

***Lake Palo Pinto  
Storage Restoration Project  
(Turkey Peak Reservoir)***

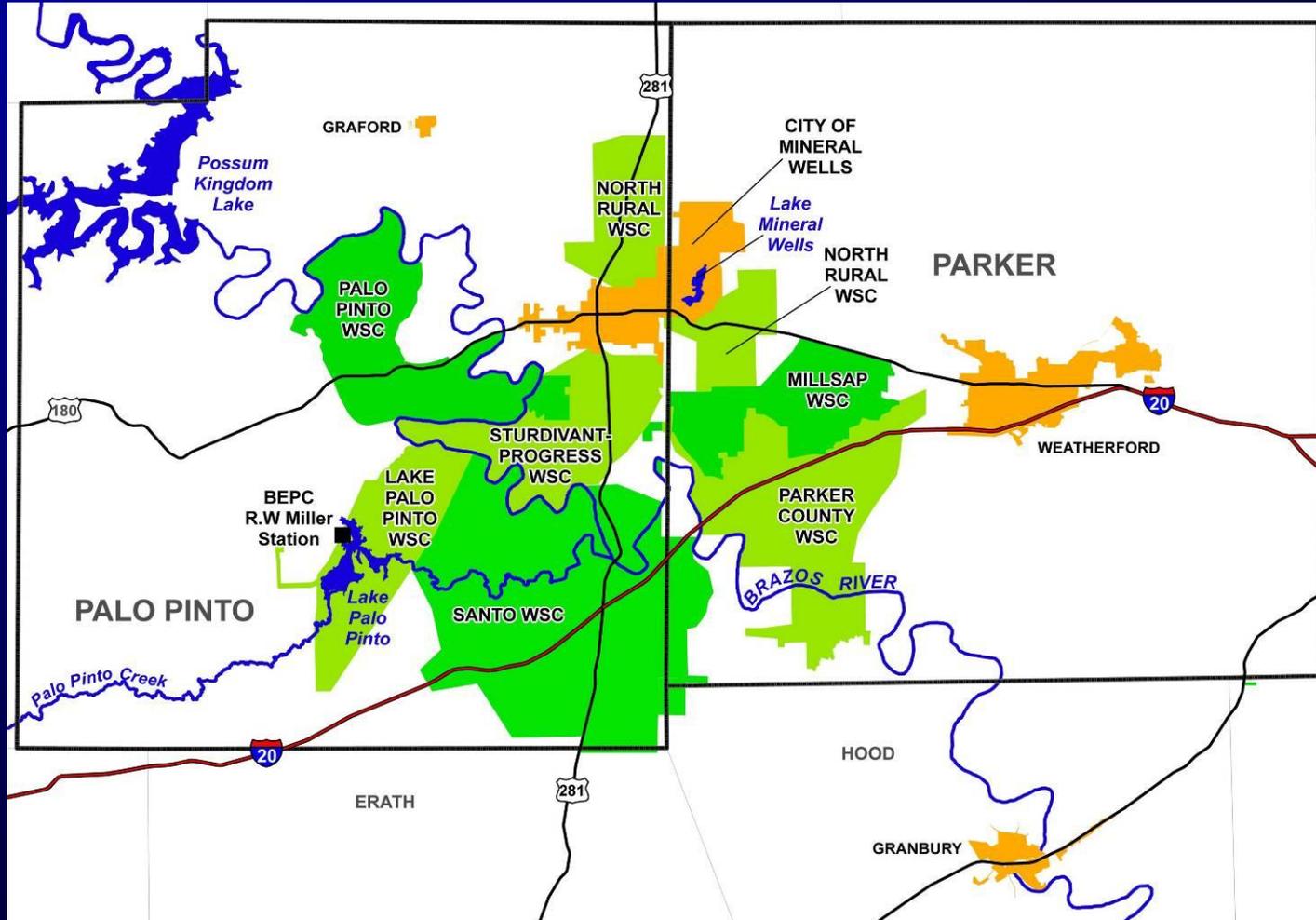
**Palo Pinto County  
Municipal Water District No. 1 and  
City of Mineral Wells**

**Brazos River BBASC Meeting  
June 27, 2012**

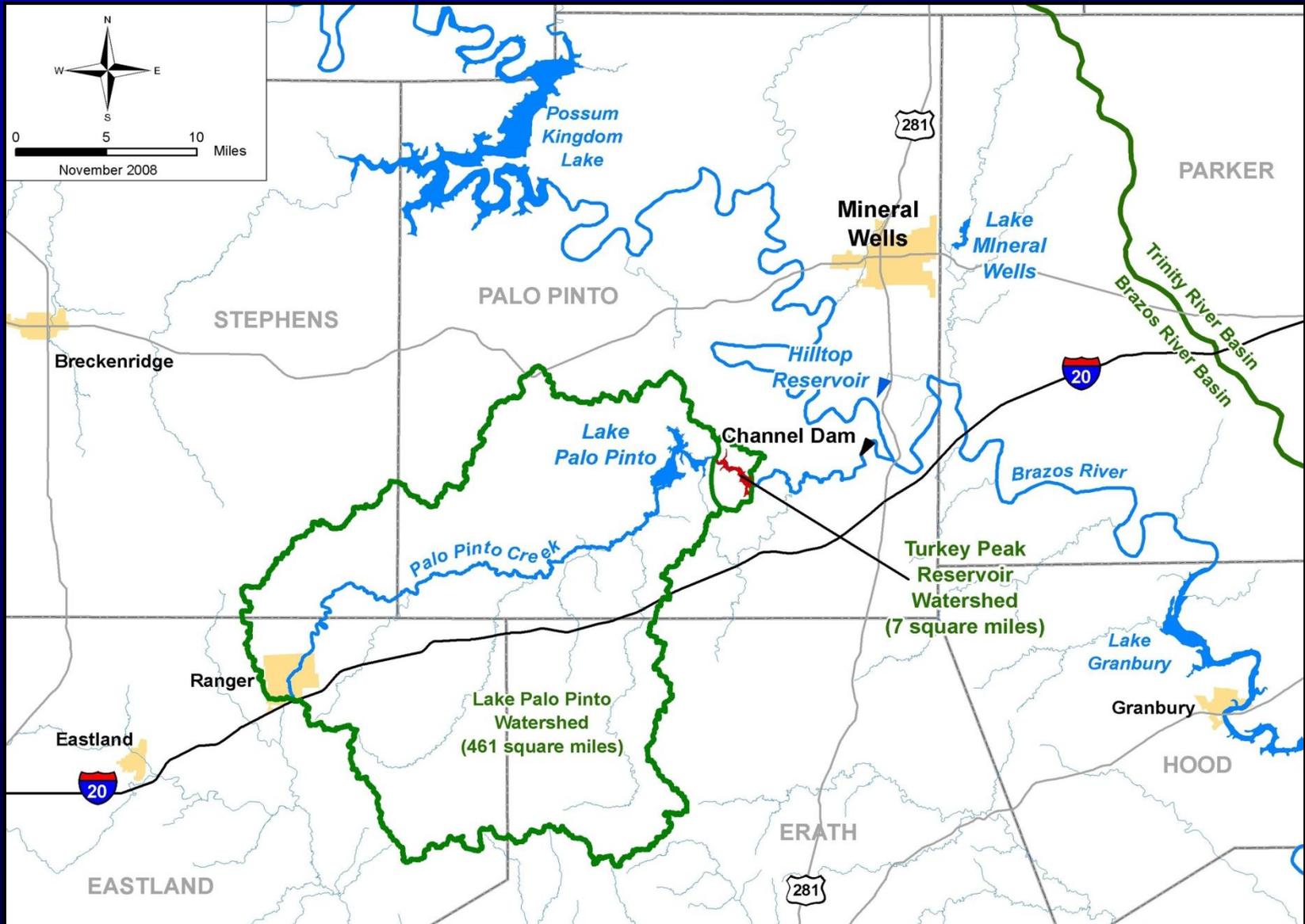


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*Many Solutions<sup>SM</sup>*

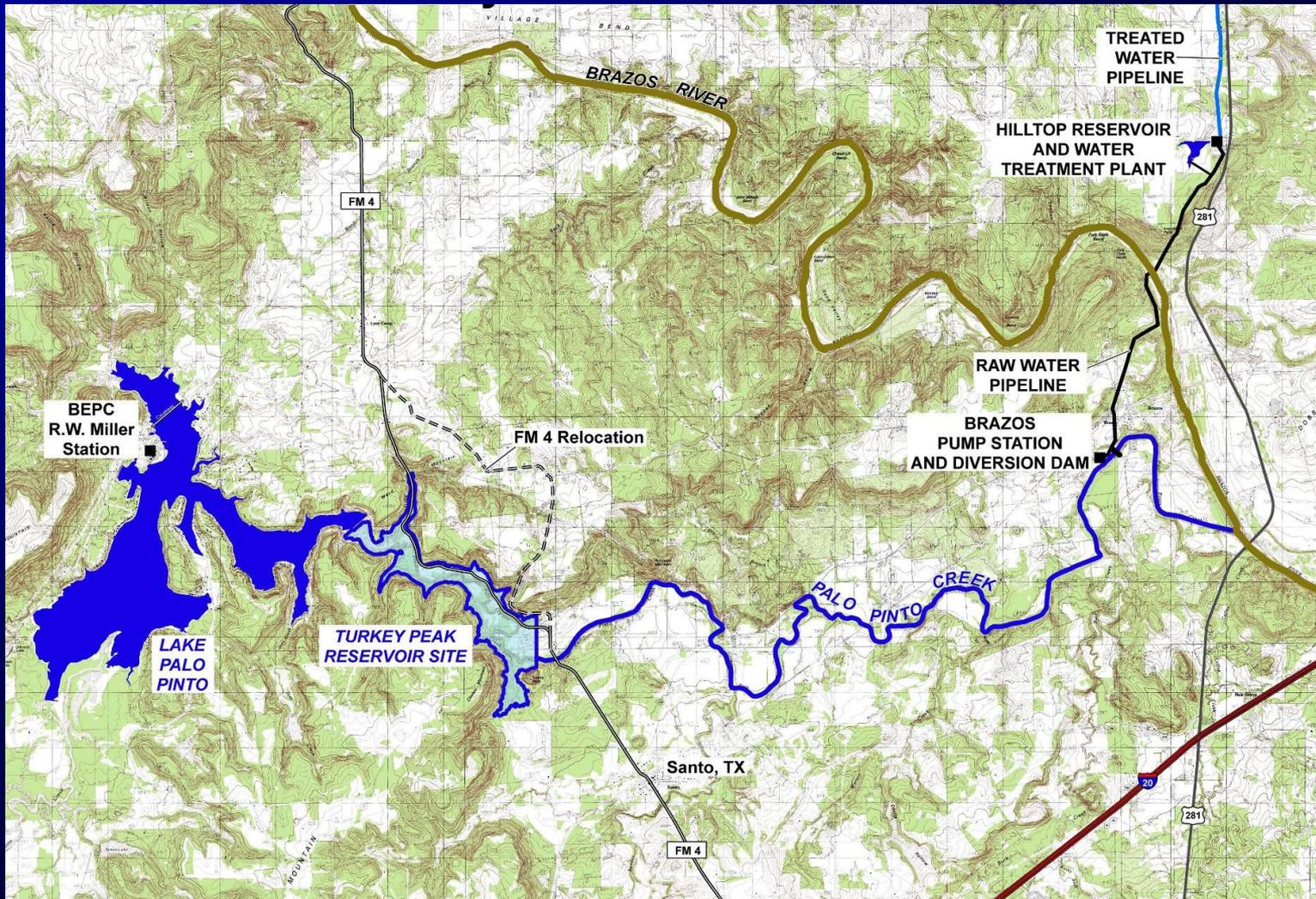
# Service Area Includes Portions of Palo Pinto & Parker Counties



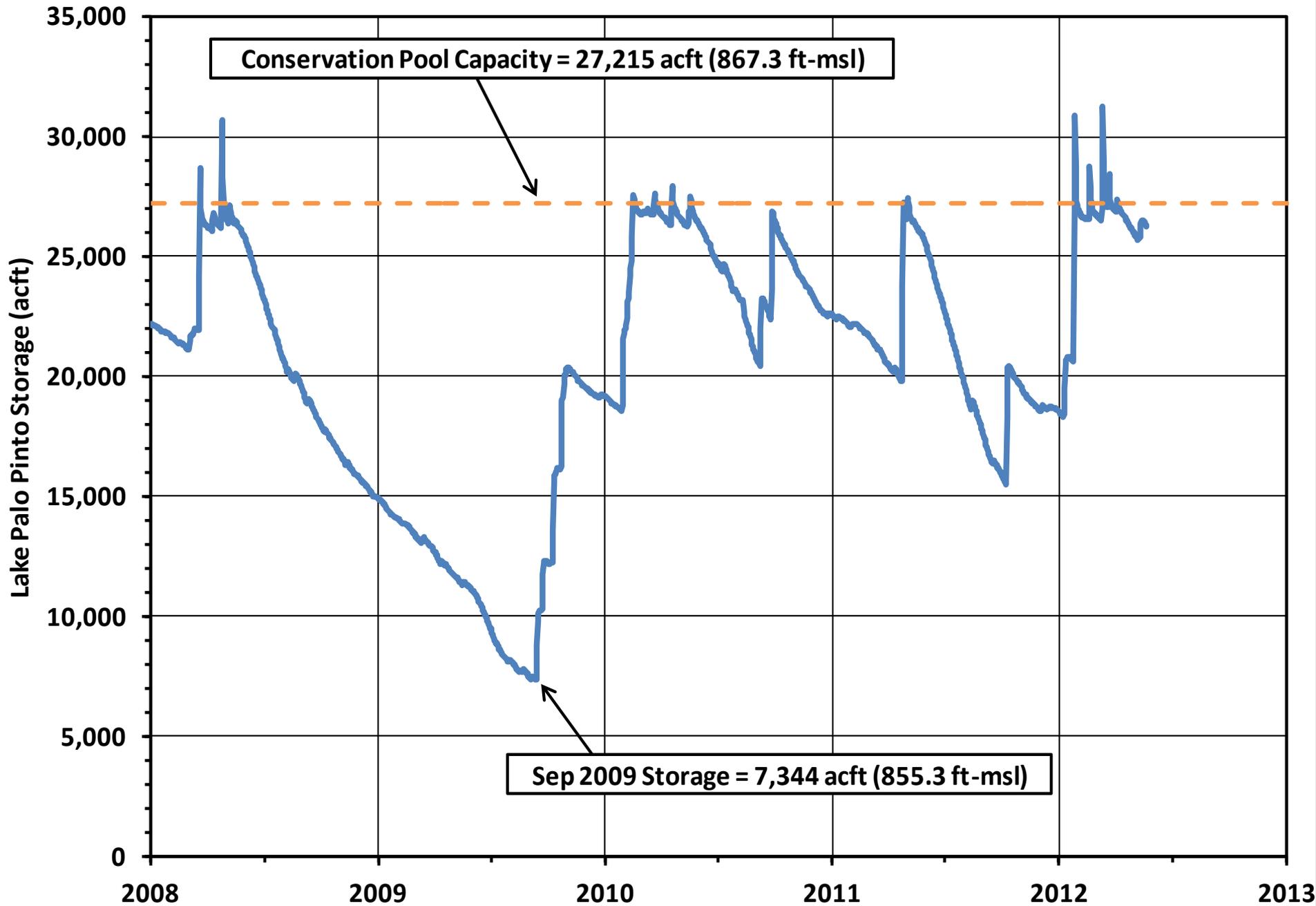
# Reservoir Watershed Areas



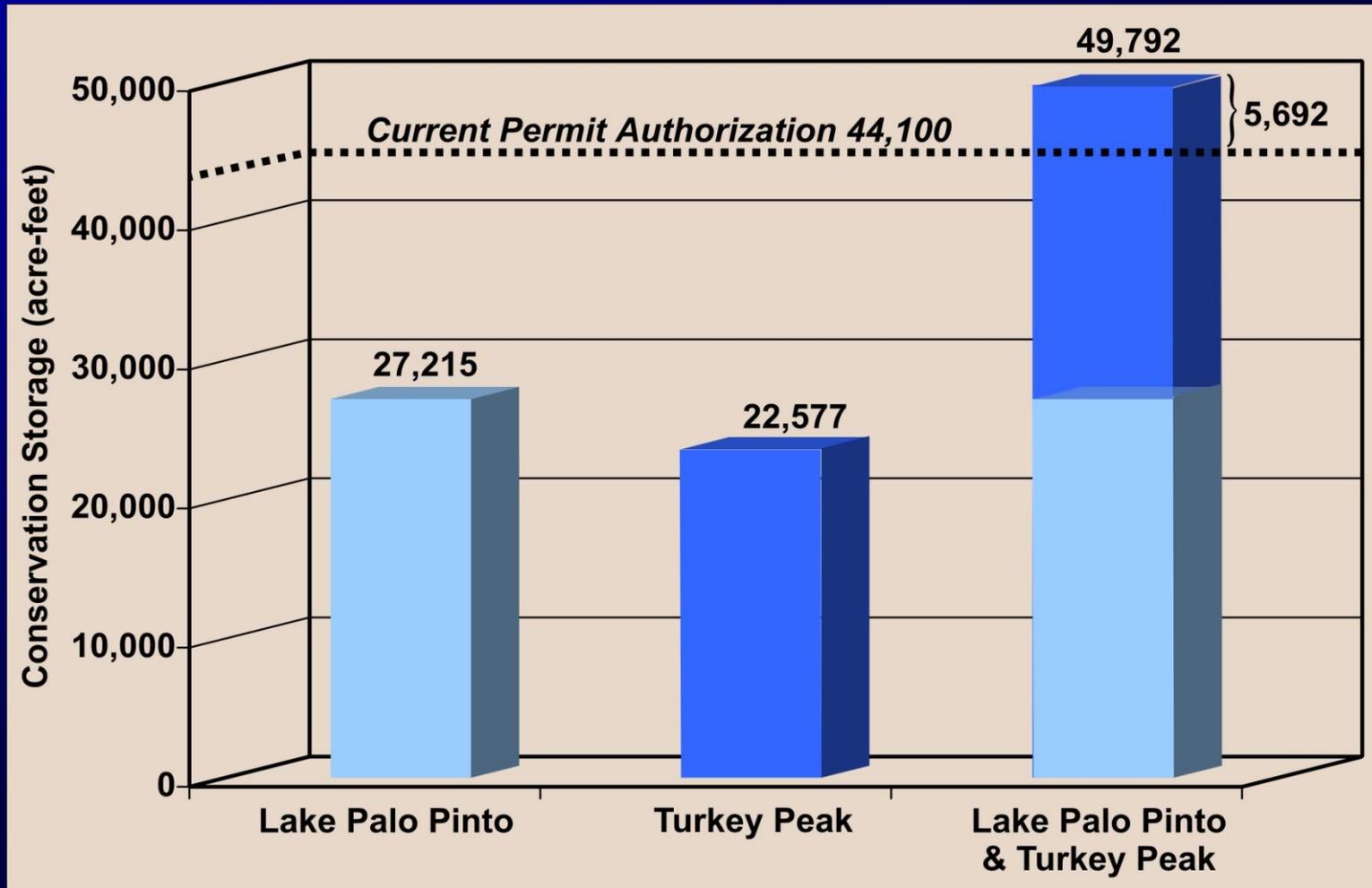
# Map of Lake Palo Pinto & Turkey Peak



# Lake Palo Pinto Storage Trace



# Reservoir Capacities and Additional Storage Requested



# Current Conditions – Palo Pinto Creek

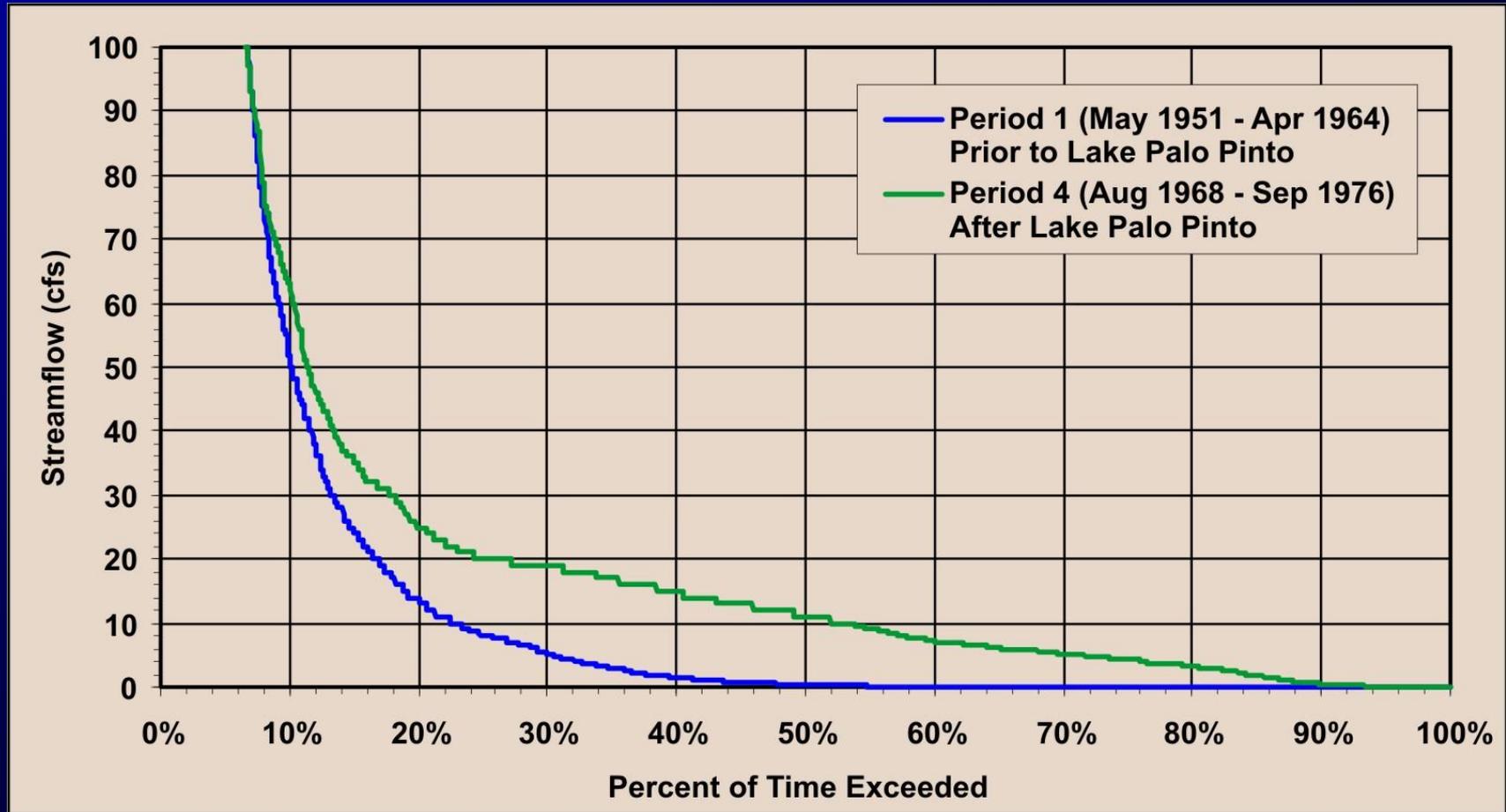


May 5 2009

## 2009 RBP Results - Palo Pinto Creek

Habitat	Benthics	Fish
High / Exceptional	High / Exceptional	High

# Daily Flow Duration Curves for Palo Pinto Creek near Santo, TX



# Current Conditions – Palo Pinto Creek



May 5 2009

## 2009 RBP Results - Palo Pinto Creek

Habitat	Benthics	Fish
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# ***District's Currently Proposed Environmental Flows***

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- ☐ Inflows from 7-square mile area to be released within 4 days at a rate of up to 85 cfs (outlet capacity)**
- ☐ 8 cfs to be released at all times to maintain and further enhance biotic conditions in Palo Pinto Creek**

# Lake Palo Pinto/Turkey Peak Reservoir - Full BBEST Recommendation (Contributing Drainage Area Ratio of BRPP to LPP/TPR)

• Costly spillway modification  
• Complex operational scheme

Overbank Events		Qp: 830 cfs with Average Frequency 1 per 2 years Regressed Volume is 10,000 Duration Bound is 32											
High Flow Pulses		Qp: 560 cfs with Average Frequency 1 per year Regressed Volume is 6,000 Duration Bound is 26											
High Flow Pulses	HFP 4	Qp: 60 cfs Average Frequency: 1 per season Regressed Volume: 350 Duration Bound: 8				Qp: 340 cfs				Qp: 240 cfs			
	HFP 3	Average Frequency: 1 per season Regressed Volume: 350 Duration Bound: 8				Average Frequency: 1 per season Regressed Volume: 2,800 Duration Bound: 18				Average Frequency: 1 per season Regressed Volume: 1,960 Duration Bound: 17			
	HFP 2	Qp: 45 cfs				Qp: 110 cfs				Qp: 70 cfs			
	HFP 1	Qp: 30 cfs				Qp: 40 cfs				Qp: 40 cfs			
Base Flows (cfs)	Wet	3				4				4			
	Avg	2				2				2			
	Dry	1				1				1			
Subsistence Flows (cfs)		1				1				1			
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
		Winter				Spring				Summer			

Flow Levels	High (75th %ile)
	Medium (50th %ile)
	Low (25th %ile)

Drainage Area Summary Table		
Gage/Reservoir	Drainage Area (sq-mi)	DAR
LPP	461	---
BRPP - Incremental below PK	215	214%
BRPP - Contributing	14,245	3%
BRPP - Full	23,811	2%

- Notes:
1. Period of Record used : 1/1/1925 to 12/31/2010.
  2. Volumes are in acre-feet and durations are in days.
  3. Episodic events are terminated when the volume or duration criteria are met, or when the flow drops below 169 cfs, or when the flow is below 693 cfs and the flow drops from one day to the next by less than 5%.



# ***Recommendations for Brazos BBASC Consideration***

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- ❑ High Flow Pulses (HFPs) should be limited to HFP levels 1 or 2; and**
- ❑ An exemption to all or a portion of High Flow Pulse standards may be granted by TCEQ if the new or amended permit provides for the release of stored water to reduce the frequency of zero flow conditions.**