

# **U.S. Army Corps of Engineers Civil Works Program: National Navigation Update**

*World Trade and Transport  
Conference  
New Orleans, LA*

Edward E. Belk, Jr PE  
Chief, Civil Works Programs  
HQ, US Army Corps of Engineers  
Washington, DC

**February 8, 2018**



US Army Corps of Engineers  
**BUILDING STRONG®**



# Securing Our Nation's Future Through Water



## Navigation - Commerce, Intn'l Markets, Trade

USACE Operates 24,000 miles of Commercial Waterways; Generates \$18 B / 500,000 Jobs Annually; Supports 20% of US Jobs, 1/3 of GDP; Transportation = Decisive US Competitive Advantage

## Flood and Disaster Risk Reduction

USACE Prevents > \$8 in Flood Damages per \$1 Invested; 14,700 Miles Levee → 12,700 Miles = Local O&M; 700 USACE Dams vs 87,000 National Inventory of Dams

## Environment - Ecosystem Restoration and Environmental Stewardship

## Hydropower - Inexpensive, Sustainable

USACE is the Nation's Largest Renewable Energy Producer 25% of US Hydropower, 3% of Total US Electricity

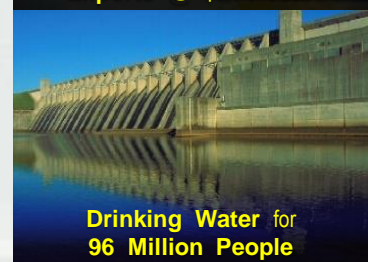
## Drinking Water

USACE Produces 6.5 Billion Gallons per Day

## Quality of Life – Local Economic Engines

USACE is the No. 1 Federal Provider of Outdoor Recreation, Contributing > \$16 B to Local Economies

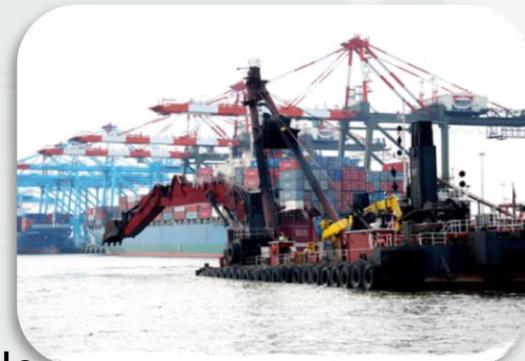
## Disaster Preparation/Response; Regulatory



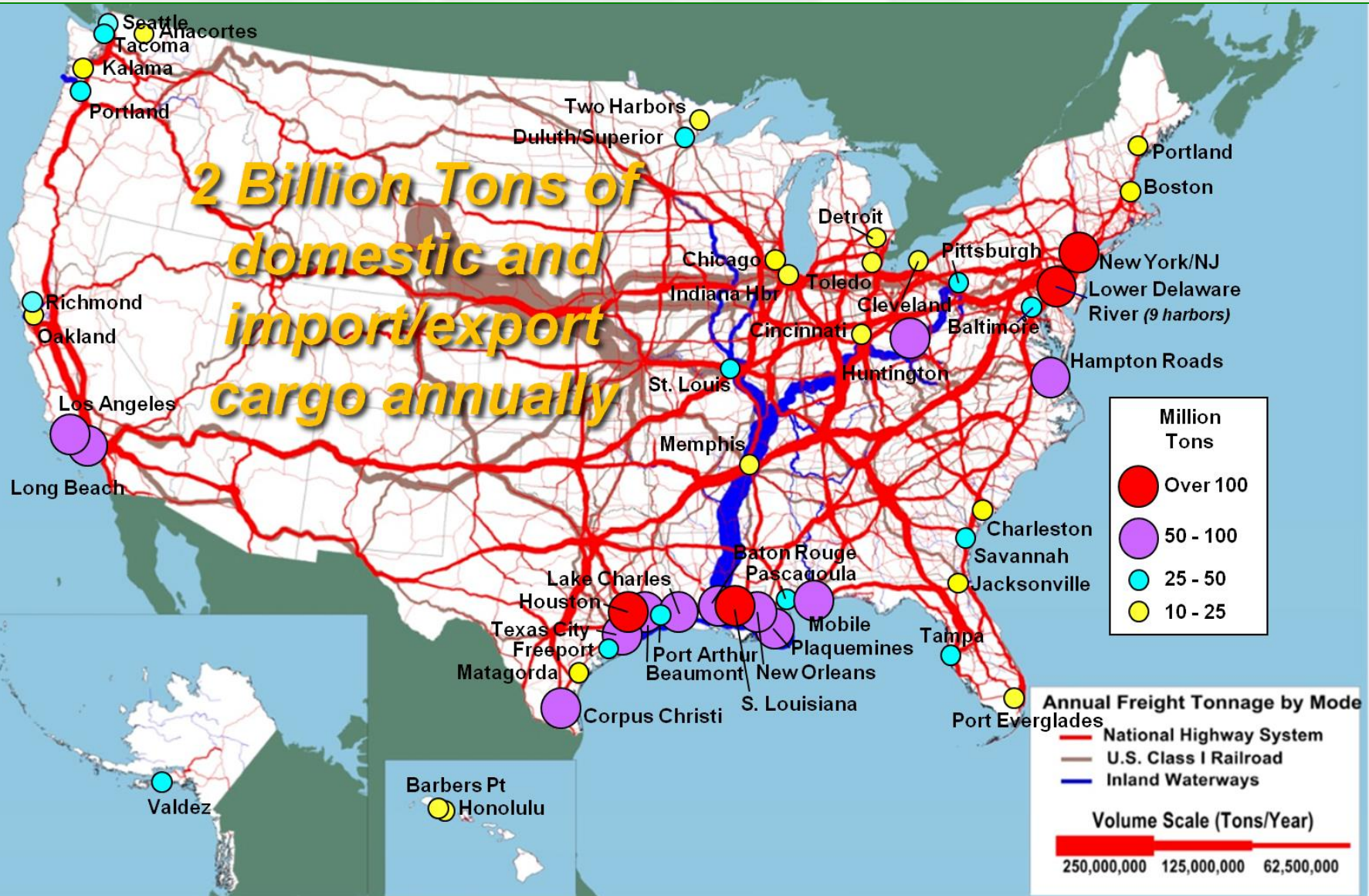


# ***CW Challenges and Opportunities***

- **Infrastructure Investment = Global Challenge**
- **Corps Civil Works Portfolio: 3,000+ Operational Projects, with Replacement Value of Approx **\$268B****
- **Expanding Demands for CW Infrastructure Maintenance, Operations, and Capital Investment**
  - Civil Works New Construction Backlog → \$ 76B
  - Dam Safety Backlog (DSAC 1 & 2) → \$ 20B
  - Some Negative Perf Trends Across Portfolio
  - Aging CW Systems → Facing ReCap Phase of Lifecycle
  - \$2.5B Deferred Maintenance Backlog
- **Expanding Demands Serviced by ~\$4.7B Annual Budget Nationally.....Requirements Significantly Outpacing Resources**



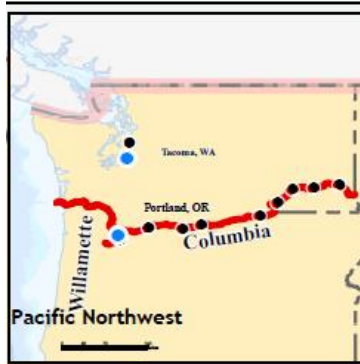
# ***U.S. Ports and Inland Waterways: Vital to our National Economy***







US Army Corps  
of Engineers.



# Navigation System



## USACE Navigation Infrastructure Portfolio

- U.S. Marine Transportation Industry Supports ~ **\$2 Trillion** in Commerce Annually
- **More than 48%** of Consumer Goods Bought by Americans Pass Through Harbors Maintained by Corps.
- **239** Lock Chambers at **193** sites
- **13,000** Miles of Coastal and Deep Draft Channels
- **12,000** Miles of Commercial Inland and Intracoastal Waterways
- **1,067** Coastal, Great Lakes and Inland Harbors
- # States Directly Served by USACE Channels & Waterways: **40**
- **15%** of U.S. Domestic Freight Carried by Water
- Over **1.3 Billion Short Tons** of Foreign Goods Moved Through U.S. Ports/Waterways in 2015
- Over **900 Million Short Tons** of Domestic Goods Moved Thru U.S. Ports/Waterways in 2015
- Moves **60%** of US Grain, **22%** of Coal, **22%** Petroleum
- **Capacity** to Help Relieve Congestion on Other Modes as U.S. **Imports** and **Exports** Projected to Increase
- **Nation's Water Infrastructure is Aging, Performance is Degrading, Economic Benefits are Forgone**



## Inland Waterways

2013  
GRADE D<sup>+</sup>

Our nation's inland waterways and rivers are the hidden backbone of our freight network – they carry the equivalent of about 51 million truck trips each year. In many cases, the inland waterways system has not been updated since the 1950s, and more than half of the locks are over 50 years old. Barges are stopped for hours each day with unscheduled delays, preventing goods from getting to market and driving up costs. There is an average of 52 service interruptions a day throughout the system. Projects to repair and replace aging locks and dredge channels take decades to approve and complete, exacerbating the problem further.

A = Exceptional  
B = Good  
C = Mediocre  
D = Poor  
F = Failing

AMERICA'S GPA:  
**D<sup>+</sup>**  
GRADING METHODOLOGY

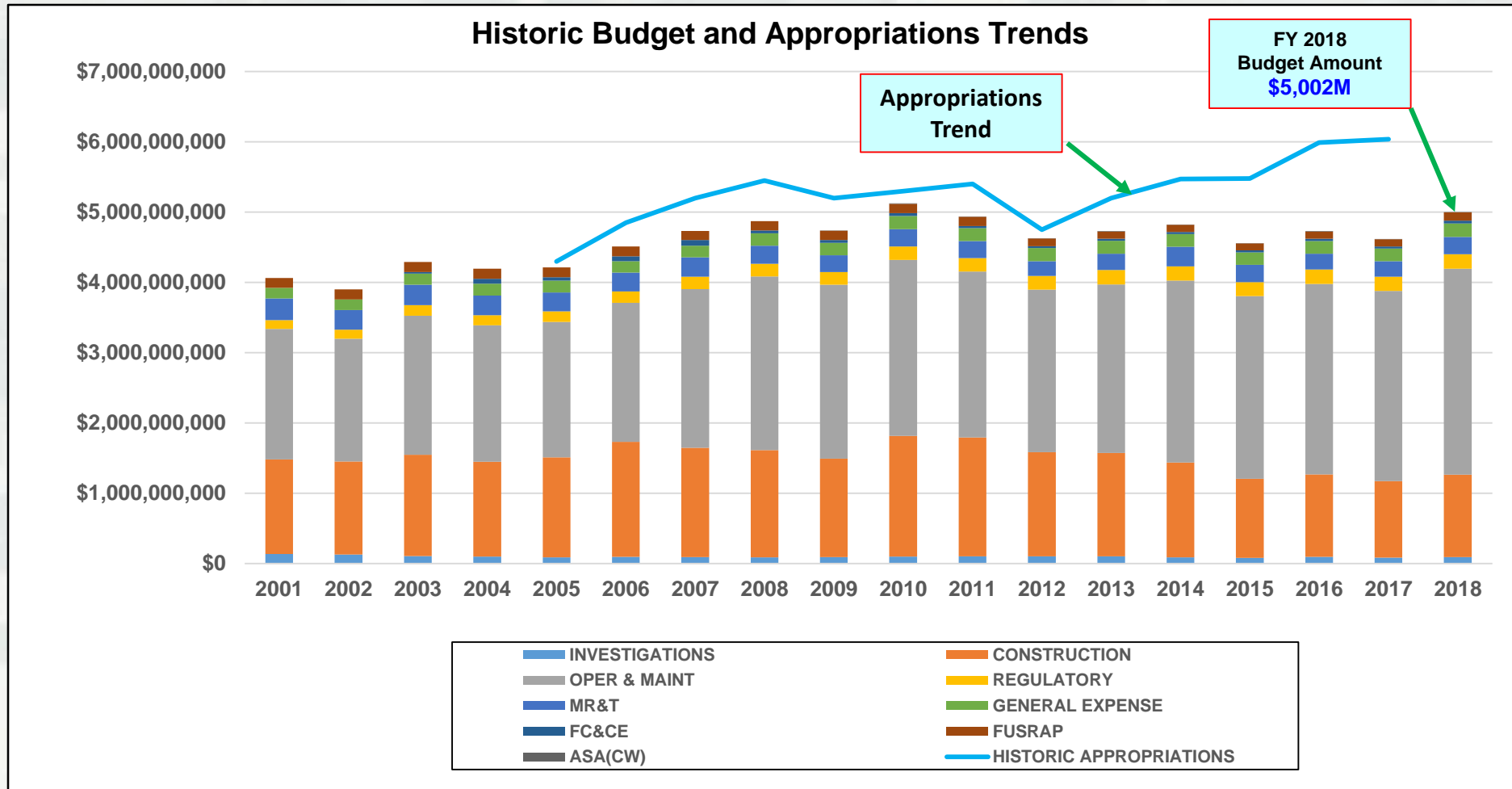


	Add'l Total Investment by 2020	Protects \$B in Exports	Protects \$B in GDP	Protects Jobs	Protects Personal Income
<b>Waterways</b>	<b>\$16B</b>	<b>\$270B</b>	<b>\$697B</b>	<b>738,000</b>	<b>\$872B</b>
Airports	\$39B	\$54B	\$313B	350,000	\$361B
Electricity	\$107B	\$51B	\$496B	529,000	\$656B
Water/Wastewater	\$84B	\$20B	\$416B	669,000	\$541B
Roads	\$846B	\$114B	\$897B	877,000	\$930B



# Civil Works Investment Trends

*(Excludes Supplemental Funding)*



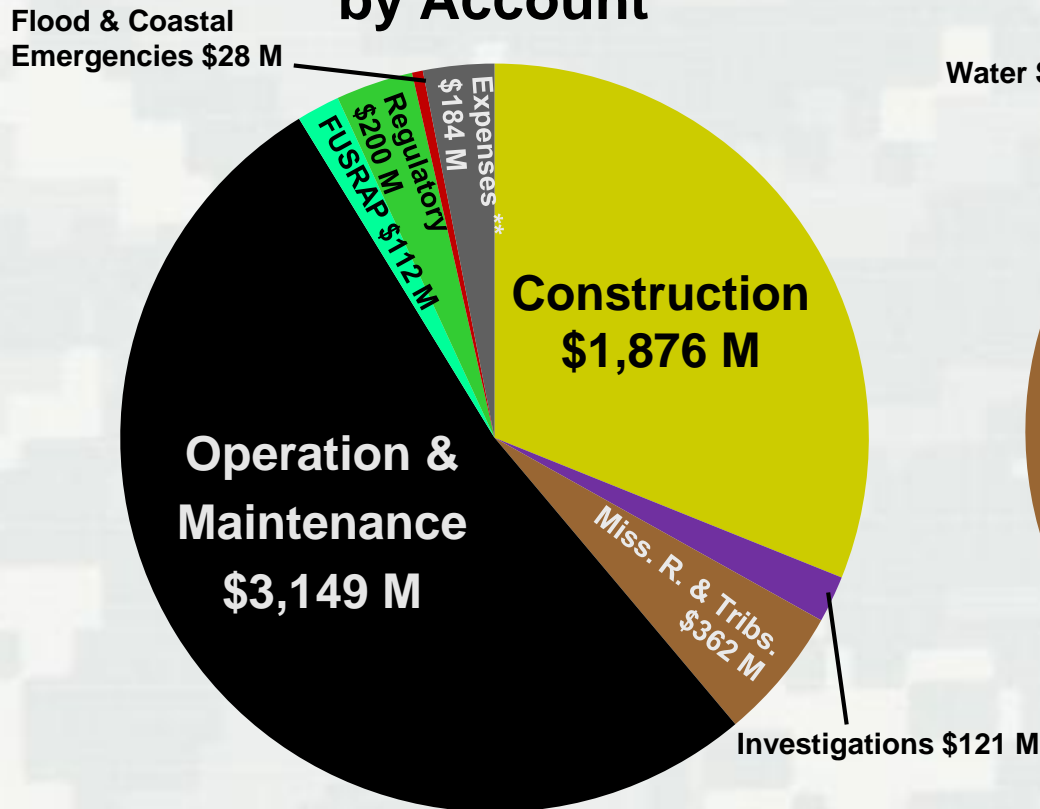
**BUILDING STRONG®**

# Civil Works FY 2017 Approps Bill \*

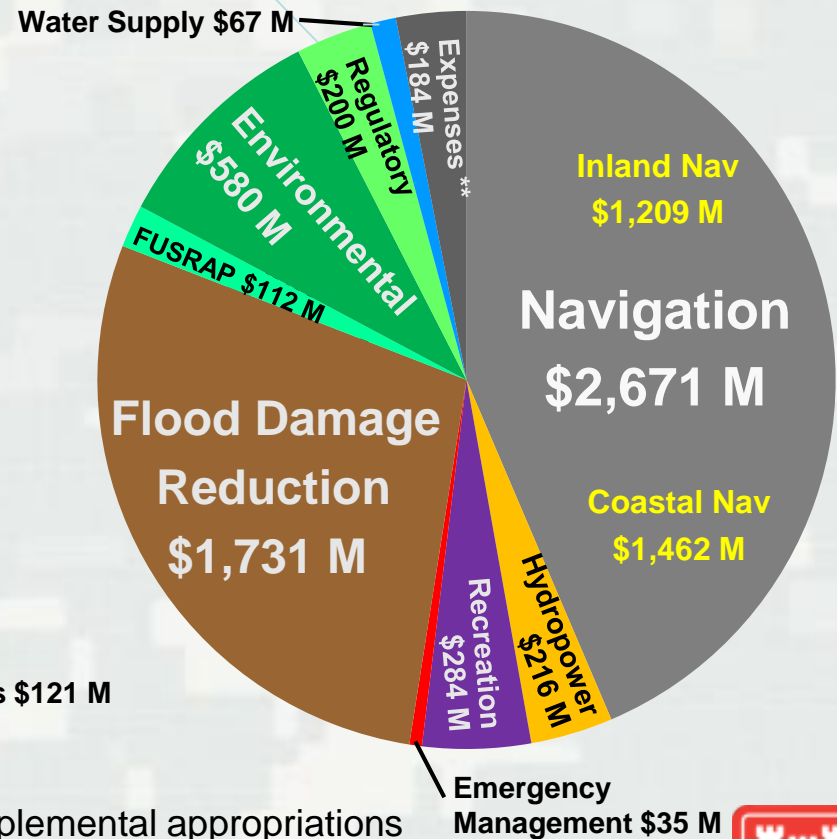
(\$ Millions)

Total: **\$6.038 Billion**

by Account



by Business Line



\* Does not include supplemental appropriations

\*\* Includes Office of Asst. SecArmy (Civil Works)

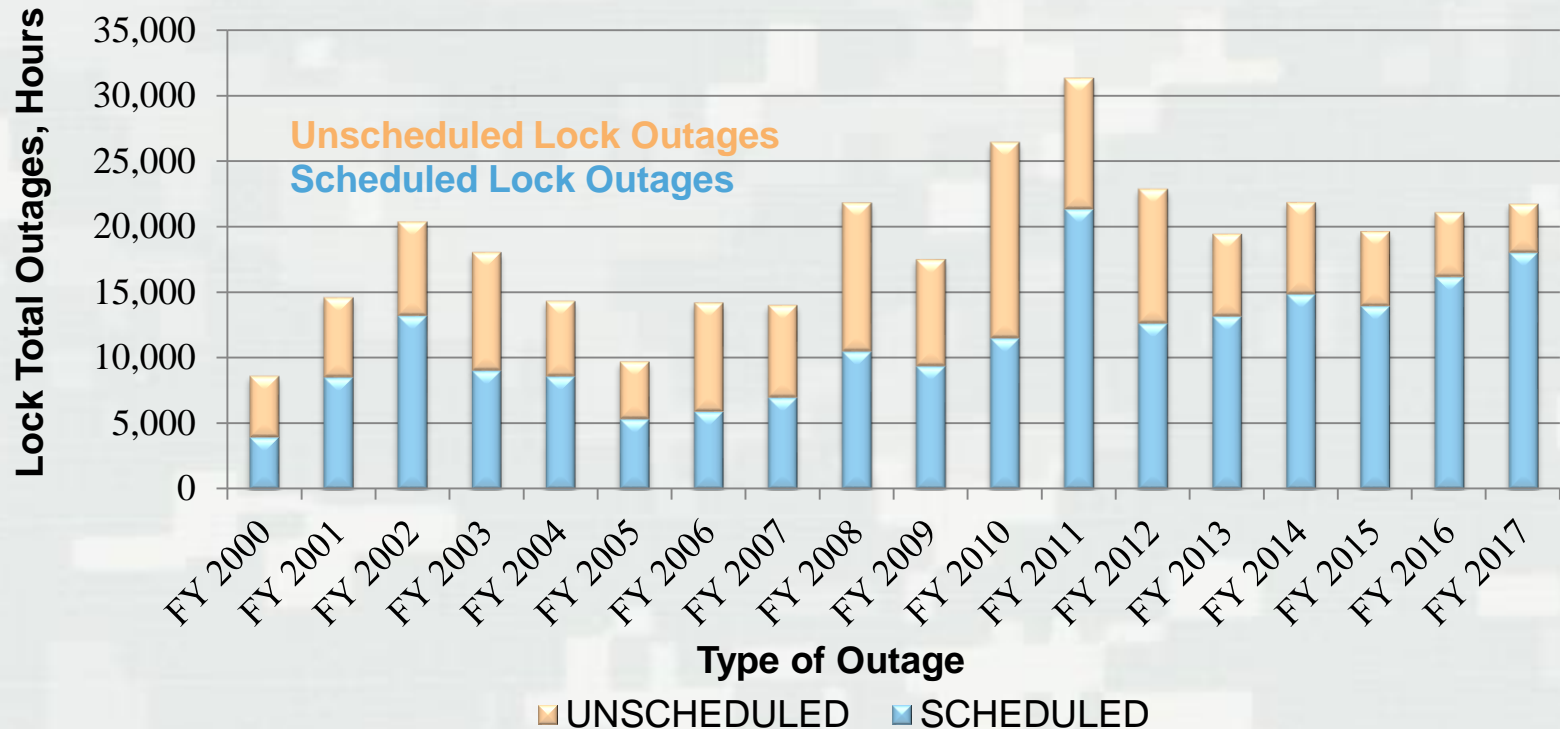




# National Lock Portfolio Service Trends

## Capital Investment Strategy (CIS)

### Lock Mechanical Outage Trends (High Use Fuel Taxed Waterways)



***“Assuring Performance and Reliability of Aging Water Infrastructure....”***

24 x 365 x ~200 Sites = ~1,752,000 Operational Hours/Year

At 21,000 Hour Level, Locks are Unavailable Around ~ 1.2% of Time due to Mechanical Issues; So, Locks are **AVAILABLE** to Pass Commercial Traffic Almost 99% of the Time



U.S. ARMY



# National Dredging Program Trends

## Total Dredging FY 2007-2016



**Fiscal Year 2016 Total Dredging: 202 MCY @ \$1,318 Million (~\$6.51/CY)**

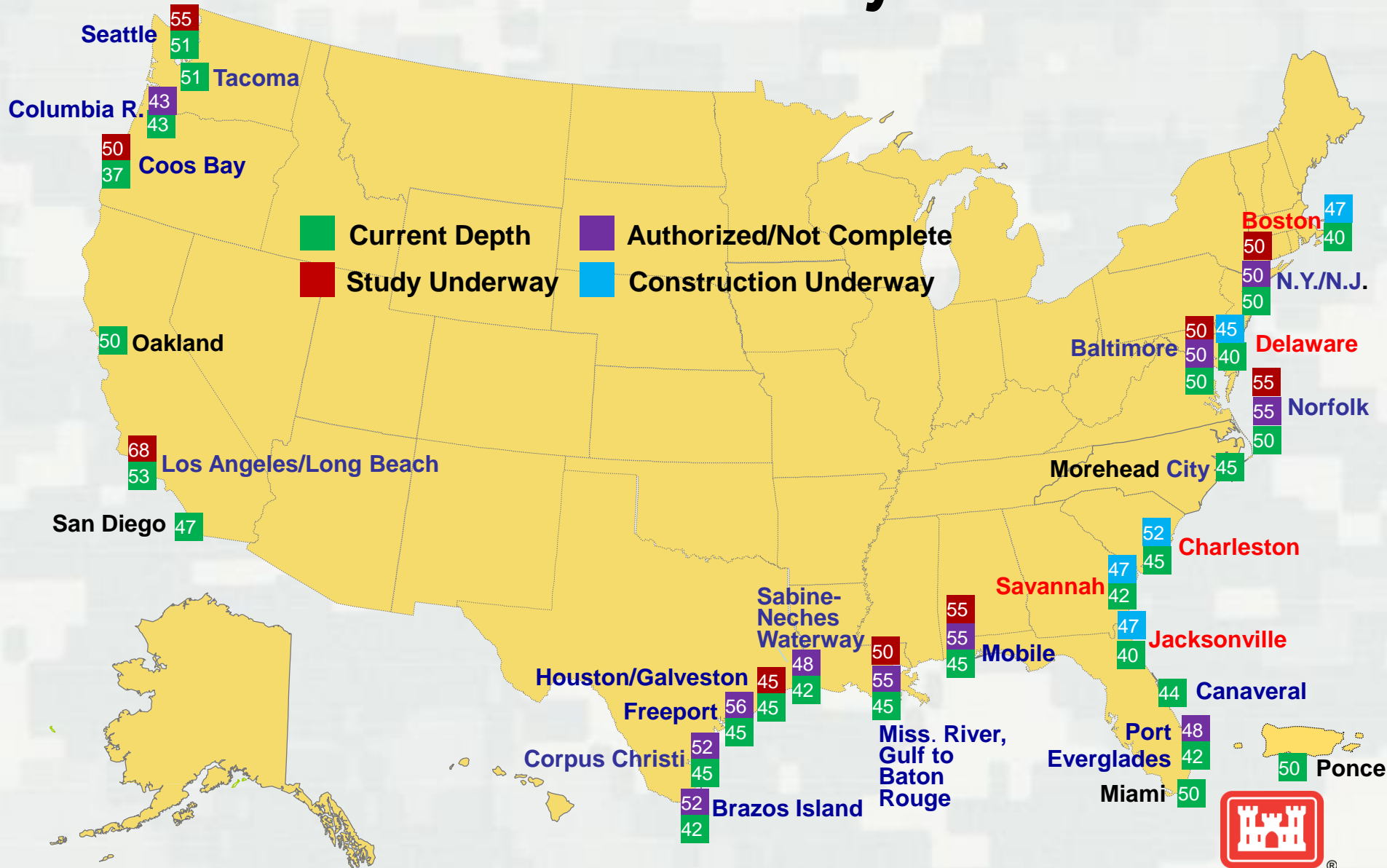
<b>Maintenance Work:</b>	<b>186 MCY (92%) @ \$1,036 Million (79%)</b>
<b>Hurricane Sandy &amp; Emergency:</b>	<b>11 MCY ( 5%) @ \$ 191 Million (14%)</b>
<b>New Work:</b>	<b>6 MCY ( 3%) @ \$ 91 Million ( 7%)</b>



**BUILDING STRONG®**



# Post-Panamax Port Projects/Studies



# U.S. HURRICANE LANDFALLS

2017



**HARVEY (CAT. 4)**  
**ROCKPORT, TEXAS**  
**AUG. 25**



**NATE (CAT. 1)**  
**LA/MS**  
**OCT. 7-8**



**IRMA (CAT. 4)**  
**SOUTH FLORIDA**  
**SEP. 10**



**MARIA (CAT. 4)**  
**PUERTO RICO**  
**SEP. 20**

The  
Weather  
Channel



**BUILDING STRONG®**



# ***Current Civil Works Realities***

- Traditional Funding and Delivery Models Increasingly Inadequate, More Agile Processes and Thinking Now Necessary
  - Administration, Congress and Partners Increasingly Demanding Change in both Federal Permitting and Delivery of Federal Programs
    - Historic Level of Congressional Oversight Engagements
    - Aggressive Administration Infra Posture, Bold Ideas in Play
    - More Partners Turning to Alternative Delivery Models
  - Significant Challenges and Opportunities Possible for FY 18/19
    - Presumptive FY 18 Approps Could be Substantial (~\$6B+)
    - Presumptive Storm Supp Could be Substantial (~\$0-\$12B)
    - Presumptive Admin Infrastructure Initiative Could be Transformative, With Any Funding Likely Linked to Reforms (\$0-\$20B)
  - How is the Corps Responding?
    - Drive to Deliver on Projects, Programs, Commitments
    - Powering Down Decision-Making
    - Working Closely with and Listening to Partners
- Actively Supporting White House Infrastructure Initiative



**BUILDING STRONG®**

# ***Closing Thoughts***

- USACE Funding Continues to be Constrained and Addressing the Nation's Infrastructure Investment Gap must be a Shared Federal, State and Local Responsibility.
- The Corps Doesn't Deliver Anything by Itself... Critical that We Not Lose Focus on Our Partners, Stakeholders, and Our Commitments
- Navigation Investment is Essential for the Nation's Global Trade and International Competitiveness
- America's Marine Transportation System infrastructure Must be a National Priority in Order to Secure Adequate Levels of Investment
- Navigation Investment is Key to National Economy, Jobs, and Exports!





# ***Thank You!!***

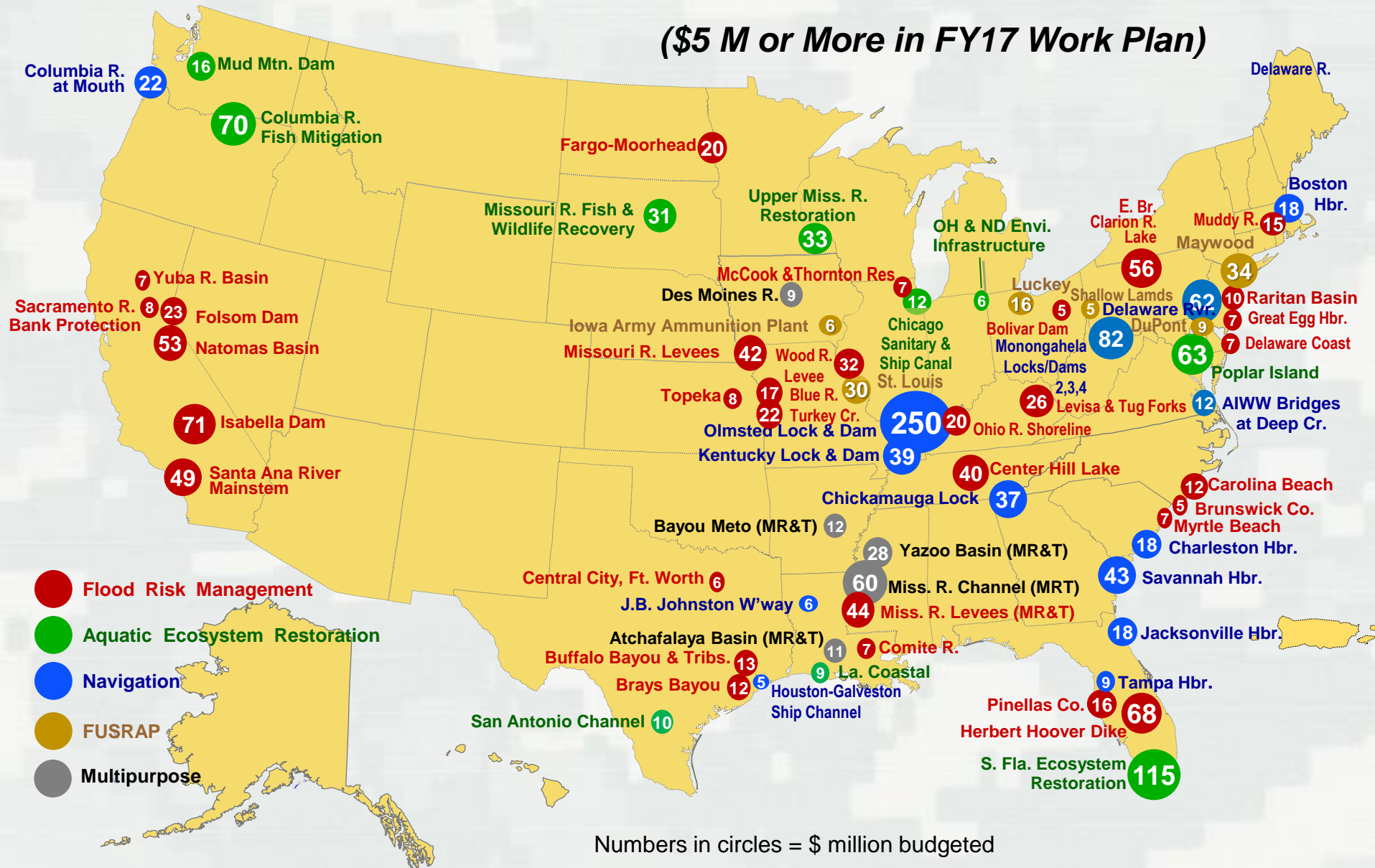


**BUILDING STRONG®**

As of: <date>  
POC: <name>

# MAJOR CONSTRUCTION PROJECTS

(\$5 M or More in FY17 Work Plan)



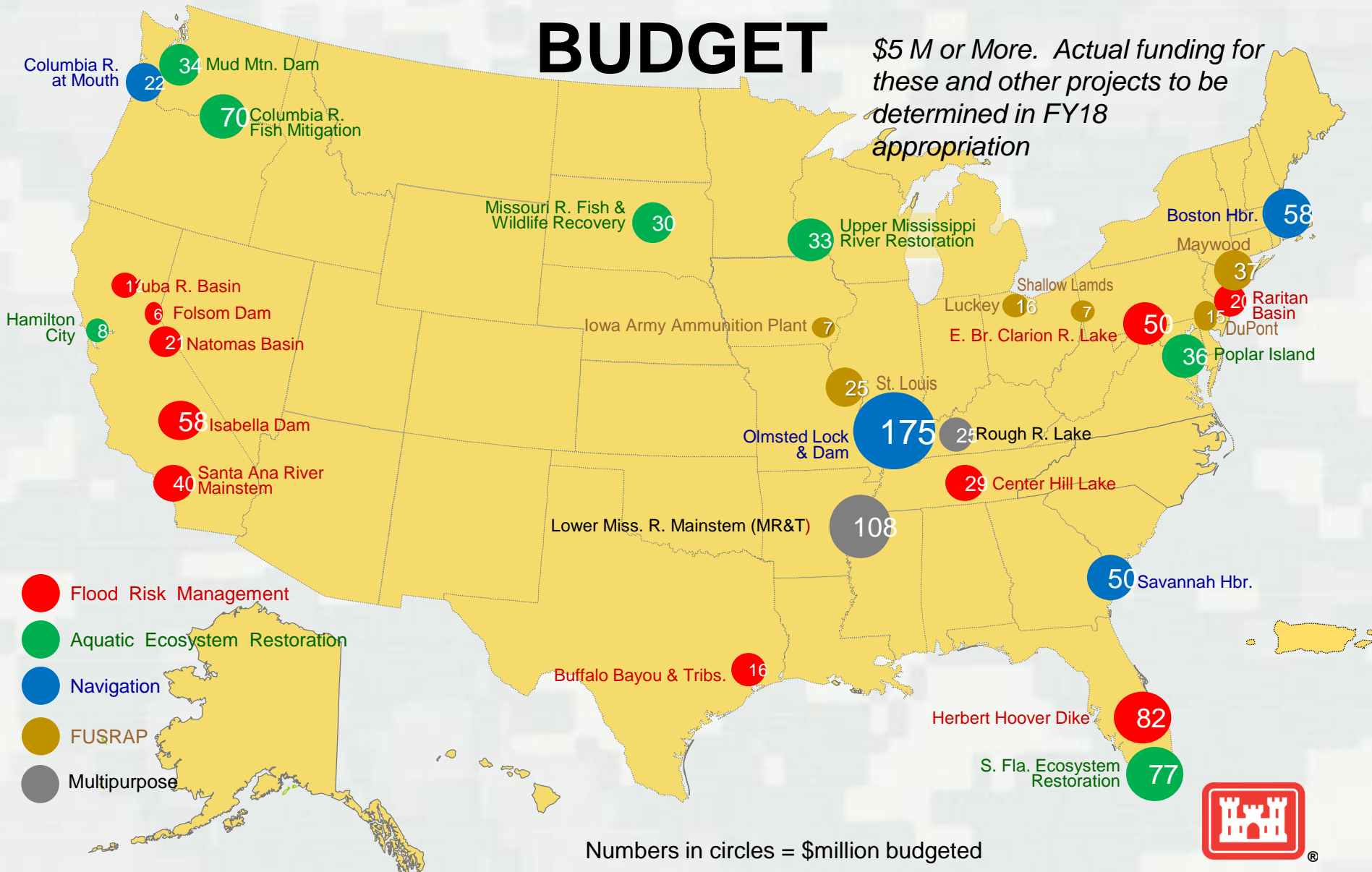
Numbers in circles = \$ million budgeted



# CONSTRUCTION PROJECTS IN FY18

## BUDGET

*\$5 M or More. Actual funding for these and other projects to be determined in FY18 appropriation*



# ***Navigation Challenges***

- Constrained Funding, Imposes Performance Risk - can't maintain authorized/constructed channel dimensions and critical infrastructure
- Funding for low commercial use projects
- Increased cost of doing business
- Aging infrastructure
- Behind in channel depths
- Environmental Issues
  - ▶ Air and water quality requirements
  - ▶ Threatened, endangered, and invasive species
  - ▶ Dredging windows

