 2) Pipeline Removal Operations near White Castle
- 3) Revetment Operations at White Castle
- 4) Emergency Action Saltwater Sill Construction at Mile 64 AHP
- 5) Submerged Dredge Pipeline Installation at the Hopper Dredge Disposal Area
- 6) Anchorage closures or limitations related to above and other restoration projects

SALTWATER SILL

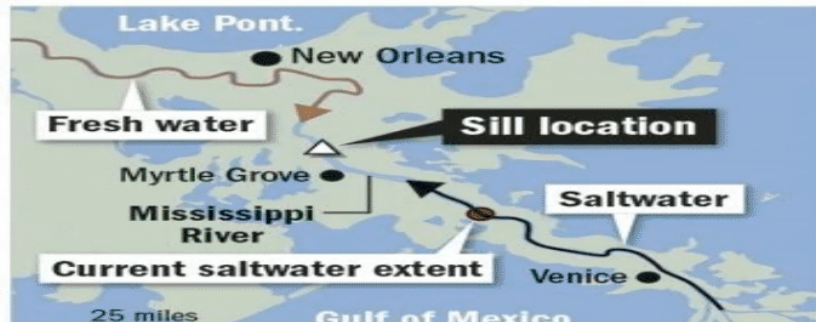


DUFFY SAID: UNDERWATER LEVEE

KAZMAN JOHNSON

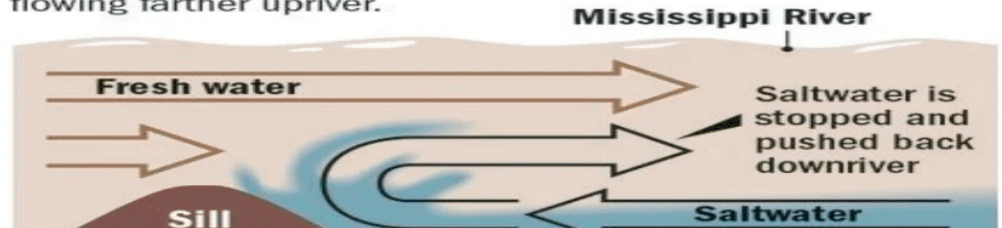
STOPPING THE SALTWATER

Construction will begin within three weeks on an underwater barrier sill to block upriver flow of saltwater in the Mississippi River that is threatening area water supplies. Sediment will be dredged from multiple sites upriver and be transported to the sill location.



HOW THE SILL WORKS

Because saltwater is heavier than fresh water, the sill is placed on the bottom of the river to block saltwater from flowing farther upriver.



I will attempt to explain some of the hydrologic challenges occurring on the Mississippi River Ship Channel in the bird's-foot delta focused from Mile 22 AHP to Mile 20 BHP with a **reference to a garden hose. Back** pressure, hose flow and the impacts of avulsions (breaks in the river) and induced shoaling.. **What flow must be maintained for commerce – not sure anyone knows or has asked this question? Maintaining flow moves vessels and serves to self-scour the channel and repel saltwater.**

**SALTWATER BARRIER FLOW AT RED RIVER LANDING October 25, 2022: 121,000
Mile 302.4 AHP**

LOCATION: Carrollton Gage at 12 Feet	RIVER MILE:	EAST OR WEST	FLOW IN CFS May 24, 2022
Belle Chasse:	Mile 75 AHP	N/A	776,000
*Bohemia SCS: (i.e. Mardi Gras Pass)	Mile 43.7 AHP	EAST	-25,000
Ground H2O:	N/A	N/A	-25,000
Ostrica Lock:	Mile 25.2 AHP	EAST	-13,400
Neptune Pass:	Mile 24-22 AHP	EAST	-118,000
Fort St. Phillip:	Mile 20-18 AHP	EAST	-100,000
Baptiste Collette:	Mile 11.3 AHP	EAST	-47,000
Grand Pass/Tiger Pass:	Mile 10.5 AHP	WEST	-60,200
West Bay Diversion:	Mile 4.7 AHP	WEST	-31,000
Cubits Gap:	Mile 3.0 AHP	EAST	-56,000
Pass A' Loutre:	Mile 0.5 AHP	EAST	61,378
FLOW AT HEAD of PASSES (Southwest Pass):	Mile 0		226,022

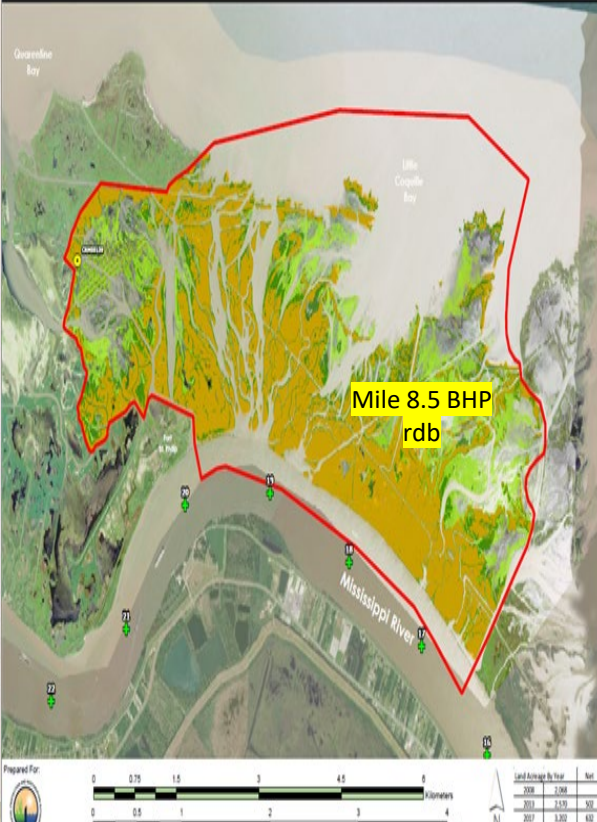
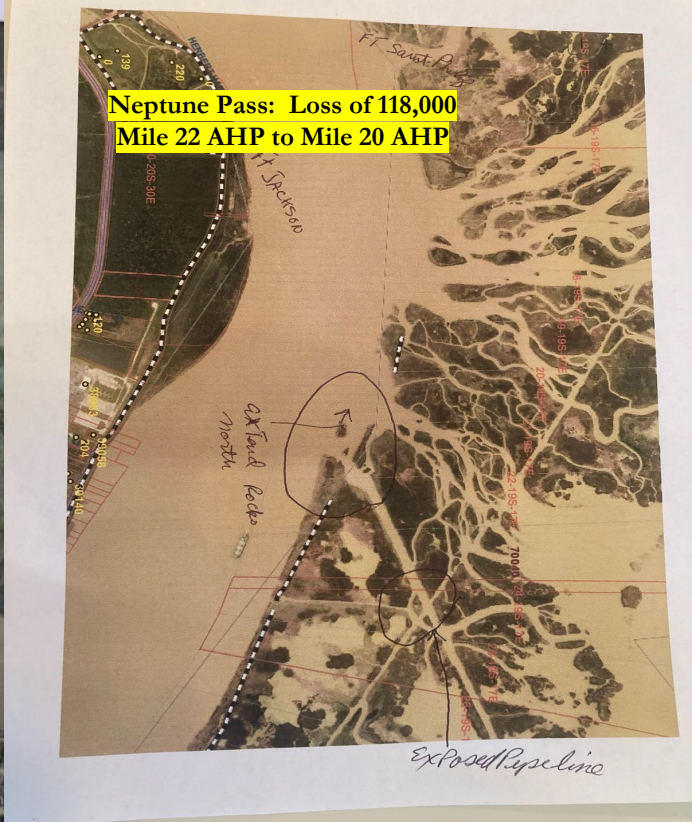


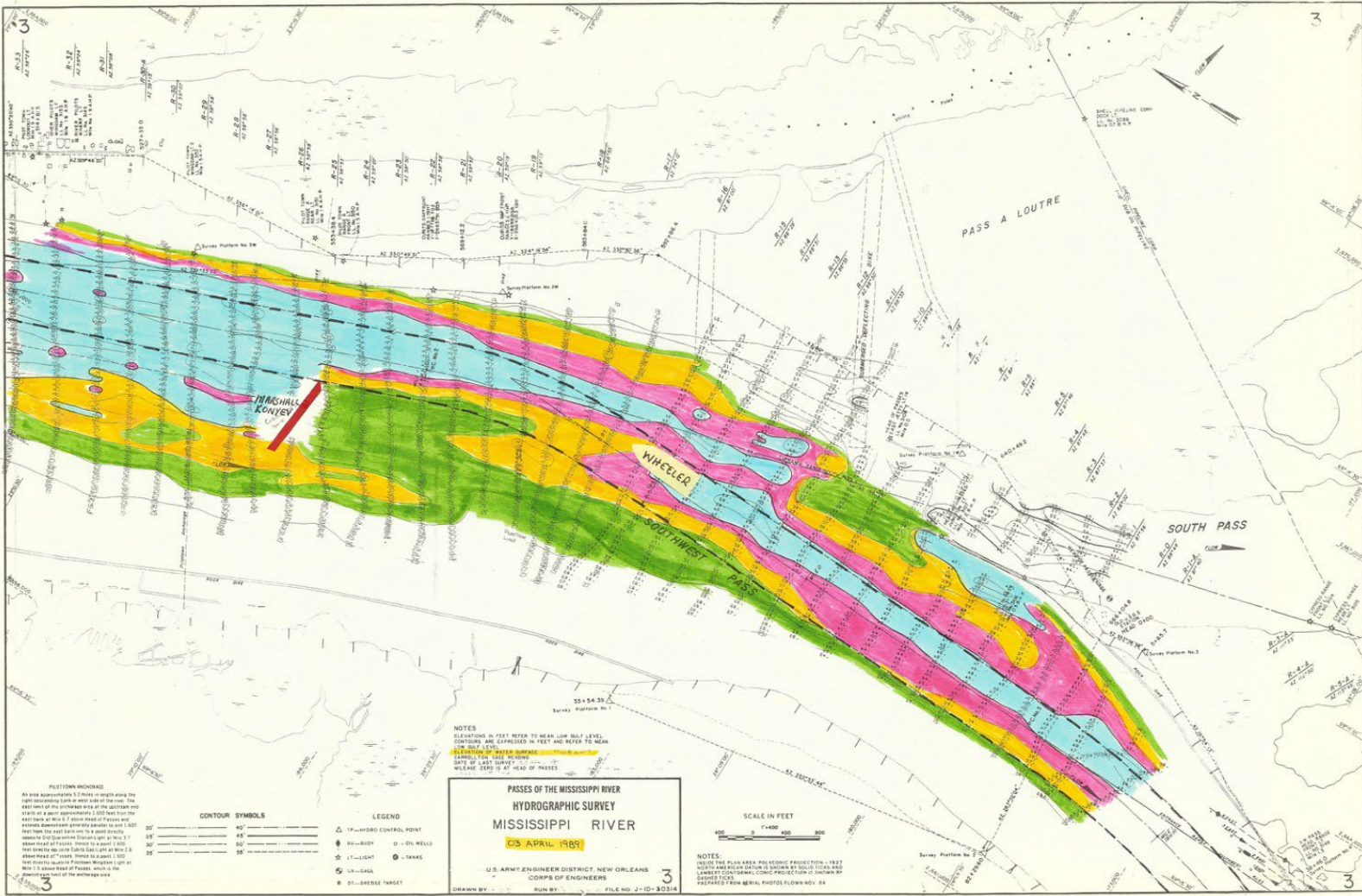
PILOTTOWN ANCHORAGE
Back Pressure

Kazman Johnson

“In their study of the Atchafalaya River, the USACE was able to deduce several possible effects of the diversion. The discharge of water into the current Mississippi channel would decrease until it resembled a bayou. All the levees along the previous Mississippi channel would no longer be needed to prevent flooding. In addition, towns such as Morgan City, located within the current Atchafalaya flood plain would be swept away by the newly expanded river. An expensive levee system would have to be built along the Atchafalaya in order to preserve current standards of flood control. The old Mississippi channel would no longer be able to be used for navigation by industry without expensive and extensive dredging. Industry would lack the water it needed to perform many of its processes such as cooling and the dumping of wastes. **Agriculture would suffer from the lack irrigation water, and cities such as New Orleans would suffer economically from the lack of trade and drinking water.** The only thing the diversion of the Atchafalaya promised to bring to society was disaster, and legislators decided to prevent this disaster at all costs.”

ADVERSE IMPACTS: of losing flow include increased shoaling, threat to drinking water supply (freshwater), dredging in new areas 13 AHP to Mile 12 AHP first time dredged in 2020. 2022 Mile 22 AHP to Mile 20 AHP first time ever dredging earlier this year 2022 hydrologic changes at Neptune Pass.





FEETDOWN INCREASE
As this approximately 1/2 inch or more rise the right descending bank at each side of the river. The depth area of the exchange of the gage and starts at a point approximately 200 feet from the station at 5 ft above head of Passes and 400 ft from the station at 15 ft above head of Passes and 600 ft from the station at 25 ft above head of Passes. For a point 100 feet from the station at 10 ft above head of Passes, 200 feet from the station at 20 ft above head of Passes, 300 feet from the station at 30 ft above head of Passes, 400 feet from the station at 40 ft above head of Passes, 500 feet from the station at 50 ft above head of Passes, 600 feet from the station at 60 ft above head of Passes, 700 feet from the station at 70 ft above head of Passes, 800 feet from the station at 80 ft above head of Passes, 900 feet from the station at 90 ft above head of Passes, 1000 feet from the station at 100 ft above head of Passes, which is the uppermost level of the exchange of the gage.

CONTOUR	SYMBOLS
40'	—
45'	—
50'	—
55'	—

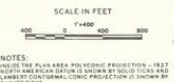
LEGEND
△ 1P—HYDRO CONTROL POINT
● BU—BUOY
○ OIL WELLS
⊙ 11—LIGHT
⊙ 1A—LAMP
⊙ ST—MERGE TARGET

**PASSES OF THE MISSISSIPPI RIVER
HYDROGRAPHIC SURVEY
MISSISSIPPI RIVER
05 APRIL 1989**

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS

DRAWN BY _____ RUN BY _____ FILE NO. J-10-3034

3



NOTES:
1. THE PLAN AREA POLYCONIC PROJECTION - 1927
2. NORTH IS THE PLAN DATUM AS SHOWN BY SOLID LINES AND
LANEET CONTINUOUS CONC PROJECTION IS SHOWN BY
DASHED LINES
3. PREPARED FROM AERIAL PHOTOS FROM NOV. 66

Historical Low Water Events

Lower Mississippi River Forecast Center

Current stage and forecast data as of November 15th 2022

Forecast Location	Current Stage	Forecast Low Stage	2022	2012	2000	1988
Cairo, IL *	14.9 ft	8.0 ft	4.8 ft *	7.2 ft	8.5 ft	4.9 ft
Memphis, TN *	-6.1 ft	-7.1 ft	-10.8 ft *	-9.8 ft	-9.2 ft	-10.7 ft
Arkansas City, AR	-0.5 ft	0.1 ft	-3.5 ft	-3.2 ft	-2.9 ft	-5.0 ft
Greenville, MS *	8.1 ft	8.6 ft	5.3 ft *	6.9 ft	8.2 ft	7.3 ft
Vicksburg, MS	2.9 ft	3.5 ft	-0.4 ft	-1.1 ft	0.2 ft	-1.6 ft
Red River Landing, LA	16.1 ft	16.7 ft	13.8 ft	13.0 ft	13.1 ft	10.0 ft
Baton Rouge, LA	5.5 ft	5.7 ft	4.1 ft	3.4 ft	3.9 ft	1.8 ft

* Locations that have prellimarily broken modern day low water records

Numbers in Red are the lowest forecast stage based on the 28 day forecast

Data provided by U.S. Army Corps of Engineers



Consecutive Days Above Flood Stage

Lower Mississippi River Forecast Center

Current data as of August 12th 2019

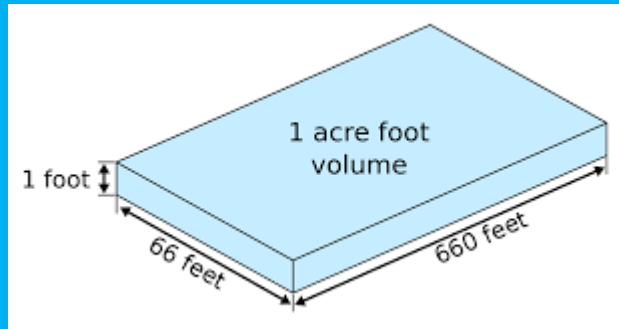
Forecast Location	Record (Days/Year)	2019 (Days/Period)	2011 (Days)	1973 (Days)	1927 (Days)
Cairo, IL	156 2019	156 Feb 8 th – Jul 13 th	59	97	76
Memphis, TN	65 1927	39 Feb 19 th – Mar 29 th	35	64	65
Arkansas City, AR	197 1927	94 Apr 16 th – Jul 19 th	44	72	197
Greenville, MS	155 2019	155 Feb 17 th – Jul 21 st	46	71	115
Vicksburg, MS	185 1927	162 Feb 17 th – July 28 th	48	83	185
Natchez, MS	215 2019	215 Jan 4 th – August 6 th	53	90	77
Red River Landing, LA	227 2019	227 Dec 27 th – August 10 th	59	95	152
Baton Rouge, LA	211 2019	211 Jan 6 th – August 4 th	79	99	135

Numbers in Red are records for this year

Data provided by U.S. Army Corps of Engineers

THE GREAT FLOOD OF 2019 RECORD LENGTH AND VOLUME OF WATER

FLOOD BY VOLUME	YEAR	ACRE FEET
#1	2019	910,000
#2	1973	725,000
#3	1927	700,000



An Acre Foot equals approximately 326,000 gallons of water



2011

2012

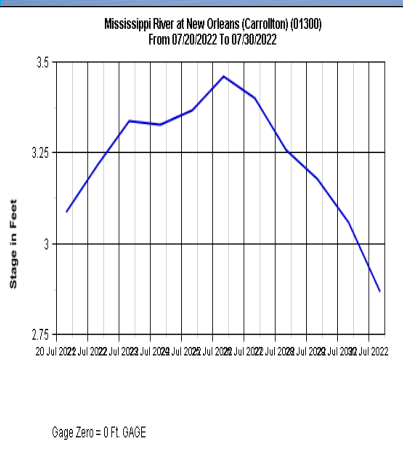
A difference in one year of 60 feet at BEALE STREET



ADVERSE IMPACTS OF LOSING THALWEG FLOW:

INDUCED SHOALING requires dredging in new areas, Mile 13 AHP to Mile 12 AHP first time dredged in 2020. Mile 22 AHP to Mile 20 AHP first time ever dredged earlier this year hydraulic changes at Neptune Pass.

Shoaling in SWP with a reading on the Carrollton Gage of 3.46 feet and falling, anomaly link to South Pass dredging? TERRAPIN ISLAND and GLENN EDWARDS dredging Mile 1 BHP to Mile 4 BHP shoaling reported by Bar Pilots. COMPREHENSIVE MODELING? REAL WORLD CHALLENGES.



Historical Low Water Events

Lower Mississippi River Forecast Center

The Historic Low Water Events documents do not include the stage at New Orleans “because the river levels don’t go much below 0.5ft because of the Gulf of Mexico.”

(Saltwater Intrusion pushing upriver pads the Carrollton Gage readings and threatens freshwater intakes [Kazman Johnson])

The record low for New Orleans however occurred in 1988 with a reading of just 0.10 feet, in 2000 the reading was 0.6 feet, and in 2012 the Carrollton Gage read 0.8 feet.

The lowest level on the Carrollton Gage during this low water period was 1.38 feet recorded on October 20.

2022 MORE EXTREME WEATHER EVENTS



GLOBAL AGRICULTURAL ZONES



The Mississippi River connects more miles of navigable waterways than the rest of the world combined.

The Mississippi River is the only navigable waterway directly connected to a major agricultural area equal to 425 Million acres of farmland connected through the Mississippi River and Tributaries.

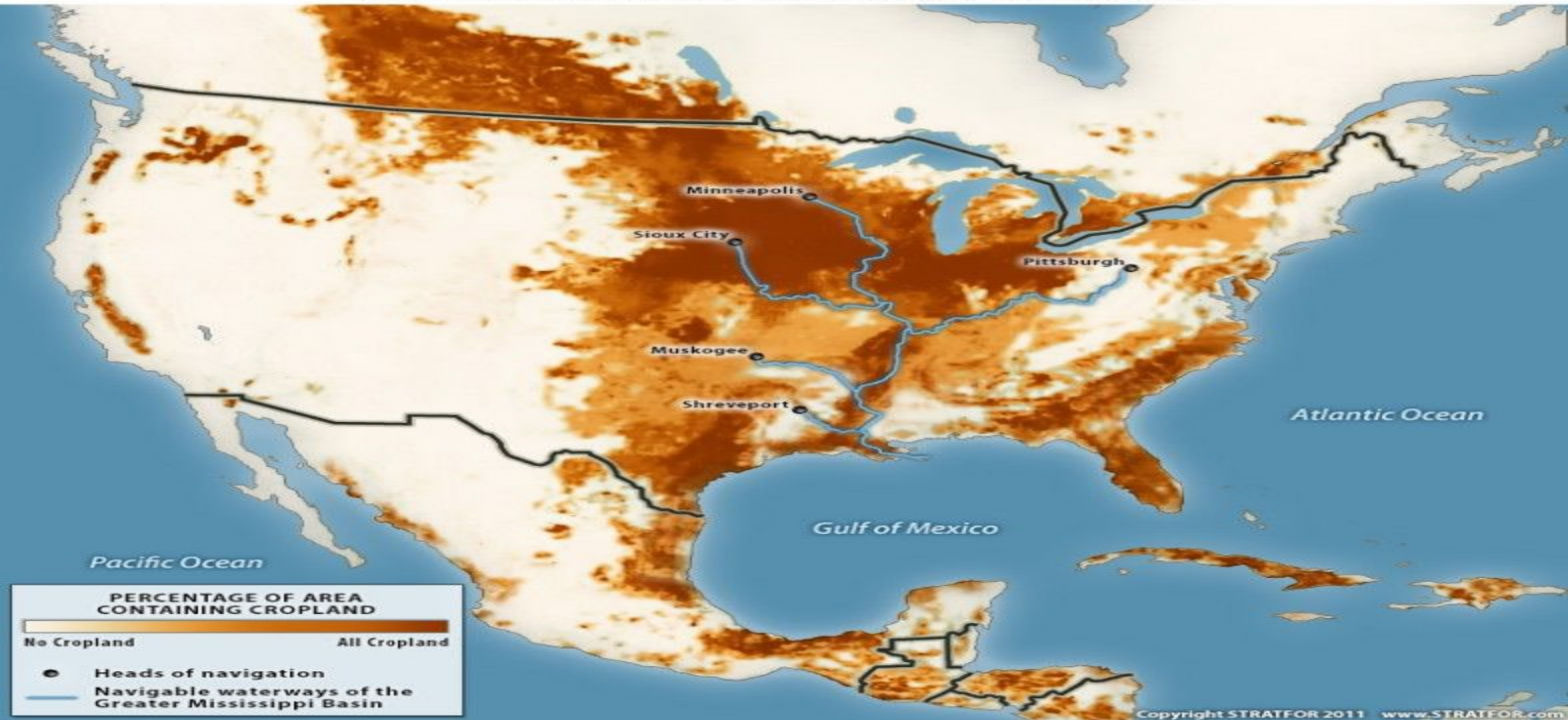
THE GEOPOLITICS OF THE UNITED STATES: THE INEVITABLE EMPIRE

STRATFOR'S STATES STRATEGIC IMPERATIVES:

- 1) **Dominate the Greater Mississippi River Basin**
- 2) **Eliminate All Land-Based Threats to the Greater Mississippi Basin**
- 3) Control the Ocean Approaches to North America
- 4) Control the World's Oceans
- 5) Prevent Any Potential Challengers from Rising

“The American geography is an impressive one. The Greater Mississippi Basin together with the Intracoastal Waterway has more kilometers of navigable internal waterways than the rest of the world combined. The American Midwest is both overlaid by this waterway and is the world's largest contiguous piece of farmland. The U.S. Atlantic Coast possesses more major ports than the rest of the Western Hemisphere combined. Two vast oceans insulated the United States from Asian and European powers, deserts separate the United States from Mexico to the south, while lakes and forests separate the population centers in Canada from those in the United States. The United States has capital, food surpluses and physical insulation in excess of every other country in the world by an exceedingly large margin. **So like the Turks, the Americans are not important because of who they are, but because of where they live.”**

NORTH AMERICAN CROPLAND INTENSITY



UNESCO *How to Feed the World in 2050* “By 2050 the world’s population will reach 9.1 billion, 34 percent higher than today.”(2009)...

”In order to feed this larger, more urban and richer population, **food production must increase by 70 percent.**”

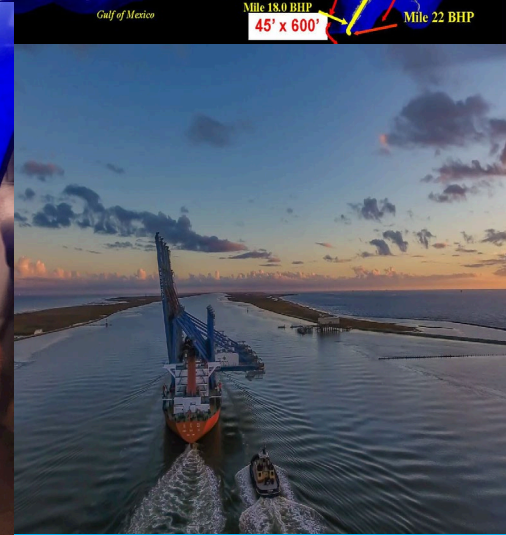
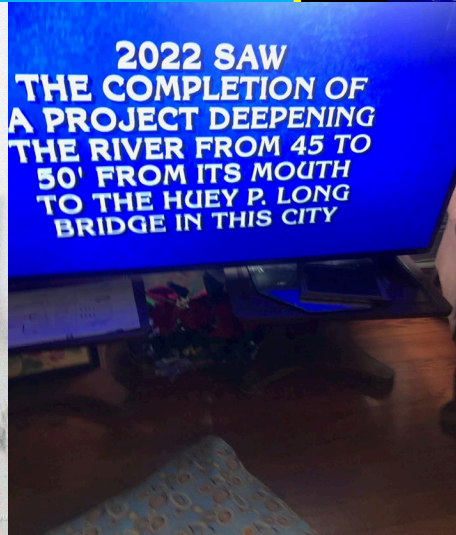
Mississippi River Ship Channel Deepening Baton Rouge to the Gulf of Mexico

Description: To deepen the Mississippi River Ship Channel to 50 feet. A total of 254 miles of the waterway will be connected at a depth of 50 feet or more by dredging a total of 65 miles to connect it with areas that are naturally deep.

Cost: \$237,670,000 total with Federal cost of \$118,130,000 and non-Federal cost at \$119,540,000 (\$39,380,000).

Benefit Cost Ratio: 7.2 to 1, ratio does not include new jobs or the \$40 billion in new facilities presently being planned (Big River Coalition). 500 million tons of cargo transit the MRSC annually.

Funding: Congress must fund the construction costs, to deliver the federal deepening cost to execute this project of national significance. The cost-share agreement for the first phase of dredging – the first 33 miles of the river delta is \$110 million (Fed \$82.5 m and Non-Fed \$27.5 m).









Patrick M. Quigley
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Slidell, LA 985.788.3458
A SDAV owned small business.

DUFFY SAID: "SPRAY ON LAND"





“COMPLAINING ABOUT A PROBLEM WITHOUT
POSING A SOLUTION IS CALLED WHINING.”

Teddy Roosevelt

LARGEST WETLANDS RESTORATION PROJECT IN THE WORLD

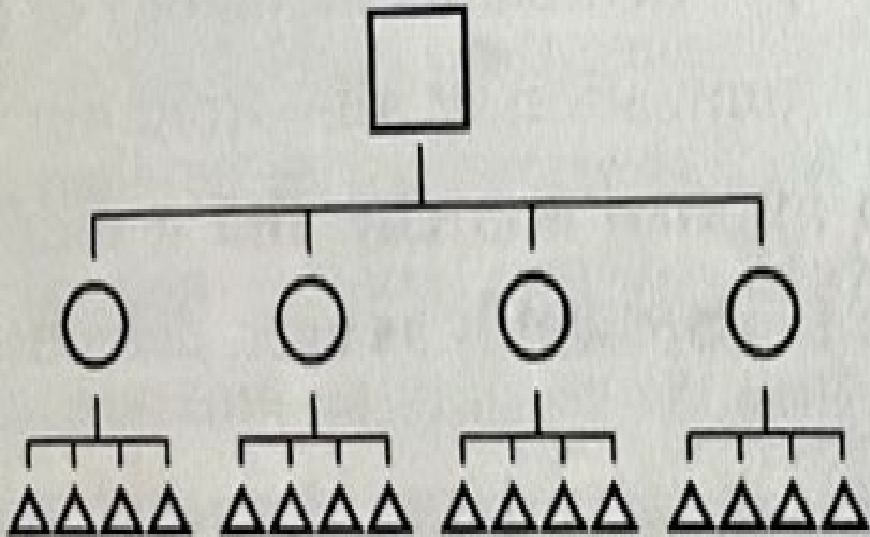
FISCAL YEAR	SWP CUTTERHEAD MCY	SWP BU ACRES	HDDA MCY	HDDA BU ACRES	TOTAL SWP CUTTERHEAD + HDDA MCY	TOTAL SWP and HDDA ACREAGE
2009	2.9	100	0	0	2.9	100
2010	3.2	67	6.8	403	10	470
2011	3.6	200	1.5	60	5.1	260
2012	5.7	615	0.8	0	6.5	615
2013	5.7	773	7.2	644	12.9	1,417
2014	8.0	572	0	0	8.0	572
2015	11.3	364	9.7	677	21	1,041
2016	8.5	973	0	0	8.5	973
2017	12.2	1064	8.4	404	20.6	1,468
2018	6.7	347	4.9	378	11.6	725
2019	14.7	1,218	9.5	506	24.2	1,724
2020	11.3	847	6.0	489	17.3	1,336
2021	19.8	1,190	11.5	645	31.3	1,835
2022	5.3	350*	0	0	5.3	350*
TOTALS:	118.90	8,680	66.30	4,206	185.20	12,886

13,000 ACRES RESTORED ABOVE THE WATERLINE



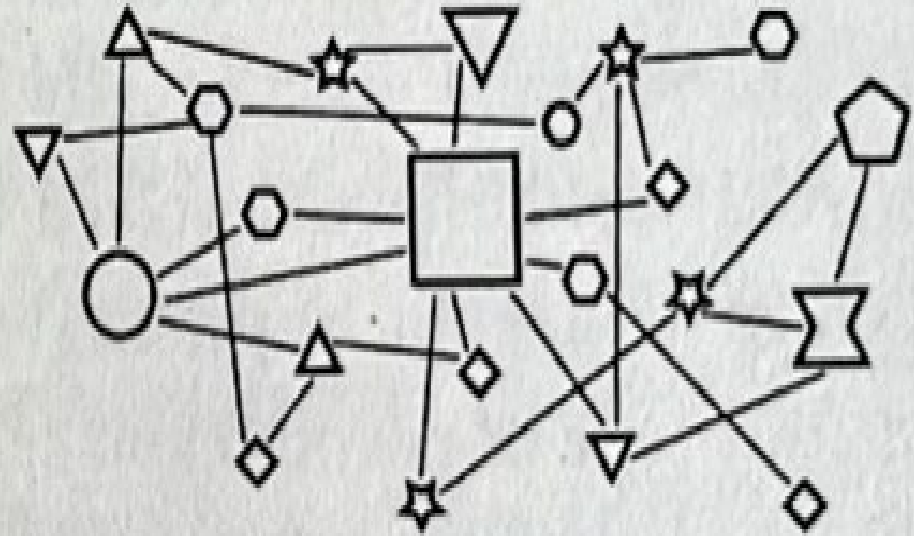
Taken 01/29/2021
Patrick M. Quigley
www.gulfcoastphoto.com
A SOAW owned small business.

TRADITIONAL BUSINESS STRUCTURE



What we were designed for

TEAM MISSISSIPPI RIVER



What we were facing

QUESTIONS?

