



Water Supply Study for Fannin County

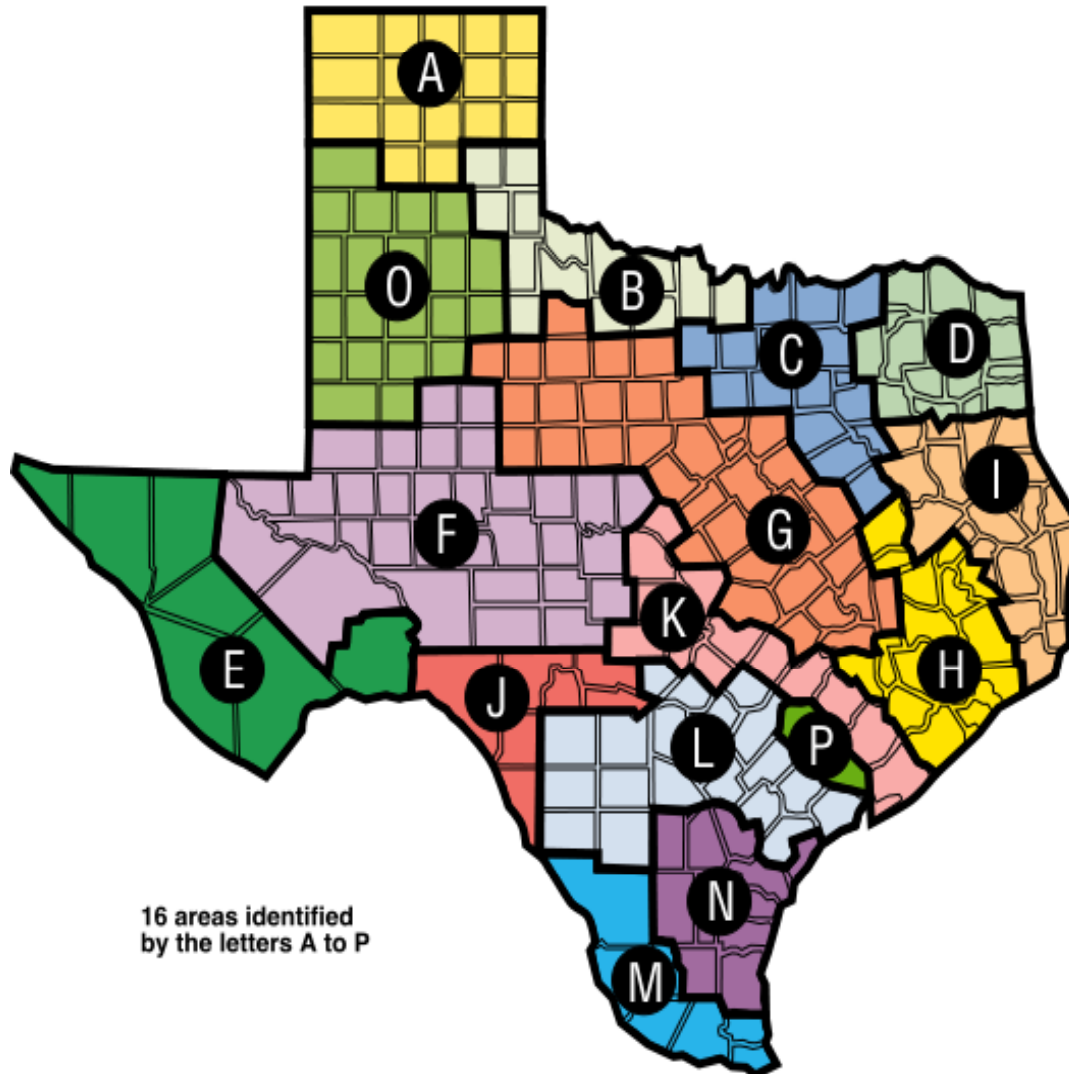
Preston Dillard, P.E.
Alan Plummer and Associates



Regional Water Planning Process

- Senate Bill 1 - Texas Legislature in 1997
- Spurred by 1996 drought
- Population projected to double by 2060
- “Bottom up” water planning process
- Texas Water Development Board
 - Adopted rules
 - Set out 16 regions
 - Named initial planning group members

Regional Water Planning Areas

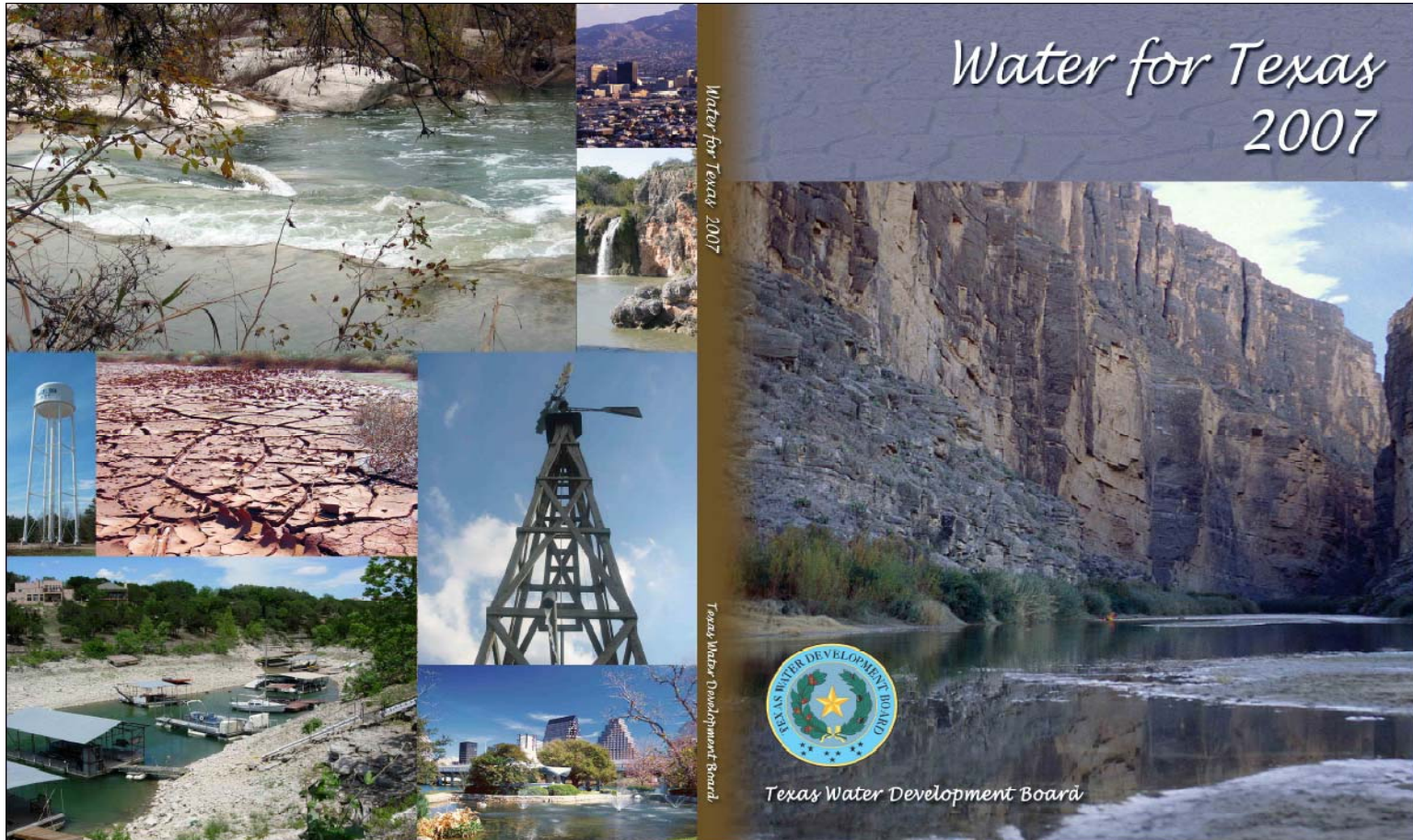


16 areas identified
by the letters A to P

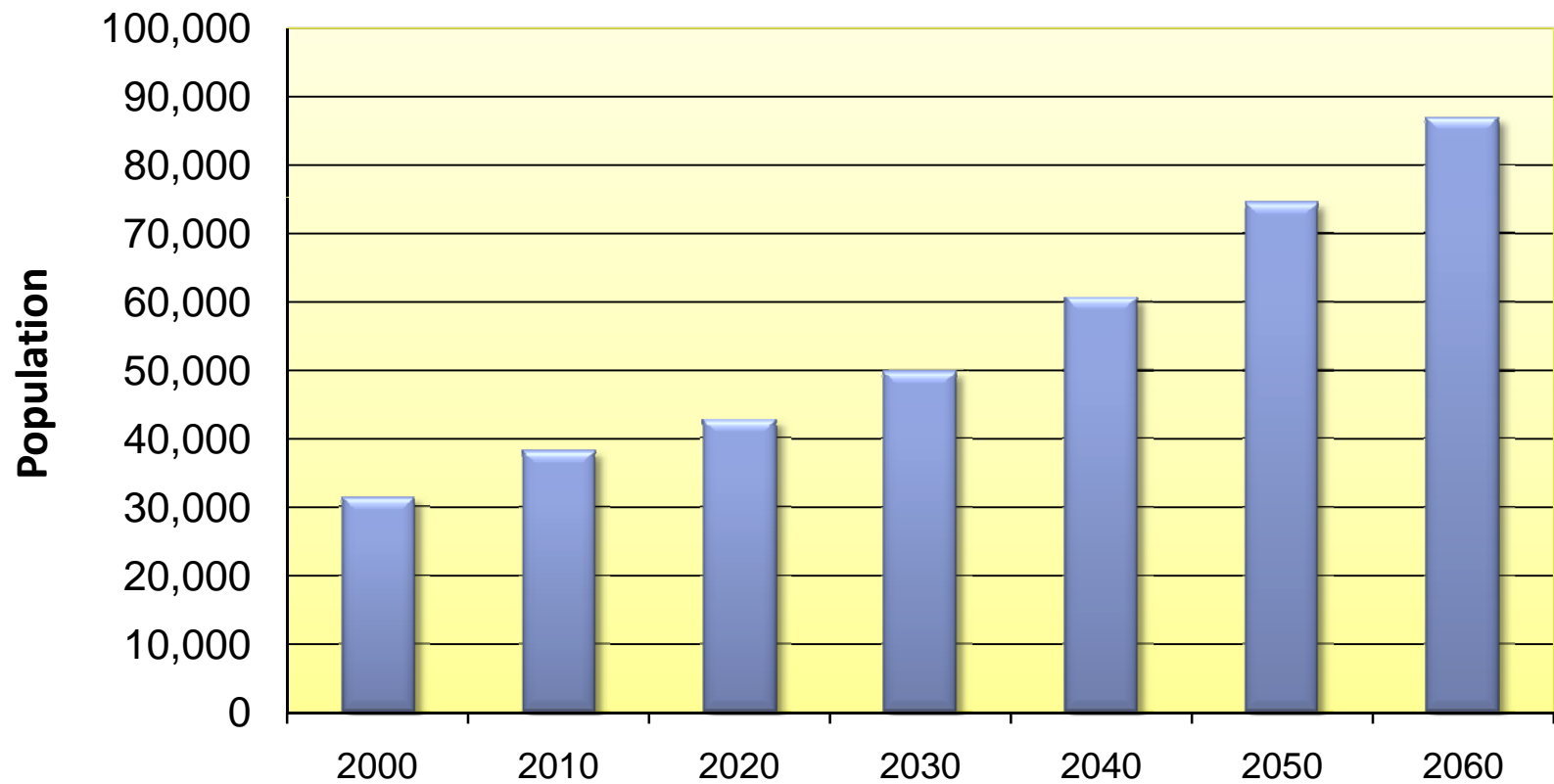
Regional Water Planning Process

- 50-year planning period
- Project population and water demand
- Existing supply
- Evaluate need for additional water
- Recommend strategies
- Water right permitting and TWDB funding use plans

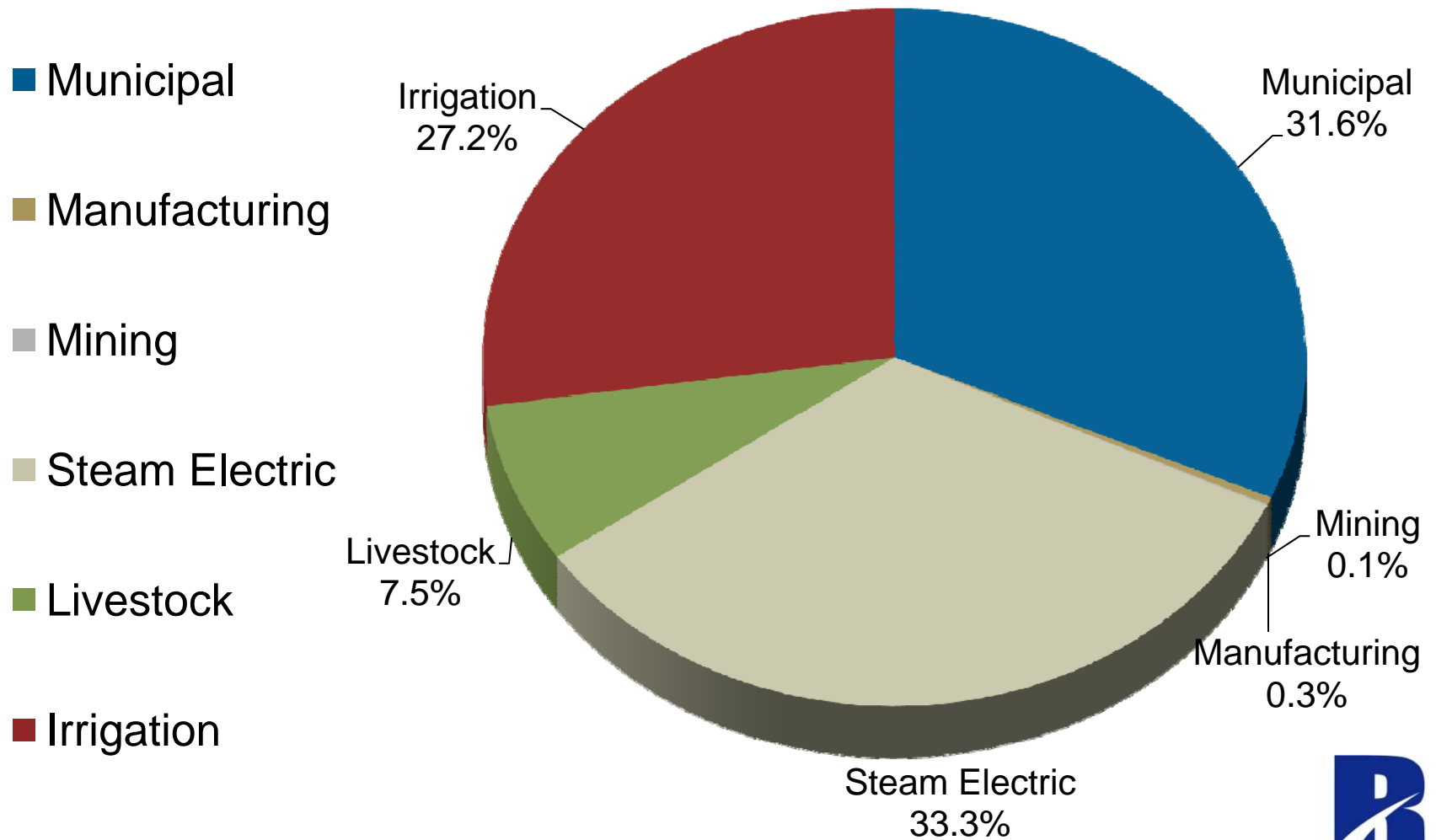
2007 State Water Plan



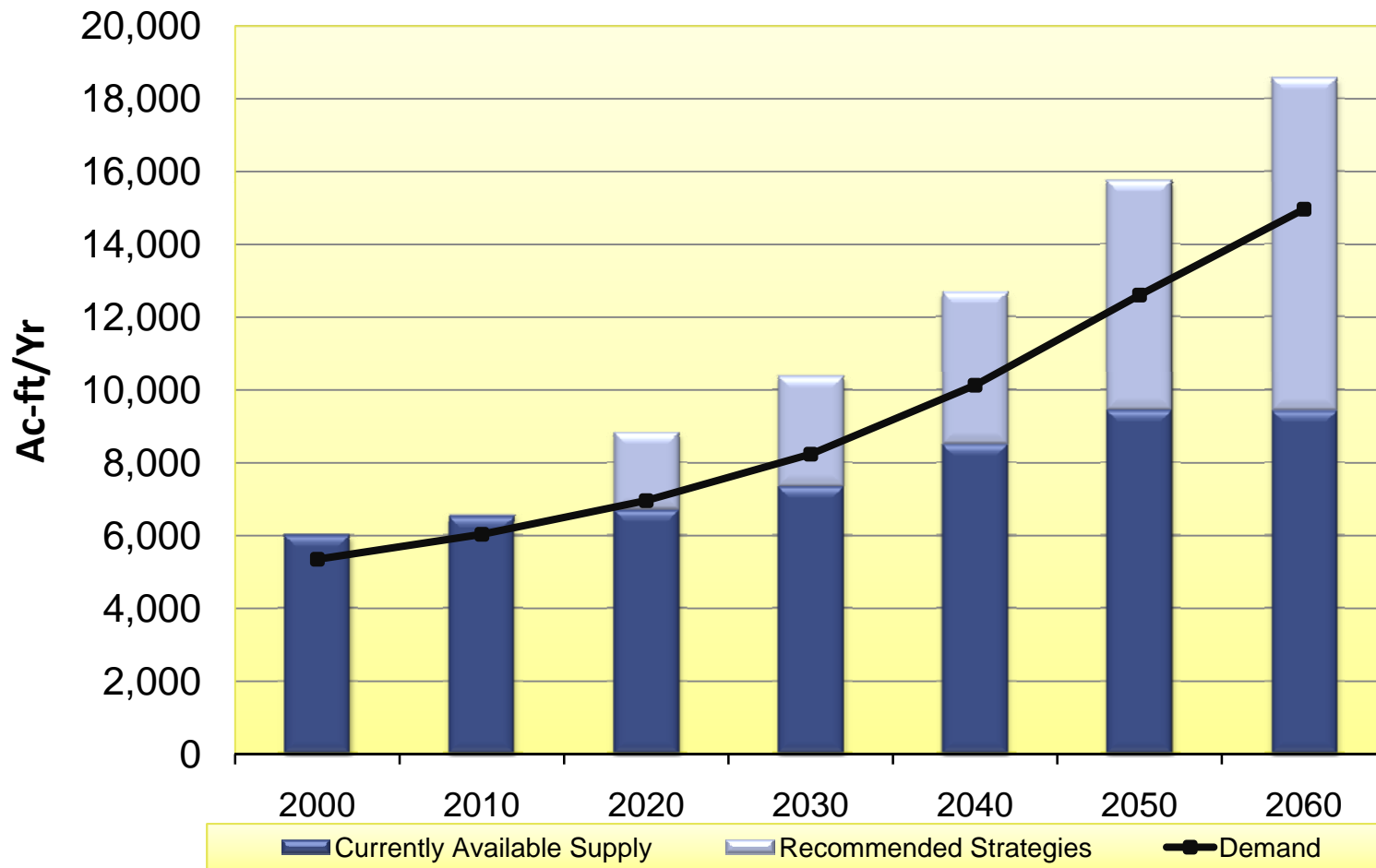
Fannin County Population



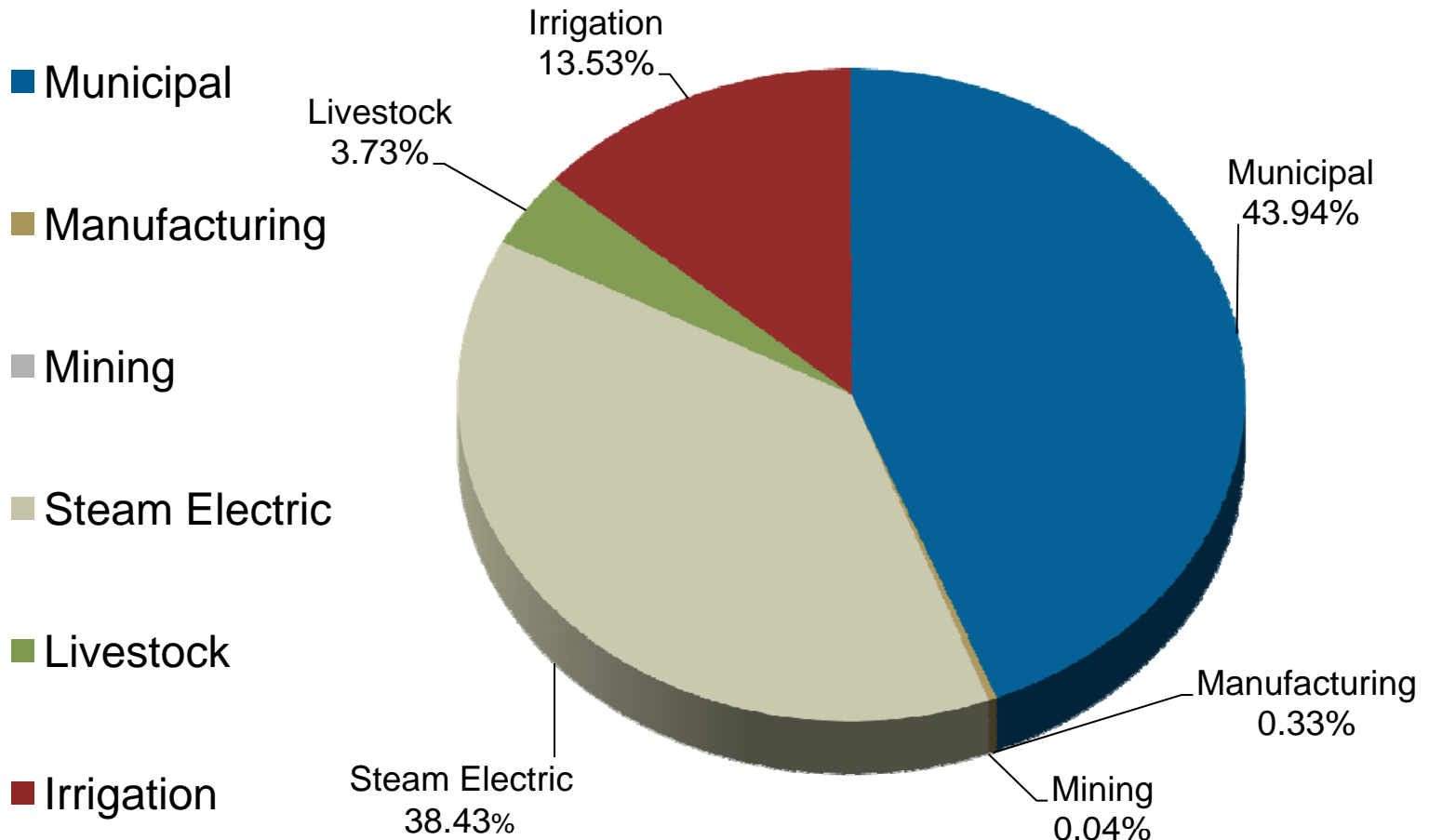
2000 Fannin County Demand (% of total)



Fannin County Supplies and Demands



2060 Fannin County Demand (% of total)



Bonham Summary

Bonham	2010	2020	2030	2040	2050	2060
Projected Population	11,516	12,603	16,000	22,000	30,000	37,000
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	2,348	2,527	3,172	4,337	5,881	7,253
Total Projected Water Demand	2,348	2,527	3,172	4,337	5,881	7,253
Currently Available Water Supplies (ac-ft/yr)						
• Lake Bonham	2,348	2,527	3,172	4,337	5,340	5,340
Total Supply	2,348	2,527	3,172	4,337	5,340	5,340
Water Management Strategies(ac-ft/yr)						
• Water Conservation - Basic Package	16	99	162	259	401	555
• Water Conservation - Expanded Package	0	4	13	23	30	39
• Fannin County Water Supply Project	0	402	459	585	1,286	2,769
Total Water Management Strategies	16	505	634	867	1,717	3,364
Total Supply Less Projected Demand (ac-ft/yr)	16	505	634	867	1,176	1,451

Ector Summary

Ector	2010	2020	2030	2040	2050	2060
Projected Population	652	691	720	741	763	786
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	96	99	101	102	104	107
Total Projected Water Demand	96	99	101	102	104	107
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	113	113	113	113	113	113
Total Supply	113	113	113	113	113	113
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	1	4	5	6	6	7
• Fannin County Water Supply Project	0	2	3	4	6	9
Total Water Management Strategies	1	6	8	9	12	15
Total Supply Less Projected Demand (ac-ft/yr)	18	20	20	20	21	21

Honey Grove Summary

Honey Grove	2010	2020	2030	2040	2050	2060
Projected Population	1,858	2,100	2,500	3,000	3,500	4,000
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	421	466	546	645	749	856
Total Projected Water Demand	421	466	546	645	749	856
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	463	463	463	463	463	463
Total Supply	463	463	463	463	463	463
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	3	30	67	85	105	127
• Water Conservation - Expanded Package	0	1	2	3	3	4
• Fannin County Water Supply Project	0	65	123	223	328	433
Total Water Management Strategies	3	96	192	311	436	564
Total Supply Less Projected Demand (ac-ft/yr)	45	93	109	129	150	171

Ladonia Summary

Ladonia	2010	2020	2030	2040	2050	2060
Projected Population	800	1,600	2,000	2,200	2,500	3,000
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	291	577	715	779	879	1,055
Total Projected Water Demand	291	577	715	779	879	1,055
Currently Available Water Supplies (ac-ft/yr)						
• Trinity Aquifer	320	320	320	320	320	320
Total Supply	320	320	320	320	320	320
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	2	23	36	46	59	80
• Water Conservation - Expanded Package	3	8	10	11	13	15
• Ralph Hall Reservoir	0	342	492	558	663	851
Total Water Management Strategies	5	372	538	615	735	946
Total Supply Less Projected Demand (ac-ft/yr)	34	115	143	156	176	211

Southwest Fannin County SUD Summary

Southwest Fannin County SUD	2010	2020	2030	2040	2050	2060
Projected Population	7,100	8,549	9,556	10,461	11,266	12,072
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	684	996	1,145	1,242	1,325	1,420
Total Projected Water Demand	684	996	1,145	1,242	1,325	1,420
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	752	752	752	752	752	752
Total Supply	752	752	752	752	752	752
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	15	44	62	72	82	93
• Fannin County Water Supply Project	0	399	560	666	756	859
Total Water Management Strategies	15	443	622	738	838	952
Total Supply Less Projected Demand (ac-ft/yr)	83	199	229	248	265	284

Southwest Hickory Creek SUD Summary

Hickory Creek SUD	2010	2020	2030	2040	2050	2060
Projected Population	173	191	204	213	222	233
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	30	32	34	34	36	38
Total Projected Water Demand	30	32	34	34	36	38
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	45	45	44	44	44	30
Total Supply	45	45	44	44	44	30
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	1	3	4	5	6	7
• Water Conservation - Expanded Package	0	0	0	1	1	1
Total Water Management Strategies	2	3	4	5	6	23
Total Supply Less Projected Demand (ac-ft/yr)	17	16	14	15	14	15

Leonard Summary

Leonard	2010	2020	2030	2040	2050	2060
Projected Population	2,149	2,502	3,500	5,500	8,000	10,000
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	303	342	466	720	1,040	1,299
Total Projected Water Demand	303	342	466	720	1,040	1,299
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	333	333	333	333	333	333
Total Supply	333	333	333	333	333	333
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	3	12	22	37	58	77
• Water Conservation - Expanded Package	3	3	4	6	9	12
• Fannin County Water Supply Project	0	62	200	487	848	1,138
Total Water Management Strategies	6	77	226	531	915	1,226
Total Supply Less Projected Demand (ac-ft/yr)	36	68	93	144	208	260

North Hunt WSC Summary

North Hunt WSC	2010	2020	2030	2040	2050	2060
Projected Population	380	427	462	488	514	542
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	49	55	60	63	66	70
Total Projected Water Demand	49	55	60	63	66	70
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	77	77	77	77	77	77
Total Supply	77	77	77	77	77	77
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	1	2	3	3	4	4
Total Water Management Strategies	1	2	3	3	4	4
Total Supply Less Projected Demand (ac-ft/yr)	29	24	20	17	15	11

Savoy Summary

Savoy	2010	2020	2030	2040	2050	2060
Projected Population	869	889	910	930	952	974
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	108	108	106	105	107	109
Total Projected Water Demand	108	108	106	105	107	109
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	119	119	119	119	119	119
Total Supply	119	119	119	119	119	119
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	1	4	5	6	6	7
• Fannin County Water Supply Project	0	7	3	1	3	5
Total Water Management Strategies	1	11	8	7	9	12
Total Supply Less Projected Demand (ac-ft/yr)	12	22	21	21	21	22

Trenton Summary

Trenton	2010	2020	2030	2040	2050	2060
Projected Population	1,000	1,500	2,500	4,000	6,000	8,000
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	206	302	496	780	1,163	1,550
Total Projected Water Demand	206	302	496	780	1,163	1,550
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	227	227	227	227	227	227
Total Supply	227	227	227	227	227	227
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	2	22	69	115	181	255
• Water Conservation - Expanded Package	2	3	5	8	13	17
• Fannin County Water Supply Project	0	110	294	586	975	1,362
Total Water Management Strategies	4	135	368	709	1,169	1,633
Total Supply Less Projected Demand (ac-ft/yr)	25	60	99	156	233	310

Whitewright Summary

Whitewright	2010	2020	2030	2040	2050	2060
Projected Population	22	28	32	35	38	41
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	403	632	873	1,048	1,230	1,419
Total Projected Water Demand	403	632	873	1,048	1,230	1,419
Currently Available Water Supplies (ac-ft/yr)						
• Woodbine Aquifer	438	438	438	438	438	438
Total Supply	438	438	438	438	438	438
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	3	30	52	72	95	121
• Water Conservation - Expanded Package	2	4	5	7	8	9
• Grayson County Water Supply Project	0	287	552	741	935	1,135
Total Water Management Strategies	5	320	610	820	1,038	1,265
Total Supply Less Projected Demand (ac-ft/yr)	40	126	175	210	246	284

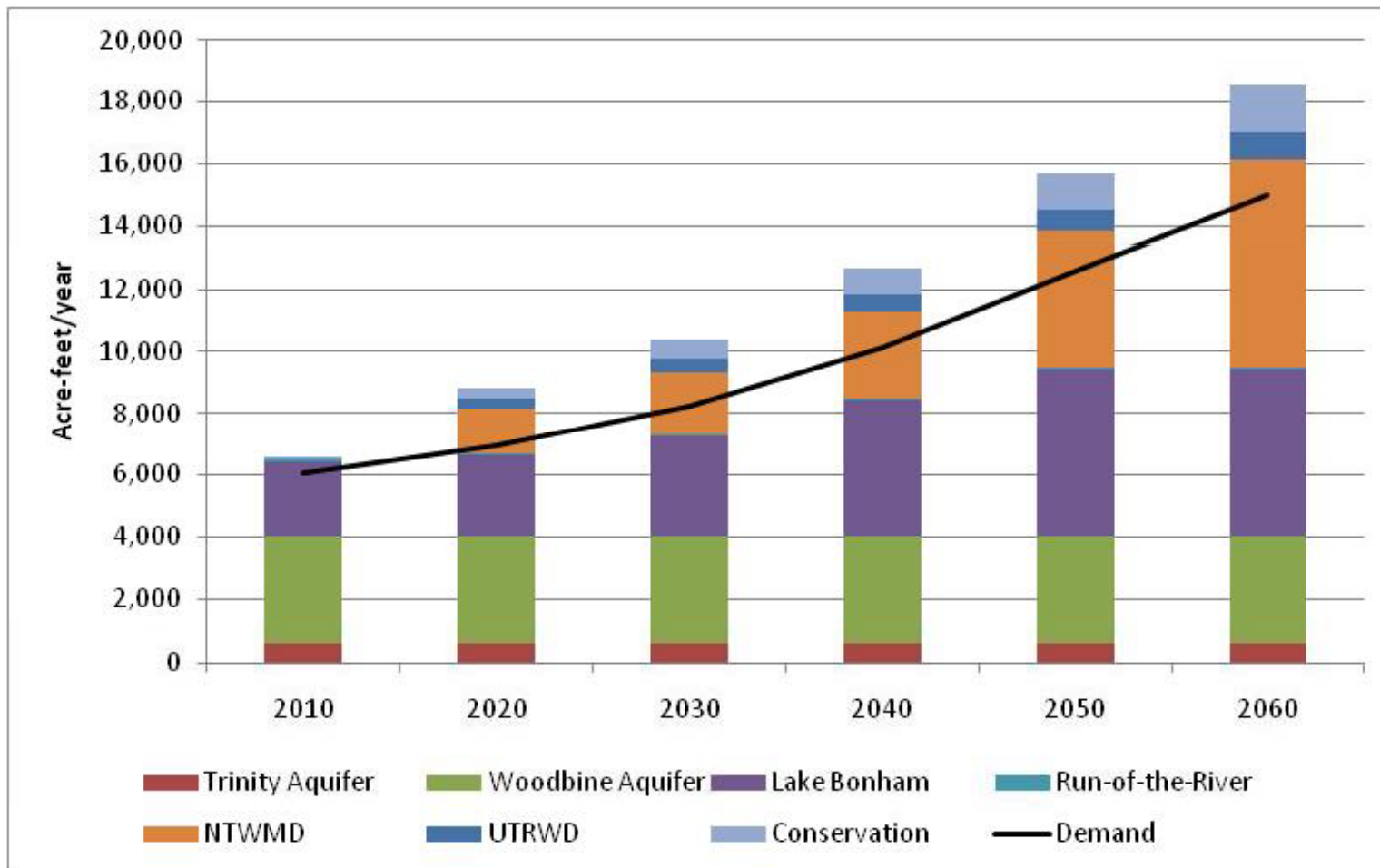
Fannin County – Other Summary

Fannin County - Other	2010	2020	2030	2040	2050	2060
Projected Population	11,610	11,568	11,391	11,091	10,735	10,322
Projected Water Demand (ac-ft/yr)						
• Municipal Demand	1,496	1,452	1,390	1,317	1,251	1,202
Total Projected Water Demand	1,496	1,452	1,390	1,317	1,251	1,202
Currently Available Water Supplies (ac-ft/yr)						
• Lake Bonham	75	73	70	66	63	60
• Run-of-river - Red River	20	20	20	20	20	20
• Run-of-river - Sulphur River	49	49	49	49	49	49
• Trinity Aquifer	308	308	308	308	308	308
• Woodbine Aquifer	831	831	831	831	831	831
Total Supply	1,283	1,281	1,278	1,274	1,271	1,268
Water Management Strategies (ac-ft/yr)						
• Water Conservation - Basic Package	16	53	70	74	75	76
• Fannin County Water Supply Project	0	408	320	233	155	98
• Additional Woodbine Aquifer (New Wells)	496	0	0	0	0	0
Total Water Management Strategies	512	461	390	306	230	174
Total Supply Less Projected Demand (ac-ft/yr)	299	290	278	263	250	240

Capital Costs for Proposed Water Management Strategies

Water Management Strategy Category	Capital Cost During Study Period
Transmission Facilities	\$55,539,000
Supplemental Wells	\$26,153,000
New Wells	\$1,213,000
New Water Treatment Plants	\$23,234,000
Water Treatment Plant Expansions	\$15,017,000
Total Capital Costs for Study Area	\$121,156,000

Total Demand and Supply for the Study Area



Conclusions

- WUGs in the Fannin County Study are projecting steady growth in the next 50 years.
- Growth greater but demand less than what was projected in the *2006 Region C Water Plan*.
- For most of the WUGs, currently planned water management strategies are in line with the strategies presented in the *2006 Region C Water Plan*.

Next Steps

- Region C Initially Prepared Plan (IPP) to be presented to Region C Board for Approval – 3/15/10
- Public Hearing on IPP – 5/25/10, 7 pm in Arlington at the Bob Duncan Center in Vandergriff Park
- Final plan adopted – 10/1/10