

OPERATIONS PERSPECTIVE

MISSISSIPPI RIVER MANAGERS MEETING 7 FEB 2023



INLAND NAVIGATION – DISCUSSION TOPICS

- CURRENT AND FUTURE STATE OF NAVIGATION
- STRATEGIC OUTREACH INITIATIVE UPDATE



*General Graham, Dredge Potter
Master Brian Ragsdale, and
ASA CW Connor, Dec.14 2022*



*General Spellmon and Dredge Hurley
Chief Engineer Mike Temple, Jan.2023*



*MVP OPs (Stai, Bernhardt, Lowenhagen)
with General Graham, Dec.15 2022*



US Army Corps
of Engineers®



BUILDING STRONG®
and Taking Care of People!

7 FEB 23 2

CURRENT STATE OF INLAND NAVIGATION

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
- Environmental Issues: Threatened, endangered, and invasive species;

Upper Mississippi Issues:

- Consistency/Predictability of NESP funding
- Extreme water levels, highs and lows
- Maintenance backlog
- Increased dredging requirements
- Dredged material management challenges
- Environmental Constraints



Dredge Goetz Crew members Platteter, Jandl, Hill, Rud, and General Graham, Dec.15 2022



US Army Corps
of Engineers®



BUILDING STRONG®
and Taking Care of People!

FUTURE STATE OF INLAND NAVIGATION

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

☐ Invest in infrastructure through enhanced maintenance and dredging, modernization and new construction

- ✓ Invest through NESP
- ✓ Reduce the O&M backlog
- ✓ Rethink (Modernize) our approach to channel maintenance
- ✓ Use our resources in the most efficient and effective ways possible

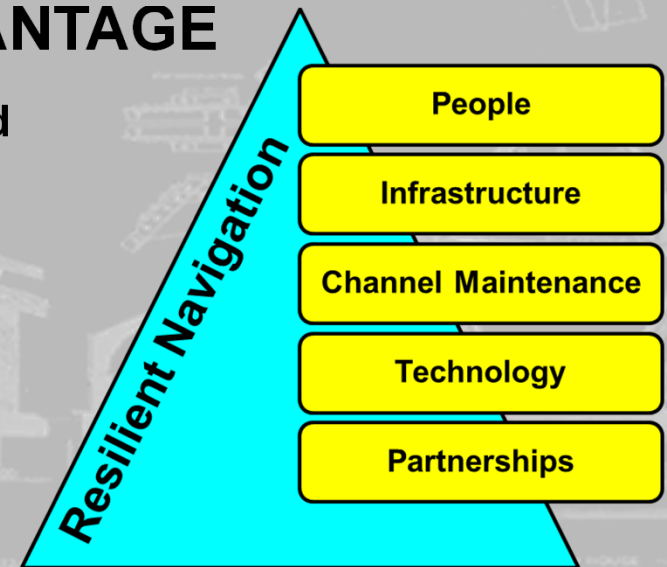
☐ Data and Innovation:

- ✓ Accurate, up to date information

☐ Communication and Coordination:

- ✓ Educate/inform re: the value of ports/waterways to the Nation

☐ Leverage Non-Federal Partner Capabilities



US Army Corps
of Engineers®



BUILDING STRONG®
and Taking Care of People!

Sep 2020 Report: Partner Perspective on
the Importance of our Nation's
Waterways and Ports

USACE FY2023 NAVIGATION BUSINESS LINE PRIORITIES

1. Expanding opportunities for beneficial use of dredged material and quantifying benefits – increase beneficial use to 70% by 2030
2. Science-based mitigation for environmental aspects of dredging and dredged material
3. Remote lock operations
4. Enhance resiliency of navigation structures and minimize maintenance costs
5. Coastal resiliency by making navigation channels more resilient by employing engineering with nature concepts
6. Engaging multidisciplinary engineering and environmental disciplines at our deepening/widening projects in support of resilient marine transportation systems

INVEST THROUGH NESP

NAVIGATION AND ECOSYSTEM SUSTAINABILITY PROGRAM

GLOBAL MARKET COMPETITION

Helps the American farmer compete in global markets and decreases transportation costs.

INFRASTRUCTURE INVESTMENT

Gives America the working modern infrastructure it deserves.

SUPPORTING RURAL AMERICA

Integrated approach maximizes environmental benefits while preserving multiple uses for the waterways.



JOBS CREATION

High paying construction jobs and a permanent boost to the Midwest economy.

NESP IS VITAL TO THE NATION

REDUCE THE O&M BACKLOG

UPPER 3 DISTRICTS

- O&M Backlog grew in MVP from \$309M to \$359M due to cost increases. Overall, due to historic levels of O&M funding, we can make progress on the O&M backlog

Estimated O&M Backlog	\$1,153,000,000	Numbers are a work in progress
Value of O&M Projects Underway	\$177,400,000	Combined contract and in-house efforts
FY 23 O&M Funding	\$362,611,000	Stable/Trending Up
BIL (IIJA) Funds	\$269,975,000	Significant support to backlog of maintenance
NESP Navigation Funding	\$124,000,000	LaGrange (MVR), LD 25 (MVS)



US Army Corps
of Engineers®



BUILDING STRONG®
and Taking Care of People!

REDUCE THE O&M BACKLOG

ST. PAUL DISTRICT

On average, MVP received \$21.5M in the last 3 out of 4 FYs that was applied toward backlog items.

<u>Select Backlog/Deferred Item</u>	<u>FY 23 Estimate</u>
Dam Gate and Bridge Painting	165,500,000
Dam Gate Repairs	14,550,000
Dam Machinery Repairs	7,700,000
Other Dam and Spillway Repairs	22,210,000
Miter Gate Replacement	50,300,000
Miter Gate Anchorage Replacement	4,800,000
Tainter Valve Replacement	2,700,000
Lock Machinery Repairs	3,000,000
Lock Concrete Repairs	7,500,000
Guidewall Repairs	65,900,000
Auxiliary Lock Closures	11,500,000
Other Repairs	880,000
Total	358,540,000



US Army Corps
of Engineers®



BUILDING STRONG®
and Taking Care of People!

CY 2023 LOCK PERFORMANCE ST. PAUL DISTRICT

Lock Availability = >98%

Unscheduled Closures = 103.2 hours

Reasons for Unscheduled Lock Closures:

- Weather (lightning, wind, fog, etc.)
- Accident in/near lock
- Tow malfunction/breakdown
- Grounding
- Lock repair/equipment failure/inspection

Only 22% of unscheduled closures were due to lock malfunction or repair



RETHINK (MODERNIZE) OUR APPROACH TO CHANNEL MAINTENANCE

MODERNIZING OUR REAL ESTATE PRACTICES

- Update to Policy Needed – HQ request in progress
 - Fee Title Land Acquisition
 - Non-Standard Estate



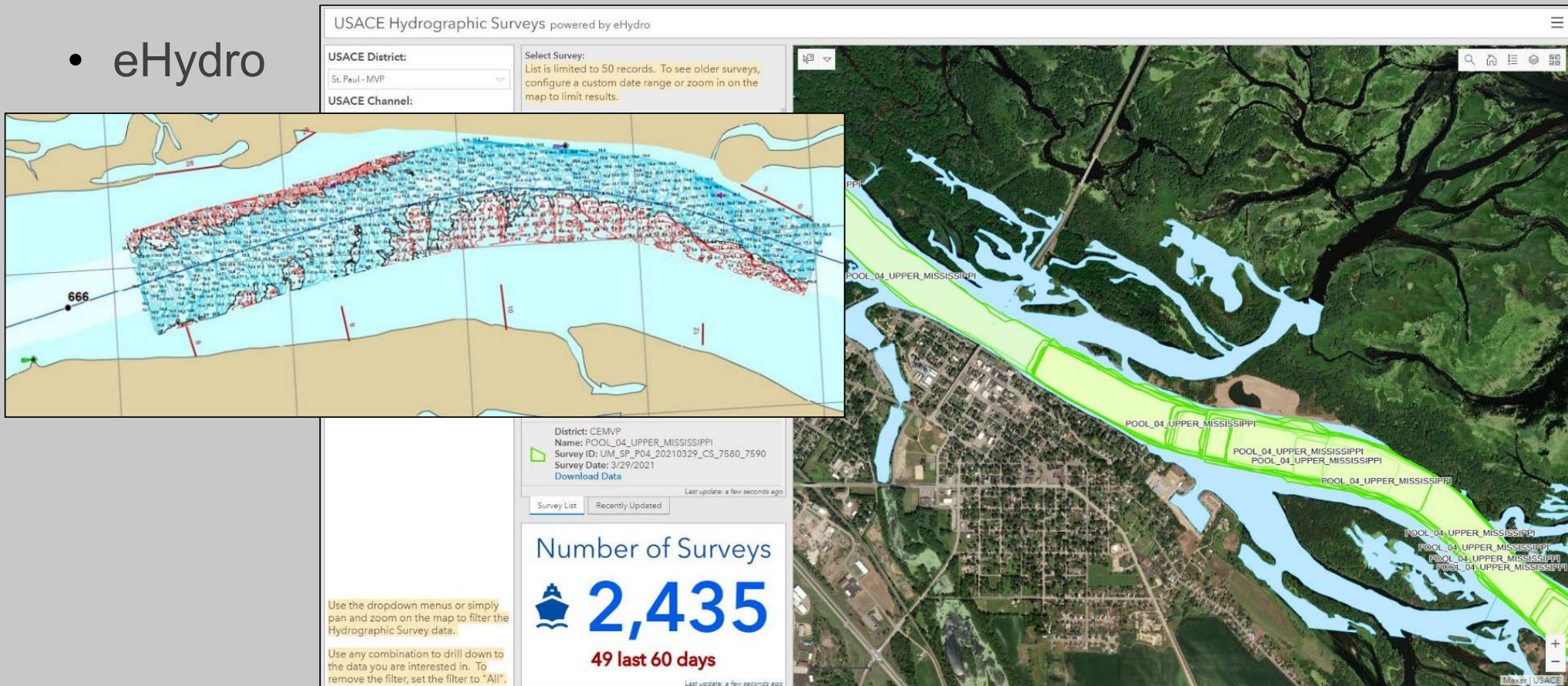
Dredge Material = River Sand = Resource



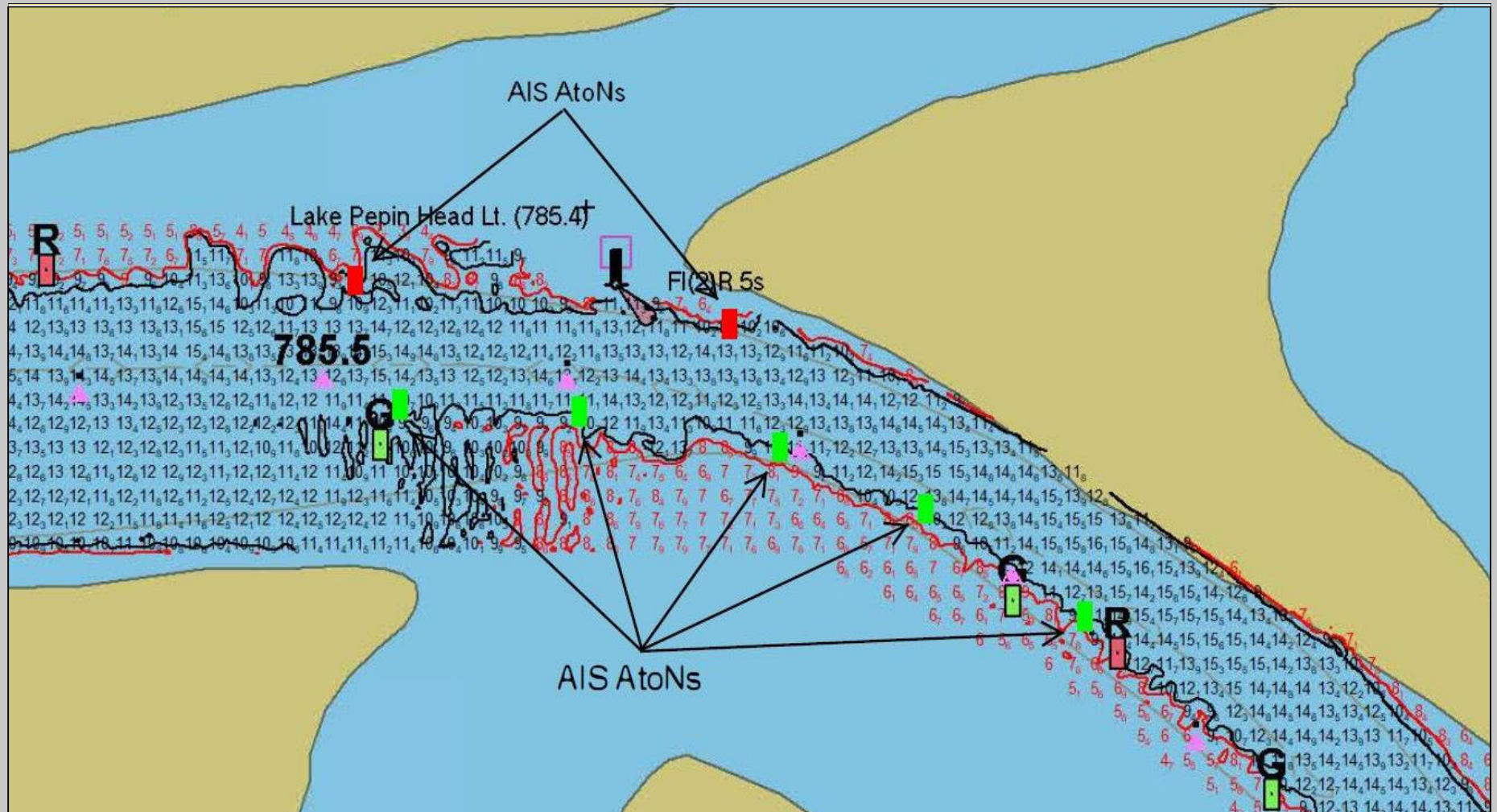
Dredge Material “Disposal”

ACCURATE, UP-TO-DATE INFORMATION MODERNIZING SURVEY AVAILABILITY

- eHydro



MODERNIZING NAVIGATION CHARTS



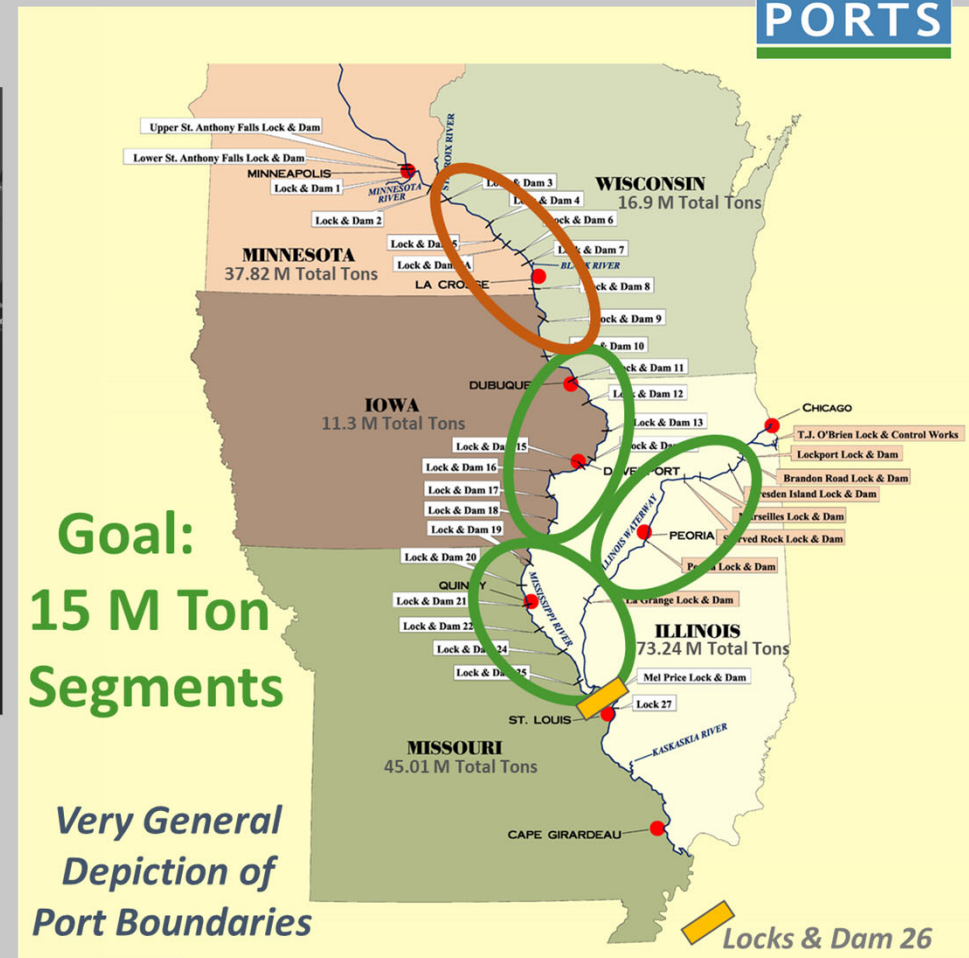


LEVERAGE OUR NON-FEDERAL PARTNERS

CORN & NORTHERN GRAIN BELT PORTS INITIATIVES



National Ports GIS Database Map



Source: Chris Smith, NGB Port Statistical Area

- NGB Port Statistical Area approved Dec 2022
- Federally recognized multi-modal port
- Attribute tonnage to PSAs
- Raise profile and competitive advantage



**First Time in
U.S. History!**

Leading U.S. Ports in 2020

(Millions of Short Tons and Percent Change¹ from 2019)

Rank	Type ³	Port	Domestic		Foreign		Total	
			Tons	%	Tons	%	Tons	%
39	I	Pittsburgh, PA Port of <i>(Model)</i>	15.5	-28.7	**	0.0	15.5	-28.7
40	I	New Bourbon Port Authority, MO ²	15.5	24.7	**	0.0	15.5	24.7
41	I	Mid-America Port, IA, IL and MO	15.0	24.5	**	0.0	15.0	24.5
42	I	Illinois Waterway Ports, IL ⁴	14.9	**	**	**	14.9	**
43	L	Two Harbors, MN	11.7	-12.4			13.5	-20.2
44	C	Boston, MA	3.4	-33.7			13.3	-16.7
45	C	Honolulu, O'ahu, HI	11.4	-10.4			12.3	-14.5
46	C	Galveston, TX	5.2	7.3			11.9	9.0
47	C	Port of Longview, WA	1.1	1.3			11.1	14.5
48	C	Port of Vancouver USA, WA	2.6	18.0			10.2	-6.9
49	L	Cleveland-Cuyahoga Port, OH	7.7	-24.4			9.4	-20.5
50	C	San Juan, PR ²	4.6	-0.5			9.3	10.1
51	L	Illinois International Port, IL	7.2	-13.8			9.1	-9.4
52	L	Toledo-Lucas County Port, OH ²	4.3	-21.0			9.0	-1.8
53	I	Memphis-Shelby County Port, TN	8.7	-2.6			8.7	-2.6
54	I	Joliet Regional Port, IL	8.6	-6.7	**	0.0	8.6	-6.7
55	C	PortMiami, FL	0.2	39.9	8.2	-5.5	8.4	-4.8
56	I	Iowa and W Illinois, IA IL	8.4	56.6	**	0.0	8.4	56.6
57	L	Detroit-Wayne County Port, MI	5.7	-44.0	2.4	-19.5	8.2	-38.4
58	C	New Haven, CT	4.8	-17.5	3.3	-5.1	8.1	-12.9
59	I	Louisville-Jefferson Port, KY ²	8.1	-27.6	**	0.0	8.1	-27.6
60	I	Nashville, TN	7.5	8.7	**	0.0	7.5	8.7
<div> <div>Desired Ranking Range</div> <div>Goal ↑</div> <div>Desired Ranking Range</div> </div>								
<div> <div> The U.S. Coastal and Inland Navigation System 2020 Transportation Facts & Information Navigation and Civil Works Decision Support Center U.S. Army Corps of Engineers https://publibrary.planusace.us/#/series/Fact%20Cards </div> </div>								
<div> <div> Northern Grain Belt Ports Added in 2022 (conservative est. initial ranking)? </div> </div>								
61	C	Kalaheoa Barbers Point, HI	2.4	-26.8	5.1	-3.1	7.5	-12.3
62	C	Greater Lafourche Port, LA	7.2	-6.4	0.2	188.7	7.4	-4.7
76	I	St. Paul Port Authority, MN	4.8	-4.8	**	0.0	4.8	-4.8

Source: Chris Smith, NGB Port Statistical Area

USE OUR RESOURCES IN THE MOST EFFICIENT/EFFECTIVE WAYS POSSIBLE

RIVER TO REUSE – ERDC SUPPORTED EFFORT

PLACE MATERIAL WHERE IT CAN BE USED PRODUCTIVELY

- ✓ General Construction
- ✓ Agricultural Soil Amendments
- ✓ Mine Reclamation
- ✓ Habitat Island Construction
- ✓ Beach Nourishment



ERDC SUPPORT OF MVP STRATEGIC VISION

Data Collection/Analysis:

- Port Performance
- Waterway Transit Count by Direction
- Port Connectivity, Origin/Destination
- Impacts of Restrictions/Closures
- Potential future strategic/beneficial uses of district dredged material

Outreach to Stakeholders:

- ✓ Port Authorities (2021)
- ✓ Multi-modal transportation authorities (2022)
- Commercial users
- Industry advocates
- Regulatory authorities

GOAL: We understand the multi-modal and intermodal picture and how we fit into it; we know what we need to do now to be ready for the future



**Relative Density Plot: 2019 Vessels
traveling to/from MVP**

HOW DO YOU DEFINE THE FUTURE STATE OF NAVIGATION?

