

HARBORS & NAVIGATION COMMITTEE AND QPI MEETING APR 8-9, 2019

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Acting Chief, Navigation Branch
HQ U.S. Army Corps of Engineers
Washington, D.C.
April 9, 2019



US Army Corps
of Engineers®



USACE Navigation Mission

Provide safe, reliable, efficient, effective and environmentally sustainable waterborne transportation systems for movement of national security needs, commerce, and recreation.





PRESIDENT'S BUDGETS (\$MILLIONS)



Fiscal Year	Coastal	Inland	Nav	CW total	Nav Percent
FY20	\$1,455	\$853	\$2,308	\$4,827	48%
FY19	\$1,080	\$850	\$1,930	\$4,785	42%
FY 18	\$1,079	\$1,019	\$2,098	\$5,002	42%
FY 17	\$1,017	\$917	\$1,934	\$4,620	42%
FY 16	\$973	\$974	\$1,947	\$4,732	41%
FY 15	\$991	\$834	\$1,825	\$4,561	40%
FY 14	\$980	\$904	\$1,884	\$4,826	39%
FY 13	\$967	\$780	\$1,747	\$4,731	37%
FY 12	\$832	\$744	\$1,575	\$4,631	34%
FY 11	\$873	\$779	\$1,652	\$4,939	33%



NAVIGATION BUDGET BY ACCOUNT (\$MILLIONS)

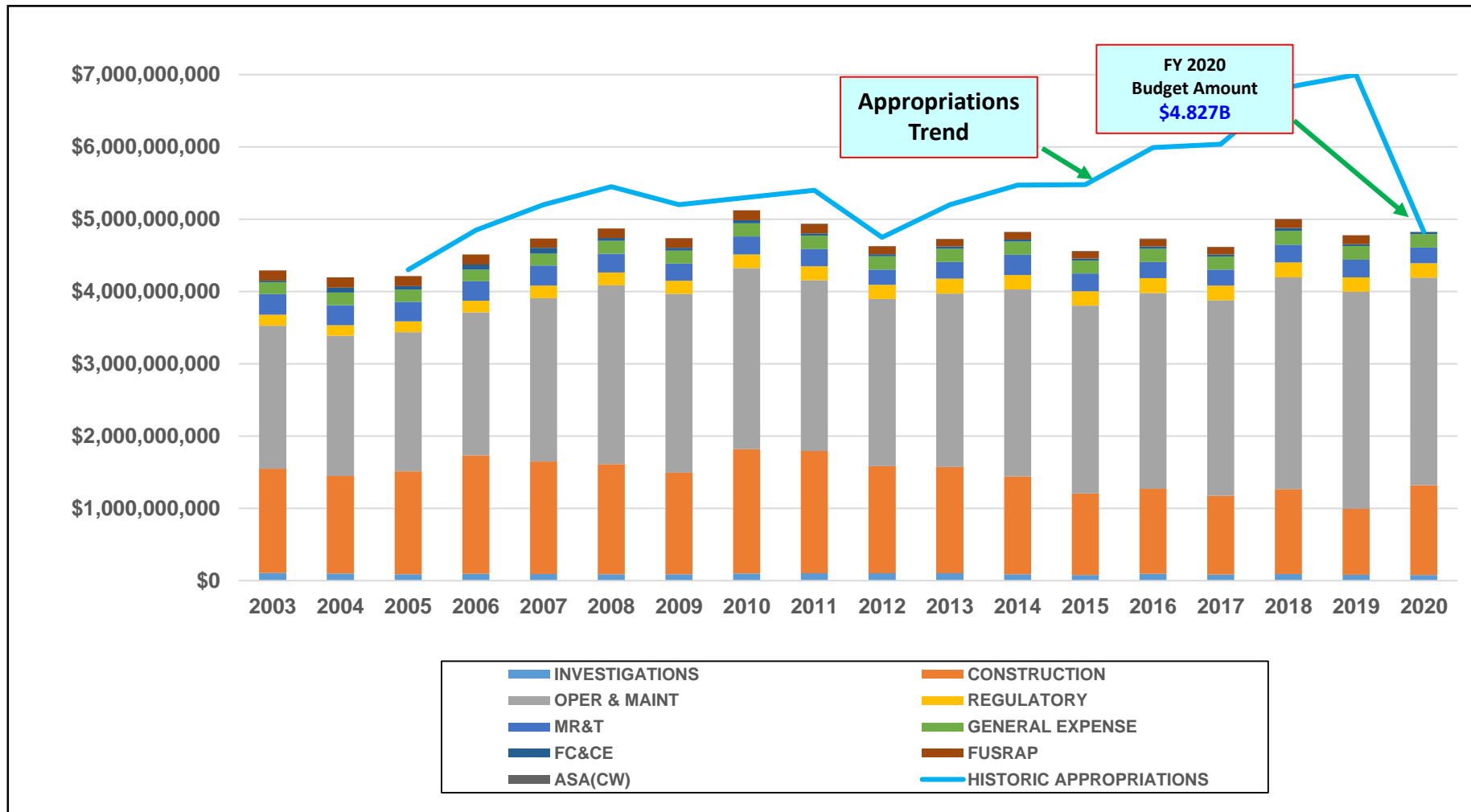


Fiscal Yr	Investigations	Construction	O&M	MR&T	Total Nav
FY20	\$14	\$625	\$1,635	\$34	\$2,308
FY19	\$14	\$176	\$1,706	\$33	\$1,930
FY 18	\$19	\$310	\$1,717	\$52	\$2,098
FY 17	\$22	\$348	\$1,527	\$37	\$1,934
FY 16	\$25	\$321	\$1,563	\$38	\$1,947
FY 15	\$22	\$277	\$1,487	\$39	\$1,825
FY 14	\$23	\$345	\$1,461	\$55	\$1,884
FY 13	\$25	\$352	\$1,326	\$44	\$1,747
FY 12	\$18	\$283	\$1,237	\$37	\$1,575
FY 11	\$19	\$291	\$1,297	\$45	\$1,653



CIVIL WORKS INVESTMENT TRENDS

(EXCLUDES SUPPLEMENTAL FUNDING)





CONSTRUCTION IN FY19 BUDGET

\$10 M or more. Actual funding for these and other projects to be determined in FY19 appropriation

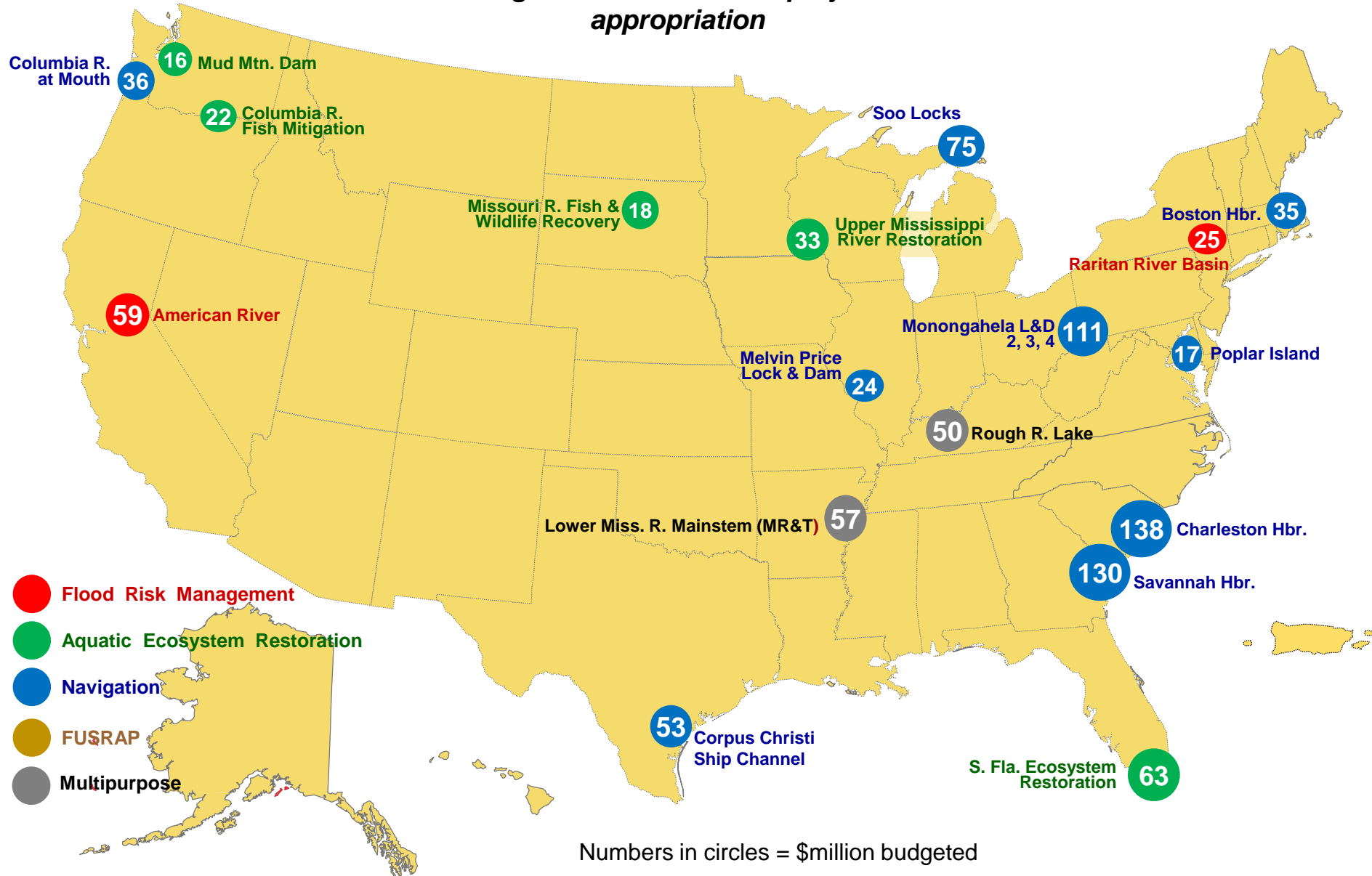




CONSTRUCTION IN FY20 BUDGET

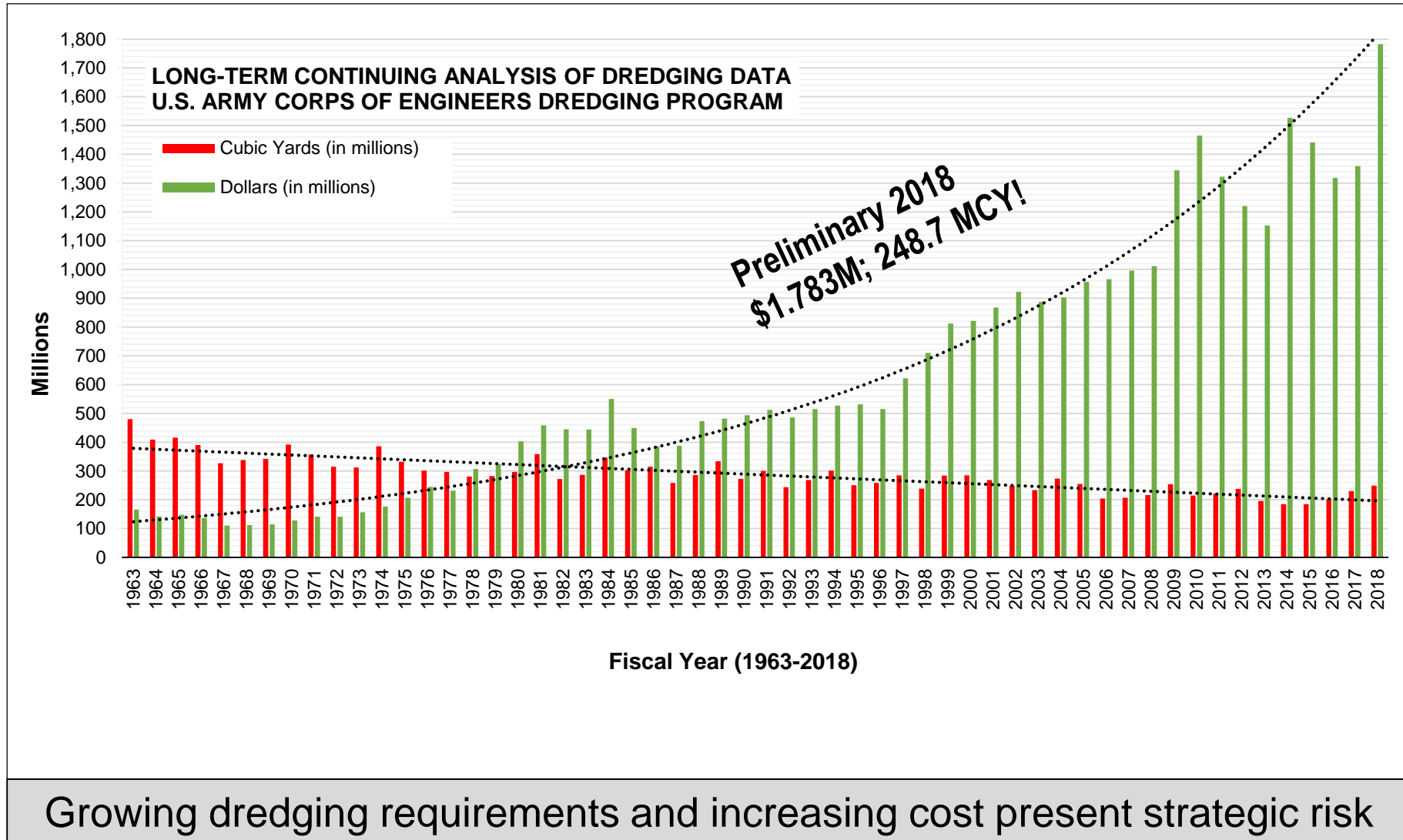


\$10 M or more. Actual funding for these and other projects to be determined in FY19 appropriation





CHALLENGES TO NAVIGATION DREDGING



Growing dredging requirements and increasing cost present strategic risk



PRELIMINARY DATA – ALL HOPPER



All HOPPER Performed Dredging - \$596.0 million, 79.9 million cubic yards, \$7.46/CY.
HOPPER Corps Performed Dredging - \$112.3 million, 15.2 million cubic yards, \$7.39/CY.
HOPPER Industry Performed Dredging - \$483.8 million, 64.7 million cubic yards, \$7.48/CY.



HOPPER CONTRACTS AS TRACKED BY DQM



	2017	2018	2019
<u>Total Hopper Contracts</u>	54	41	35
Navigation	35	28	22
Beach	11	9	7
Private (UNK)	8	4	6



ANNUAL PERCENT UTILIZATION



Plant	2016	2017	2018
Atchafalaya	30	36	40
Bayport	62	63	56
B.E. Lindholm	76	77	69
Columbia	65	62	82
Dodge Island	82	88	55
Ellis Island			61
Glenn Edwards	74	83	71
Liberty Island	79	39	81
Magdalen			59
Newport	72	81	55
Padre Island	70	86	61
R.N. Weeks	66	48	68
Stuyvesant	76	87	64
Terrapin Island	64	81	67
Westport	47	38	39

Plant	2016	2017	2018
Essayons	50	52	56
McFarland	35	20	42
Murden	72	84	76
Wheeler	35	32	35
Yaquina	63	58	58



USACE DREDGING

- Focus is delivering the enterprise navigation dredging mission.
- Enterprise dredging program coordination is necessary and critical.
- USACE must be world class leaders in dredging: technical expertise, contracting, program execution, implementation of new technology.
- Safety is a mission and we will lead and partner to sustain and improve.

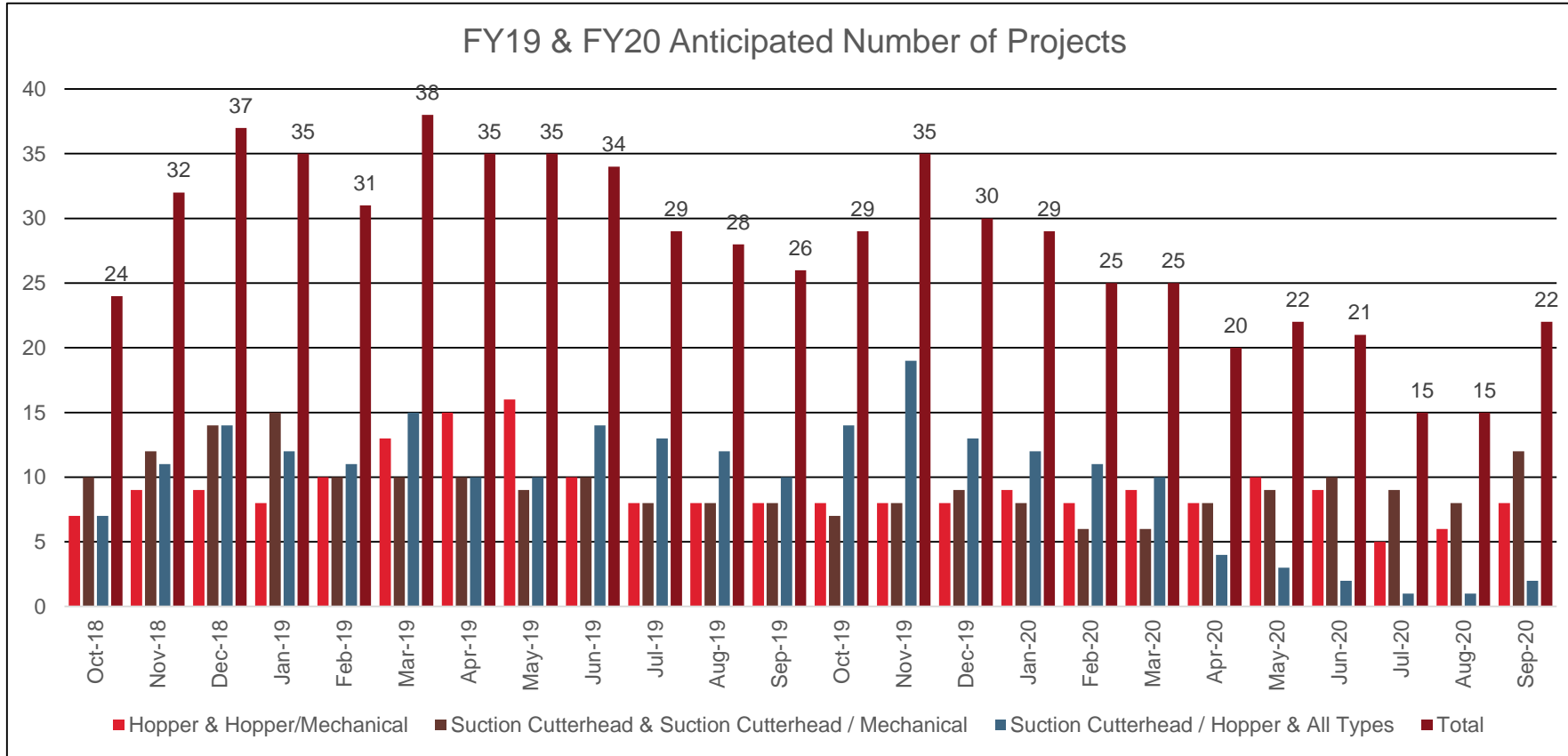
ESTABLISHING ENTERPRISE DREDGING PRINCIPLES OF DELIVERY

- Regional and Enterprise Coordination
- Acquisition Tools and Approaches
- Enterprise Schedule Coordination
- Communication and Transparency
- Contingency Planning





5-YEAR DREDGING SCHEDULE



- Initial schedule compiled and shared in July / August 2018
- Resolution of schedule conflicts (October 2018)



AUTOMATED TOOLS

- Dredge Project Selection
- Dredge Schedule Optimization
- Dredging Information System (DIS)

**US Army Corps of Engineers
Dredging Information System**

Support Hours are 0830-1700 ET and
via the DIS Mailbox
Email: CEHWAYC.DIS@usace.army.mil

U.S. Army Corps of Engineers
Navigation Data Center
7701 Telegraph Road
Casey Building
#2594, Room 223A
Alexandria, VA 22315-2668

DIS Production

Home | Job | In House | POC Admin | Logout

Home | New Job and Pre-Bid Info | IFR Dates Unawarded Jobs | IFR Item Entry | Bid Item Entry | Post Bid Defs | Actual Costs | Job Completion | Contracting Contracts Entry

The DISTCODE is: ALL Jobkey Fiscal Year Search String Not Set!

Jobkey Fiscal Year (Last Two Digits):

Dredging Information System

The following is a list of the Dredging Information System (DIS). A description of each form is displayed by a mouse over of the respective link. The forms may be invoked by clicking on the link.

Job - New Job and Pre-Bid Info	Job - IFR Dates Unawarded Jobs
Job - IFR Item Entry - Government Schedule	Job - Bid Item Entry - Contractor Info
Job - Post Bid Info - Select Winning Bidder	Job - Actual Costs
Job - Job Completion	Job - Contracting Contracts Entry
In House - In House Job Entry or Editing - Corps Dredge Info	
POC Admin - Change Jobkey	POC Admin - Request Job Maintenance - Material Placement
POC Admin - Request Site Maintenance	POC Admin - Job Project Maintenance - Multi-CWIS Job
Reports	
DIS OIG Reports	
User's Guide	

Expanding use of Available Tools to Inform Decisions and Improve Program Performance

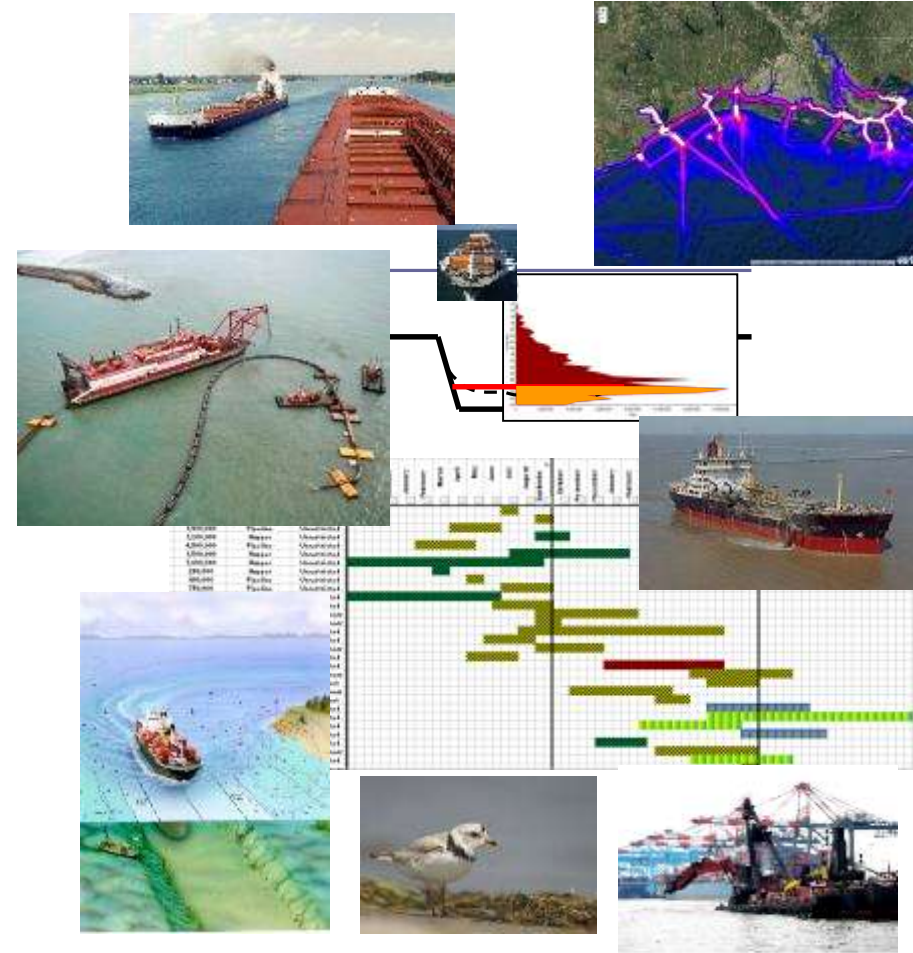
DREDGING PORTFOLIO OPTIMIZATION STRATEGIES

1. Dredging Project Selection

- Dredge more NAV projects by better aligning funding to actual dredging needs
- Recommends optimal maintained depth targets and requisite dredging quantities
- How? Compares cargo drafts to maintained depths and considers cargo shared across projects

2. Dredge Schedule Optimization

- Minimize mobilization costs
 - dredge more NAV projects each year for same amount of funding
- Better align schedules with env. work windows and dredge plant capabilities
- Can be used in whole or in part (regions, big dredges vs. little dredges, big projects vs. little projects, etc.)

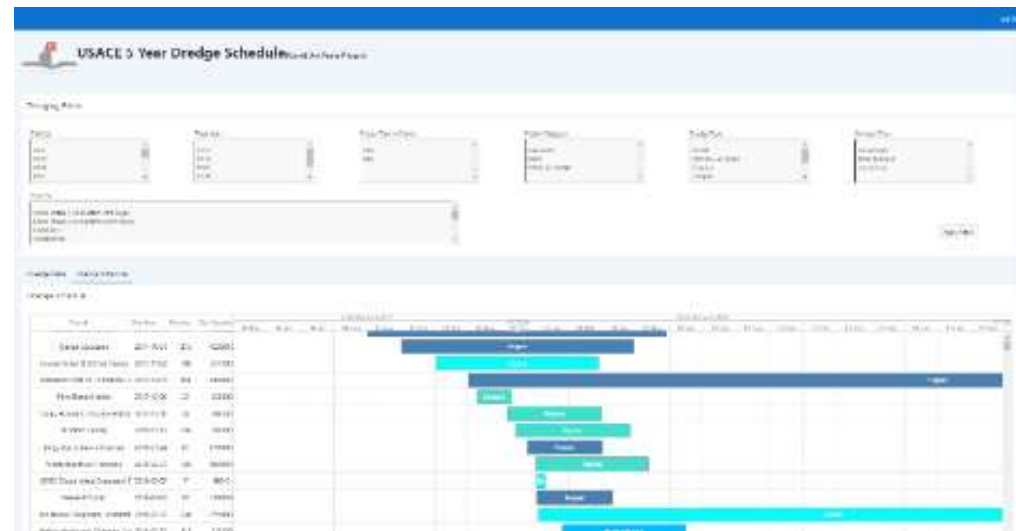




DREDGING INFORMATION SYSTEM (DIS)



- USACE's National Database for All Dredging Information. Platform to provide information on current and upcoming work to industry partners
- Accessible to Public
- Governed by EP 1130-2-520, Navigation and Dredging Operations and Maintenance Guidance and Procedures
- New product delivery team (PDT) formed (Kick-off September 2018)



CONTINGENCY PLANNING

- Southwest Pass (SWP) is the gateway to the 3rd largest port system in the US, containing 4 of the top 15 ports (by tonnage) in the US
- Sections of SWP are prone to recurring high water events that result in critical dynamic shoaling with short notice between January and April each year
- USACE HQ is working to identify short- (FY19 & FY 20) and long-term strategies to ensure the capability to respond to urgent needs in SWP without adversely impacting other navigation projects





WORKING THROUGH SCHEDULING CONFLICTS DURING CONTINGENCY OPERATIONS



	OCT (1/11)	NOV (0/11)	DEC (2/11)	JAN (2/11)	FEB (5/11)	MAR (0/11)	APR (0/11)	MAY (1/11)	JUN (0/11)	JUL (0/11)	AUG (0/11)	SEP (0/11)
Bayport (Manson)	Sabine-Naches (O&M) & Duval County (BN)	Duval County (BN)	Duval County (BN)	Duval County (BN) & Kings Bay (O&M)	Kings Bay (O&M)	Kings Bay (O&M) & SWP	SWP	West Coast Hopper Contract	West Coast Hopper Contract	West Coast Hopper Contract	West Coast Hopper Contract	West Coast Hopper Contract
Glenn Edwards (Manson)	Mobile Harbor Rental (O&M)	Mobile Harbor Rental (O&M) & PRIVATE	PRIVATE	SWP	SWP	SWP & Galveston Inner (O&M)	SWP	SWP "Finish 1-June"	Norfolk – Thimble Shoal (O&M)	Norfolk – Thimble Shoal (O&M)	Norfolk – Thimble Shoal (O&M)	
Newport (Manson)		SWP	SWP	SWP	SWP	SWP	SWP	SWP "Finish 1-June"				
Westport* (Manson)	Anchorage Harbor (O&M)						Anchorage Harbor (O&M)	Anchorage Harbor (O&M)	Anchorage Harbor (O&M)	Anchorage Harbor (O&M)	Anchorage Harbor (O&M)	Anchorage Harbor (O&M)
Columbia* (Dutra)	Freeport Harbor – Jetty & Inside (O&M)	Freeport Harbor – Jetty & Inside (O&M)	Freeport Harbor – Jetty & Inside (O&M)	Calcasieu (O&M)	Calcasieu (O&M)	Calcasieu (O&M)	Calcasieu (O&M)		Mobile Harbor (O&M)	Mobile Harbor (O&M)	Mobile Harbor (O&M)	Mobile Harbor (O&M)
Stuyvesant (Dutra)	WC Regional (O&M)	WC Regional (O&M)	Jacksonville #A (D) & Kings Bay (O&M)	Kings Bay (O&M)	Kings Bay (O&M) & Jacksonville #A (D)	Kings Bay (O&M) & SWP * start 4-Mar, 45 day base, 45 day option*	SWP & SWP (option)	SWP (option)	SWP (option) "Finish 9-June"			
Dodge Island (GLDD)	Myrtle Beach (BN)	Myrtle Beach (BN)	Myrtle Beach (BN) & PRIVATE	PRIVATE & SAD Regional (O&M)	SAD Regional (O&M)	SAD Regional (O&M)	SAD Regional (O&M) & Myrtle Beach (BN)	Myrtle Beach (BN)				
Ellis Island (GLDD)	MSCIP – Camille 1 (FRM)	MSCIP – Camille 1 (FRM)	MSCIP – Camille 1 (FRM)	MSCIP – Camille 1 (FRM) & Charleston Post 45 #1&2 (D)	Charleston Post 45 #1&2 (D)	Charleston Post 45 #1&2 (D)	Charleston Post 45 #1&2 (D) & PRIVATE	PRIVATE	PRIVATE	PRIVATE		
Liberty Island (GLDD)	MSCIP – Camille 1 (FRM)	MSCIP – Camille 1 (FRM)	MSCIP – Camille 1 (FRM)	MSCIP – Camille 1 (FRM) & Mayport (O&M) & Charleston Post 45 #1&2 (D)	Charleston Post 45 #1&2 (D)	Charleston Post 45 #1&2 (D) & PRIVATE	PRIVATE	PRIVATE	PRIVATE	PRIVATE	REPAIRS	REPAIRS
Padre Island (GLDD)	Myrtle Beach (BN)	Myrtle Beach (BN)	Myrtle Beach (BN) & PRIVATE	PRIVATE & SAD Regional (O&M)	SAD Regional (O&M)	SAD Regional (O&M)	SAD Regional (O&M) & Myrtle Beach (BN)	Myrtle Beach (BN)				
Terrapin Island (GLDD)	Hudson River (O&M)	Tampa Harbor (O&M)	Charleston Post 45 #1&2 (D)	Charleston Post 45 #1&2 (D)	SWP	SWP, 25-Mar released	Corpus Christi (D)	Corpus Christi (D) "Finish 31-May"	REPAIRS	REPAIRS	REPAIRS	
BE Lindholm (Weeks)	REPAIRS	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM) & PRIVATE	PRIVATE	PRIVATE	PRIVATE	PRIVATE & Manasquan to Barnegat (FRM)				
Magdalen (Weeks)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	MSCIP – Camille 2 (FRM)	MSCIP – Camille 2 (FRM)	MSCIP – Camille 2 (FRM)
RN Weeks (Weeks)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)	Manasquan to Barnegat (FRM)				
Atchafalaya*												
McFarland (USACE)	Delaware R (O&M)	Delaware R (O&M)	Delaware R (O&M) & Ready Reserve	Ready Reserve & Red Flag SWP	Red Flag SWP	Ready Reserve & SWP "Completed 8-Mar"	Ready Reserve & REPAIRS	REPAIRS	REPAIRS	REPAIRS & Ready Reserve	Ready Reserve	Ready Reserve
Wheeler (USACE)	REPAIRS	REPAIRS	Ready Reserve	Red Flag SWP	Red Flag SWP	Red Flag SWP & Ready Reserve	Red Flag SWP	Red Flag SWP "Finish 7-May" & Ready Reserve	Readiness Exercise & Ready Reserve	Ready Reserve	Ready Reserve	REPAIRS
Awarded - No dredge assigned												
Not Awarded – Start date							<ul style="list-style-type: none"> Fire Island to Montauk (FRM) Galveston Entrance (O&M) –5–May SWP 	<ul style="list-style-type: none"> Fire Island to Montauk (FRM) Galveston Entrance (O&M) SWP 	<ul style="list-style-type: none"> Fire Island to Montauk (FRM) Freeport Harbor (O&M) Houston – Redfish to Beacon 78 (O&M) Galveston Entrance (O&M) 	<ul style="list-style-type: none"> Fire Island to Montauk (FRM) Freeport Harbor (O&M) Houston – Redfish to Beacon 78 (O&M) Galveston Entrance (O&M) 	<ul style="list-style-type: none"> Fire Island to Montauk (FRM) Freeport Harbor (O&M) Houston – Redfish to Beacon 78 (O&M) Galveston Entrance (O&M) 	<ul style="list-style-type: none"> VA Beach (FRM) – 1–Nov Fire Island to Montauk (FRM) Freeport Harbor (O&M) St. Lucie (O&M) Houston – Redfish to Beacon 78 (O&M) Brevard Mid & South (O&M) Galveston Entrance (O&M)



RED FLAG DELEGATION



- *Red Flag Authority for the Mississippi River Baton Rouge to Southwest Pass (Gulf of Mexico) Project delegated from the USACE Director of Civil Works to the MVD Commander (May 2018) under specified conditions*
- *Supports risk informed decision making and acknowledges long standing partnership with dredging industry*
- *Procedure and requirements for transparent communication with industry unchanged.*
- *Director Civil Works can suspend delegation when enterprise impacts are expected*





USACE HOPPER DREDGE MINIMUM FLEET



ESSAYONS (NWP)



McFARLAND (NAP)

Vessel	Capacity CY	Year Built	Repowered	Potential Retirement
MCFARLAND	3140	1967	*	2025
WHEELER	8256	1981	2013	2033
ESSAYONS	6000	1983	2009	2033**
YAQUINA	1050	1981	2012	2040



YAQUINA (NWP)



WHEELER (MVN)

Note: In addition to the four (4) hopper dredges, the USACE minimum fleet also includes three (3) special purpose dredges (SAW) and four (4) pipeline dredges (MVD)



USACE HOPPER DREDGE FLEET GOVERNING AUTHORITIES



Public Law 95-269 - April 26, 1978

- The Secretary shall have dredging and related work done by contract if he determines private industry has the **capability** to do such work and it can be done at **reasonable prices** and in a **timely manner**
- **To carry out emergency and national defense work the Secretary shall retain only the minimum federally owned fleet capable to perform such work** and he may exempt from the provisions of this section such amount of work as he determines to be reasonably necessary to keep such fleet fully operational.
- **The minimum federally owned fleet shall be maintained to technologically modern and efficient standards, including replacement as necessary.**

Subsequent Legislation

- **WRDA 1993** - Requires Corps to bid at least 7.5 MCY of hopper dredge volume accomplished in 1992 by Gov't dredges Corps response – limits all 4 dredges to 180 days of operation.
- **WRDA 1996** - Placed the **Wheeler in Ready Reserve** status effective Oct. 1997; implement procedures to ensure private-industry hopper dredge capacity is available to meet routine and time-sensitive dredging needs.
- **WRDA 2007** – Placed the **McFarland in Ready Reserve** status between Oct. 2009 and Dec 2009; **Removes operational restrictions from West Coast dredges**, the Essayons and the Yaquina.

Based on these authorities, USACE operates four hopper dredges: The YAQUINA and ESSAYONS (no operational restrictions) and the WHEELER and MCFARLAND (ready reserve fleet restrictions).



2016 HOPPER DREDGE RECAPITALIZATION ANALYSIS



The 2016-2017 Analysis Considered:

- Industry capability
- Historical hopper dredging mission analysis
- Forecasted hopper dredging needs
- Law (PL 95-269 and WRDA language)
- Financial considerations of maintenance and PRIP health

Recommendation Areas:

- Size and location of the Hopper Dredge Fleet
- Whether or not to recapitalize the Dredge Fleet
- Opportunities for improvements in management

Consultation:

- Industry/ DCA
- Stakeholders (e.g. AAPA)
- USACE Navigation Program Experts
- USACE Operations leadership

Major Findings:

- **Corps Dredges provide strategic economic and risk reduction benefits** to the national defense, emergency, resiliency and recovery, and price control.
- Industry Capability meets the Routine Needs of the Corps, but the **frequent activation of the Ready Reserve Fleet (WHEELER and MCFARLAND) demonstrates the need for the Ready Reserve Fleet** for surge.
- The Corps **dredges are experiencing age related maintenance and repair costs** which are driving up ownership and operating costs.
- The Plant Replacement and Improvement Program (**PRIP**) **will support scheduled replacements and replacing older dredges will reduce long-term costs to the CW program.**



2016 HOPPER DREDGE RECAPITALIZATION ANALYSIS



Recommendations:

- **Maintain 'Industry First' Policy**
- **Replace 51 year old Hopper Dredge MCFARLAND.** Plan for subsequent life cycle replacement of dredges WHEELER, ESSAYONS and YAQUINA. **Retire dredges as replacements come on line.**
- **Life Cycle Asset Management** - New Corps dredges to be maintained per life cycle asset management principles, shorter depreciation schedules, planned periodic investment for the replacement of some components, and a systematic evaluation of a hull and major system components.
- **Financial Management** -The assumptions used for Depreciation and Plant Replacement Increment calculations for each dredge should be reviewed and adjusted as necessary given economic and material cost changes, but not less often than at ten year intervals.



USACE READY RESERVE FLEET CALLOUT HISTORY 2010 - 2018

READY-RESERVE DREDGE	FISCAL YEAR	RED FLAG CALLOUT EVENTS				READY-RESERVE EXERCISE DAYS	RED-FLAG CALLOUT DAYS	TOTAL DAYS
		1	2	3	4			
WHEELER	2010	SWP	SWP	SWP	SWP	28	136	164
WHEELER	2011	SWP	SWP			62	82	144
WHEELER	2012	SWP				70	59	129
WHEELER	2013	DRYDOCK - Repowering				70	0	70
WHEELER	2014					70	0	70
WHEELER	2015	SWP	SWP	SWP	CORPUS	13	140	153
WHEELER	2016	SWP	SWP			70	55	125
WHEELER	2017	SWP	CALCS			70	49	119
WHEELER	2018	SWP				70	66	136
WHEELER Average 2010-2018						58	65	123
McFARLAND	2010	SWP	SWP	First year of Ready Reserve Status		74	96	170
McFARLAND	2011					70	0	70
McFARLAND	2012	MOREHEAD				70	30	100
McFARLAND	2013	MOREHEAD				70	24	94
McFARLAND	2014	SWP				70	0	70
McFARLAND	2015	SWP				70	62	132
McFARLAND	2016	SWP	WILM HBR			70	59	129
McFARLAND	2017					70	0	70
McFARLAND	2018	MOREHEAD	BROWNSVL			70	73	143
								108

Since Placing the MCFARLAND in Ready Reserve (2010), USACE Ready Reserve dredges annually operated an average of 123 days (WHEELER) and 108 days (MCFARLAND) in support of the USACE Navigation Mission* Note: Both Ready Reserve dredges were used at SWP in 2019

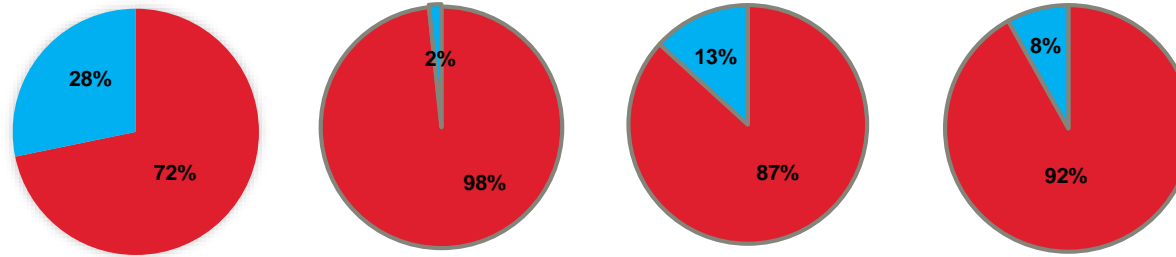
* Includes a max. of 70 readiness days per year. Corps Ready Reserve dredges are only deployed when industry capacity is insufficient to mission requirements.



BREAKOUT OF HOPPER DREDGE WEORK



	O&M (1) (MCY)		New Work (2) (MCY)		Fed Work for OTH (MCY) (3)		Surge (4) (MCY)	
Industry	360,626	72%	65,362	98%	10,283	87%	92,354	92%
Corps	141,788	28%	1,104	2%	1,570	13%	8,155	8%
Total	502,414	100%	66,466	100%	11,853	100%	100,509	100%



Historical Program (2005-2015)

Industry does the majority of Government's base O&M work, construction and non-routine work.

- (1) O&M: Routine navigation dredging
- (2) New Work: Channel widening/deepening
- (3) Fed Work Other: US Navy, Coast Guard
- (4) Surge: Emergency, storm response



INCREASING DEMAND FOR HOPPER DREDGING

- Increased Funding from HMTF
- New Construction Requirements (increasing harbor depths)
- Increased O&M associated with increased harbor depths
- Beach Nourishment – RSM, BOEM licenses
- Surge/emergency response and repair
- Private work

USACE anticipates sustained pressure to deliver the dredging program using the full capacity of industry and the USACE reserve fleet.



HOPPER DREDGE RECAPITALIZATION MCFARLAND REPLACEMENT - CONCEPT

Design Parameters:

- Dredge will operate from Ready Reserve status
- Modern, efficient, environmentally and economically sustainable
- Maximize the applicability of existing commercial dredge designs
 - Length Overall: 320 feet or less.
 - Beam: As best suits current designs.
 - Air-draft: 110 ft. maximum
 - Max Loaded Draft: 26 ft.
 - Hopper capacity: 5,000 - 6,000 cubic yards (medium class)
 - Dredging depth capability: 65 feet
 - Power System: Diesel powered.

USACE has not finalized an acquisition approach

Acquisition Strategy:

- Envisioned as procuring the vessel under a best value trade off (BVT), Design-Build contract.

Best Value Trade Off Approach will ensure that the vessel:

- Meets the requirements of the USACE minimum fleet
- Is economical to build and operate
- Is safe for the crew of the vessel
- Will be capable, operable, and maintainable for ready reserve operation, &
- Will meet applicable regulatory requirements

Sec. 109 of the Energy and Water Appropriations Act (P.L. 115-244), Sept. 2018, specified “For Fiscal Year 2019, none of the funds provided in this Act are available in the revolving fund established by the Civil Functions Appropriations Act or 1954 (33 USC 576 (a)) may be obligated or expended on a new hopper dredge.”



RECAPITALIZATION SUMMARY



- Assessing impact of statutory language on Hopper Dredge Recapitalization plan
- The Corps manages the hopper dredge MCFARLAND consistent with mission responsibilities as directed by federal statute.
- The Corps manages its dredging program in partnership with industry, with a priority on industry contract dredging (“industry first”).
- The Corps ready reserve dredges MCFARLAND and WHEELER provide essential capability for emergencies, national security, and when industry is unable to meet the navigation dredging mission.
- USACE has no plans to change the operational employment, number or location of our reserve fleet, although analysis of location and operating efficiencies is continuing.
- No new funds are needed to replace the MCFARLAND.
- USACE welcomes industry investment in new and more efficient dredges. USACE does NOT complete with industry.