

# ***Corps of Engineers Civil Works Challenges and Issues***

*Presentation to  
National Association of Flood &  
Stormwater Management Agencies*

Steven L. Stockton, P.E.  
Director of Civil Works  
U.S. Army Corps of Engineers

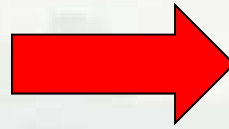
1 November 2011



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



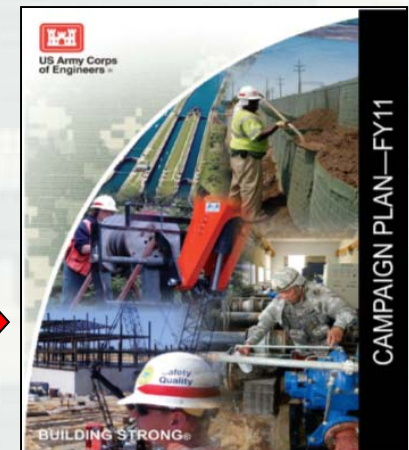
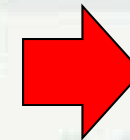
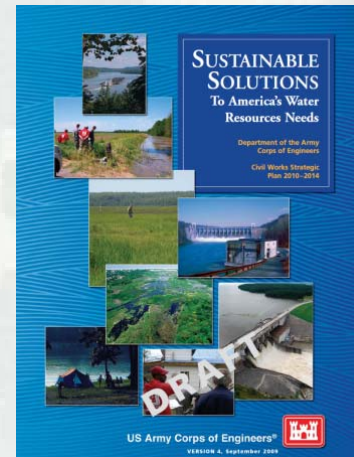
# Challenges



# Strategies

- *Constrained Budgets*
- *Aging Infrastructure*
- *Disaster Preparedness and Response*
- *Increasing Demand for Water*
- *Long Term Economic Recovery*
- *Climate Change*
- *Environmental Values*
- *Declining Biodiversity*
- *Demographic Shifts*
- *Globalization*
- *Principles, Requirements & Guidelines*
- *Levee/Dam Safety*

- **Integrated Water Resource Management**
- **Systems – Based Approach**
- **Risk-Informed Decision Making & Communication**
- **Collaboration & Partnering**
- **Asset Management/Recapitalization**
- **State-of-the Art Technology**



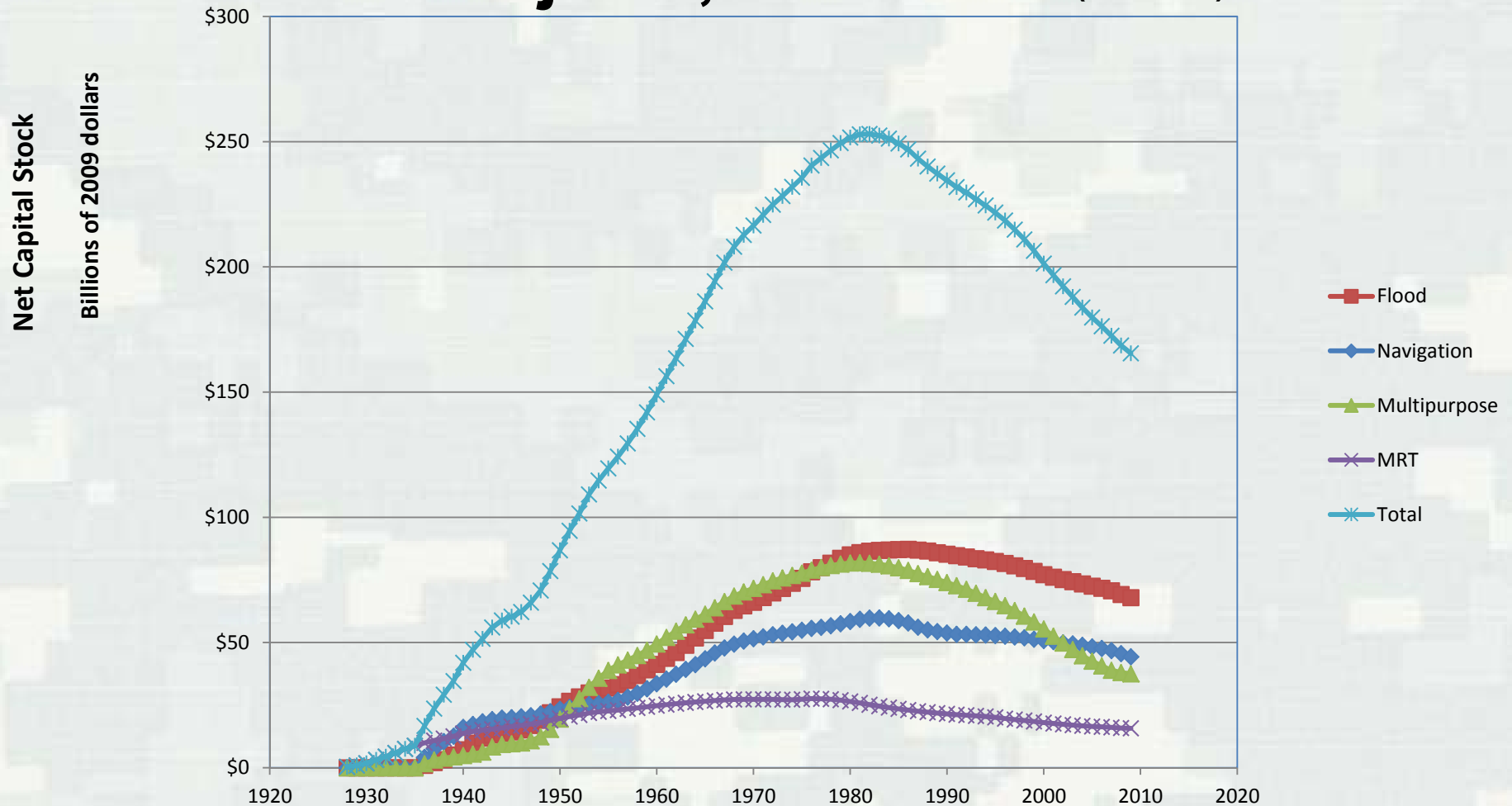
**BUILDING STRONG®**

# FY-12 Civil Works Priorities

- Transforming the Program to Meet 21<sup>st</sup> Century Needs
- Asset Management and Infrastructure Recapitalization
- Flood Risk Management
- Contingency Planning and Response
- Watersheds and Systems
- Knowledge Management
- Regulatory



# Net Capital Stock Estimates of Corps Civil Works Projects, 1928-2009 (in 2009 \$)



The value of the Corps CW's capital stock portfolio has declined from a peak value of ~ \$250 billion in 1983, to ~ \$165 billion today, as new investment & maintenance have not kept pace with depreciation.



# New Paradigm for Budgeting

Currently, insufficient funding is available to sustain the entire program.

Result is that high priority, high performing projects that are taking longer & longer to deliver.

Solutions:

- Finish Projects That We Start
- Focus on Core Mission Areas
- Provide Efficient Funding for Fewer Projects
- Take initiatives to fund, finance and prioritize CW actions, including prioritization and alternative financing vehicles
- Relate Program outputs to National Goals/Objectives



# Methods of Delivery-Path Forward

CW OFFICE	UNDERWAY	PROPOSED
<b>PROGRAMS</b>	<ul style="list-style-type: none"> <li>• Budget/Defend/Manage the Big Programs as Strategic, Multi-Yr Major National Programs</li> <li>• Consider Other Funding Sources                             <ul style="list-style-type: none"> <li>- Nav—Coastal &amp; Inland</li> <li>- Hydro</li> </ul> </li> <li>• Annual CW Budget STRATCOM</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritize 5/20 Years</li> <li>• Link Planning, PED, Construction starts to Strategic Goals</li> <li>• Recapitalization of FRM projects</li> <li>• Risk-based C &amp; S</li> </ul>
<b>POLICY &amp; PLANNING</b>	<ul style="list-style-type: none"> <li>• Centers of Expertise</li> <li>• Planning Pilot Studies</li> </ul>	<ul style="list-style-type: none"> <li>• See Above</li> <li>• Risk-based BCR</li> </ul>
<b>ENGINEERING &amp; CONSTRUCTION</b>	<ul style="list-style-type: none"> <li>• Risk Management Center</li> <li>• Dam Safety Center</li> <li>• Inland Locks &amp; Dams Center</li> </ul>	<ul style="list-style-type: none"> <li>• Link Acquisition Strategy to Design &amp; Construction</li> </ul>
<b>OPERATIONS &amp; MAINTENANCE</b>	<ul style="list-style-type: none"> <li>• Asset Management</li> </ul>	<ul style="list-style-type: none"> <li>• Deauthorize Projects</li> </ul>
<b>R&amp;D</b>	<ul style="list-style-type: none"> <li>• Strategic Plan</li> <li>• Portfolio Management</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on saving \$ in big programs</li> </ul>

# Civil Works: Principles, Requirements and Guidelines

- Rules that govern Federal agency evaluation of water resource projects
- Revised concepts under consideration:
  - ▶ Achieve co-equal goals (environment, economy)
  - ▶ Consider monetary and non-monetary effects
  - ▶ Avoid unwise use of floodplains
  - ▶ Consider non-structural measures
  - ▶ Increase transparency



# ***P, R & G* Revision - Looking Forward**

- CEQ continues to lead the process
- Applicability to more agencies & activities
- Awaiting release of the new *P, R & G* as final
  - Draft interagency guidelines will then be published for public comment
  - Agency-specific guidance to follow issuance of Guidelines
- Corps will continue delivering water resources products that improve the economy and the environment



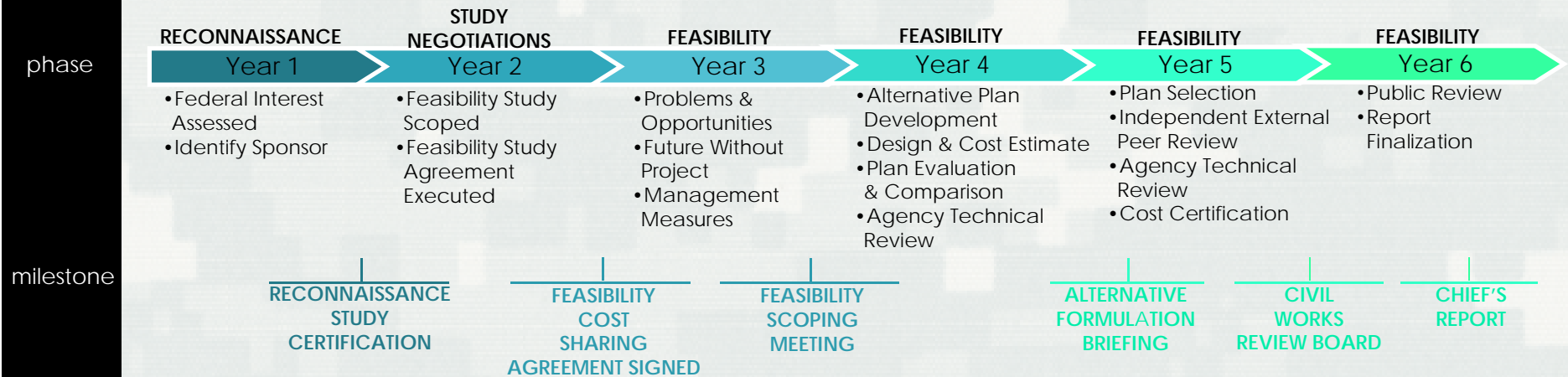
# Paradigm for Future Planning

- Single phase Study Process with clearly defined decision points
- Actionable and concise decision documents
- Quality engineering, economics, and environmental analysis (NEPA)
- Identifies areas of risk and uncertainty
- Pilots selected to give a degree of consistency that is adaptable and scalable
- Consistent with emerging concepts of revised PR&G
- Completed in 18 months (a target goal)

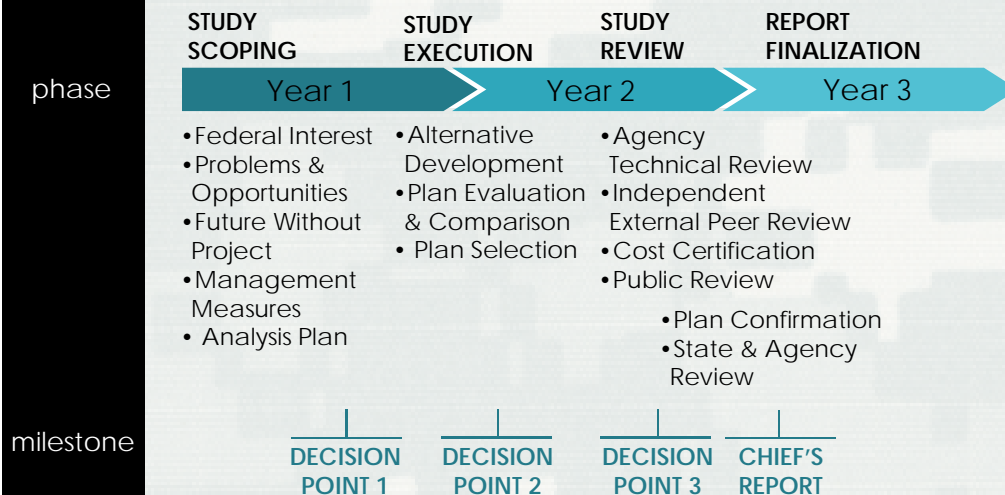


# NEW PARADIGM: PREAUTHORIZATION STUDY PROCESS

## CURRENT PLANNING PROCESS: 6+ YEARS (approximate timeframes)



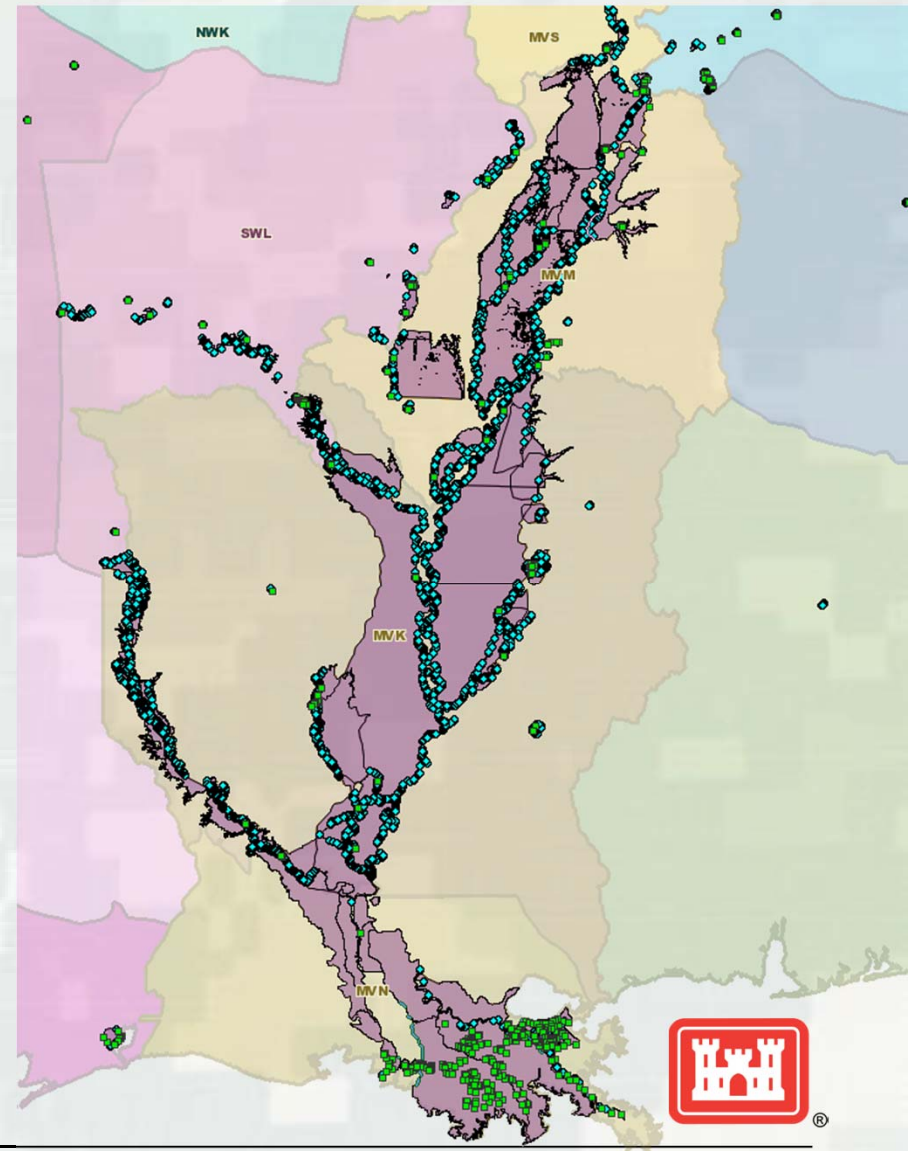
## REVISED PLANNING PROCESS: 2 YEAR (approximate timeframes)



The revised process consolidates key decisions into the early part of the study process, allowing for more clear scoping and focused attention on relevant details. It integrates early decision making with more flexible analysis and emphasizes focused risk management strategies.

# National Levee Database

- Focal point for comprehensive information about nation's levees.
- Information to facilitate and link activities such as flood risk communication, levee system evaluation for the National Flood Insurance Program, system inspections, flood plain management, risk assessments.
- Ongoing effort to add levee data from federal agencies, states, and tribes.
- **Currently available in NLD:**
  - Most levees in USACE Levee Program
  - Reports on levees by state, zip code, or address
  - Federal database resources such as National Weather Service
  - Feedback link for your comments
  - <http://nld.usace.army.mil>



# Clean Water Act Jurisdiction

- Draft guidance issued for public comment on May 2, 2011
  - Included economic analysis to evaluate implementation costs
- Addresses all Clean Water Act programs
- Comment period ended July 31, 2011
- ~ 300,000 comments received
- Corps and EPA are evaluating comments
- Corps and EPA are also preparing a proposed rule to define “waters of the United States”
  - Will use guidance comments to assist drafting of proposed rule



# Climate Change & Water Working Group (C-CAWWG)

- Purpose: A federal interagency workgroup providing scientific collaborations in support of water management as climate changes.
- Action: Developing and implementing a multi-agency research and knowledge transfer agenda that spans the hydrologic cycle and is driven by water management and planning decisions.



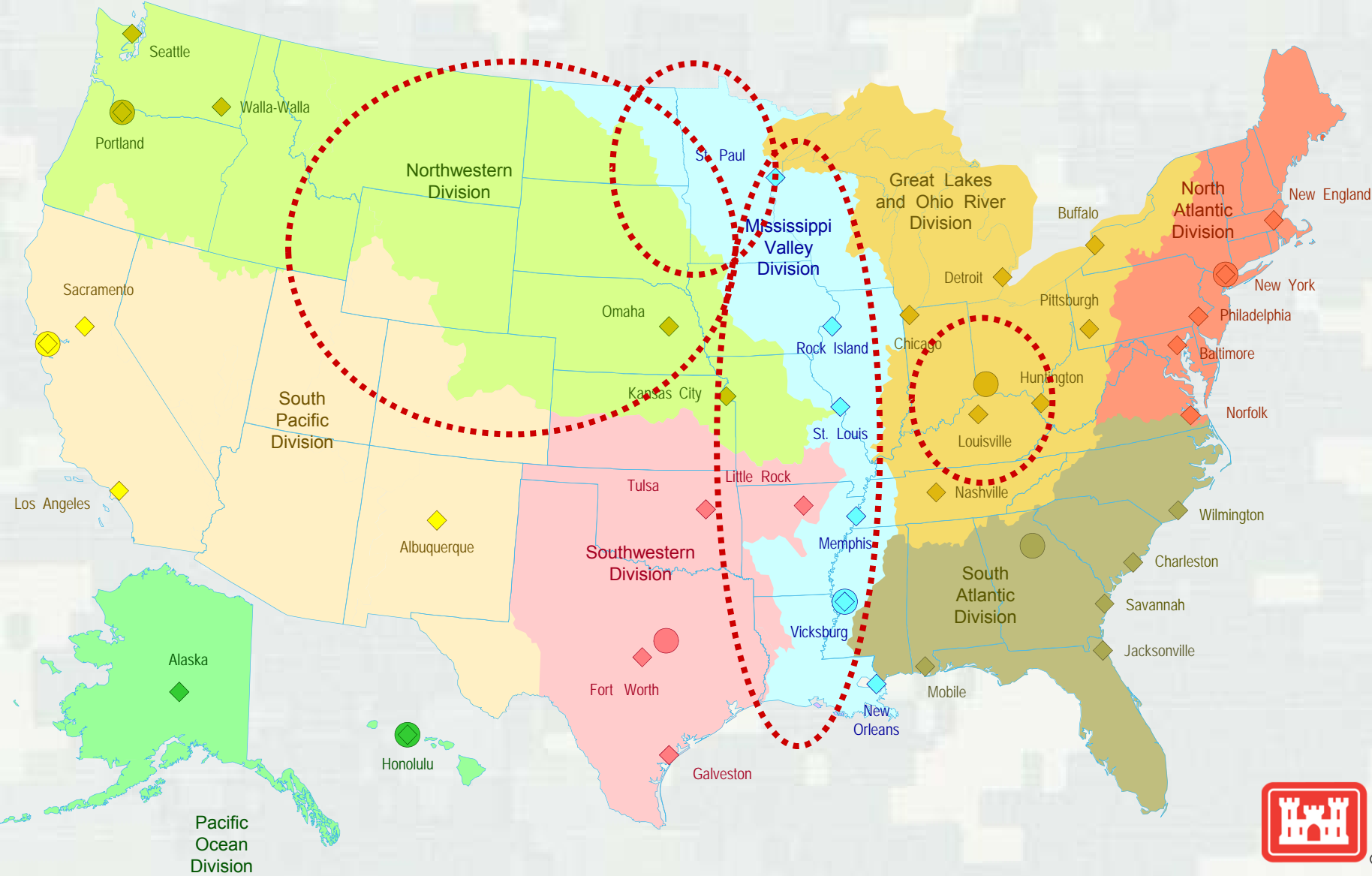
# Actions for a Climate Resilient Nation

Specific recommendations for Federal agencies are:

- 1) Establish a planning process to adapt water resources management to a changing climate;
- 2) Improve water resources and climate change information for decision-making;
- 3) Strengthen assessment of vulnerability of water resources to climate change;
- 4) Expand freshwater use efficiency;
- 5) Support integrated water resources management; and
- 6) Support training and outreach to build capability to adapt to climate change.



# Floods of 2011



# Mississippi River & Tributaries Project



- 35,000-square-mile flood plain
- \$13.6 billion invested
- \$370.3 billion in flood damages prevented
- 27 to 1 return on investment
- 4 million people protected



# MR&T Project in 2011 Flood

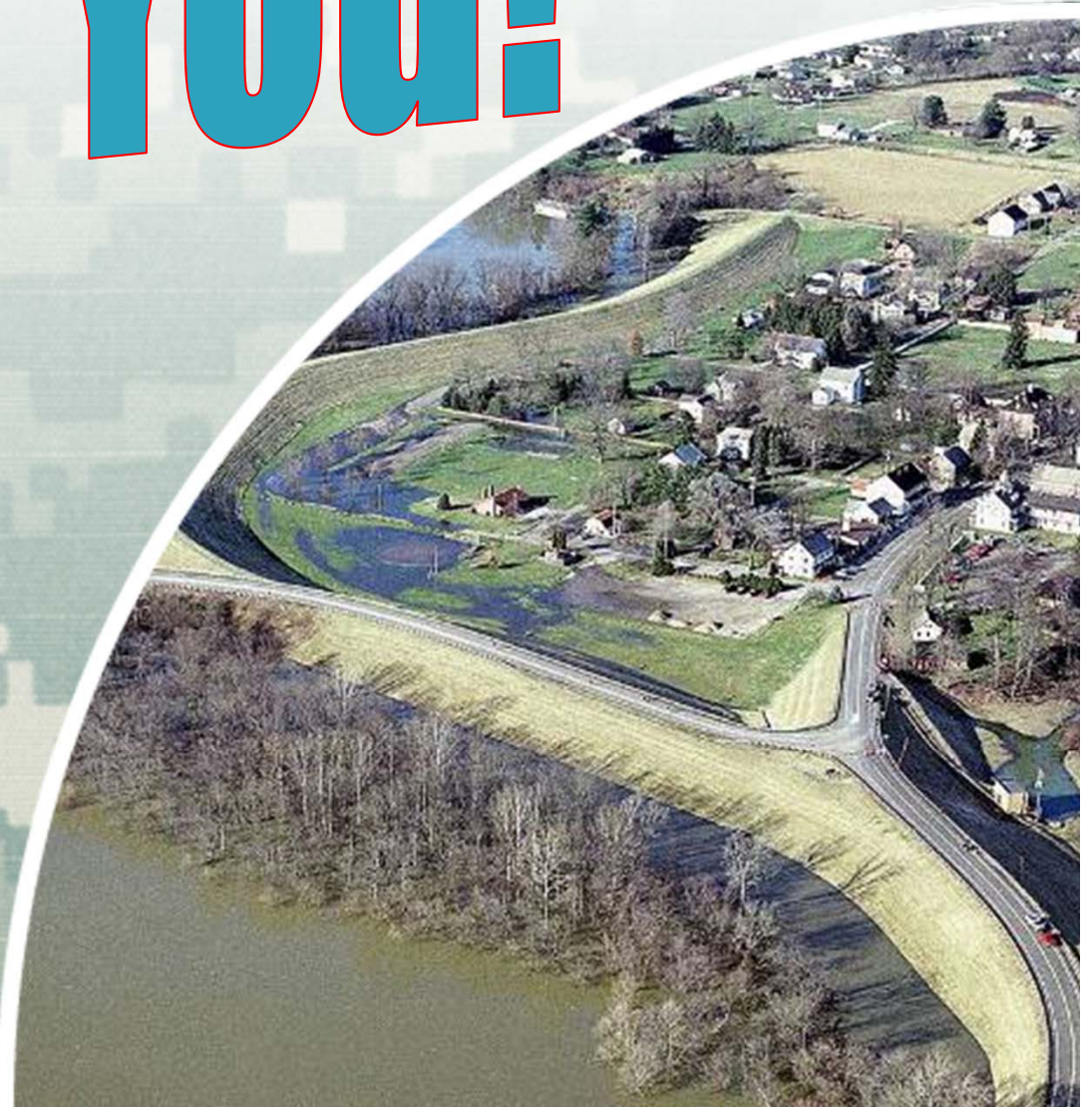
- SYSTEM PERFORMED AS DESIGNED
- First time four floodways operated in synchronized manner to manage highest water level ever seen
- Value of investment measured by what we haven't lost: lives, communities, critical industry and infrastructure
  - More than four million people live or work behind the MR&T system
- Prevented flooding of over 9.8 M acres (residential & commercial) and damages in excess of \$60 B
- Interagency Recovery Task Force
  - Forum to shape and prioritize regional recovery
  - Includes 14 federal agencies and 8 states
- Response Recovery Framework
  - Emergency repairs, operational assessment and repairs, long term functionality and recovery

# Thank You!



®

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



# Restoring the MR&T

- USACE first used \$46.6 million available within Flood Control & Coastal Emergencies account for immediate flood fighting.
- Since May, 2011, ASA(CW) has exercised emergency authority to transfer funds from other appropriation accounts to FCCE.
- To date, four transfers totaling \$212 million, allowed Corps to begin addressing highest priority life and safety repair requirements.
- Corps districts, working with non-Federal sponsors, are inspecting damaged projects and preparing assessments reports.
- Corps has set up a rigorous process at HQ for technical experts to examine and prioritize requirements based on risk to life and safety, among other parameters, to make the best use of available funds.
- ASA(CW) may have to authorize additional transfer of funds from other Corps accounts to the FCCE to address ongoing emergency needs.