



Determination and Administration

Of
Over-Appropriated
Basins in Texas



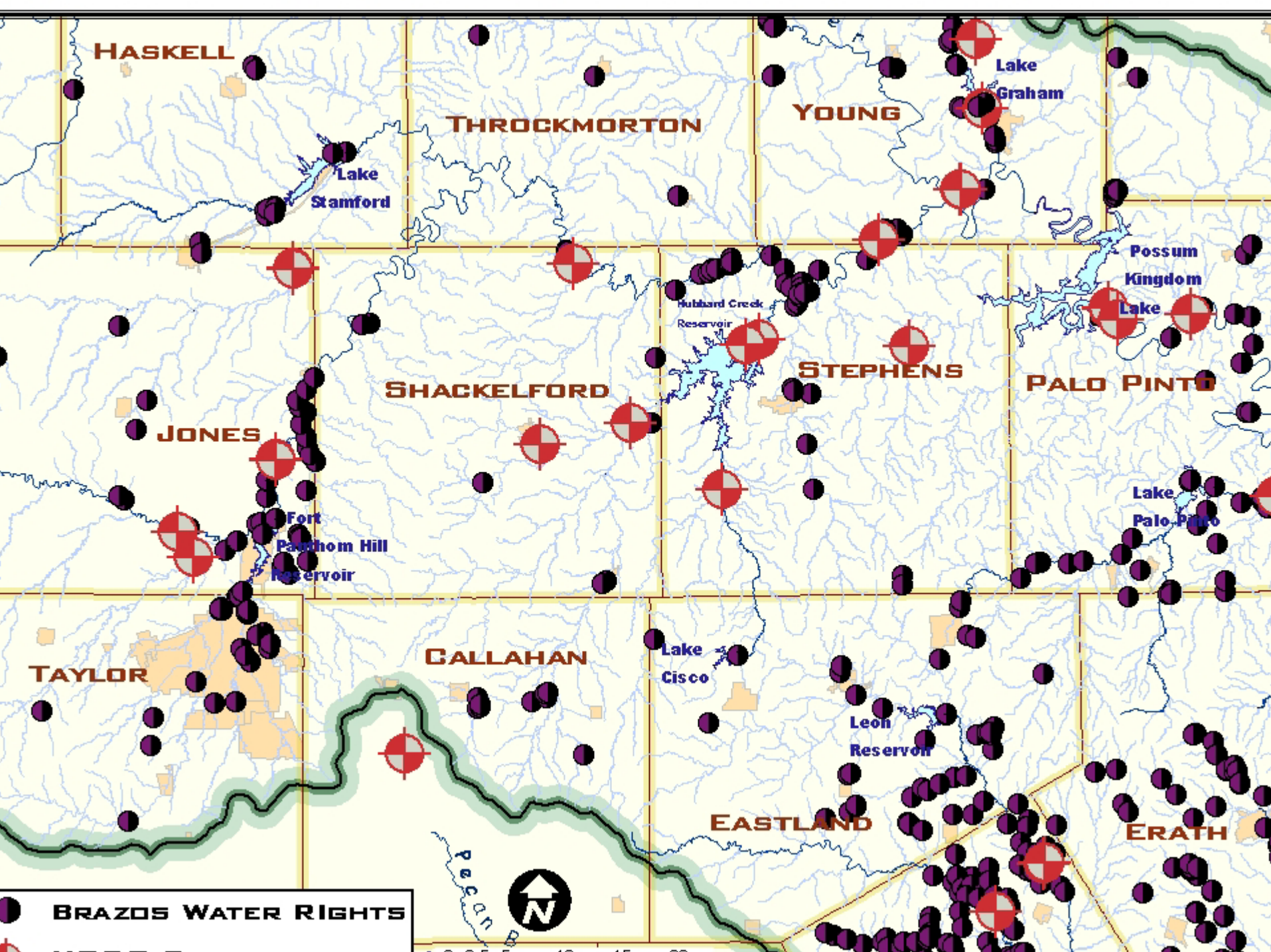
Water Availability Models

- ◆ Prior Appropriation Models.
- ◆ Model for each of the 23 River Basins.
- ◆ Over 8,000 water rights, and 191,000 miles of Streams and Rivers modeled.


















































































































































































































































































































































































































































































































Using the WAM

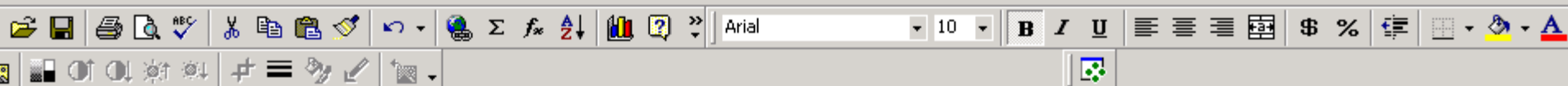
- ◆ Reliability of Existing Water Rights
- ◆ Availability analysis for new applications
- ◆ Regulated and Unappropriated Flow at each control point
- ◆ General Availability of Water



Unappropriated Water

- ◆ A Calculated volume.
- ◆ Dependent on location and priority date.
- ◆ What's left after diversions, and downstream senior water rights and instream flows are satisfied.

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A4 = Unappropriated Flows (AC-FT) at Control Point 3274N2

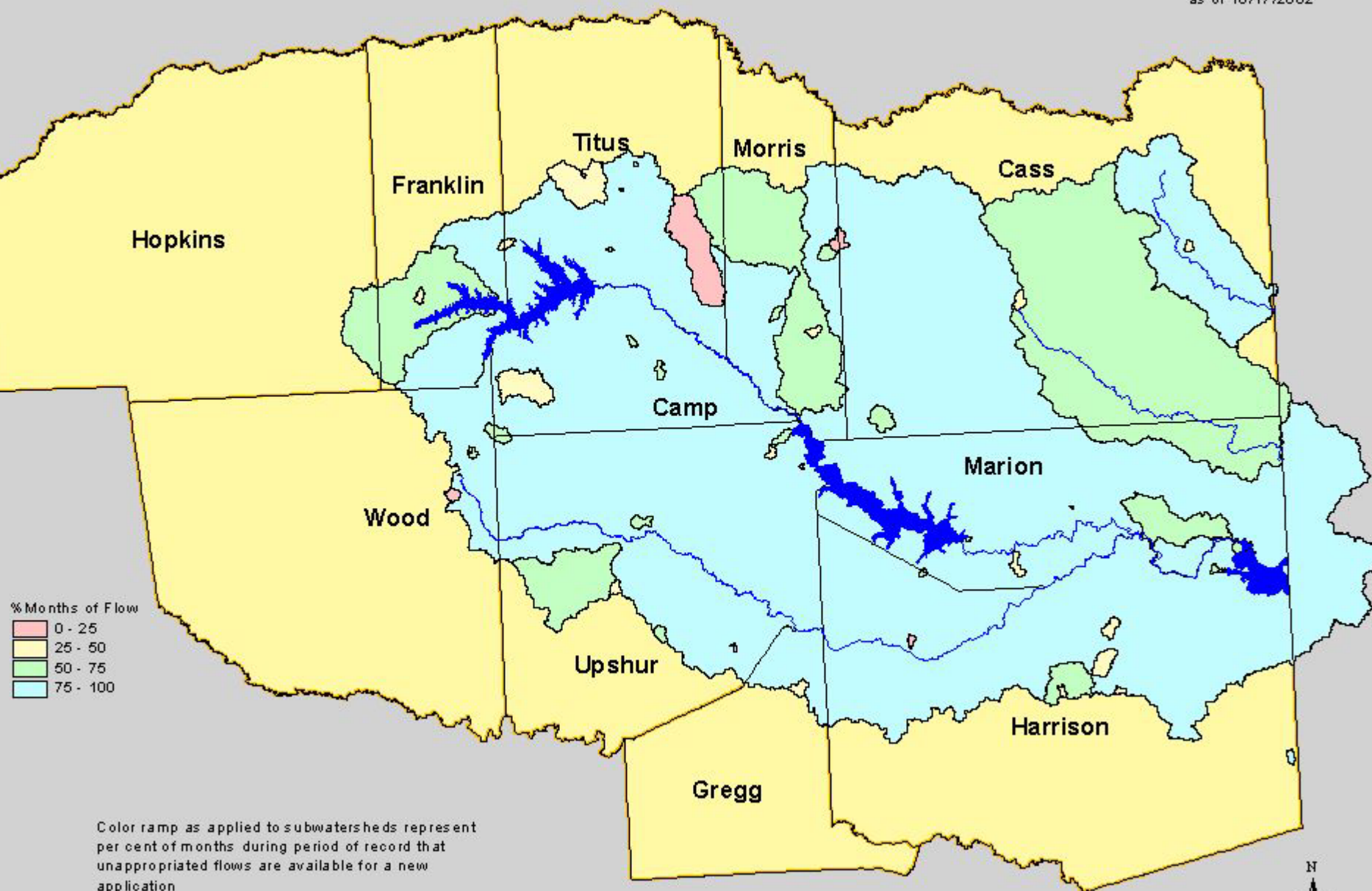
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Unappropriated Flows (AC-FT) at Control Point 3274N2														
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1940	47	2936	0	217	1301	1265	249	0	0	0	1778	7997	15791	
1941	4837	2994	4408	1269	1459	1251	1725	0	0	0	3386	1642	22972	
1942	1272	775	930	2758	3592	1485	0	0	0	0	0	0	10812	
1943	0	0	0	0	0	0	0	0	0	0	0	0	0	
1944	0	0	2476	4110	14811	1550	0	0	0	0	0	0	22946	
1945	6905	1870	2152	8192	1704	0	2939	0	0	859	382	1430	26432	
1946	3002	5163	4123	3054	3159	946	64	0	0	0	2047	2852	24410	
1947	2597	1860	5939	1930	5921	1675	0	0	0	0	0	0	19922	
1948	0	0	560	1283	202	0	0	0	0	0	0	0	2045	
1949	0	0	0	0	0	0	0	0	0	0	0	0	0	
1950	0	711	1277	514	3428	1738	0	0	0	0	0	0	7667	
1951	0	0	0	0	0	0	0	0	0	0	0	0	0	
1952	0	0	0	0	0	0	0	0	0	0	0	0	0	
1953	0	0	0	0	6722	7	0	0	0	0	0	0	6729	
1954	0	0	0	0	0	0	0	0	0	0	0	0	0	
1955	0	0	0	0	0	0	0	0	0	0	0	0	0	
1956	0	0	0	0	0	0	0	0	0	0	0	0	0	
1957	0	0	0	0	0	0	0	0	0	0	0	0	0	
1958	0	2611	1039	820	660	0	0	0	98	0	0	0	5228	
1959	0	638	402	1323	4665	2381	0	0	0	0	0	763	10172	
1960	2928	2276	2363	403	0	0	0	0	0	0	0	3994	11963	
1961	6973	3761	5698	3480	0	2650	550	0	0	0	0	1012	24123	
1962	2353	2006	1330	1272	2545	1795	0	0	0	0	0	0	11300	
1963	0	0	0	0	0	0	0	0	0	0	0	0	0	
1964	0	0	0	0	0	0	0	0	0	0	0	0	0	
1965	0	0	0	0	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	4928	0	0	0	0	0	0	0	4928	
1967	0	0	0	0	0	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	0	0	0	0	0	0	2477	2477	

General Availability

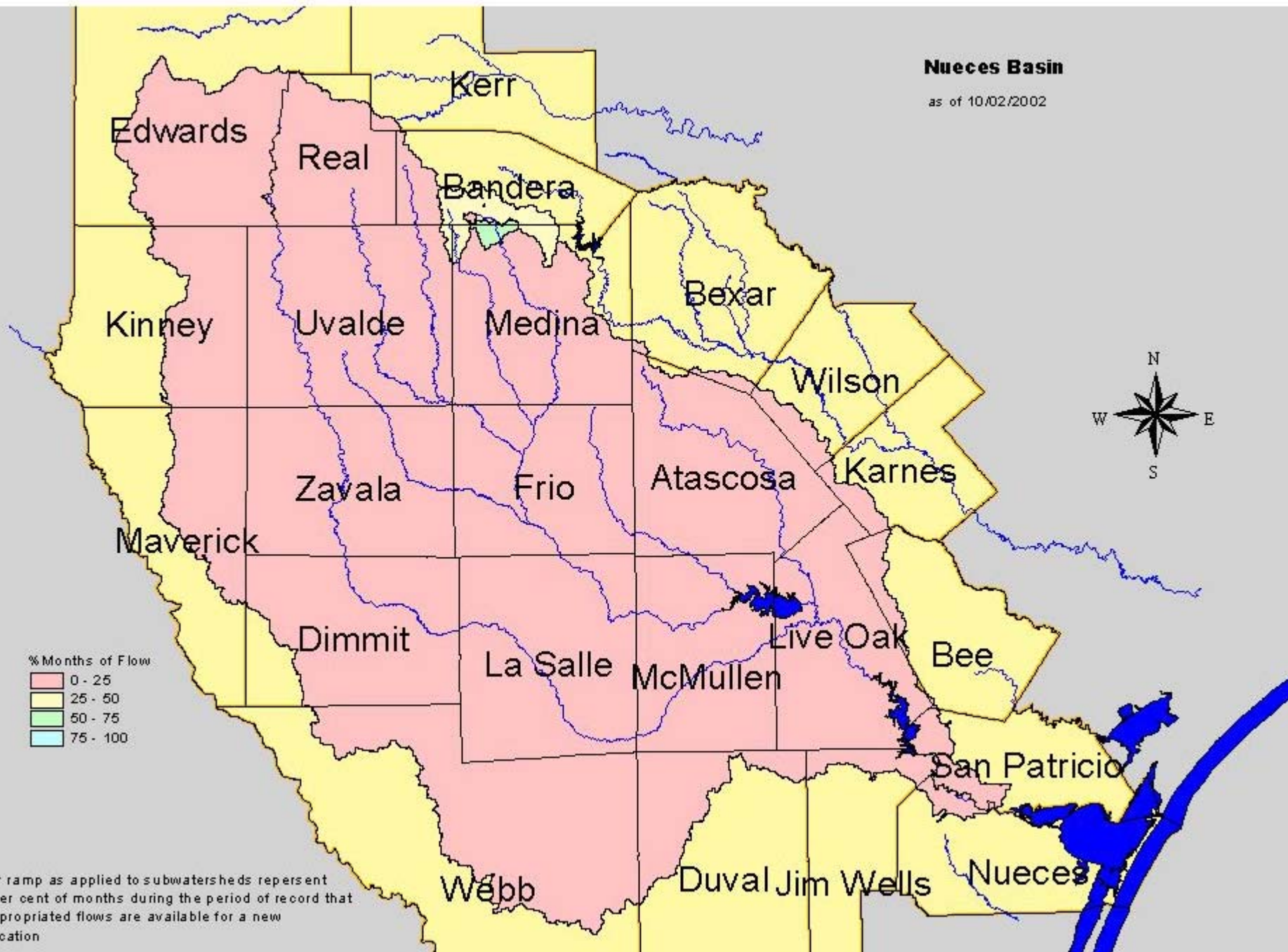
- ◆ For each control point that defines an upstream subwatershed, the percentage of months with any unappropriated water present was determined.
- ◆ Each control point placed into one of 4 general groups (0-25%, 25-50%, 50-75%, >75%)

Cypress Basin

as of 10/17/2002



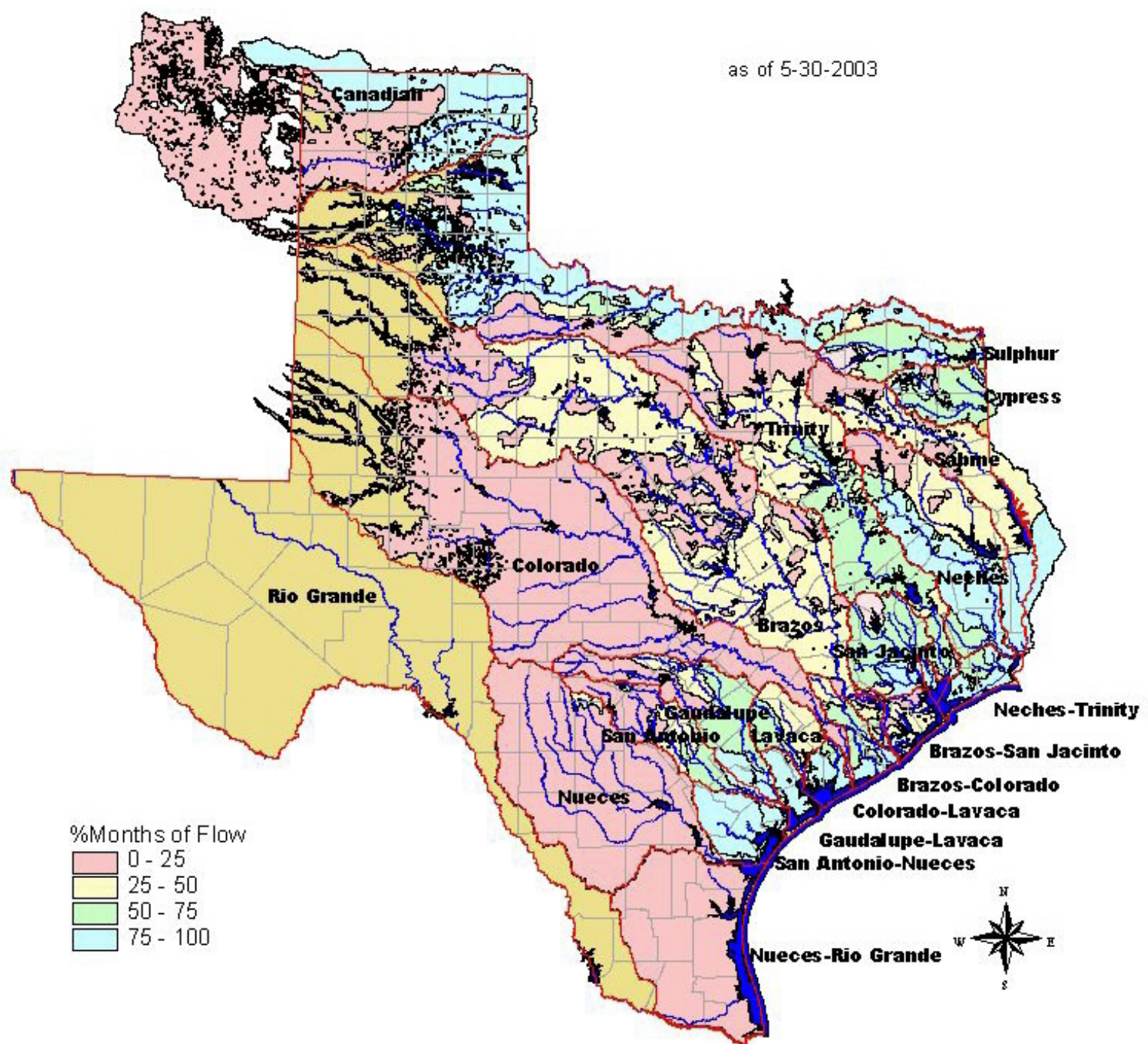
Water Availability Evaluation for New Perpetual Rights

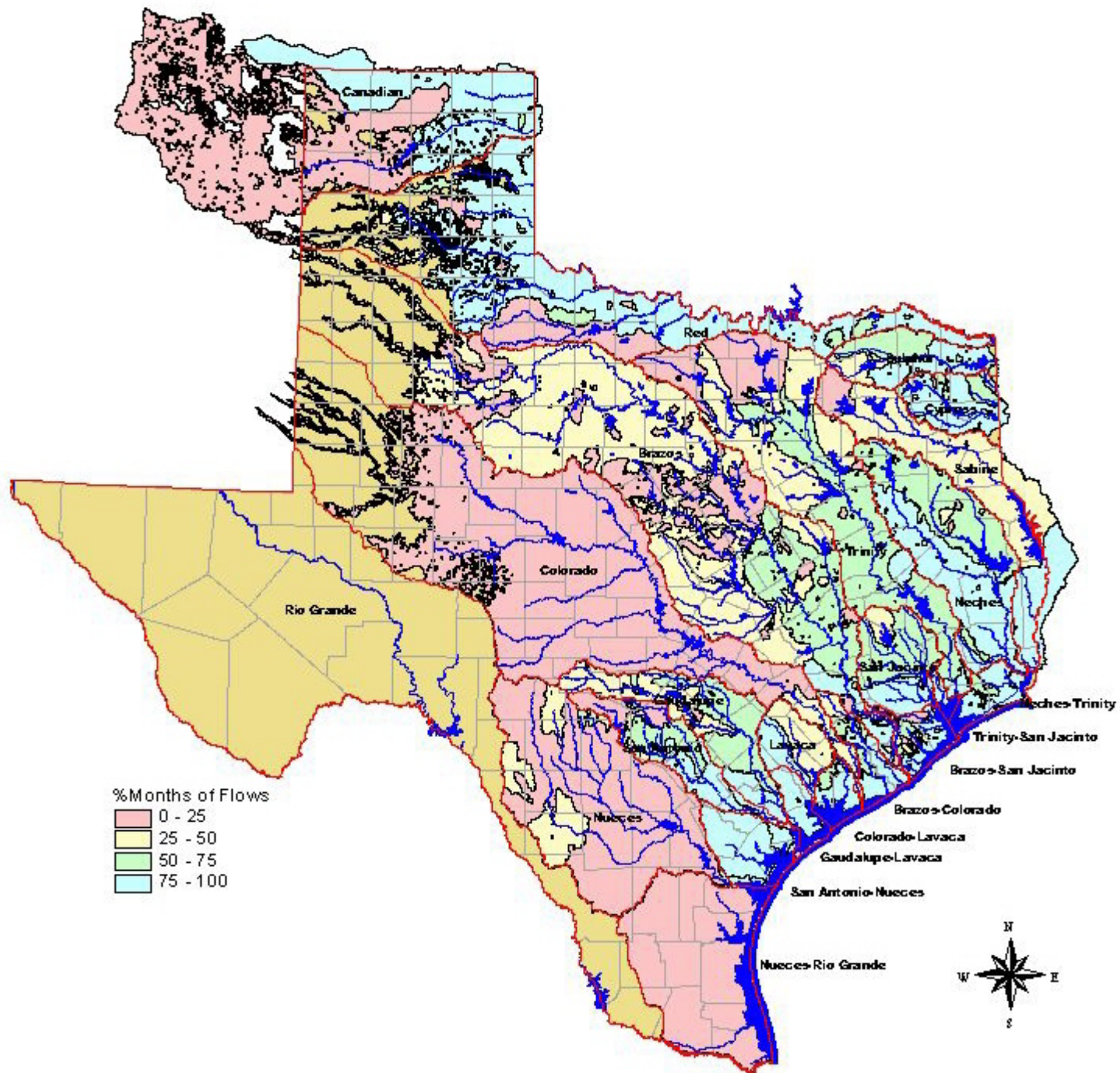


Run 3 vs. Run 8

- ◆ Perpetual Water rights evaluated using Run 3, assumptions include full authorized amount, no return flows. (Most conservative)
- ◆ Term water rights evaluated using Run 8, assumptions include max. last 10 years use, reported return flows.

as of 5-30-2003

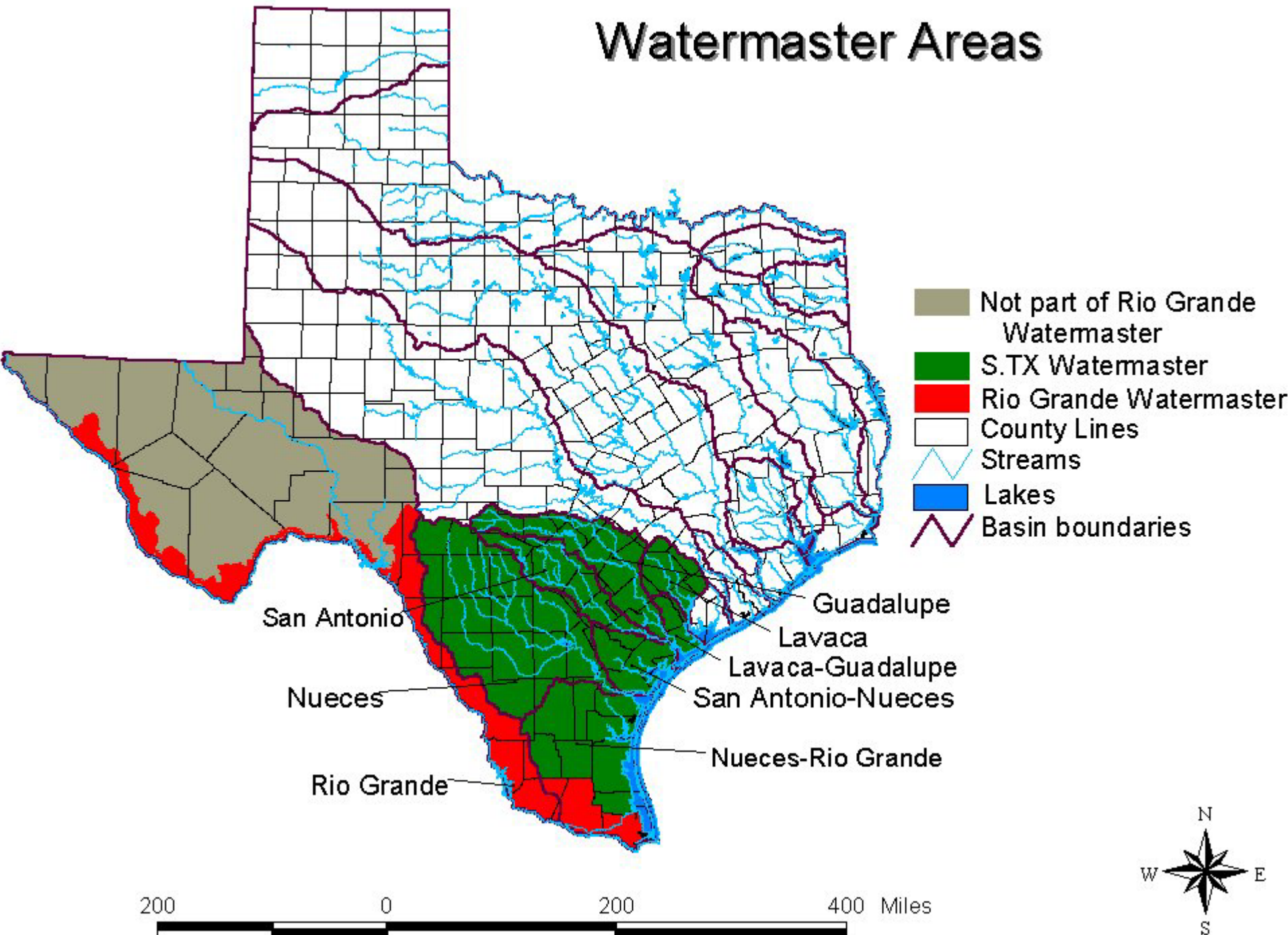




Administration

- ◆ Texas has appointed Watermasters in 2 areas, and a third is proposed.
- ◆ Rio Grande Watermaster developed as a result of litigation in the 1950s.
- ◆ Legislation currently pending in TX legislature to establish a Watermaster on the Concho (Upper Colorado)

Watermaster Areas



Rio Grande

- ◆ Three types of water right – ‘DMI’ (domestic, municipal, industrial), Type A, and Type B
- ◆ DMI have priority – come out of firm yield of U.S. share of system yield
- ◆ Type A and B get allocation from remaining water 7:5, A:B.

Rio Grande, cont.

- ◆ Rio Grande system is closed – no new water rights granted. New diverters must buy and convert existing rights
- ◆ Some tributary rights, and water rights upstream of Amistad are handled on a priority basis.

South Texas Watermaster

- ◆ Lavaca, Guadalupe, SanAntonio, Nueces and coastal basins covered by STW.
- ◆ All basins operated on a prior-appropriation basis, with 'cooperation' between users.