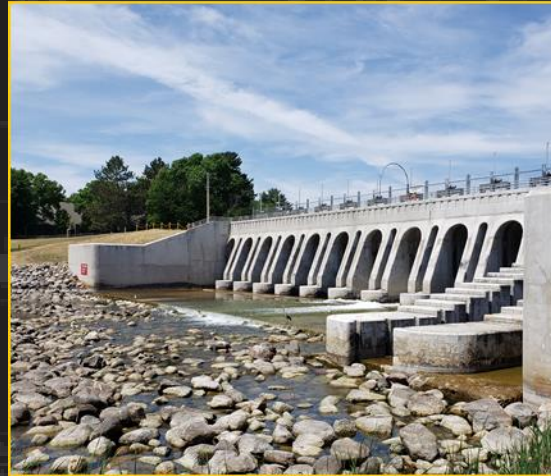


# ST. PAUL DISTRICT OPERATIONS UPDATE

Kristin Moe  
Navigation Manager  
USACE St. Paul District  
October 5, 2023



U.S. ARMY



US Army Corps  
of Engineers®





U.S. ARMY



US Army Corps  
of Engineers®



# AGENDA

2

- St. Paul District Overview
- Resilient Navigation – current and future state
- Operation and Maintenance Backlog
  - Maintenance collaboration
  - Safety initiatives
- Dredge Material Management and Beneficial Use Projects
- Data and Innovation
- Outreach: Educate, Inform, Partner
- Questions



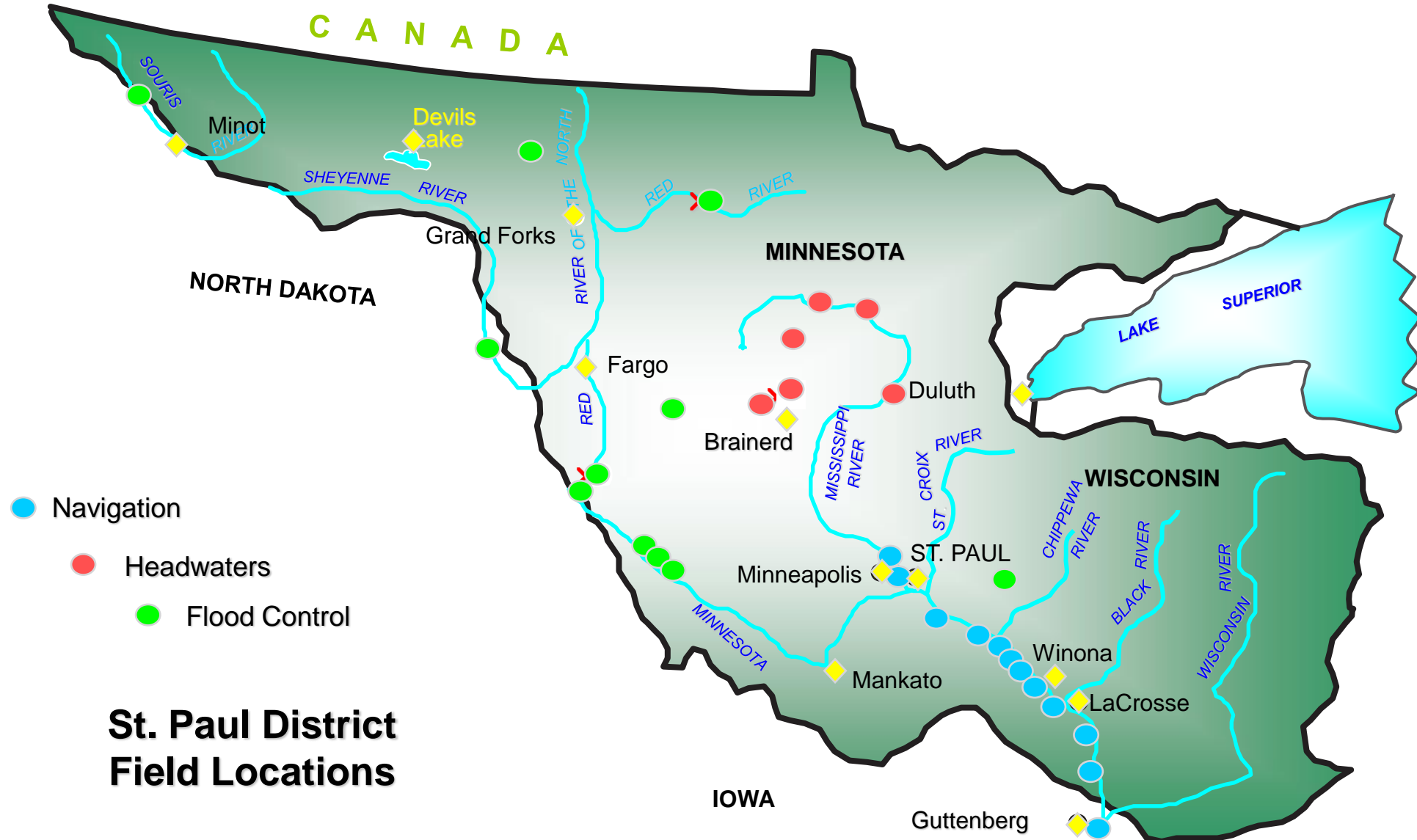
U.S. ARMY



US Army Corps of Engineers®



# OVERVIEW OF ST. PAUL DISTRICT AREA OF RESPONSIBILITY



### St. Paul District Field Locations



# CURRENT STATE OF NAVIGATION

**Upper Mississippi System moves 52% of the nation's corn and 41% of the nation's soybean exports**

National Issues:

- System reliability under a constrained budget
- 70% of America's locks have exceeded their intended design life
- Increasing project costs & incremental project funding approach
- Inland Waterway Trust Fund availability & Backlog of Nav projects
- Execution of Harbor Maintenance Trust Fund revenue

Upper Mississippi Issues:

- Consistency/Predictability of NESP funding
- Increased frequency and duration of extreme water
- Maintenance backlog
- Increased dredging requirements
- Dredged material management challenges
- Environmental Constraints; Asian Carp migration



*Motor Vessel 'The Colonel'  
Lock and Dam 2*



*Motor Vessel Richard E. Waugh, Lock and Dam 10*



U.S. ARMY



US Army Corps  
of Engineers®

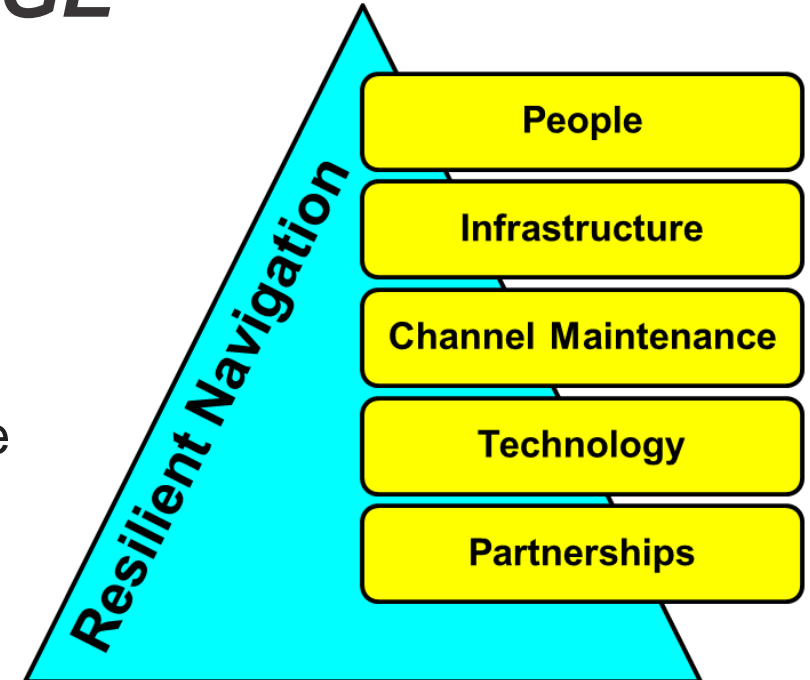


# FUTURE STATE OF INLAND NAVIGATION

## *A RESILIENT, RELEVANT AND RELIABLE SYSTEM TO SUPPORT OUR NATION'S COMPETITIVE ADVANTAGE*

5

- Invest in infrastructure through enhanced maintenance and dredging, modernization and new construction**
  - ✓ Invest through NESP
  - ✓ Reduce the operation and maintenance backlog
  - ✓ Focus on safety
  - ✓ Rethink (modernize) our approach to channel maintenance
  - ✓ Use our resources in the most efficient and effective ways possible
- Data and Innovation:**
  - ✓ Accurate, up to date information
- Communication and Coordination:**
  - ✓ Educate/inform re: the value of ports/waterways to the nation
- Leverage Non-Federal Partner Capabilities**



**Sep 2020 Report: Partner Perspective  
on the Importance of our nation's**

**Waterways and Ports**





U.S. ARMY



US Army Corps  
of Engineers®



# INVEST IN NESP





U.S. ARMY



US Army Corps of Engineers



# REDUCE THE MAINTENANCE BACKLOG

~ \$21.5 million/year in the last three out of four FYs applied to backlog items



<u>Select Backlog/Deferred Item</u>	<u>FY 23 Estimate</u>
Dam Gate and Bridge Painting	240,400,000
Dam Gate Repairs	23,700,000
Other Dam and Spillway Repairs	14,200,000
Miter Gate Replacement	33,300,000
Miter Gate Anchorage Repl.	4,800,000
Guidewall Repairs	49,600,000
Travelling Kevel Replacement	13,800,000
Auxiliary Chamber Closures	9,400,000
Lock Concrete Repairs	6,700,000
Other Misc Repairs	17,900,000
<b>Total</b>	<b>413,800,000</b>

**Take Away:** Rising costs and aging infrastructure outpacing investment





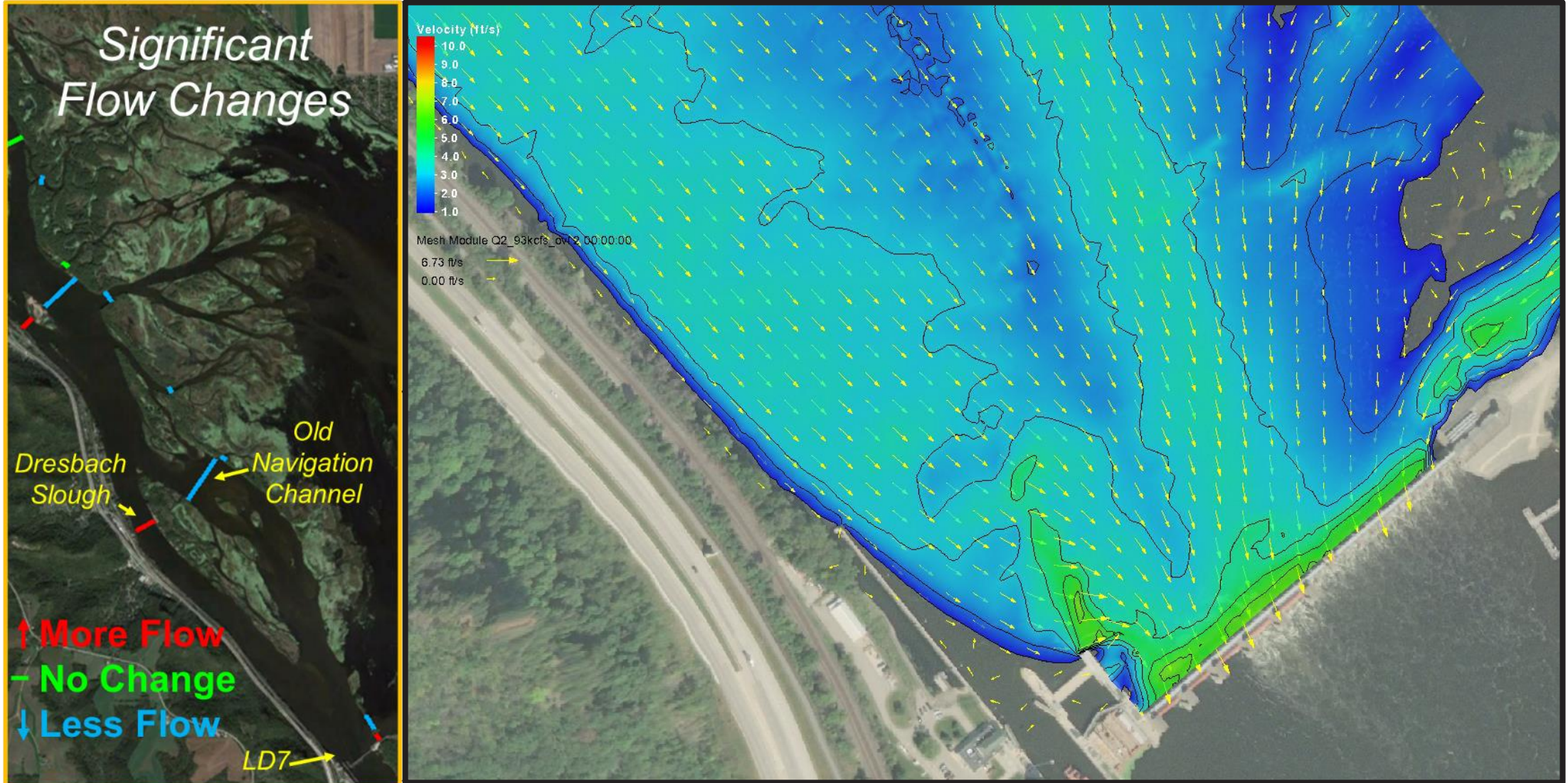
U.S. ARMY



US Army Corps of Engineers



# FOCUS ON SAFETY – LOCK & DAM 7 OUTDRAFT STUDY







U.S. ARMY



US Army Corps  
of Engineers®



# RETHINK (MODERNIZE) CHANNEL MAINTENANCE







U.S. ARMY



US Army Corps of Engineers



# DREDGED MATERIAL MANAGEMENT

St. Paul District  
Pool 4



St. Paul District – Pool 6



Rock Island District  
Open River





U.S. ARMY



US Army Corps  
of Engineers®



# RIVER TO REUSE

11

## PLACE MATERIAL WHERE IT CAN BE USED PRODUCTIVELY

- ✓ Agricultural Soil Amendments
- ✓ Residential Development
- ✓ Habitat Island Construction
- ✓ Stockpile for Removal
- ✓ General Construction







U.S. ARMY

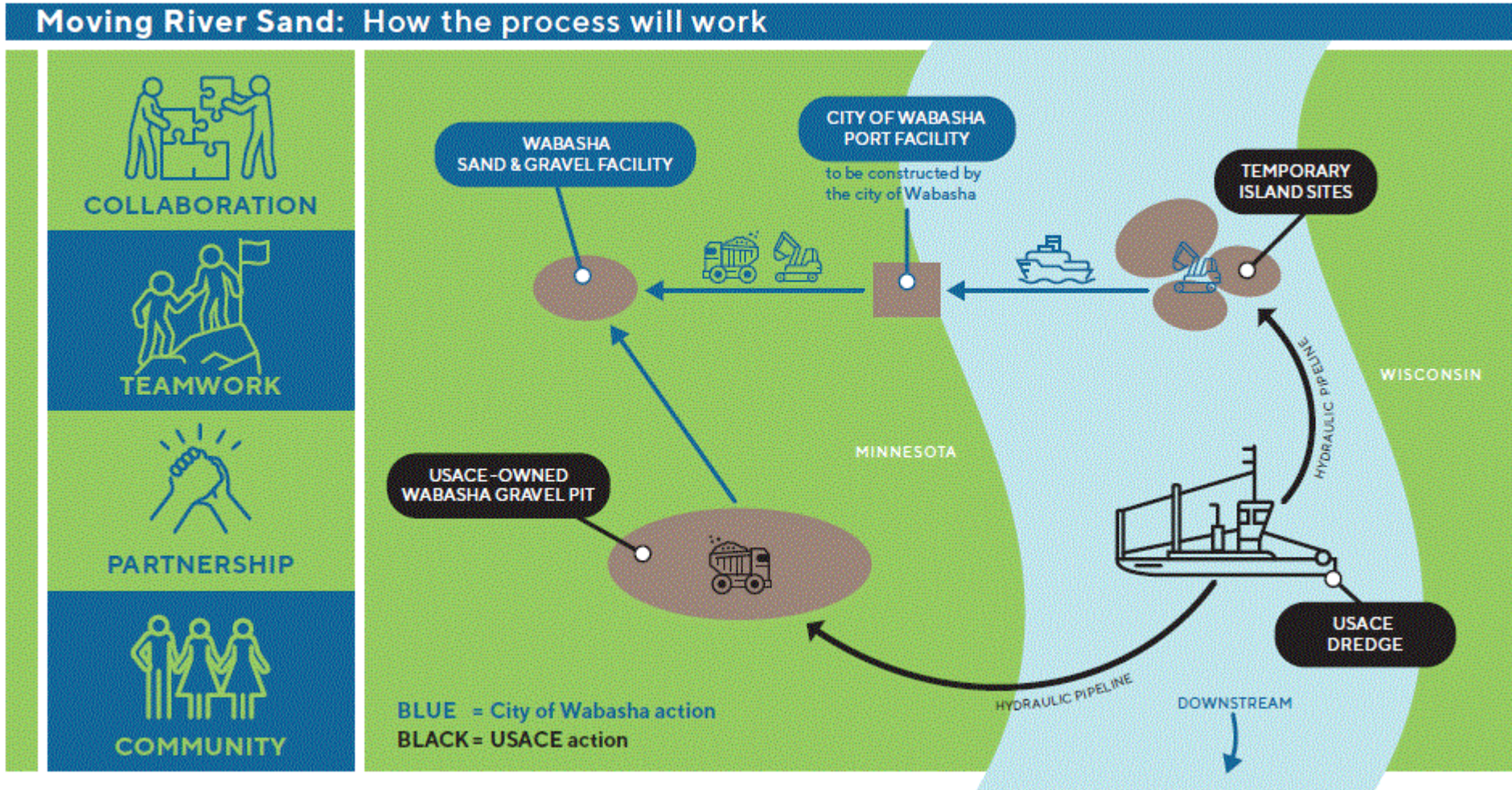


US Army Corps of Engineers®

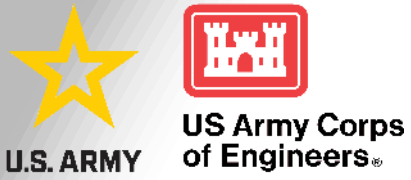


# DREDGED MATERIAL MANAGEMENT PLANS (DMMPs)

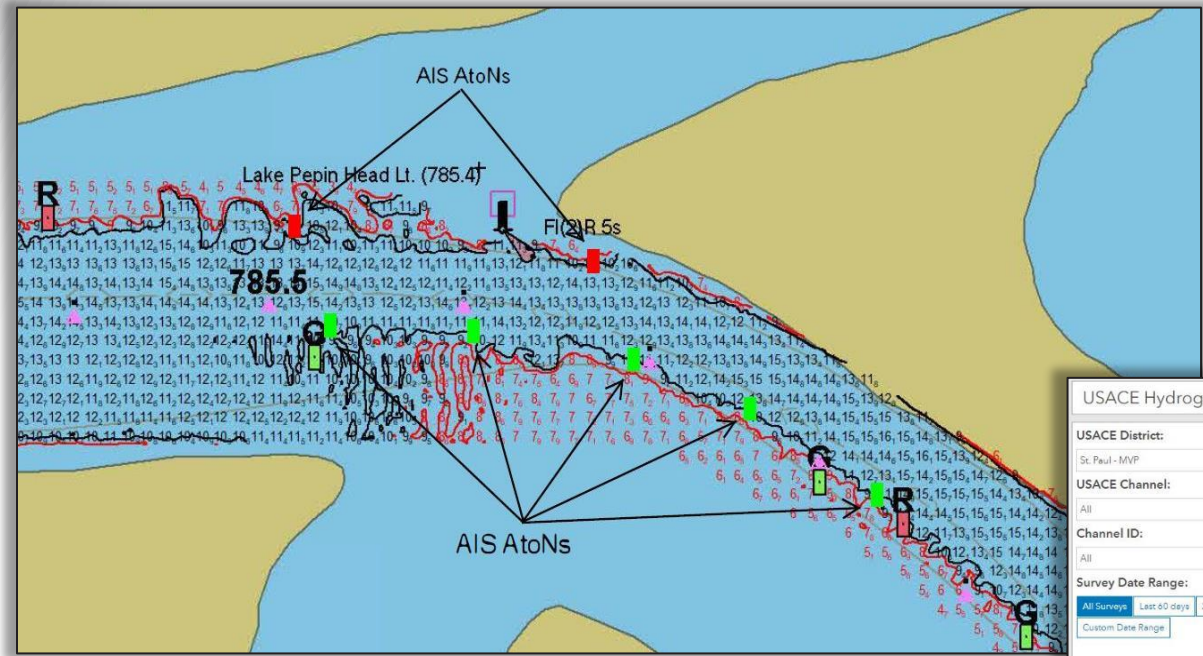
## Revolutionize River Sand Management: Sec 217(d) of WRDA 1996





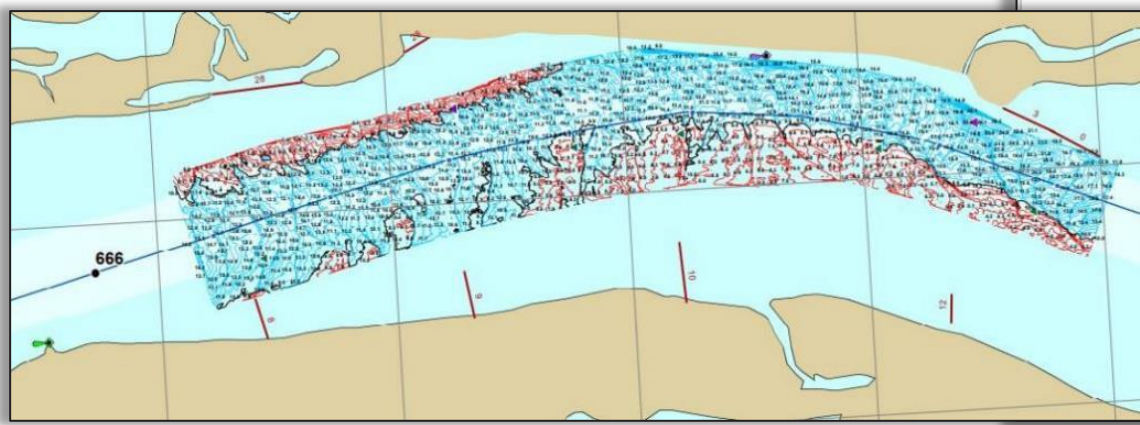


# DATA AND INNOVATION



Virtual buoys

USACE eHydro



USACE Hydrographic Surveys powered by eHydro

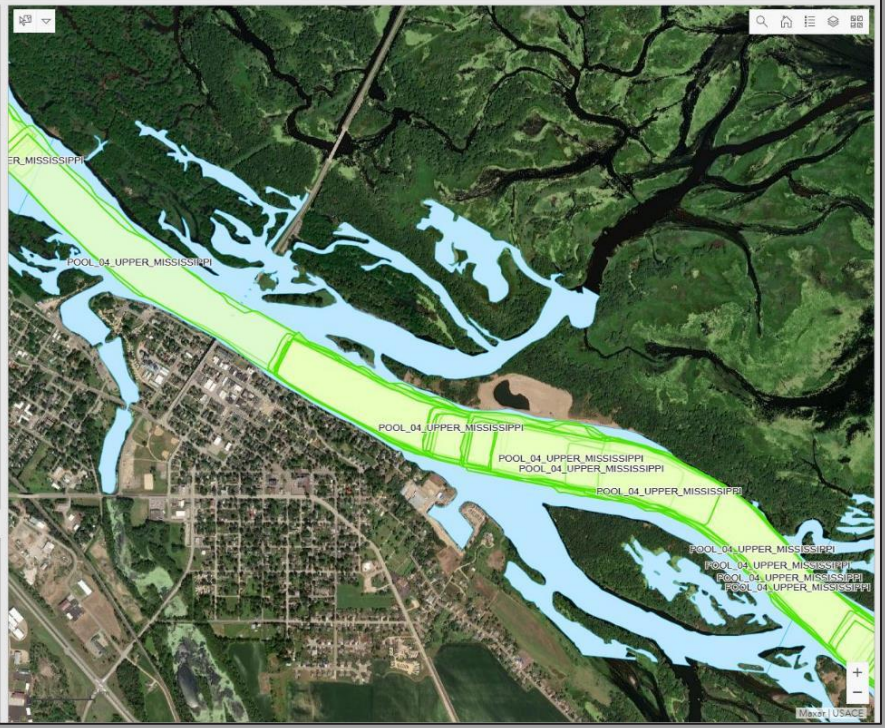
USACE District: St. Paul - MVP

USACE Channel: All

Channel ID: All

Survey Date Range: All Surveys | Last 60 days | 2019 | 2018

- Select Survey: List is limited to 50 records. To see older surveys, configure a custom date range or zoom in on the map to limit results.
- District: CEMVP  
Name: POOL\_04\_UPPER\_MISSISSIPPI  
Survey ID: UM\_SP\_P04\_20210602\_AD\_7571\_7581  
Survey Date: 6/2/2021  
[Download Data](#)
  - District: CEMVP  
Name: POOL\_04\_UPPER\_MISSISSIPPI  
Survey ID: UM\_SP\_P04\_20210518\_AD\_7583\_7593  
Survey Date: 5/18/2021  
[Download Data](#)
  - District: CEMVP  
Name: POOL\_04\_UPPER\_MISSISSIPPI  
Survey ID: UM\_SP\_P04\_20210513\_BO\_7571\_7580  
Survey Date: 5/13/2021  
[Download Data](#)
  - District: CEMVP  
Name: POOL\_04\_UPPER\_MISSISSIPPI  
Survey ID: UM\_SP\_P04\_20210428\_BD\_7583\_7593  
Survey Date: 4/28/2021  
[Download Data](#)
  - District: CEMVP  
Name: POOL\_04\_UPPER\_MISSISSIPPI  
Survey ID: UM\_SP\_P04\_20210329\_CS\_7590\_7600  
Survey Date: 3/29/2021  
[Download Data](#)
  - District: CEMVP  
Name: POOL\_04\_UPPER\_MISSISSIPPI  
Survey ID: UM\_SP\_P04\_20210329\_CS\_7580\_7590  
Survey Date: 3/29/2021  
[Download Data](#)



Number of Surveys

**2,435**

49 last 60 days

... or simply map to filter the data.  
... drill down tosted in. To the filter to "All".





U.S. ARMY



US Army Corps  
of Engineers®



# OUTREACH: EDUCATE, INFORM, PARTNER

14







U.S. ARMY



US Army Corps  
of Engineers®



# STRATEGIC ENGAGEMENT INITIATIVE

15

- Engineer Research and Development Center (ERDC) supported effort
- Define current and future state of inland navigation
- Multi-modal and Inter-modal context
- Future focus
- Information gathering includes Industry input
- Establish a strategic outreach framework around the commercial, hydrologic, political, financial, and regional landscape



## Outcome:

- We understand the multi-modal and intermodal picture and our value to the region
- We know what we need to do now to be ready for the future



U.S. ARMY



US Army Corps of Engineers®



# ECONOMIC IMPACT

## ECONOMIC IMPACT OF WISCONSIN'S INLAND WATERWAYS



### INLAND WATERWAYS SUPPORT WISCONSIN'S KEY INDUSTRIES

Industry Sub-Category	Percent of Goods Shipped by Water (Tons)	Direct Wisconsin Jobs
Nondurable Manufacturing	↻ 25.5% of inbound	33,400
Construction	↻ 8.3% of inbound	66,600

In 2018, **3.0M** tons of freight valued at **\$3.6 BILLION** moved on Wisconsin's inland waterways, which is equivalent to **74,000 TRUCKS**

Avoided trucks translates into **reduced congestion, emissions, and crashes**, and contributes to the state of good repair of highway infrastructure

## ECONOMIC IMPACT OF MINNESOTA'S INLAND WATERWAYS



### INLAND WATERWAYS SUPPORT MINNESOTA'S KEY INDUSTRIES

Industry Sub-Category	Percent of Goods Shipped by Water (Tons)	Direct Minnesota Jobs
Crop production	↻ 26.1% of inbound	3,110*
Nondurable manufacturing	↻ 16.0% of inbound	79,800
Primary metal manufacturing	↻ 7.5% of outbound	5,720
Mining (except oil & gas)	↻ 5.3% of inbound/outbound	5,570

\*Total for Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11)

In 2018, **12.0M** tons of freight valued at **\$3.2 BILLION** moved on Minnesota's inland waterways, which is equivalent to **300,000 TRUCKS**

Avoided trucks translates into **reduced congestion, emissions, and crashes**, and contributes to the state of good repair of highway infrastructure





U.S. ARMY



US Army Corps  
of Engineers®



# ERDC SUPPORT OF ST. PAUL DISTRICT STRATEGIC VISION

17

## Data Collection/Analysis:

- Port Performance
- Waterway Transit Count by Direction
- Port Connectivity, Destination/Origin
- Impacts of Restrictions/Closures

## Outreach to Stakeholders:

- Commercial users
- Port Authorities
- Industry advocates
- Regulatory authorities
- Multi-modal transportation authorities
- Identify potential future strategic/  
beneficial uses of district dredged  
material



Relative Density Plot:  
2019 Vessels traveling to/from St. Paul District

# MULTI-MODAL TRANSPORT TO SUPPORT COASTAL BEACH NOURISHMENT

## Origin:

Bulls Island, Ottawa, Illinois

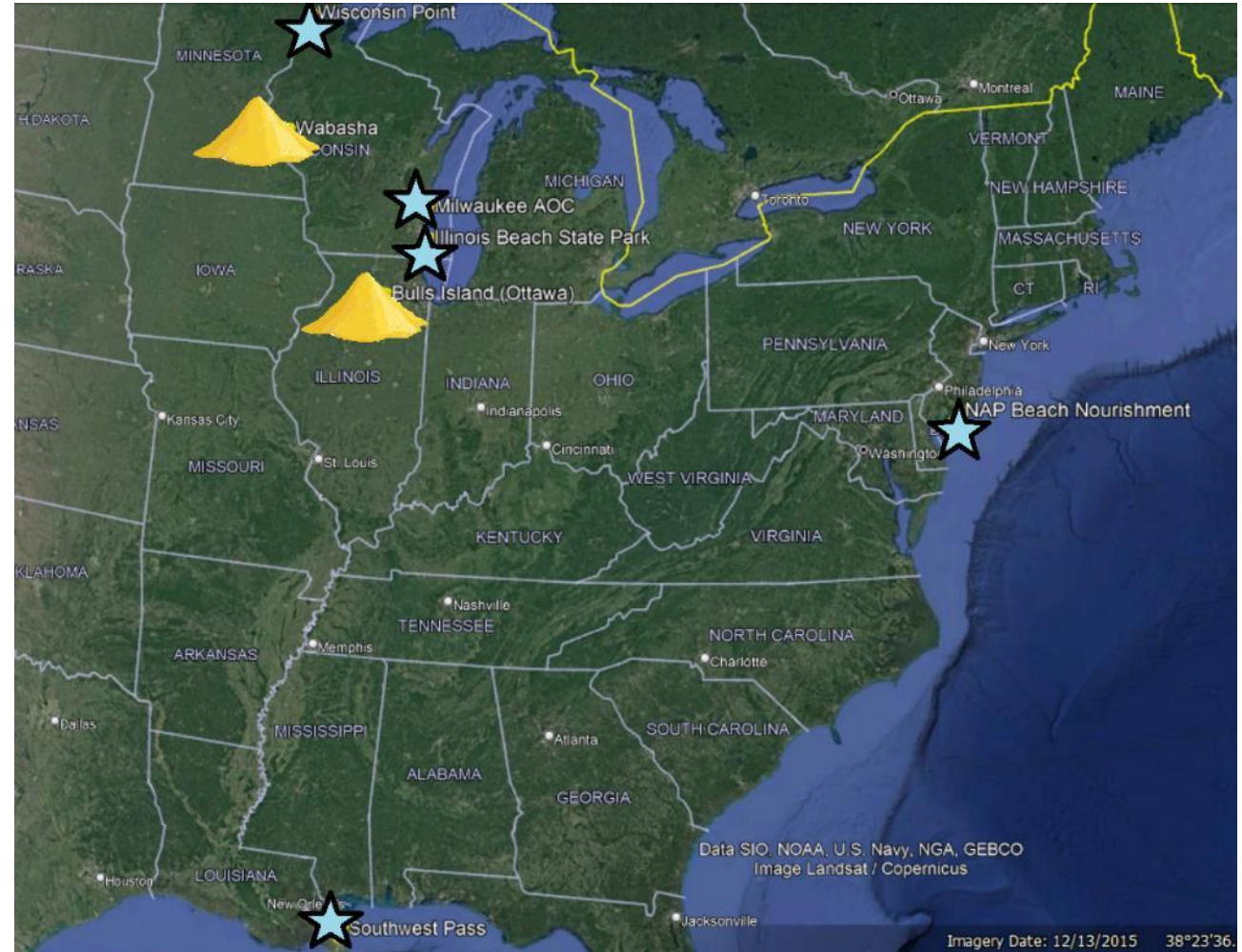
- Located on Illinois River
- Approximately 500 thousand cubic yards stockpiled sand

Wabasha Pit, Wabasha, Minnesota

- Located directly adjacent to Canadian Pacific Railway
- Approximately 5 million cubic yards stockpiled sand

## Destination:

- Illinois Beach State Park
- Milwaukee Area of Concern
- Wisconsin Point
- Philadelphia District
- Coastal, Louisiana/New Orleans District







U.S. ARMY



US Army Corps  
of Engineers®



# LEVERAGE OUR NON-FEDERAL PARTNERS







U.S. ARMY



US Army Corps  
of Engineers®



# QUESTIONS

