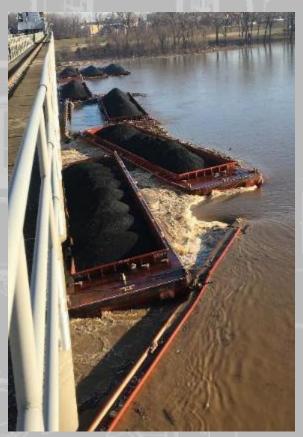
# STATUS OF INLAND WATERWAYS 2020 CAPITAL INVESTMENT STRATEGY UPDATE

Inland Waterways Users Board Meeting No. 93 Ft. Smith, AR

Michael E. Ott, PE, PMP Chief, Navigation Branch USACE Headquarters

19 February 2020





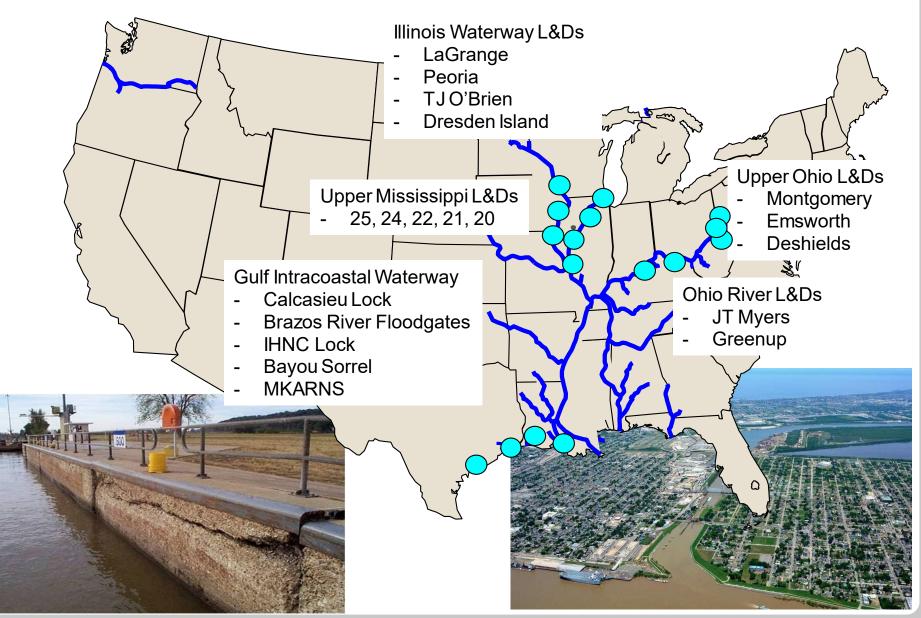
"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."





# **CAPITAL INVESTMENT OPPORTUNITIES**





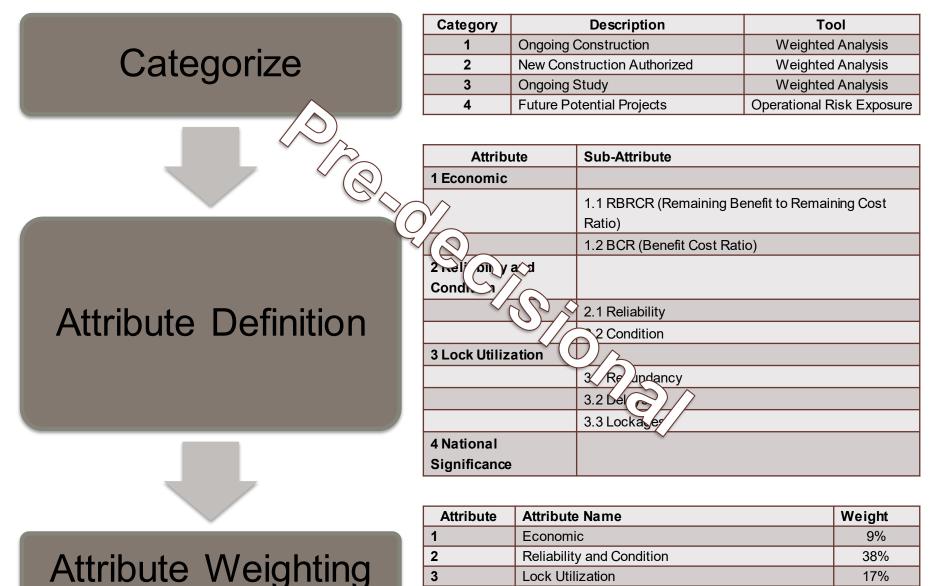


## **CAPITAL INVESTMENT STRATEGY – 2020 UPDATE METHODOLOGY**



17%

36%



3

4

Lock Utilization

National Significance



Category

Category 2

### CAPITAL INVESTMENT STRATEGY – 2020 UPDATE CATEGORY 1 AND 2 RESULTS



<u>Priority</u>	Project Title	Project Location	State
1	Olmsted Locks and Dam	Ohio River	IL
2	Locks and Dams 2, 3, and 4, Monongahela River Navigation Project	Monongahela River	PA
3	Kentucky Lock Addition	Tennessee River	KY
4	Chickamauga Log^	Tennessee River	TN
<u>Priority</u>	Project Title	Project Location	<u>State</u>
1	Upper Mississippi River Materway System Navigation and	Lock & Dam 25 (Mississippi	MO / IL
	Ecosystem Sustainability P ( ) (NESP)	River)	
2	Three Rivers	MKARNS	
3	Upper Ohio Navigation Locks & Dame (np) ements	Montgomery Locks and Dam	PA
4	Upper Mississippi River - Illinois Water Navigation and	LaGrange Lock & Dam (Illinois	L
	Ecosystem Sustainability Program (NESP)	Waterw ay)	
5	Calcasieu Lock	GIWW	
6	Upper Mississippi River - Illinois Waterway System Navi / tio d	Lock & Dam 24 (Mississippi	MO / IL
	Ecosystem Sustainability Program (NESP)	River)	
7	Inner Harbor Navigation Canal Locks		LA
8	MKARNS 12 ft channel	2	
9	Upper Mississippi River - Illinois Waterway System Navigation and	k & Dam 22 (Mississippi	MO / IL
	Ecosystem Sustainability Program (NESP)		
10	Upper Ohio Navigation Locks & Dams Improvements	Emsy the ocks and Dam	PA
11	Upper Mississippi River - Illinois Waterway System Navigation and	Lock & Dam 21 (Mississippi	L
	Ecosystem Sustainability Program (NESP)	River)	
12	Upper Mississippi River - Illinois Waterway System Navigation and	Peoria Lock & Dam (Illinois	MO
	Ecosystem Sustainability Program (NESP)	Waterway)	
13	Upper Ohio Navigation Locks & Dams Improvements	Dashields Locks and Dam	PA
14	Upper Mississippi River - Illinois Waterway System Navigation and	Lock & Dam 20 (Mississippi	MO
	Ecosystem Sustainability Program (NESP)	River)	
15	Thomas O'Brien Lock & Dam major rehabilitation	Illinois Waterway	IL.
16	Bayou Sorrel Lock	GIWW	LA
10	Buyou control cook	ONT	



## CAPITAL INVESTMENT STRATEGY – 2020 UPDATE CATEGORY 3 RESULTS



Project Title	Project Location	<u>Status</u>
The Dalles Major Rehabilitation Study		Ongoing MRR study
GIWW, High Island to Brazos River, TX	GIWW	Study ongoing, expected
		completion in 2020.
GIWW, Brazos River Floodgates	GIWW	Study completion. Awaiting
		WRDA construction
		authorization
GIWW, Port O'Connor to Corpus Christi Bay	GIWW	Inactive study; awaiting
		funding to restart.
GIWW, Colorado River Locks	GIWW	Study completion; awaiting
		WRDA construction
Ŭ		authorization
	S B	
		$\sim$



## CAPITAL INVESTMENT STRATEGY – 2020 UPDATE CATEGORY 4 RESULTS



Program Name	Project Name	CIS Site Name			
OHIO RIVER LOCKS AND DAMS, WV, KY & OH	GREENUP LOCK - OHIO RIVER LOCKS AND DAMS HUNTINGTON	Greenup			
ILLINOIS WATERWAY, IL & IN	ILLINOIS WATERWAY IL AND IN	Starved Rock			
MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM, AR	MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM	David D. Terry			
MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM, AR	LELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM	Ozark-Jeta Taylor			
MCCLELLAN-KERR ARKANSAS RIVER	MC0 - LAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM	Webbers Falls			
OHIO RIVER LOCKS AND DAMS, PA, OH & WV	OMO CONS AND DAMS H4	Pike Island			
MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, IL	MISSISSIPE SIVER PETWEEN MISSOURI RIVER AND MINNEAPOLIS	Melvin Price			
MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM, AR	MCCLELLAN-A ANSAS RIVER NAVIGATION SYSTEM	Lock Num. 2 & Mills Dam			
MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM, OK	MCCLELLAN-KERR AND A SRIVER NAVIGATION SYSTEM	Robert S. Kerr			
OHIO RIVER LOCKS AND DAMS, WV, KY & OH	OHIO RIVER LOCKS AND DANY, Y TINGTON DISTRICT	Meldahl			
ILLINOIS WATERWAY, IL & IN	DRESDEN ISLAND LOCK - ILLIN (15) PATERWAY IL AND IN (NDC)	Dresden Island			
MONONGAHELA RIVER, PA	MONONGAHELA RIVER, PA	Braddock			
OHIO RIVER LOCKS AND DAMS, PA, OH & WV	OHIO RIVER LOCKS AND DAMS H4 $\sim$ (O)	New Cumberland			
OHIO RIVER LOCKS AND DAMS, WV, KY & OH	RACINE LOCK - OHIO RIVER LOCKS AND DAY SH NTINGTON	Racine			
OHIO RIVER LOCKS AND DAMS, WV, KY & OH	BELLEVILLE LOCK - OHIO RIVER LOCKS AND D	Belleville			
OHIO RIVER LOCKS AND DAMS, WV, KY & OH	WILLOW ISLAND LOCK - OHIO RIVER LOCKS AND C	Willow Island			
KANAWHA RIVER LOCKS AND DAMS, WV	LONDON LOCK - KANAWHA RIVER LOCKS AND DAMS	London			
KANAWHA RIVER LOCKS AND DAMS, WV	MARMET LOCK - KANAWHA RIVER LOCKS AND DAMS	Marmet			
KANAWHA RIVER LOCKS AND DAMS, WV	WINFIELD LOCK - KANAWHA RIVER LOCKS AND DAMS	Winfield			
OHIO RIVER LOCKS AND DAMS, PA, OH & WV	OHIO RIVER LOCKS AND DAMS H4	Hannibal			
ILLINOIS WATERWAY, IL & IN	BRANDON ROAD LOCK - ILLINOIS WATERWAY IL AND IN (NDC)	Brandon Road			
MISSISSIPPI RIVER (Add RIVER REACH)	MISSISSIPPI RIVER (Add RIVER REACH)	Lock No. 18			

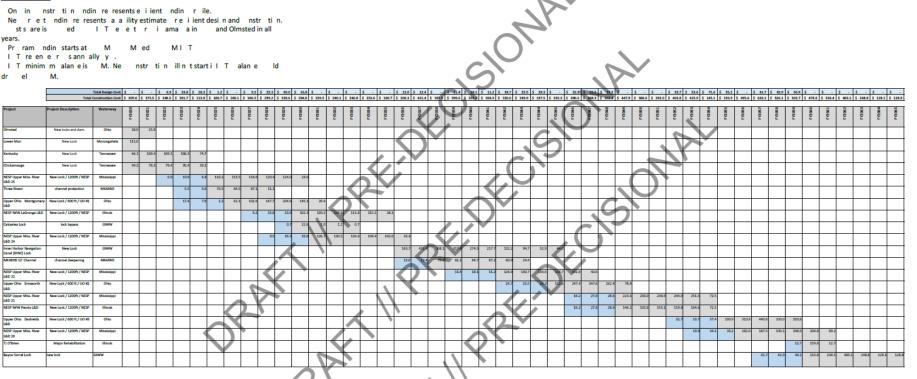


### **DRAFT SEQUENCING – LIMITED TO \$240 MILLION BALANCE**



## **DRAFT \$240M SCENARIO**

#### ASSUMPTIONS:



NOTES: from 2020 to 2065.

\* Total to construct projects shown is\$14.4B

DRAFT // PRE-DECISIONAL

THIS SCENARIO IS A PLANNING FRAMEWORK AND DOES NOT REPLACE THE NORMAL BUDGET PROCESS OR COMMIT THE GOVERNMENT TO FUTURE ACTIONS.

AF

Date: 2/4/2020



## DRAFT SEQUENCING – LIMITED TO \$400 MILLION BALANCE



On in nstr tin ndin re resents e i ient ndin r ile. Ne r e t ndin re resents a a ility estimate r e i ient desi n and nstr tin.

Pr ram ndin starts at Mand r sann ally y .

# **DRAFT \$400M SCENARIO**

NOTES: Total to construct projects shown is \$10.6B from 2020 to 2044.

		Total Design Cost: \$ - \$ 38.5 \$ 49.9 \$ 38.2 \$ - \$ - \$ 9.0 \$ 17.2 \$ 12.7 \$ 24.7 \$ 17.3 \$ 29.6 \$ 28.5 \$ 55.4 \$ 38.1 \$ 33.0 \$ 42.5 \$ 50.3 \$ 23.8 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$																									
																											\$ -
	Total	Construction Cost:	\$ 309.6	\$ 273.5	\$ 248.5	\$ 281.7	\$ 555.5	\$ 484.1	\$ 557.2	\$ 527.2	\$ 658.1	\$ 517.0	\$ 395.2	\$ 407.1	\$ 460.4	\$ 455.7	\$ 584.6	\$ 526.2	\$ 457.3	\$ 472.7	\$ 708.5	\$ 523.2	\$ 346.6	\$ 376.5	\$ 254.1	\$ 121.3	\$ 69.2
Project	Project Description	Waterway	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	TEOZA	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040	FY2041	FY2042	FY2043	FY2044
Olmsted	New locks and dam.	Ohio	38.0	25.8								C	5					X									
Lower Mon	New Lock	Monongahela	111.0								(					7	$\overline{Z}$										
Kentucky	New Lock	Tennessee	66.1	169.4	169.1	186.3	74.7					ノ				$\cap$											
Chickamauga	New Lock	Tennessee	94.5	78.3	79.4	95.4	39.1				$\langle$																
NESP Upper Miss. River L&D 25	New Lock / 1200ft / NESP	Mississippi		6.7	10.6	6.6	107.0	110.2	113.5	116.9	120.4	23.9			2					$\sim$							
Three Rivers	channel protection	MKARNS			5.3	5.5	68.4	82.1	84.5	10.8				()													
Upper Ohio Montgomery L&D	New Lock / 600 ft / UO #1	Ohio		16.4	7.4	1.1	58.5	96.7	158.1	192.8	136.8	24.9						5									
NESP IWW LaGrange L&D	New Lock / 1200ft / NESP	Illinois		7.7	13.3	10.9	85.7	88,2	90.9	93.6	96.4	81.9	$\mathbf{D}$				C										
Calcasieu Lock	lock bypass	GIWW				0.5	19.1	0.9	0.9	0.5		, /				C	/~										
NESP Upper Miss. River L&D 24	New Lock / 1200ft / NESP	Mississippi		7.7	13.3	13.7	103.0	106.1	109.3	112.6	115.9	34.6	i i				/										
Inner Harbor Navigation Canal (IHNC) Lock	New Lock	GIWW								0	129.2	340.5	243.2	250.5	216.7	171.8	104.4	74.8	41.7	34.7							
MKARNS 12' Channel	channel deepening	MKARNS		5	X				9.0	9.2	59.4	61.2	63.0	64.9	45,8	18.2											
NESP Upper Miss. River L&D 22	New Lock / 1200ft / NESP	Mississippi		2	5				$\overline{/}$	8.0	12.7	7.8	89,0	91.7	94.4	97.3	100.2	28.5									
Upper Ohio Emsworth L&D	New Lock / 600 ft / UO #2	Ohio		X				~				16.8	17.2	19.2	103.9	168.4	236.7	178.7	53.4								
NESP Upper Miss. River L&D 21	New Lock / 1200ft / NESP	Mississippi	$\geq$						*					10.4		18.4					161.3	46.6					
NESP IWW Peoria L&D	New Lock / 1200ft / NESP	Illinois					N	•							10.7	18.4	18.9	96.7	99.6	102.5	105.6	108.8	48.0				
Upper Ohio Dashields L&D	New Lock / 600 ft / UO #3	Ohio				$\mathbf{X}$						1				18.7	19.2	21.3	110.6	178.8	251.3	189.9	59.2				
NESP Upper Miss. River L&D 20	New Lock / 1200ft / NESP	Mississippi																11.7	20.1	20.7	106.9	110.1	113.4	116.8	120.3	52.4	
TJ O'Brien	Major Rehabilitation	Illinois							7											6.6	83.4	6.6					
Bayou Sorrel Lock	new lock	GIWW						<	2										22.4	23.1	23.8	61.2	126.1	259.7	133.7	68.9	69.2

### Date: 2/4/2020

THIS SCENARIO IS A PLANNING FRAMEWORK AND DOES NOT REPLACE THE NORMAL BUDGET PROCESS OR COMMIT THE GOVERNMENT TO FUTURE ACTIONS.

### DRAFT // PRE-DECISIONAL



### DRAFT SEQUENCING – ACCELERATED CONSTRUCTION TIMELINE

DRAFT

GIWW



#### ASSUMPTIONS:

On in nstr tin ndin re resents e i ient ndin r ile. Ne r e t ndin re resents a a ility estimate r e i ient desi n and nstr ti n.

Pr ram ndin ass mess i ient ndin t m lete ne

retsin years rm t

\$ 30.8 \$ 44.6 \$ 49.4 \$ 22.8 \$ 67.1 \$ 65.7 \$ 75.5 \$ 76.6 \$ Total Design Cost: \$ -- \$ - \$ - \$ - \$ - \$ 248.5 \$ 281.7 \$ 433.4 \$ 675.6 \$ 1,090.9 \$ 1,223.2 \$ 1,406.4 \$ 1,213.1 \$ 935.6 \$ 767.9 \$ 379.9 \$ 128.4 \$ Total Construction Cost: \$ 309.6 273.5 \$ 83.3 Project Project Description Waterway FY202 FY202 FY202 FY202 -Y202 FY203 FY203 FY20 -Y20 Olmsted New locks and dam Ohio 38.0 25.8 Lower Mon 111.0 New Lock Monongahela Kentucky 66.1 169.4 169.1 186. New Lock Tennessee 95.4 94.5 79.4 39.1 Chickamauga New Lock Tennessee 78.3 New Lock / 1200ft / NESP 107.0 110.2 113.5 120.4 23.9 NESP Upper Miss, River Mississipp 6.7 6.6 L&D 25 MKARNS 68.4 82.1 84.5 10.8 Three Rivers channel protection Upper Ohio Montgomery New Lock / 600 ft / UO #1 158 1 192.8 136.8 Ohio 1.1 58.5 96.7 L&D NESP IWW LaGrange L&D 13.3 10.9 90.9 New Lock / 1200ft / NESP Illinois 85,1 00 93.6 96 Calcasieu Lock lock bypass GIWW 19.7 0.9 0.9 115.5 NESP Upper Miss. River New Lock / 1200ft / NESP Mississipp 8.0 106.1 109.3 112.6 119.4 35.7 L&D 24 Inner Harbor Navigation New Lock GIWW 118.2 311.6 222.6 229.3 198.3 157.2 95.5 68.4 38.2 31.8 Canal (IHNC) Lock MKARNS 12' Channel channel deepening « MKARNS 8.2 8.4 54.3 56.0 59.4 41.5 16.6 157 NESP Upper Miss. River Mississippi 7.1 11.3 79.1 81.4 83.9 86.4 89.0 25.3 New Lock / 1200ft / NESP 7.6 L&D 22 Upper Ohio Emsworth New Lock / 600 ft / UO #2 Ohio 14.1 14.5 16.1 87.0 141.1 198.2 149.7 44.7 L&D NESP Upper Miss, River New Lock / 1200ft / NESP 14.5 14.9 116.5 120.0 123.6 127.3 131.2 37.9 Mississippi L&D 21 NESP IWW Peoria L&D New Lock / 1200ft / NESP Illinois 8.4 14.5 14.9 76.3 78.6 81.0 83.4 85.9 37.9 Upper Ohio Dashields New Lock / 600 ft / UO #3 14.7 15.2 16.8 87.3 141.2 198.4 149.9 46.7 Ohi L&D NESP Upper Miss. River New Lock / 1200ft / NESP ssissip 8.7 14.9 15.4 79.5 81.9 84.4 86.9 89.5 39.0 L&D 20 TI O'Brien 5.1 Maior Rehabilitation Illinois 63.9

NOTES: \* Total to construct projects shown is \$ .45B from 2020 to 20 4.

### Date: 2/4/2020

Bayou Sorrel Lock

new lock

THIS SCENARIO IS A PLANNING FRAMEWORK AND DOES NOT REPLACE THE NORMAL BUDGET PROCESS OR COMMIT THE GOVERNMENT TO FUTURE ACTIONS. DRAFT // PRE-DECISIONAL

99.5

193.2

51.3

51.5

**ONST U TION SCENARIO** 

17.2

16.7

17.7

45.5



Action Public Comment

Review/Update

Submit to ASA CW

<u>Timeframe</u> 2/4/2020 – 2/28/2020

2/29/2020 - 3/13/2020

3/16/2020

Comments submitted to: NavigationCIS@usace.army.mil

