

USACE Civil Works Program: Challenges and Opportunities

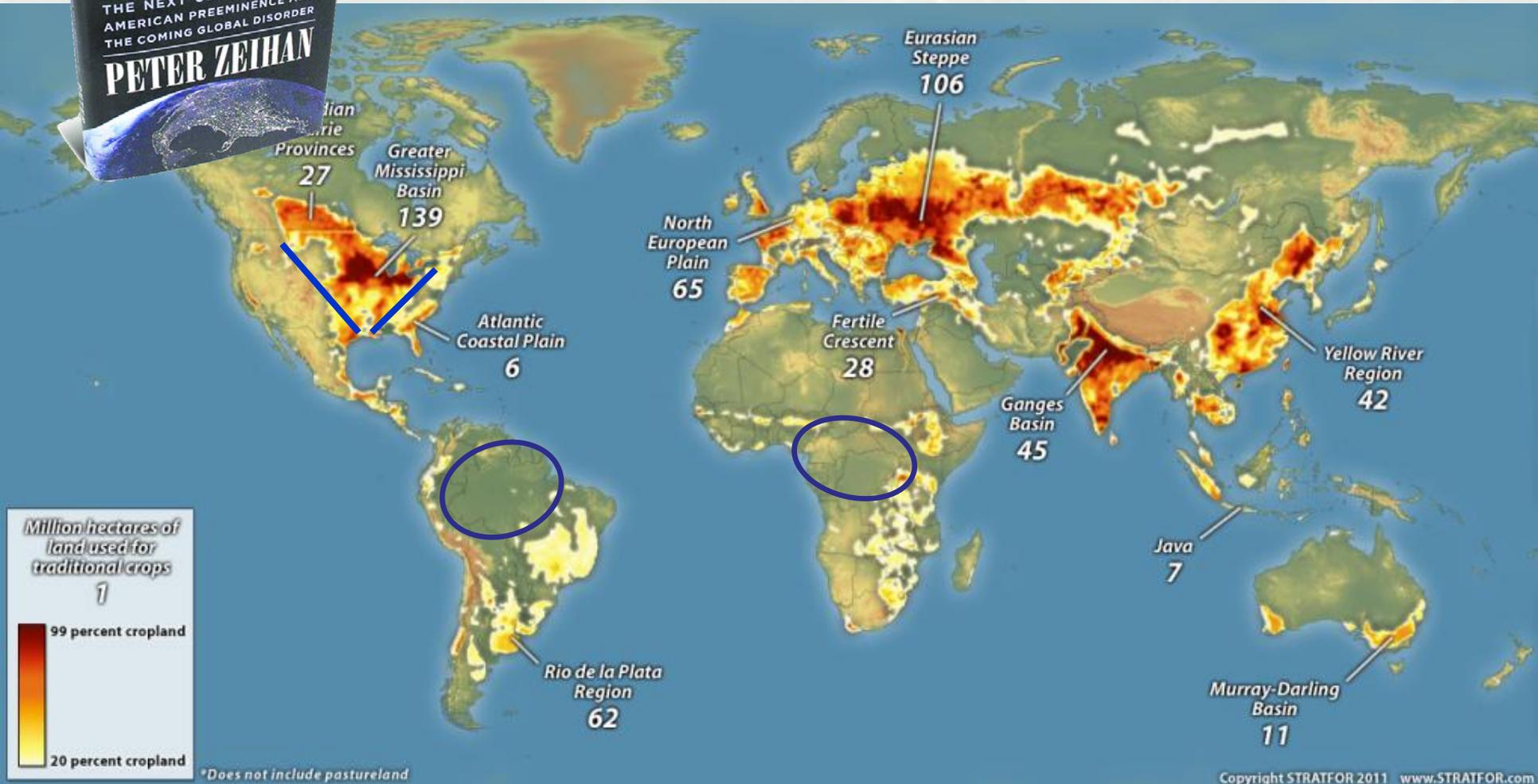
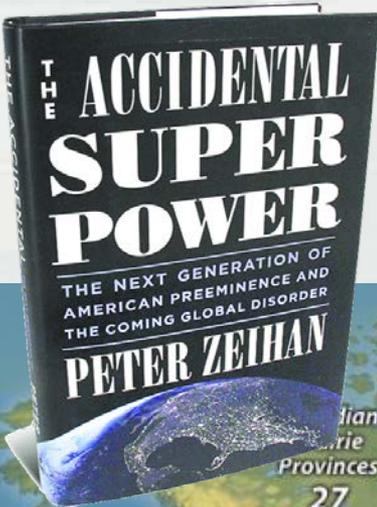
Planning Workshop

MG John Peabody, P.E.
Deputy Commanding General
Civil and Emergency Operations
U.S. Army Corps of Engineers

2 June, 2015



The United States: The Inevitable Empire?

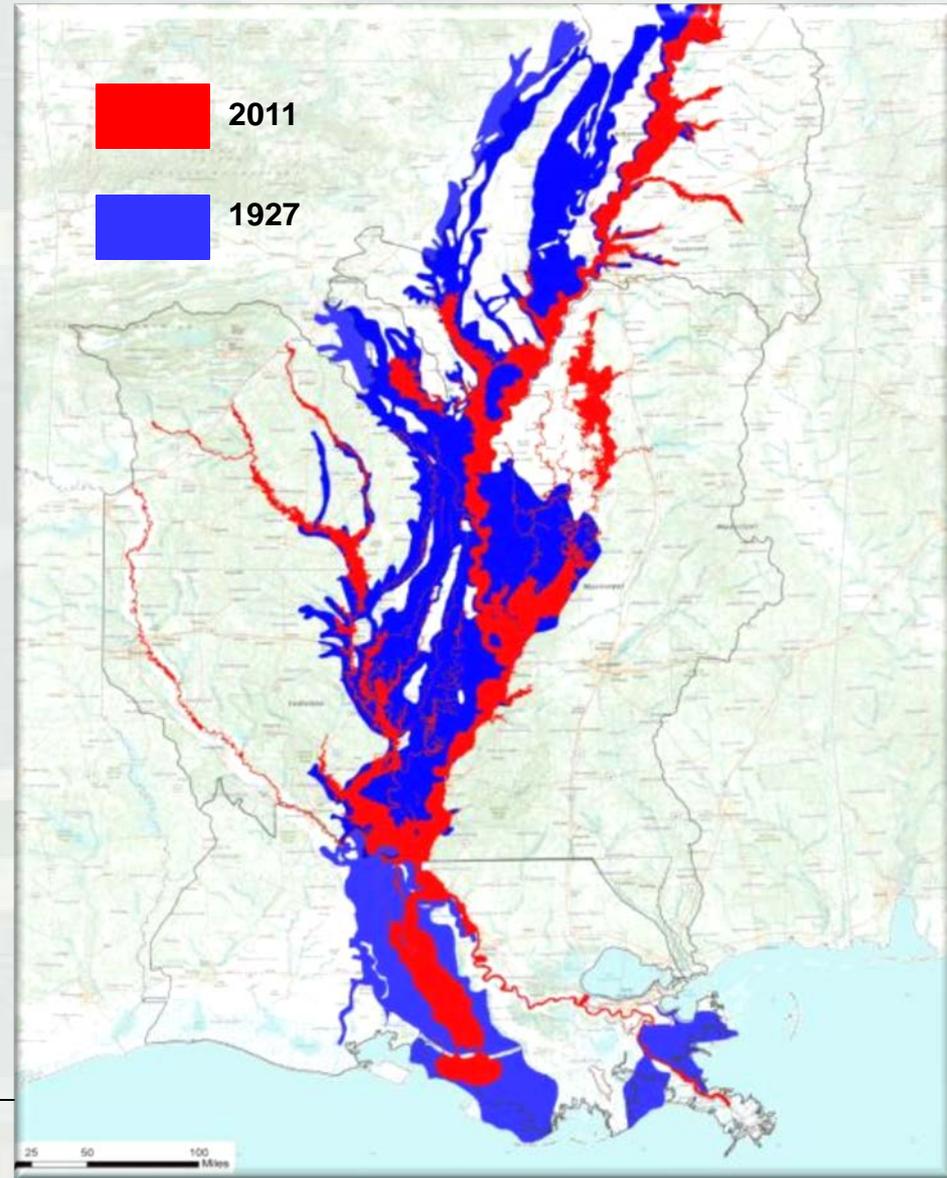


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1927 vs. 2011 Mississippi River Record Flood: From “Levees Only” to “Room for the River”

- 1927 Flood = 16.8 M acres
(Challenge)
- 2011 Flood = 6.35 M acres
(Response)
- **\$230 B damages prevented**
 - \$612 B since 1928
 - 44 to 1 ROI
- \$7 B in crop damages prevented
- 4.5 million people protected
- **\$3B Annual Transportation
Rate Savings**



Grand Winner: ASCE Outstanding Civil Engineering Achievement Award!



We Deliver Excellence!

- The American Society of Civil Engineers (ASCE) awarded USACE's Inner Harbor Navigation Canal Surge Barrier, part of the Hurricane & Storm Damage Risk Reduction System, New Orleans, LA, the 2014 Outstanding Civil Engineering Achievement (OCEA) Award on March 20, 2014.
- First Corps project winner in the award's 54 year history!



- \$1.35 B design-build project is a credit to our team: the Corps, State of Louisiana, industry, academia, and community we serve.



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CW's Economic Benefits & Revenues to Treasury

(2010-2012 Average)

Each dollar spent on the USACE Civil Works program generated ~ \$16 in economic benefits and \$5 in revenues to the U.S. Treasury.

Program	NED Benefits (Billions of Dollars)	Net NED Benefits (Billions of Dollars)	U.S. Treasury Revenues (Billions of Dollars)
Flood Risk Management	\$59.47	\$58.84	\$18.90
Coastal Navigation	\$9.47	\$8.70	\$3.70
Inland Navigation	\$8.10	\$7.51	\$2.07
Water Supply	\$7.00	\$6.98	\$0.09
Hydropower	\$2.30	\$2.11	\$1.37
Recreation	\$3.20	\$2.91	\$1.13
Leases and Sales			\$0.03
Total Annual NED	\$89.54	\$87.05	\$27.29

Notes:



Net NED benefits are defined as NED benefits less the costs of operations, maintenance, and investigations. Since the costs associated with expenses and oversight by the Assistant Secretary of the Army (ASA) serve all Corps programs, including those we did not calculate benefits for in this report, this report does not account for those costs."

The Benefits and Revenues numbers are not additive.

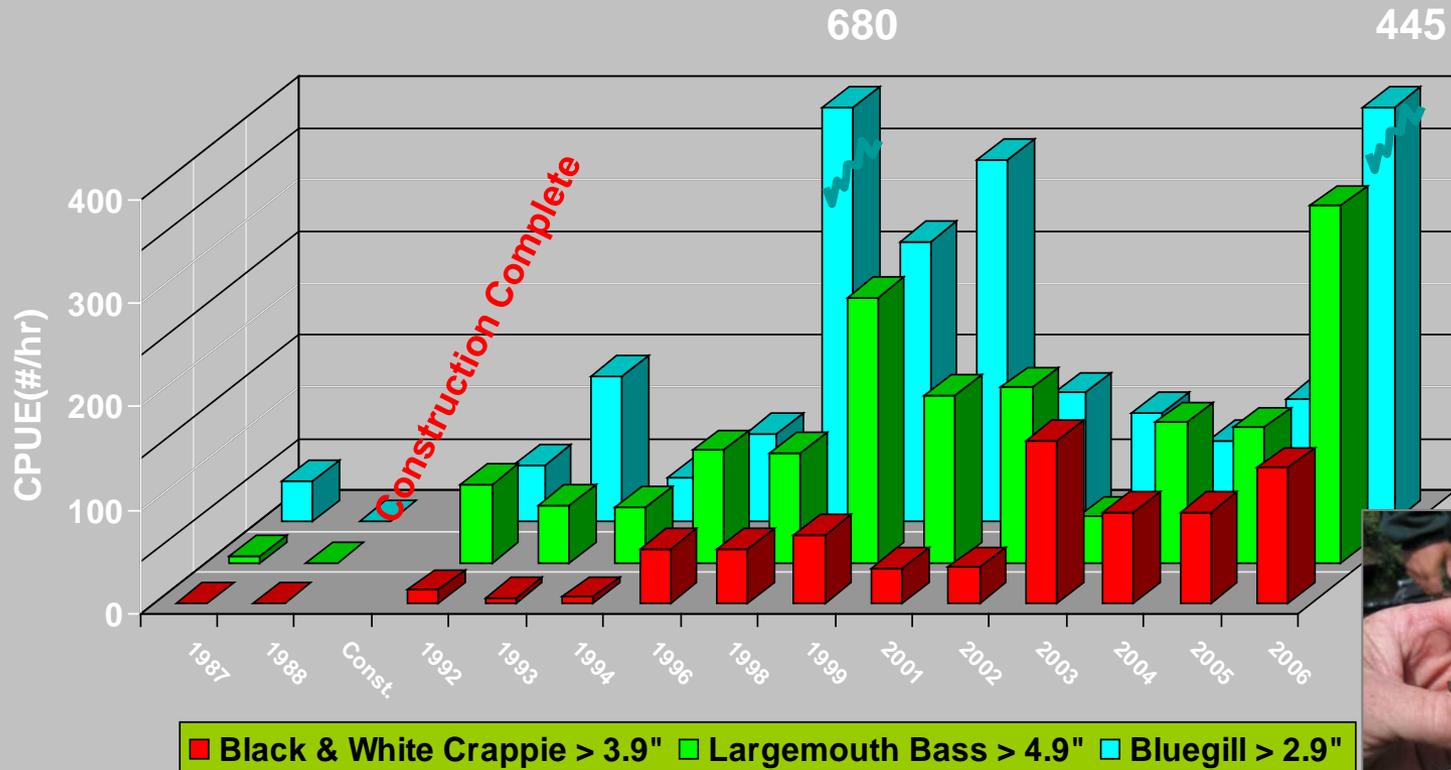


Ecosystem Restoration

UMRR (EMP) Habitat Rehabilitation Results

Bertom and McCartney Lakes

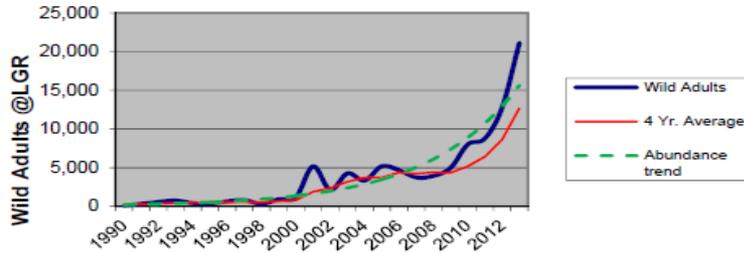
Significant increase in # of Fish because of project



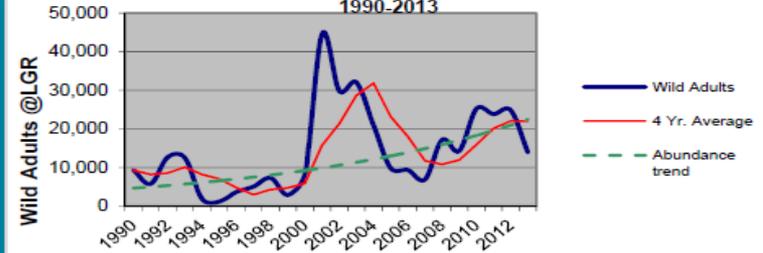
Environmental Improvements: Salmon Species Recovery

Species level abundance and abundance trends for natural origin spawners

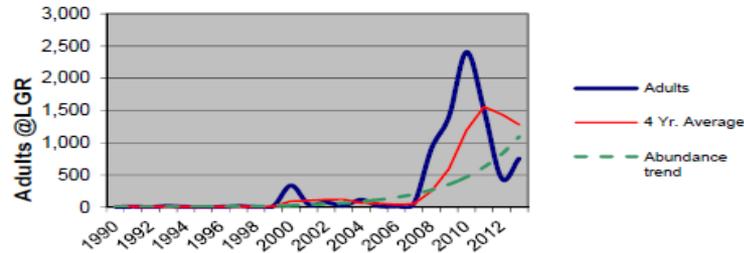
Snake River Fall Chinook Salmon ESU
1990-2013



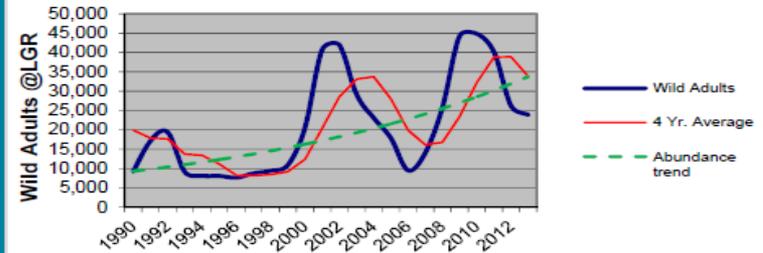
Snake River Spring/Summer Chinook Salmon ESU
1990-2013



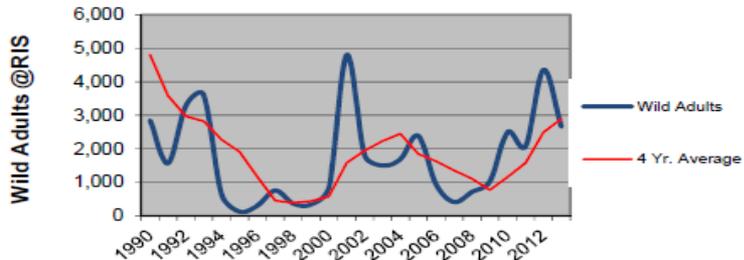
Snake River Sockeye Salmon ESU
1990-2013



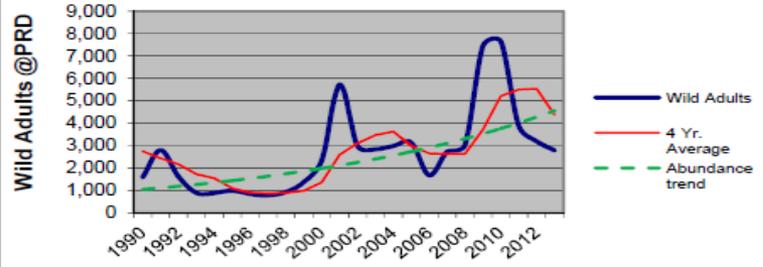
Snake River Steelhead DPS
1990-2013



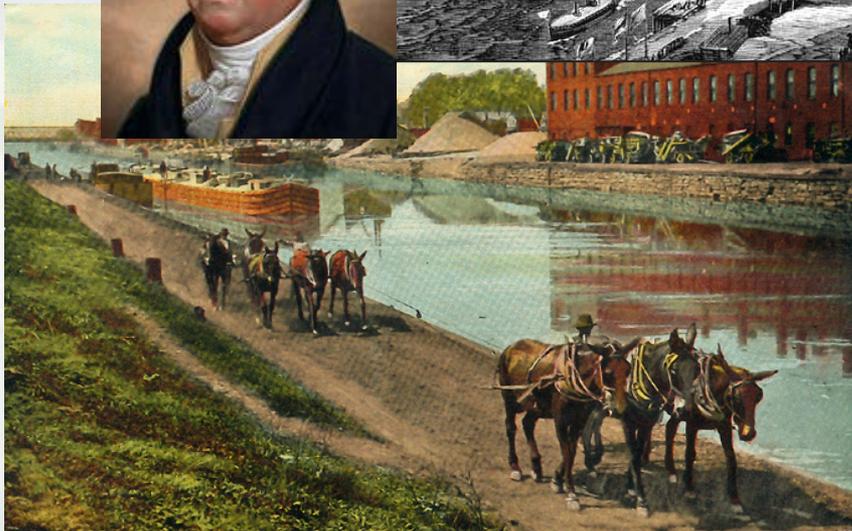
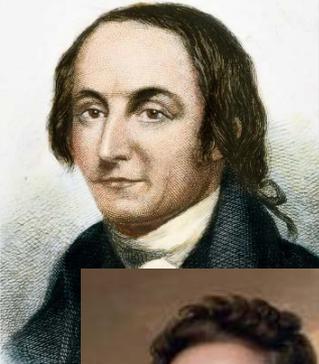
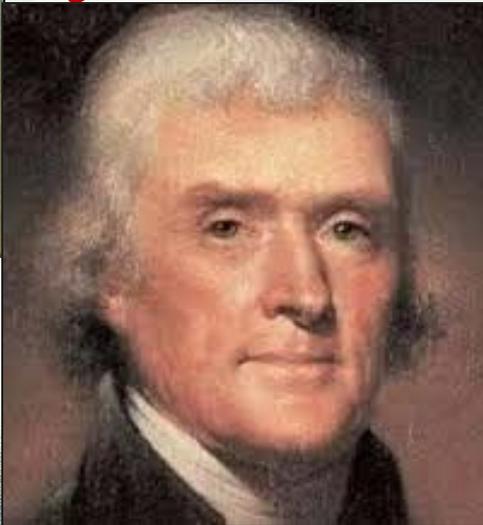
Upper Columbia River Spring Chinook Salmon ESU (1990-2013)



Upper Columbia River Steelhead DPS
1990-2013



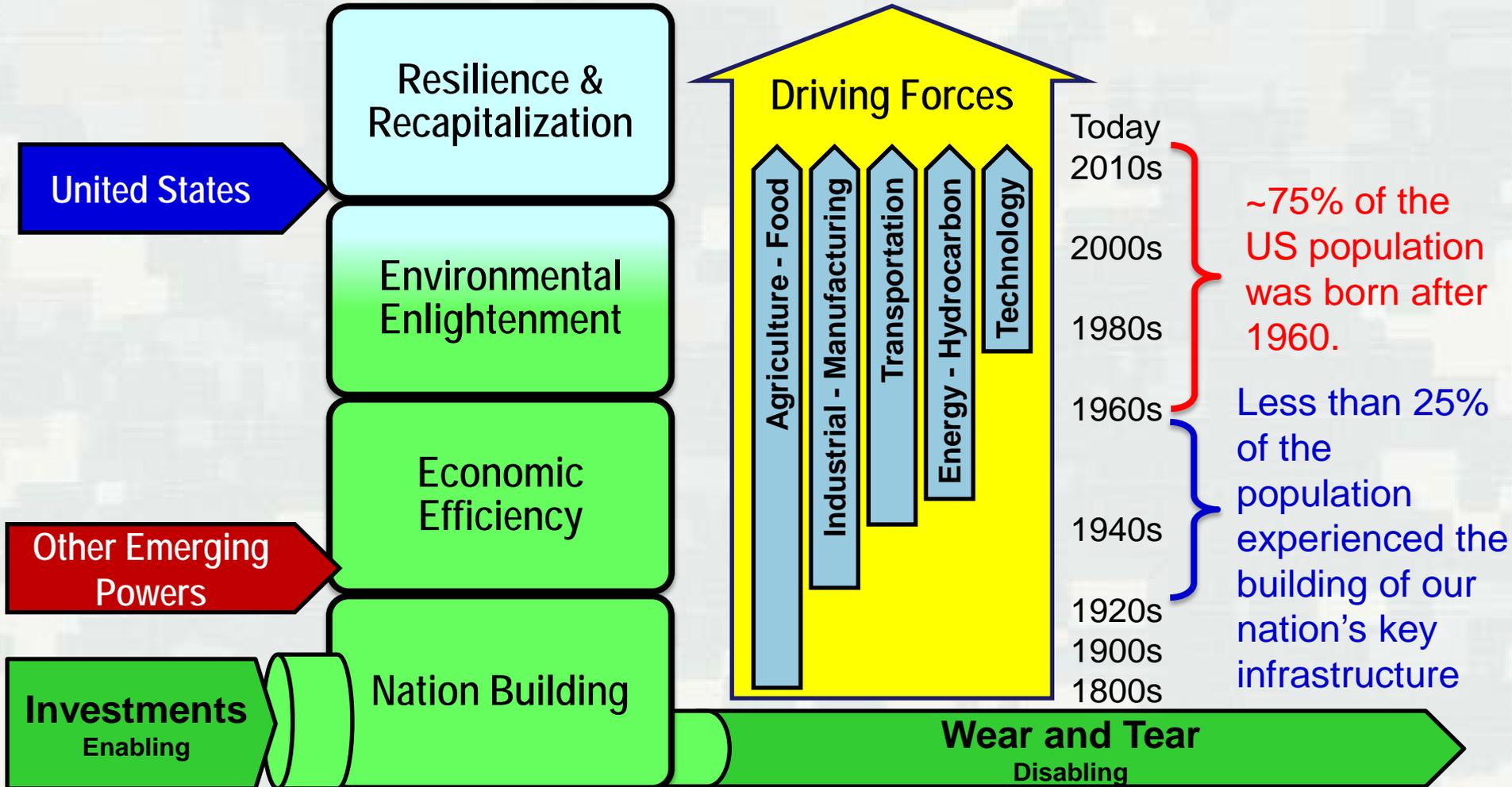
Cycle of Infrastructure Development



- Create and Articulate the VISION
- Develop and Document the PLAN
- Modify and EXECUTE the Plan



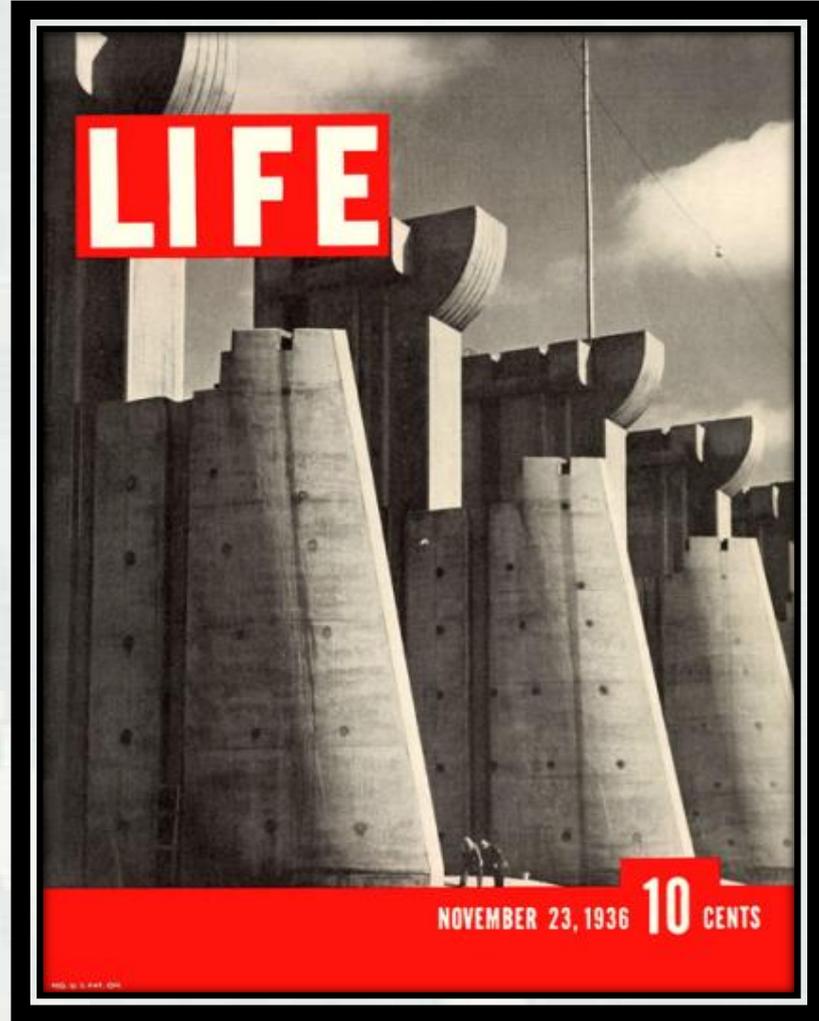
Changing Perspectives on Infrastructure



Hierarchy of Public Works Needs

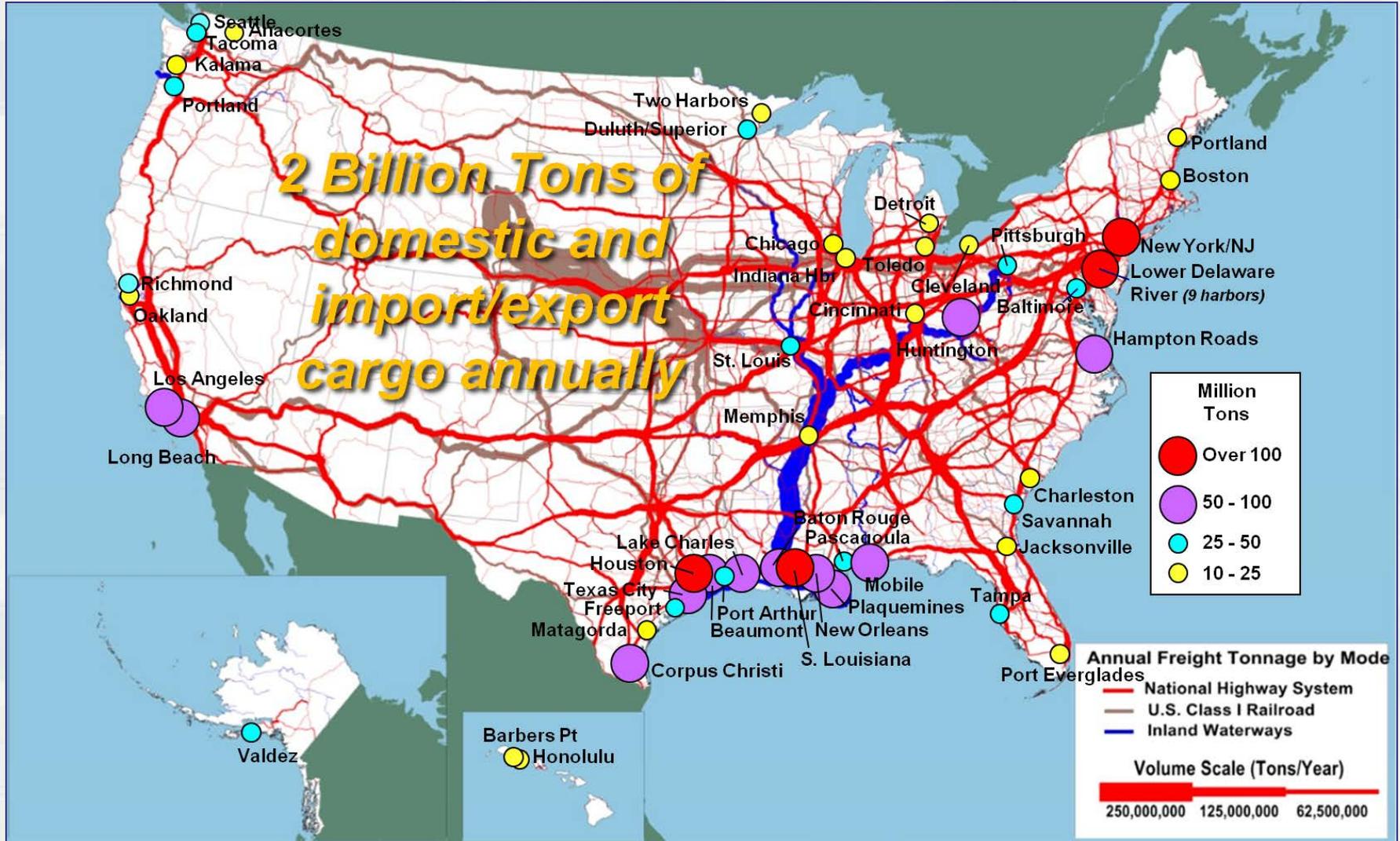


The 20th Century “Golden Age” of Infrastructure Construction

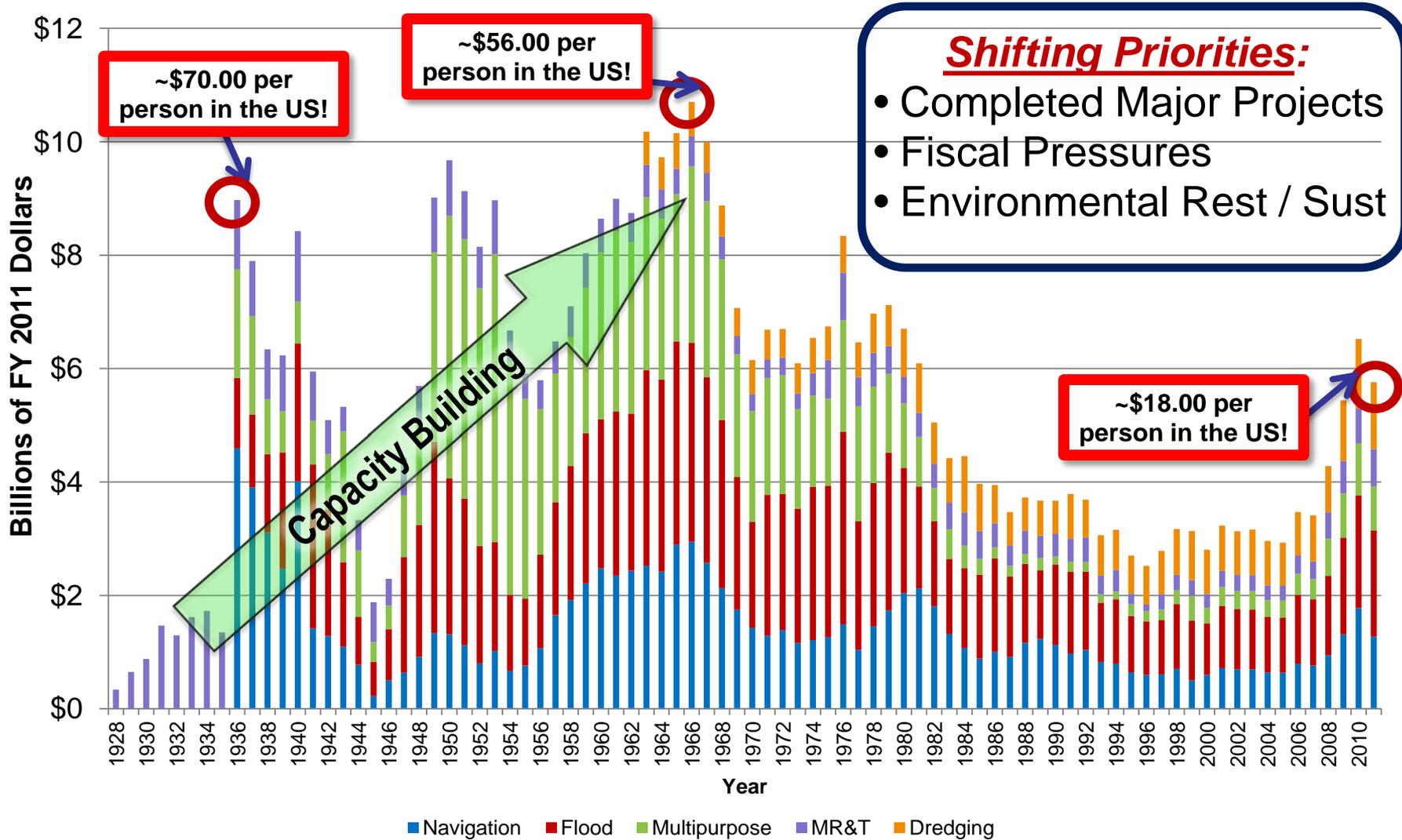


U.S. ARMY

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

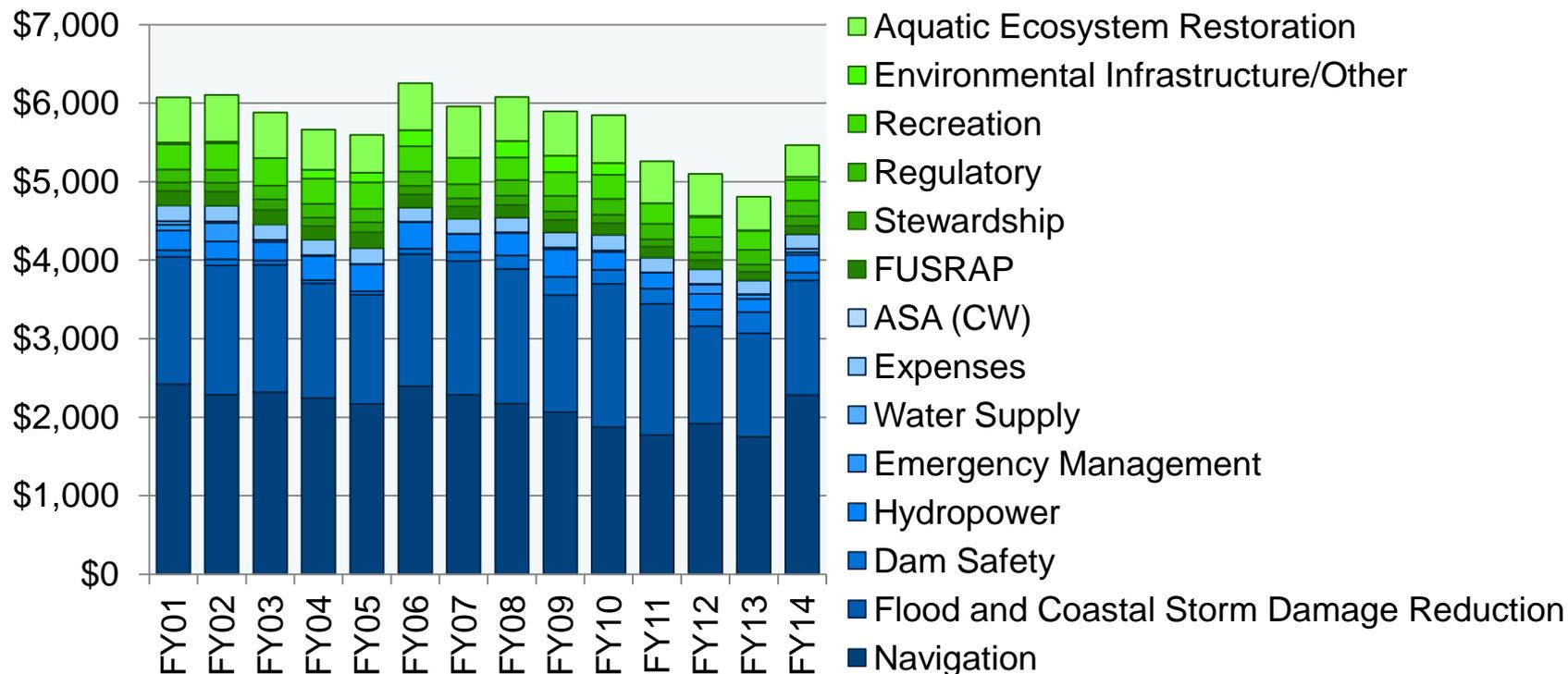


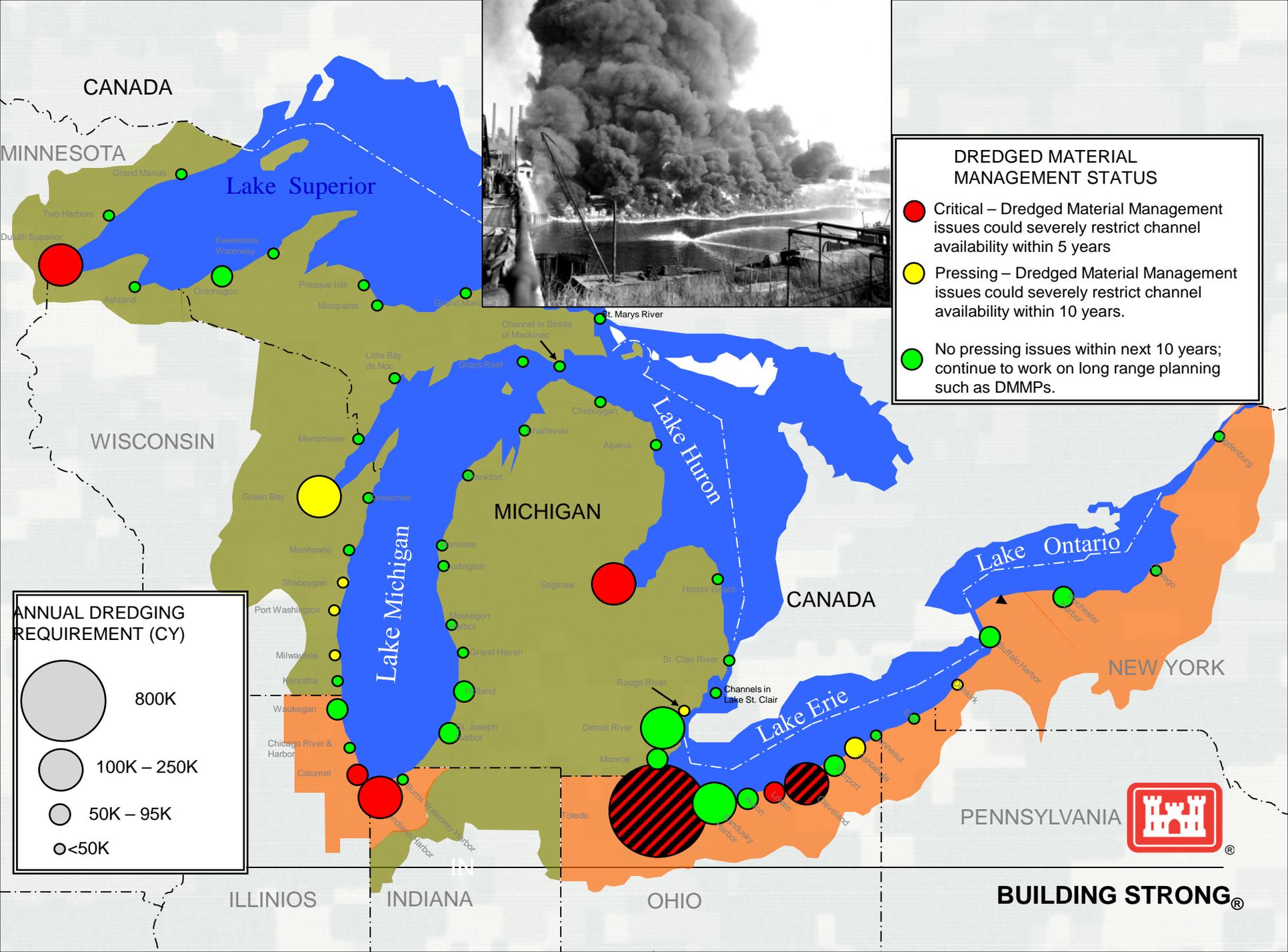
Historical Investments by USACE Functional Category 1928 to 2011



Environmental Program Funding

Inflation-Adjusted (FY 2013 Price Levels) Funding Trends by Business Line, FY01-FY14 (\$ Millions)





DREDGED MATERIAL MANAGEMENT STATUS

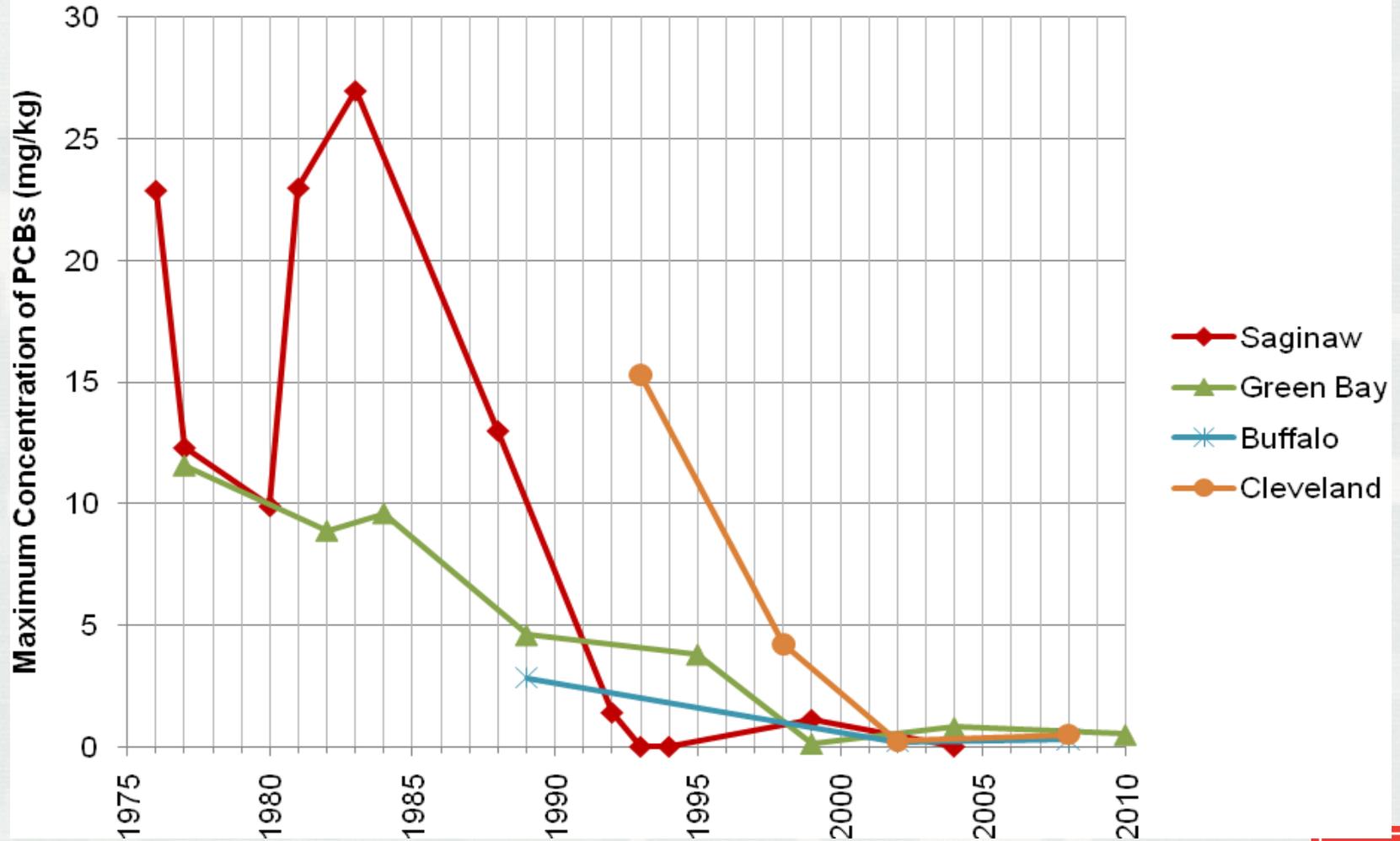
- Critical – Dredged Material Management issues could severely restrict channel availability within 5 years
- Pressing – Dredged Material Management issues could severely restrict channel availability within 10 years.
- No pressing issues within next 10 years; continue to work on long range planning such as DMMPs.

ANNUAL DREDGING REQUIREMENT (CY)

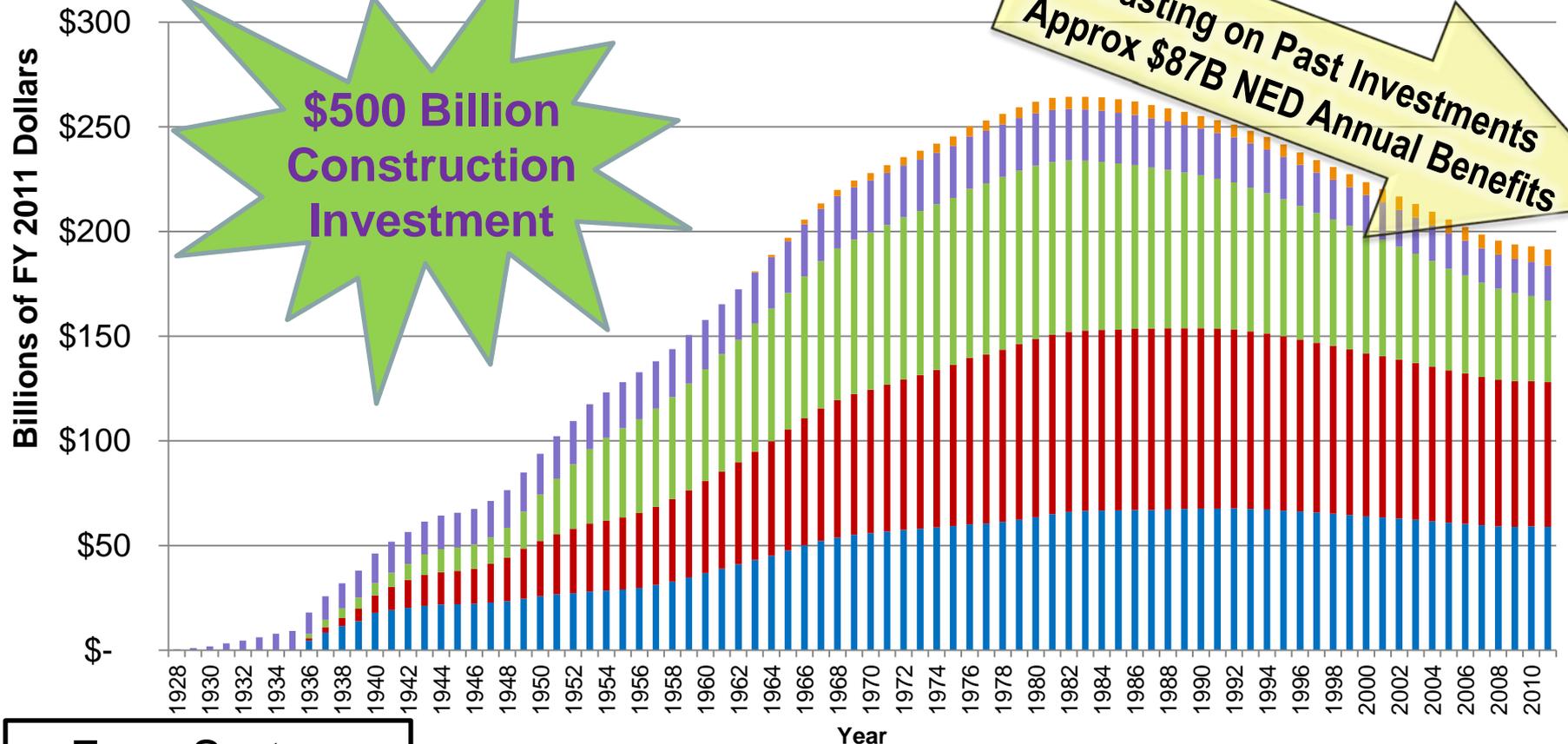
- 800K
- 100K – 250K
- 50K – 95K
- <50K



Great Lakes Harbors Maximum Concentrations of PCBs



USACE Capital Stock Value by Functional Category, 1928 to 2011



From System Build-Out to Benign Neglect

Navigation Flood Multipurpose MRT Dredging



Infrastructure Consequences



2013 Report Card for America's Infrastructure

by the American Society of Civil Engineers

D+

America's
Cumulative G.P.A.

Aviation	D	Ports	C
Bridges	C+	Public Parks & Recreation	C-
Dams	D	Rail	C+
Drinking Water	D	Roads	D
Energy	D+	Schools	D
Hazardous Waste	D	Solid Waste	B-
Inland Waterways	D-	Transit	D
Levees	D-	Wastewater	D

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

Estimated investment needed by 2020 =

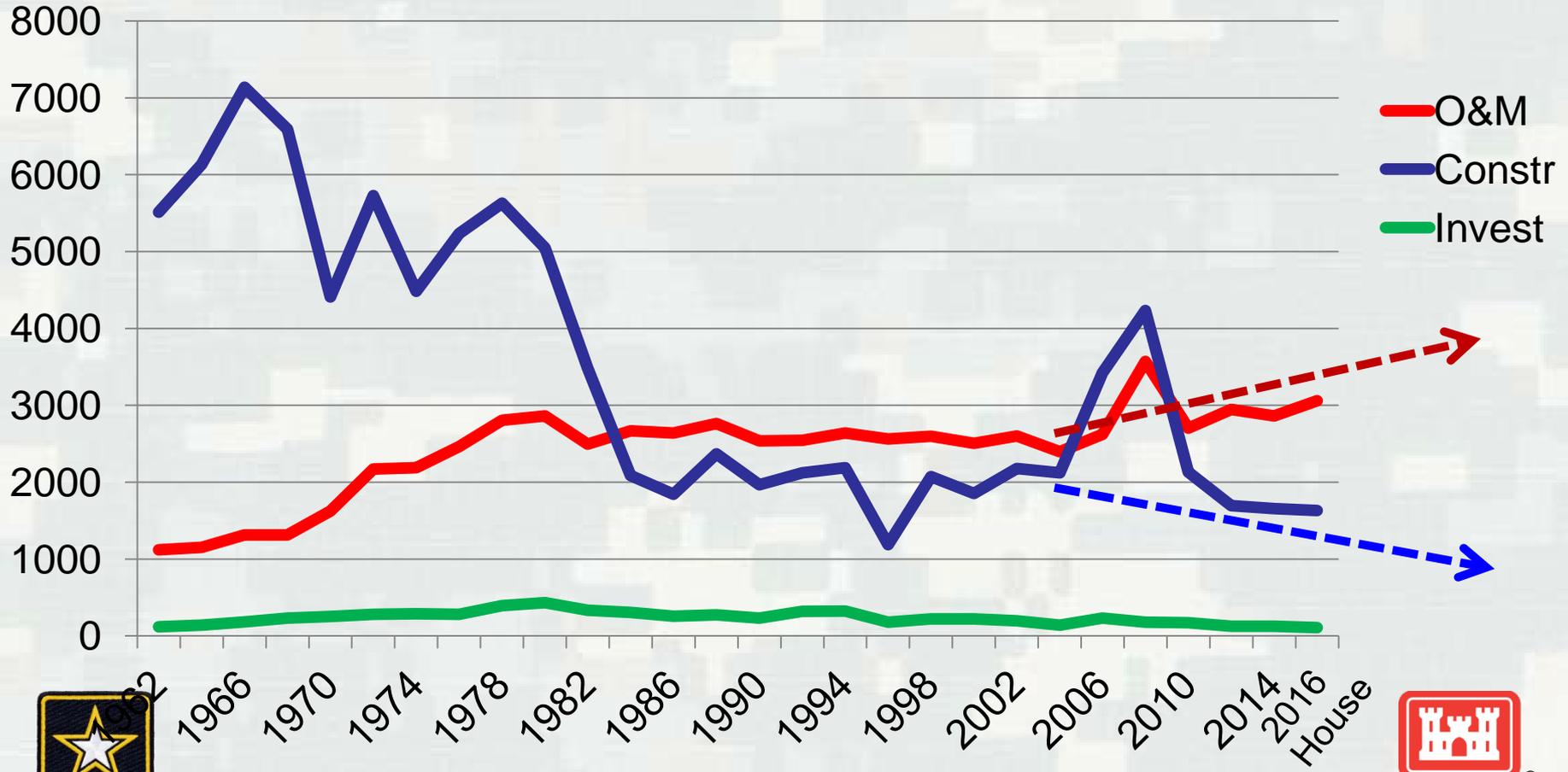
\$3.6 Trillion



BUILDING STRONG®

Long Term Civil Works Funding Trends: Changing the Character of the Corps

Appropriation (\$Million in 2012 \$)



EMERGING GAME CHANGERS – SIX UPHEAVALS:

- ✓ Emerging Global Competitors
- ✓ Escalating Globalization (Trade – Pan Canal)
- ✓ Explosive Agricultural Productivity
- ✓ Shifting Hydrocarbon Production Centers
- ✓ Resurgence of US Manufacturing
- ✓ Climate Change and Sea Level Rise



Civil Works Transformation

VISION: Deliver essential & enduring water resource solutions, utilizing effective transformation strategies

OUTCOME: Achieve a
Balanced and Sustainable
National Civil Works Program
by Improving Performance



BUILDING STRONG®

Transform Civil Works

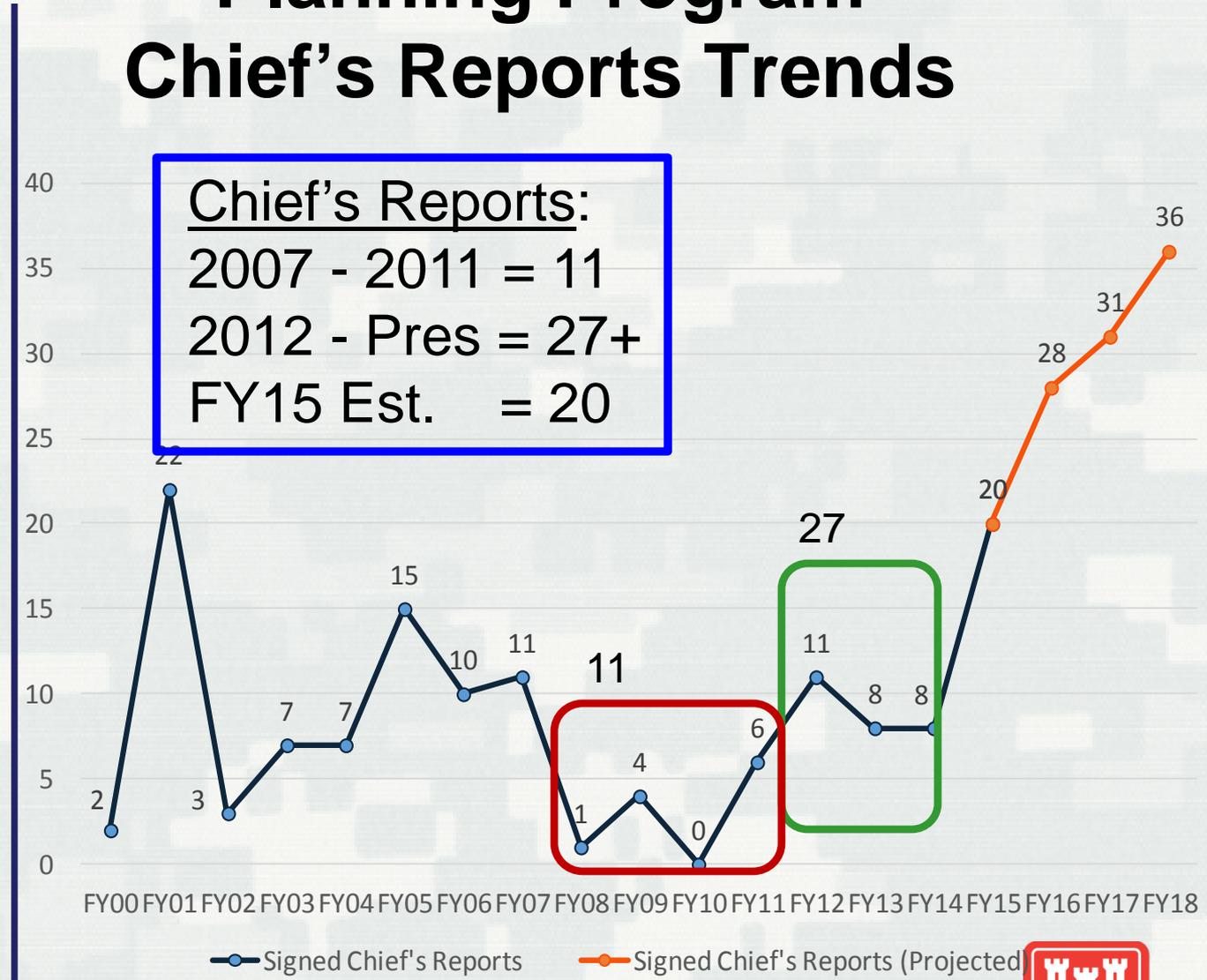
Deliver enduring & essential water resource solutions by applying effective transformation strategies.



Key Influencers:

- **Water Resources Development Acts** -- 1986, 2000, 2007 & 2014 (WRRDA)
- **2002:** Planning Excellence Program
- **2005:** Hurricane Katrina -- Risk
- **2010:** Congressional ban on Earmarks
- **2012:** Planning Modernization:
 - Portfolio Reclass
 - SMART Planning
 - 3x3x3 Rule
- **2015:** Refocus Planning on the FOUR "P's"

Planning Program Chief's Reports Trends



The “Four Ps” of Planning Modernization

Investing in Planner’s Knowledge

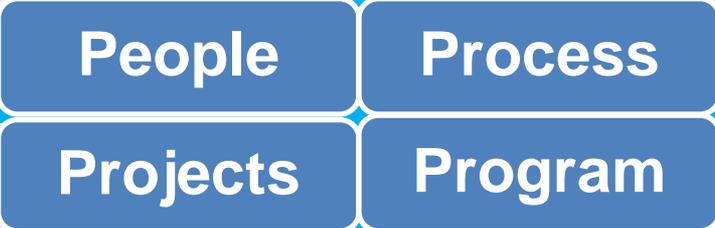
Enhance the capability and competency in the Planning Community

Why: Our People are our future.

SMART Planning and 3x3x3

Improve and develop efficient and cost effective processes for GI and beyond

Why: Deliver a sound investment in infrastructure planning for taxpayers.



Delivering on our Commitments

Deliver timely, cost effective, and high quality products

Why: Plan for the future by addressing the nation’s water most critical water resources needs.

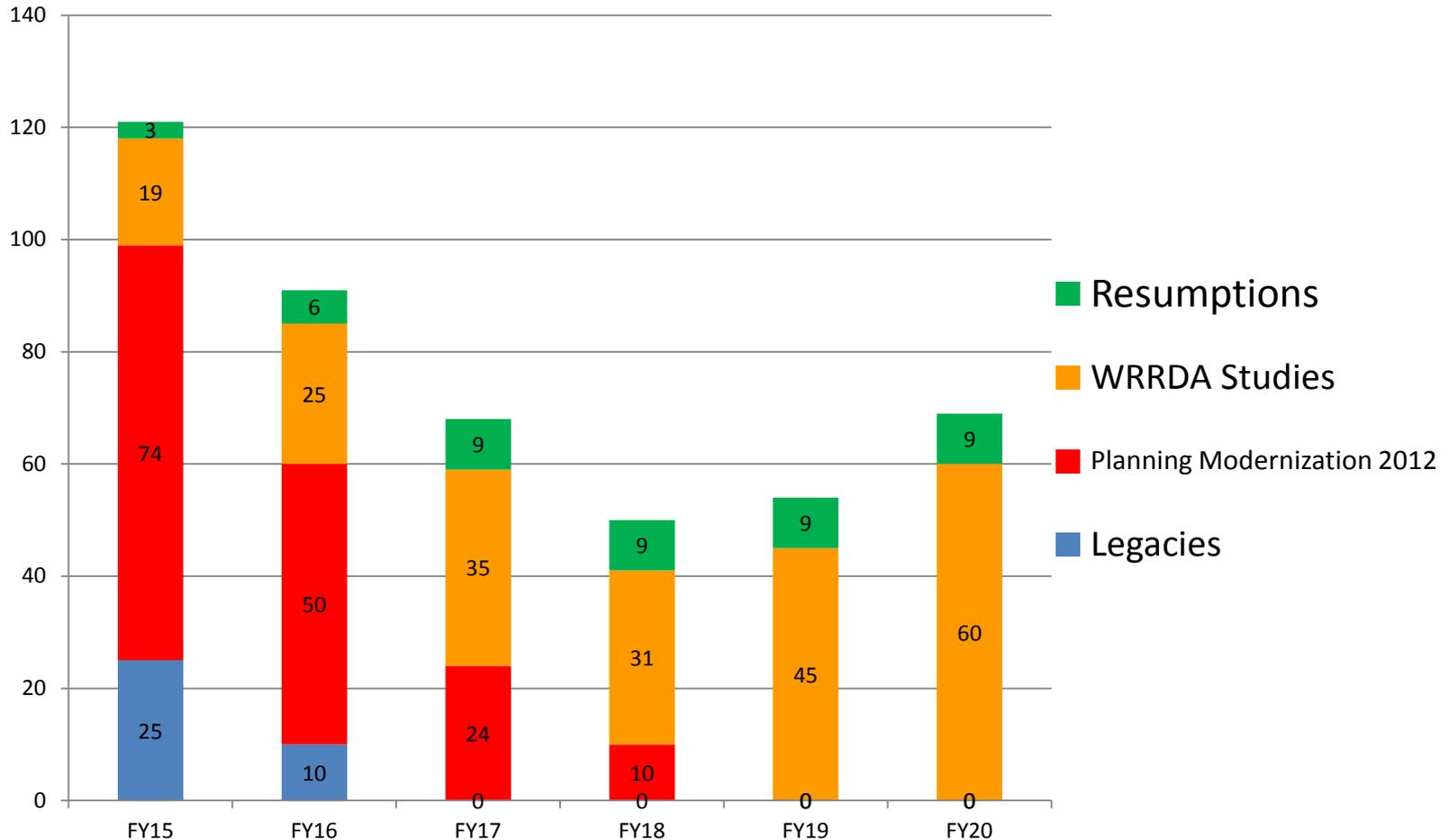
Sustainable for the Nation’s Future Needs

Manage an accountable and responsive Program

Why: Provide the Water Resources Planning experience and expertise unique to the Corps of Engineers.



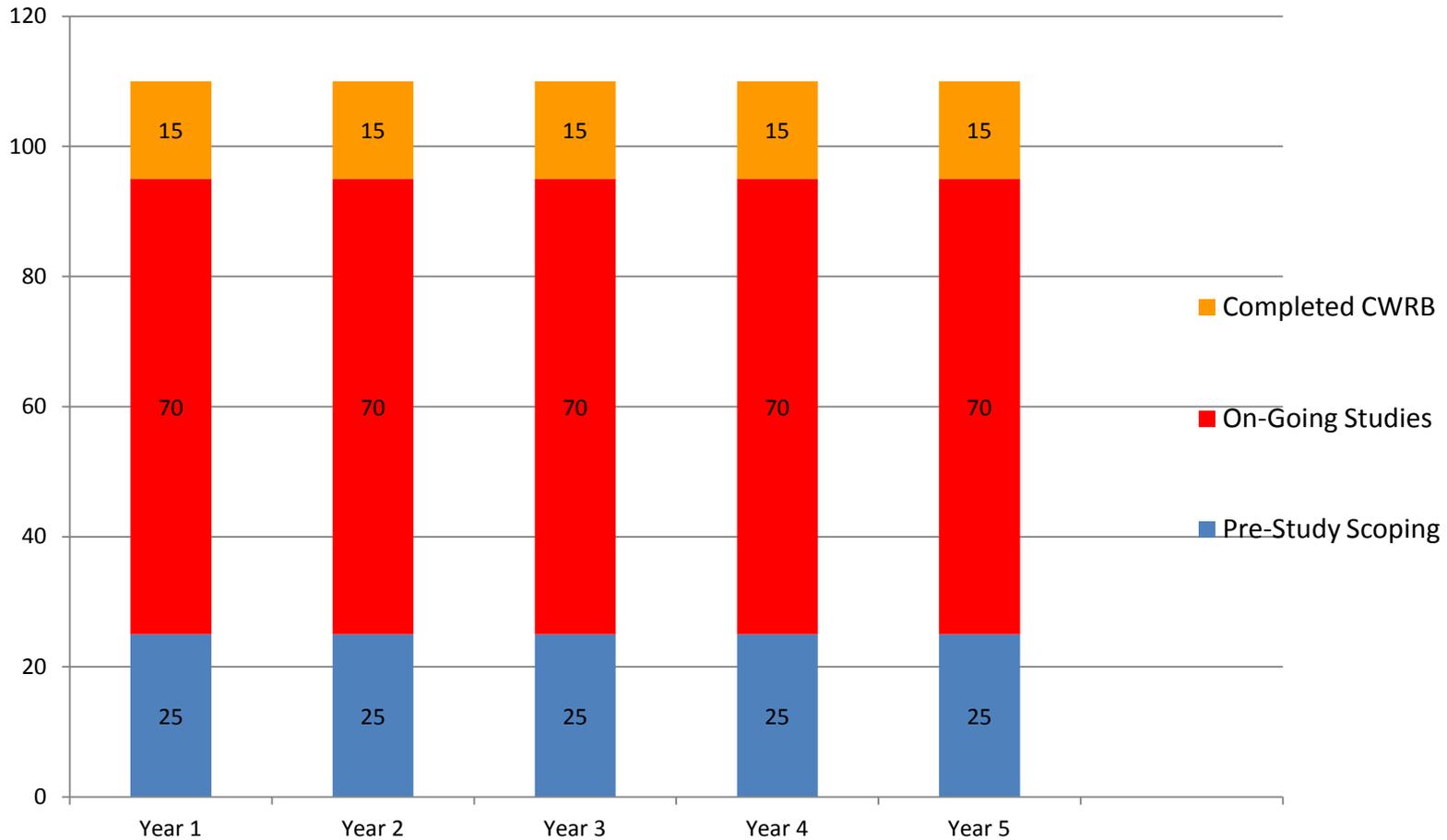
Planning Portfolio Transition



Assumptions:

- Universe is comprised of funded studies
- Studies will be completed within 3 years
- New start ramp up: FY16 (6); FY17 (10); FY18 (15); FY19 (20); FY20 (25)
- Three inactive studies will move to active each year

Planning Portfolio Life Cycle



Steady state 105 Studies

Average 500K a year = \$52.5M

Some "Inevitable" Empires



Egypt



Charlemagne



Napoleon's French Empire



British Empire



Roman Empire



Philip of Macedon

Ming Dynasty



Ottoman Empire



Aztec Empire

Soviet Union



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