



City of Dallas

Water Supply and Flood Planning: Walking a Tight Rope

**Second Joint TWDB-UTA-NIDIS
Workshop on Texas Forecast
Informed Reservoir Operation**

September 22, 2023

Denis Qualls, P.E., D.WRE
Superintendent - Planning
Dallas Water Utilities
City of Dallas

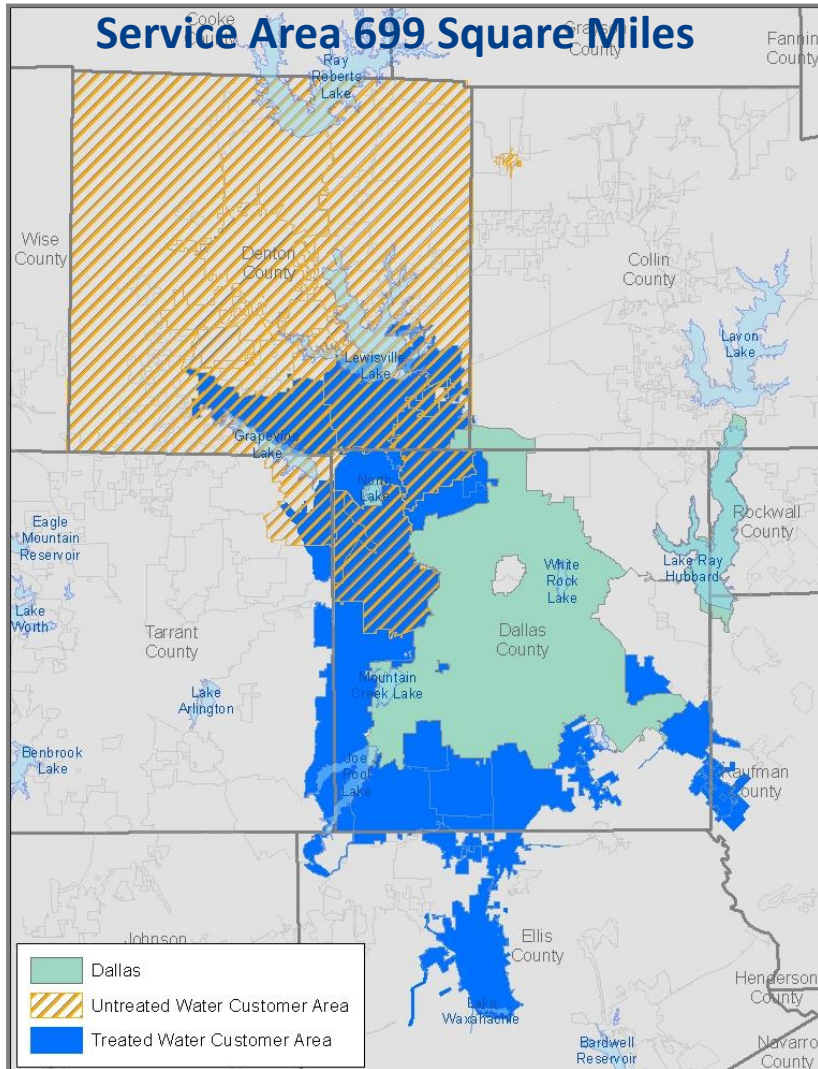
Overview



- Dallas Water Utilities One Water
- Water Supply
- Floodway and Drainage
- Mill Creek Tunnel
- Aquifer Storage and Recovery
- Forecast Informed Reservoir Operations (FIRO) Thoughts



Dallas Water Utilities Overview



- Established by City Charter in 1881
- Operates under Dallas City Codes: 49, 51 and 19
- Regional provider of water, wastewater, stormwater and flood control services
- Fiscal Year 2022 net capital water and wastewater assets of \$5.79B
- Funded from wholesale and retail water and wastewater revenues and stormwater fees (receives no tax dollars)
- Approximately 1,600 employees
- Combined operating and capital budgets of \$1.23B

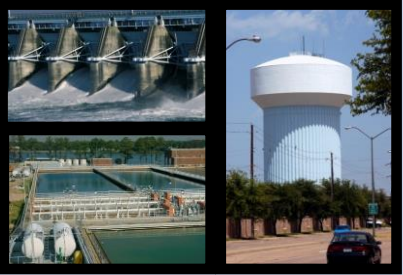
Fiscal Year 2022-23 Budgets

Budget	DWU	SDM	Total
Operations	\$761.2 M	\$72.4 M	\$833.6M
Capital	<u>\$342.8M</u>	<u>\$30.8 M</u>	<u>\$373.6 M</u>
Total	\$1,104.0 M	\$103.2 M	\$1,207.4 M



City of Dallas One Water



	ASSETS	CUSTOMERS
	WATER • 7 reservoirs, (6 connected) • 5,049 miles of water mains • 3 water treatment plants (900 MGD capacity) • 23 pump stations, 10 elevated and 12 ground storage tanks	2.6 million treated water customers • 1.3 million – Retail (City of Dallas) • 1.3 million – Wholesale • 23 wholesale treated water • 4 wholesale untreated water
	WASTEWATER • 2 wastewater treatment plants (310 MGD capacity) • 4,066 miles of wastewater main • 15 wastewater pump stations	320,000+ retail customer accounts • 11 wholesale wastewater
	STORMWATER • 8 storm water pump stations (5.7 BGD capacity) • 1,963 miles of storm sewers • 30 miles of levees • 39,000 acres of floodplain	300,000 storm water accounts • 265,979 Residential • 29,470 Commercial



Organizational Structure



DALLAS WATER UTILITIES MANAGEMENT

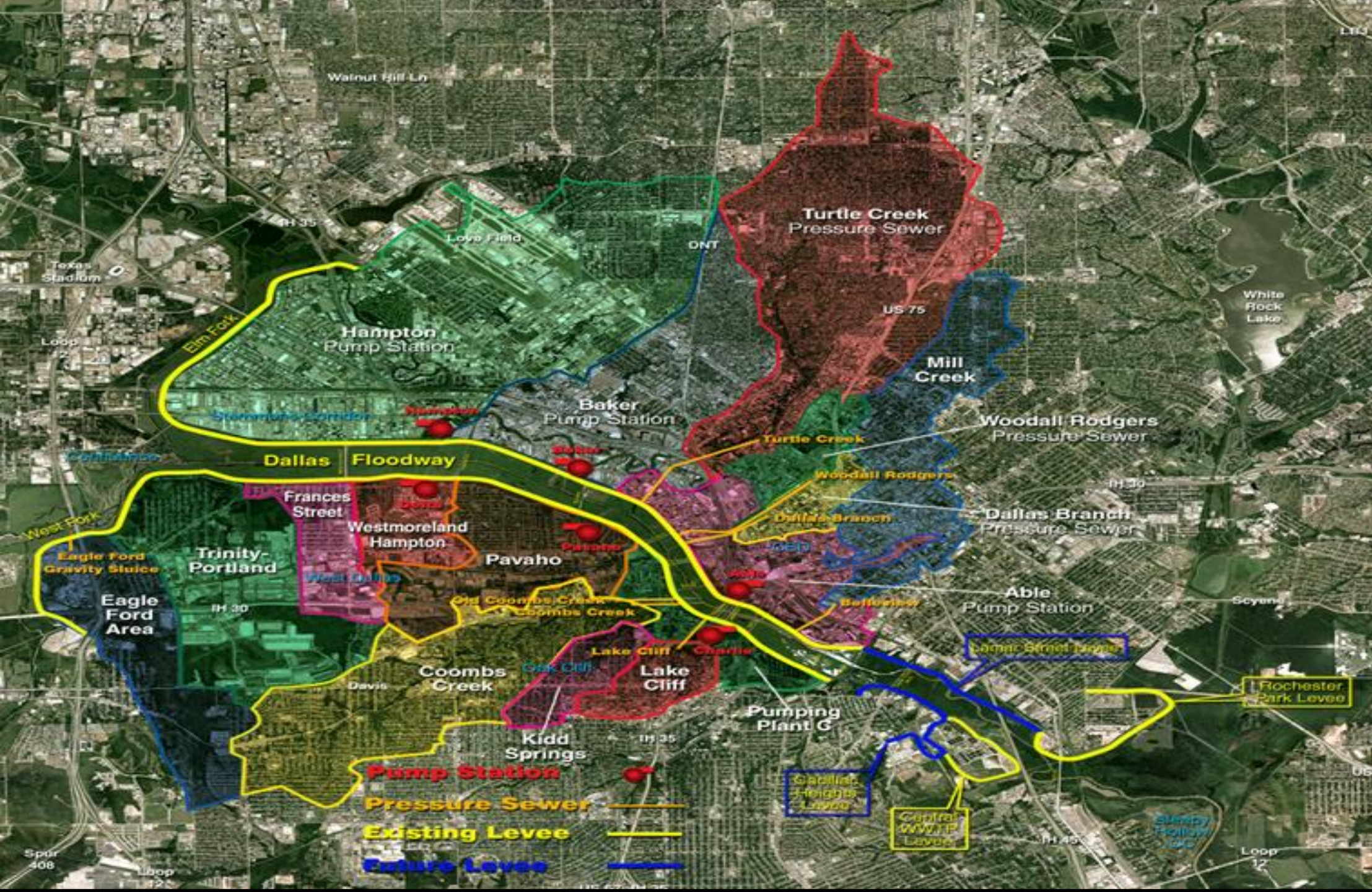
Kimberly Bizer Tolbert
Deputy City Manager

Revised June 28, 2023

Sarah Standifer (I)
Director



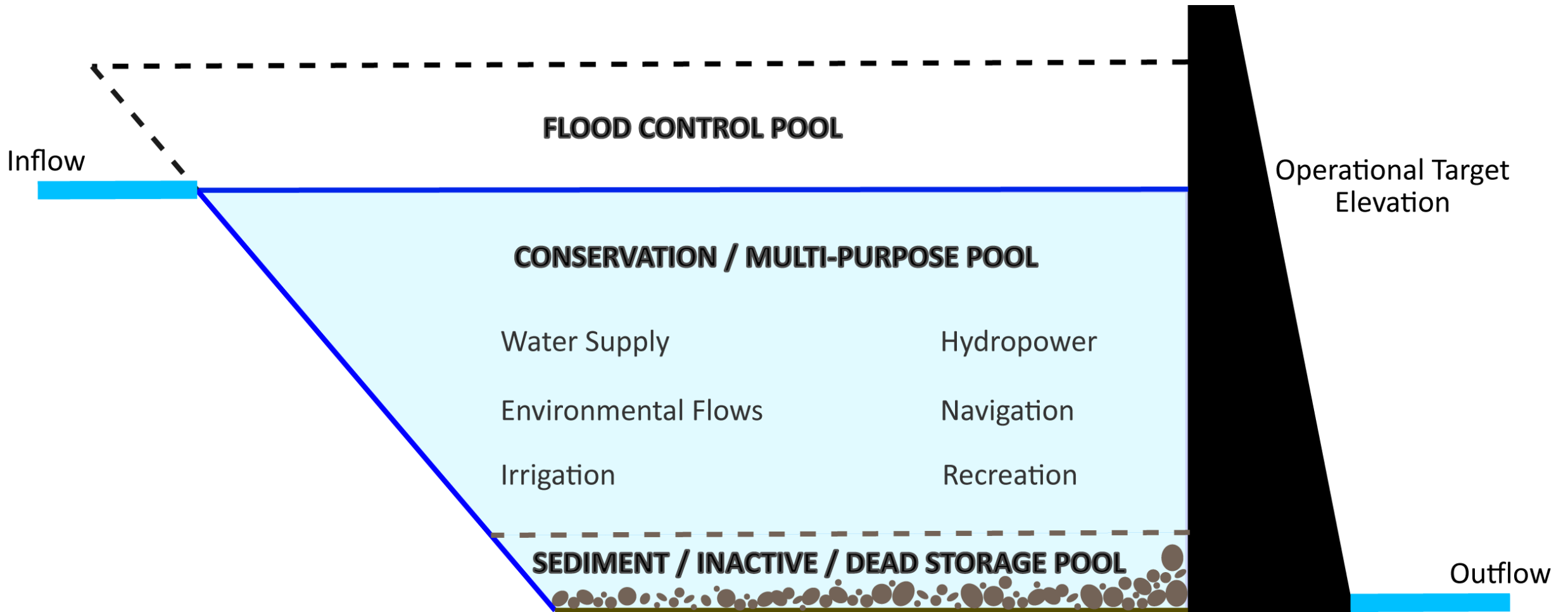




Water Supply vs. Stormwater Management



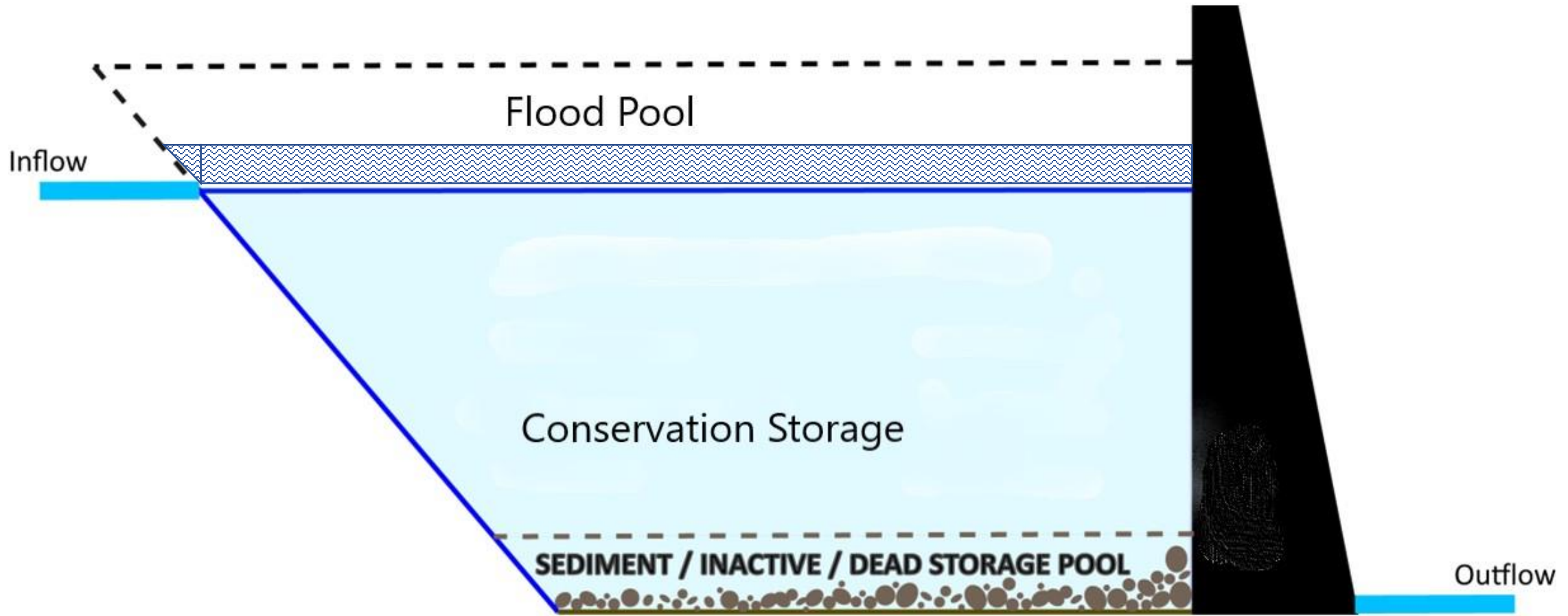
Multi-Purpose Reservoir



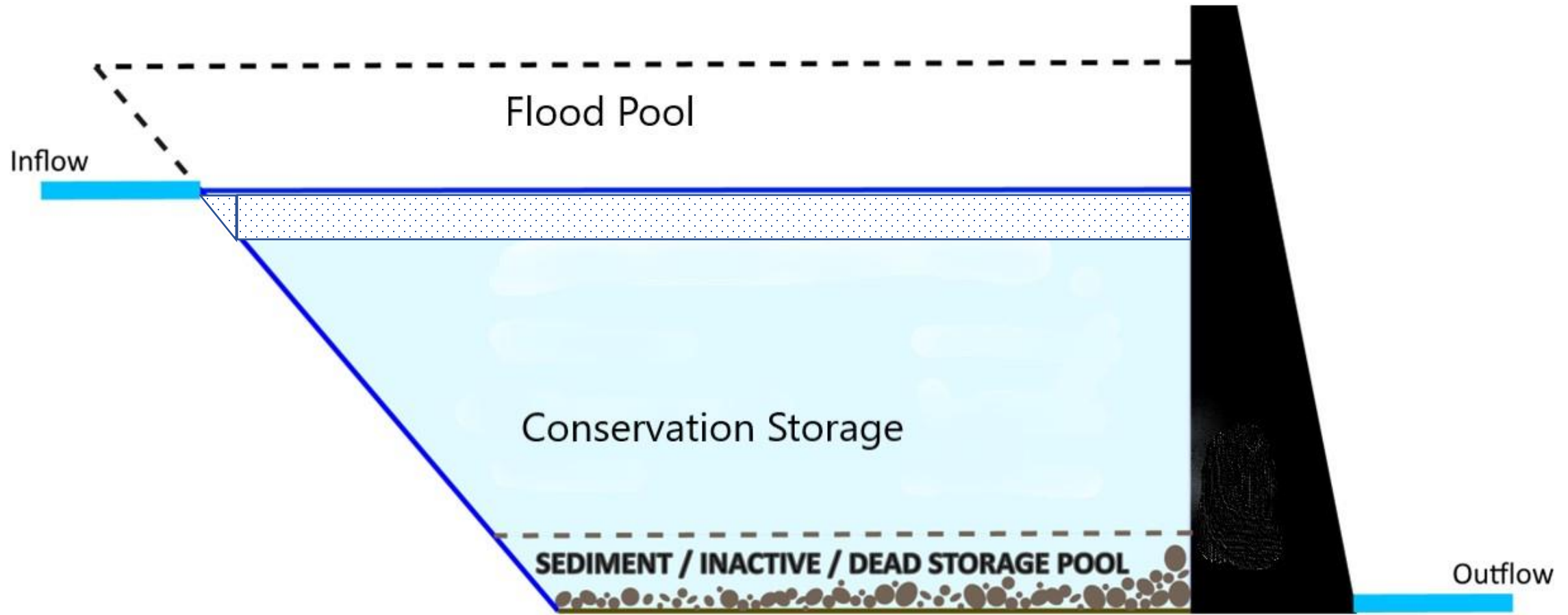
Source: Duke Nichols Institute



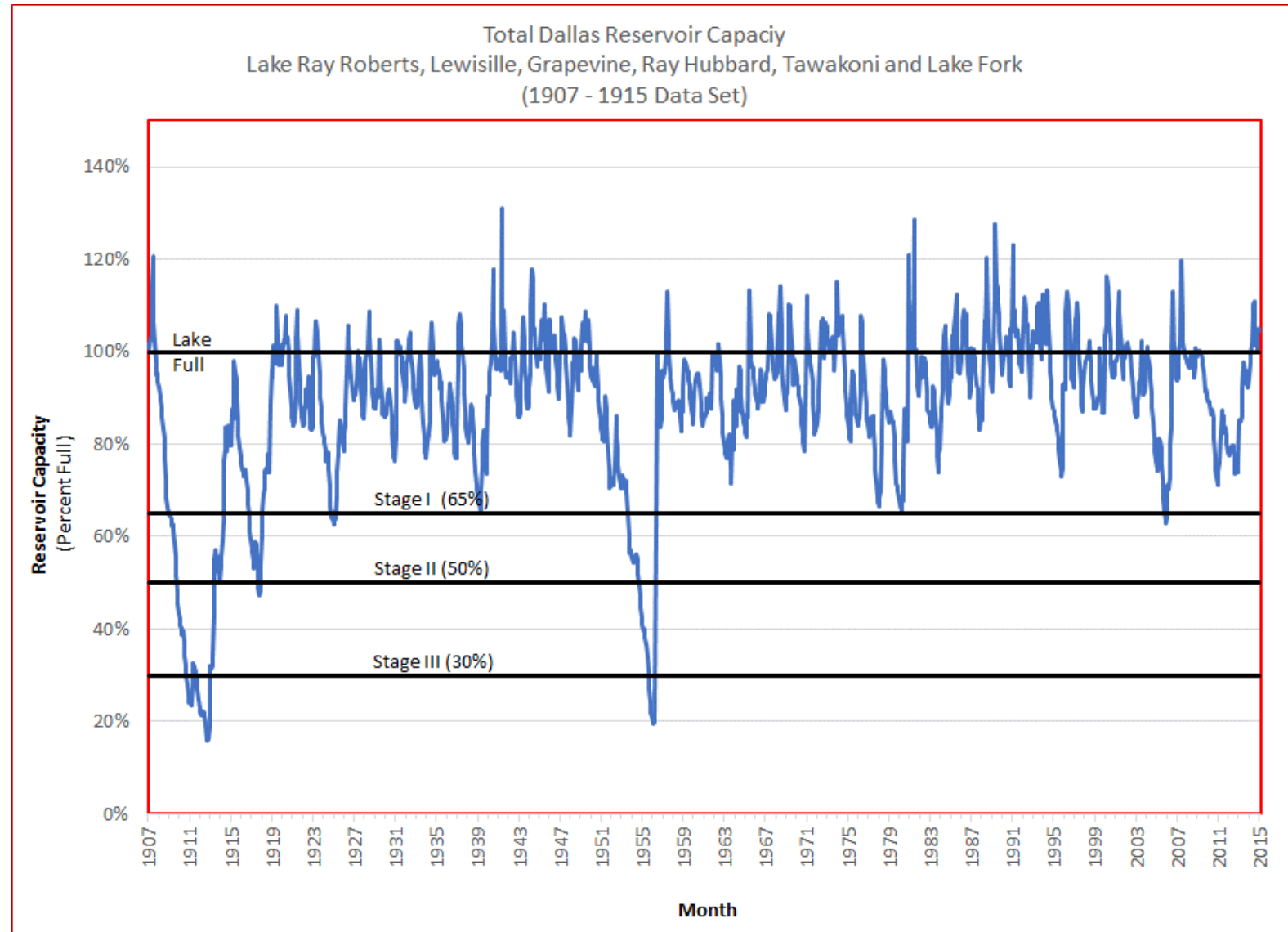
Water Supply



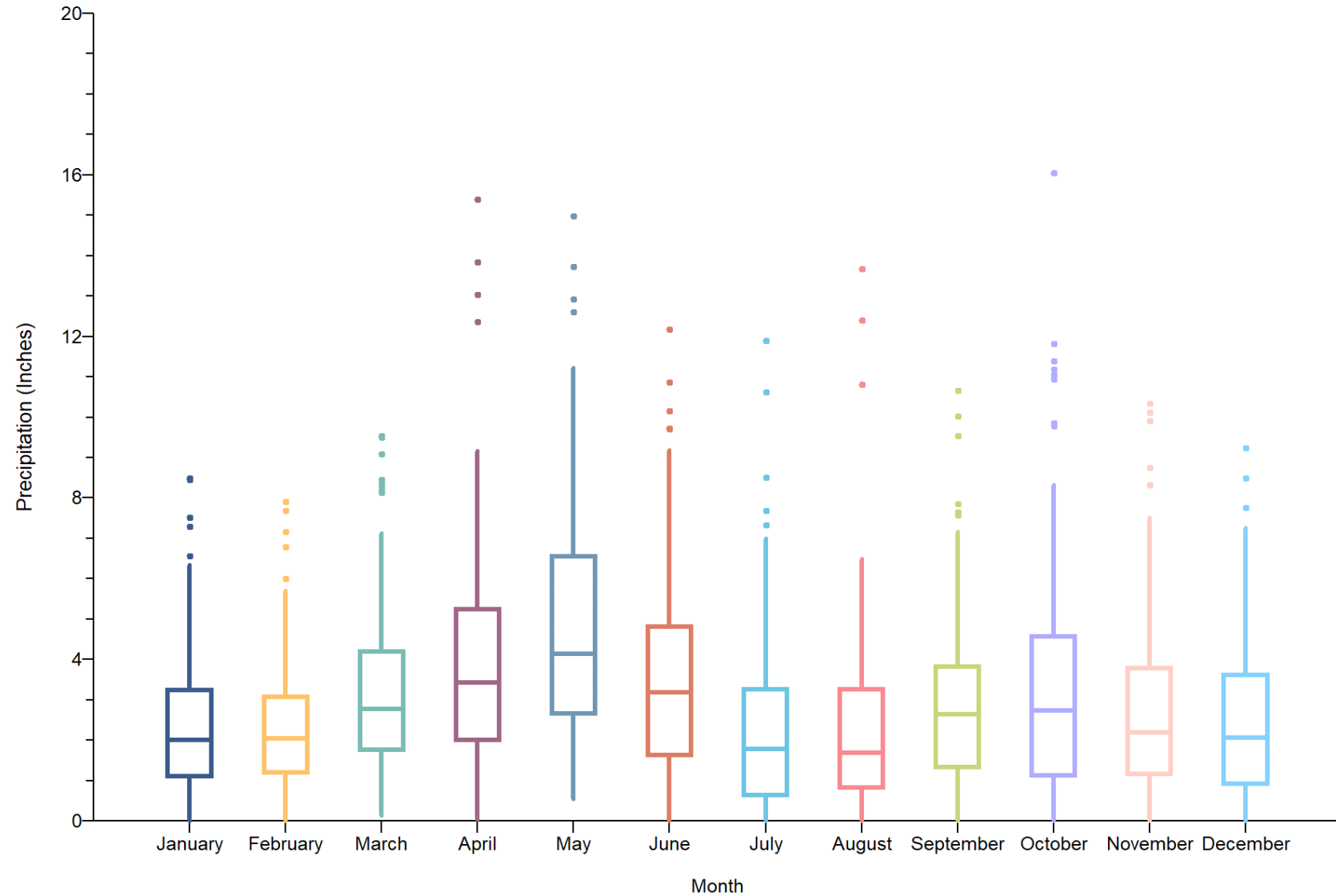
Stormwater Management



Water Supply



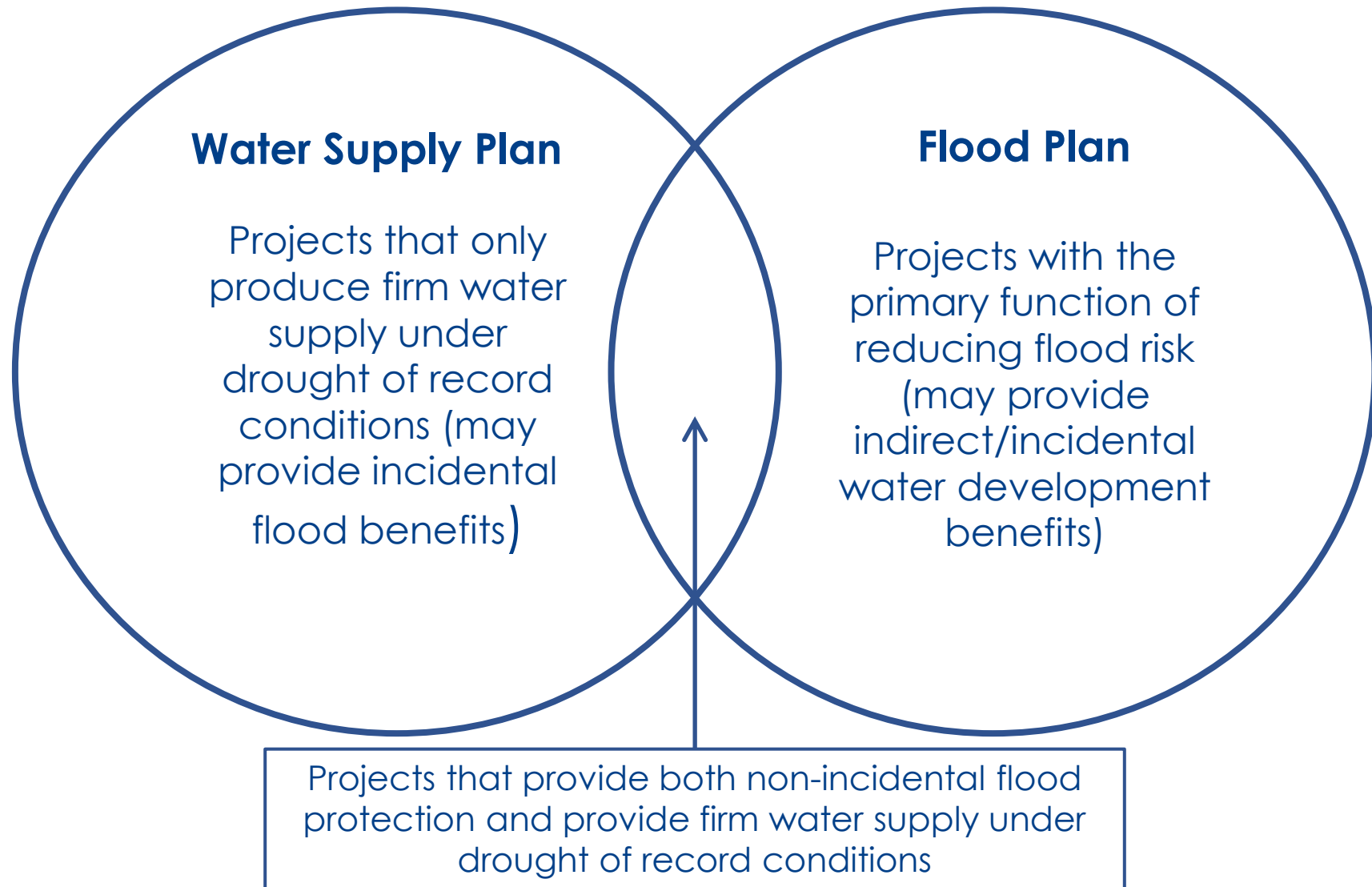
Dallas Precipitation (1874-2017)*



*Missing Data 1878-1887



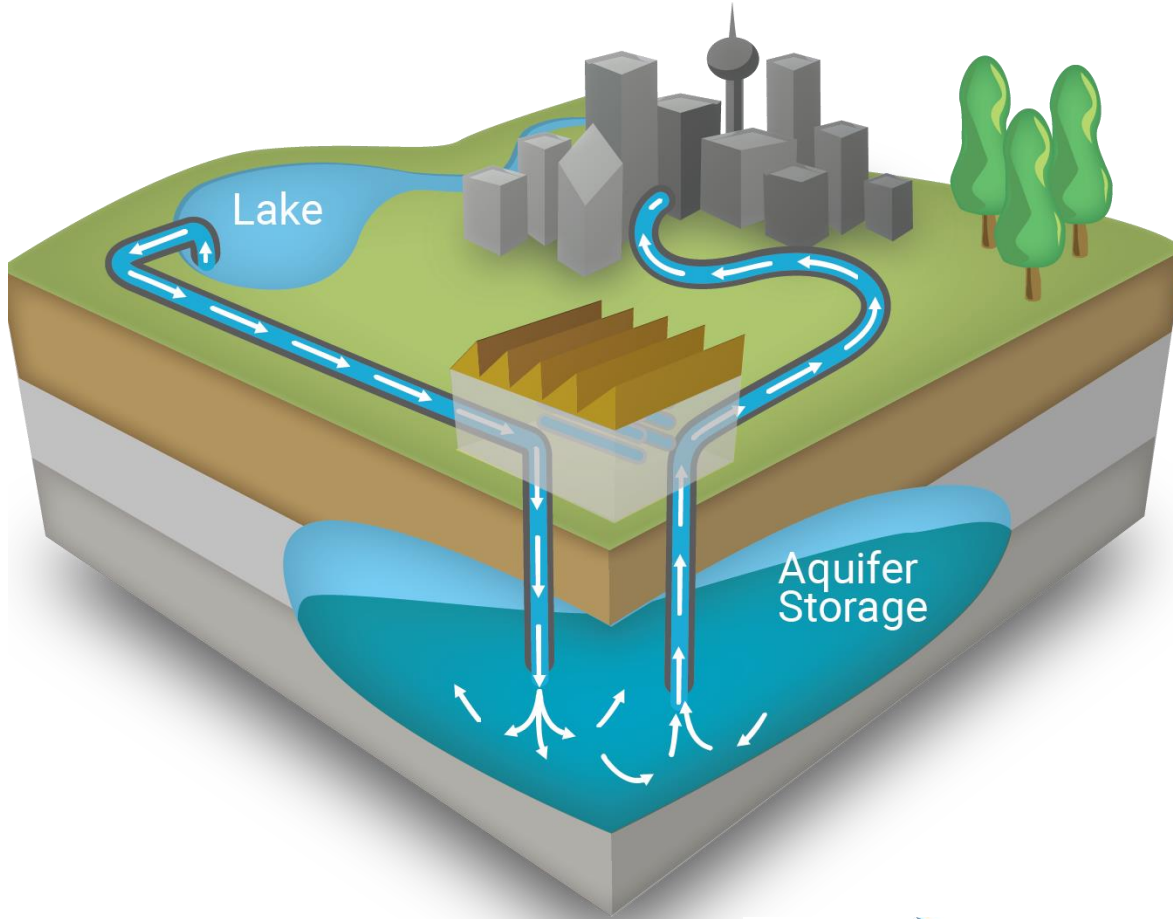
Tightrope Projects



Mill Creek Tunnel



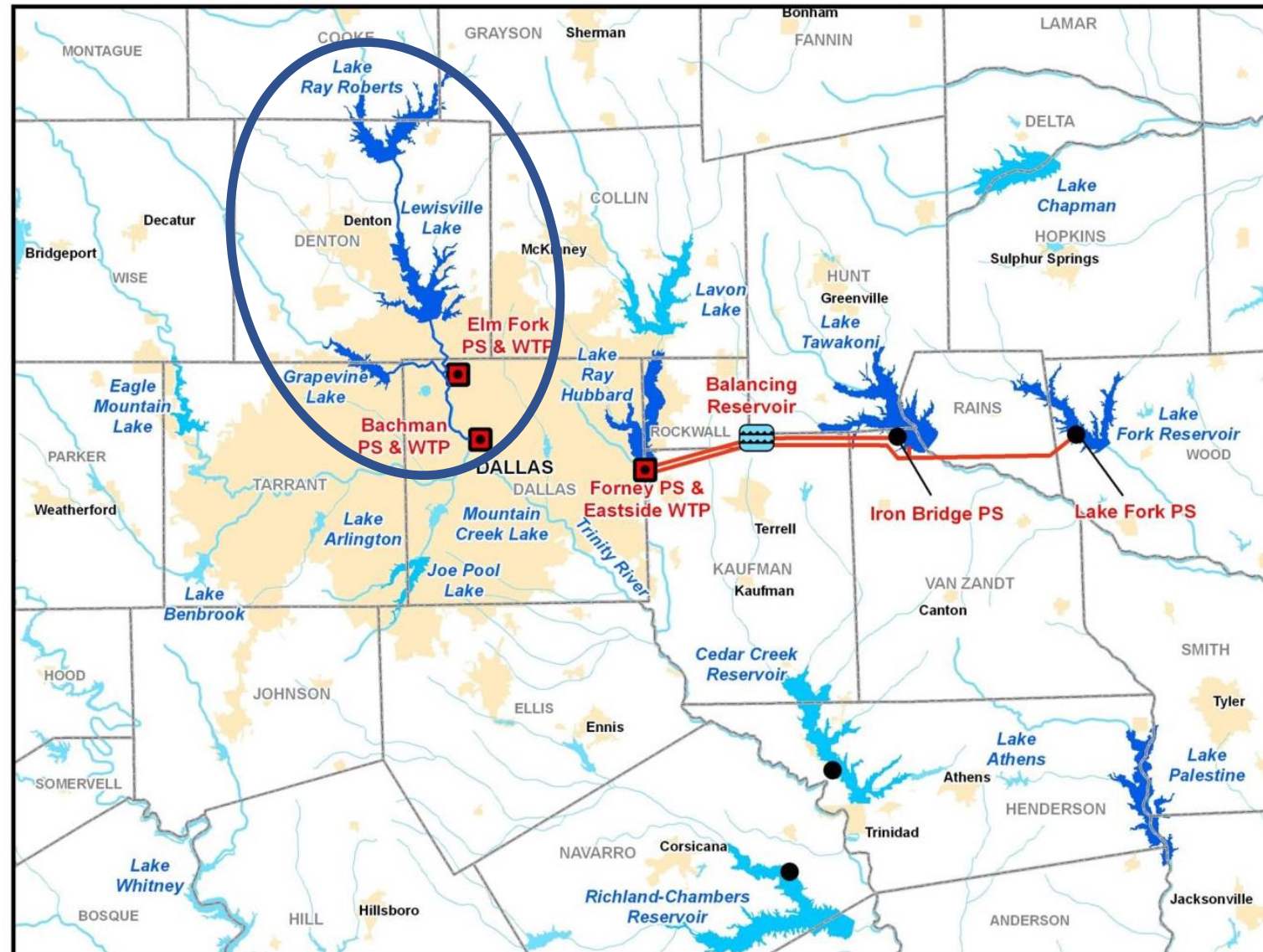
Aquifer Storage and Recovery



ASR Study

- Evaluate locations near water treatment plants
- Objectives
 - Seasonal storage and recovery
 - Long-term storage
 - Emergency storage (strategic water reserve)
- Consider City of Denton and UTRWD as partners





Forecast Informed Reservoir Operations

“If you don't like our weather just wait a minute!”

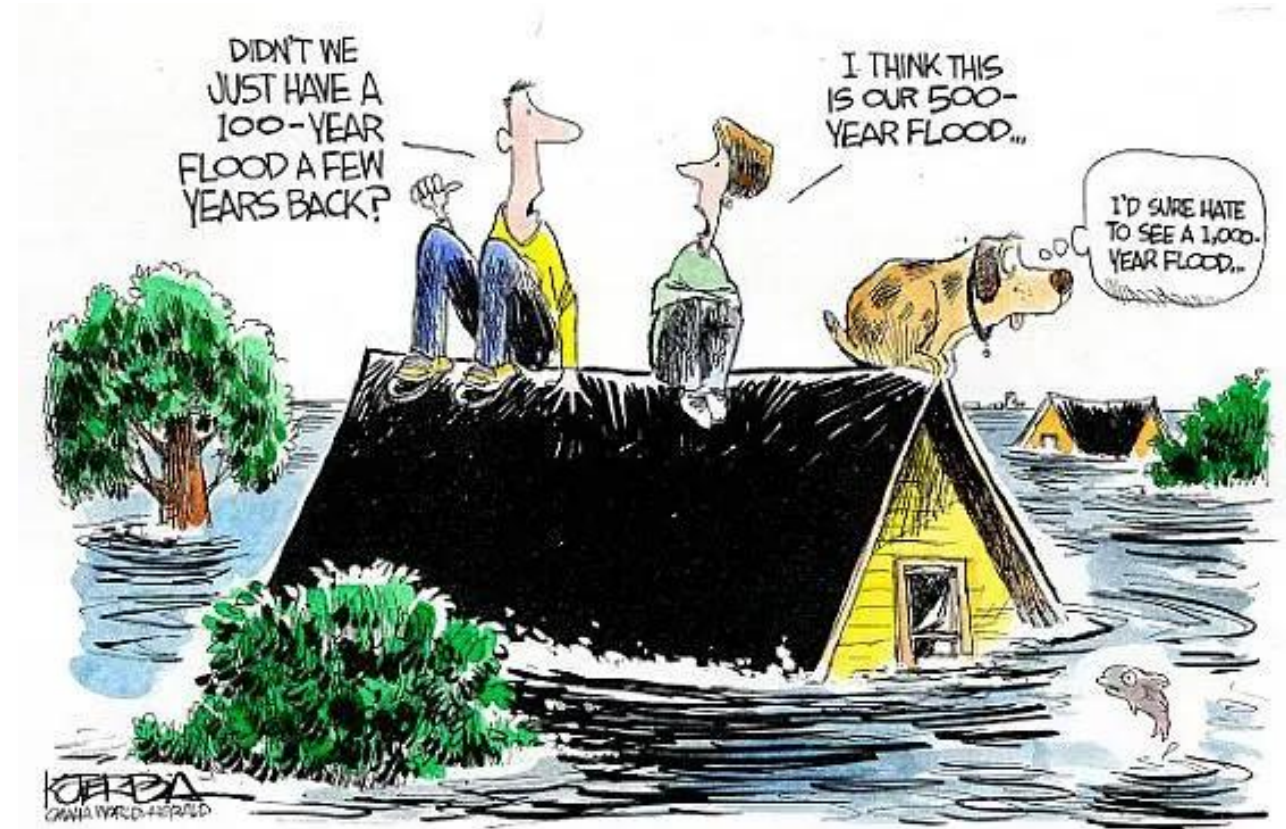
Mark Twain



Forecast Thoughts



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Source: Orange County Register

