

Southwestern Division “Pacesetters”

Collaboration with State Water Planning
Agencies Water Reuse Panel

*For 15th Annual Transportation &
Infrastructure Summit*

Brigadier General Thomas W. Kula
Southwestern Division
U.S. Army Corps of Engineers

15 August 2012



US Army Corps of Engineers
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Southwestern Division

Major Mission Areas

Civil Works



Military Programs



International &
Interagency Service



Civil Works Mission Areas

Little Rock District's MV Ted Cook positions the Crane Barge Mike Hendricks at Dam 2 during the flood of 2011

Navigation (Inland)
2 major waterways
(GIWW and MKARNS)

Hydroelectric Power

- 18 power plants in 6 states produce 6.7 billion kw hours
- 87% of regional capacity, second in the Corps



Bull Shoals Powerhouse, Arkansas

Recreation

- 20 percent of the Corps' total recreation projects located within the regional boundary
- 83 million visitors at 90 operating projects located in five states



Moonshine Beach, Table Rock Lake, Mo.

Navigation (Ports and Channels)

- 4 of the Nation's "Top Ten" ports
- 32 channels (15 deep draft, 17 shallow draft)
- More than 500 M tons of commerce annually



Houston Ship Channel



Sardis Dam, Oklahoma

Water Supply

- 8.4 million acre-feet of water storage
- Water control contracts = water for 39 million households



Dallas Floodway

Flood Damage Reduction

- 74 flood damage reduction lakes/reservoirs
- 33.22M acre-feet of flood storage
- 760 miles of local flood protection projects
- \$85 B in cumulative flood damage prevention

Regulatory (work in waters & wetlands)

- Over 5000 permit decisions annually
- Protection of waters & wetlands

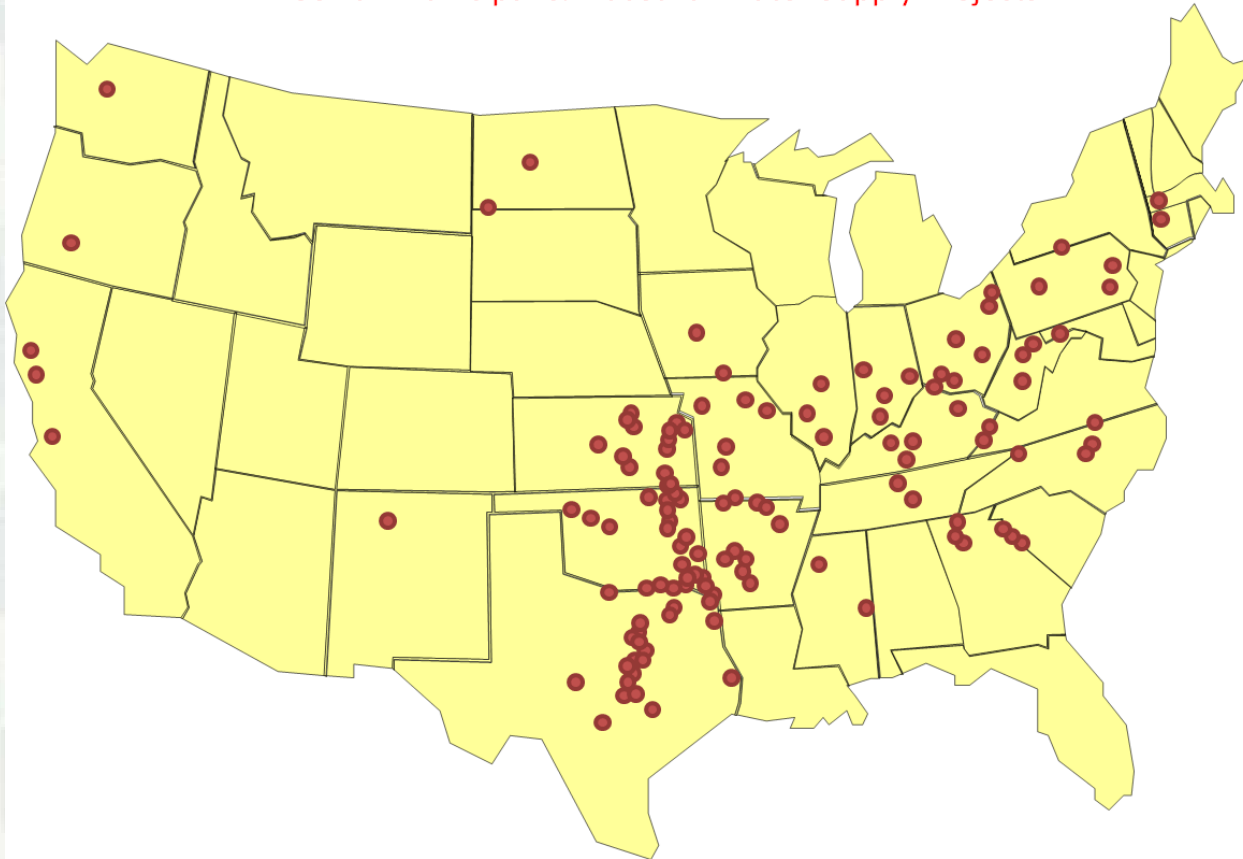
Regulators examine soils on a wetland delineation field visit.





2011 M&I Water Supply Database

USACE Municipal & Industrial Water Supply Projects



**Municipal & Industrial
Water Supply**
134 Projects
335 Agreements
10.7 Million AF of
Storage Space
96% under contract
\$1.5 Billion Investment Cost



Water Supply in the Southwestern Division

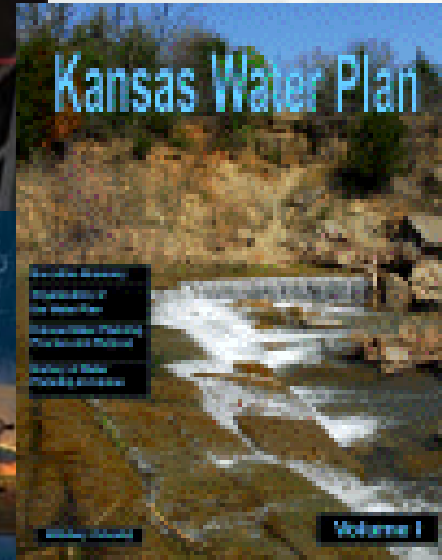
- The Corps is the single largest water supplier in the region:
 - ▶ SWD reservoir projects currently contain **8.4 million** acre-feet of storage for municipal, industrial and agricultural use.
 - 36% of the potable water for Texas
 - 35% of the potable water for Oklahoma
 - 20% of the potable water for Kansas

“Water, not oil, is the lifeblood of Texas...” – James Michener in *Texas: A Novel*

Interactions with State Water Agencies

A Strategic Alliance

- Strong History of Regional Water Planning
- Founded on State Water Plan and Corps technical and planning assistance
- Guided by integrated water resources management principles
- Made vibrant through the grass roots support
- Recently engaged by ASA (CW)



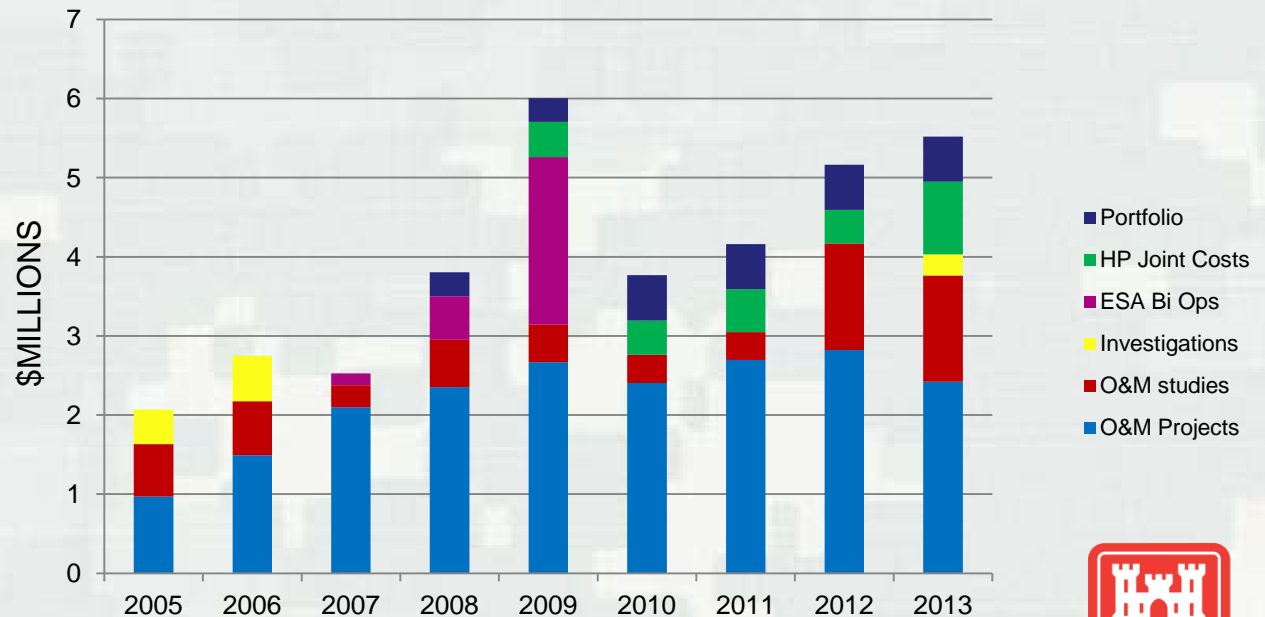
2011 & 2012 Regional Water Planning Summit

- Initiated with states to re-energize collaborative efforts
- Messages and needs from the states:
 - ▶ Water supply needs to be a higher priority for Corps
 - ▶ Streamlining Corps funding processes
 - ▶ Involve the States in establishing the Corps future strategies for infrastructure investment
 - ▶ Streamline the Corps' 404 permitting process

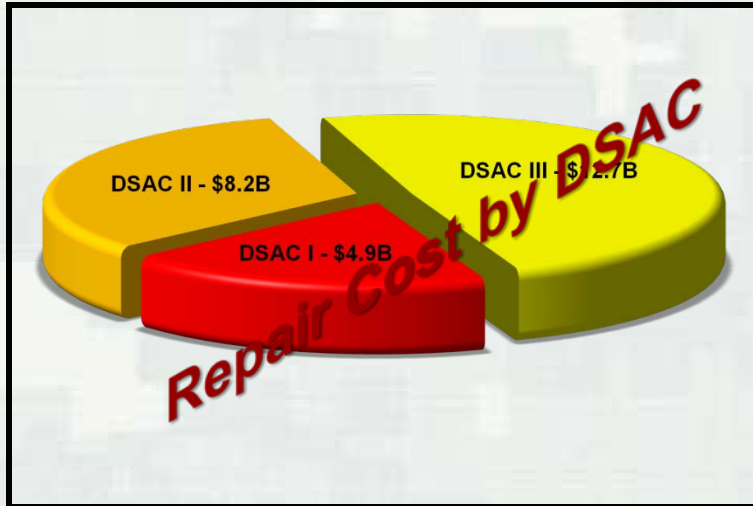


Water Supply Challenges

- Limited Annual Funding Levels
- Aging Infrastructure
- Regulatory Challenges

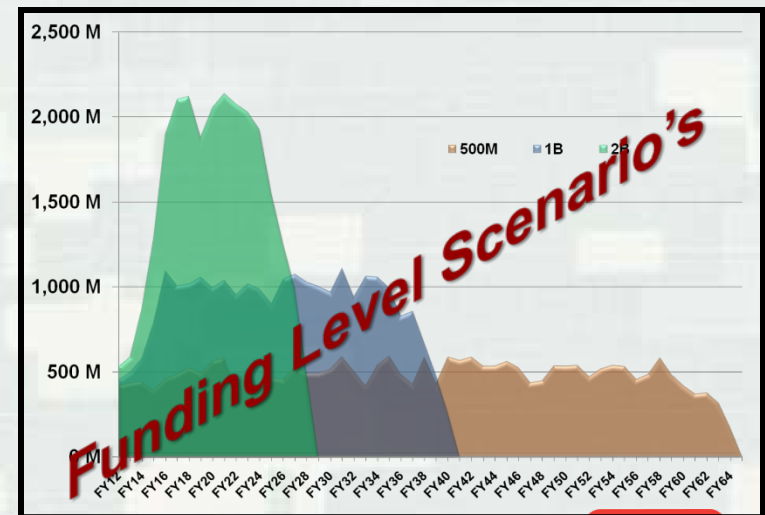


National Dam Safety Program Facts



Project No.	Project Name	Phase	Duration	Start	Finish	Budget	FY12	FY13	FY14	FY15	FY16	FY17
FL36001 R1	HERBERT HOOVER DIKE REACH	Study	0	FY12	FY12	-	0.0 M	-	-	-	-	-
FL36001 R1	HERBERT HOOVER DIKE REACH	PED	0	FY12	FY12	-	0.0 M	-	-	-	-	-
FL36001 R1	HERBERT HOOVER DIKE REACH	Implementation	3	FY12	FY14	345,100,085	115.0 M	115.0 M	115.0 M	-	-	-
TN04102	CENTER HILL DAM	Study	0	FY12	FY12	-	0.0 M	-	-	-	-	-
TN04102	CENTER HILL DAM	PED	0	FY12	FY12	-	0.0 M	-	-	-	-	-
TN04102	CENTER HILL DAM	Implementation	5	FY12	FY16	167,415,374	33.5 M	33.5 M	33.5 M	33.5 M	33.5 M	-
MO30203	CLEARWATER DAM	Study	0	FY12	FY12	-	0.0 M	-	-	-	-	-
MO30203	CLEARWATER DAM	PED	0	FY12	FY12	-	0.0 M	-	-	-	-	-
MO30203	CLEARWATER DAM	Implementation	5	FY12	FY16	29,389,275	5.9 M	5.9 M	5.9 M	5.9 M	5.9 M	-
KY03010	WOLF CREEK	Study	0	FY12	FY12	-	0.0 M	-	-	-	-	-
KY03010	WOLF CREEK	PED	0	FY12	FY12	-	0.0 M	-	-	-	-	-
KY03010	WOLF CREEK	Implementation	5	FY12	FY16	218,565,506	43.7 M	43.7 M	43.7 M	43.7 M	43.7 M	-
OK10316	CANTON LAKE	Study	0	FY12	FY12	-	0.0 M	-	-	-	-	-
OK10316	CANTON LAKE	PED	0	FY12	FY12	-	0.0 M	-	-	-	-	-
OK10316	CANTON LAKE	Implementation	3	FY12	FY14	67,225,000	22.5 M	22.5 M	22.5 M	-	-	-
OH00003	DOVER DAM	Study	0	FY11	FY11	-	0.0 M	-	-	-	-	-
OH00003	DOVER DAM	PED	0	FY11	FY11	-	0.0 M	-	-	-	-	-
OH00003	DOVER DAM	Implementation	4	FY11	FY15	10,636,689	10.2 M	10.2 M	10.2 M	-	-	-
TX00018	ADDICKS DAM	Study	2	FY11	FY12	2,621,692	1.3 M	-	-	-	-	-
TX00018	ADDICKS DAM	PED	1	FY13	FY13	952,917	-	1.0 M	-	-	-	-
TX00018	ADDICKS DAM	Implementation	2	FY11	FY15	5,994,326	-	-	3.0 M	3.0 M	-	-
TX00019	BARKER DAM	Study	2	FY11	FY12	2,660,867	1.3 M	-	-	-	-	-
TX00019	BARKER DAM	PED	1	FY13	FY13	389,380	-	0.4 M	-	-	-	-
TX00019	BARKER DAM	Implementation	1	FY14	FY15	2,159,562	-	-	1.1 M	1.1 M	-	-
AK00085	MOOSE CREEK DAM	Study	2	FY11	FY12	1,553,806	0.8 M	-	-	-	-	-
AK00085	MOOSE CREEK DAM	PED	3	FY13	FY15	27,615,757	-	-	-	-	-	-
AK00085	MOOSE CREEK DAM	Implementation	6	FY16	FY21	626,953,336	-	9.2 M	9.2 M	9.2 M	-	-
CA10106	ISABELLA DAM	Study	2	FY11	FY12	3,872,061	1.9 M	-	-	-	-	-
CA10106	ISABELLA DAM	PED	4	FY13	FY16	33,076,822	-	8.3 M	8.3 M	8.3 M	-	-
CA10106	ISABELLA DAM	Implementation	5	FY17	FY21	375,401,171	-	-	-	-	-	75.1 M
CA10108	MARTIS CREEK DAM	Study	3	FY12	FY14	3,814,156	1.3 M	1.3 M	1.3 M	-	-	-
CA10108	MARTIS CREEK DAM	PED	4	FY15	FY18	24,214,027	-	-	-	6.1 M	6.1 M	6.1 M
CA10108	MARTIS CREEK DAM	Implementation	5	FY19	FY23	246,820,776	-	-	-	-	-	-
MA00972	WEAVER DAM	Study	2	FY11	FY12	2,522,242	1.3 M	-	-	-	-	-
MA00972	WEAVER DAM	PED	2	FY13	FY14	4,011,675	-	2.0 M	2.0 M	-	-	-
MA00972	WEAVER DAM	Implementation	1	FY15	FY15	32,526,623	-	-	-	32.5 M	-	-
WA00298	HOWARD A HANSON DAM	Study	0	FY12	FY12	-	0.0 M	-	-	-	-	-
WA00298	HOWARD A HANSON DAM	PED	2	FY12	FY13	2,857,736	1.4 M	1.4 M	-	-	-	-
WA00298	HOWARD A HANSON DAM	Implementation	5	FY14	FY18	365,481,656	-	-	73.1 M	73.1 M	73.1 M	73.1 M

- ~ \$26 Billion Investment to Repair 319 DSAC I, II & III Dams
- Funding Scenario's to Complete Investment:
 - \$500M / year – 55 years (current)
 - \$1B / year – 30 years
 - \$2B / year – 18 years
- Large Investments not Evenly Distributed within Agency



Southwestern Division Dam Safety Workload...

Number of Dams at Risk

	DSAC 1	DSAC 2	DSAC 3	
Fort Worth	0	6	7	13
Little Rock	1	0	5	6
Tulsa	1	5	10	16
Galveston	2	0	0	2
	4	11	22	

**TOTAL
= 37**



Potential Impacts on Projects

- Short term impacts due to IRRM, i.e. –
pool restrictions
 - ▶ Hydropower
 - ▶ Water supply
 - ▶ Navigation
 - ▶ Flood Damage Reduction
 - ▶ Recreation
- Planning for reallocation to Municipal & Industrial water supply
- Sponsor incurs costs related to dam safety and related Rehabilitation of existing infrastructure



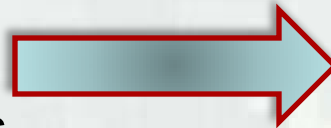
Regulatory Program Challenges

Water Supply Projects



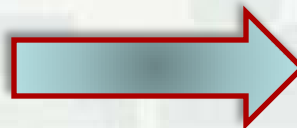
Information Needed for Permitting
Regional Water Plan vs. Permit Requirements

Invasive Species
Transfer prevention measures



Mitigation

- Effective / Long Lasting
- Adequate
- Available
- Affordable



Final Thoughts

- We are continuing to look for opportunities to better align federal and state efforts in support of state water planning efforts.
- Need for a water resources vision to drive national direction
- The future is ours to change!





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Questions?

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Support for State Water Planning

- Regulatory Program coordination
 - ▶ Texas Environmental Resource Stewards (TERS)
 - ▶ Education Workshops (process flowchart)
 - ▶ Collaboration with TWDB on water plan
- Funding Strategies
 - ▶ Establishment of performance based budget criteria
 - ▶ Increased funding levels for assessments of existing projects to ensure we're best serving present needs
 - ▶ Focus on technical assistance
- Operational measures
 - ▶ Update and implement contracts and drought contingency plans
 - ▶ Perform critical OMRR&R to maintain conservation storage at our projects

