THE CORPS OF ENGINEERS WATER MANAGEMENT & INVESTMENT IN INFRASTRUCTURE

Military

Multipurpose Reservoirs

Hydropower

Interagency and International Support

MKARNS

COL Chris Hussin

Commander Tulsa District

7 November 2017

Tulsa District

"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

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Civil Works Mission Areas

Water Supply
- 60% of Corps water supply contracts
- 27 lakes, 140 water supply customers
- 2.2 million people served

Tenkiller Lake

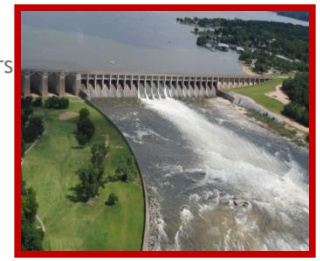
Water Quality
- Enhances municipal, industrial, irrigation usage
- Protects endangered species
- Improves degraded streams

Red River Chloride, Area VI

Webbers Falls Turbine

Hydroelectric Power
- 8 power plants produce 585,000 kw capacity
- Generates power to 8 million customers

Flood Risk Management
- 38 Corps dams + 12 others
- 15,950,000 acre feet of flood storage
- Arkansas River Basin: $18.4B in cumulative flood damage reductions
- Red River Basin: $5.2B in cumulative flood damage reductions



Grand Lake

Hawthorn Bluff Beach, Oologah Lake

Recreation
- 267 recreation areas at 33 projects
- 22.5 million visitors

Inland Navigation (MKARNS)
- 5 locks & dams
- 3 major ports

Environmental Stewardship
- 1.1 million acres of Federal Land
- 660,000 acres of wildlife management areas

Tenkiller Low Flow Pipe and SDOX

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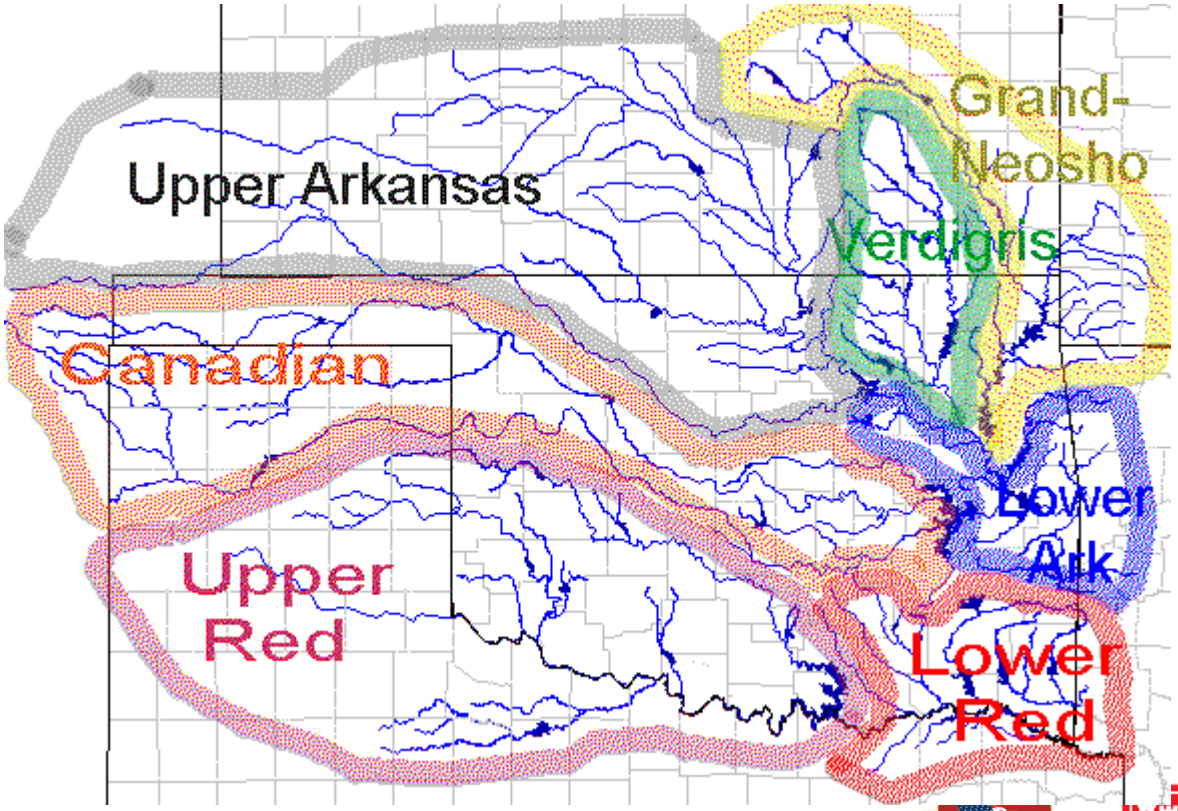
Tulsa District Water Management in Kansas

- 8 Projects
  - 1 in the Upper Arkansas Basin
  - 4 in the Verdigris Basin
  - 3 in the Grand-Neosho Basin
- 1 Section-7 lake (owned by others)

- 4 lakes with gated spillways
- 4 lakes with uncontrolled spillways
- 1 Section-7 lake has uncontrolled spillway



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WATER MANAGEMENT MISSION

Operate and manage the District's system of reservoirs in accordance with authorized purposes, using approved plans to maximize benefits while minimizing damages and protecting the general safety of the public.

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AUTHORIZED PURPOSES

Generally fall into the following categories:

Flood Risk Management
Navigation
Hydroelectric Power
Water Supply
Fish and Wildlife
Water Quality
Irrigation
Recreation

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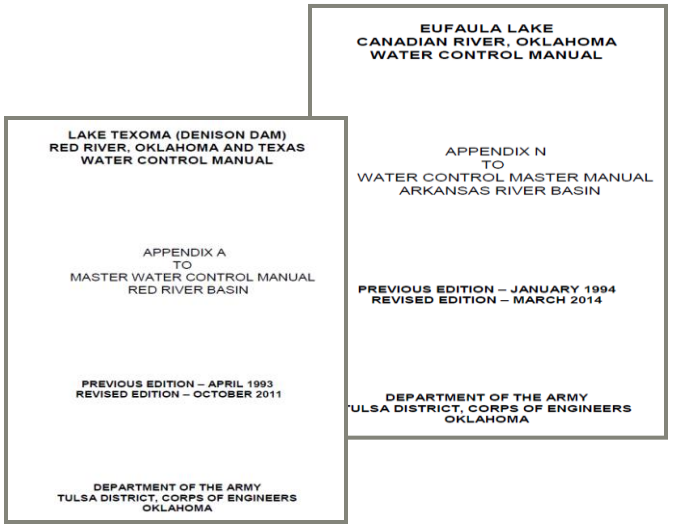
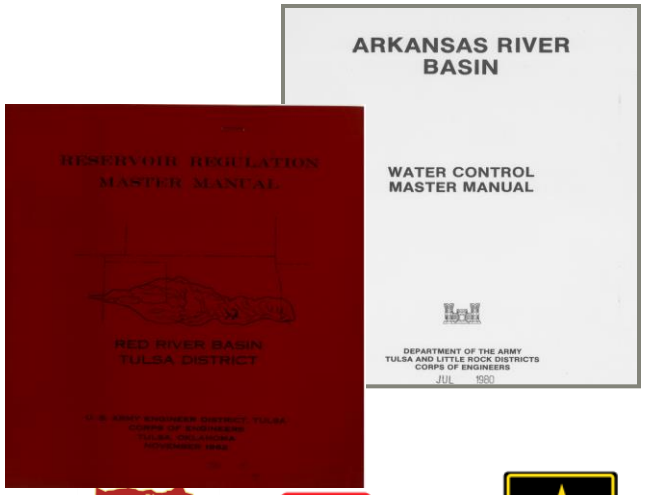
Water Control Plans

- Each reservoir has a water control plan
- Many reservoirs are part of a system water control plan
  - **Arkansas River Basin**
  - **Red River Basin**
- The system water control plans attempt to balance the percent of storage contained in individual project flood pools
- Chapter VII – Water Control Plan
  - How to operate the project
  - DS regulating stages
  - How the lake manager should operate the project if they lose communication with the district office





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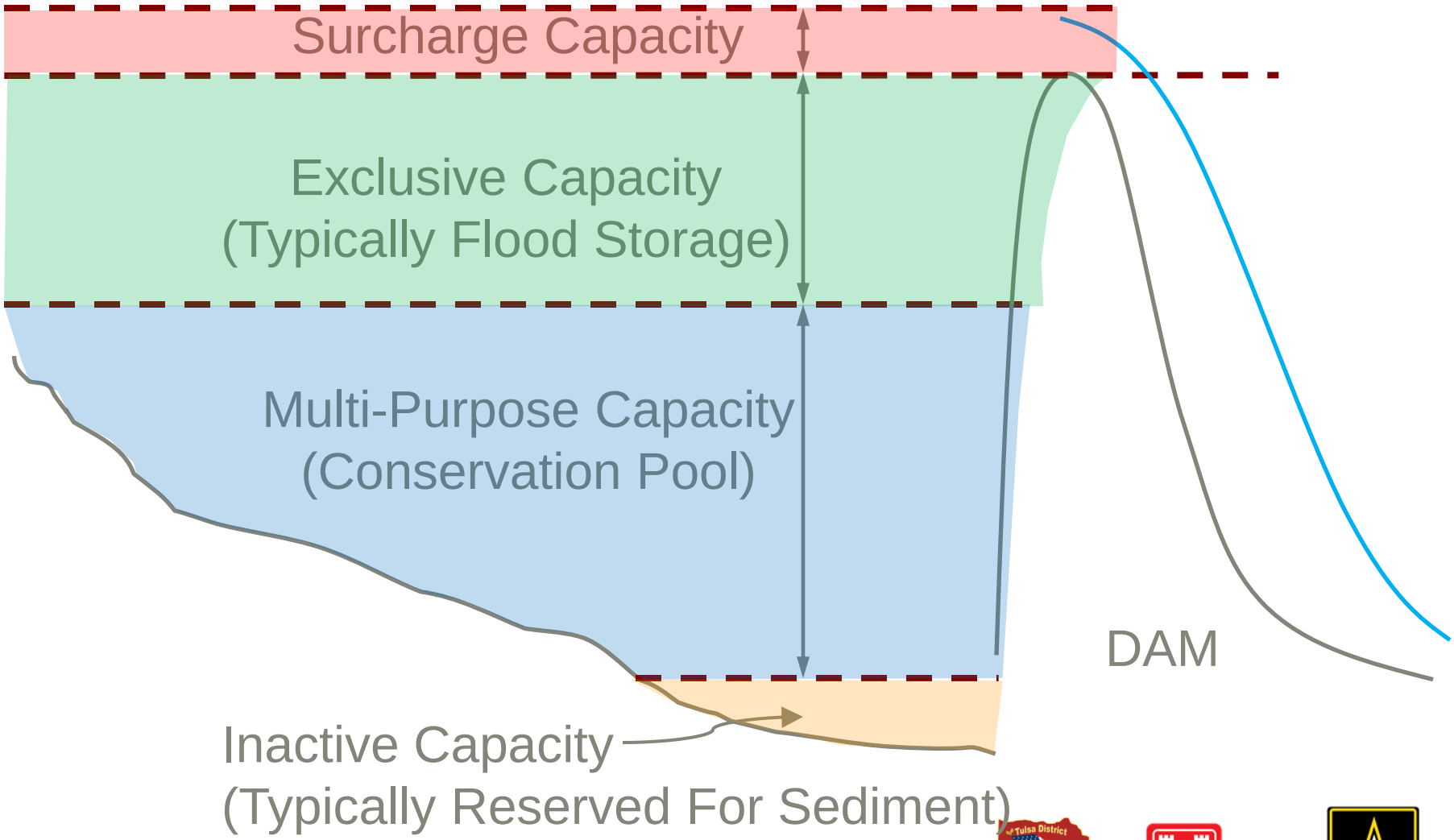
RESERVOIR STORAGE ZONES



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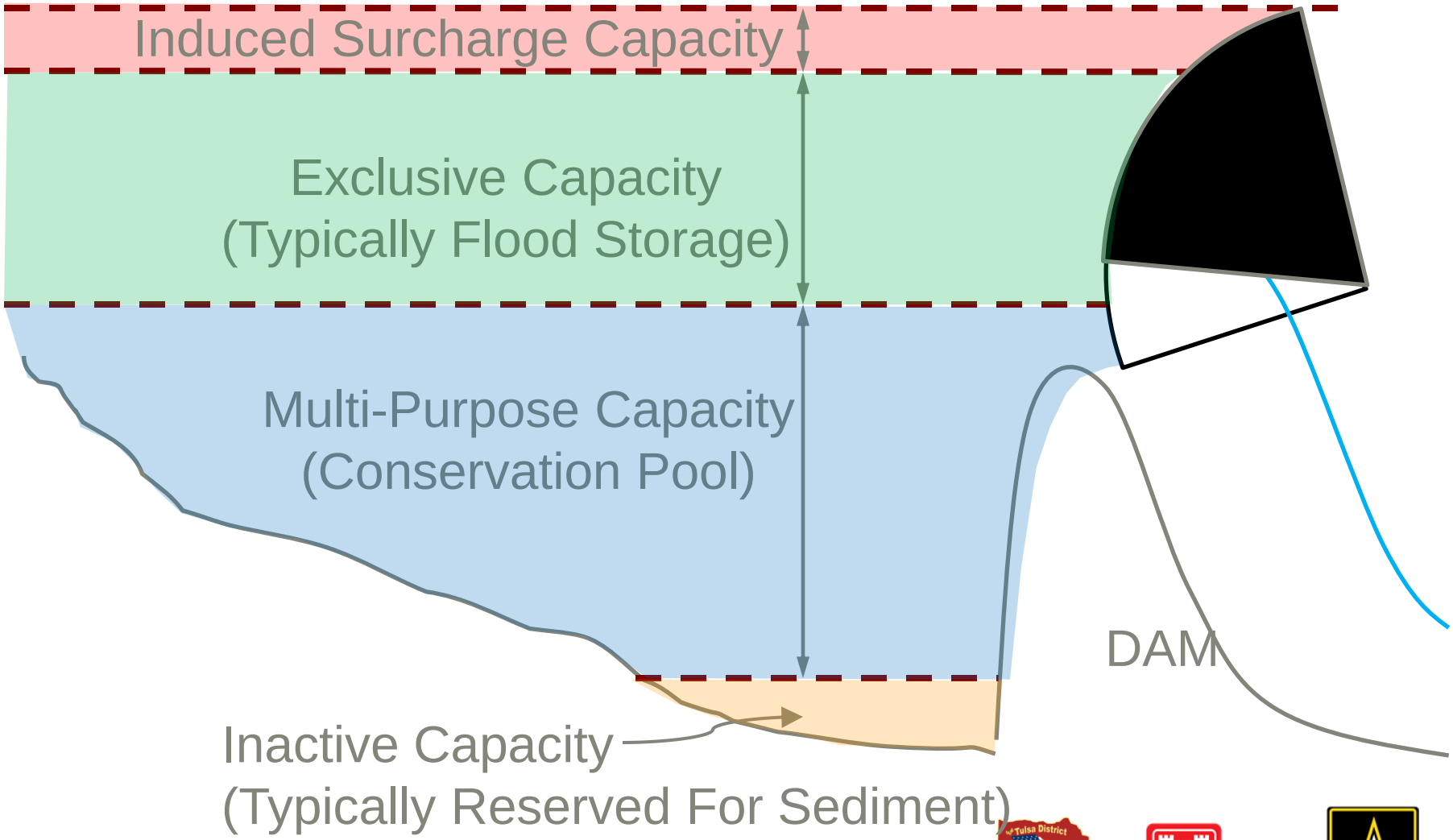
RESERVOIR STORAGE ZONES



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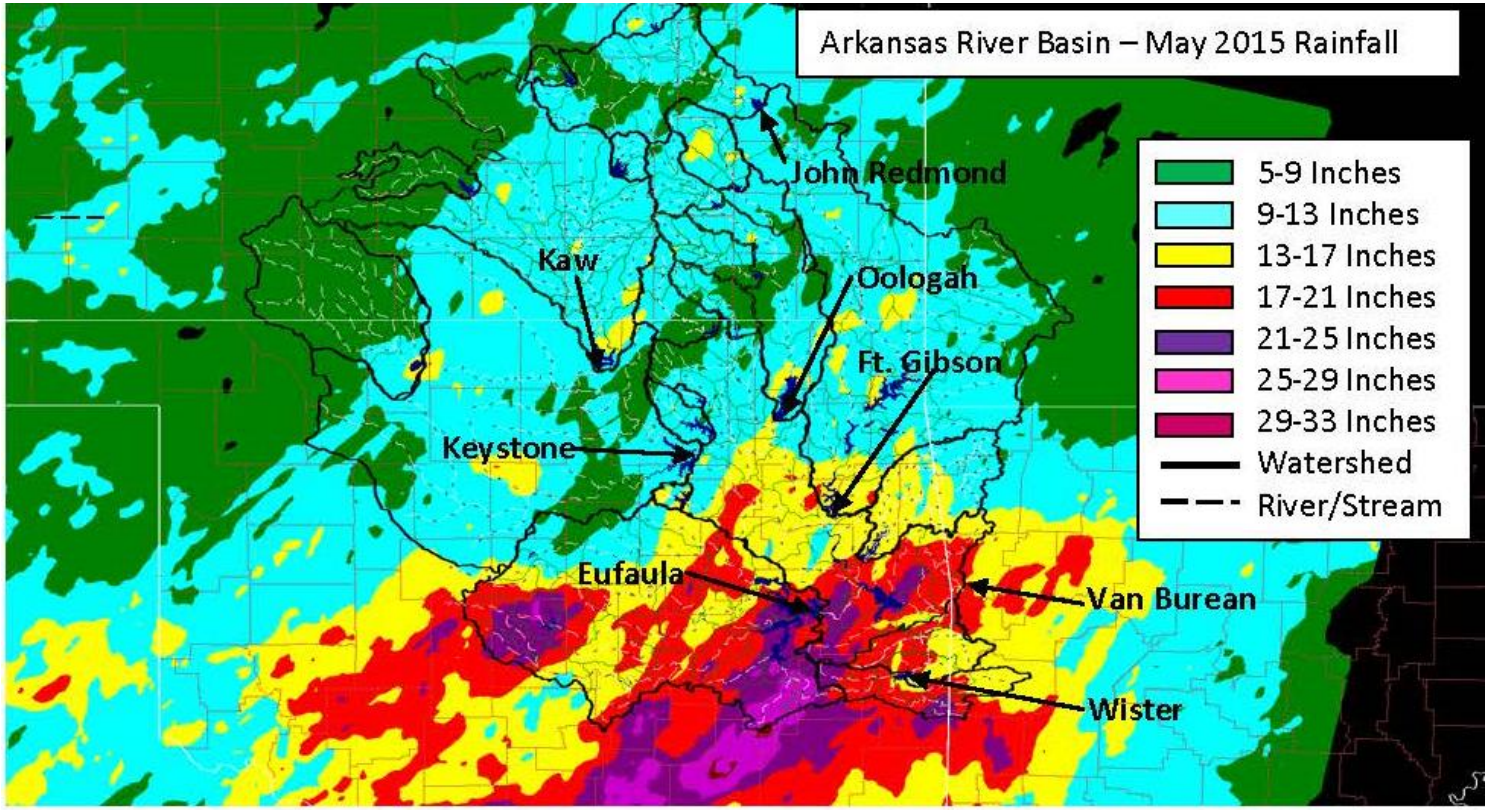
ARKANSAS RIVER BASIN – MAY 2015 RAINFALL



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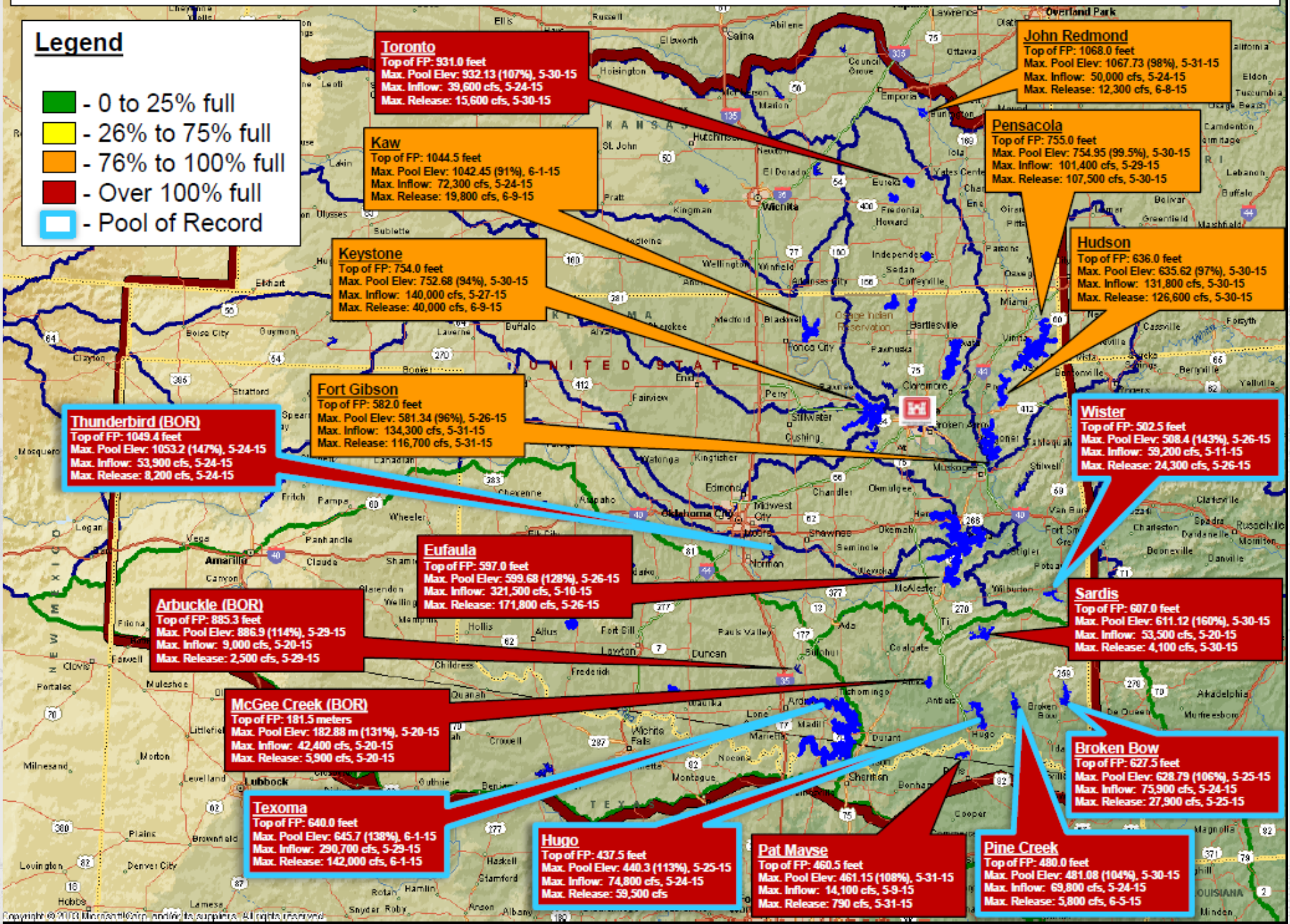
Tulsa District Reservoirs Over 90% Full – May 2015



TORONTO RESERVOIR RELEASE
5/30/2015

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JOHN REDMOND RESERVOIR RELEASE
6/9/2015

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COUNCIL GROVE RESERVOIR INUNDATION 6/10/2015

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ELK CITY RESERVOIR RELEASE
6/11/2015

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Tulsa District FY 2016 – FY 2018 Civil Works Budget

FY 2016 Allocation

- Investigations - $460,000
  - Work Plan: $460,000
- Construction - $1,957,000
- O&M - $104,190,175
  - Regular Appropriation: $95,311,000
  - Work Plan: $6,379,175
  - Emergency Supplemental: $1,500,000
  - Flood Supplemental: $1,000,000
  - Awarded $24.7 M on non-routine maintenance (23.7% of allocated funds)

FY 2017 Allocation

- Investigations - $415,000
- Construction - $2,833,000
  - Work Plan: $1,933,000
  - Flood Supplemental: $900,000
- O&M - $117,750,000
  - Regular Appropriation: $111,040,000
  - Flood Supplemental: $6,710,000
  - Awarded over $27 M on non-routine maintenance (22.9% of allocated funds)

FY 2018 President's Budget

- Investigations - $235,000
- Construction - $0
- O&M - $133,223,000
  - Regular Appropriation: $127,723,000
  - Flood Supplemental: $5,500,000
  - Plan to obligate $44,514,000 on non-routine maintenance (33% of budgeted funds)

The addition of Work Plan (WP); Emergency Supplemental (ES) and Flood Supplemental (FS) amounts by Congress to the fiscal year appropriation allows the Corps of Engineers to fund activities that have become more important or critical since submission of the budget request. Tulsa District received an additional $9.3M in the FY 2016 WP/ES/FS funding and $9.5M in the FY 2017 WP/FS funding.

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FY18 Civil O&M Non-Routine Maintenance For Kansas Projects

Program Name	Work Package Title	FY18 Budget Amount
PEARSON - SKUBITZ BIG HILL LAKE, KS	Repair service gates and associated equipment	$2,300,000
ELK CITY LAKE, KS	Repair embankment	$325,000
FALL RIVER LAKE, KS	Invasive species management	$145,000
JOHN REDMOND LAKE, KS	Invasive species management	$145,000
EL DORADO LAKE, KS	Replace electric line to gate tower	$125,000
COUNCIL GROVE LAKE, KS	Purchase new tilt deck trailer	$100,000
COUNCIL GROVE LAKE, KS	Invasive species management	$58,000
COUNCIL GROVE LAKE, KS	Invasive species management	$23,000
ELK CITY LAKE, KS	Invasive species management	$23,000
FALL RIVER LAKE, KS	Invasive species management	$23,000
JOHN REDMOND LAKE, KS	Invasive species management	$23,000
MARION LAKE, KS	Invasive species management	$23,000
PEARSON - SKUBITZ BIG HILL LAKE, KS	Invasive species management	$23,000
	TOTAL	$3,336,000

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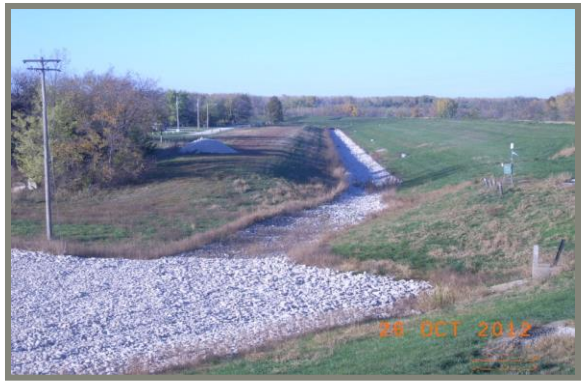
MAINTAINING THE INFRASTRUCTURE



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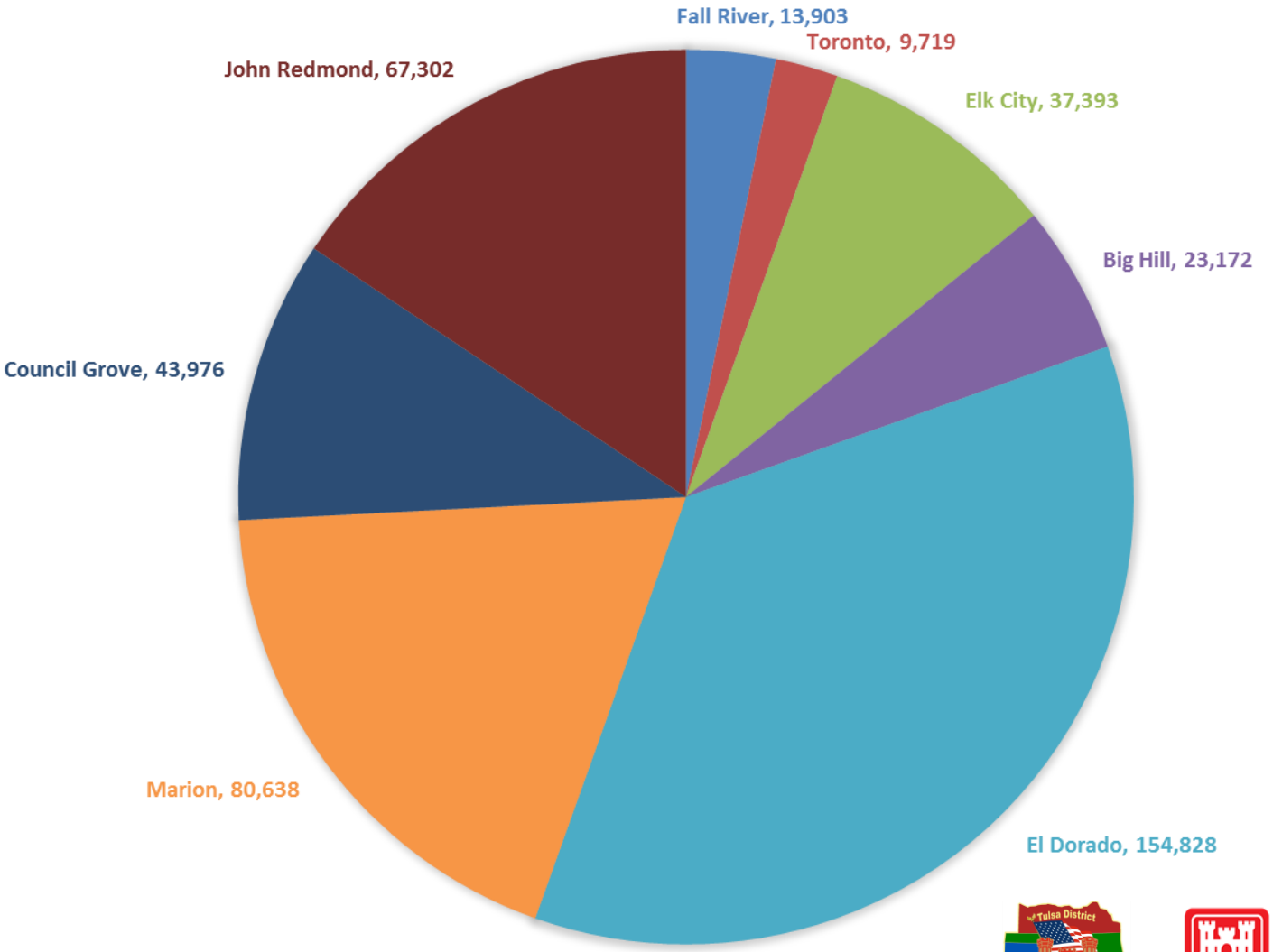
CONSERVATION STORAGE (ACRE-FEET)



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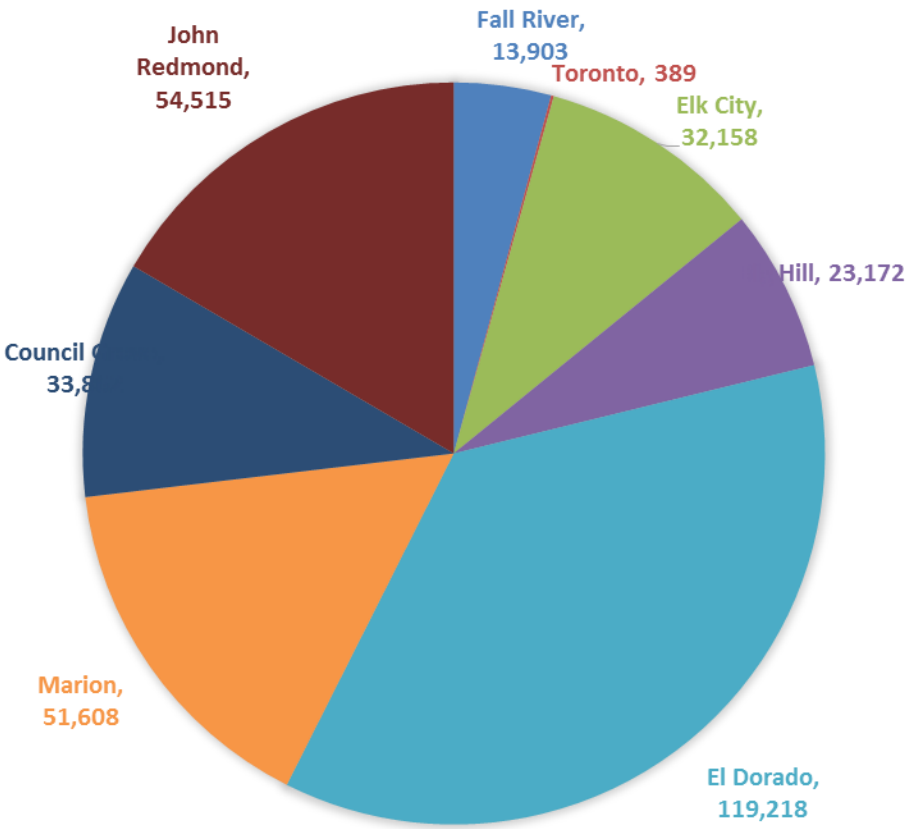
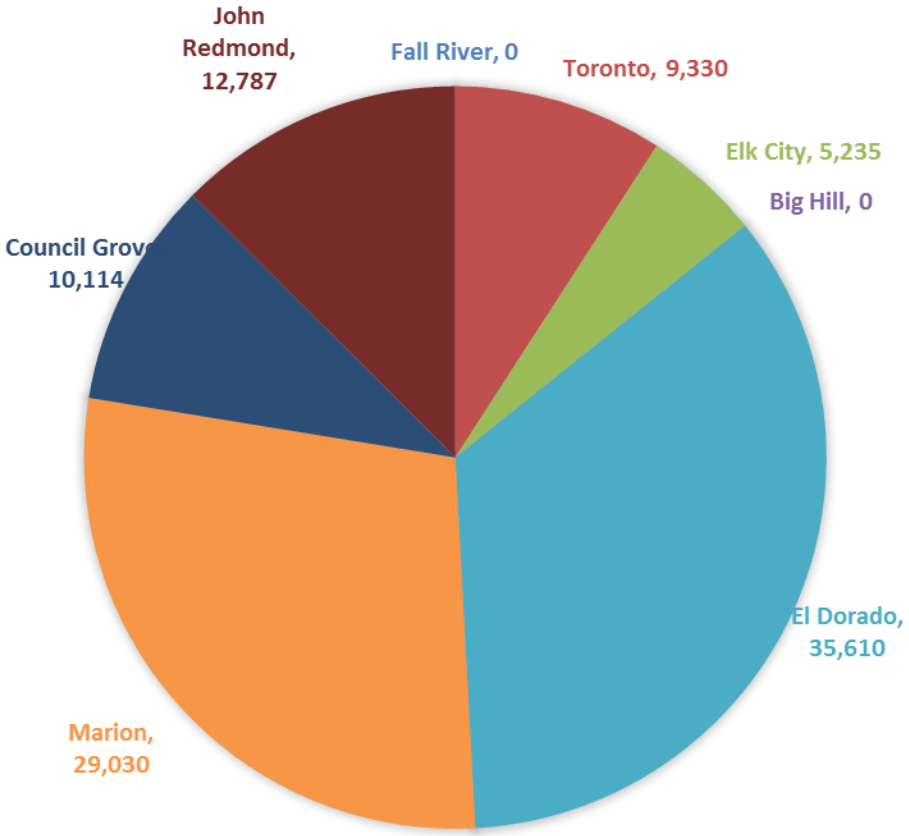
WATER SUPPLY STORAGE (ACRE-FEET)



WATER QUALITY STORAGE (ACRE-FEET)



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