



# **Tarrant Regional Water District**

water supply, flood control, water quality, recreation



TRWD Water Supply

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Engineering Services Director



# TRWD Overview

- Formed in 1924 from an act of the Texas Legislature
- Governed by a 5 member Board of Directors elected at-large in the "District", which encompasses 2/3 of Tarrant County
- Guidance provided by four primary wholesale customers, Arlington, Fort Worth, Mansfield and Trinity River Authority.
- Main functions are flood control (\$21 MM annual budget) and water supply (\$118 MM annual budget)



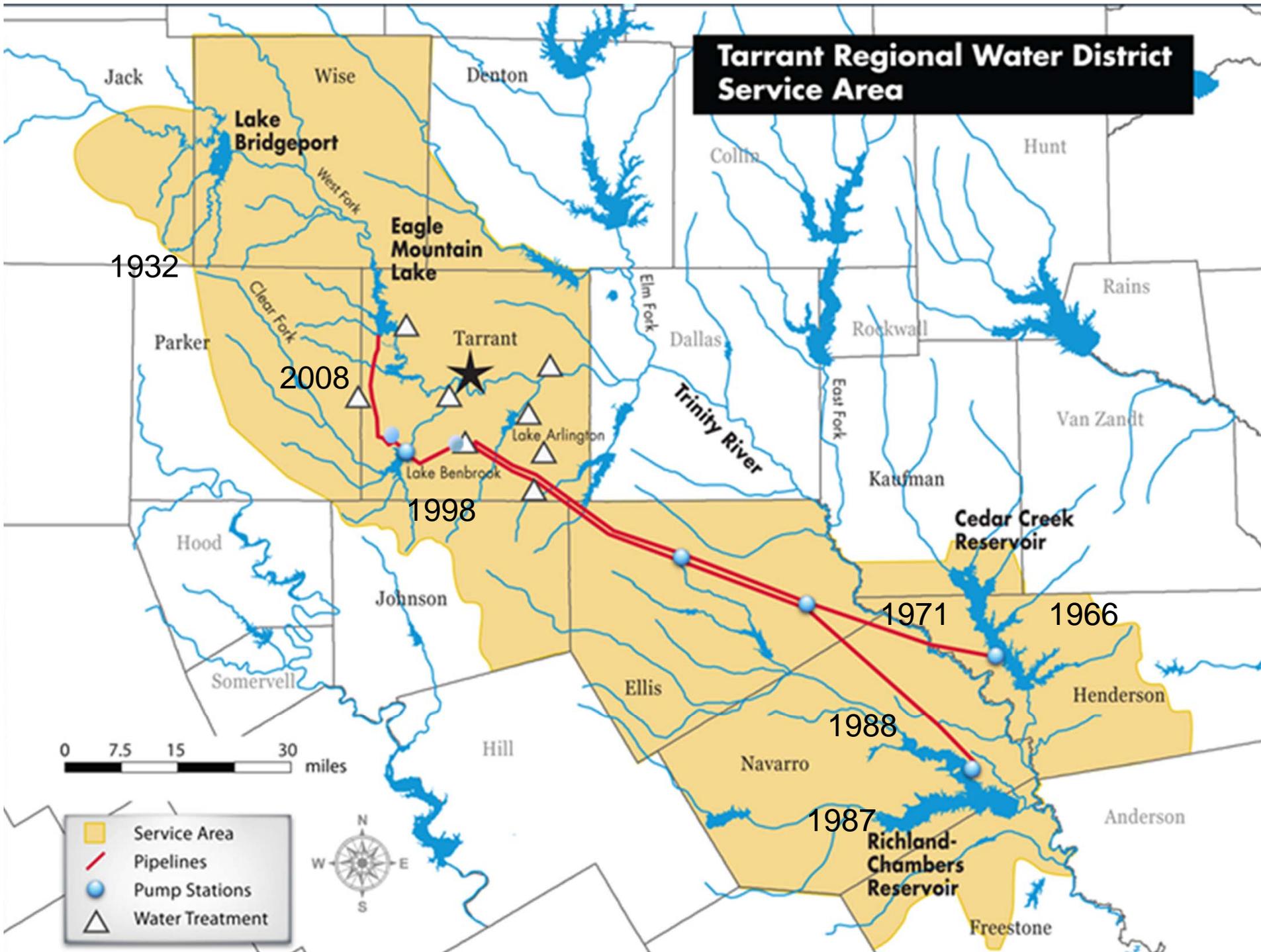


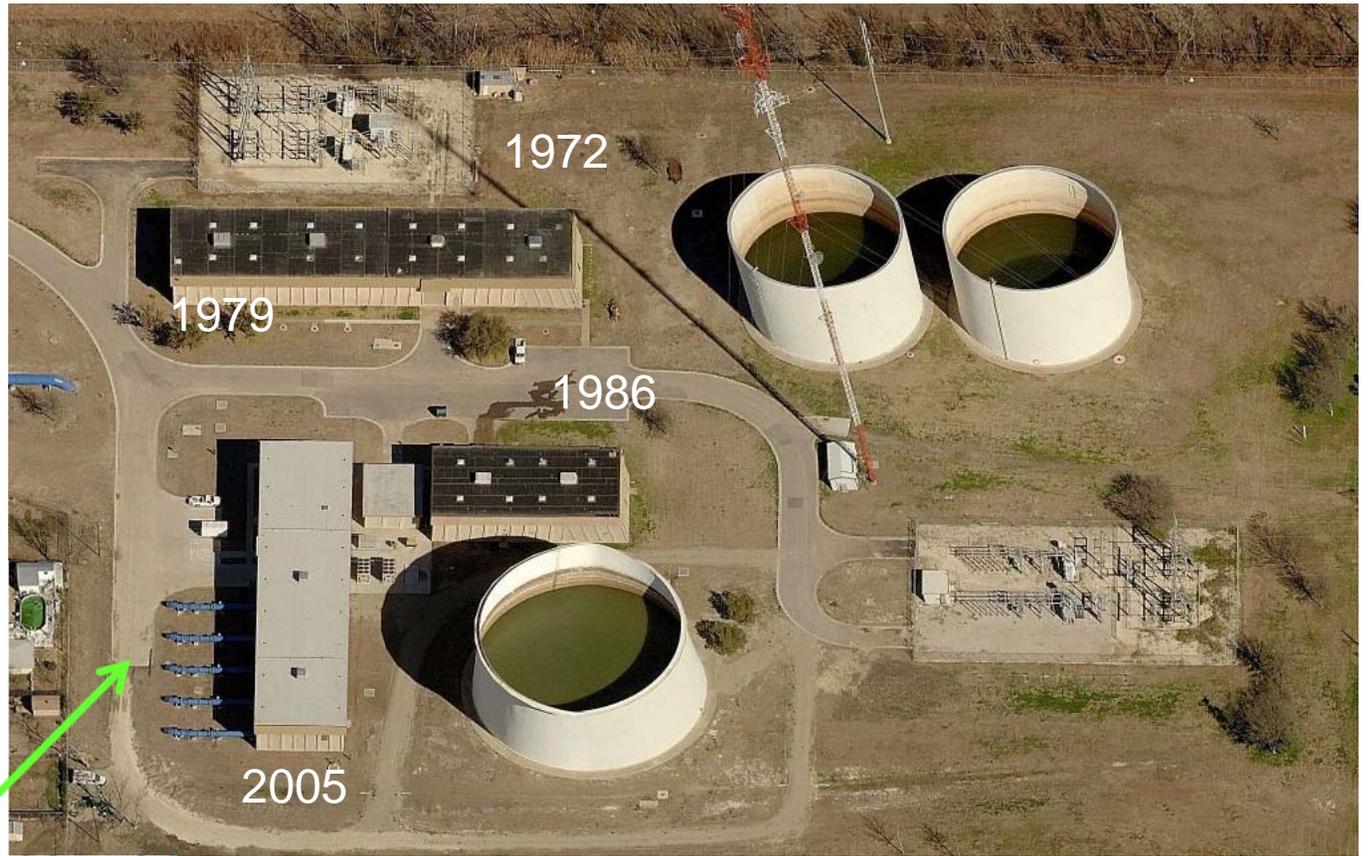
# TRWD Water Supply

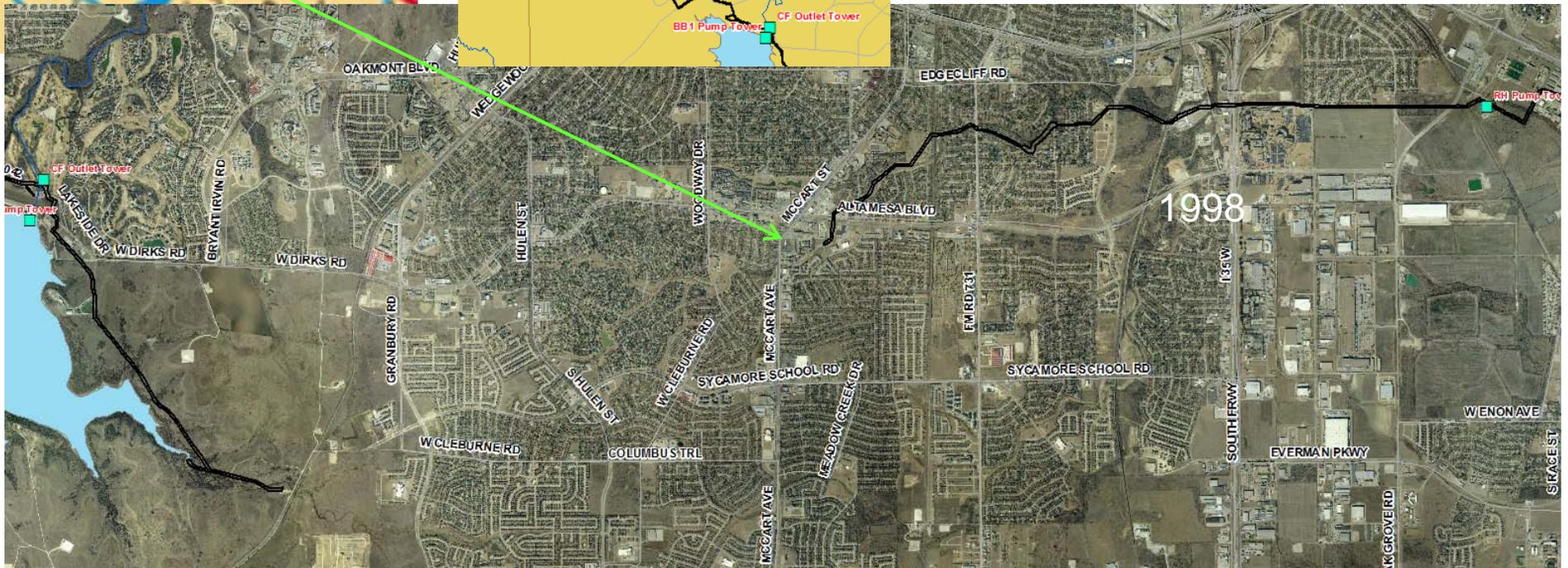
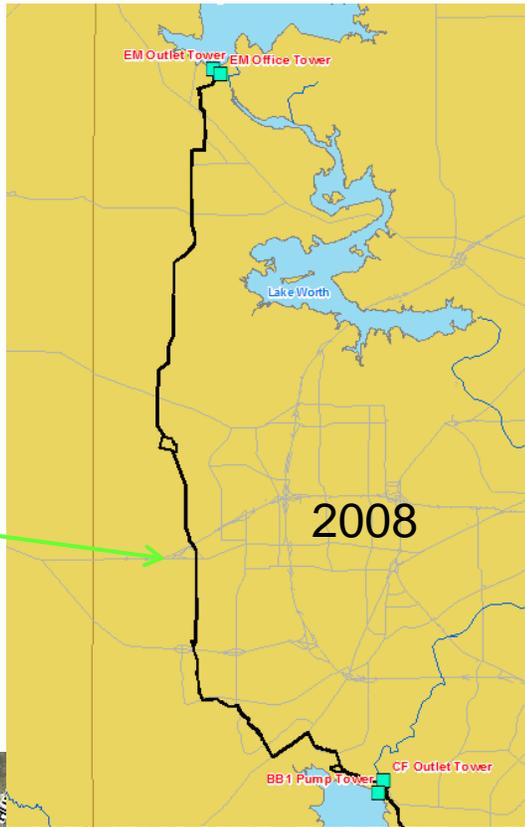
- District provides only raw, untreated water. This year we should deliver about 330,000 acre feet.
- Contracts with four primary wholesale customers (Arlington, Fort Worth, Mansfield and Trinity River Authority) dictate operations.
- Ultimately serves 70 cities in an eleven county service area.  
(Denton, Ellis, Freestone, Henderson, Jack, Johnson, Kaufman, Navarro, Parker, Tarrant, Wise)
- Current service population is 1.8 million; projected to increase to 4.3 million by 2060.



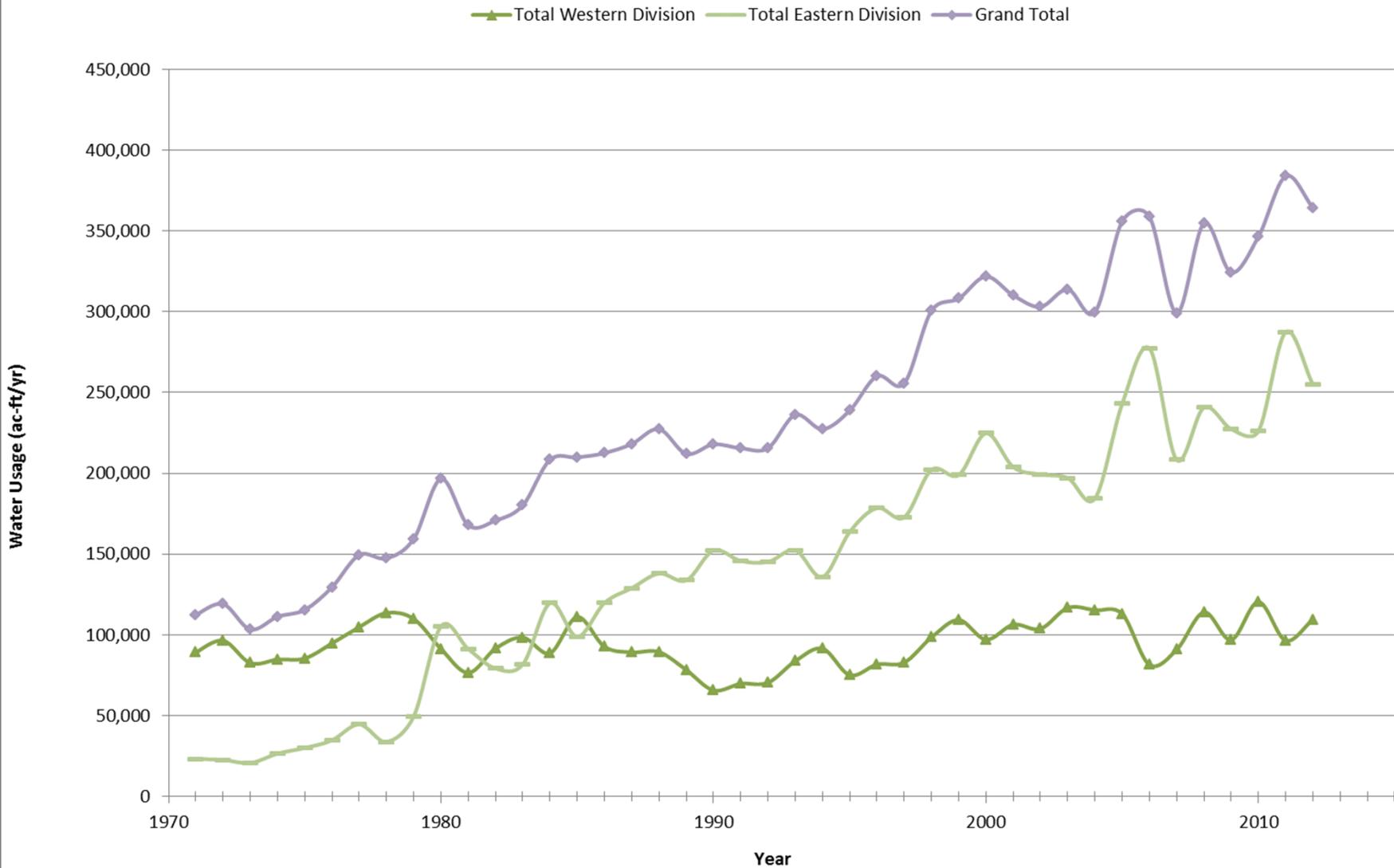
# Tarrant Regional Water District Service Area







# Total Historic Water Demands Within The District Service Area



Western is Bridgeport and Eagle Mountain  
Eastern Cedar Creek and Richland Chambers

# Water Supply Focus

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- Reliability
- Energy
- New Sources
- Water Quality
- Conservation



# TRWD Water Supply Reservoirs



- Four Main Supply Reservoirs
  - Bridgeport & Eagle Mountain - 109,000 acft dependable yield, 159,600 acft permitted
  - Cedar Creek 179,000 acft feet permitted
  - Richland Chambers – 210,000 acft permitted
  - Reservoir Total – 498,000 acre feet
- Indirect Reuse
  - George Shannon Wetlands at Richland Chambers Reservoir – 63,000 acft
  - Cedar Creek Wetlands – 52,500 acft
  - Wetland Total – 115,500
- Pipeline Terminal Storage
  - Lake Arlington – 23,120 acft permitted plus our discharge
  - Lake Benbrook -6,833 acft yield, 72,500 ac ft max use
- Supply Total
  - 561,000 acre feet supply reservoirs and RC wetland
  - 613,500 acre feet with CC wetland finished

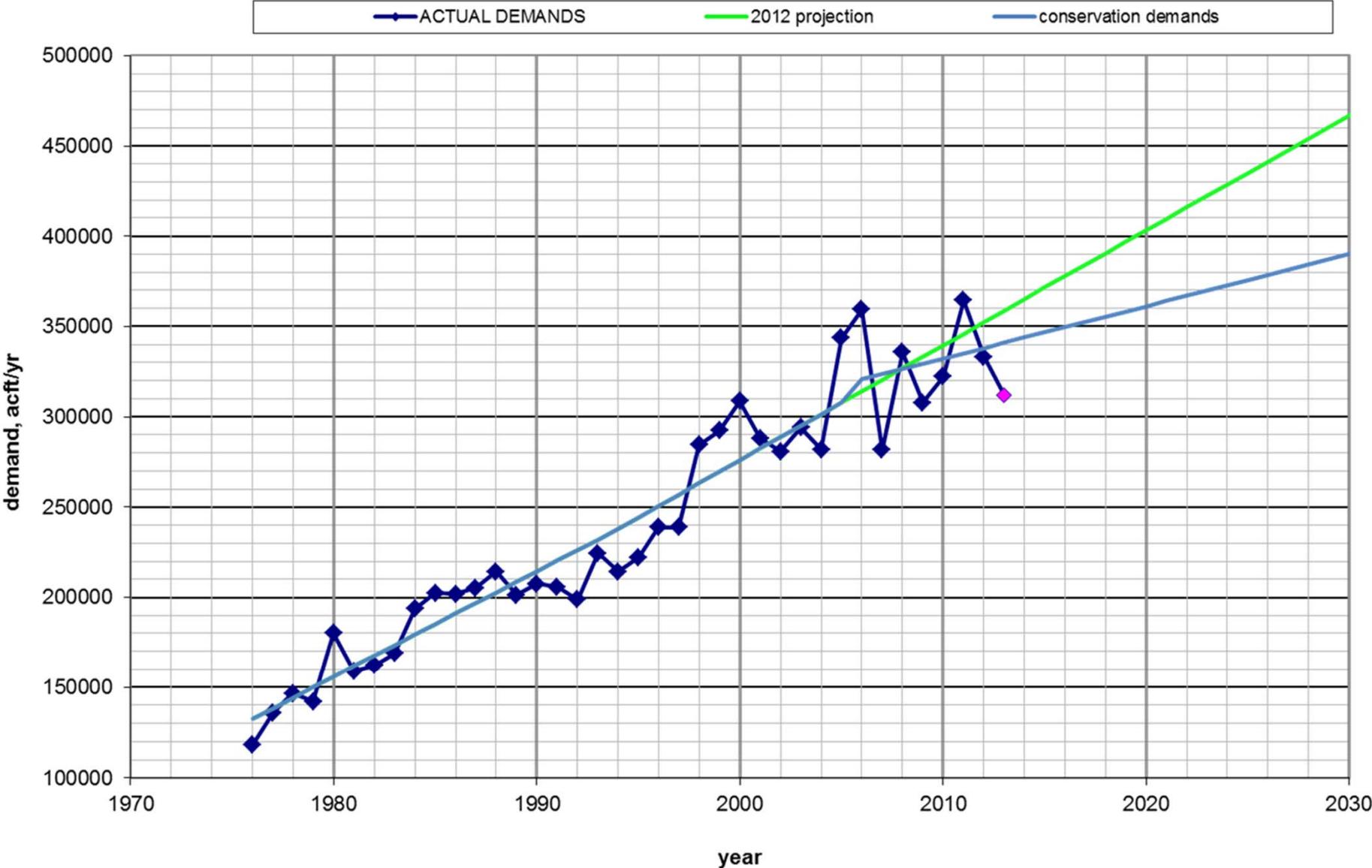


# Meeting growing demands

- Our population we serve grows by about 40,000 people each year
- Our demands have tripled in the last 40 years
- Conservation has slowed the growth, but we do not have a long record of how much it is reduced
- Our next sources are some distance from Tarrant County



Projected annual demands for the primary customers



# Looking for the Next Source



# North Texas Water Limited Supply



- The DFW area is in the headwaters of the Trinity River – all local water was developed by the 1970s.
- Several agencies supply water to the area
- New supplies have been developed and are imported using long, high volume transmission systems.
- The region's next significant sources are much further away (100 miles plus)
- Cooperation among the agencies has begun and will be necessary to complete these new systems
- NTMWD and Irving have a transmission system from Lake Chapman
- TRWD and Dallas has begun a joint 150 mile, \$2.3 billion transmission system from Palestine





# Water Supply Plan

## •Water Reuse from Trinity River - 2010 - 2025

- Richland Wetlands Wetland expansion completed in October 2013
- Cedar Creek Wetland will be under construction about 2025

## •3rd Pipeline from East Texas – 2018 - 2035

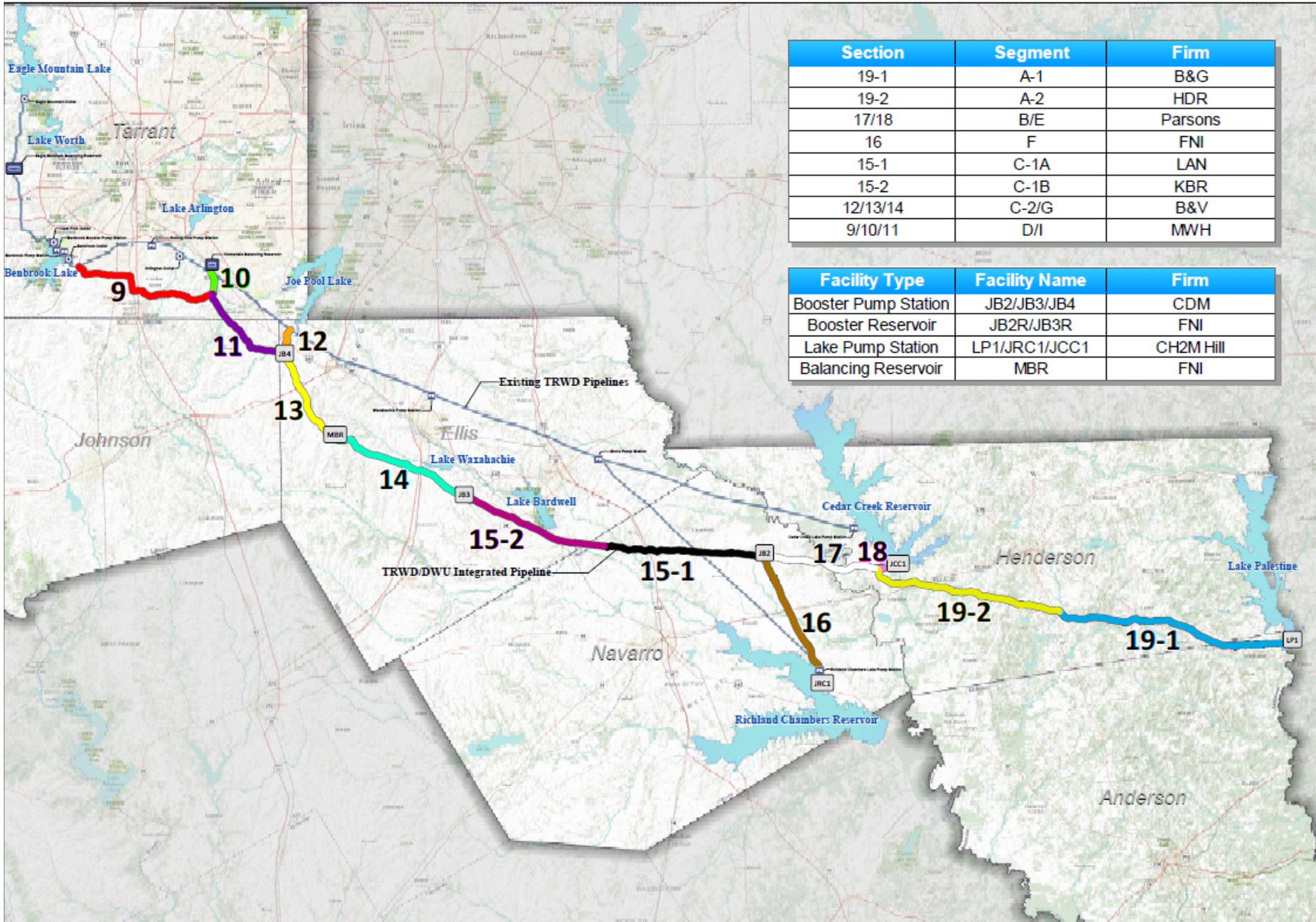
- Joint project with Dallas Water Utilities

## •Additional supply alternatives 2030 -

- Marvin Nichols
- Toledo Bend
- Oklahoma
- Reservoirs not shared

•By 2060 we have to supply over 900,000 acre feet of water, more than twice what we supply now





Section	Segment	Firm
19-1	A-1	B&G
19-2	A-2	HDR
17/18	B/E	Parsons
16	F	FNI
15-1	C-1A	LAN
15-2	C-1B	KBR
12/13/14	C-2/G	B&V
9/10/11	D/I	MWH

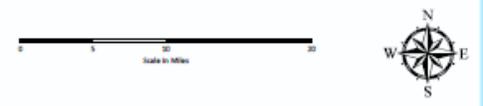
Facility Type	Facility Name	Firm
Booster Pump Station	JB2/JB3/JB4	CDM
Booster Reservoir	JB2R/JB3R	FNI
Lake Pump Station	LP1/JRC1/JCC1	CH2M Hill
Balancing Reservoir	MBR	FNI

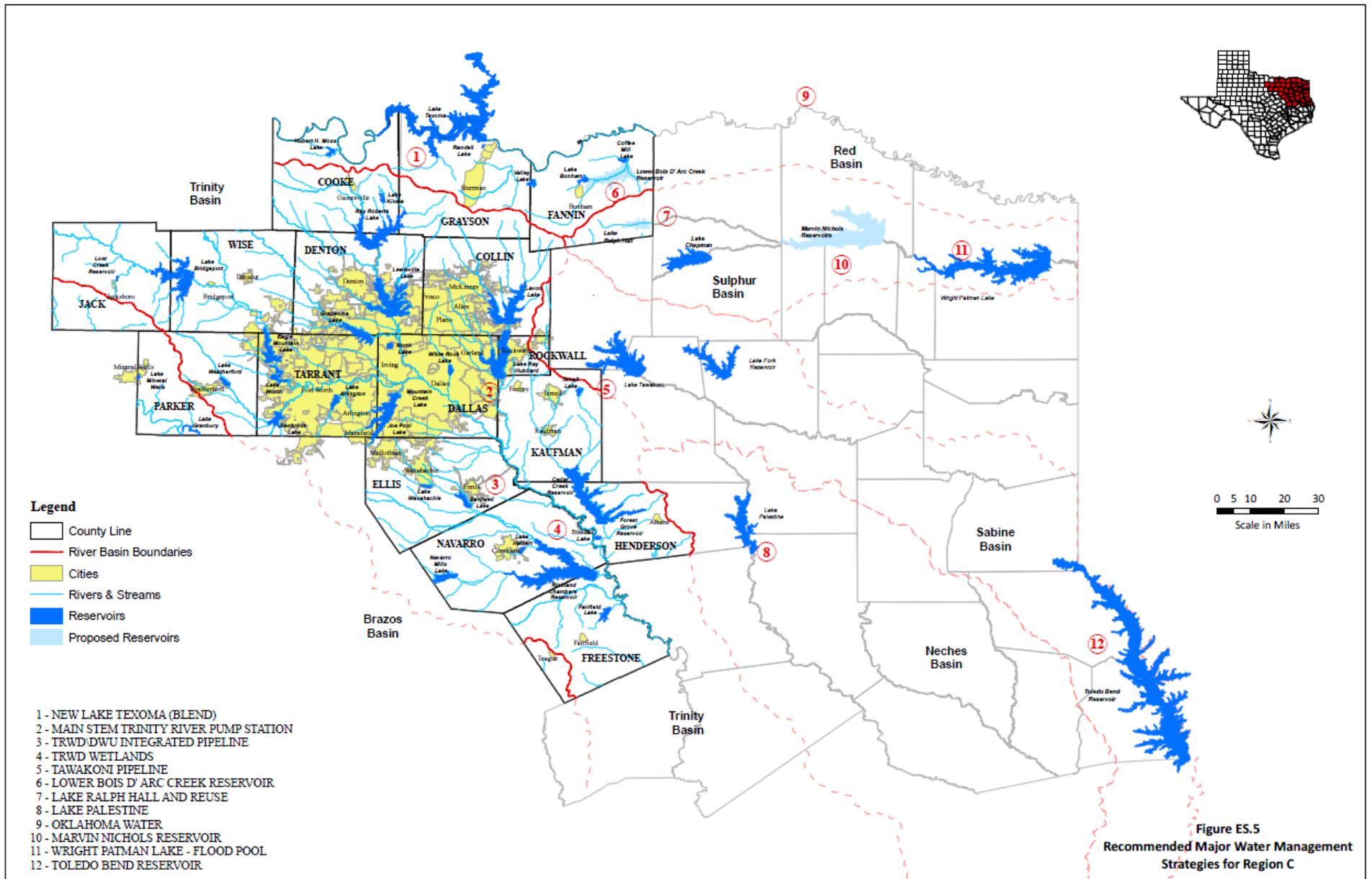


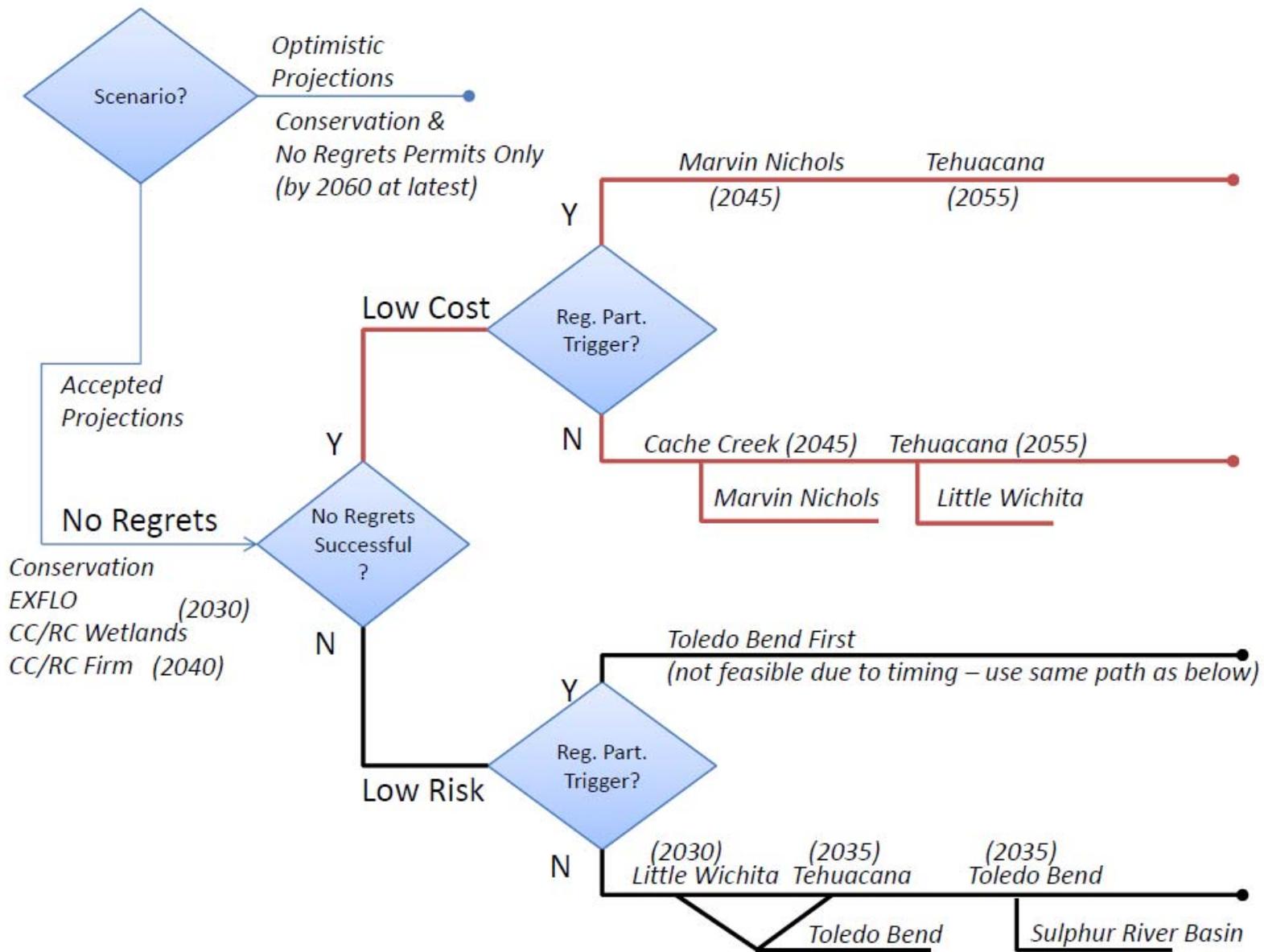
### Integrated Pipeline Program Pipeline Sections and Facility Sites

**Disclaimer:**  
Data contained in this map represents the best information available at the time of printing and is intended for general planning level use only. Unless otherwise stated, 1:318 does not represent an on-the-ground survey, 2) only represents approximate relative locations, 3) may not be suitable for legal, engineering, or surveying purposes. TRWD/DWU/PL is not liable for misuse of this information or derivative products resulting from this map.

MAP PRODUCED ON 7/17/2012 BY IPL-KZ

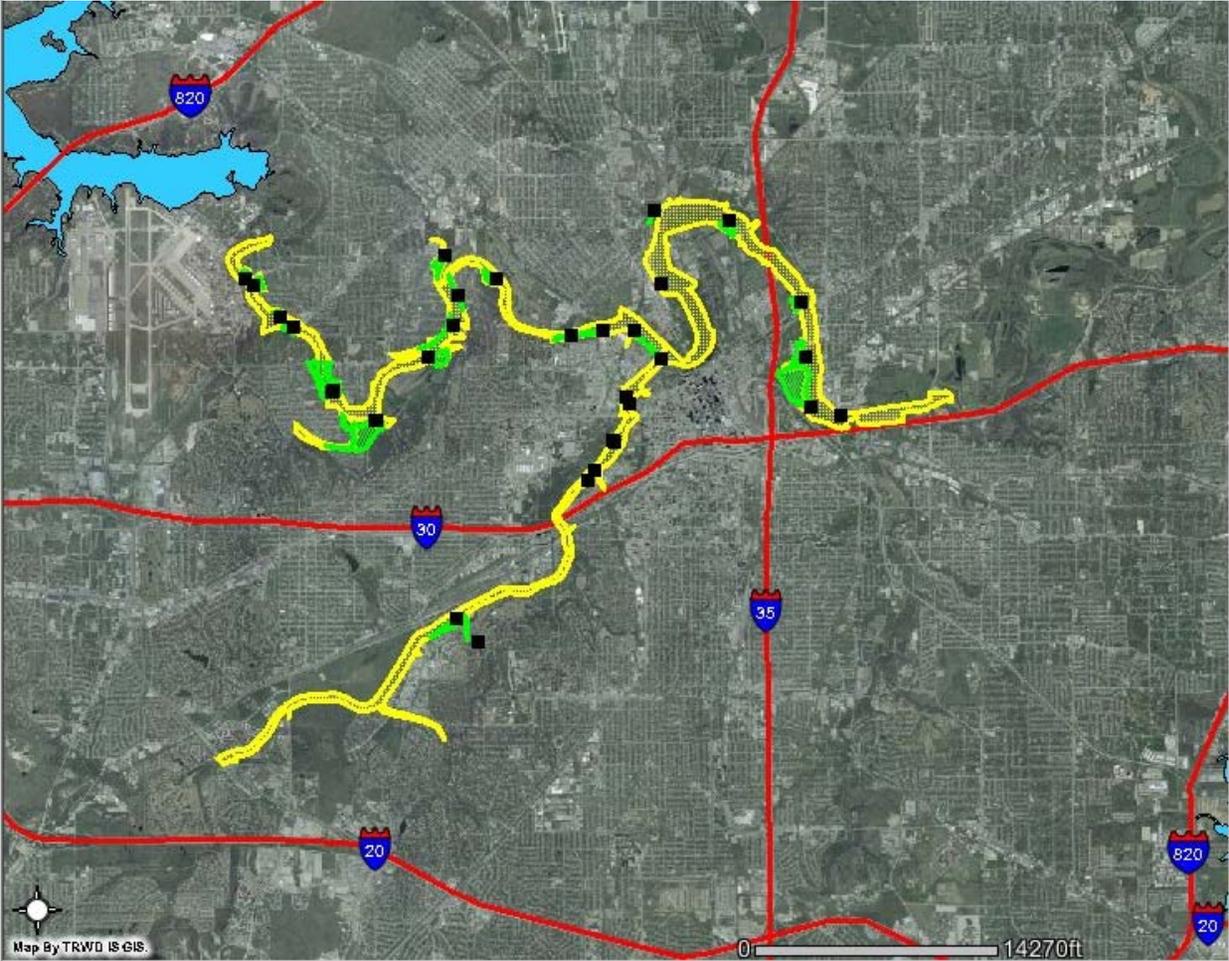






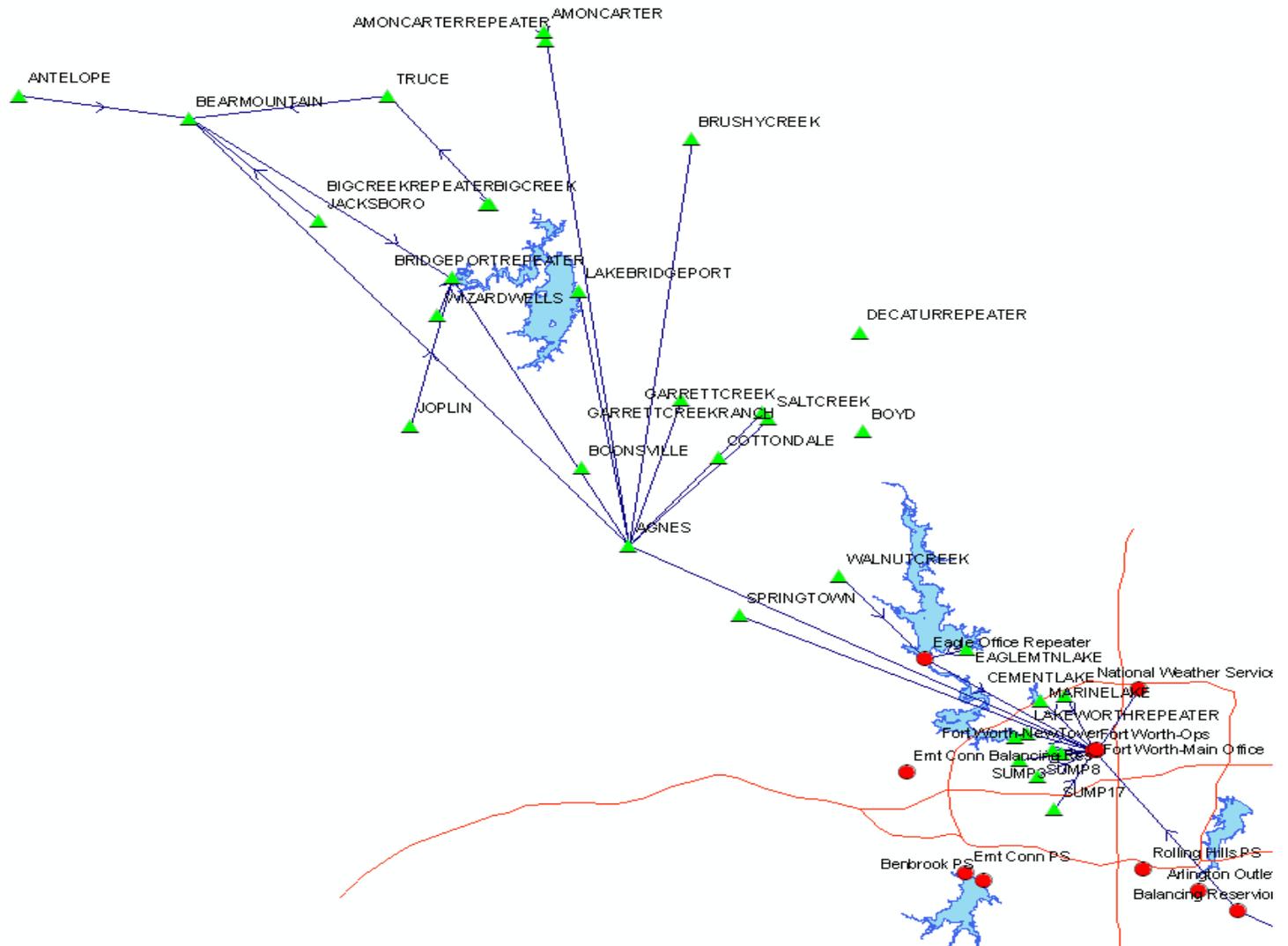
# Flood Control

## Fort Worth Floodway



- Legend
- Sump Outlets
  - ▨ Sumps
  - ▨ Floodway Maintained
  - ⚡ Interstate Highways
  - Reservoirs
  - Aerial Photos
  - Counties

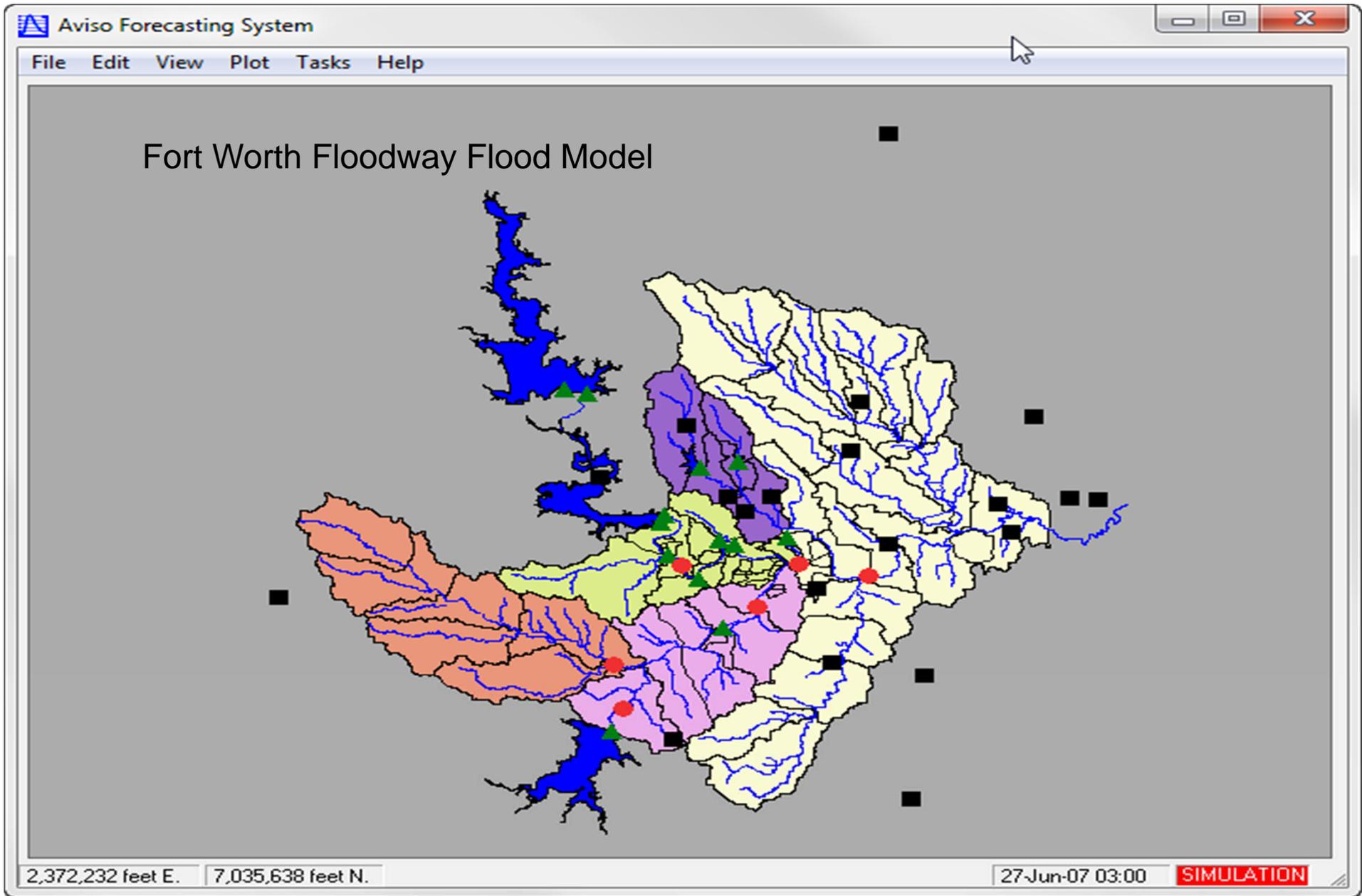
# West Fork Trinity Monitoring



# Overview of Trinity River HEC-HMS Models

- Upper Basin Model Development
  - 2,052 square miles
  - 62 sub-basins
  - 4 USGS streamflow gauges
  - 5 gauged reservoirs
  - 35 routing reaches





THE  
Lawn Whisperer  
Says



*“It’s a drought  
out there.”*

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