GAM Run 07-30

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Texas Water Development Board
Groundwater Availability Modeling Section
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October 26, 2007

EXECUTIVE SUMMARY:

We ran the groundwater availability model for the northern part of the Trinity Aquifer for a 50-year predictive time period using two sets of pumpage. The two pumpage data sets contained different amounts of pumpage in Erath and Comanche counties. Average recharge conditions were used for the first forty-seven years of the predictive portion of the simulation, followed by the three-year drought-of-record. Pumpage used in each year of the model run was specified by Groundwater Management Area 8.

Results of both model runs indicated that water levels after 50 years of specified pumpage decreased in all of the aquifers of interest throughout the model area. Water level declines were less than 50 feet in the farthest updip portions of each aquifer and increased downdip. All aquifers showed maximum water level declines in excess of 300 feet over the 50-year predictive time period and also showed localized areas of higher water level declines around heavy pumping centers. Water level declines in these localized areas exceeded 700 feet for some aquifers. The only difference in results between the two model runs was the number of dry cells occurring in Comanche and Erath counties. Greater pumping leads to a greater number of dry cells in the outcrop area of the Hosston Aquifer (layer 7).

REQUESTOR:

Ms. Cheryl Maxwell from the Clearwater Underground Water Conservation District (on behalf of Groundwater Management Area 8).

DESCRIPTION OF REQUEST:

A baseline model run for Groundwater Management Area 8 using the groundwater availability model for the northern part of the Trinity Aquifer is described in GAM Run Report 07-09 (Donnelly, 2007). Ms. Maxwell on behalf of Groundwater Management Area 8 asked for two follow-up model runs. The runs are Simulation Request 2, which involves increasing pumpage in Comanche and Erath counties to 30,000 and 36,000 acre-feet per year respectively; and Simulation Request 3, which involves increasing pumpage in Comanche and Erath counties to 35,000 and 42,000 acre-feet per year respectively. Both simulation requests also increase pumpage in McLennan County to 20,694 acre-feet per year. In addition, for this analysis, pumpage in the Woodbine Aquifer in Delta County, and the Trinity Aquifer in Delta and Kaufman counties is distributed uniformly because those areas had no pumpage in the historical simulation (Bené and others, 2004).

Similarly, the pumpage in the Woodbine Aquifer in Hunt and Lamar counties is distributed uniformly because results of GAM Run 07-09 (Donnelly, 2007) showed that increasing the existing distribution may lead to excessive water level decline. Average recharge conditions were used for the first forty-seven years of the predictive portion of the simulation, followed by the three-year drought-of-record. Pumpage used in each year of the model run was specified by Groundwater Management Area 8.

METHODS:

Average streamflows and evapotranspiration rates were used for each year of the predictive simulation. Average recharge was used for the first forty-seven years of the simulation, followed by a three-year drought-of-record. Resulting water levels and drawdowns were then evaluated and are described in the Results section below.

PARAMETERS AND ASSUMPTIONS:

The groundwater availability model for the northern part of the Trinity Aquifer was used for this model run. The parameters and assumptions for this model are described below:

- We used version 1.01 of the groundwater availability model for the northern part of the Trinity Aquifer for this run. See Bené and others (2004) for assumptions and limitations of the model.

- The model includes seven layers, representing the Woodbine Aquifer (Layer 1), the Washita and Fredericksburg Series (Layer 2), the Paluxy Aquifer (Layer 3), the Glen Rose Formation (Layer 4), the Hensell Aquifer (Layer 5), the Pearsall/Cow Creek/Hammett/Sligo Formation (Layer 6), and the Hosston Aquifer (Layer 7). The Woodbine, Paluxy, Hensell, and Hosston layers are the main aquifers used in the region.

- The mean absolute error (a measure of the difference between simulated and actual water levels during model calibration) for the four main aquifers in the model (Woodbine, Paluxy, Hensell, and Hosston) for the calibration and verification time periods (1980 to 2000) ranged from approximately 37 to 75 feet. The root mean squared error was less than ten percent of the maximum change in water levels across the model (Bené and others, 2004).

- We used average annual recharge conditions based on climate data from 1980 to 1999 for the simulation. The last three years of the simulation used drought-of-record recharge conditions, which were defined as the years 1954-56.

- The model uses the MODFLOW stream-routing package to simulate the interaction between the aquifer(s) and major intermittent streams flowing in the region. Flow both from the stream to the aquifer and from the aquifer to the stream is allowed, and the direction of flow is determined by the water levels in the aquifer and stream during each stress period in the simulation.

Specified Pumpage

Each year of the predictive model run used pumpage specified by Groundwater Management Area 8. The following specifications on the pumpage were given by the groundwater management area for this model run:

- The simulation should maintain the existing model spatial pumping distribution except in Delta, Hunt, Kaufman, and Lamar counties.
- In Delta, Hunt, Kaufman, and Lamar counties the spatial pumping distribution should be uniform.
- The simulation should maintain the existing distribution of pumping by layer (as a percentage of the total Trinity Aquifer pumping within a county area) for layers 3, 4, 5, 6, and 7; except where specified otherwise.
- Pumping should be held constant for each area for which a pumping amount is specified.

In addition to these general guidelines, specific pumpage totals for each county in the model were given by Groundwater Management Area 8. These totals are shown in Tables 1 through 4.

Table 1. Specified annual pumpage for the Woodbine Aquifer (layer 1) used in this model simulation. All pumpage is reported in acre-feet per year.

County	1999 pumpage	Specified pumpage	County	1999 pumpage	Specified pumpage
Collin	2,812	2,500	Lamar	122	3,658
Delta	0	16	Limestone	1	33
Fannin	2,054	3,300	Navarro	46	300
Grayson	10,924	12,100	Red River	2	170
Hunt	89	2,840	Rockwall	11	144
Kaufman	77	200			

Table 2. Specified annual pumpage for the Trinity Aquifer (layers 3, 4, 5, and 7) used in this model simulation. All pumpage is reported in acre-feet per year.

County	1999 pumpage	Specified pumpage	County	1999 pumpage	Specified pumpage
Brown	2,367	2,085	Kaufman	0	1,184
Callahan	1,193	3,787	Lamar	0.06	1,320
Collin	1,533	2,100	Lampasas	1,129	3,164
Comanche	18,675	30,000[a]/35,000[b]	Limestone	11	66
Coryell	2,203	1,791	Milam	3	321
Delta	0	364	Mills	780	2,400
Eastland	5,487	4,853	Montague	499	2,682
Erath	16,857	36,000[a]/42,000[b]	Navarro	1	1,873
Falls	65	161	Red River	165	528
Fannin	33	700	Rockwall	0.5	958
Grayson	5,063	9,400	Taylor	3	679
Hamilton	1,572	2,146	Travis	4,337	3,900
Hunt	2	551	Williamson	4,447	1,810

a. Simulation Request 2
b. Simulation Request 3

Table 3. Specified annual pumpage for the Woodbine and Trinity aquifers combined (layers 1, 3, 4, 5, and 7) used in this model simulation. All pumpage is reported in acre-feet per year.

County	1999 pumpage	Specified pumpage	County	1999 pumpage	Specified pumpage
Bosque	3,496	7,509	Johnson	10,527	17,767
Cooke	6,255	7,018	McLennan	12,307	20,694
Dallas	4,069	7,807	Parker	6,358	15,389
Denton	11,816	23,442	Somervell	1,320	2,485
Ellis	7,640	9,403	Tarrant	16,608	19,615
Hill	2,075	5,412	Wise	4,261	9,801
Hood	6,018	11,064			

Table 4. Specified annual pumpage by layer for Bell and Burnet counties used in this model simulation. All pumpage is reported in acre-feet per year.

Layer*	Bell County		Burnet County	
	1999 pumpage	Specified pumpage	1999 pumpage	Specified pumpage
Layer 3	48	112	3	200
Layer 4	479	880	13	200
Layer 5	603	1,100	287	700
Layer 6	0	0	0	0
Layer 7	1,830	5,000	270	2,500

*- Paluxy Aquifer (Layer 3), the Glen Rose Formation (Layer 4), the Hensell Aquifer (Layer 5), the Pearsall/Cow Creek/Hammett/Sligo Formation (Layer 6), and the Hosston Aquifer (Layer 7).

With the exception of Delta, Hunt, Kaufman, and Lamar counties, the latest year (1999) from the estimated historic pumpage from the calibrated groundwater availability model was used as the basis for the spatial distribution for the predictive pumpage dataset, and is also included in Tables 1 to 4 for reference. This pumpage was increased or decreased to the specified totals shown in Tables 1 to 4 using a factor based on the county pumpage in the 1999 pumpage data set and the desired total. This resulted in a predictive pumpage data set with the same spatial distribution as in the 1999 data set, as requested by the groundwater management area.

The predictive pumpage was held constant throughout the 50-year predictive simulation. A summary of the historic pumpage used in the calibration-verification of the original groundwater availability model is provided in Appendix A of GAM Run 07-09 (Donnelly, 2007).

Several counties and/or model layers were not specified in the original request. Counties with no specified pumpage are shown in Table 5. Neither layers 2 (Washita and Fredericksburg Series) nor 6 (Pearsall/Cow Creek/Hammett/Sligo Formations) were specified for counties in most of the model area. In all of these cases, the estimated historic pumpage for 1999 was used in the predictive model run.

Table 5. Annual pumpage used for non-specified counties/areas in the model simulation. These totals are based on historic pumpage totals from the 1999 groundwater availability model. All pumpage is reported in acre-feet per year.

County	Annual pumpage
Bastrop	4
Jack	11
Lee	5
Palo Pinto	12
Non-Texas	9,541

RESULTS:

Included in the results are estimates of the water budgets after running the model for 50 years. The water budget from Simulation Request 2 is shown in Appendix A and the water budget for Simulation Request 3 is shown in Appendix B. A groundwater budget summarizes how the model estimates water entering and leaving the aquifer. The components of the water budget are described below.

- Wells—water produced from wells in each aquifer. This component is always shown as “Outflow” from the water budget, because all wells included in the model produce (rather than inject) water. Wells are modeled using the MODFLOW Well package.

- Recharge—simulates areally distributed recharge due to precipitation falling on the outcrop areas of aquifers. Recharge is always shown as "Inflow" into the water budget. Recharge is modeled using the MODFLOW Recharge package.

- Evapotranspiration—water that flows out of an aquifer due to direct evaporation and plant transpiration. This component of the budget will always be shown as "Outflow". Evapotranspiration is modeled using the MODFLOW Evapotranspiration package. In this model the Evapotranspiration package also represents groundwater discharge via small seeps and springs and larger spring discharge to streams not specifically modeled by the Stream package (Bené and others, 2004).

- Vertical Leakage (Upward or Downward)—describes the vertical flow, or leakage, between two aquifers. This flow is controlled by the water levels in each aquifer and aquifer properties of each aquifer that define the amount of leakage that can occur. "Inflow" to an aquifer from an overlying or underlying aquifer will always equal the "Outflow" from the other aquifer.

- Storage—water stored in the aquifer. The storage component that is included in "Inflow" is water that is removed from storage in the aquifer (that is, water level declines). The storage component that is included in "Outflow" is water that is added back into storage in the aquifer (that is, water level increases). This component of the budget is often seen as water both going into and out of the aquifer because this is a regional budget, and water levels will decline in some areas (water is being removed from storage) and will rise in others (water is being added to storage).

- Lateral flow—describes lateral flow within an aquifer between a county and adjacent counties.

- Rivers and Streams—water that flows between perennial streams and rivers and an aquifer. The direction and amount of flow depends on the water level in the stream or river and the aquifer. In areas where water levels in the stream or river are above the water level in the aquifer, water flows into the aquifer and out of the stream and is shown as "Inflow" in the budget. In areas where water levels in the aquifer are above the water level in the stream or river, water flows out of the aquifer and into the stream and is shown as "Outflow" in the budget. Rivers and streams are modeled using the MODFLOW Streamflow-routing package.

- Reservoirs—water that flows between reservoirs and an aquifer. The direction and amount of flow depends on the water level in the reservoir and the aquifer. In areas where water levels in the reservoir are above the water level in the aquifer, water flows into the aquifer and out of the reservoir and is shown as "Inflow" in the budget. In areas where water levels in the aquifer are above the water level in the reservoir, water flows out of the aquifer and into the reservoir and is shown as "Outflow" in the budget. Reservoirs are modeled using the MODFLOW River package.

- Inter-aquifer Flow—The model uses general-head boundaries (GHBs) to simulate the movement of water between the Woodbine Aquifer and overlying wedge of younger deposits. The model also uses general-head boundaries to simulate the interaction of the aquifers with the Colorado River.

The results of the model run are described for the individual aquifers of interest; the Woodbine Aquifer (layer 1), the Paluxy Aquifer (layer 3), the Glen Rose Formation (layer 4), the Hensell Aquifer (layer 5), and the Hosston Aquifer (layer 7).

Water levels from the end of the transient calibration portion of the model run (the end of 1999/beginning of 2000) for layers 1, 3, 4, 5, and 7 are shown in Figures 1 to 5, respectively. These figures show the starting water levels for the 50-year predictive portion of the model run. These figures all show generally the same trend in initial water levels—higher water levels in the outcrop portions of the aquifers in the north and west, with water levels decreasing downdip (to the south and east). All of these figures also show the large cones of depression that have formed around large pumping centers, where decades of pumpage have significantly decreased water levels. These are especially noticeable in Ellis and Collin counties in the Woodbine Aquifer (layer 1; Figure 1), and the Dallas-Fort Worth and Waco areas in the Trinity Aquifer (layers 3, 4, 5, and 7; Figures 2 to 5).

Water levels at the end of the 50-year predictive portion of Simulation Request 2 for layers 1, 3, 4, 5, and 7 are shown in Figures 6 to 10, respectively. Water levels at the end of the 50-year runs show similar trends to initial water levels (Figures 1 to 5); except that water levels in the heavily pumped areas are significantly lower than at the start of the model run. Because differences between initial water levels and water levels after 50 years of pumpage are sometimes difficult to discern in these figures, maps of water level changes were made. A water level change map shows the difference between the water levels at the start and end of the 50-year predictive model run.

Water level changes over the 50-year predictive portion of Simulation Request 2 for layers 1, 3, 4, 5, and 7 are shown in Figures 11 to 15, respectively. Figure 11 indicates that water levels in the Woodbine Aquifer (layer 1) decrease over most of the model area over the 50-year predictive portion of the run. These changes range from less than 50 feet near the outcrop areas to over 400 feet in the large pumping centers over the 50-year predictive time period.

In GAM Run 07-09 pumpage was increased by a factor of 25 to 30 at existing pumping locations in the Woodbine Aquifer in Hunt and Lamar counties. This method of increase caused large water level declines in the Woodbine Aquifer (Donnelly, 2007). For these two current simulation requests the pumpage in Hunt and Lamar counties was distributed uniformly. The result is that the water level declines spread over a larger area, but the greatest declines are not as pronounced as for GAM Run 07-09 (Figure 11).

Figure 12 indicates that water levels are predicted to decrease throughout the model area in the Paluxy Aquifer (layer 3), with decreases generally less than 50 feet in the farthest updip extent of the aquifer, increasing to greater than 250 feet in the farthest downdip portions of the aquifer. Localized areas of even higher water level declines are found around the highest production areas of this aquifer, specifically on the Navarro-Ellis County line and in the northeast Dallas area in Rockwall County. Water levels have decreased more than 500 feet in these areas over the 50-year predictive time period.

Figure 13 indicates that water levels are also predicted to decrease throughout the model area in the Glen Rose Formation (layer 4), with decreases generally less than 50 feet in the farthest updip extent of the aquifer, increasing to greater than 400 feet in the farthest downdip portions of the aquifer. No localized areas of significantly higher water level declines are seen in this aquifer over the 50-year predictive time period.

Figure 14 indicates that water levels are also predicted to decrease throughout the model area in the Hensell Aquifer (layer 5), with decreases generally less than 50 feet in the farthest updip extent of the aquifer, increasing to greater than 350 feet in the farthest downdip portions of the aquifer. A large, localized area of higher water level declines are found in the Waco area in McLennan County. Water levels have decreased more than 550 feet in this area over the 50-year predictive time period.

Figure 15 indicates that water levels are also predicted to decrease throughout the model area in the Hosston Aquifer (layer 7), with decreases generally less than 50 feet in the farthest updip extent of the aquifer, increasing to greater than 350 feet in the farthest downdip portions of the aquifer. A large, localized area of higher water level declines are found in the Waco area in McLennan County. Water levels have decreased more than 600 feet in this area over the 50-year predictive time period.

For Simulation Requests 2 and 3 the pumpage in McLennan Counties was increased by about 30 percent compared with GAM Run 07-09 (Donnelly, 2007). This increase in pumpage leads to approximately 150 feet additional water level decline in the Hensell Aquifer (Figure 14) and approximately 200 feet additional decline in the Hosston Aquifer (Figure 15).

Water levels and water level changes at the end of the 50-year predictive portion of Simulation Request 3 are virtually identical to those for Simulation Request 2. The only significant difference between the two sets of results is that Simulation Request 3 results in more dry cells in Comanche County and Erath County in the Hosston Aquifer (layer 7). Therefore, for Simulation Request 3 we only show water level changes and dry cells for Comanche and Erath County in the Hosston Aquifer (Figure 16).

Because some of the desired future conditions for the groundwater management area may be based on discharge to springs or baseflow to rivers and streams, we also evaluated the water budgets for each of these components for each county in the model area. These budgets are provided in Appendices A and B. Future model runs can be compared to these budgets to determine the impact of additional pumpage compared to this baseline run. It should be noted that pumpage totals from the county budgets presented in

Appendices A and B may be less than the specified pumpage given in Tables 1 to 4 due to the presence of dry cells. When a cell goes dry during the model run that cell is made inactive and therefore the pumpage from that cell is not included in the water budget. The presence of dry cells in the Hosston Aquifer (layer 7) in Comanche and Erath counties is particularly significant (Figures 15 and 16). There is about 10 percent less pumpage in Erath County and about 25 percent less pumpage in Comanche County in the model budget than specified in the model input for Simulation Request 3 (Table 2 and Appendix B).

REFERENCES:

Bené, J., Harden, B., O'Rourke, D., Donnelly, A., and Yelderman, J., 2004, Northern Trinity/Woodbine Groundwater Availability Model: contract report to the Texas Water Development Board by R.W. Harden and Associates, 391 p.

Donnelly, A. C. A., 2007, GAM07-09 Final Report, Texas Water Development Board GAM Run Report, June 29, 2007, 71 pp.

The seal appearing on this document was authorized by Shirley C. Wade, P.G. 525, on October 29, 2007.

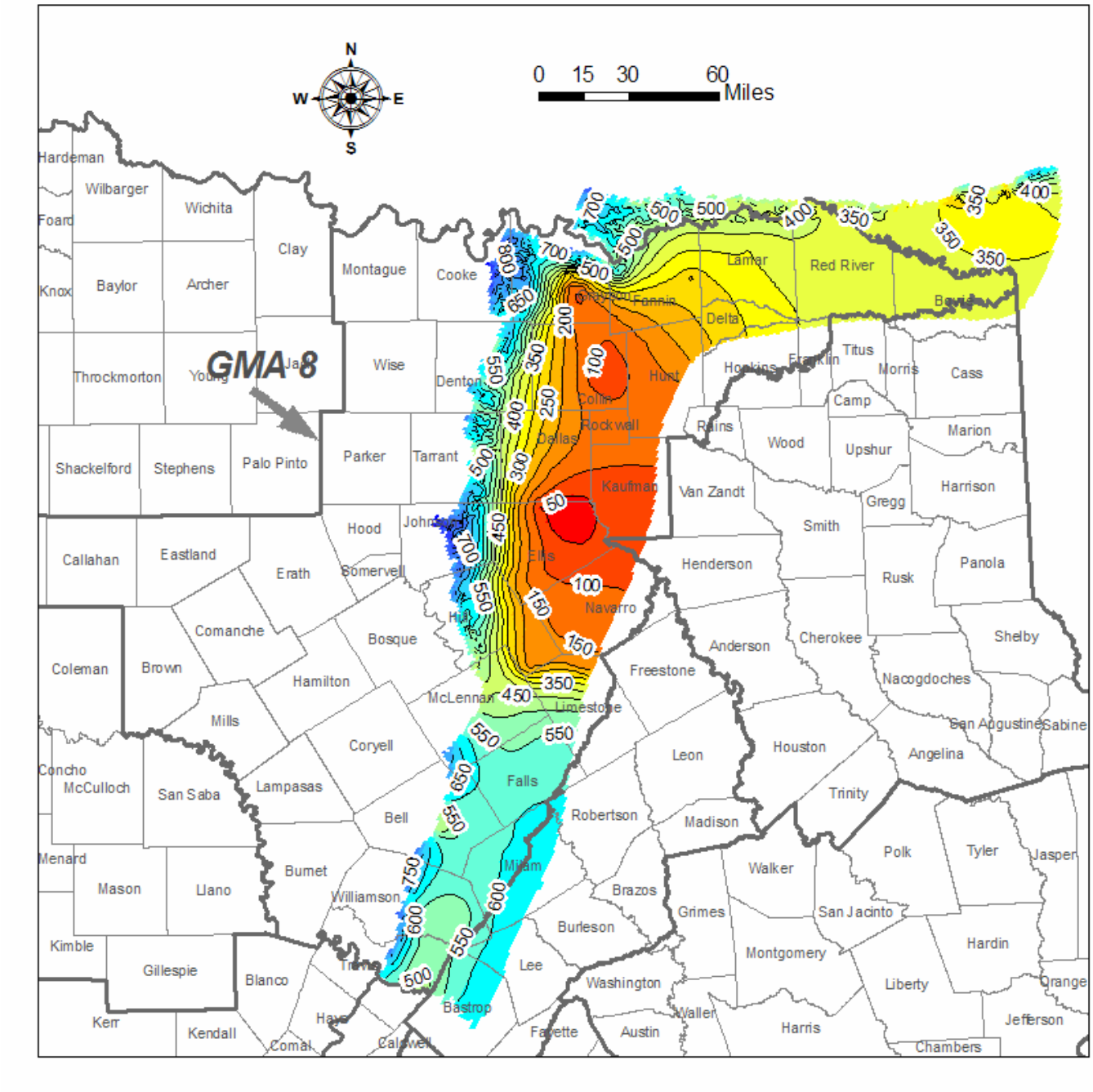

Figure 1. Initial water level elevations for the predictive model run in Layer 1 (Woodbine Aquifer) of the groundwater availability model for northern part of the Trinity Aquifer. Water level elevations are in feet above mean sea level. Contour interval is 50 feet.

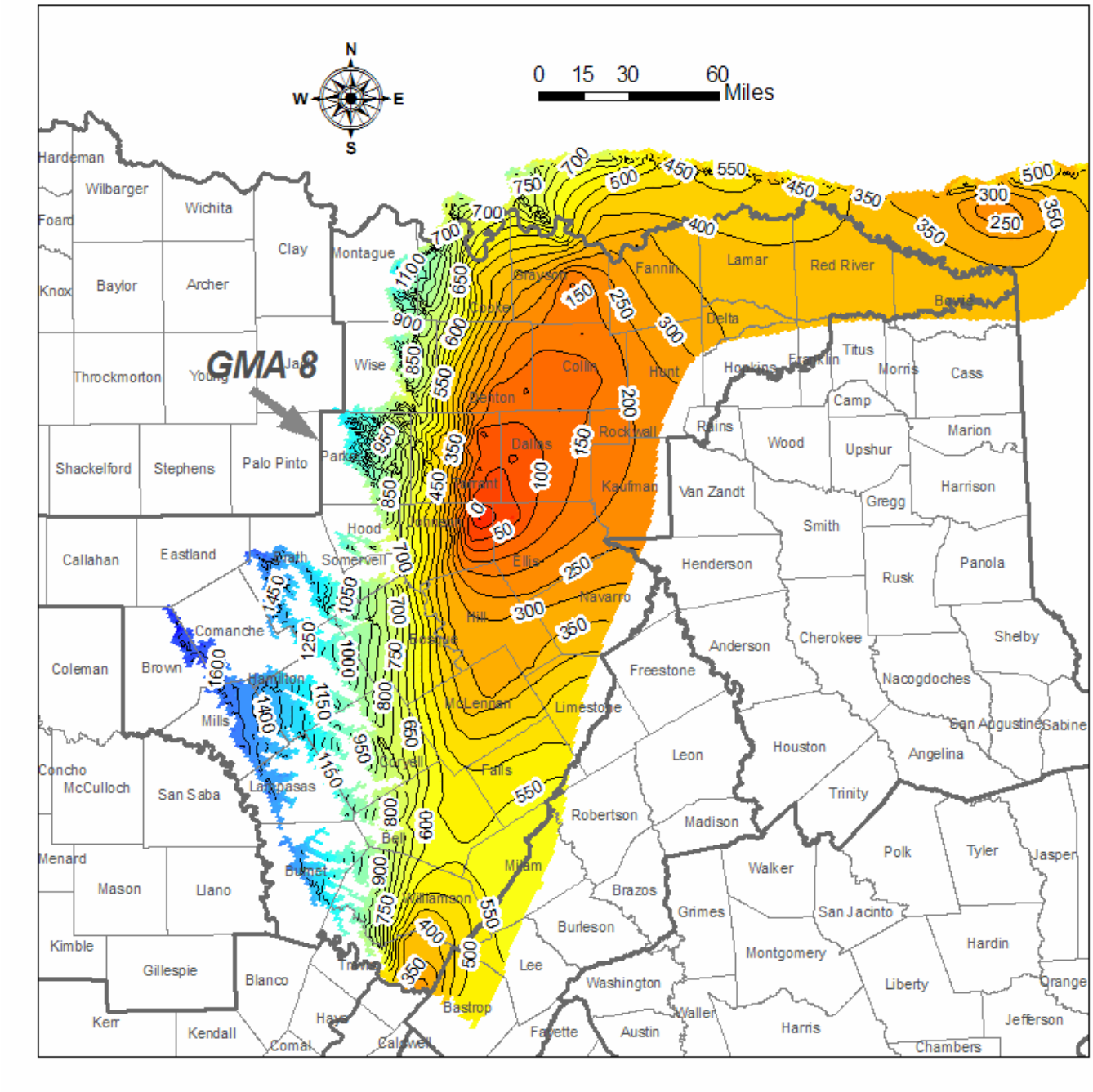

Figure 2. Initial water level elevations for the predictive model run in Layer 3 (Paluxy Aquifer) of the groundwater availability model for northern part of the Trinity Aquifer. Water level elevations are in feet above mean sea level. Contour interval is 50 feet.

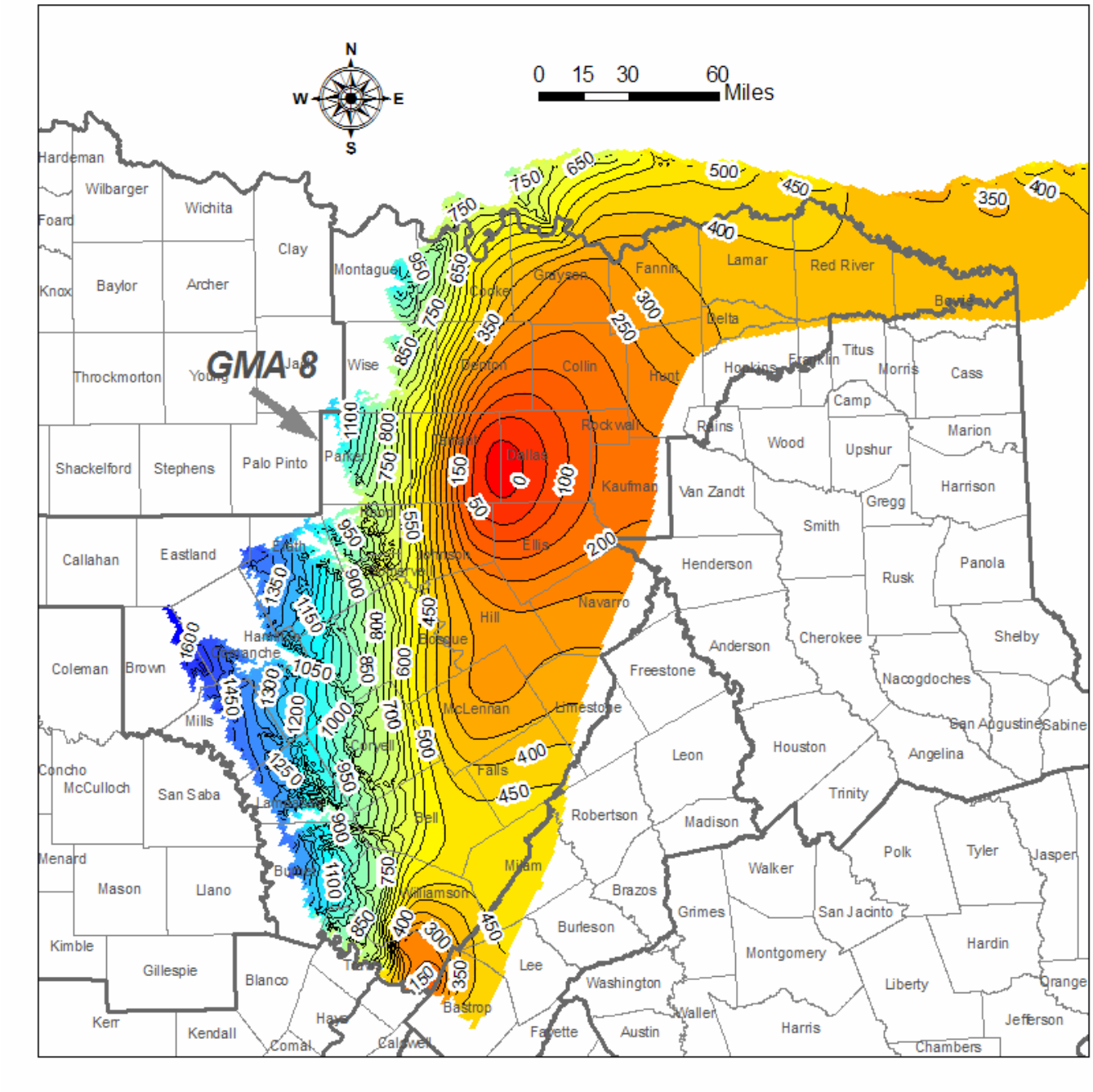

Figure 3. Initial water level elevations for the predictive model run in Layer 4 (Glen Rose Formation) of the groundwater availability model for northern part of the Trinity Aquifer. Water level elevations are in feet above mean sea level. Contour interval is 50 feet.

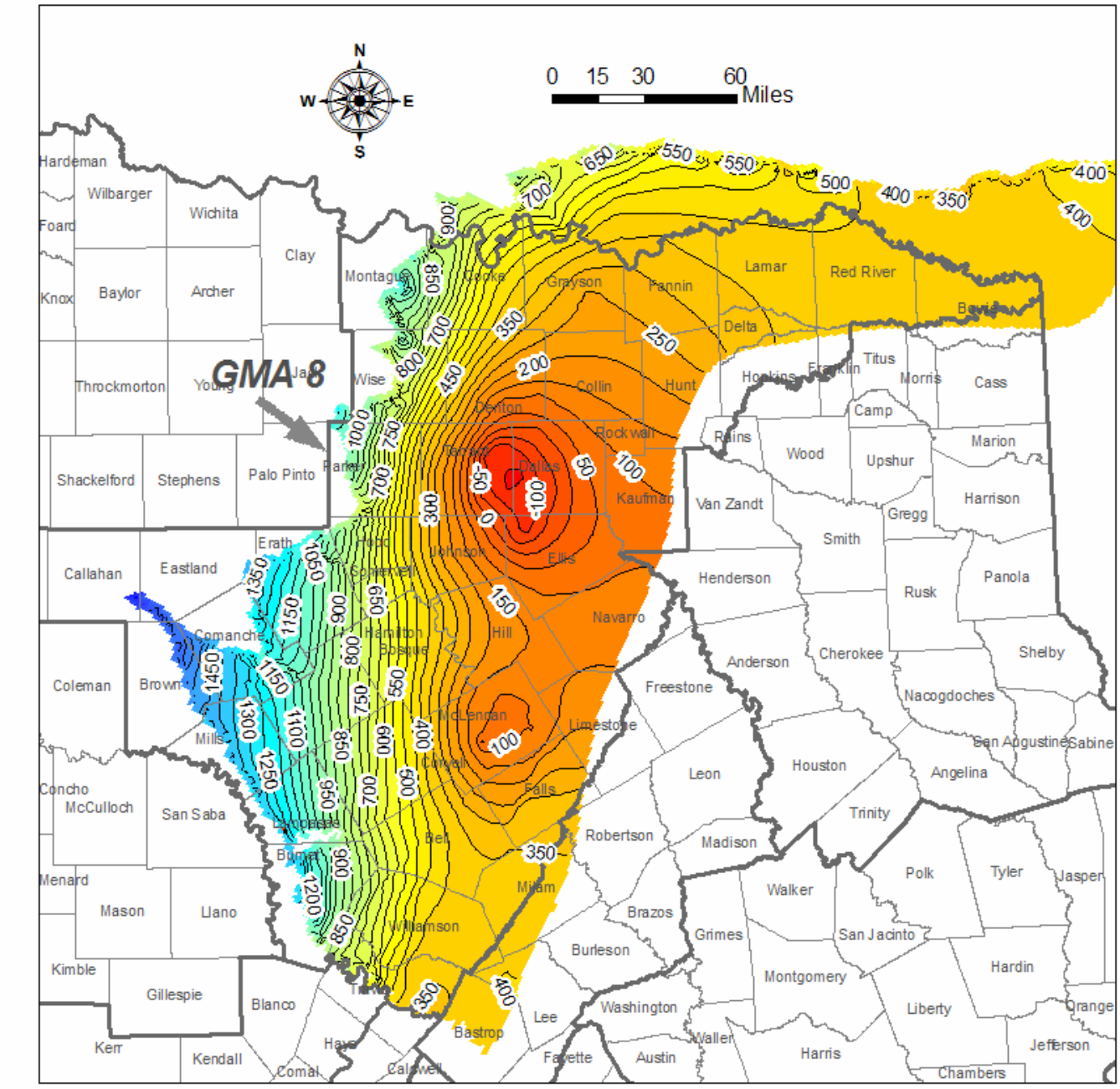

Figure 4. Initial water level elevations for the predictive model run in Layer 5 (Hensell Aquifer) of the groundwater availability model for northern part of the Trinity Aquifer. Water level elevations are in feet above mean sea level. Contour interval is 50 feet. Dry cells are shown in black.

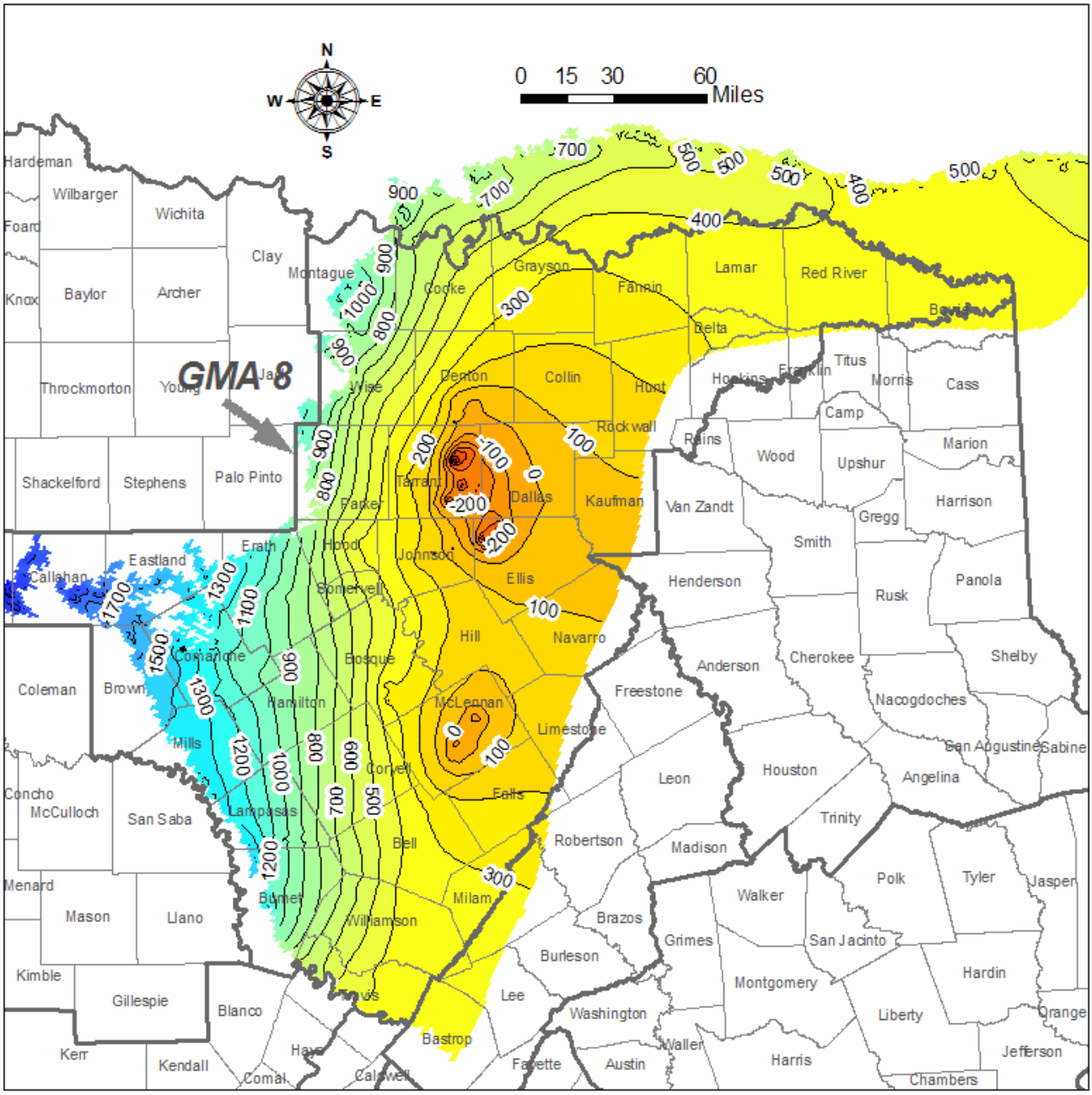

Figure 5. Initial water level elevations for the predictive model run in Layer 7 (Hosston Aquifer) of the groundwater availability model for northern part of the Trinity Aquifer. Water level elevations are in feet above mean sea level. Contour interval is 100 feet. Dry cells are shown in black.

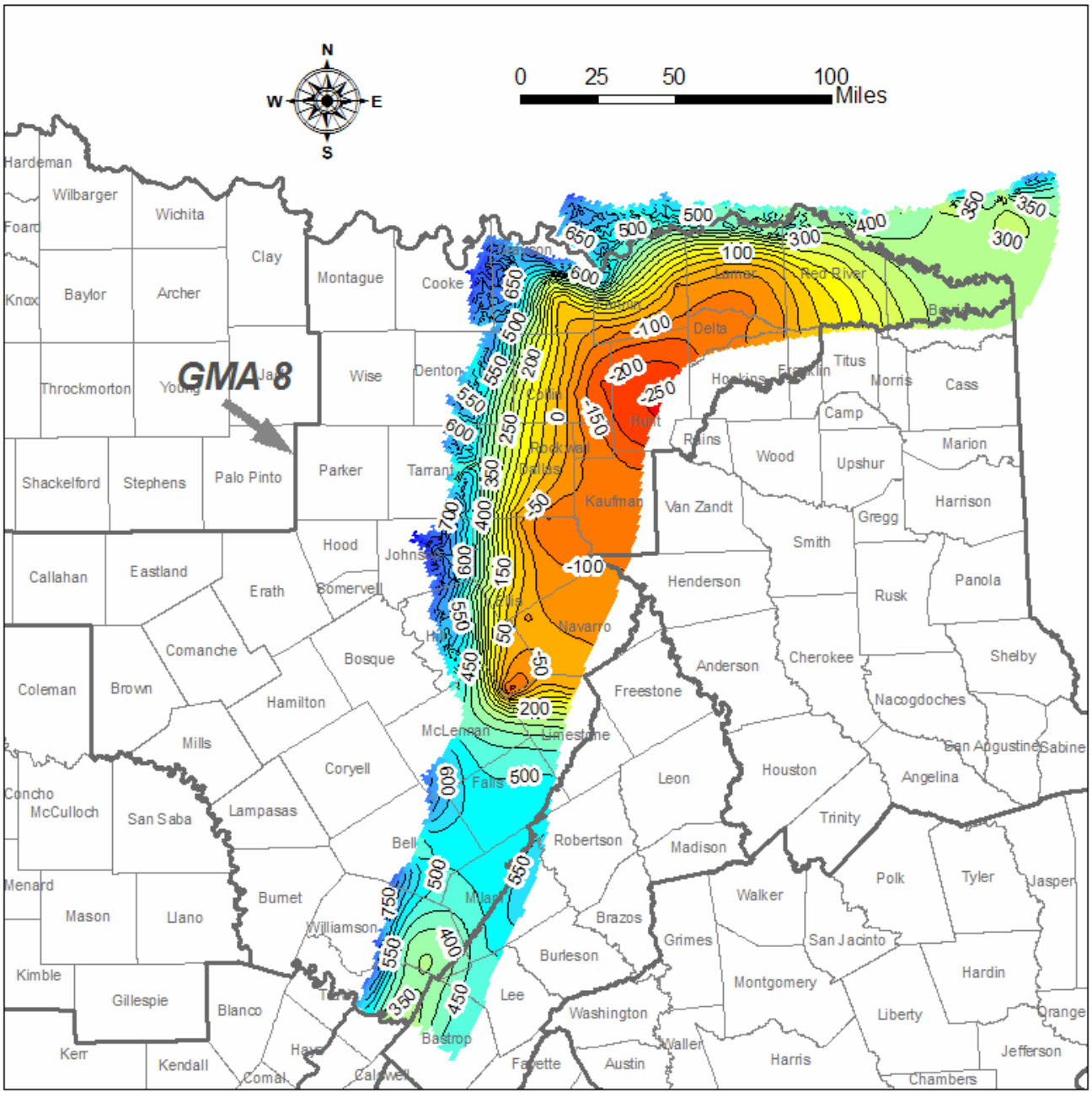

Figure 6. Water level elevations after 50 years, for Simulation Request 2, in Layer 1 (Woodbine Aquifer). Water level elevations are in feet above mean sea level. Contour interval is 50 feet.

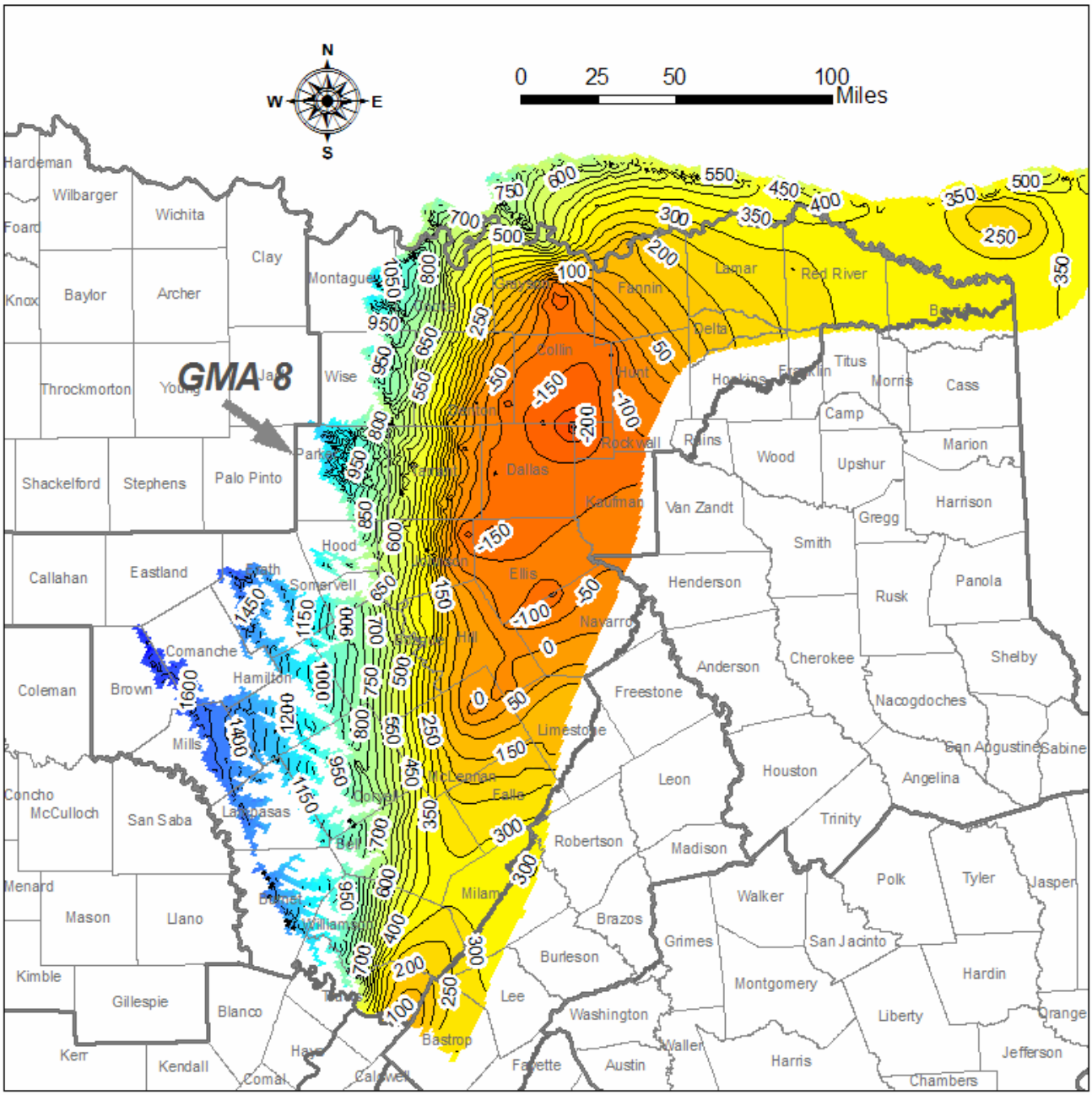

Figure 7. Water level elevations after 50 years, for Simulation Request 2, in Layer 3 (Paluxy Aquifer). Water level elevations are in feet above mean sea level. Contour interval is 50 feet. Dry cells are shown in black.

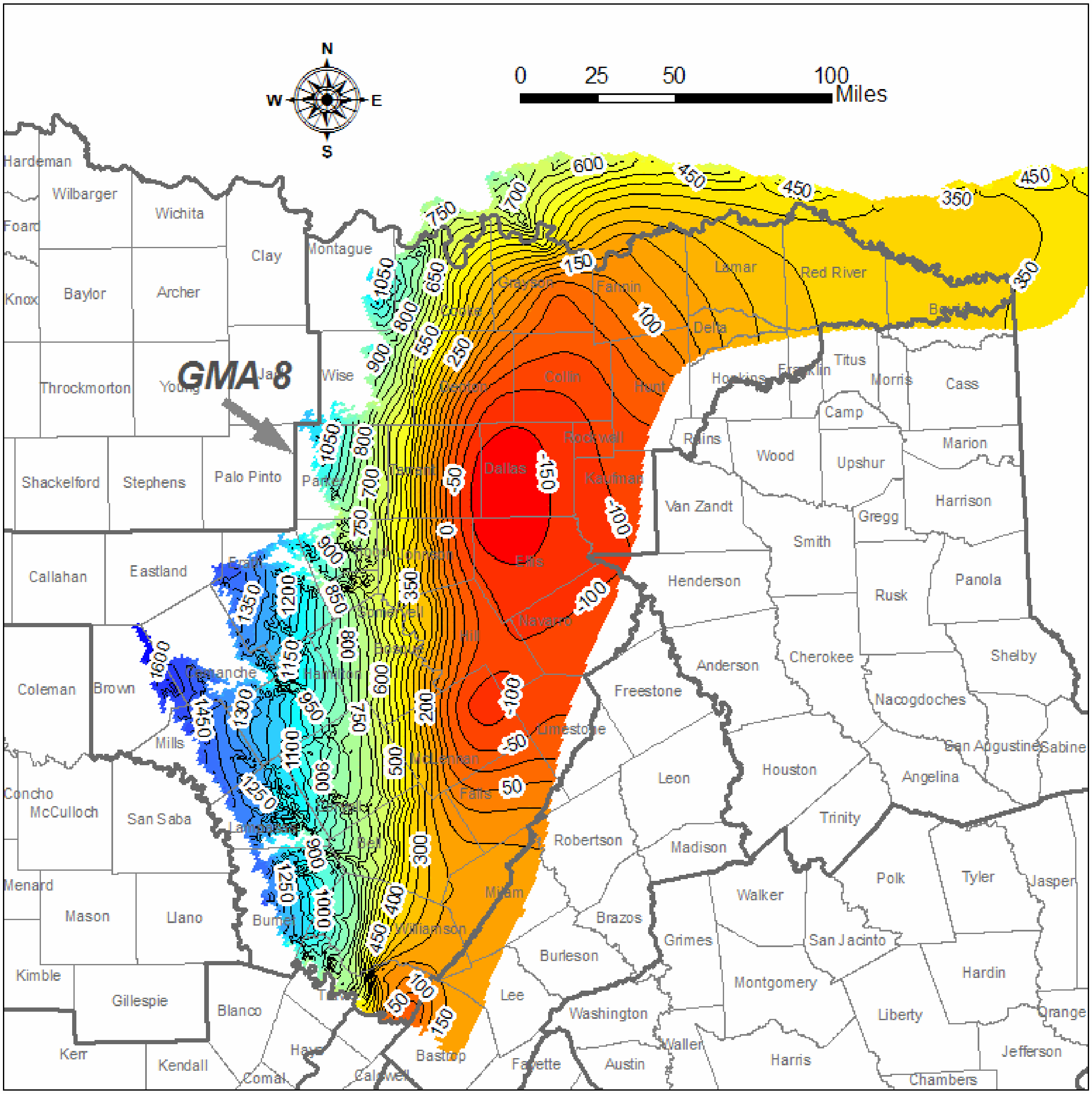

Figure 8. Water level elevations after 50 years, for Simulation Request 2, in Layer 4 (Glen Rose Formation). Water level elevations are in feet above mean sea level. Contour interval is 50 feet.

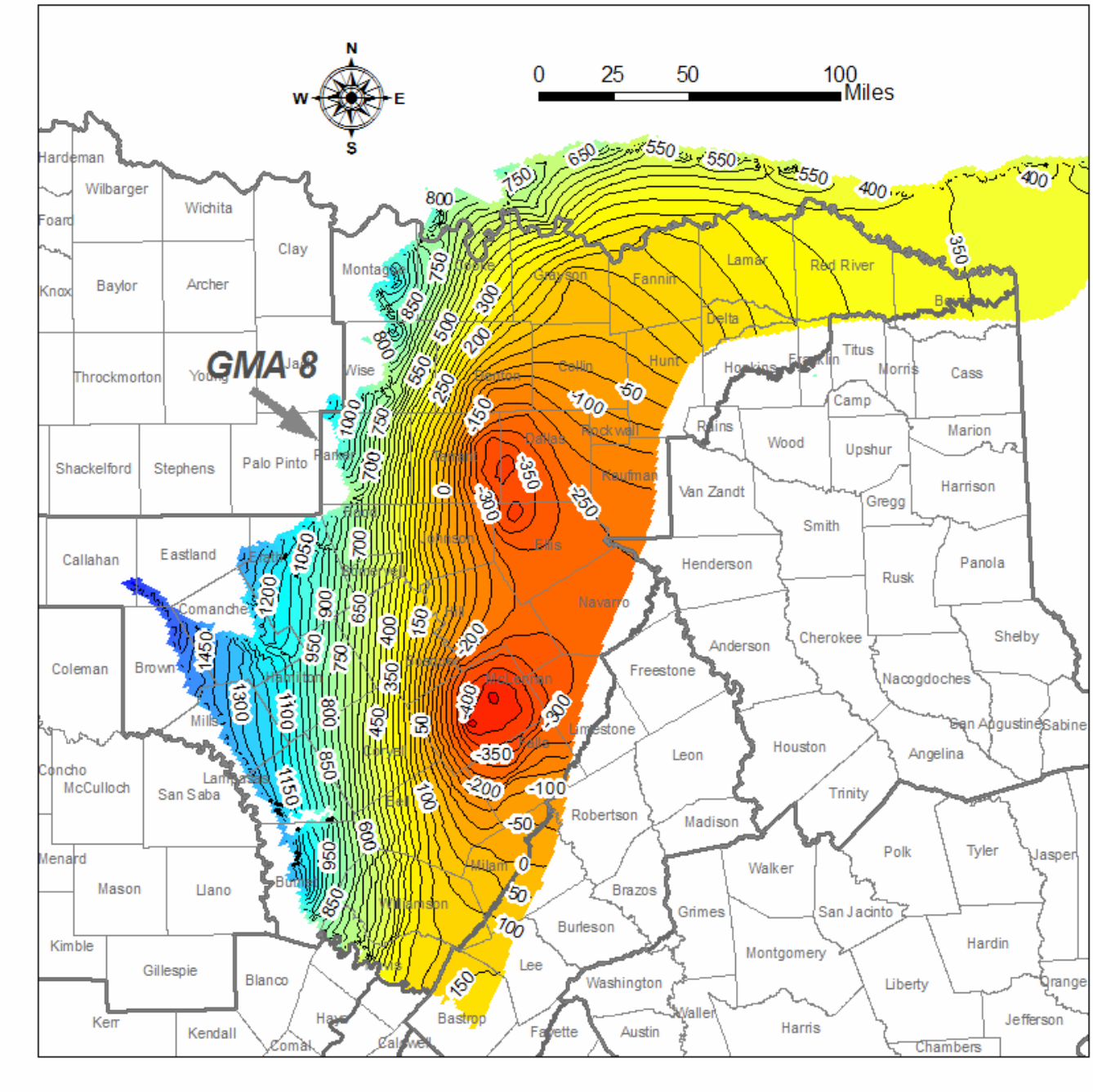

Figure 9. Water level elevations after 50 years, for Simulation Request 2, in Layer 5 (Hensell Aquifer). Water level elevations are in feet above mean sea level. Contour interval is 50 feet. Dry cells are shown in black.

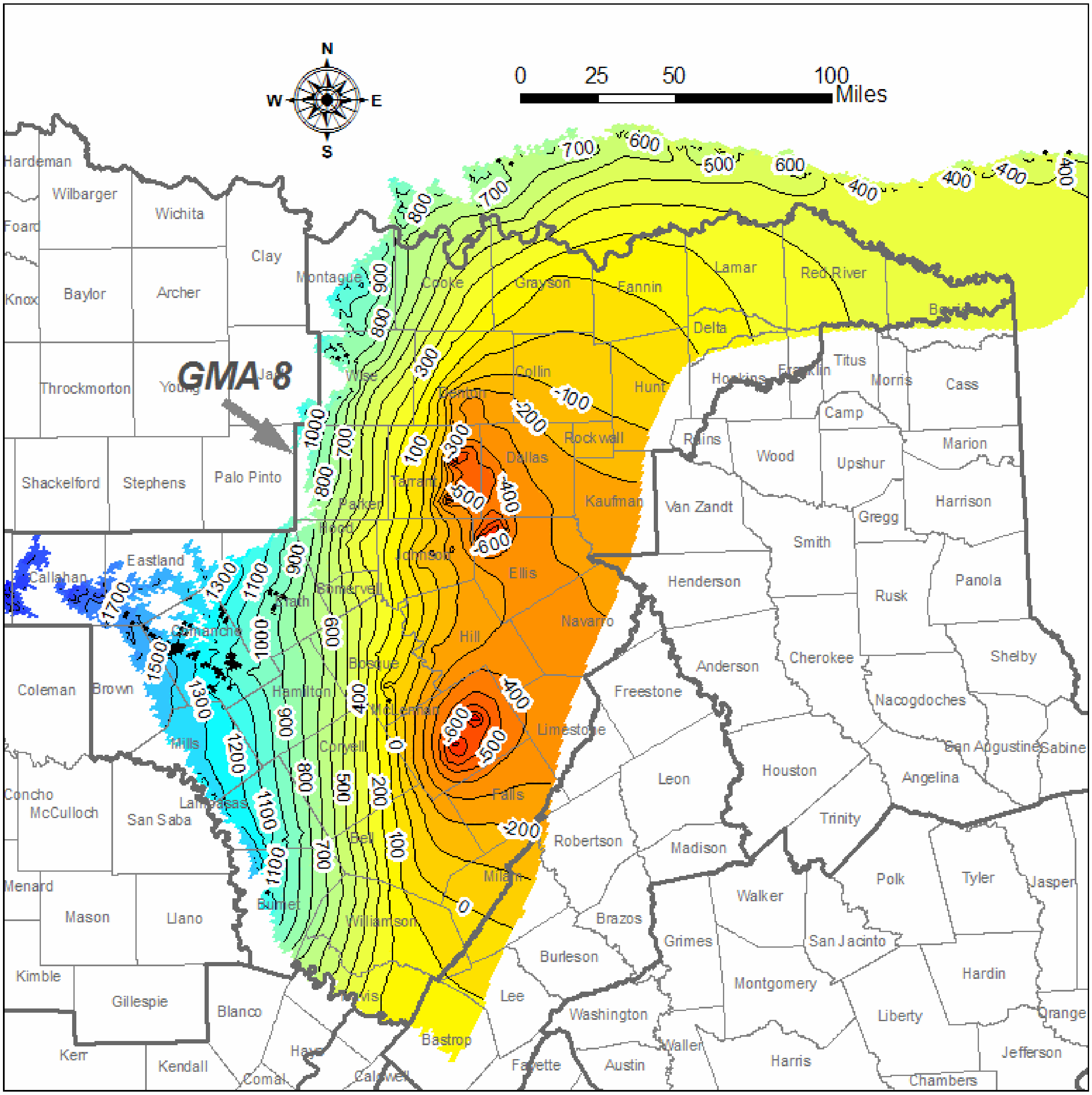

Figure 10. Water level elevations after 50 years, for Simulation Request 2, in Layer 7 (Hosston Aquifer). Water level elevations are in feet above mean sea level. Contour interval is 100 feet. Dry cells are shown in black.

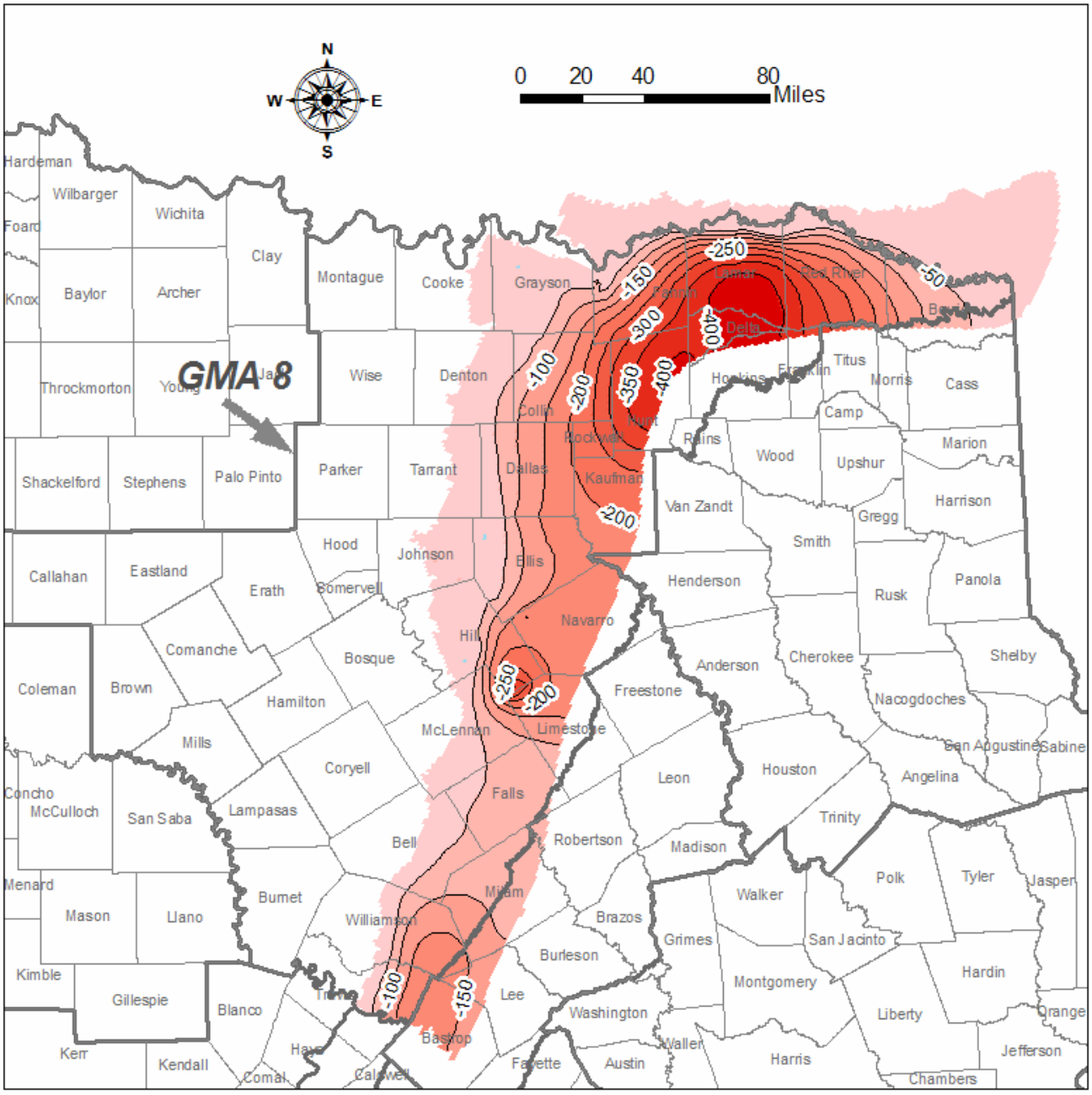

Figure 11. Changes in water levels after 50 years, for Simulation Request 2, in Layer 1 (Woodbine Aquifer). Water level changes are in feet. Contour interval is 50 feet. Decreases in water levels (drawdowns) are shown in red.

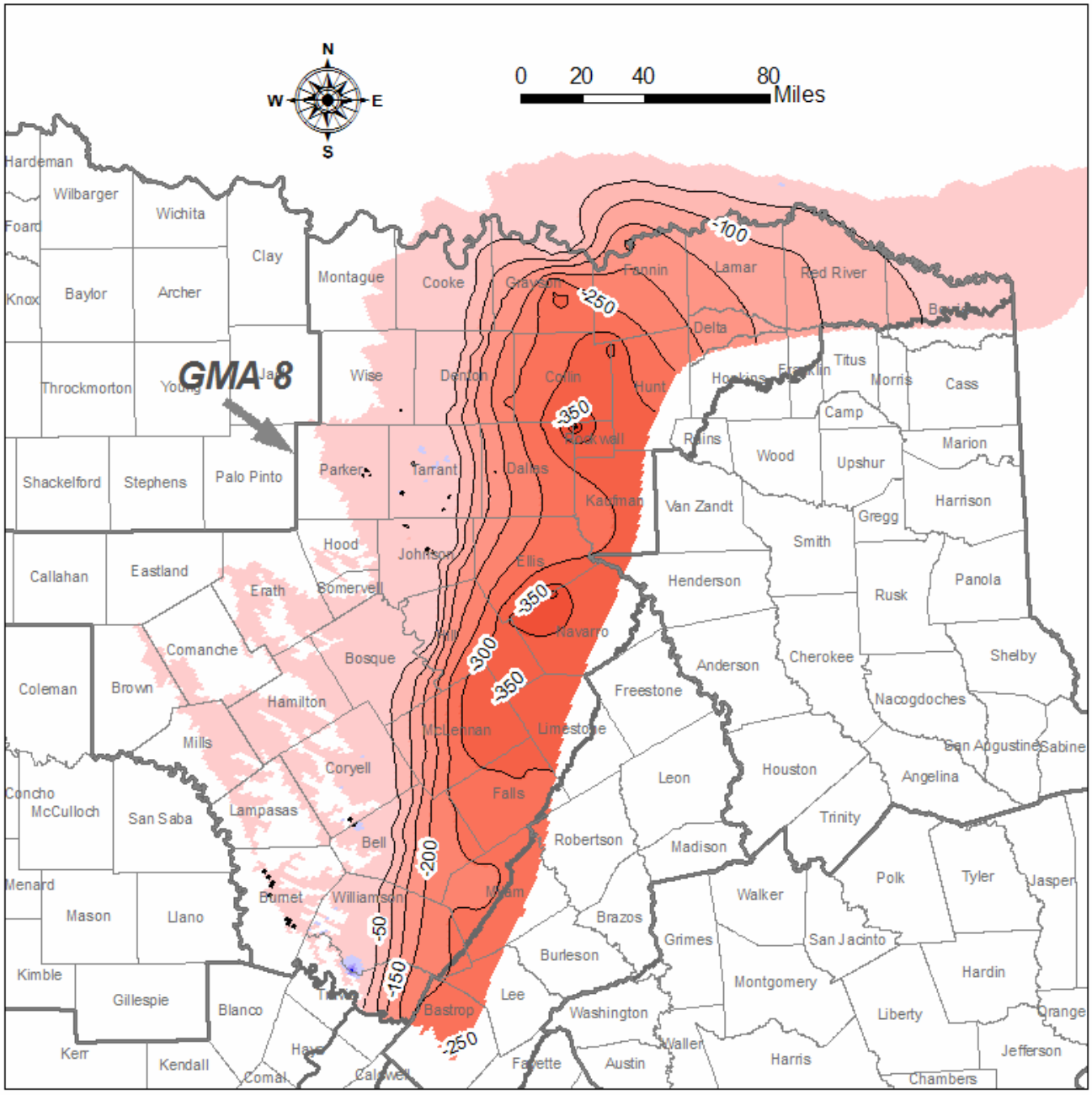

Figure 12. Changes in water levels after 50 years, for Simulation Request 2, in layer 3 (Paluxy Aquifer). Water level changes are in feet. Contour interval is 50 feet. Decreases in water levels (drawdowns) are shown in red. Increases in water levels are shown in blue. Dry cells are shown in black.

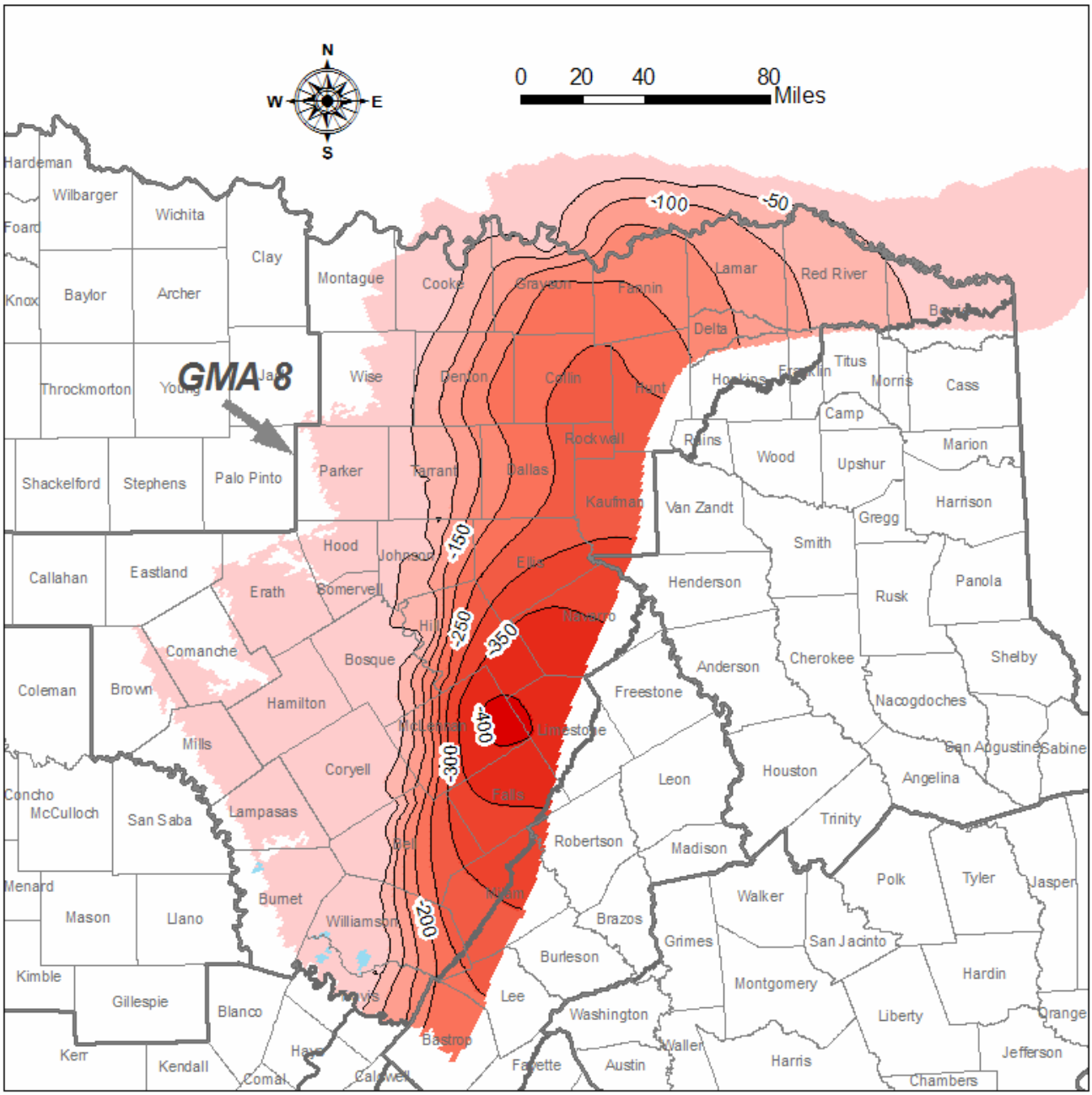

Figure 13. Changes in water levels after 50 years, for Simulation Request 2, in layer 4 (Glen Rose Formation). Water level changes are in feet. Contour interval is 50 feet. Decreases in water levels (drawdowns) are shown in red. Increases in water levels are shown in blue.

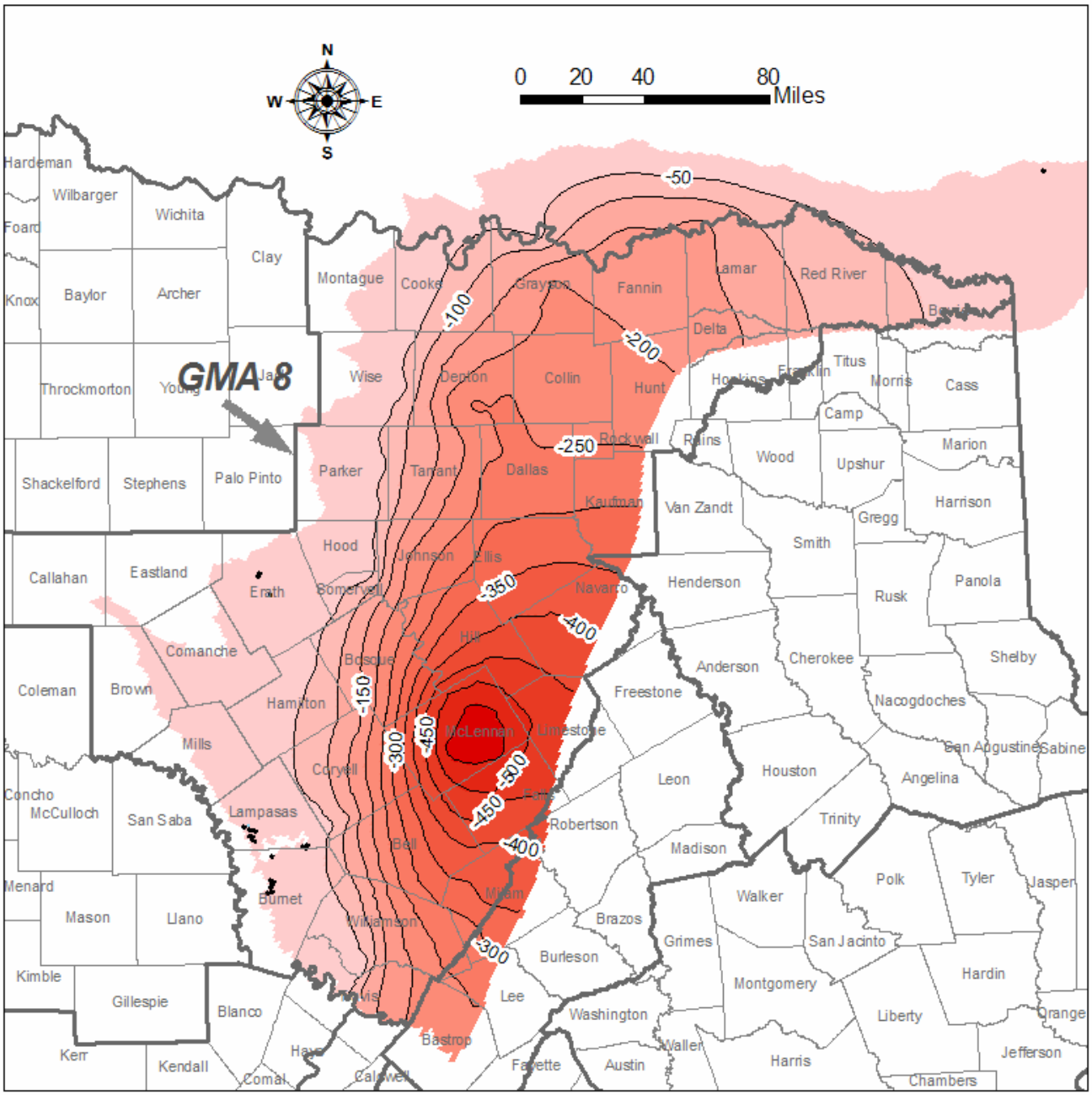

Figure 14. Changes in water levels after 50 years, for Simulation Request 2, in layer 5 (Hensell Aquifer). Water level changes are in feet. Contour interval is 50 feet. Decreases in water levels (drawdowns) are shown in red. Dry cells are shown in black.

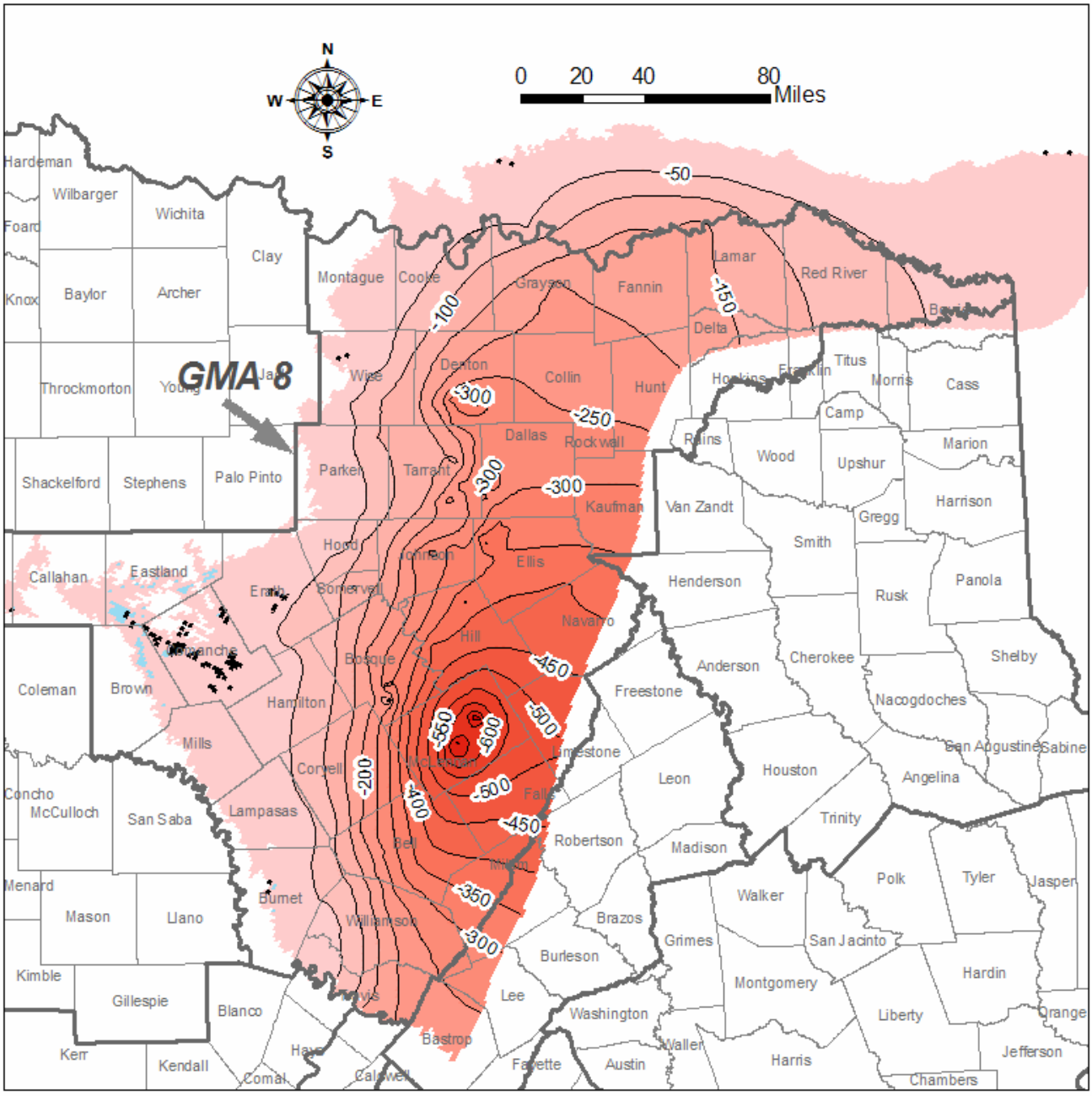

Figure 15. Changes in water levels after 50 years, for Simulation Request 2, in layer 7 (Hosston Aquifer). Water level changes are in feet. Contour interval is 50 feet. Decreases in water levels (drawdowns) are shown in red. Increases in water levels are shown in blue. Dry cells are shown in black.

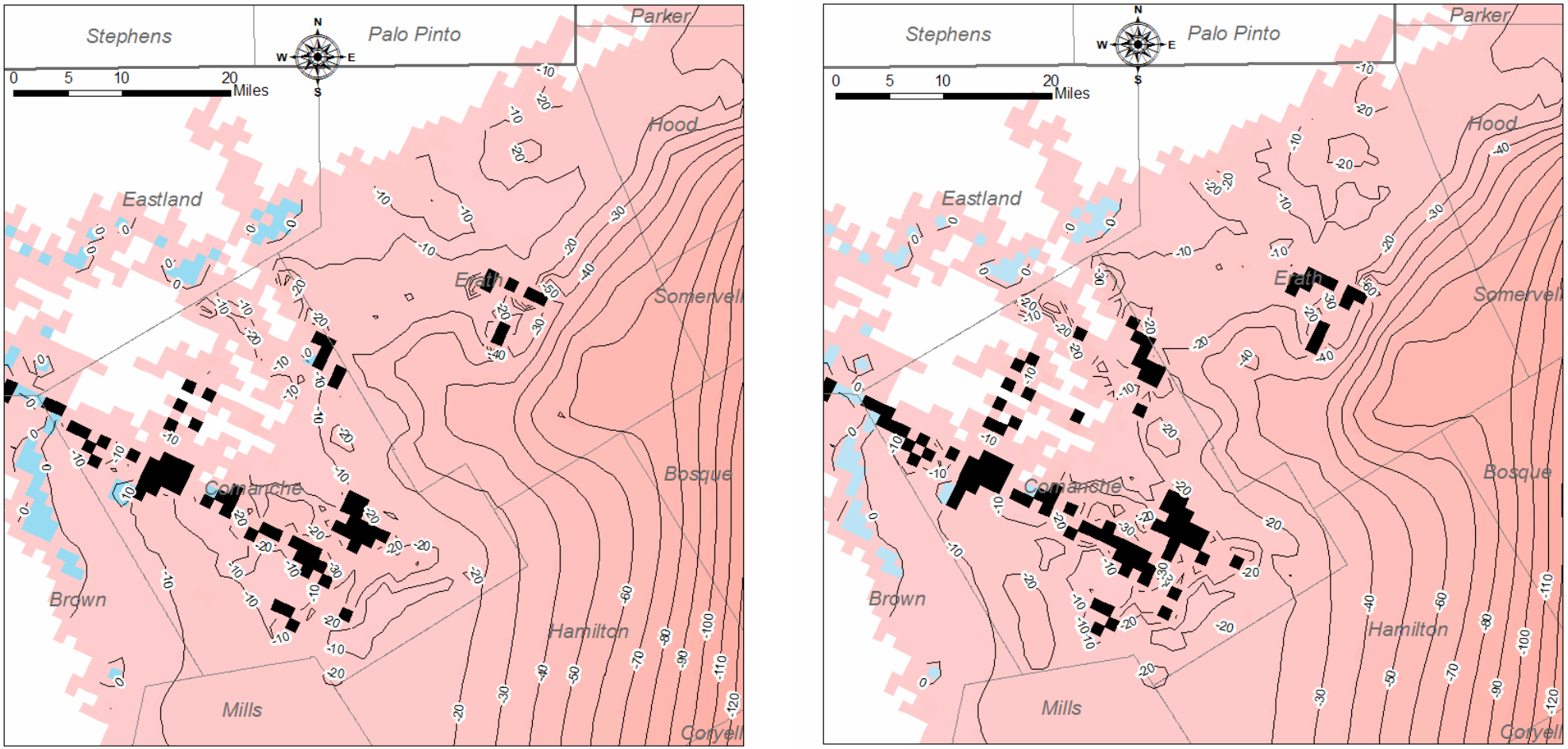

Figure 16. Changes in water levels in Comanche and Erath counties after 50 years, for Simulation Request 2 (left) and Simulation Request 3 (right), in layer 7 (Hosston Aquifer). Water level changes are in feet. Contour interval is 10 feet. Decreases in water levels (drawdowns) are shown in red. Increases in water levels are shown in blue. Dry cells are shown in black.

Appendix A

Summary of Budgets
After 50 Years for Simulation Request 2

Table A-1. Annual water budgets for each county at the end of the 50-year predictive portion of the model run using the requested pumpage in the groundwater availability model for the northern part of the Trinity Aquifer (in acre-feet per year).

	Non-Texas		Bastrop		Bell		Bosque		Bowie		Brown	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	13,236	0	56	0	29	0	--	--	50	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	--	--	0	0	--	--
Inter-aquifer Flow (GHB Package)	17	6	2	0	11	2	--	--	3	1	--	--
Wells	0	10	0	0	0	0	--	--	0	0	--	--
Rivers and Streams (Stream Package)	39	5,054	0	0	3	10	--	--	0	0	--	--
Recharge	63,981	0	0	0	0	0	--	--	0	0	--	--
Evapotranspiration	0	71,020	0	0	0	0	--	--	0	0	--	--
Lateral Inflow	666	1,569	0	2	2	5	--	--	18	84	--	--
Vertical Leakage Downward	17	296	0	56	1	29	--	--	17	3	--	--
Paluxy Aquifer (Layer 3)												
Storage	13,117	2	96	0	204	24	1,461	3	41	0	176	0
Reservoirs (River Package)	6	1	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	2	11	0	0	0	0	0	0	0	0	0	0
Wells	0	2,628	0	0	0	95	0	1,003	0	0	0	18
Rivers and Streams (Stream Package)	0	1,066	0	0	0	0	0	492	0	0	0	0
Recharge	44,478	0	0	0	61	0	3,699	0	0	0	3,805	0
Evapotranspiration	0	49,978	0	0	0	0	0	3,332	0	0	0	3,650
Vertical Leakage Upward	889	21	0	14	199	14	361	10	13	0	12	0
Lateral Inflow	1,468	4,080	1	3	50	23	469	652	24	93	22	107
Vertical Leakage Downward	528	2,702	0	80	0	360	0	498	15	0	2	242
Glen Rose Formation (Layer 4)												
Storage	421	0	74	0	2,640	0	1,840	0	31	0	120	0
Reservoirs (River Package)	0	0	0	0	15	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	1	0	880	0	258	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	275	994	64	322	0	0	0	0
Recharge	0	0	0	0	2,173	0	677	0	0	0	1,937	0
Evapotranspiration	0	0	0	0	0	2,894	0	401	0	0	0	1,909
Vertical Leakage Upward	2,702	528	80	0	360	0	498	0	0	15	242	2
Lateral Inflow	84	240	39	195	1,295	580	913	789	16	34	19	106
Vertical Leakage Downward	267	2,705	14	11	0	1,410	0	2,221	4	2	0	301

Table A-1. (continued)

	Non-Texas		Bastrop		Bell		Bosque		Bowie		Brown	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	13,797	0	93	0	180	0	635	0	36	0	867	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	3,007	0	0	0	1,100	0	1,742	0	0	0	79
Rivers and Streams (Stream Package)	0	339	0	0	0	0	0	0	0	0	0	0
Recharge	42,571	0	0	0	0	0	0	0	0	0	3,747	0
Evapotranspiration	0	49,559	0	0	0	0	0	0	0	0	0	3,130
Vertical Leakage Upward	2,705	267	11	14	1,410	0	2,221	0	2	4	301	0
Lateral Inflow	2,227	5,530	0	3	3,620	2,056	7,722	6,346	149	175	67	484
Vertical Leakage Downward	1,377	3,975	1	88	0	2,054	0	2,492	0	8	0	1,289
Pearsall/Cow Creek/Sligo (Layer)												
Storage	486	2	73	0	151	0	43	0	29	0	48	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	3,975	1,377	88	1	2,054	0	2,492	0	8	0	1,289	0
Lateral Inflow	6	12	0	1	13	7	7	8	0	0	0	1
Vertical Leakage Downward	1,300	4,376	0	159	0	2,211	0	2,533	0	37	0	1,336
Hosston Aquifer (Layer 7)												
Storage	16,348	214	82	0	195	0	283	0	36	0	458	5
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	3,554	0	0	0	5,000	0	2,820	0	0	0	1,957
Rivers and Streams (Stream Package)	0	273	0	0	0	0	0	0	0	0	0	0
Recharge	47,088	0	0	0	0	0	0	0	0	0	3,457	0
Evapotranspiration	0	56,685	0	0	0	0	0	0	0	0	0	2,866
Vertical Leakage Upward	4,376	1,300	159	0	2,211	0	2,533	0	37	0	1,336	0
Lateral Inflow	2,512	8,297	627	869	6,742	4,148	4,258	4,254	546	619	165	587

Table A-1. (continued)

	Burnet		Callahan		Collin		Comanche		Cooke		Coryell	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	--	--	--	--	407	0	--	--	2,085	0	--	--
Reservoirs (River Package)	--	--	--	--	0	0	--	--	6	0	--	--
Inter-aquifer Flow (GHB Package)	--	--	--	--	125	0	--	--	0	0	--	--
Wells	--	--	--	--	0	2,500	--	--	0	154	--	--
Rivers and Streams (Stream Package)	--	--	--	--	0	0	--	--	0	0	--	--
Recharge	--	--	--	--	0	0	--	--	8,198	0	--	--
Evapotranspiration	--	--	--	--	0	0	--	--	0	9,830	--	--
Lateral Inflow	--	--	--	--	3,711	1,856	--	--	139	438	--	--
Vertical Leakage Downward	--	--	--	--	113	0	--	--	0	7	--	--
Paluxy Aquifer (Layer 3)												
Storage	446	0	--	--	130	0	201	0	6,639	0	627	7
Reservoirs (River Package)	0	0	--	--	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	--	--	0	0	0	0	0	0	0	0
Wells	0	182	--	--	0	1,758	0	14	0	3,532	0	143
Rivers and Streams (Stream Package)	0	31	--	--	0	0	0	0	84	842	0	267
Recharge	5,170	0	--	--	0	0	5,356	0	4,407	0	5,690	0
Evapotranspiration	0	5,305	--	--	0	0	0	5,418	0	3,981	0	5,804
Vertical Leakage Upward	31	4	--	--	229	0	23	0	307	3	221	9
Lateral Inflow	2	6	--	--	2,063	976	167	70	1,760	3,363	211	246
Vertical Leakage Downward	2	122	--	--	312	0	1	245	18	1,496	1	276
Glen Rose Formation (Layer 4)												
Storage	2,833	23	--	--	126	0	469	2	37	0	5,745	0
Reservoirs (River Package)	0	0	--	--	0	0	0	0	0	0	6	0
Inter-aquifer Flow (GHB Package)	0	0	--	--	0	0	0	0	0	0	0	0
Wells	0	200	--	--	0	0	0	0	0	0	0	372
Rivers and Streams (Stream Package)	167	735	--	--	0	0	0	5	0	0	401	738
Recharge	8,779	0	--	--	0	0	8,491	0	0	0	8,029	0
Evapotranspiration	0	8,986	--	--	0	0	0	8,568	0	0	0	10,820
Vertical Leakage Upward	122	2	--	--	0	312	245	1	1,496	18	276	1
Lateral Inflow	268	1,267	--	--	140	58	304	249	44	101	978	1,029
Vertical Leakage Downward	0	957	--	--	116	11	0	683	8	1,466	0	2,475

Table A-1. (continued)

	Burnet		Callahan		Collin		Comanche		Cooke		Coryell	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	3,473	1	119	0	150	0	4,526	2	4,100	0	1,381	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	686	0	124	0	102	0	328	0	1,616	0	836
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	241	139	177	0	0
Recharge	1,316	0	661	0	0	0	13,384	0	452	0	0	0
Evapotranspiration	0	1,565	0	503	0	0	0	13,067	0	508	0	0
Vertical Leakage Upward	957	0	--	--	11	116	683	0	1,466	8	2,475	0
Lateral Inflow	255	2,331	13	112	1,827	1,355	950	1,500	3,547	5,479	4,552	5,500
Vertical Leakage Downward	29	1,447	0	53	0	413	13	4,419	1	1,916	0	2,072
Pearsall/Cow Creek/Sligo (Layer)												
Storage	758	0	0	0	123	0	166	86	72	0	41	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	8
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	1,447	29	53	0	413	0	4,419	13	1,916	1	2,072	0
Lateral Inflow	1	7	0	0	6	6	1	2	9	9	6	10
Vertical Leakage Downward	29	2,199	0	53	0	536	12	4,499	0	1,987	0	2,101
Hosston Aquifer (Layer 7)												
Storage	2,842	3	3,950	1	152	0	13,191	14	241	0	58	0
Reservoirs (River Package)	0	0	0	0	0	0	19	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	35	0	0	0	0	0	0	0	0	0	0
Wells	0	2,485	0	3,663	0	239	0	24,089	0	1,715	0	433
Rivers and Streams (Stream Package)	0	0	0	27	0	0	62	30	0	330	0	0
Recharge	1,010	0	9,425	0	0	0	10,021	0	280	0	0	0
Evapotranspiration	0	746	0	9,615	0	0	0	3,708	0	425	0	0
Vertical Leakage Upward	2,199	29	53	0	536	0	4,499	12	1,987	0	2,101	0
Lateral Inflow	653	3,406	336	458	3,639	4,087	1,097	1,037	5,088	5,125	4,161	5,887

Table A-1. (continued)

	Dallas		Delta		Denton		Eastland		Ellis		Erath	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	1,318	0	14	0	4,941	0	--	--	2,952	0	--	--
Reservoirs (River Package)	0	0	0	0	108	79	--	--	0	0	--	--
Inter-aquifer Flow (GHB Package)	130	0	15	0	32	0	--	--	151	0	--	--
Wells	0	2,316	0	16	0	4,132	--	--	0	5,444	--	--
Rivers and Streams (Stream Package)	5	0	0	0	22	350	--	--	0	0	--	--
Recharge	50	0	0	0	12,383	0	--	--	0	0	--	--
Evapotranspiration	0	0	0	0	0	11,118	--	--	0	0	--	--
Lateral Inflow	3,625	2,883	376	444	483	2,264	--	--	3,155	946	--	--
Vertical Leakage Downward	76	5	55	0	1	28	--	--	134	2	--	--
Paluxy Aquifer (Layer 3)												
Storage	154	0	38	0	7,975	0	35	0	219	0	4,352	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	467	0	0	0	9,804	0	4	0	400	0	4,777
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	239	0	0	0	12,377	0
Evapotranspiration	0	0	0	0	0	0	0	253	0	0	0	11,591
Vertical Leakage Upward	247	0	3	0	403	0	--	--	238	0	39	0
Lateral Inflow	1,266	1,071	649	703	3,892	1,547	7	18	427	340	54	79
Vertical Leakage Downward	28	157	13	0	46	966	0	5	0	145	0	374
Glen Rose Formation (Layer 4)												
Storage	155	0	34	0	51	0	63	0	209	0	3,336	2
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	1
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	10	732
Recharge	0	0	0	0	0	0	246	0	0	0	10,850	0
Evapotranspiration	0	0	0	0	0	0	0	196	0	0	0	12,131
Vertical Leakage Upward	157	28	0	13	966	46	5	0	145	0	374	0
Lateral Inflow	187	16	121	120	158	81	23	114	220	29	548	618
Vertical Leakage Downward	0	455	0	22	22	1,070	0	26	0	545	1	1,634

Table A-1. (continued)

	Dallas		Delta		Denton		Eastland		Ellis		Erath	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	192	0	37	0	85	0	392	0	252	0	19,040	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	1,121	0	182	0	3,110	0	79	0	1,142	0	10,412
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	126	412
Recharge	0	0	0	0	0	0	2,574	0	0	0	4,189	0
Evapotranspiration	0	0	0	0	0	0	0	2,525	0	0	0	2,864
Vertical Leakage Upward	455	0	22	0	1,070	22	26	0	545	0	1,634	1
Lateral Inflow	2,019	609	808	654	5,497	1,664	160	127	1,941	444	1,112	4,144
Vertical Leakage Downward	0	937	0	31	0	1,856	6	427	0	1,153	0	8,269
Pearsall/Cow Creek/Sligo (Layer)												
Storage	157	0	30	0	72	0	9	7	205	0	222	5
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	937	0	31	0	1,856	0	427	6	1,153	0	8,269	0
Lateral Inflow	8	5	4	4	13	5	0	0	10	2	1	3
Vertical Leakage Downward	0	1,097	0	60	0	1,936	6	429	0	1,366	0	8,485
Hosston Aquifer (Layer 7)												
Storage	194	0	36	0	93	0	2,605	47	253	0	9,953	2
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	3,903	0	182	0	6,395	0	4,630	0	2,417	0	17,667
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	13	0	0	0	0
Recharge	0	0	0	0	0	0	11,485	0	0	0	491	0
Evapotranspiration	0	0	0	0	0	0	0	9,840	0	0	0	191
Vertical Leakage Upward	1,097	0	60	0	1,936	0	429	6	1,366	0	8,485	0
Lateral Inflow	4,224	1,612	3,047	2,960	6,063	1,696	464	447	2,200	1,403	1,162	2,231

Table A-1. (continued)

	Falls		Fannin		Franklin		Grayson		Hamilton		Henderson	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	57	0	3,812	0	2	0	11,858	0	--	--	2	0
Reservoirs (River Package)	0	0	0	0	0	0	9	4	--	--	0	0
Inter-aquifer Flow (GHB Package)	0	11	119	0	1	0	117	0	--	--	2	0
Wells	0	0	0	3,300	0	0	0	12,100	--	--	0	0
Rivers and Streams (Stream Package)	0	0	295	466	0	0	0	0	--	--	0	0
Recharge	0	0	2,760	0	0	0	14,251	0	--	--	0	0
Evapotranspiration	0	0	0	1,694	0	0	0	14,199	--	--	0	0
Lateral Inflow	7	12	1,950	3,582	160	166	1,771	1,730	--	--	95	105
Vertical Leakage Downward	0	41	113	8	4	0	56	31	--	--	6	0
Paluxy Aquifer (Layer 3)												
Storage	264	0	115	0	3	0	1,964	0	1,048	5	14	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	288	0	0	0	4,709	0	291	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	353	0	0
Recharge	0	0	0	0	0	0	0	0	9,280	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	9,397	0	0
Vertical Leakage Upward	112	0	132	0	0	0	362	0	145	0	5	0
Lateral Inflow	4	8	1,295	1,356	61	64	3,583	1,353	104	231	22	37
Vertical Leakage Downward	0	372	106	4	1	0	320	167	0	300	0	4
Glen Rose Formation (Layer 4)												
Storage	203	0	102	0	2	0	165	0	3,635	7	13	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	2	0	0	0	0	0	0	0	46	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	286	1,088	0	0
Recharge	0	0	0	0	0	0	0	0	7,642	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	8,624	0	0
Vertical Leakage Upward	372	0	4	106	0	1	167	320	300	0	4	0
Lateral Inflow	174	165	120	119	22	23	152	76	569	1,010	5	8
Vertical Leakage Downward	0	583	29	30	0	1	140	228	0	1,659	0	13

Table A-1. (continued)

	Falls		Fannin		Franklin		Grayson		Hamilton		Henderson	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	236	0	118	0	3	0	521	0	2,974	0	14	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	21	0	203	0	0	0	2,345	0	1,110	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	6	0	0
Recharge	0	0	0	0	0	0	0	0	52	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	90	0	0
Vertical Leakage Upward	583	0	30	29	1	0	228	140	1,659	0	13	0
Lateral Inflow	580	594	1,268	1,077	100	101	4,173	2,118	3,332	4,638	67	80
Vertical Leakage Downward	0	784	16	123	0	2	37	356	9	2,182	0	15
Pearsall/Cow Creek/Sligo (Layer)												
Storage	184	0	95	0	2	0	76	0	6	0	11	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	784	0	123	16	2	0	356	37	2,182	9	15	0
Lateral Inflow	6	9	4	5	0	0	5	4	3	4	0	1
Vertical Leakage Downward	0	964	5	206	0	4	14	410	8	2,186	0	26
Hosston Aquifer (Layer 7)												
Storage	209	0	117	0	2	0	97	0	8	0	13	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	138	0	209	0	0	0	2,346	0	699	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	964	0	206	5	4	0	410	14	2,186	8	26	0
Lateral Inflow	4,552	5,587	2,423	2,532	397	404	5,057	3,204	1,802	3,288	455	493

Table A-1. (continued)

	Hill		Hood		Hopkins		Hunt		Jack		Johnson	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	2,004	4	--	--	4	0	29	0	--	--	2,798	606
Reservoirs (River Package)	32	1	--	--	0	0	0	0	--	--	0	0
Inter-aquifer Flow (GHB Package)	106	0	--	--	3	0	56	0	--	--	18	0
Wells	0	2,263	--	--	0	0	0	2,841	--	--	0	4,735
Rivers and Streams (Stream Package)	0	272	--	--	0	0	0	0	--	--	0	10
Recharge	7,239	0	--	--	0	0	0	0	--	--	13,031	0
Evapotranspiration	0	6,777	--	--	0	0	0	0	--	--	0	9,247
Lateral Inflow	427	551	--	--	180	197	2,742	126	--	--	114	1,337
Vertical Leakage Downward	71	12	--	--	11	0	140	0	--	--	0	25
Paluxy Aquifer (Layer 3)												
Storage	1,017	0	732	2	8	0	130	0	26	0	8,819	1
Reservoirs (River Package)	0	0	1	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	1,254	0	933	0	0	0	551	0	3	0	9,493
Rivers and Streams (Stream Package)	0	0	2	501	0	0	0	0	0	0	0	94
Recharge	0	0	5,830	0	0	0	0	0	208	0	79	0
Evapotranspiration	0	0	0	4,819	0	0	0	0	0	241	0	1
Vertical Leakage Upward	336	0	18	0	0	0	70	0	--	--	330	1
Lateral Inflow	666	486	138	383	251	261	1,088	845	12	0	1,217	580
Vertical Leakage Downward	0	279	0	83	2	0	108	0	0	3	4	281
Glen Rose Formation (Layer 4)												
Storage	559	0	1,430	2	7	0	120	0	30	0	486	0
Reservoirs (River Package)	0	0	33	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	10	0	4	0	0	0	0	0	0	0	24
Rivers and Streams (Stream Package)	0	0	303	1,541	0	0	0	0	0	0	0	0
Recharge	0	0	10,680	0	0	0	0	0	467	0	0	0
Evapotranspiration	0	0	0	9,573	0	0	0	0	0	450	0	0
Vertical Leakage Upward	279	0	83	0	0	2	0	108	3	0	281	4
Lateral Inflow	427	310	312	895	55	57	104	111	10	28	736	337
Vertical Leakage Downward	0	945	1	827	0	3	9	14	0	32	0	1,137

Table A-1. (continued)

	Hill		Hood		Hopkins		Hunt		Jack		Johnson	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	209	0	7,029	0	8	0	131	0	202	0	422	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	933	0	3,568	0	0	0	0	0	1	0	1,064
Rivers and Streams (Stream Package)	0	0	109	435	0	0	0	0	0	0	0	0
Recharge	0	0	2,167	0	0	0	0	0	684	0	0	0
Evapotranspiration	0	0	0	1,115	0	0	0	0	0	806	0	0
Vertical Leakage Upward	945	0	827	1	3	0	14	9	32	0	1,137	0
Lateral Inflow	3,891	2,663	1,624	3,046	285	290	672	693	6	50	4,438	3,373
Vertical Leakage Downward	0	1,448	0	3,592	0	6	0	115	0	67	21	1,580
Pearsall/Cow Creek/Sligo (Layer)												
Storage	172	0	24	0	6	0	105	0	2	0	57	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	1,448	0	--	--	6	0	115	0	67	0	1,580	21
Lateral Inflow	6	8	2	3	1	1	5	5	0	1	6	9
Vertical Leakage Downward	0	1,619	0	3,615	0	12	0	220	0	69	19	1,632
Hosston Aquifer (Layer 7)												
Storage	217	0	2,532	0	7	0	124	0	295	0	73	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	951	0	6,559	0	0	0	0	0	7	0	2,289
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	132	0	0	0	0	0	1,014	0	0	0
Evapotranspiration	0	0	0	149	0	0	0	0	0	1,310	0	0
Vertical Leakage Upward	1,619	0	3,615	0	12	0	220	0	69	0	1,632	19
Lateral Inflow	2,488	3,373	1,762	1,333	1,281	1,300	2,759	3,103	104	163	1,938	1,335

Table A-1. (continued)

	Kaufman		Lamar		Lampasas		Lee		Limestone		McLennan	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	27	0	2,529	0	--	--	21	0	44	0	101	0
Reservoirs (River Package)	0	0	0	0	--	--	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	34	0	114	0	--	--	0	0	16	0	31	3
Wells	0	200	0	3,657	--	--	0	0	0	33	0	5
Rivers and Streams (Stream Package)	0	0	8	1,050	--	--	0	0	0	0	0	29
Recharge	0	0	2,657	0	--	--	0	0	0	0	673	0
Evapotranspiration	0	0	0	2,185	--	--	0	0	0	0	0	697
Lateral Inflow	755	702	2,172	764	--	--	1	3	34	88	65	130
Vertical Leakage Downward	87	0	179	4	--	--	0	20	30	3	10	17
Paluxy Aquifer (Layer 3)												
Storage	170	0	100	0	975	0	42	0	163	0	201	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	102	0	0	0	13	0	0	0	0	0	231
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	4,434	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	5,185	0	0	0	0	0	0
Vertical Leakage Upward	79	0	26	1	26	1	0	6	48	0	328	0
Lateral Inflow	106	250	767	890	24	115	1	2	7	30	273	76
Vertical Leakage Downward	9	13	19	20	0	143	0	35	0	187	0	493
Glen Rose Formation (Layer 4)												
Storage	158	0	87	0	3,378	0	33	0	123	0	828	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	779	0	1	0	4	0	265
Rivers and Streams (Stream Package)	0	0	0	0	69	1,548	0	0	0	0	0	0
Recharge	0	0	0	0	9,528	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	9,690	0	0	0	0	0	0
Vertical Leakage Upward	13	9	20	19	143	0	35	0	187	0	493	0
Lateral Inflow	37	74	122	109	270	423	12	60	43	75	704	124
Vertical Leakage Downward	0	125	0	102	11	959	0	18	0	275	0	1,637

Table A-1. (continued)

	Kaufman		Lamar		Lampasas		Lee		Limestone		McLennan	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	175	0	99	0	2,620	1	41	0	134	0	235	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	241	0	660	0	889	0	0	0	14	0	4,190
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	471	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	474	0	0	0	0	0	0
Vertical Leakage Upward	125	0	102	0	959	11	18	0	275	0	1,637	0
Lateral Inflow	426	341	1,428	864	1,121	2,347	3	22	185	335	6,192	483
Vertical Leakage Downward	0	145	14	118	6	1,457	0	40	0	244	0	3,390
Pearsall/Cow Creek/Sligo (Layer)												
Storage	138	0	79	0	139	0	32	0	105	0	193	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	11	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	145	0	118	14	1,457	6	40	0	244	0	3,390	0
Lateral Inflow	3	2	4	4	2	4	1	2	2	4	23	1
Vertical Leakage Downward	0	284	7	190	6	1,584	0	71	0	348	0	3,605
Hosston Aquifer (Layer 7)												
Storage	160	0	97	0	1,167	0	35	0	120	0	241	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	840	0	660	0	1,454	0	0	0	48	0	16,003
Rivers and Streams (Stream Package)	0	0	0	0	114	0	0	0	0	0	0	0
Recharge	0	0	0	0	1,984	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	1,932	0	0	0	0	0	0
Vertical Leakage Upward	284	0	190	7	1,584	6	71	0	348	0	3,605	0
Lateral Inflow	2,361	1,965	2,811	2,431	924	2,381	842	948	1,252	1,672	12,755	598

Table A-1. (continued)

	Milam		Mills		Montague		Navarro		Palo Pinto		Parker	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	84	0	--	--	--	--	37	0	--	--	--	--
Reservoirs (River Package)	0	0	--	--	--	--	0	0	--	--	--	--
Inter-aquifer Flow (GHB Package)	0	8	--	--	--	--	50	0	--	--	--	--
Wells	0	0	--	--	--	--	0	300	--	--	--	--
Rivers and Streams (Stream Package)	0	0	--	--	--	--	0	0	--	--	--	--
Recharge	0	0	--	--	--	--	0	0	--	--	--	--
Evapotranspiration	0	0	--	--	--	--	0	0	--	--	--	--
Lateral Inflow	2	5	--	--	--	--	411	301	--	--	--	--
Vertical Leakage Downward	0	73	--	--	--	--	104	0	--	--	--	--
Paluxy Aquifer (Layer 3)												
Storage	267	0	773	0	1,798	0	259	0	--	--	7,447	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	--	--	6	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	--	--	0	0
Wells	0	0	0	6	0	508	0	413	--	--	0	9,866
Rivers and Streams (Stream Package)	0	0	0	8	0	498	0	0	--	--	164	164
Recharge	0	0	3,988	0	7,959	0	0	0	--	--	18,464	0
Evapotranspiration	0	0	0	4,517	0	7,985	0	0	--	--	0	14,215
Vertical Leakage Upward	35	2	93	1	13	0	93	0	--	--	86	0
Lateral Inflow	1	4	33	90	137	276	270	95	--	--	381	1,313
Vertical Leakage Downward	0	297	0	265	24	664	1	114	--	--	0	988
Glen Rose Formation (Layer 4)												
Storage	212	0	655	0	7	0	216	0	--	--	895	2
Reservoirs (River Package)	0	0	0	0	0	0	0	0	--	--	2	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	--	--	0	0
Wells	0	183	0	66	0	0	0	0	--	--	0	194
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	--	--	5	14
Recharge	0	0	2,827	0	0	0	0	0	--	--	3,942	0
Evapotranspiration	0	0	0	2,841	0	0	0	0	--	--	0	3,795
Vertical Leakage Upward	297	0	265	0	664	24	114	1	--	--	988	0
Lateral Inflow	138	87	76	286	2	14	29	52	--	--	306	594
Vertical Leakage Downward	0	376	0	629	15	651	0	306	--	--	0	1,538

Table A-1. (continued)

	Milam		Mills		Montague		Navarro		Palo Pinto		Parker	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	253	0	3,886	0	2,744	0	236	0	--	--	4,804	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	--	--	1	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	--	--	0	0
Wells	0	36	0	945	0	364	0	256	--	--	0	1,469
Rivers and Streams (Stream Package)	0	0	0	0	0	350	0	0	--	--	84	814
Recharge	0	0	2,588	0	6,389	0	0	0	--	--	2,893	0
Evapotranspiration	0	0	0	2,814	0	6,468	0	0	--	--	0	1,989
Vertical Leakage Upward	376	0	629	0	651	15	306	0	--	--	1,538	0
Lateral Inflow	137	251	464	1,808	59	1,583	281	198	--	--	973	2,672
Vertical Leakage Downward	0	480	33	2,032	65	1,128	0	369	--	--	0	3,349
Pearsall/Cow Creek/Sligo (Layer)												
Storage	197	0	4	0	93	0	187	0	--	--	578	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	--	--	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	--	--	0	0
Wells	0	0	0	0	0	0	0	0	--	--	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	--	--	0	0
Recharge	0	0	0	0	0	0	0	0	--	--	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	--	--	0	0
Vertical Leakage Upward	480	0	2,032	33	1,128	65	369	0	--	--	3,349	0
Lateral Inflow	3	4	1	2	0	5	1	1	--	--	4	7
Vertical Leakage Downward	0	675	32	2,033	60	1,211	0	556	--	--	0	3,924
Hosston Aquifer (Layer 7)												
Storage	216	0	1,037	0	3,412	0	221	0	197	0	1,720	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	102	0	1,383	0	1,810	0	1,204	0	12	0	3,860
Rivers and Streams (Stream Package)	0	0	0	0	0	151	0	0	0	0	0	88
Recharge	0	0	2,383	0	8,566	0	0	0	533	0	3,160	0
Evapotranspiration	0	0	0	3,255	0	8,735	0	0	0	710	0	2,354
Vertical Leakage Upward	675	0	2,033	32	1,211	60	556	0	--	--	3,924	0
Lateral Inflow	3,017	3,806	297	1,080	250	2,683	1,244	817	54	63	712	3,214

Table A-1. (continued)

	Red River		Robertson		Rockwall		Somervell		Tarrant		Taylor	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	1,079	0	3	0	6	0	--	--	3,047	213	--	--
Reservoirs (River Package)	0	0	0	0	0	0	--	--	10	0	--	--
Inter-aquifer Flow (GHB Package)	54	0	0	1	11	0	--	--	11	0	--	--
Wells	0	170	0	0	0	144	--	--	0	633	--	--
Rivers and Streams (Stream Package)	3	872	0	0	0	0	--	--	68	468	--	--
Recharge	4,000	0	0	0	0	0	--	--	11,966	0	--	--
Evapotranspiration	0	3,524	0	0	0	0	--	--	0	11,569	--	--
Lateral Inflow	448	1,136	0	1	811	704	--	--	371	2,562	--	--
Vertical Leakage Downward	122	3	0	2	21	0	--	--	0	27	--	--
Paluxy Aquifer (Layer 3)												
Storage	79	0	14	0	31	0	100	37	11,074	25	--	--
Reservoirs (River Package)	0	0	0	0	0	0	0	0	8	0	--	--
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	--	--
Wells	0	471	0	0	0	958	0	120	0	10,446	--	--
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	213	21	16	--	--
Recharge	0	0	0	0	0	0	3,078	0	1,804	0	--	--
Evapotranspiration	0	0	0	0	0	0	0	2,626	0	1,502	--	--
Vertical Leakage Upward	8	4	3	0	25	0	16	1	363	1	--	--
Lateral Inflow	804	441	0	1	1,174	304	35	154	1,889	2,286	--	--
Vertical Leakage Downward	28	3	0	16	31	0	0	79	0	884	--	--
Glen Rose Formation (Layer 4)												
Storage	68	0	11	0	30	0	649	27	305	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	7	0	0	0	--	--
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	--	--
Wells	0	0	0	0	0	0	0	134	0	110	--	--
Rivers and Streams (Stream Package)	0	0	0	0	0	0	464	2,764	0	0	--	--
Recharge	0	0	0	0	0	0	5,470	0	0	0	--	--
Evapotranspiration	0	0	0	0	0	0	0	3,077	0	0	--	--
Vertical Leakage Upward	3	28	16	0	0	31	79	0	884	0	--	--
Lateral Inflow	85	92	20	29	49	38	578	624	631	170	--	--
Vertical Leakage Downward	0	37	0	19	0	10	0	621	0	1,540	--	--

Table A-1. (continued)

	Red River		Robertson		Rockwall		Somervell		Tarrant		Taylor	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	78	0	13	0	33	0	1,959	0	185	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	--	--
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	--	--
Wells	0	19	0	0	0	0	0	741	0	2,532	--	--
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	--	--
Recharge	0	0	0	0	0	0	0	0	0	0	--	--
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	--	--
Vertical Leakage Upward	37	0	19	0	10	0	621	0	1,540	0	--	--
Lateral Inflow	625	641	74	65	365	370	2,510	3,122	4,500	1,540	--	--
Vertical Leakage Downward	0	79	0	41	0	37	0	1,228	54	2,208	--	--
Pearsall/Cow Creek/Sligo (Layer)												
Storage	62	0	10	0	26	0	3	0	59	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	--	--
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	--	--
Wells	0	0	0	0	0	0	0	0	0	0	--	--
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	--	--
Recharge	0	0	0	0	0	0	0	0	0	0	--	--
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	--	--
Vertical Leakage Upward	79	0	41	0	37	0	1,228	0	2,208	54	--	--
Lateral Inflow	2	2	1	1	2	3	3	3	12	4	--	--
Vertical Leakage Downward	0	141	0	51	0	63	0	1,230	51	2,272	--	--
Hosston Aquifer (Layer 7)												
Storage	76	0	11	0	31	0	45	0	282	0	1,478	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	38	0	0	0	0	0	1,490	0	5,549	0	431
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	1,647	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	2,443
Vertical Leakage Upward	141	0	51	0	63	0	1,230	0	2,272	51	--	--
Lateral Inflow	1,711	1,890	835	897	1,687	1,782	1,880	1,665	3,798	753	59	310

Table A-1. (continued)

	Titus		Travis		Williamson		Wise	
	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)								
Storage	3	0	37	0	68	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	--	--
Inter-aquifer Flow (GHB Package)	1	0	16	0	31	0	--	--
Wells	0	0	0	0	0	0	--	--
Rivers and Streams (Stream Package)	0	0	0	0	2	1	--	--
Recharge	0	0	0	0	0	0	--	--
Evapotranspiration	0	0	0	0	0	0	--	--
Lateral Inflow	130	139	5	2	9	3	--	--
Vertical Leakage Downward	5	0	0	55	0	105	--	--
Paluxy Aquifer (Layer 3)								
Storage	3	0	60	3	168	0	5,232	0
Reservoirs (River Package)	0	0	0	0	0	0	1	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0
Wells	0	0	0	3	0	11	0	2,581
Rivers and Streams (Stream Package)	0	0	0	0	0	0	54	816
Recharge	0	0	0	0	13	0	11,503	0
Evapotranspiration	0	0	0	0	0	0	0	10,788
Vertical Leakage Upward	0	0	35	9	137	39	77	0
Lateral Inflow	44	47	21	5	16	26	326	1,898
Vertical Leakage Downward	1	0	1	98	0	258	2	1,114
Glen Rose Formation (Layer 4)								
Storage	2	0	3,764	0	1,858	0	210	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	326	0	0	0	0
Wells	0	0	0	2,627	0	770	0	5
Rivers and Streams (Stream Package)	0	0	0	0	55	259	0	21
Recharge	0	0	4,193	0	2,449	0	1,907	0
Evapotranspiration	0	0	0	5,491	0	2,705	0	1,786
Vertical Leakage Upward	0	1	98	1	258	0	1,114	2
Lateral Inflow	18	19	1,144	469	1,049	1,082	63	237
Vertical Leakage Downward	0	1	61	345	1	853	1	1,242

Table A-1. (continued)

	Titus		Travis		Williamson		Wise	
	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)								
Storage	3	0	942	0	438	0	5,893	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0
Wells	0	0	0	157	0	415	0	1,484
Rivers and Streams (Stream Package)	0	0	0	0	0	0	68	559
Recharge	0	0	799	0	0	0	9,032	0
Evapotranspiration	0	0	0	777	0	0	0	8,676
Vertical Leakage Upward	1	0	345	61	853	1	1,242	1
Lateral Inflow	77	78	266	473	1,859	945	533	3,605
Vertical Leakage Downward	0	2	11	895	0	1,790	27	2,470
Pearsall/Cow Creek/Sligo (Layer)								
Storage	2	0	192	0	152	0	883	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0
Wells	0	0	0	6	0	1	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0
Vertical Leakage Upward	2	0	895	11	1,790	0	2,470	27
Lateral Inflow	0	0	5	4	9	10	3	11
Vertical Leakage Downward	0	4	0	1,071	0	1,941	23	3,340
Hosston Aquifer (Layer 7)								
Storage	3	0	594	0	189	0	3,498	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	50	168	0	0	0	0
Wells	0	0	0	1,114	0	614	0	5,246
Rivers and Streams (Stream Package)	0	0	0	0	0	0	13	177
Recharge	0	0	0	0	0	0	7,670	0
Evapotranspiration	0	0	0	0	0	0	0	6,734
Vertical Leakage Upward	4	0	1,071	0	1,941	0	3,340	23
Lateral Inflow	320	327	1,707	2,139	4,073	5,588	1,097	3,439

Appendix B

Summary of Budgets
After 50 Years for Simulation Request 3

Table B-1. Annual water budgets for each county at the end of the 50-year predictive portion of the model run using the requested pumpage in the groundwater availability model for the northern part of the Trinity Aquifer (in acre-feet per year).

	Non-Texas		Bastrop		Bell		Bosque		Bowie		Brown	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	13,236	0	56	0	29	0	--	--	50	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	--	--	0	0	--	--
Inter-aquifer Flow (GHB Package)	17	6	2	0	11	2	--	--	3	1	--	--
Wells	0	10	0	0	0	0	--	--	0	0	--	--
Rivers and Streams (Stream Package)	39	5,054	0	0	3	10	--	--	0	0	--	--
Recharge	63,981	0	0	0	0	0	--	--	0	0	--	--
Evapotranspiration	0	71,020	0	0	0	0	--	--	0	0	--	--
Lateral Inflow	666	1,569	0	2	2	5	--	--	18	84	--	--
Vertical Leakage Downward	17	296	0	56	1	29	--	--	17	3	--	--
Paluxy Aquifer (Layer 3)												
Storage	13,117	2	96	0	204	24	1,461	3	41	0	176	0
Reservoirs (River Package)	6	1	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	2	11	0	0	0	0	0	0	0	0	0	0
Wells	0	2,628	0	0	0	95	0	1,003	0	0	0	18
Rivers and Streams (Stream Package)	0	1,066	0	0	0	0	0	492	0	0	0	0
Recharge	44,478	0	0	0	61	0	3,699	0	0	0	3,805	0
Evapotranspiration	0	49,978	0	0	0	0	0	3,332	0	0	0	3,650
Vertical Leakage Upward	889	21	0	14	199	14	361	10	13	0	12	0
Lateral Inflow	1,468	4,080	1	3	50	23	469	652	24	93	22	107
Vertical Leakage Downward	528	2,702	0	80	0	360	0	498	15	0	2	242
Glen Rose Formation (Layer 4)												
Storage	421	0	74	0	2,640	0	1,841	0	31	0	120	0
Reservoirs (River Package)	0	0	0	0	15	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	1	0	880	0	258	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	275	994	64	322	0	0	0	0
Recharge	0	0	0	0	2,173	0	677	0	0	0	1,937	0
Evapotranspiration	0	0	0	0	0	2,894	0	401	0	0	0	1,909
Vertical Leakage Upward	2,702	528	80	0	360	0	498	0	0	15	242	2
Lateral Inflow	84	240	39	195	1,295	580	913	789	16	34	19	106
Vertical Leakage Downward	267	2,705	14	11	0	1,410	0	2,223	4	2	0	301

Table B-1. (continued)

	Non-Texas		Bastrop		Bell		Bosque		Bowie		Brown	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	13,797	0	93	0	180	0	662	0	36	0	881	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	3,007	0	0	0	1,100	0	1,742	0	0	0	79
Rivers and Streams (Stream Package)	0	339	0	0	0	0	0	0	0	0	0	0
Recharge	42,571	0	0	0	0	0	0	0	0	0	3,747	0
Evapotranspiration	0	49,559	0	0	0	0	0	0	0	0	0	3,128
Vertical Leakage Upward	2,705	267	11	14	1,410	0	2,223	0	2	4	301	0
Lateral Inflow	2,227	5,530	0	3	3,621	2,056	7,718	6,343	149	175	67	485
Vertical Leakage Downward	1,377	3,975	1	88	0	2,054	0	2,518	0	8	0	1,303
Pearsall/Cow Creek/Sligo (Layer)												
Storage	486	2	73	0	151	0	43	0	29	0	49	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	3,975	1,377	88	1	2,054	0	2,518	0	8	0	1,303	0
Lateral Inflow	6	12	0	1	13	7	7	8	0	0	0	1
Vertical Leakage Downward	1,300	4,376	0	159	0	2,211	0	2,560	0	37	0	1,351
Hosston Aquifer (Layer 7)												
Storage	16,348	214	82	0	195	0	283	0	36	0	462	7
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	3,554	0	0	0	5,000	0	2,820	0	0	0	1,957
Rivers and Streams (Stream Package)	0	273	0	0	0	0	0	0	0	0	0	0
Recharge	47,088	0	0	0	0	0	0	0	0	0	3,457	0
Evapotranspiration	0	56,686	0	0	0	0	0	0	0	0	0	2,865
Vertical Leakage Upward	4,376	1,300	159	0	2,211	0	2,560	0	37	0	1,351	0
Lateral Inflow	2,512	8,297	627	869	6,742	4,148	4,227	4,250	546	619	167	607

Table B-1. (continued)

	Burnet		Callahan		Collin		Comanche		Cooke		Coryell	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	--	--	--	--	407	0	--	--	2,085	0	--	--
Reservoirs (River Package)	--	--	--	--	0	0	--	--	6	0	--	--
Inter-aquifer Flow (GHB Package)	--	--	--	--	125	0	--	--	0	0	--	--
Wells	--	--	--	--	0	2,500	--	--	0	154	--	--
Rivers and Streams (Stream Package)	--	--	--	--	0	0	--	--	0	0	--	--
Recharge	--	--	--	--	0	0	--	--	8,198	0	--	--
Evapotranspiration	--	--	--	--	0	0	--	--	0	9,830	--	--
Lateral Inflow	--	--	--	--	3,711	1,856	--	--	139	438	--	--
Vertical Leakage Downward	--	--	--	--	113	0	--	--	0	7	--	--
Paluxy Aquifer (Layer 3)												
Storage	446	0	--	--	130	0	201	0	6,639	0	627	7
Reservoirs (River Package)	0	0	--	--	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	--	--	0	0	0	0	0	0	0	0
Wells	0	182	--	--	0	1,758	0	16	0	3,532	0	143
Rivers and Streams (Stream Package)	0	31	--	--	0	0	0	0	84	842	0	267
Recharge	5,170	0	--	--	0	0	5,356	0	4,407	0	5,690	0
Evapotranspiration	0	5,306	--	--	0	0	0	5,416	0	3,981	0	5,804
Vertical Leakage Upward	31	4	--	--	229	0	23	0	307	3	221	9
Lateral Inflow	2	6	--	--	2,063	976	167	70	1,760	3,363	211	246
Vertical Leakage Downward	2	122	--	--	312	0	1	245	18	1,496	1	276
Glen Rose Formation (Layer 4)												
Storage	2,833	23	--	--	126	0	469	2	37	0	5,746	0
Reservoirs (River Package)	0	0	--	--	0	0	0	0	0	0	6	0
Inter-aquifer Flow (GHB Package)	0	0	--	--	0	0	0	0	0	0	0	0
Wells	0	200	--	--	0	0	0	1	0	0	0	372
Rivers and Streams (Stream Package)	167	735	--	--	0	0	0	5	0	0	401	738
Recharge	8,779	0	--	--	0	0	8,491	0	0	0	8,029	0
Evapotranspiration	0	8,986	--	--	0	0	0	8,568	0	0	0	10,820
Vertical Leakage Upward	122	2	--	--	0	312	245	1	1,496	18	276	1
Lateral Inflow	268	1,267	--	--	140	58	304	249	44	101	978	1,029
Vertical Leakage Downward	0	957	--	--	116	11	0	683	8	1,466	0	2,475

Table B-1. (continued)

	Burnet		Callahan		Collin		Comanche		Cooke		Coryell	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	3,473	1	119	0	150	0	4,597	0	4,100	0	1,382	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	686	0	124	0	102	0	383	0	1,616	0	836
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	240	139	177	0	0
Recharge	1,316	0	661	0	0	0	13,384	0	452	0	0	0
Evapotranspiration	0	1,565	0	503	0	0	0	13,117	0	508	0	0
Vertical Leakage Upward	957	0	--	--	11	116	683	0	1,466	8	2,475	0
Lateral Inflow	255	2,331	13	112	1,827	1,355	943	1,507	3,547	5,480	4,552	5,500
Vertical Leakage Downward	29	1,447	0	53	0	413	10	4,371	1	1,916	0	2,073
Pearsall/Cow Creek/Sligo (Layer)												
Storage	758	0	0	0	123	0	158	107	72	0	41	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	8
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	1,447	29	53	0	413	0	4,371	10	1,916	1	2,073	0
Lateral Inflow	1	7	0	0	6	6	1	2	9	9	6	10
Vertical Leakage Downward	29	2,199	0	53	0	536	9	4,421	0	1,987	0	2,102
Hosston Aquifer (Layer 7)												
Storage	2,842	3	3,950	1	152	0	14,568	6	241	0	58	0
Reservoirs (River Package)	0	0	0	0	0	0	19	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	35	0	0	0	0	0	0	0	0	0	0
Wells	0	2,485	0	3,663	0	239	0	25,734	0	1,715	0	433
Rivers and Streams (Stream Package)	0	0	0	27	0	0	85	28	0	330	0	0
Recharge	1,010	0	9,425	0	0	0	9,795	0	280	0	0	0
Evapotranspiration	0	747	0	9,614	0	0	0	3,265	0	425	0	0
Vertical Leakage Upward	2,199	29	53	0	536	0	4,421	9	1,987	0	2,102	0
Lateral Inflow	653	3,406	336	458	3,639	4,087	1,138	985	5,088	5,125	4,160	5,887

Table B-1. (continued)

	Dallas		Delta		Denton		Eastland		Ellis		Erath	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	1,318	0	14	0	4,941	0	--	--	2,952	0	--	--
Reservoirs (River Package)	0	0	0	0	108	79	--	--	0	0	--	--
Inter-aquifer Flow (GHB Package)	130	0	15	0	32	0	--	--	151	0	--	--
Wells	0	2,316	0	16	0	4,132	--	--	0	5,444	--	--
Rivers and Streams (Stream Package)	5	0	0	0	22	350	--	--	0	0	--	--
Recharge	50	0	0	0	12,383	0	--	--	0	0	--	--
Evapotranspiration	0	0	0	0	0	11,118	--	--	0	0	--	--
Lateral Inflow	3,625	2,883	376	444	483	2,264	--	--	3,155	946	--	--
Vertical Leakage Downward	76	5	55	0	1	28	--	--	134	2	--	--
Paluxy Aquifer (Layer 3)												
Storage	154	0	38	0	7,975	0	35	0	219	0	4,499	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	467	0	0	0	9,804	0	4	0	400	0	5,573
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	239	0	0	0	12,377	0
Evapotranspiration	0	0	0	0	0	0	0	253	0	0	0	10,944
Vertical Leakage Upward	247	0	3	0	403	0	--	--	238	0	39	0
Lateral Inflow	1,266	1,071	649	703	3,892	1,547	7	18	427	340	54	79
Vertical Leakage Downward	28	158	13	0	46	966	0	5	0	145	0	373
Glen Rose Formation (Layer 4)												
Storage	155	0	34	0	51	0	63	0	209	0	3,336	3
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	1
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	10	732
Recharge	0	0	0	0	0	0	246	0	0	0	10,850	0
Evapotranspiration	0	0	0	0	0	0	0	196	0	0	0	12,133
Vertical Leakage Upward	158	28	0	13	966	46	5	0	145	0	373	0
Lateral Inflow	187	16	121	120	158	81	23	114	220	29	548	618
Vertical Leakage Downward	0	455	0	22	22	1,070	0	26	0	545	1	1,630

Table B-1. (continued)

	Dallas		Delta		Denton		Eastland		Ellis		Erath	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	192	0	37	0	85	0	392	0	252	0	20,528	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	1,121	0	182	0	3,110	0	79	0	1,142	0	12,112
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	125	405
Recharge	0	0	0	0	0	0	2,574	0	0	0	4,189	0
Evapotranspiration	0	0	0	0	0	0	0	2,524	0	0	0	2,685
Vertical Leakage Upward	455	0	22	0	1,070	22	26	0	545	0	1,630	1
Lateral Inflow	2,019	609	808	654	5,497	1,664	159	127	1,941	444	1,126	4,101
Vertical Leakage Downward	0	937	0	31	0	1,856	6	427	0	1,153	0	8,294
Pearsall/Cow Creek/Sligo (Layer)												
Storage	157	0	30	0	72	0	9	7	205	0	249	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	937	0	31	0	1,856	0	427	6	1,153	0	8,294	0
Lateral Inflow	8	5	4	4	13	5	0	0	10	2	2	3
Vertical Leakage Downward	0	1,097	0	60	0	1,936	6	429	0	1,366	0	8,541
Hosston Aquifer (Layer 7)												
Storage	194	0	36	0	93	0	2,613	47	253	0	11,759	35
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	3,903	0	182	0	6,395	0	4,630	0	2,417	0	19,643
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	13	0	0	0	0
Recharge	0	0	0	0	0	0	11,485	0	0	0	491	0
Evapotranspiration	0	0	0	0	0	0	0	9,828	0	0	0	155
Vertical Leakage Upward	1,097	0	60	0	1,936	0	429	6	1,366	0	8,541	0
Lateral Inflow	4,224	1,612	3,047	2,960	6,063	1,696	455	458	2,200	1,403	1,166	2,124

Table B-1. (continued)

	Falls		Fannin		Franklin		Grayson		Hamilton		Henderson	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	57	0	3,812	0	2	0	11,858	0	--	--	2	0
Reservoirs (River Package)	0	0	0	0	0	0	9	4	--	--	0	0
Inter-aquifer Flow (GHB Package)	0	11	119	0	1	0	117	0	--	--	2	0
Wells	0	0	0	3,300	0	0	0	12,100	--	--	0	0
Rivers and Streams (Stream Package)	0	0	295	466	0	0	0	0	--	--	0	0
Recharge	0	0	2,760	0	0	0	14,251	0	--	--	0	0
Evapotranspiration	0	0	0	1,694	0	0	0	14,199	--	--	0	0
Lateral Inflow	7	12	1,950	3,582	160	166	1,771	1,730	--	--	95	105
Vertical Leakage Downward	0	41	113	8	4	0	56	31	--	--	6	0
Paluxy Aquifer (Layer 3)												
Storage	264	0	115	0	3	0	1,964	0	1,048	5	14	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	288	0	0	0	4,709	0	291	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	353	0	0
Recharge	0	0	0	0	0	0	0	0	9,280	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	9,397	0	0
Vertical Leakage Upward	112	0	132	0	0	0	362	0	145	0	5	0
Lateral Inflow	4	8	1,295	1,356	61	64	3,583	1,353	104	231	22	37
Vertical Leakage Downward	0	372	106	4	1	0	320	167	0	300	0	4
Glen Rose Formation (Layer 4)												
Storage	203	0	102	0	2	0	165	0	3,636	7	13	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	2	0	0	0	0	0	0	0	46	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	286	1,088	0	0
Recharge	0	0	0	0	0	0	0	0	7,642	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	8,623	0	0
Vertical Leakage Upward	372	0	4	106	0	1	167	320	300	0	4	0
Lateral Inflow	174	165	120	119	22	23	152	76	569	1,010	5	8
Vertical Leakage Downward	0	583	29	30	0	1	140	228	0	1,660	0	13

Table B-1. (continued)

	Falls		Fannin		Franklin		Grayson		Hamilton		Henderson	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	236	0	118	0	3	0	521	0	3,040	0	14	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	21	0	203	0	0	0	2,345	0	1,110	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	6	0	0
Recharge	0	0	0	0	0	0	0	0	52	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	89	0	0
Vertical Leakage Upward	583	0	30	29	1	0	228	140	1,660	0	13	0
Lateral Inflow	580	594	1,268	1,077	100	101	4,173	2,118	3,320	4,640	67	80
Vertical Leakage Downward	0	784	16	123	0	2	37	356	7	2,233	0	15
Pearsall/Cow Creek/Sligo (Layer)												
Storage	184	0	95	0	2	0	76	0	7	0	11	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	784	0	123	16	2	0	356	37	2,233	7	15	0
Lateral Inflow	6	9	4	5	0	0	5	4	3	4	0	1
Vertical Leakage Downward	0	964	5	206	0	4	14	410	7	2,238	0	26
Hosston Aquifer (Layer 7)												
Storage	209	0	117	0	2	0	97	0	13	0	13	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	138	0	209	0	0	0	2,346	0	699	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	964	0	206	5	4	0	410	14	2,238	7	26	0
Lateral Inflow	4,552	5,588	2,423	2,532	397	404	5,057	3,204	1,771	3,317	455	494

Table B-1. (continued)

	Hill		Hood		Hopkins		Hunt		Jack		Johnson	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	2,004	4	--	--	4	0	29	0	--	--	2,798	606
Reservoirs (River Package)	32	1	--	--	0	0	0	0	--	--	0	0
Inter-aquifer Flow (GHB Package)	106	0	--	--	3	0	56	0	--	--	18	0
Wells	0	2,263	--	--	0	0	0	2,841	--	--	0	4,735
Rivers and Streams (Stream Package)	0	272	--	--	0	0	0	0	--	--	0	10
Recharge	7,239	0	--	--	0	0	0	0	--	--	13,031	0
Evapotranspiration	0	6,777	--	--	0	0	0	0	--	--	0	9,247
Lateral Inflow	427	551	--	--	180	197	2,742	126	--	--	114	1,337
Vertical Leakage Downward	71	12	--	--	11	0	140	0	--	--	0	25
Paluxy Aquifer (Layer 3)												
Storage	1,017	0	732	2	8	0	130	0	26	0	8,820	1
Reservoirs (River Package)	0	0	1	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	1,254	0	933	0	0	0	551	0	3	0	9,493
Rivers and Streams (Stream Package)	0	0	2	501	0	0	0	0	0	0	0	94
Recharge	0	0	5,830	0	0	0	0	0	208	0	79	0
Evapotranspiration	0	0	0	4,819	0	0	0	0	0	241	0	1
Vertical Leakage Upward	336	0	18	0	0	0	70	0	--	--	330	1
Lateral Inflow	666	486	138	383	251	261	1,088	845	12	0	1,217	580
Vertical Leakage Downward	0	279	0	83	2	0	108	0	0	3	4	281
Glen Rose Formation (Layer 4)												
Storage	559	0	1,430	2	7	0	120	0	30	0	486	0
Reservoirs (River Package)	0	0	33	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	10	0	4	0	0	0	0	0	0	0	24
Rivers and Streams (Stream Package)	0	0	303	1,541	0	0	0	0	0	0	0	0
Recharge	0	0	10,680	0	0	0	0	0	467	0	0	0
Evapotranspiration	0	0	0	9,573	0	0	0	0	0	450	0	0
Vertical Leakage Upward	279	0	83	0	0	2	0	108	3	0	281	4
Lateral Inflow	427	310	312	895	55	57	104	111	10	28	736	337
Vertical Leakage Downward	0	945	1	827	0	3	9	14	0	32	0	1,137

Table B-1. (continued)

	Hill		Hood		Hopkins		Hunt		Jack		Johnson	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	209	0	7,040	0	8	0	131	0	202	0	423	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	933	0	3,568	0	0	0	0	0	1	0	1,064
Rivers and Streams (Stream Package)	0	0	110	431	0	0	0	0	0	0	0	0
Recharge	0	0	2,167	0	0	0	0	0	684	0	0	0
Evapotranspiration	0	0	0	1,114	0	0	0	0	0	806	0	0
Vertical Leakage Upward	945	0	827	1	3	0	14	9	32	0	1,137	0
Lateral Inflow	3,890	2,663	1,611	3,046	285	290	672	693	6	50	4,437	3,373
Vertical Leakage Downward	0	1,449	0	3,597	0	6	0	115	0	67	21	1,581
Pearsall/Cow Creek/Sligo (Layer)												
Storage	172	0	24	0	6	0	105	0	2	0	57	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	0	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	1,449	0	--	--	6	0	115	0	67	0	1,581	21
Lateral Inflow	6	8	2	3	1	1	5	5	0	1	6	9
Vertical Leakage Downward	0	1,619	0	3,620	0	12	0	220	0	69	19	1,633
Hosston Aquifer (Layer 7)												
Storage	217	0	2,568	0	7	0	124	0	295	0	73	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	951	0	6,559	0	0	0	0	0	7	0	2,289
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	132	0	0	0	0	0	1,014	0	0	0
Evapotranspiration	0	0	0	149	0	0	0	0	0	1,310	0	0
Vertical Leakage Upward	1,619	0	3,620	0	12	0	220	0	69	0	1,633	19
Lateral Inflow	2,487	3,372	1,719	1,331	1,281	1,300	2,759	3,103	104	163	1,937	1,335

Table B-1. (continued)

	Kaufman		Lamar		Lampasas		Lee		Limestone		McLennan	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	27	0	2,530	0	--	--	21	0	44	0	101	0
Reservoirs (River Package)	0	0	0	0	--	--	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	34	0	114	0	--	--	0	0	16	0	31	3
Wells	0	200	0	3,657	--	--	0	0	0	33	0	5
Rivers and Streams (Stream Package)	0	0	8	1,050	--	--	0	0	0	0	0	29
Recharge	0	0	2,657	0	--	--	0	0	0	0	673	0
Evapotranspiration	0	0	0	2,185	--	--	0	0	0	0	0	697
Lateral Inflow	755	702	2,172	764	--	--	1	3	34	88	65	130
Vertical Leakage Downward	87	0	179	4	--	--	0	20	30	3	10	17
Paluxy Aquifer (Layer 3)												
Storage	170	0	100	0	975	0	42	0	163	0	201	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	102	0	0	0	13	0	0	0	0	0	231
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	4,434	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	5,185	0	0	0	0	0	0
Vertical Leakage Upward	79	0	26	1	26	1	0	6	48	0	328	0
Lateral Inflow	106	250	767	890	24	115	1	2	7	30	273	76
Vertical Leakage Downward	9	13	19	20	0	143	0	35	0	187	0	493
Glen Rose Formation (Layer 4)												
Storage	158	0	87	0	3,378	0	33	0	123	0	828	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	779	0	1	0	4	0	265
Rivers and Streams (Stream Package)	0	0	0	0	69	1,548	0	0	0	0	0	0
Recharge	0	0	0	0	9,528	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	9,690	0	0	0	0	0	0
Vertical Leakage Upward	13	9	20	19	143	0	35	0	187	0	493	0
Lateral Inflow	37	74	122	109	270	423	12	60	43	75	704	124
Vertical Leakage Downward	0	125	0	102	11	960	0	18	0	275	0	1,637

Table B-1. (continued)

	Kaufman		Lamar		Lampasas		Lee		Limestone		McLennan	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	175	0	99	0	2,620	1	41	0	134	0	235	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	241	0	660	0	889	0	0	0	14	0	4,190
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	471	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	474	0	0	0	0	0	0
Vertical Leakage Upward	125	0	102	0	960	11	18	0	275	0	1,637	0
Lateral Inflow	426	341	1,428	864	1,122	2,347	3	22	185	336	6,192	483
Vertical Leakage Downward	0	145	14	118	6	1,457	0	40	0	244	0	3,390
Pearsall/Cow Creek/Sligo (Layer)												
Storage	138	0	79	0	139	0	32	0	105	0	193	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	0	0	0	0	11	0	0	0	0	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	0
Vertical Leakage Upward	145	0	118	14	1,457	6	40	0	244	0	3,390	0
Lateral Inflow	3	2	4	4	2	4	1	2	2	4	23	1
Vertical Leakage Downward	0	284	7	190	6	1,584	0	71	0	348	0	3,605
Hosston Aquifer (Layer 7)												
Storage	160	0	97	0	1,167	0	35	0	120	0	241	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	840	0	660	0	1,454	0	0	0	48	0	16,003
Rivers and Streams (Stream Package)	0	0	0	0	114	0	0	0	0	0	0	0
Recharge	0	0	0	0	1,984	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	1,932	0	0	0	0	0	0
Vertical Leakage Upward	284	0	190	7	1,584	6	71	0	348	0	3,605	0
Lateral Inflow	2,361	1,965	2,811	2,431	924	2,381	842	948	1,252	1,672	12,755	599

Table B-1. (continued)

	Milam		Mills		Montague		Navarro		Palo Pinto		Parker	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	84	0	--	--	--	--	37	0	--	--	--	--
Reservoirs (River Package)	0	0	--	--	--	--	0	0	--	--	--	--
Inter-aquifer Flow (GHB Package)	0	8	--	--	--	--	50	0	--	--	--	--
Wells	0	0	--	--	--	--	0	300	--	--	--	--
Rivers and Streams (Stream Package)	0	0	--	--	--	--	0	0	--	--	--	--
Recharge	0	0	--	--	--	--	0	0	--	--	--	--
Evapotranspiration	0	0	--	--	--	--	0	0	--	--	--	--
Lateral Inflow	2	5	--	--	--	--	411	301	--	--	--	--
Vertical Leakage Downward	0	73	--	--	--	--	104	0	--	--	--	--
Paluxy Aquifer (Layer 3)												
Storage	267	0	773	0	1,798	0	259	0	--	--	7,447	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	--	--	6	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	--	--	0	0
Wells	0	0	0	6	0	508	0	413	--	--	0	9,866
Rivers and Streams (Stream Package)	0	0	0	8	0	498	0	0	--	--	164	164
Recharge	0	0	3,988	0	7,959	0	0	0	--	--	18,464	0
Evapotranspiration	0	0	0	4,518	0	7,985	0	0	--	--	0	14,215
Vertical Leakage Upward	35	2	93	1	13	0	93	0	--	--	86	0
Lateral Inflow	1	4	33	90	137	276	270	95	--	--	381	1,313
Vertical Leakage Downward	0	297	0	265	24	664	1	114	--	--	0	988
Glen Rose Formation (Layer 4)												
Storage	212	0	655	0	7	0	216	0	--	--	895	2
Reservoirs (River Package)	0	0	0	0	0	0	0	0	--	--	2	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	--	--	0	0
Wells	0	183	0	66	0	0	0	0	--	--	0	194
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	--	--	5	14
Recharge	0	0	2,827	0	0	0	0	0	--	--	3,942	0
Evapotranspiration	0	0	0	2,842	0	0	0	0	--	--	0	3,795
Vertical Leakage Upward	297	0	265	0	664	24	114	1	--	--	988	0
Lateral Inflow	138	87	76	286	2	14	29	52	--	--	306	594
Vertical Leakage Downward	0	376	0	629	15	651	0	306	--	--	0	1,538

Table B-1. (continued)

	Milam		Mills		Montague		Navarro		Palo Pinto		Parker	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	253	0	3,899	0	2,744	0	236	0	--	--	4,804	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	--	--	1	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	--	--	0	0
Wells	0	36	0	945	0	364	0	256	--	--	0	1,469
Rivers and Streams (Stream Package)	0	0	0	0	0	350	0	0	--	--	84	814
Recharge	0	0	2,588	0	6,389	0	0	0	--	--	2,893	0
Evapotranspiration	0	0	0	2,814	0	6,468	0	0	--	--	0	1,989
Vertical Leakage Upward	376	0	629	0	651	15	306	0	--	--	1,538	0
Lateral Inflow	137	251	463	1,809	59	1,583	281	198	--	--	973	2,672
Vertical Leakage Downward	0	480	33	2,044	65	1,128	0	369	--	--	0	3,349
Pearsall/Cow Creek/Sligo (Layer)												
Storage	197	0	4	0	93	0	187	0	--	--	578	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	--	--	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	--	--	0	0
Wells	0	0	0	0	0	0	0	0	--	--	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	--	--	0	0
Recharge	0	0	0	0	0	0	0	0	--	--	0	0
Evapotranspiration	0	0	0	0	0	0	0	0	--	--	0	0
Vertical Leakage Upward	480	0	2,044	33	1,128	65	369	0	--	--	3,349	0
Lateral Inflow	3	4	1	2	0	5	1	1	--	--	4	7
Vertical Leakage Downward	0	675	32	2,046	60	1,211	0	556	--	--	0	3,924
Hosston Aquifer (Layer 7)												
Storage	216	0	1,037	0	3,412	0	221	0	199	0	1,720	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	102	0	1,383	0	1,810	0	1,204	0	12	0	3,860
Rivers and Streams (Stream Package)	0	0	0	0	0	151	0	0	0	0	0	88
Recharge	0	0	2,383	0	8,566	0	0	0	533	0	3,160	0
Evapotranspiration	0	0	0	3,255	0	8,735	0	0	0	709	0	2,354
Vertical Leakage Upward	675	0	2,046	32	1,211	60	556	0	--	--	3,924	0
Lateral Inflow	3,017	3,806	295	1,091	250	2,683	1,244	817	54	65	712	3,214

Table B-1. (continued)

	Red River		Robertson		Rockwall		Somervell		Tarrant		Taylor	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)												
Storage	1,079	0	3	0	6	0	--	--	3,047	213	--	--
Reservoirs (River Package)	0	0	0	0	0	0	--	--	10	0	--	--
Inter-aquifer Flow (GHB Package)	54	0	0	1	11	0	--	--	11	0	--	--
Wells	0	170	0	0	0	144	--	--	0	633	--	--
Rivers and Streams (Stream Package)	3	872	0	0	0	0	--	--	68	468	--	--
Recharge	4,000	0	0	0	0	0	--	--	11,966	0	--	--
Evapotranspiration	0	3,524	0	0	0	0	--	--	0	11,569	--	--
Lateral Inflow	448	1,136	0	1	811	704	--	--	371	2,562	--	--
Vertical Leakage Downward	122	3	0	2	21	0	--	--	0	27	--	--
Paluxy Aquifer (Layer 3)												
Storage	79	0	14	0	31	0	100	37	11,074	25	--	--
Reservoirs (River Package)	0	0	0	0	0	0	0	0	8	0	--	--
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	--	--
Wells	0	471	0	0	0	958	0	120	0	10,446	--	--
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	213	21	16	--	--
Recharge	0	0	0	0	0	0	3,078	0	1,804	0	--	--
Evapotranspiration	0	0	0	0	0	0	0	2,625	0	1,502	--	--
Vertical Leakage Upward	8	4	3	0	25	0	16	1	363	1	--	--
Lateral Inflow	804	441	0	1	1,174	304	35	154	1,889	2,286	--	--
Vertical Leakage Downward	28	3	0	16	31	0	0	79	0	884	--	--
Glen Rose Formation (Layer 4)												
Storage	68	0	11	0	30	0	649	27	305	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	7	0	0	0	--	--
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	--	--
Wells	0	0	0	0	0	0	0	134	0	110	--	--
Rivers and Streams (Stream Package)	0	0	0	0	0	0	464	2,764	0	0	--	--
Recharge	0	0	0	0	0	0	5,470	0	0	0	--	--
Evapotranspiration	0	0	0	0	0	0	0	3,076	0	0	--	--
Vertical Leakage Upward	3	28	16	0	0	31	79	0	884	0	--	--
Lateral Inflow	85	92	20	29	49	38	578	624	631	170	--	--
Vertical Leakage Downward	0	37	0	19	0	10	0	622	0	1,540	--	--

Table B-1. (continued)

	Red River		Robertson		Rockwall		Somervell		Tarrant		Taylor	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)												
Storage	78	0	13	0	33	0	1,984	0	185	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	--	--
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	--	--
Wells	0	19	0	0	0	0	0	741	0	2,532	--	--
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	--	--
Recharge	0	0	0	0	0	0	0	0	0	0	--	--
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	--	--
Vertical Leakage Upward	37	0	19	0	10	0	622	0	1,540	0	--	--
Lateral Inflow	625	641	74	65	365	371	2,499	3,121	4,500	1,540	--	--
Vertical Leakage Downward	0	79	0	41	0	37	0	1,243	54	2,208	--	--
Pearsall/Cow Creek/Sligo (Layer)												
Storage	62	0	10	0	26	0	2	0	59	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	--	--
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	--	--
Wells	0	0	0	0	0	0	0	0	0	0	--	--
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	--	--
Recharge	0	0	0	0	0	0	0	0	0	0	--	--
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	--	--
Vertical Leakage Upward	79	0	41	0	37	0	1,243	0	2,208	54	--	--
Lateral Inflow	2	2	1	1	2	3	3	3	12	4	--	--
Vertical Leakage Downward	0	141	0	51	0	63	0	1,245	51	2,272	--	--
Hosston Aquifer (Layer 7)												
Storage	76	0	11	0	31	0	50	0	282	0	1,478	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0	0	0	0	0
Wells	0	38	0	0	0	0	0	1,490	0	5,549	0	431
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0	0	0	1,647	0
Evapotranspiration	0	0	0	0	0	0	0	0	0	0	0	2,444
Vertical Leakage Upward	141	0	51	0	63	0	1,245	0	2,272	51	--	--
Lateral Inflow	1,711	1,890	835	897	1,687	1,782	1,843	1,648	3,798	753	59	310

Table B-1. (continued)

	Titus		Travis		Williamson		Wise	
	In	Out	In	Out	In	Out	In	Out
Woodbine Aquifer (Layer 1)								
Storage	3	0	37	0	68	0	--	--
Reservoirs (River Package)	0	0	0	0	0	0	--	--
Inter-aquifer Flow (GHB Package)	1	0	16	0	31	0	--	--
Wells	0	0	0	0	0	0	--	--
Rivers and Streams (Stream Package)	0	0	0	0	2	1	--	--
Recharge	0	0	0	0	0	0	--	--
Evapotranspiration	0	0	0	0	0	0	--	--
Lateral Inflow	130	139	5	2	9	3	--	--
Vertical Leakage Downward	5	0	0	55	0	105	--	--
Paluxy Aquifer (Layer 3)								
Storage	3	0	60	3	168	0	5,232	0
Reservoirs (River Package)	0	0	0	0	0	0	1	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0
Wells	0	0	0	3	0	11	0	2,581
Rivers and Streams (Stream Package)	0	0	0	0	0	0	54	816
Recharge	0	0	0	0	13	0	11,503	0
Evapotranspiration	0	0	0	0	0	0	0	10,788
Vertical Leakage Upward	0	0	35	9	137	39	77	0
Lateral Inflow	44	47	21	5	16	26	326	1,898
Vertical Leakage Downward	1	0	1	98	0	258	2	1,114
Glen Rose Formation (Layer 4)								
Storage	2	0	3,764	0	1,858	0	210	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	326	0	0	0	0
Wells	0	0	0	2,627	0	770	0	5
Rivers and Streams (Stream Package)	0	0	0	0	55	259	0	21
Recharge	0	0	4,193	0	2,449	0	1,907	0
Evapotranspiration	0	0	0	5,491	0	2,705	0	1,786
Vertical Leakage Upward	0	1	98	1	258	0	1,114	2
Lateral Inflow	18	19	1,144	469	1,049	1,082	63	237
Vertical Leakage Downward	0	1	61	345	1	853	1	1,242

Table B-1. (continued)

	Titus		Travis		Williamson		Wise	
	In	Out	In	Out	In	Out	In	Out
Hensell Aquifer (Layer 5)								
Storage	3	0	942	0	438	0	5,893	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0
Wells	0	0	0	157	0	415	0	1,484
Rivers and Streams (Stream Package)	0	0	0	0	0	0	68	559
Recharge	0	0	799	0	0	0	9,032	0
Evapotranspiration	0	0	0	777	0	0	0	8,676
Vertical Leakage Upward	1	0	345	61	853	1	1,242	1
Lateral Inflow	77	78	266	473	1,859	945	533	3,605
Vertical Leakage Downward	0	2	11	895	0	1,790	27	2,470
Pearsall/Cow Creek/Sligo (Layer)								
Storage	2	0	192	0	152	0	883	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	0	0	0	0	0	0
Wells	0	0	0	6	0	1	0	0
Rivers and Streams (Stream Package)	0	0	0	0	0	0	0	0
Recharge	0	0	0	0	0	0	0	0
Evapotranspiration	0	0	0	0	0	0	0	0
Vertical Leakage Upward	2	0	895	11	1,790	0	2,470	27
Lateral Inflow	0	0	5	4	9	10	3	11
Vertical Leakage Downward	0	4	0	1,071	0	1,941	23	3,340
Hosston Aquifer (Layer 7)								
Storage	3	0	594	0	189	0	3,498	0
Reservoirs (River Package)	0	0	0	0	0	0	0	0
Inter-aquifer Flow (GHB Package)	0	0	50	168	0	0	0	0
Wells	0	0	0	1,114	0	614	0	5,246
Rivers and Streams (Stream Package)	0	0	0	0	0	0	13	177
Recharge	0	0	0	0	0	0	7,670	0
Evapotranspiration	0	0	0	0	0	0	0	6,734
Vertical Leakage Upward	4	0	1,071	0	1,941	0	3,340	23
Lateral Inflow	320	327	1,707	2,139	4,074	5,589	1,097	3,439