

NAVIGATION UPDATE

AAPA Virtual Meeting

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**US Army Corps
of Engineers®**





Directorate of Civil Works



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Deputy Commanding General, Civil and Emergency Operations

MG William Graham



Director of Civil Works

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**Great Lakes and Ohio
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LRD)**

North Atlantic Div. RIT
(CECW-NAD)



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**Mississippi Valley Div.
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Southwestern Div. RIT
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Chief

**Office of Homeland
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(CECW-HS)

**Director of
Contingency
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Ms. Stacey Brown
Chief

**Programs Integration
Division (CECW-I)**

**Program & Project
Management CoP**

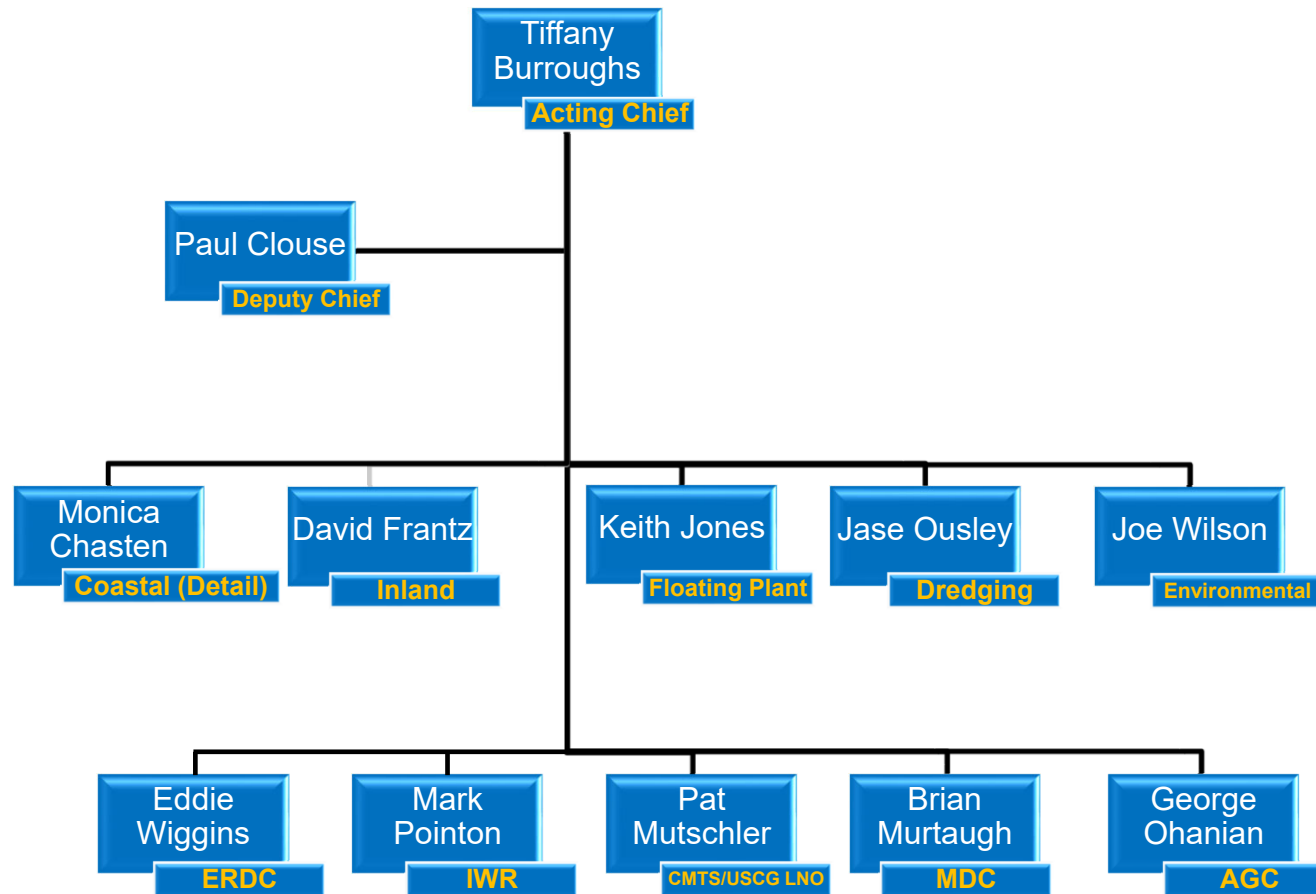


Dr. Joe Manous, P.E.
Director

**Institute for Water
Resources (CEIWR)**



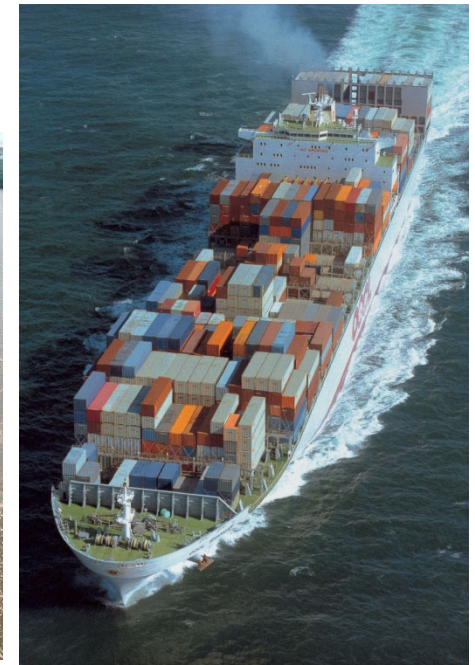
USACE HQ Navigation Team





CORPS NAVIGATION MISSION

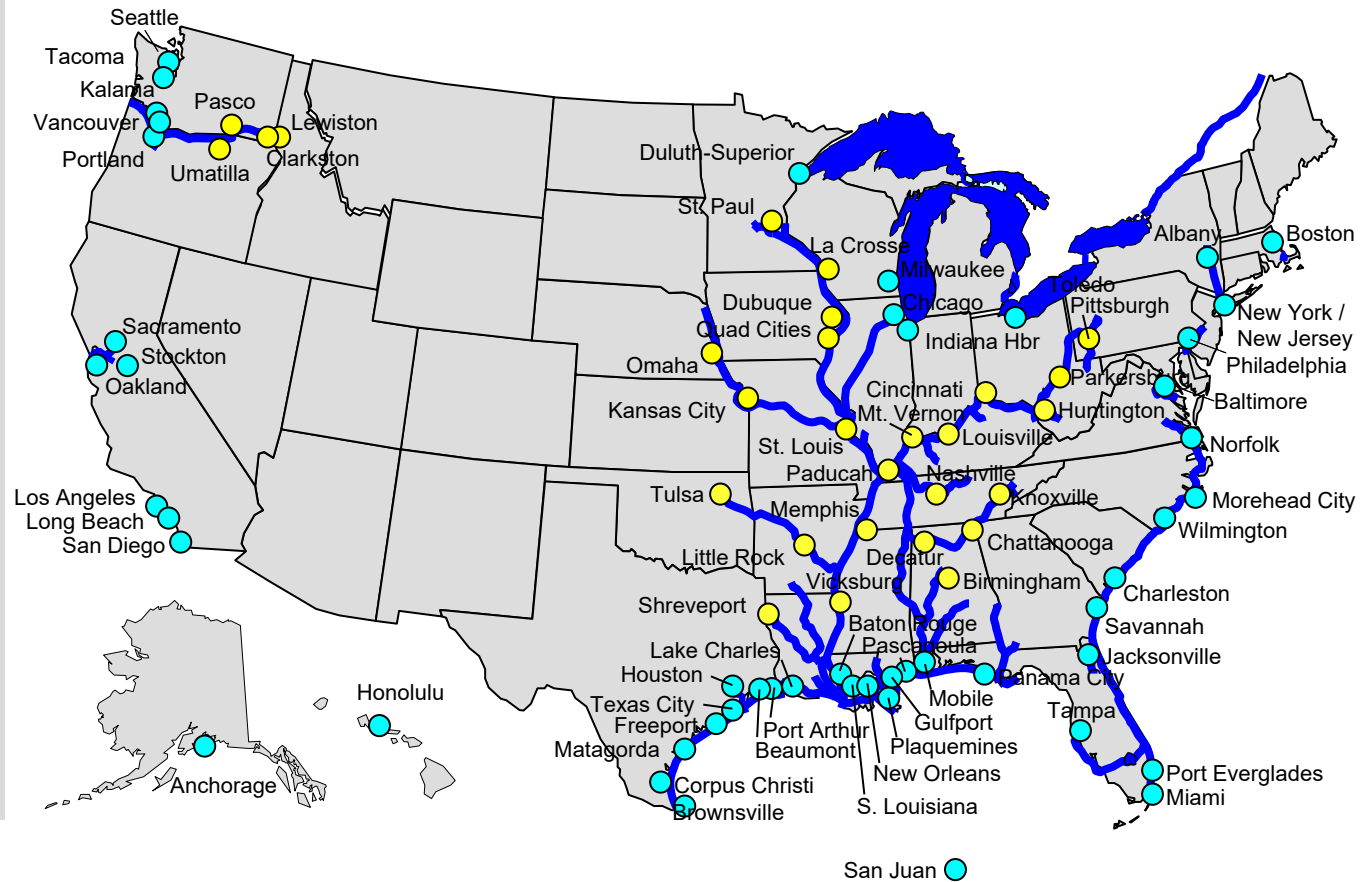
Provide safe, reliable, efficient, effective and environmentally sustainable waterborne transportation systems for movement of commerce, national security needs, and recreation.





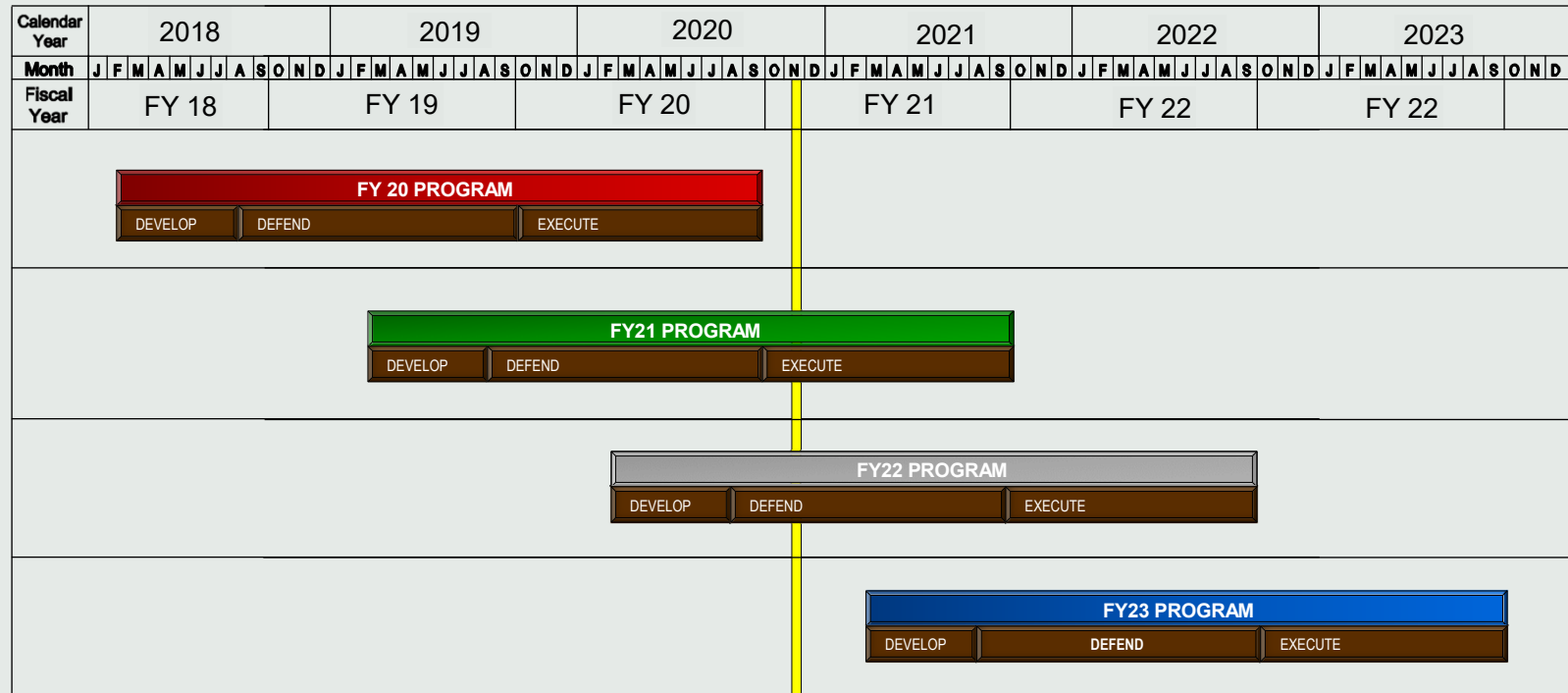
USACE Navigation System

- **45** States and Territories directly served by Corps ports & waterways
- U.S. Marine Transportation Industry Supports
~ **\$2 Trillion** in Commerce Annually
- Over **1.6 Billion Short Tons** of Foreign Goods Moved Through U.S. Ports/Waterways in 2018
- Over **800 Million Short Tons** of Domestic Goods Moved Thru U.S. Ports/Waterways in 2018
- **13,000** Miles of Coastal and Deep Draft Channels
- **1,067** Coastal, Great Lakes and Inland Harbors
- **12,000** Miles of Inland Channels





Civil Works Program/Budget Timeline





NAVIGATION PRIORITIES FOR BUDGETING

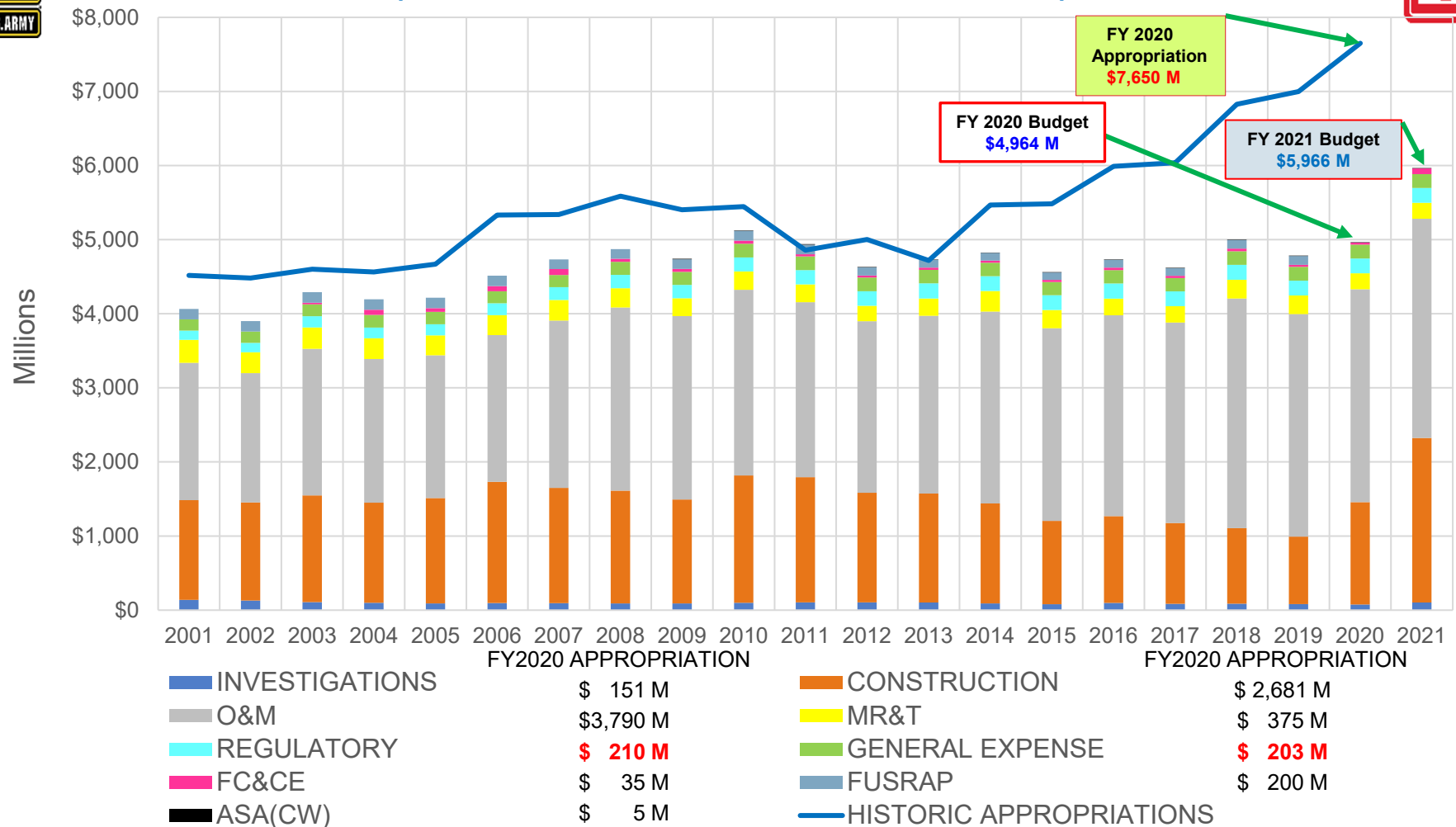


- Budget is performance based.
- Focuses on highest performing projects and programs with high economic ($BCR \geq 2.5 @ 7\%$), environmental, and public safety returns to the nation.
- Emphasizes operation and maintenance of infrastructure to address critical needs and provide a reliable and resilient system.
- Provides a fiscally prudent investment in Nation's water resources infrastructure making tough decisions to put the nation on a fiscally prudent path.
- Navigation focuses high risk to mission on high commercial use harbors and channels with > 10 million tons of commerce for coastal; and intracoastal waterways with > 3 billion ton-miles of commerce for inland.
- 10 % of HMTF to emerging harbors and Great Lakes.



CIVIL WORKS INVESTMENT TRENDS (EXCLUDES SUPPLEMENTAL FUNDING)

8



FY21 Budget is ~20% increase above FY20 Budget

FY20 Budget is ~6.4% nominal* increase above the FY19 Budget

FY20 Work Plan is ~54% increase above the FY20 Budget

FY20 Work Plan is ~9.3% increase above FY19 Work Plan

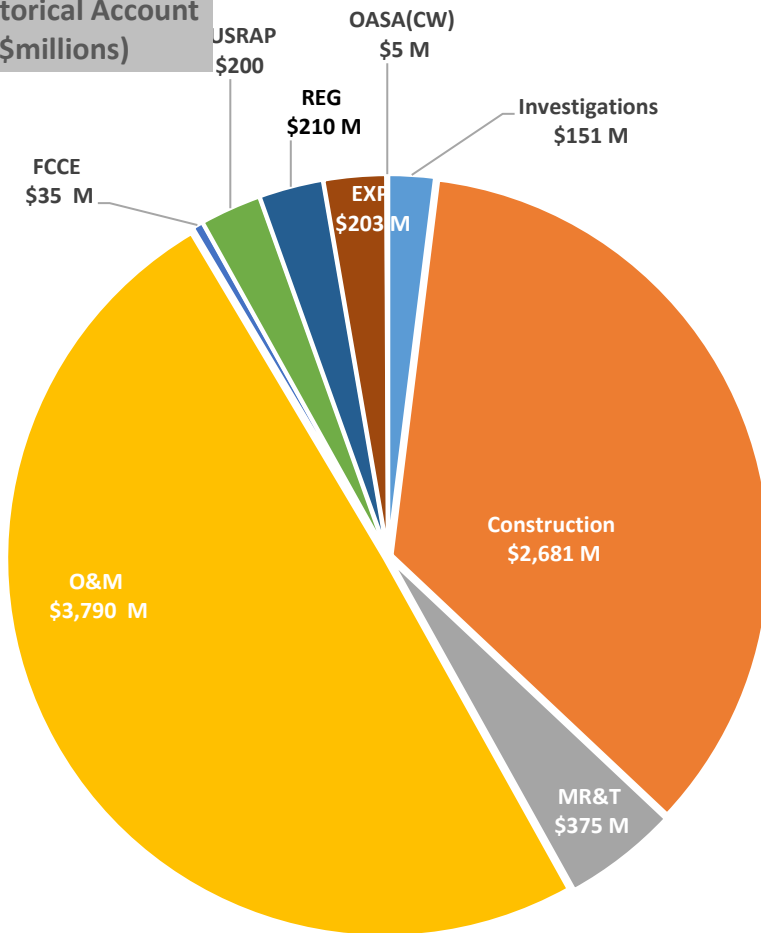
(*FY20 Budget does not include FUSRAP funding. Therefore, the comparison is made by reducing the FY19 Budget (\$120M) for FUSRAP.)



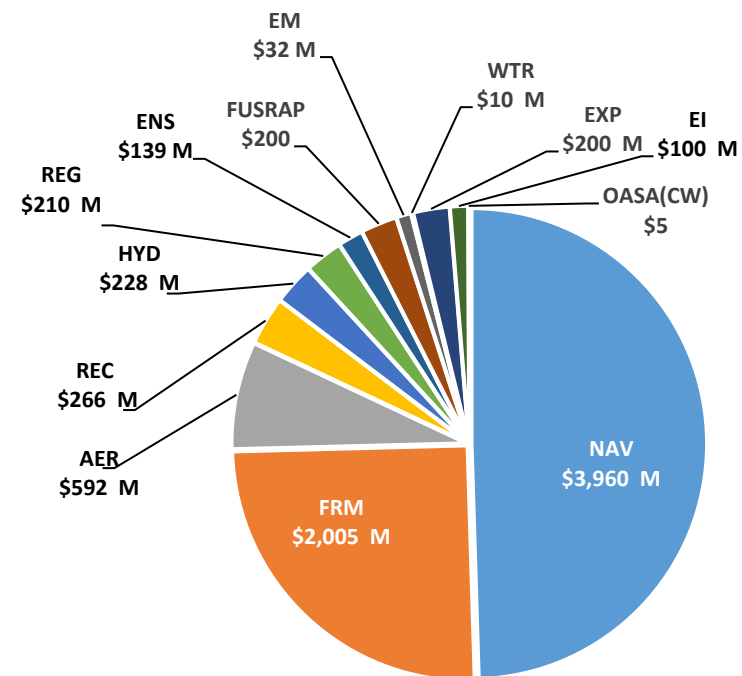
FY20 CW PROGRAM SUMMARY AS APPROPRIATED*



**FY2020 Appropriation
By Historical Account
(\$millions)**



**FY2020 Appropriation
by Business Lines
(\$millions)****



**These numbers are subject to change and represent an estimation of the business line distribution at this time. The analysis is still underway and final numbers are not yet available.

*Both charts reflects study like activities and sand mitigation in the account and business line in which it has historically been appropriated.



PRESIDENT'S BUDGET

INLAND NAVIGATION (\$MILLION)



Year	Investigations	Construction	O&M	MR&T	Total Inland
FY 21	\$9	\$15	\$726	\$36	\$785
FY 20	\$6	\$138	\$679	\$29	\$852
FY 19	\$7	\$37	\$778	\$28	\$850
FY 18	\$8	\$177	\$784	\$50	\$1,019
FY 17	\$8	\$243	\$631	\$35	\$917
FY 16	\$7	\$240	\$691	\$36	\$974

COASTAL NAVIGATION (\$MILLION)

Year	Investigations	Construction	O&M	MR&T	Total Coastal
FY 21	\$5	\$634	\$979	\$5	\$1,624
FY 20	\$8	\$487	\$956	\$5	\$1,455
FY 19	\$7	\$139	\$934	\$0	\$1,080
FY 18	\$11	\$133	\$933	\$2	\$1,079
FY 17	\$14	\$105	\$896	\$2	\$1,017
FY 16	\$18	\$81	\$872	\$2	\$973



FY20 CW PROGRAM

11



ADDITIONAL FUNDING = \$2,686,000,000

FUNDING POTS ONLY = \$2,534,364,000

NAVIGATION ONLY = \$1,536,509,000

INVESTIGATIONS	
FLOOD AND STORM DAMAGE REDUCTION	\$6,000,000
FLOOD CONTROL	\$4,000,000
SHORE PROTECTION	\$4,000,000
NAVIGATION	\$7,000,000
COASTAL AND DEEP-DRAFT	\$6,000,000
INLAND	\$9,750,000
OTHER AUTHORIZED PROJECT PURPOSES	\$6,000,000
ENVIRONMENTAL RESTORATION OR COMPLIANCE	\$17,600,000
TOTAL	\$60,350,000

CONSTRUCTION	
FLOOD AND STORM DAMAGE REDUCTION	\$150,000,000
FLOOD CONTROL	\$170,000,000
SHORE PROTECTION	\$50,165,000
NAVIGATION	\$377,878,000
INLAND WATERWAYS TRUST FUND REVENUES	\$75,575,000
REGIONAL DREDGE DEMONSTRATION PROGRAM(NEW)	\$377,650,000
OTHER AUTHORIZED PROJECT PURPOSES	\$85,000,000
ENVIRONMENTAL RESTORATION OR COMPLIANCE	\$100,000,000
ENVIRONMENTAL INFRASTRUCTURE PROJECTS	\$100,000,000
TOTAL	\$1,486,268,000

MISSISSIPPI RIVER AND TRIBUTARIES	
DREDGING	\$5,000,000
FLOOD CONTROL	\$105,090,000
OTHER AUTHORIZED PROJECT PURPOSES	\$50,000,000
TOTAL	\$160,090,000

OPERATION AND MAINTENANCE	
DONOR AND ENERGY PORTS	\$50,000,000
NAVIGATION MAINTENANCE	\$40,156,000
DEEP-DRAFT HARBOR AND CHANNEL	\$532,500,000
INLAND WATERWAYS	\$55,000,000
SMALL, REMOTE, OR SUBSISTENCE NAVIGATION	\$65,000,000
OTHER AUTHORIZED PROJECT PURPOSES	\$85,000,000
TOTAL	\$827,656,000

FUSRAP	\$200,000,000
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FY20 NAVIGATION FUNDING OUTCOMES



SUMMARY: The Appropriations provides \$1.5 billion in additional funding for Navigation follows:

❑ Investigations –

- Inland - \$15.3 million to complete one and continue two ongoing PEDs; and, \$1.5 million to initiate one multi-purpose feasibility study (GIWW Coastal Resiliency Study, TX)
- Coastal: \$6 million to complete one feasibility; initiate two new feasibilities; and initiate two new PEDs.

❑ Construction - \$831 million of which \$75.6 million is IWTF funds and \$377.7 million is for a Gulf Region Dredge demonstration program.

- Inland - Olmsted L&D, OH (\$63 million-15% IWTF); Kentucky L&D, KY (\$61 million – 50% IWTF); Chickamauga Lock, TN (\$101.7 million – 35% IWTF); and fully funds remaining mitigation and recreation features of J.Bennett Johnston Waterway, LA (\$40.6 million)
- Coastal - Dredge Material Disposal and Sand Mitigation (\$43 million - HMTF); New starts (\$48.1 million); initiates Mississippi River Ship Channel, LA deepening (\$85 million); initiates and completes Mobile Harbor, AL (\$274 million); completes Cedar Bayou, TX (\$32 million); and, continues Jacksonville Harbor, FL (\$57.4 million), Sault St. Marie (Replacement Lock), MI (\$50 million) and Sabine – Neches Waterway, TX (\$16.6 million)

❑ OM - \$742.7 million additional Navigation Operation and Maintenance funding

- Inland - \$80 million applied to 24 projects
- Donor and Energy Transfer Ports - \$50 million applied to 17 eligible projects
- Small, Remote, or Subsistence Navigation - \$65 million applied to 48 projects (HMTF)
- Deep – Draft - \$546.5 million applied to 86 projects (HMTF)
- Remaining Items - \$1 million



USACE DREDGING

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



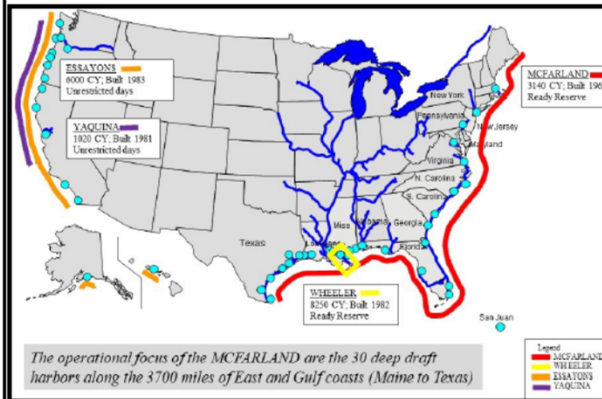
Hopper Dredge MCFARLAND Recapitalization



DREDGE MCFARLAND

- National asset operated by Philadelphia District, home ported at Ft. Mifflin in Philadelphia
- Commissioned in 1967 (53 yrs in service), placed in Ready Reserve status in 2010
- Conducts 70 training/readiness days per year dredging the Delaware River
- Average No. of 24-hr emergency call-out dredging days/year, 2010-2020: 34
- Replacement project approved for \$125M (total project cost) in FY18/19 PRIP cycle, with required notifications to ASA(CW), OMB and Congress. Progress halted by Congressional action for FY19, restarted 2nd Qtr FY20
- Estimated \$6.3M annual cost savings when new MCFARLAND placed in service (operations, maintenance, repairs)

USACE HOPPER DREDGE FLEET—Operational Framework

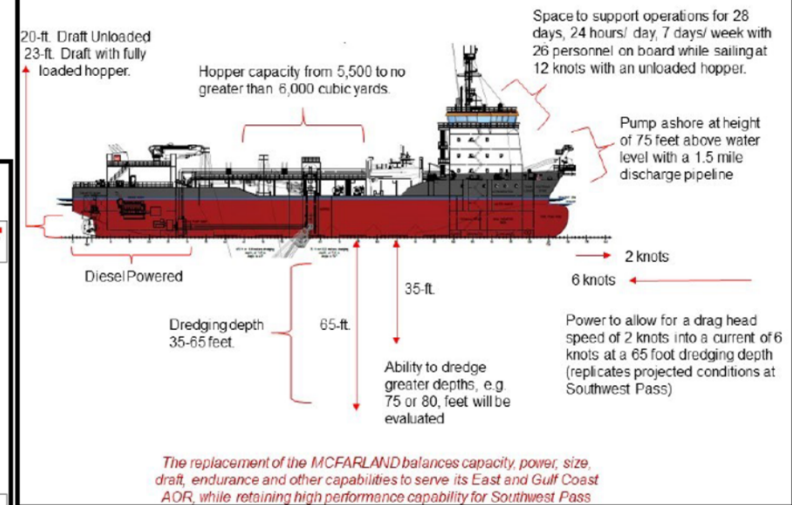


Public Law 95-269 (1978): The Industry Capability Program

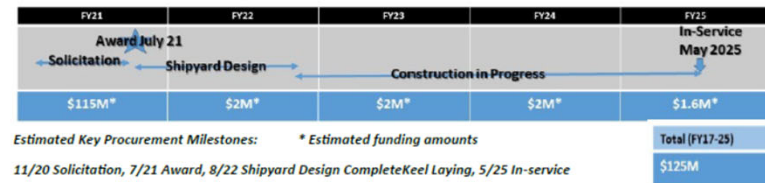
- The Secretary shall have dredging and related work done by contract if he determines private industry has the capability to do such work and it can be done at reasonable prices and in a timely manner.
- To carry out emergency and national defense work the Secretary shall retain only the minimum federally owned fleet capable of performing 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. The Secretary is authorized and directed to undertake a study to determine the minimum federally owned fleet required to perform emergency and national defense work.

1

3010 MEDIUM CLASS HOPPER DREDGE WHAT WE ARE BUILDING



McFarland Recap Timeline





STAKEHOLDERS AND PARTNERING



- Leverage Efforts
- Understand and communicate Civil Works and Marine Transportation System Value to Nation
- Find consensus on Major Initiatives
 - Identify Funding to Reach Outcomes
 - Engage in Dialogue
- Be mutually supportive
- Shared Messages
- Involve & Engage End-Users
- Seek to Influence Decision-Makers



PIPELINE SAFETY

- USACE has an interest in documenting and mapping the presence of non-USACE pipeline utility lines at USACE federal navigation channels in order to uphold the USACE Navigation mission and ensure the safety of operations and maintenance activities.
- Historically, such information has not been reliably recorded. Given the heavy concentration of underwater pipelines in the Gulf region and the need for access to pipeline utility line location information in that region, in 2012 the New Orleans district implemented pipeline repository to track underwater pipelines.
- Due to concerns surrounding ongoing USACE and contractor operations in USACE navigation channels indicate that a sole enterprise repository was deemed necessary.



408 DATABASE PIPELINE PURPOSE

The memorandum requires use of the 408 database (the system of record for all Section 408 requests across USACE) by the Navigation Community of Practice (CoP) and 408 Coordinators for all USACE coastal navigation channel Districts

- In order to maximize situational awareness and provide best management of information, the 408 database will be used to store information on pipeline utility lines.
- For USACE Navigation projects, during the Planning, Engineering, and Design phase for construction of a new project or operation and maintenance of an existing project, the Navigation project manager will review the 408 database to identify any pipelines located within the project area and will ensure any available pipeline data is provided in the contract plans and specifications, as detailed in this memorandum.
- Tracking of pipelines within USACE navigation channels is consistent with USACE's shared commitment to safety being an essential part of delivering our navigation mission and to being a world class organization.



408 DATABASE PIPELINE DATA ENTRY FIELDS

The Section 408 Coordinator is to enter data into the following fields into the 408 database which have been added to track pipeline attributes:

- Material in Pipeline
- Pipeline Owner (existing field)
- Pipeline Owner Point of Contact (existing field)
- Latitude (existing field)
- Longitude (existing field)
- Minimum Pipeline Depth
- Maximum Pipeline Depth
- Datum

For those unified permits authorizing applicable activity under both Section 408 and Section 10, the Section 408 Coordinator is required to enter the pipeline data for the above fields into the 408 database. In order to identify the activity the permit number is to be cross-referenced with the Section 10 permit number.



GULF REGIONAL DEMONSTRATION PROGRAM



USACE issues dredging contracts **limited to individual projects, typically bounded by accounts and within a single year. Combining contracts regionally in a logical, sequenced manner allows for efficiencies and cost savings.** The 2020 Energy and Water Development Appropriations Bill (Senate Report 116-102) requires USACE to implement a Regional Dredge Demonstration Program, with particular focus on the Central Gulf Coast Region. Many benefits are suggested, including faster execution, fewer disruptions to other projects, fewer bid busts, reduced unit costs, more efficient contracting, and fewer “no bid” responses.

The Regional Dredge Demonstration Program centers around improvement of USACE’s dredging operations. It seeks to implement a major change in how USACE contracts dredges, not just in the Gulf region but across the enterprise. The Program is fully consistent with the Department of the Army’s modernization goals and USACE’s Revolutionizing the Corps initiative.



ENERGY AND WATER DEVELOPMENT APPROPRIATIONS BILL, 2020

20



Senate Report 116-102 mandates USACE to execute a multi-year regional dredge demonstration program. Excerpts below...

REGIONAL DREDGE DEMONSTRATION

High hopper dredge utilization rates have resulted in limited dredge availability for nationally significant dredging projects in recent years, in some cases critically impacting the acquisition process, particularly in the case of the Southwest Pass of the Mississippi River Baton Rouge to Gulf project.

Corps dredging operations are typically planned, executed, and funded on a project-by-project basis, in an incremental fashion, on an annual cycle. To respond more effectively to critical national dredging requirements resulting from these significant recurring storm events, in combination with routine annual dredging demands, the Corps shall execute a multi-year dredging demonstration program...



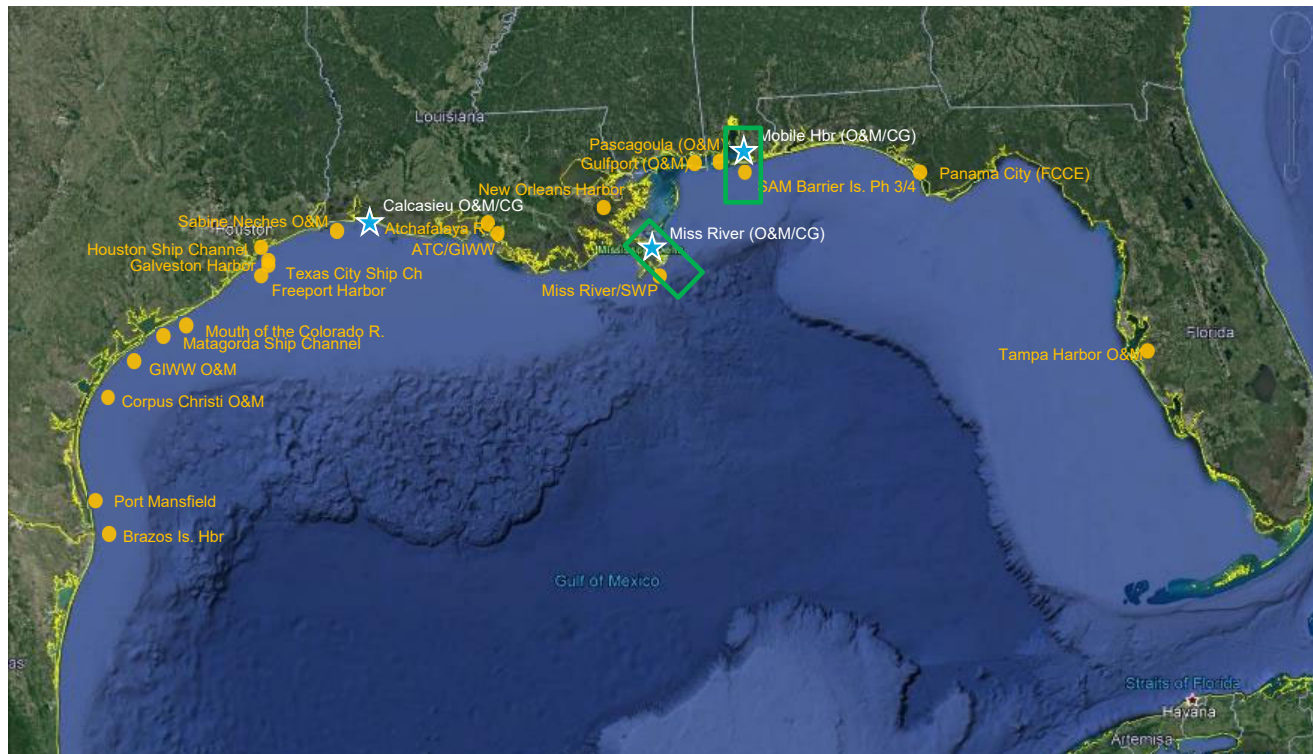
Potential Benefits per Senate Report 116-102

- Improved project schedules/faster construction execution at the demonstration projects;
- Fewer disruptions to other projects across the enterprise due to emergencies at the Southwest Pass (pulling dredges off projects);
- Fewer or no bid busts (bid higher than the Independent Government Estimate by 25%) for the demonstration projects;
- Reduced cost per cubic yard at the demonstration projects and/or across the enterprise for hopper dredge contracts;
- Efficiency of contract award process at the demonstration projects; and
- Fewer “no bid” responses at Mississippi River Baton Rouge to Gulf hopper dredge contracts.

Background



DREDGING LOCATIONS – GULF REGION



LEGEND:

- Project Location
- ★ New Start (CG)
- Deepening

~ 48 Million cubic yards

Regional Dredge Contracting



DREDGING LOCATIONS – EAST REGION



LEGEND:

● Project Location

~ 107 Million cubic yards

Regional Dredge Contracting



DREDGING LOCATIONS – WEST REGION



LEGEND:

● Project Location

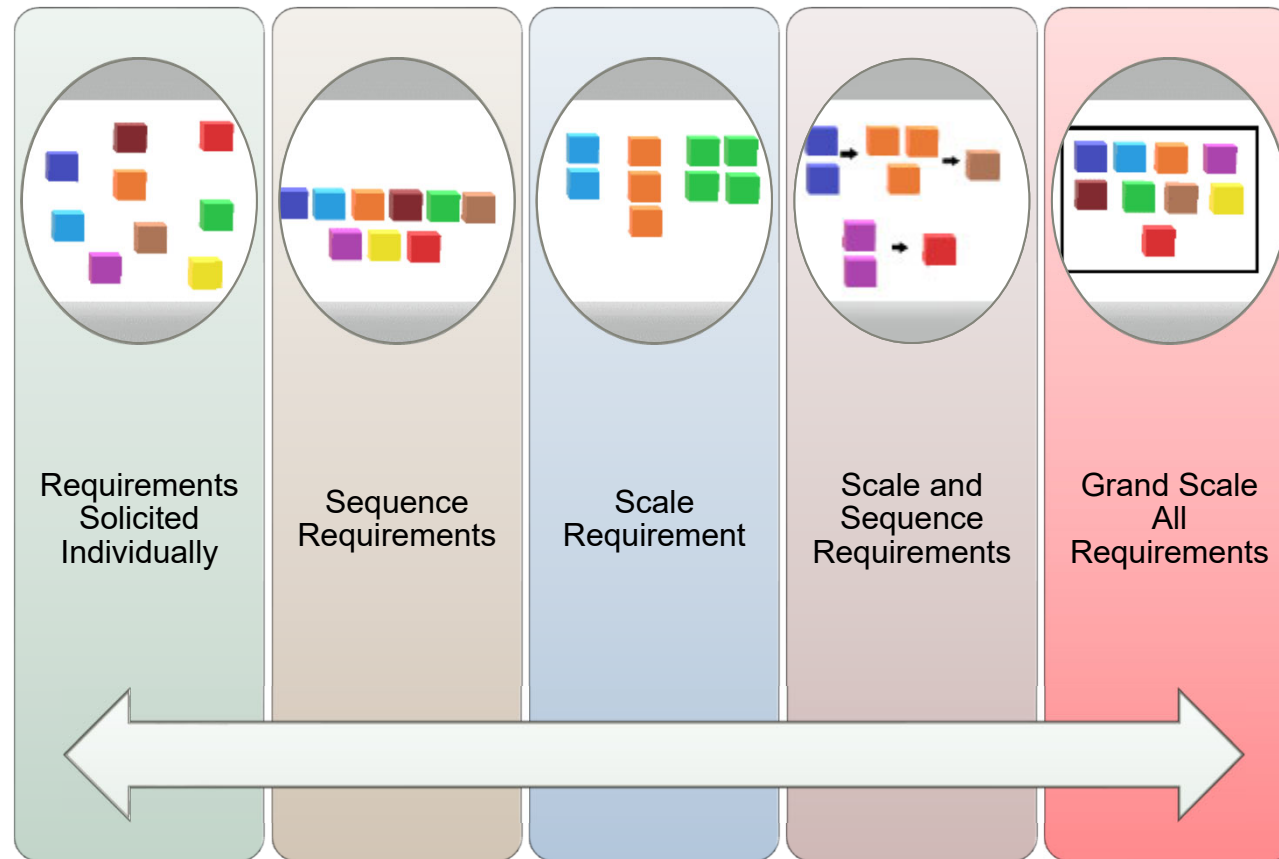
~ 17 Million cubic yards

Regional Dredge Contracting



CONCEPTUAL FRAMEWORK FOR SCALING AND SEQUENCING REQUIREMENTS

24





EXECUTION PLANNING CHARRETTE WITH GULF AND ATLANTIC DISTRICTS

- Team formed – following 2020 appropriations bill
 - Representatives included – Operations Managers, Business Line Managers, Contracting from regional Divisions and Districts
 - Charettes conducted:
 - Gulf Region - 28-30 Jan 2020
 - East Coast Region - 26-27 Feb 2020
 - West Coast Region - 5-6 Mar 2020
 - PDT identified and ranked alternatives
- Districts presented projects for inclusion in program
 - Used expert elicitation to formulate wide range of alternatives for consideration
 - Project priorities assigned by regional experts
 - Include Navigation and Flood Risk Management business lines
 - The framework for analysis based on best practices from the West Coast and South Atlantic regions
 - Initial findings:
 - Gulf region selected alternative indicates significant potential savings
 - There is likely a shortage of equipment beyond hopper dredges (pipeline)
 - The shoreline placement (Storm Damage Supplementals) projects on the Atlantic coast have further pressured resources



MAJOR CONTRACTING ALTERNATIVES



Major configurations of contracts within a region include the following (not all inclusive):

Contract Configuration	Advantages/ Disadvantages
Status Quo: Continuation of Individual Contracts	<p><u>Advantages</u>: familiarity; fully District-led</p> <p><u>Disadvantages</u>: inefficient; dredge availability issues; inflexible schedules; higher mobilization and unit costs</p>
Combination of Contract* Groupings in addition to Individual Contracts	<p><u>Advantages</u>: reduced dredger costs; greater dredge availability; predictable planning; lower administrative cost</p> <p><u>Disadvantages</u>: greater coordination required between Districts, MSCs, and HQ</p>
Combination of Single Mega Hopper Contract, Single Mega Pipeline Contract, and Single Mechanical Contract	<p><u>Advantages</u>: lower administrative costs</p> <p><u>Disadvantages</u>: increased risk from over-reliance on single contractors</p>

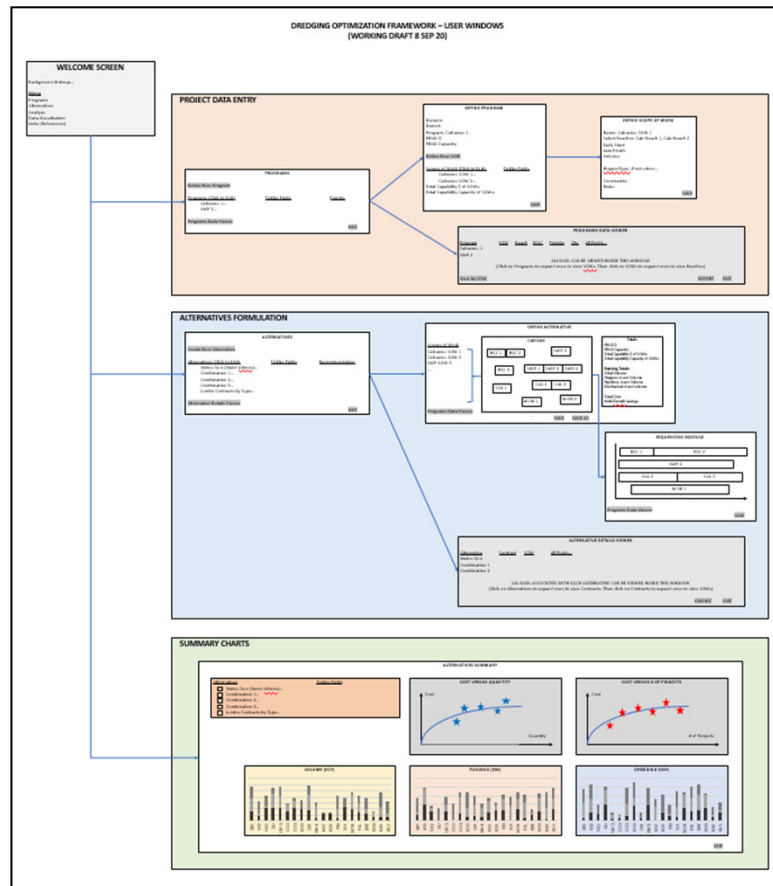
*Selected Approach

Regional Dredge Contracting



DREDGE EXECUTION FRAMEWORK PROGRAM

28



In conjunction with ERDC-ITL, HQ is developing a technical platform to simplify and automate regional contract alternative analysis

Platform integrates real financial data from CWIFD, production data from the Dredging Quality Management (DQM) system, and channel data from the National Channel Framework system

Platform allows for rapid, extensive alternative formulation for regional contract scaling and sequencing

Allows for analytics and data visualization for alternative selection

Platform will go live in Dec 2020 for next year's planning Charrettes