

# GAM Run 05-01

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Texas Water Development Board  
Groundwater Availability Modeling Section  
(512) 936-0877  
July 20, 2005

## **REQUESTOR:**

Mr. Steve Petersen, associated with Malcolm Pirnie, Inc., Houston, Texas, on behalf of the San Patricio Municipal Water District (SPMWD).

## **DESCRIPTION OF REQUEST:**

Mr. Petersen requested that we run the Groundwater Availability Model for the central part of the Gulf Coast aquifer (CGCGAM) for 60-year predictive simulations for Bee and San Patricio counties using the following three scenarios:

- **Scenario 1:** The effects of current pumpage and provide the following deliverables:
  1. locations of all wells simulated in the CGCGAM within Bee and San Patricio counties including their current pumpage rates and which aquifers are being pumped;
  2. water-level hydrographs for up to six actual (monitoring) well locations per county;
  3. water budgets for the two counties for the Evangeline and Chicot aquifers;
  4. the effects of pumping on stream flow baseline conditions in the major rivers near each newly simulated (future) well field; and
  5. maps of hydraulic head and drawdown in the two counties for the Evangeline and Chicot aquifers.
  
- **Scenario 2:** Two runs that reflect the effects of proposed pumping sites using 25,200 acre-feet per year from the Evangeline aquifer. The first run uses 11,200 acre-feet per year for SPMWD proposed pumping sites in Bee County and a total of 14,000 acre-feet for the Lower Guadalupe Water Supply Project (LGWSP) well fields in Goliad, Victoria, and Refugio counties. The second run uses 11,200 acre-feet per year for SPMWD proposed pumping sites in San Patricio County and a total of 14,000 acre-feet for the Lower Guadalupe Water Supply Project (LGWSP) well fields in Goliad, Victoria, and Refugio counties. Mr. Petersen provided locations of the proposed well fields and requested that we assume each well field includes up to seven wells screened between 500 and 800 feet below land surface. Requested deliverables for each run include:
  1. water budgets for the two counties for the Evangeline and Chicot aquifers;
  2. the effects of pumping on stream flow baseline conditions in the major rivers near each newly simulated (future) well field;

3. water-level hydrographs at up to six existing (monitoring) well locations per county; and
  4. hydraulic head maps.
- **Scenario 3:** The same runs and deliverables as scenario 2 except that the total pumpage increases to 45,000 acre-feet per year, SPMWD pumps 31,000 acre-feet per year, and each well field includes up to 28 wells.

In addition, Mr. Petersen requested we provide the estimated rate of recharge to the Gulf Coast aquifer, particularly the Evangeline aquifer.

## **METHODS:**

We used a variation of the GAM for the central part of the Gulf Coast aquifer that better represents fully penetrating wells completed in the Evangeline aquifer (see GAM run 05-04, <http://www.twdb.state.tx.us/gam/GAMruns/GR05-04.pdf>). We completed five different model simulations with average recharge to address the three scenarios. We extended the 50-year predictive model datasets an additional ten years to address the 60-year simulation period requested.

To estimate current pumpage we used a predictive pumpage dataset that was based on information from the 2002 State Water Plan and adjusted to more closely reflect board-approved demands for the 2006 Regional Water Plans. We extracted spatial and vertical pumpage by usage category (Irrigation, Livestock, Rural Domestic, Municipal, Mining, and Manufacturing) from the model input files using ArcGIS. Municipal, mining, and manufacturing pumpage locations were spatially assigned using historical well locations and were vertically assigned using screen intervals. Irrigation and livestock pumpage locations were spatially assigned using landuse coverages and were vertically assigned using an analysis based on screen intervals for inventoried wells in the TWDB groundwater database that were assigned the same usage category. Rural domestic pumpage locations were spatially assigned using 2000 population census block information. We contoured water levels using Processing MODFLOW for Windows (PMWIN) and extracted water budgets from the model runs for 2005, 2010, 2020, 2030, 2040, 2050, and 2060. We calculated scenario 1 drawdowns using the difference between 2000 simulated water levels and water levels for the years listed above. We developed historical water-level hydrographs from TWDB groundwater database information and predictive hydrographs from each of the predictive runs beginning in 2001. For the effects of pumpage on nearby rivers, we looked at the changes in stream leakage in the different water budgets.

For scenarios 2 and 3, we used the same basic methodology. We developed four different pumpage datasets using the locations provided by Mr. Petersen and the combinations requested for the proposed strategies. We contoured water levels from each model run using PMWIN and extracted water budgets from the model runs for 2005, 2010, 2020, 2030, 2040, 2050, and 2060. We generated hydrographs for each of the pumpage datasets.

The estimated rate of recharge to the Gulf Coast aquifer was based on a literature search.

#### **PARAMETERS AND ASSUMPTIONS:**

- See Waterstone and Parsons (2003) and Chowdhury and others (2004) for assumptions and limitations of the GAM. Root mean squared error for the entire central part of the Gulf Coast aquifer model is up to 51 feet at the end of the transient model simulation in 1999 (see GAM run 05-04).
- The variation of the GAM used assumes that pumping in the Evangeline aquifer occurs throughout the entire depth of the Evangeline aquifer (see GAM run 05-04).
- We used annual stress periods for the predictive simulations, so discharge from the proposed well fields was based on annual withdrawal rates.
- For scenario 1, we used a predictive pumpage dataset based on information from the 2002 State Water Plan and adjusted to reflect board-approved demands for the 2006 Regional Water Plans. This assumes the pumpage volumes, categories of use, and trends reflect a reasonable transition 1999 to 2005. A comparison of pumpage in the predictive dataset and the data from the TWDB Water Use Survey for the year 2000 indicates the pumpage used for scenario 1 is slightly higher than surveyed and estimated use. For Bee County, we used 5,426 acre-feet in 2000 and the Water Use Survey estimated countywide use was 5,257 acre-feet. For San Patricio County we used 8,822 acre-feet in 2000 and the Water Use Survey estimated countywide use was 6,784 acre-feet.
- For scenarios 2 and 3, we assumed all proposed wells were drilled within the same one square mile grid where the proposed well fields were simulated.
- Model results reflect average recharge rates based on historical climate from 1960 to 1999 throughout the predictive period (2000 through 2060). For Bee County, this is approximately 18,829 acre-feet per year of recharge for the Chicot aquifer and 4,836 acre-feet per year for the Evangeline aquifer. For San Patricio County this is approximately 12,061 acre-feet per year for the Chicot aquifer and 152 acre-feet per year for the Evangeline aquifer.
- The model calculates stream-flow. These values can be examined within the water budget tables.

## **RESULTS:**

The results of these model runs are shown in the attached figures and tables. Please note that all maps shown are oriented with north at the top, scale can be ascertained by observing the county boundaries shown, all elevations are in feet above mean sea level, and all numbers on tables are in acre-feet per year.

### **Scenario 1, the effects of current pumpage:**

- **Pumpage:** Figures 1 to 4 show the location of pumpage used in the model. Also indicated is the aquifer associated with each of the pumpage categories. Layer 1 is the Chicot aquifer, layer 2 is the Evangeline aquifer, layer 3 is the Burkeville confining unit, and layer 4 is the Jasper aquifer. Table 1 gives the predictive pumping based on the 2006 demands developed by the Regional Water Planning Group used in the scenario 1 model simulation.
- **Hydrographs:** Figure 5 shows hydrographs developed from monitoring wells in Bee and San Patricio counties. Figures 6 and 7 show the locations of the monitoring wells used in the hydrographs.
- **Water Budget and stream flow baseline conditions:** Table 2 shows the water budgets for Bee and San Patricio counties using the 2006 demand pumpage shown in Table 1. Stream flow baseline conditions can be interpreted from the stream leakage results reported in the water budget.
- **Hydraulic head and water-level drawdowns:** Figures 8 through 21 show water levels in Bee County for selected years between 2005 to 2060; figures 22 through 35 show drawdown in Bee and San Patricio counties for selected years between 2005 to 2060; and figures 36 through 49 shows water levels in San Patricio county for selected years between 2005 to 2060.

### **Scenario 2, proposed pumping sites using 25,200 acre-feet per year from the Evangeline aquifer:**

#### **A. Bee County SPMWD pumping**

- **Water budget and stream flow conditions:** Table 3 contains the water budgets for Bee and San Patricio counties showing the effects of pumping a combined 25,200 acre-feet per year with the SPMWD pumping occurring in Bee County. Stream flow conditions can be interpreted from the stream leakage results reported in the water budget and compared to values listed in Table 2.
- **Hydrographs for the combined pumping of 25,200 acre-feet per year in Bee County** are shown in Figure 50.
- **Hydraulic heads:** Figures 51 through 57 show the maps of hydraulic head levels for the 25,200 acre-feet per year combined pumping in Bee County.

## **B. San Patricio SPMWD pumping**

- Hydraulic head: Maps on figures 58 through 64.
- Hydrographs: Figure 65.
- Water budget and stream flow conditions: Table 4 contains the water budgets for Bee and San Patricio counties showing the effects of pumping a combined 25,200 acre-feet per year with the SPMWD pumping occurring in San Patricio County. Stream flow conditions can be interpreted from the stream leakage results reported in the water budget and compared to values listed in Table 2.

## **Scenario 3, proposed pumping sites using 45,000 acre-feet per year from the Evangeline aquifer:**

### **A. Bee County SPMWD pumping**

- Hydraulic head: Maps on figures 66 through 72.
- Hydrographs: Figure 73.
- Water budget and stream flow conditions: Table 5 contains the water budgets for Bee and San Patricio counties showing the effects of pumping a combined 45,000 acre-feet per year with the SPMWD pumping occurring in Bee County. Stream flow conditions can be interpreted from the stream leakage results reported in the water budget and compared to values listed in Table 2.

### **B. San Patricio SPMWD pumping**

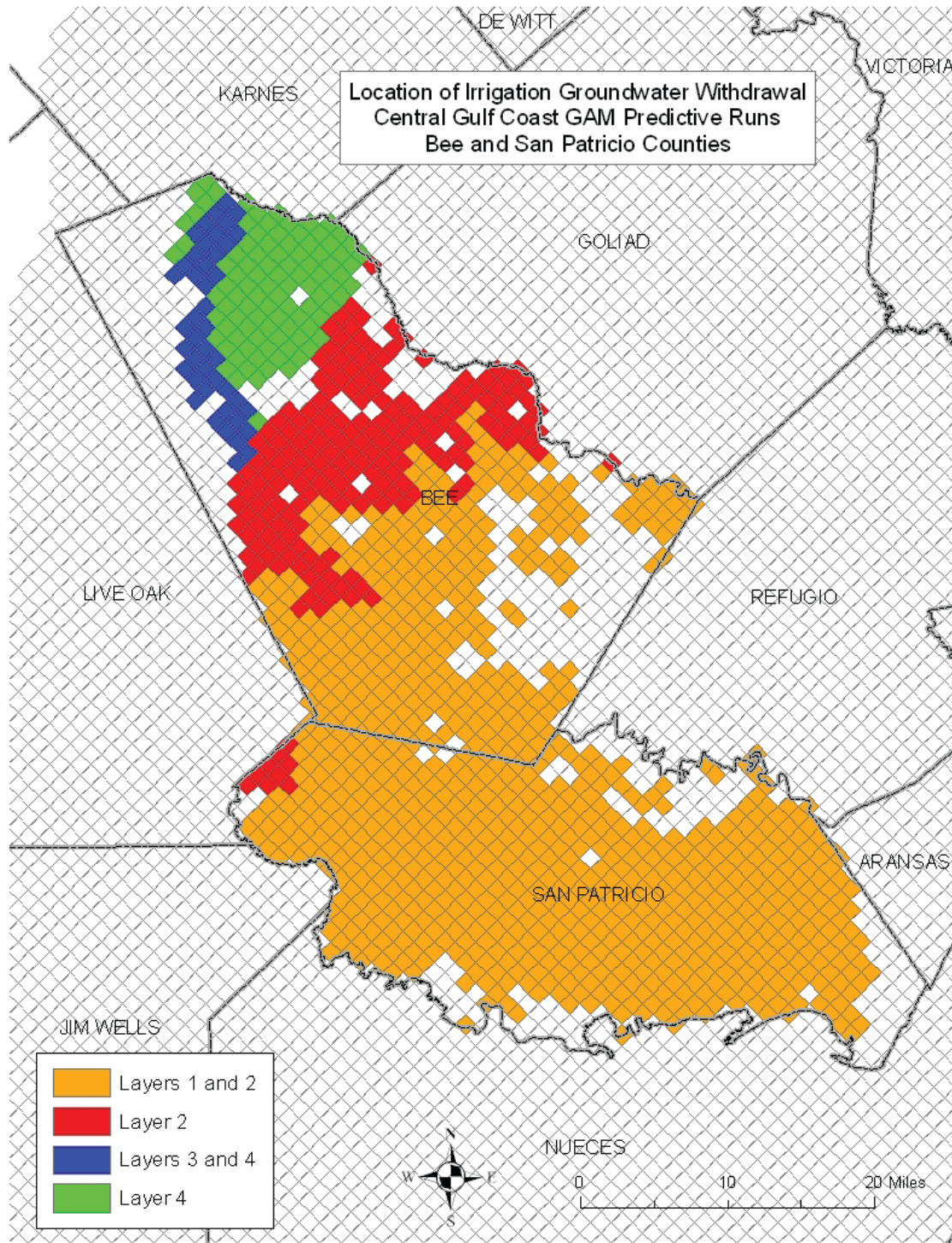
- Hydraulic head : Maps on figures 74 through 80.
- Hydrographs: Figure 81.
- Water budget and stream flow conditions: Table 6 contains the water budgets for Bee and San Patricio counties showing the effects of pumping a combined 45,000 acre-feet per year with the SPMWD pumping occurring in San Patricio County. Stream flow conditions can be interpreted from the stream leakage results reported in the water budget and compared to values listed in Table 2.

**Recharge:** Table 7 shows estimated recharge rates from a literature search of the Gulf Coast aquifer.

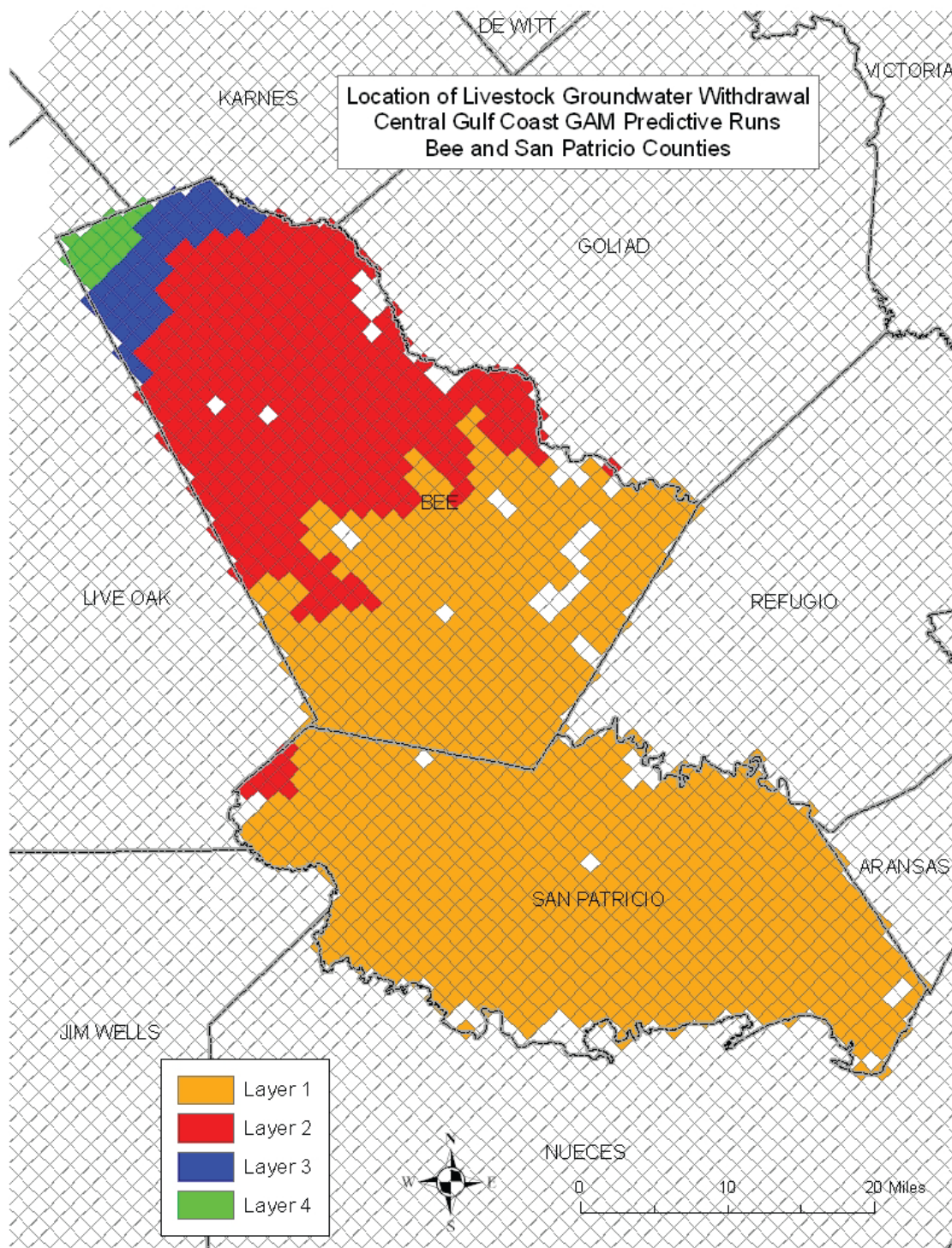
## **REFERENCES:**

Chowdhury, A. H., Wade, S., Mace, R. E., and Ridgeway, C., 2004, Groundwater availability model of the Central Gulf Coast aquifer system: Numerical simulations through 1999: Texas Water Development Board, draft report, 108 p.

Waterstone Environmental Hydrology and Engineering, Inc., and Parsons Engineering Science, Inc., 2003, Groundwater availability of the central Gulf Coast aquifer: Numerical simulations to 2050 central Gulf Coast, Texas: unpublished report prepared for the Texas Water Development Board, 156 p.

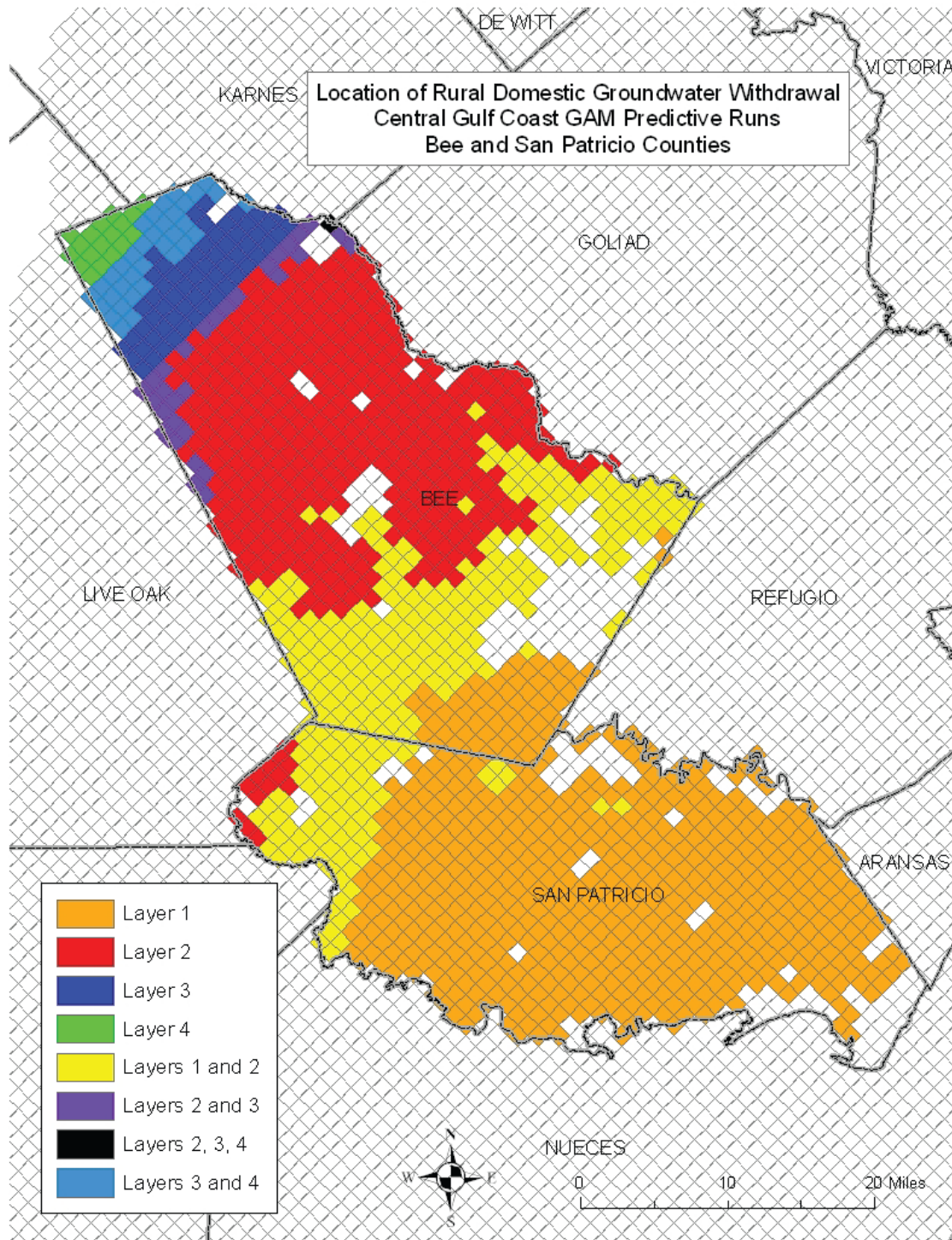


**Figure 1. Location of irrigation wells and associated layers as described in text based on landuse and extracted using ArcGIS.**

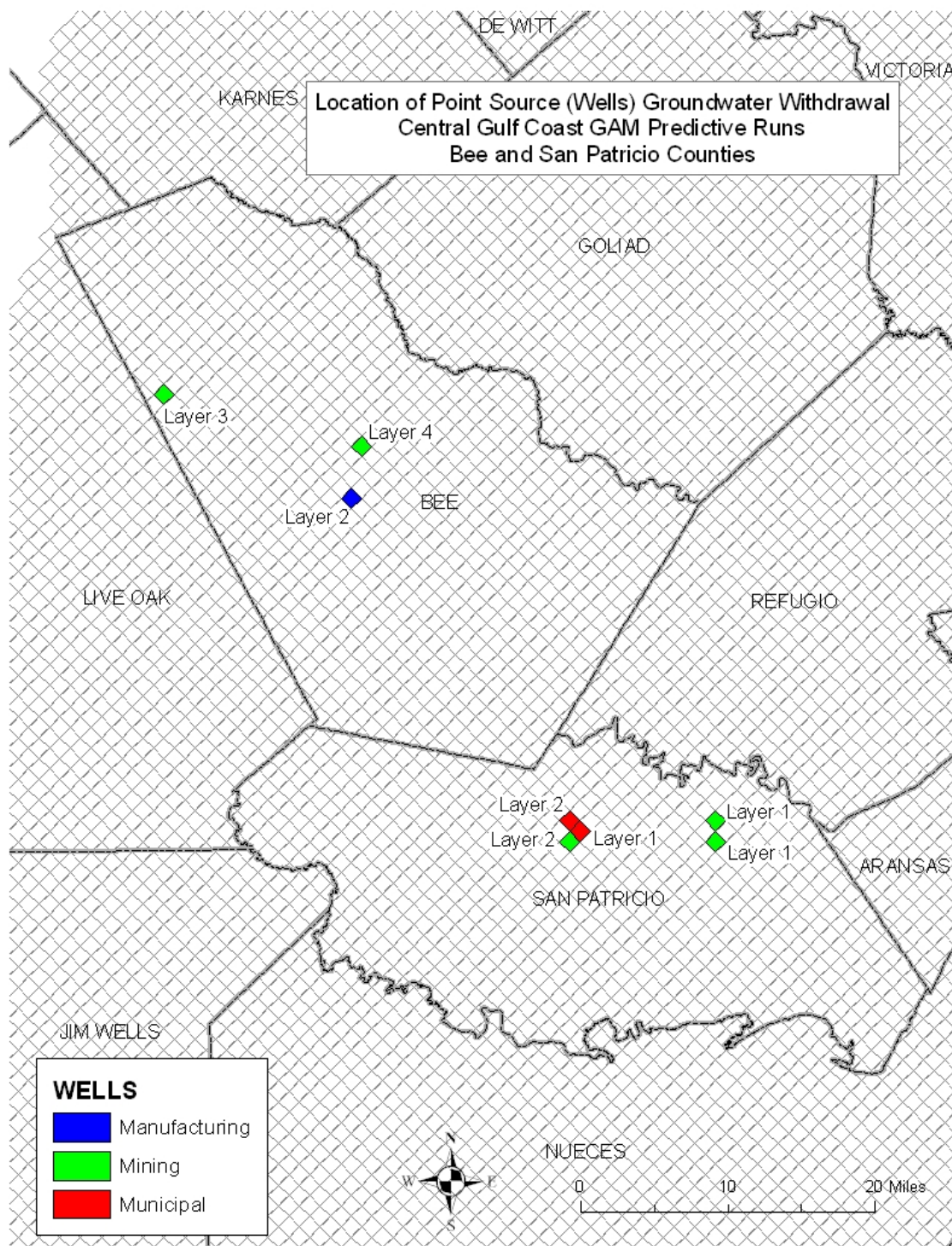


**Figure 2. Location of livestock wells and associated layers as described in the text and extracted using ArcGIS.**





**Figure 3. Location of rural domestic wells and associated layers as described in text and extracted using ArcGIS.**



**Figure 4. Location of point source wells and associated layers as described in text and extracted using ArcGIS.**

**Table 1. Predictive pumping for Bee and San Patricio counties – Units are in acre-feet per year (AFY).**

COUNTY	CATEGORY	LAYER	2000AFY	2010AFY	2020AFY	2030AFY	2040AFY	2050AFY	2060AFY
BEE	C-O	1	134.4	138.9	138.4	136.1	131.1	127.3	124.3
BEE	C-O	2	1660.5	1715.8	1709.6	1680.6	1619.5	1572.9	1535.0
BEE	C-O	3	25.2	26.1	25.9	25.5	24.6	24.0	23.4
BEE	C-O	4	36.8	38.0	37.8	37.2	36.0	35.2	34.3
BEE	IRR	1	247.0	216.7	190.1	166.8	146.3	128.3	112.5
BEE	IRR	2	2107.5	1849.1	1621.7	1422.8	1248.1	1094.4	959.6
BEE	IRR	3	24.4	21.4	18.8	16.5	14.4	12.7	11.1
BEE	IRR	4	656.4	575.9	505.1	443.1	388.7	340.8	298.9
BEE	MFG	2	1.0	1.0	1.0	1.0	1.0	1.0	1.0
BEE	MIN	3	13.3	12.9	15.0	14.0	1.5	1.5	1.6
BEE	MIN	4	15.7	23.1	25.0	28.0	2.9	3.1	3.2
BEE	STK	1	256.1	256.1	256.1	256.1	256.1	256.1	256.1
BEE	STK	2	197.2	197.2	197.2	197.2	197.2	197.2	197.2
BEE	STK	3	35.5	35.5	35.5	35.5	35.5	35.5	35.5
BEE	STK	4	14.6	14.6	14.6	14.6	14.6	14.6	14.6
BEE	ALL	ALL	5425.7	5122.4	4791.8	4475.0	4117.6	3844.7	3608.3

SAN PATRICIO	C-O	1	2259.8	2586.5	3038.6	3287.4	3488.4	3783.1	4084.3
SAN PATRICIO	C-O	2	407.0	470.2	556.5	604.4	643.4	702.6	758.5
SAN PATRICIO	IRR	1	2892.6	2636.4	2555.7	2331.6	2130.2	1945.0	1776.5
SAN PATRICIO	IRR	2	2014.7	1835.7	1779.8	1624.3	1483.9	1354.2	1236.8
SAN PATRICIO	MIN	1	37.8	43.7	45.5	46.2	47.0	48.1	49.4
SAN PATRICIO	MIN	2	26.6	30.8	32.1	32.6	33.1	33.9	34.8
SAN PATRICIO	MUN	1	118.3	128.4	149.7	163.5	174.8	187.3	202.2
SAN PATRICIO	MUN	2	662.7	719.3	838.1	915.4	979.0	1048.8	1132.3
SAN PATRICIO	STK	1	395.0	395.0	395.0	395.0	395.0	395.0	395.0
SAN PATRICIO	STK	2	7.3	7.3	7.3	7.3	7.3	7.3	7.3
SAN PATRICIO	ALL	ALL	8821.9	8853.4	9398.3	9407.6	9382.1	9505.4	9677.1

C-O = County-Other (Rural Domestic)  
 IRR = Irrigation  
 MFG = Manufacturing  
 MIN = Mining  
 MUN = Municipal  
 STK = Livestock

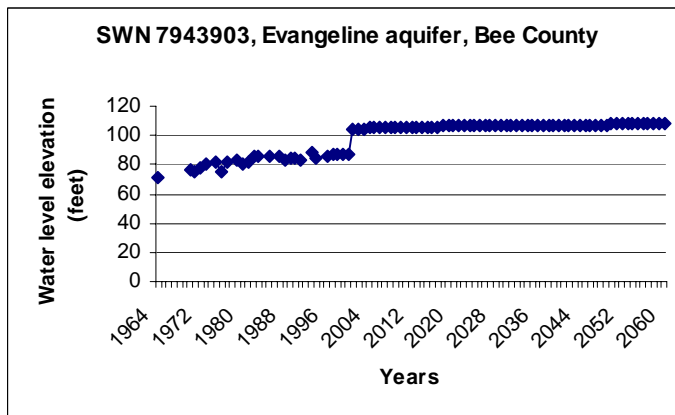
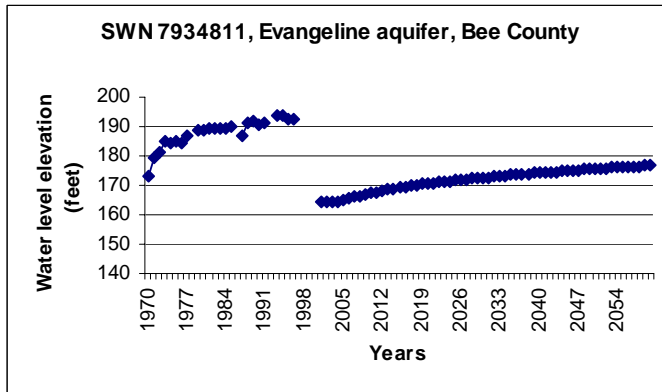
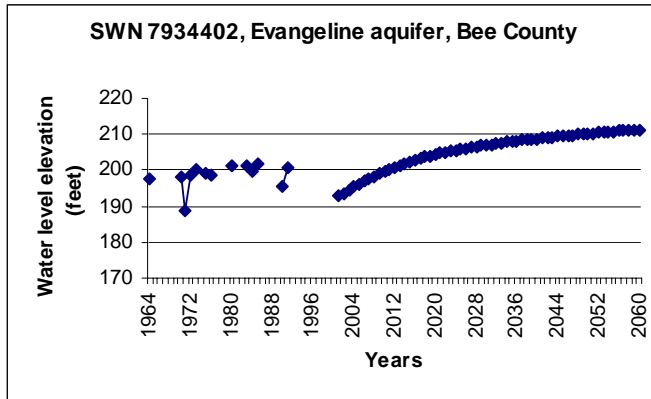
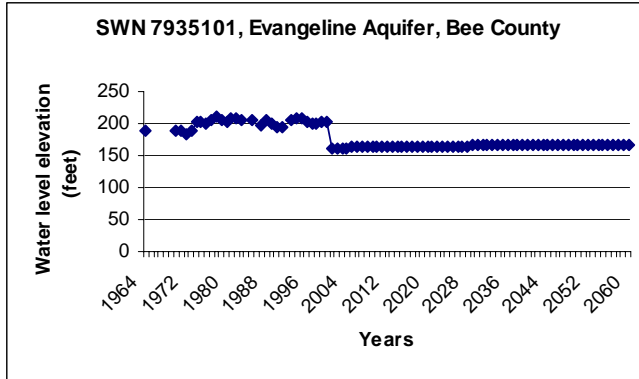
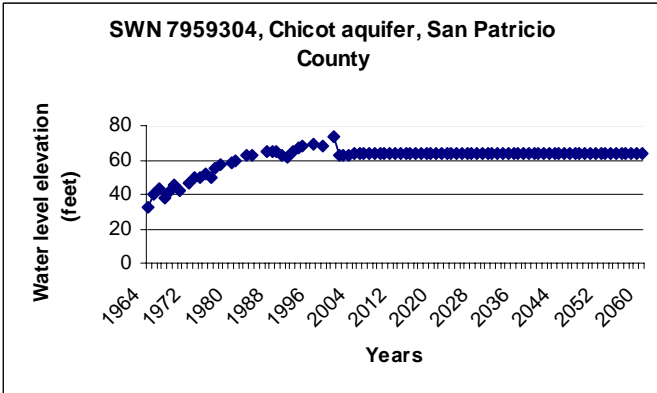
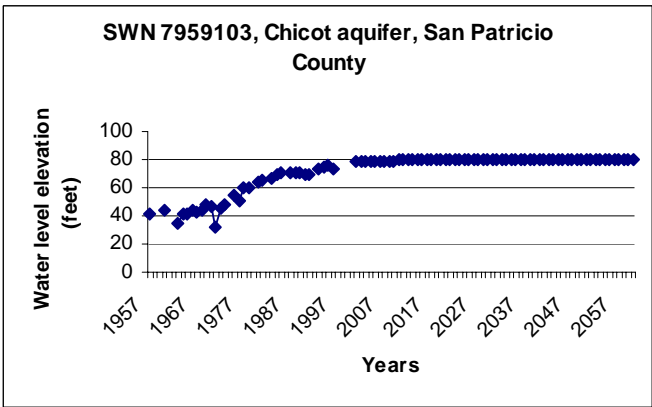
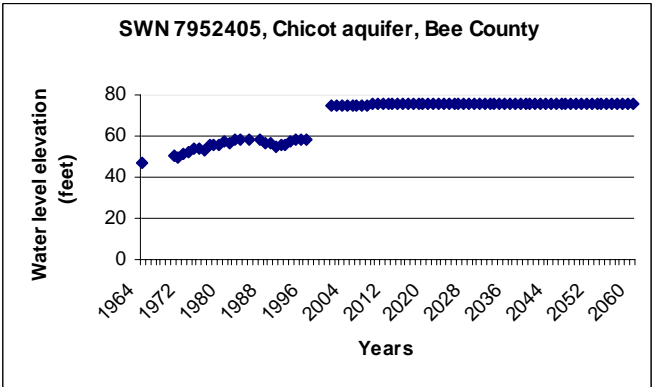
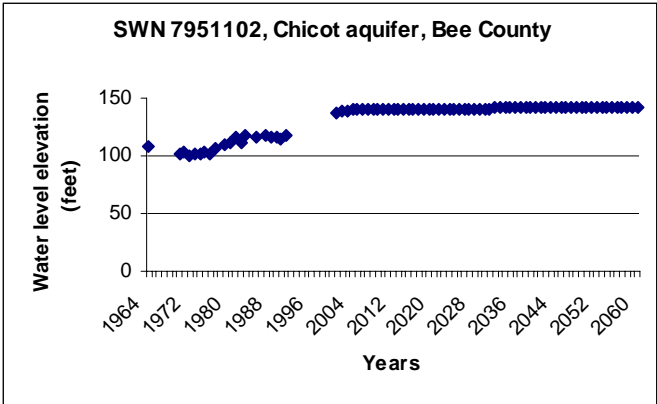
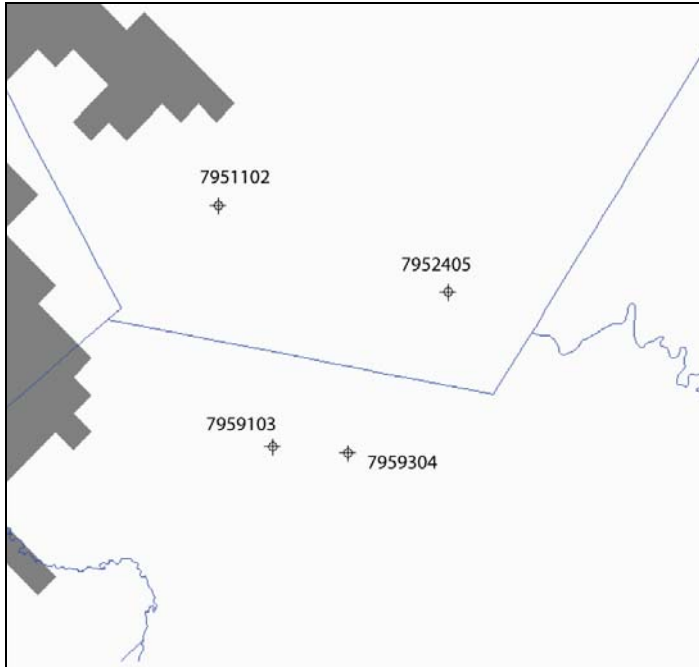


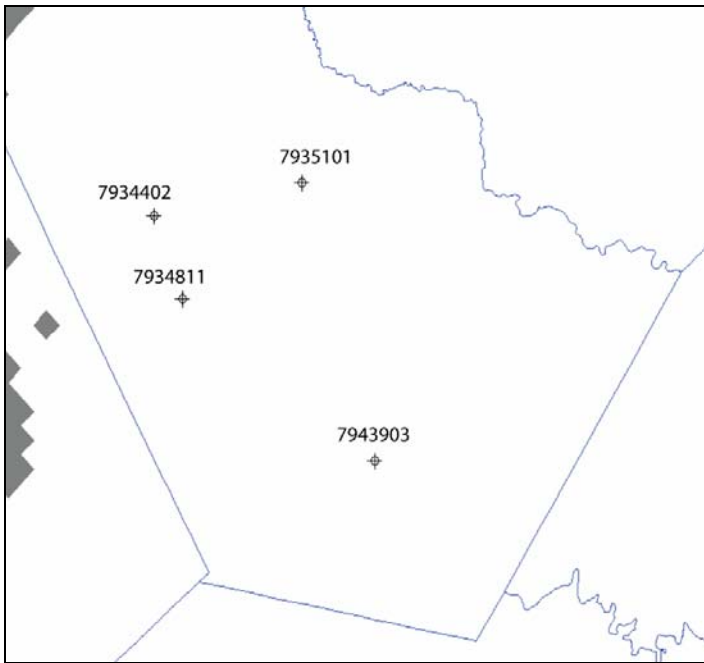
Figure 5. Scenario 1: Water-level hydrographs for monitoring wells in Bee and San Patricio counties.



**Figure 5 Continued.**



**Figure 6. Location of Chicot aquifer monitoring wells used in the report.**



**Figure 7. Location of Evangeline aquifer monitoring wells used in the report.**

**Table 2. Water budgets for Scenario 1 (values in acre-feet per year).**

**Water Budget -- 2005**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM STORAGE	61	691	-630
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	611	9,135	-8,525
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	684	3,885	-3,200
WELLS	0	1,602	-1,602
DRAINS	0	0	0
RECHARGE	18,829	0	18,829
ET	0	1,460	-1,460
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5,324	8,736	-3,412
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,509	25,509	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM STORAGE	44	765	-721
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,639	6,963	-4,324
EXCHANGE (UPPER)	3,885	684	3,200
EXCHANGE (LOWER)	108	852	-744
WELLS	0	3,369	-3,369
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	470	-470
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,502	2,910	1,592
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	16,014	16,014	-1
DISCREPANCY [%]	0		

**Table 2: Continued.**

**Water Budget 2005**

**San Patricio County Chicot Aquifer**

FLOW TERM	<u>IN</u>	<u>OUT</u>	<u>IN-OUT</u>
STORAGE	936	302	634
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,175	3,099	4,076
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,056	1,440	-384
WELLS	0	5,943	-5,943
DRAINS	0	349	-349
RECHARGE	12,061	0	12,061
ET	0	698	-698
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	49	2,815	-2,765
STREAM LEAKAGE	3,208	9,841	-6,633
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,486	24,486	-1
DISCREPANCY [%]	0		

**San Patricio County Evangeline Aquifer**

FLOW TERM	<u>IN</u>	<u>OUT</u>	<u>IN-OUT</u>
STORAGE	14	4	10
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,667	906	1,761
EXCHANGE (UPPER)	1,440	1,056	384
EXCHANGE (LOWER)	373	5	368
WELLS	0	2,580	-2,580
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	906	0	906
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	990	-990
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,553	5,554	0
DISCREPANCY [%]	0		



**Table 2: Continued.  
Water Budget -- 2010**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM STORAGE	23	253	-230
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	618	9166	-8549
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	722	3878	-3156
WELLS	0	1605	-1605
DRAINS	0	0	0
RECHARGE	18829	0	18829
ET	0	1477	-1477
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5220	9033	-3813
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25413	25413	-1
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM STORAGE	26	535	-509
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,635	7,021	-4,386
EXCHANGE (UPPER)	3,878	722	3,156
EXCHANGE (LOWER)	101	879	-779
WELLS	0	3,221	-3,221
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	467	-467
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,401	3,036	1,365
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	15,877	15,881	-4
DISCREPANCY [%]	-0.03		

**Table 2: Continued.**

**Water Budget -- 2010**

**San Patricio County Chicot Aquifer**

FLOW TERM	<u>IN</u>	<u>OUT</u>	<u>IN-OUT</u>
STORAGE	470	165	305
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,255	3,026	4,229
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,069	1,416	-347
WELLS	0	6,013	-6,013
DRAINS	0	349	-349
RECHARGE	12,061	0	12,061
ET	0	695	-695
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	67	2,734	-2,667
STREAM LEAKAGE	3,189	9,712	-6,524
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,111	24,111	0
DISCREPANCY [%]	0		

**San Patricio County Evangeline Aquifer**

FLOW TERM	<u>IN</u>	<u>OUT</u>	<u>IN-OUT</u>
STORAGE	6	5	0
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,696	900	1,796
EXCHANGE (UPPER)	1,416	1,069	347
EXCHANGE (LOWER)	344	9	336
WELLS	0	2,542	-2,542
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	909	0	909
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	986	-986
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,523	5,523	0
DISCREPANCY [%]	0		

**Table 2: Continued.**

**Water Budget -- 2020**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	10	90	-79
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	624	9,221	-8,596
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	763	3,823	-3,060
WELLS	0	1,575	-1,575
DRAINS	0	0	0
RECHARGE	18,829	0	18,829
ET	0	1,485	-1,485
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5,190	9,223	-4,033
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,417	25,417	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	8	266	-258
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,626	7,173	-4,548
EXCHANGE (UPPER)	3,823	763	3,060
EXCHANGE (LOWER)	96	895	-799
WELLS	0	2,939	-2,939
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	464	-464
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,311	3,199	1,112
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	15,699	15,700	-1
DISCREPANCY [%]	-0.01		

**Table 2: Continued.**

**Water Budget -- 2020**

<b>San Patricio County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	366	34	331
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,376	2,976	4,400
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,078	1,446	-368
WELLS	0	6,467	-6,467
DRAINS	0	348	-348
RECHARGE	12,061	0	12,061
ET	0	691	-691
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	90	2,647	-2,557
STREAM LEAKAGE	3,168	9,530	-6,362
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,139	24,140	0
DISCREPANCY [%]	0		

<b>San Patricio County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	11	2	9
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,740	887	1,853
EXCHANGE (UPPER)	1,446	1,078	368
EXCHANGE (LOWER)	341	10	331
WELLS	0	2,642	-2,642
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	920	0	920
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	978	-978
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,610	5,610	0
DISCREPANCY [%]	0		

**Table 2: Continued.  
Water Budget -- 2030**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	4	75	-71
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	631	9,255	-8,624
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	798	3,776	-2,978
WELLS	0	1,533	-1,533
DRAINS	0	0	0
RECHARGE	18,829	0	18,829
ET	0	1,491	-1,491
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5,188	9,320	-4,132
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,449	25,450	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	0	181	-181
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,623	7,242	-4,619
EXCHANGE (UPPER)	3,776	798	2,978
EXCHANGE (LOWER)	94	901	-807
WELLS	0	2,680	-2,680
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	465	-465
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,247	3,308	939
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	15,575	15,576	-1
DISCREPANCY [%]	-0.01		

**Table 2: Continued.**

**Water Budget -- 2030**

<b>San Patricio County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	153	33	120
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,456	2,906	4,550
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,103	1,418	-315
WELLS	0	6,544	-6,544
DRAINS	0	346	-346
RECHARGE	12,061	0	12,061
ET	0	689	-689
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	101	2,636	-2,535
STREAM LEAKAGE	3,161	9,464	-6,303
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,036	24,036	0
DISCREPANCY [%]	0		

<b>San Patricio County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	3	4	-2
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,750	883	1,868
EXCHANGE (UPPER)	1,418	1,103	315
EXCHANGE (LOWER)	343	11	332
WELLS	0	2,598	-2,598
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	923	0	923
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	977	-977
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,588	5,588	0
DISCREPANCY [%]	0		

**Table 2: Continued.  
Water Budget -- 2040**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	1	84	-83
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	637	9,277	-8,640
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	824	3,734	-2,910
WELLS	0	1,472	-1,472
DRAINS	0	0	0
RECHARGE	18,829	0	18,829
ET	0	1,498	-1,498
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5,192	9,419	-4,227
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,483	25,483	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	0	158	-158
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,625	7,279	-4,655
EXCHANGE (UPPER)	3,734	824	2,910
EXCHANGE (LOWER)	94	907	-813
WELLS	0	2,437	-2,437
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	469	-469
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,191	3,404	786
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	15,479	15,480	-1
DISCREPANCY [%]	-0.01		

**Table 2: Continued.  
Water Budget -- 2040**

<b>San Patricio County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	72	52	20	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	7,504	2,861	4,643	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	1,127	1,390	-263	
WELLS	0	6,588	-6,588	
DRAINS	0	344	-344	
RECHARGE	12,061	0	12,061	
ET	0	688	-688	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	104	2,652	-2,548	
STREAM LEAKAGE	3,144	9,437	-6,293	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	24,012	24,012	0	
DISCREPANCY [%]	0			

<b>San Patricio County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	1	6	-4	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,754	879	1,875	
EXCHANGE (UPPER)	1,390	1,127	263	
EXCHANGE (LOWER)	344	11	333	
WELLS	0	2,551	-2,551	
DRAINS	0	0	0	
RECHARGE	152	0	152	
ET	0	12	-12	
RIVER LEAKAGE	922	0	922	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	0	978	-978	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	5,564	5,564	0	
DISCREPANCY [%]	0			



**Table 2: Continued.  
Water Budget -- 2050**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	0	82	-82
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	641	9,298	-8,657
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	841	3,694	-2,853
WELLS	0	1,423	-1,423
DRAINS	0	0	0
RECHARGE	18,829	0	18,829
ET	0	1,503	-1,503
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5,197	9,508	-4,311
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,509	25,509	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	0	132	-132
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,623	7,323	-4,700
EXCHANGE (UPPER)	3,694	841	2,853
EXCHANGE (LOWER)	96	908	-811
WELLS	0	2,227	-2,227
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	474	-474
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,143	3,486	656
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	15,392	15,391	0
DISCREPANCY [%]	0		

**Table 2: Continued.**

**Water Budget -- 2050**

<b>San Patricio County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	94	42	52
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,556	2,824	4,732
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,151	1,374	-223
WELLS	0	6,755	-6,755
DRAINS	0	342	-342
RECHARGE	12,061	0	12,061
ET	0	687	-687
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	110	2,667	-2,557
STREAM LEAKAGE	3,129	9,410	-6,281
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,102	24,102	0
DISCREPANCY [%]	0		

<b>San Patricio County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	2	4	-2
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,757	873	1,884
EXCHANGE (UPPER)	1,374	1,151	223
EXCHANGE (LOWER)	347	11	336
WELLS	0	2,527	-2,527
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	924	0	924
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	978	-978
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,555	5,555	0
DISCREPANCY [%]	0		

**Table 2: Continued.**

**Water Budget -- 2060**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	1	62	-61
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	645	9,320	-8,675
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	859	3,664	-2,805
WELLS	0	1,382	-1,382
DRAINS	0	0	0
RECHARGE	18,829	0	18,829
ET	0	1,511	-1,511
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5,202	9,597	-4,395
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,535	25,536	-1
DISCREPANCY [%]	0		

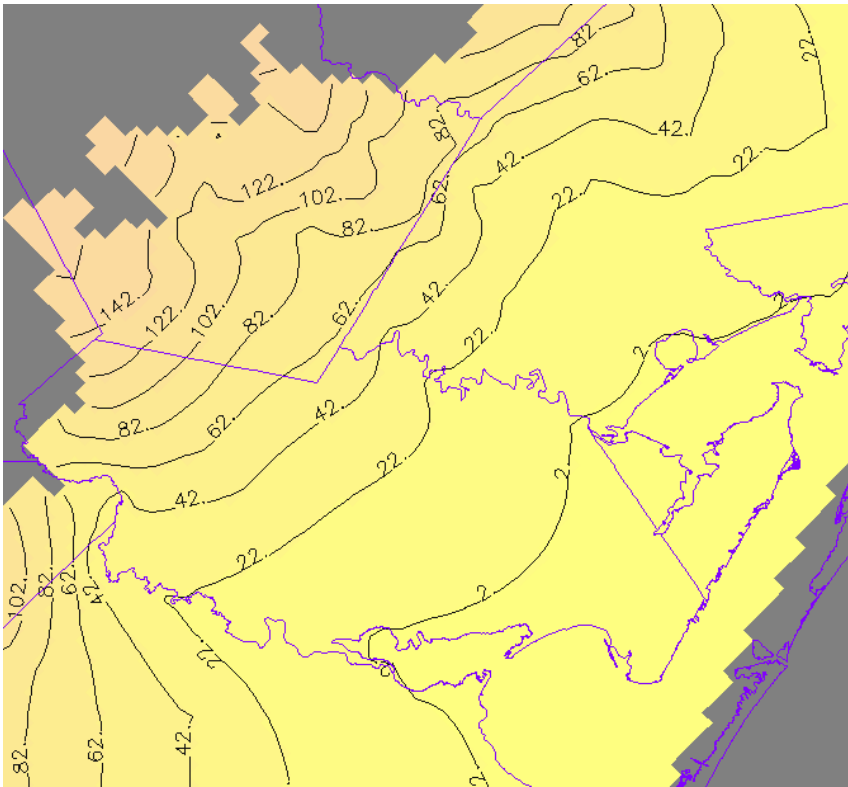
<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	0	118	-118
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,621	7,361	-4,740
EXCHANGE (UPPER)	3,664	859	2,805
EXCHANGE (LOWER)	100	906	-807
WELLS	0	2,043	-2,043
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	480	-480
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,104	3,561	543
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	15,324	15,328	-4
DISCREPANCY [%]	-0.03		

**Table 2: Continued.**

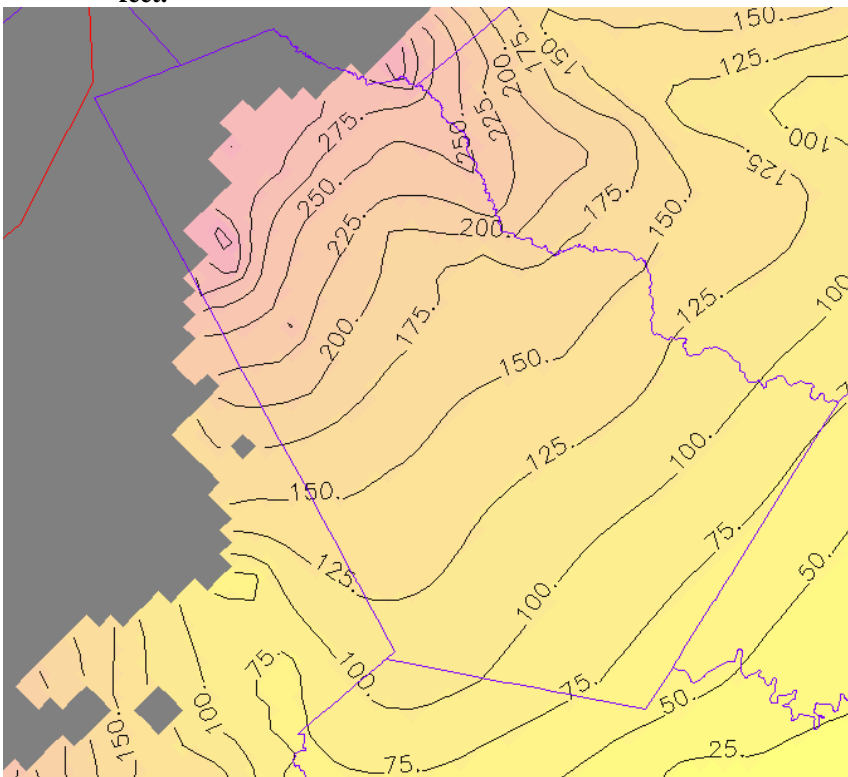
**Water Budget -- 2060**

<b>San Patricio County</b>	<b>Chicot Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	127	30	97
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,606	2,812	4,794
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,178	1,370	-192
WELLS	0	6,946	-6,946
DRAINS	0	341	-341
RECHARGE	12,061	0	12,061
ET	0	685	-685
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	117	2,663	-2,546
STREAM LEAKAGE	3,136	9,377	-6,241
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,225	24,225	0
DISCREPANCY [%]	0		

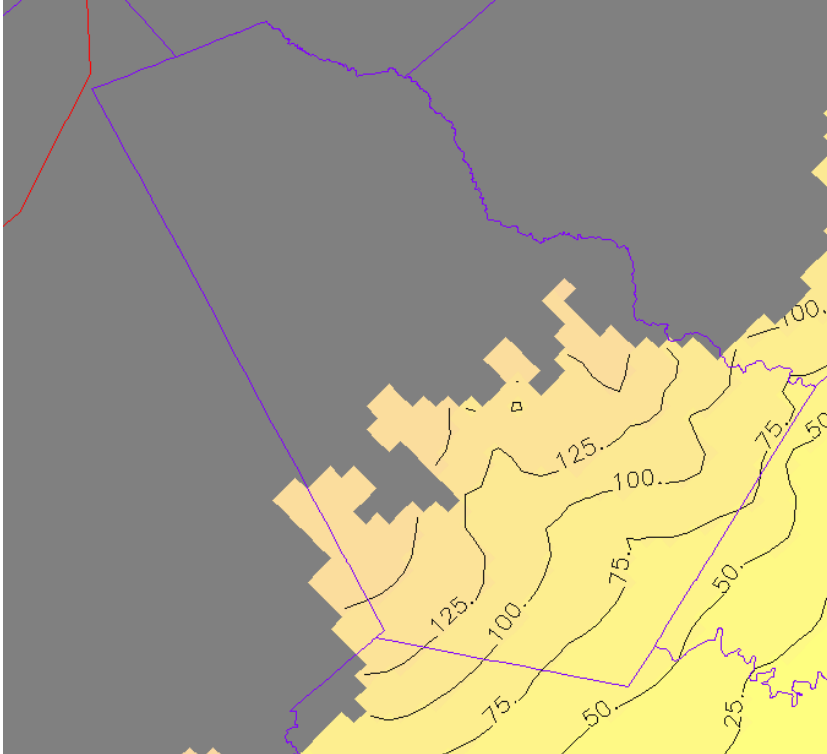
<b>San Patricio County</b>	<b>Evangeline Aquifer</b>		
	<b><u>IN</u></b>	<b><u>OUT</u></b>	<b><u>IN-OUT</u></b>
FLOW TERM			
STORAGE	3	3	0
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,771	865	1,906
EXCHANGE (UPPER)	1,370	1,178	192
EXCHANGE (LOWER)	350	11	339
WELLS	0	2,526	-2,526
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	927	0	927
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	977	-977
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,572	5,572	0
DISCREPANCY [%]	0		



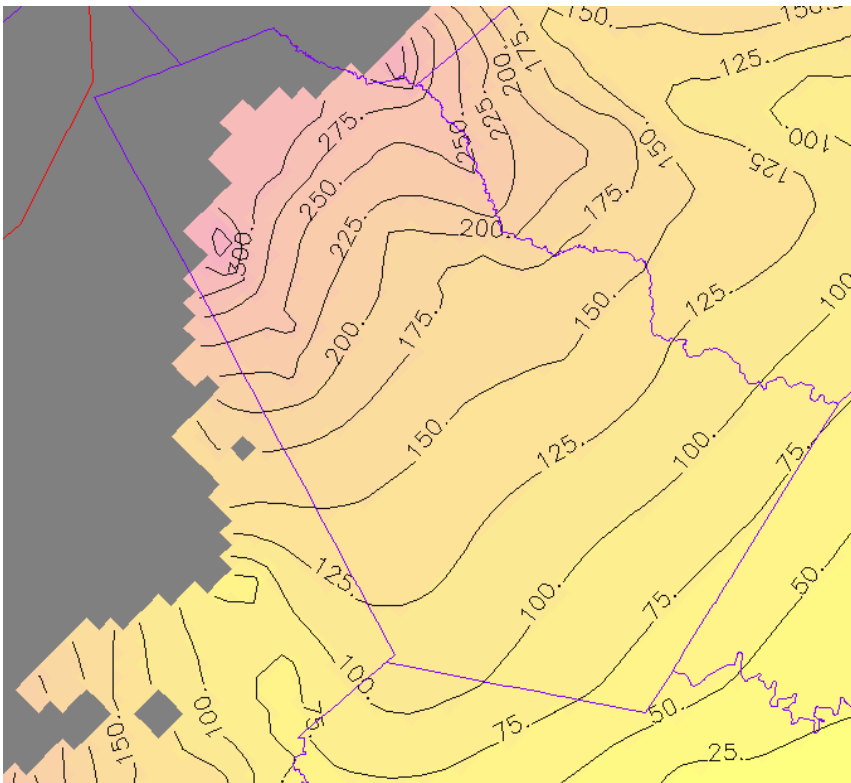
**Figure 8: Scenario 1: 2005 water levels in the Chicot aquifer in Bee County. Contour interval is 20 feet.**



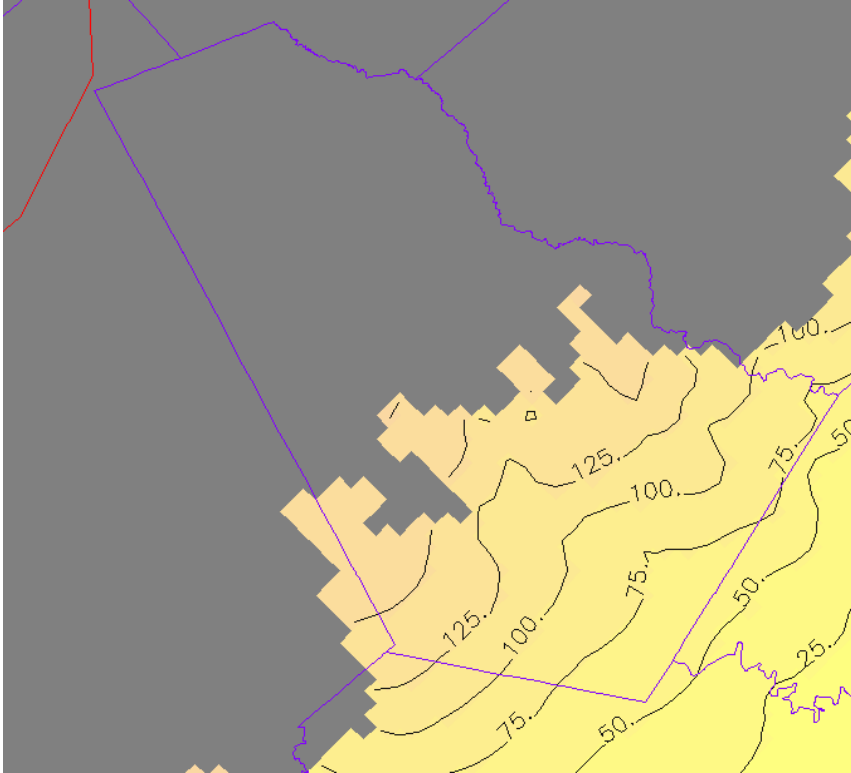
**Figure 9: Scenario 1: 2005 water levels in the Evangeline aquifer in Bee County. Contour interval is 25 feet.**



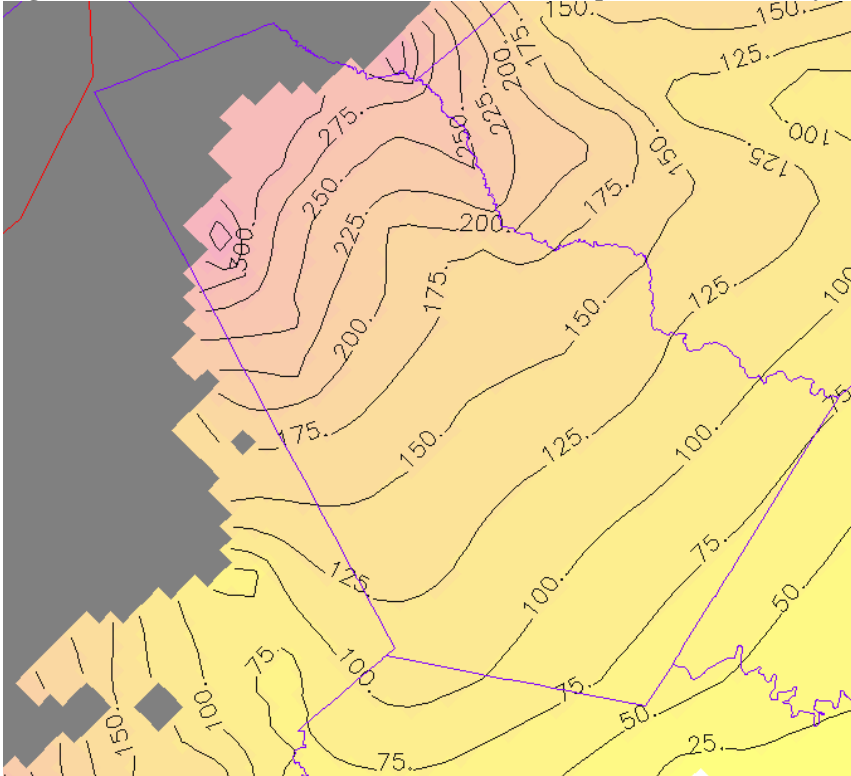
**Figure 10: Scenario 1: 2010 water levels in Chicot aquifer in Bee County. Contour interval is 25 feet.**



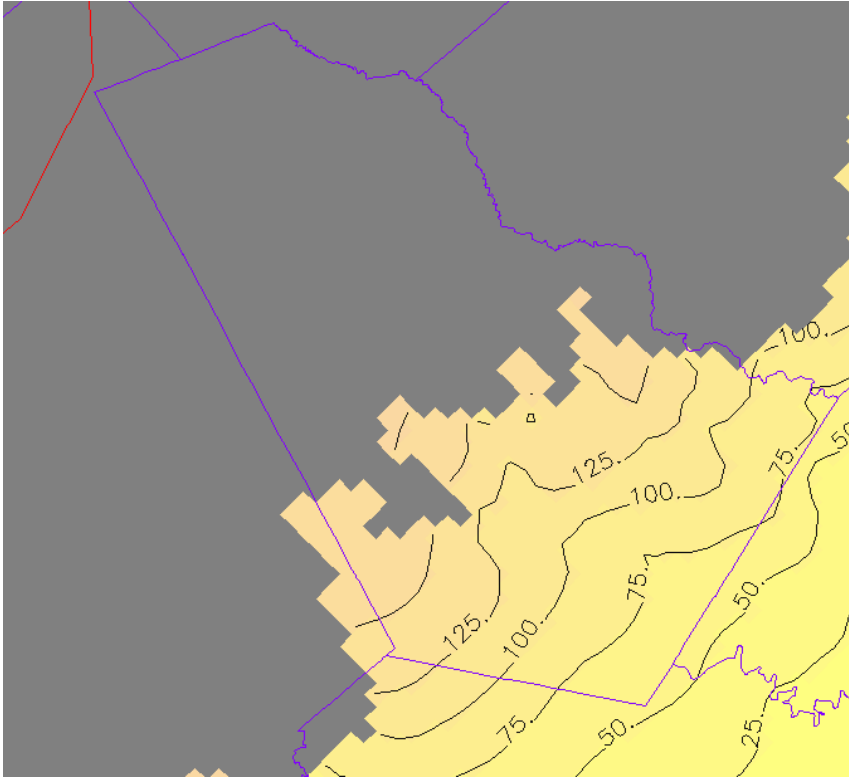
**Figure 11: Scenario 1: 2010 water levels in Evangeline aquifer in Bee County. Contour interval is 25 feet.**



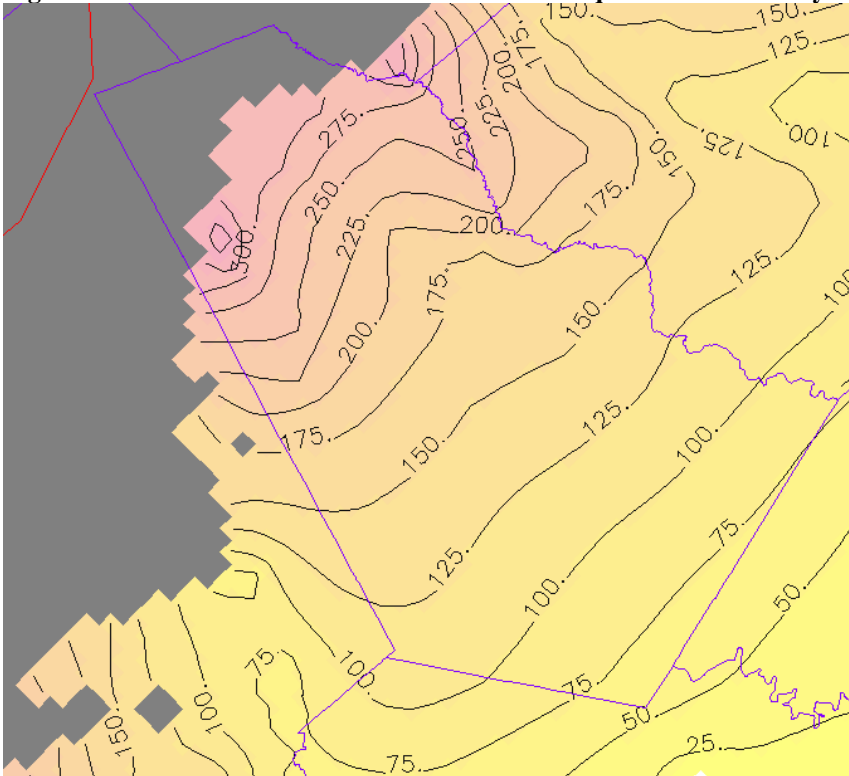
**Figure 12: Scenario 1: 2020 water levels in Chicot aquifer in Bee County. Contour interval is 25 feet.**



**Figure 13: Scenario 1: 2020 water levels in Evangeline aquifer in Bee County. Contour interval is 25 feet.**

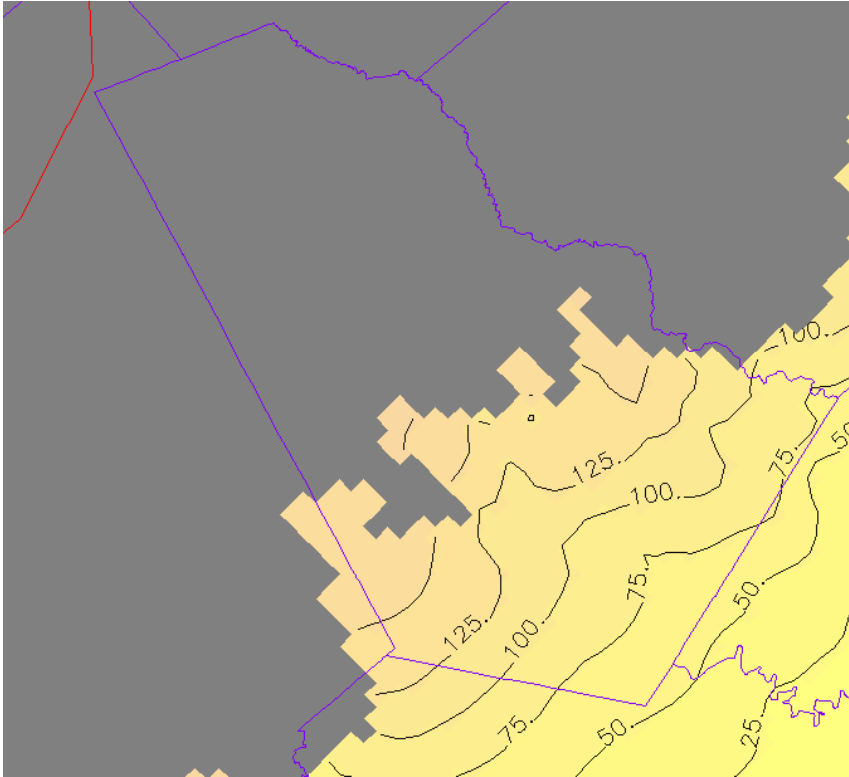


**Figure 14: Scenario 1: 2030 water levels in Chicot aquifer in Bee County. Contour interval is 25 feet.**

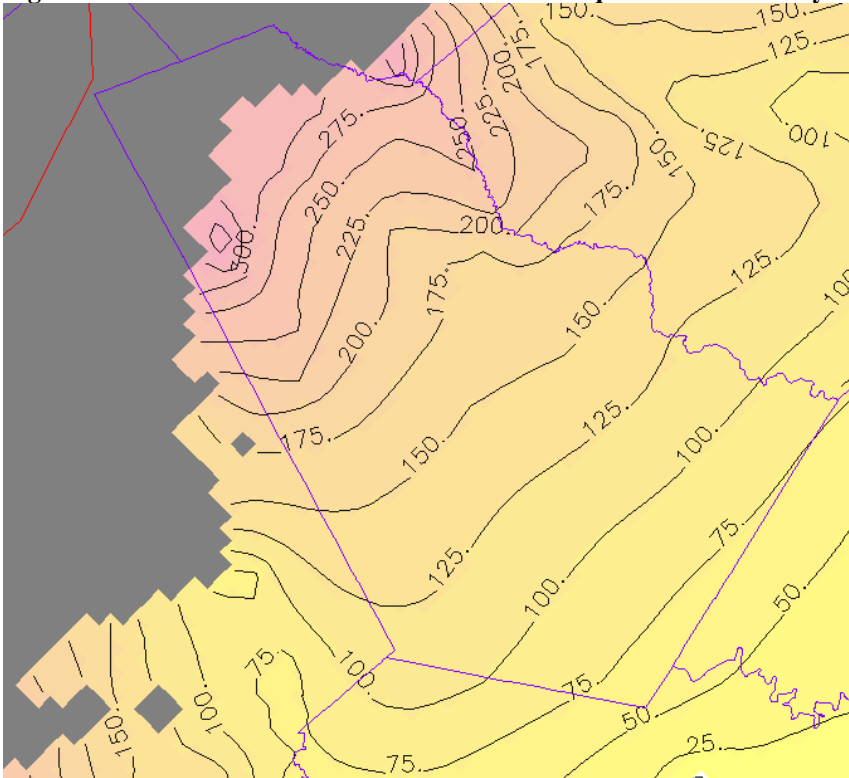


**Figure 15: Scenario 1: 2030 water levels in Evangeline aquifer in Bee County. Contour interval is 25 feet.**

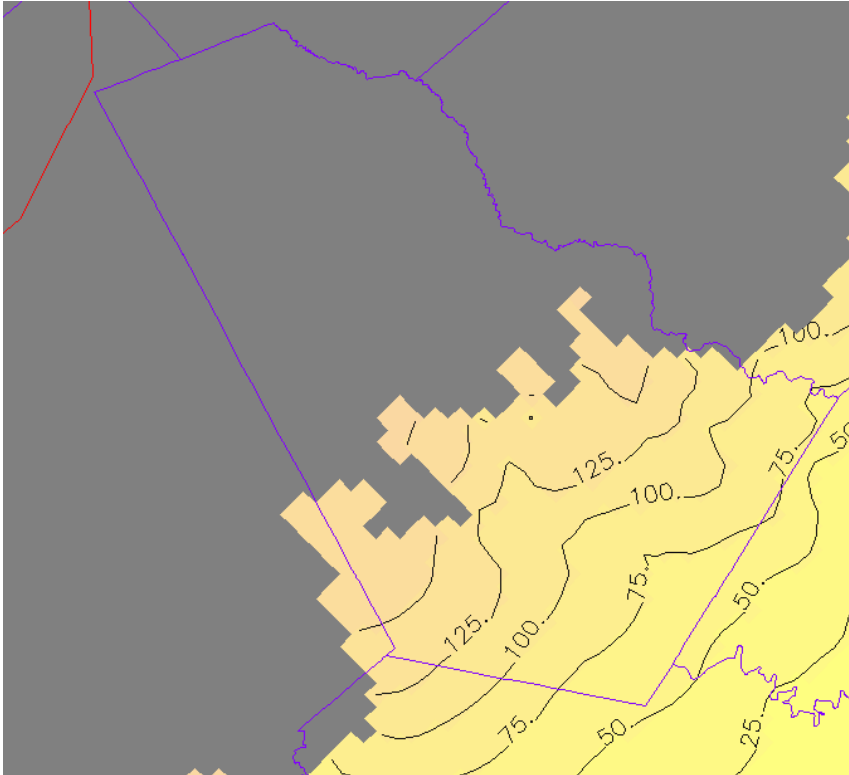




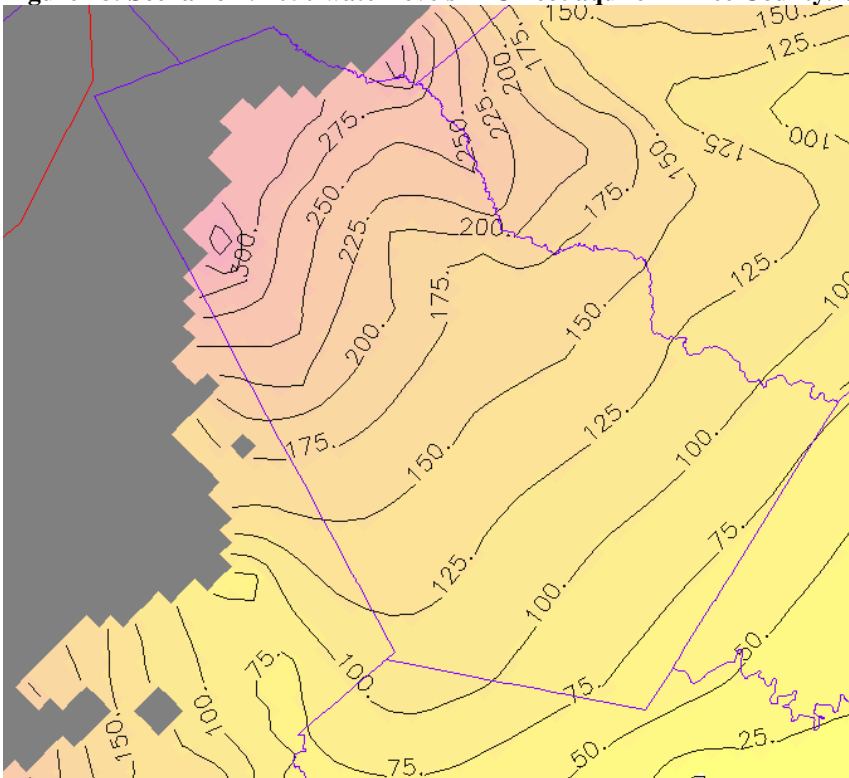
**Figure 16: Scenario 1: 2040 water levels in Chicot aquifer in Bee County. Contour interval is 25 feet.**



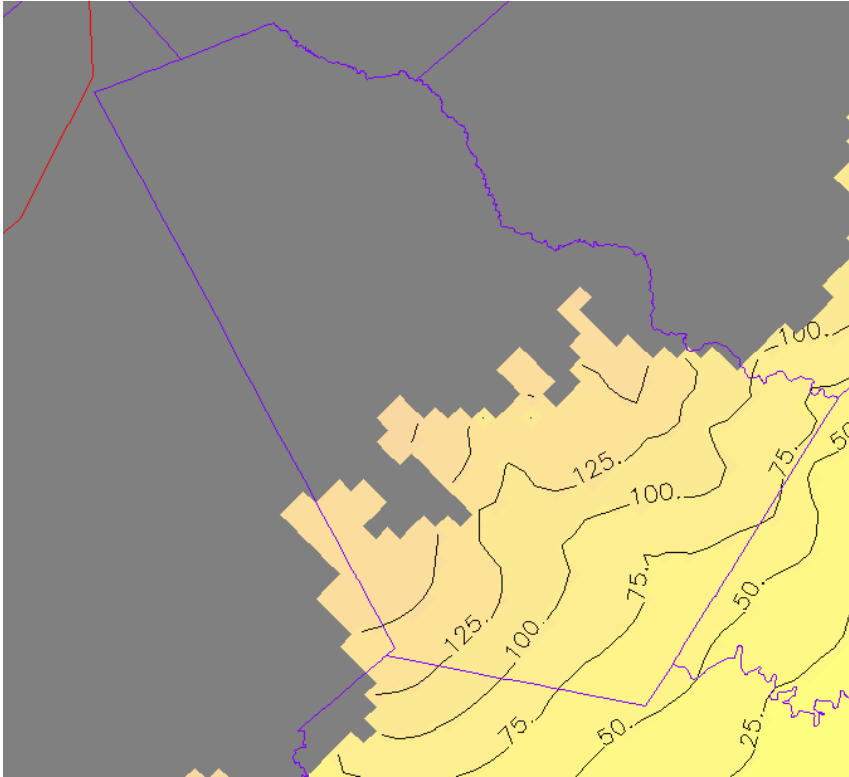
**Figure 17: Scenario 1: 2040 water levels in Evangeline aquifer in Bee County. Contour interval is 25 feet.**



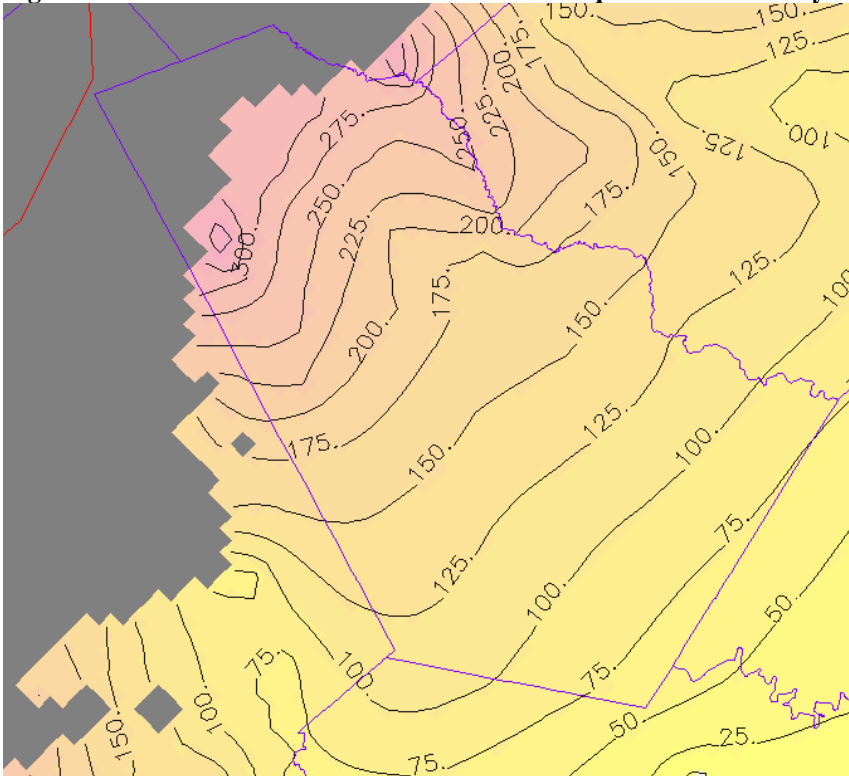
**Figure 18: Scenario 1: 2050 water levels in Chicot aquifer in Bee County. Contour interval is 25 feet.**



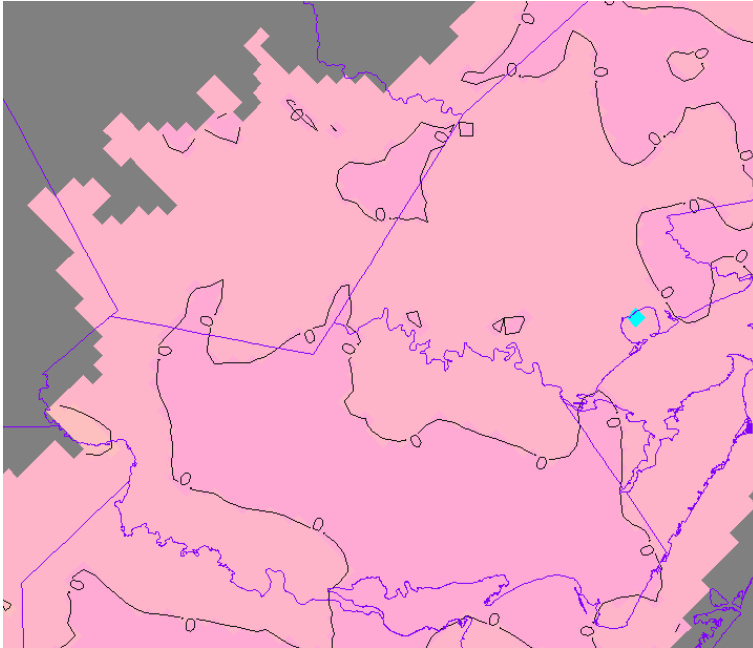
**Figure 19: Scenario 1: 2050 water levels in Evangeline aquifer in Bee County. Contour interval is 25 feet.**



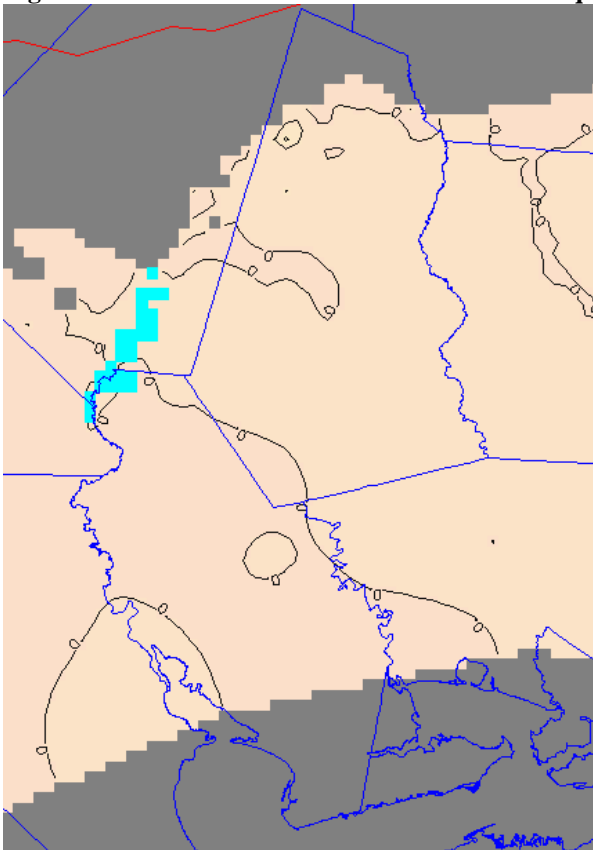
**Figure 20: Scenario 1: 2060 water levels in Chicot aquifer in Bee County. Contour interval is 25 feet.**



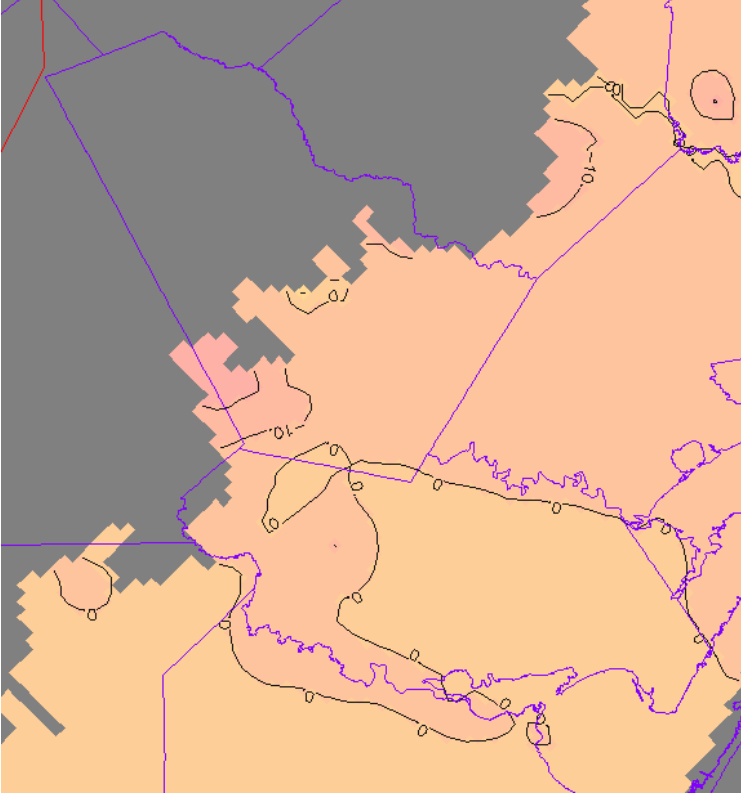
**Figure 21: Scenario 1: 2060 water levels in Evangeline aquifer in Bee County. Contour interval is 25 feet.**



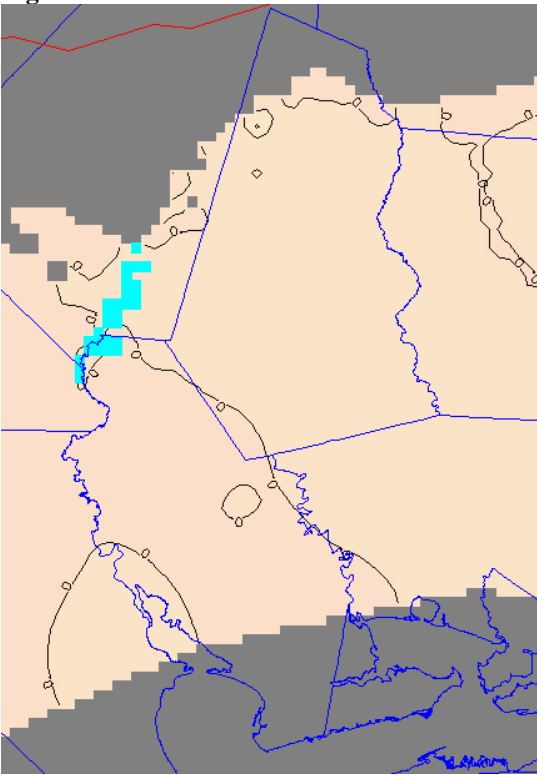
**Figure 22: Scenario 1: drawdowns in the Chicot aquifer in 2005 in Bee and San Patricio counties.**



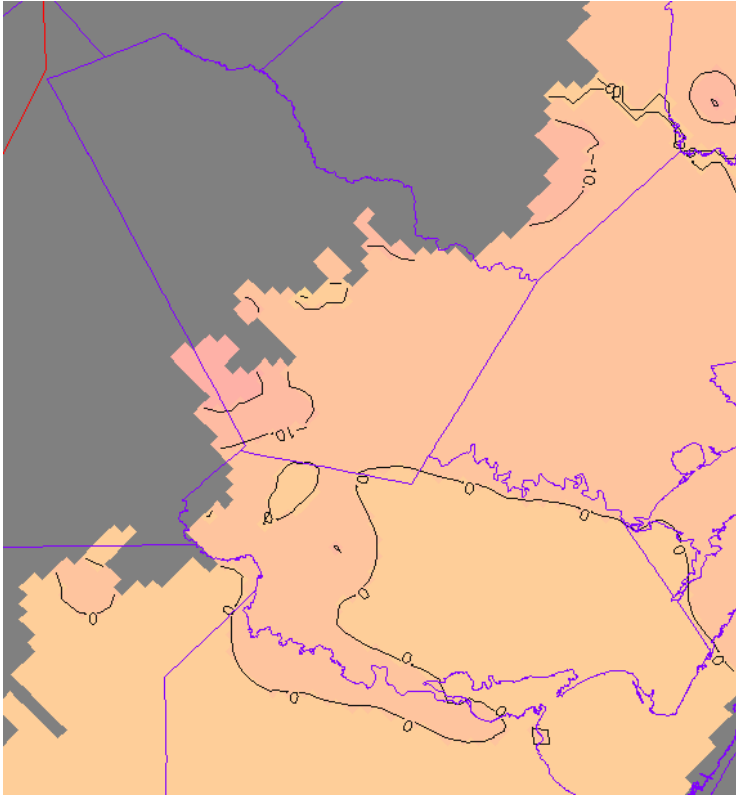
**Figure 23: Scenario 1: Drawdowns in the Evangeline aquifer 2005 Bee and San Patricio counties.**



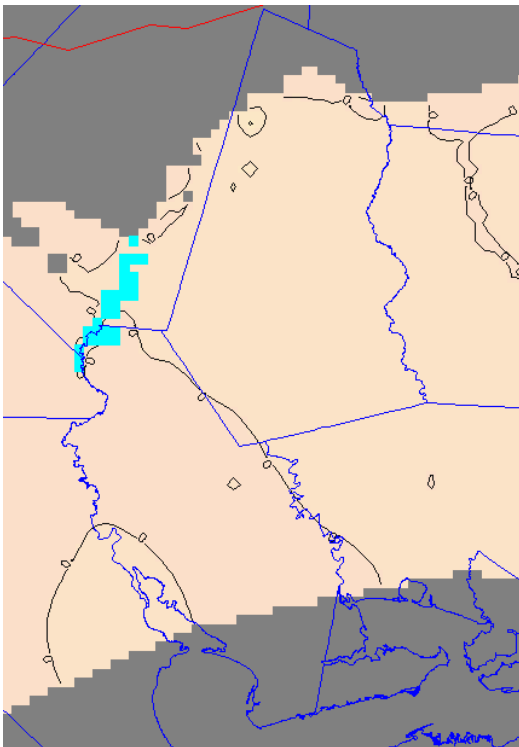
**Figure 24: Scenario 1: Drawdowns in the Chicot aquifer in 2010 for Bee and San Patricio counties.**



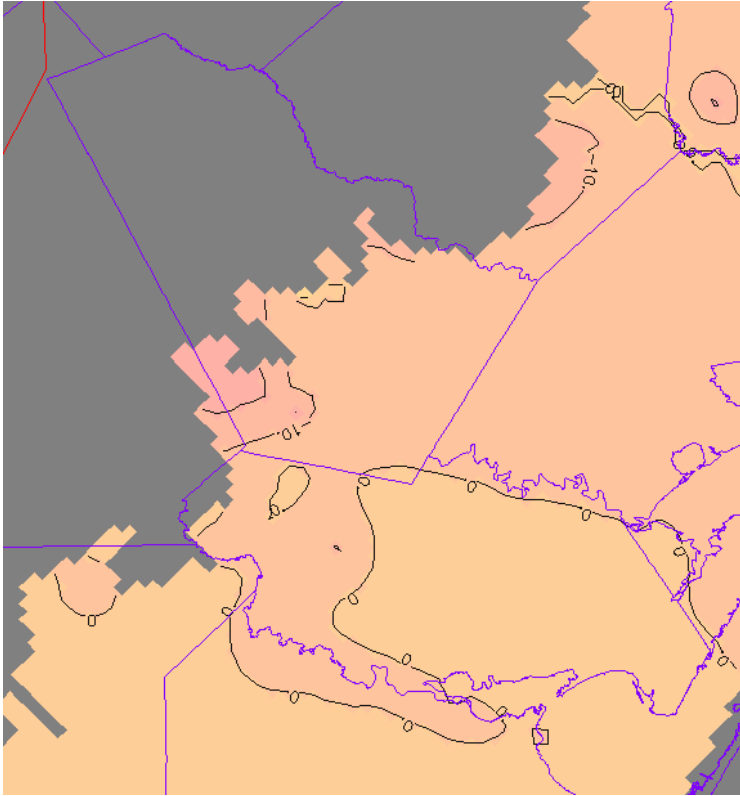
**Figure 25: Scenario 1: Drawdowns in the Evangeline aquifer 2010 Bee and San Patricio counties.**



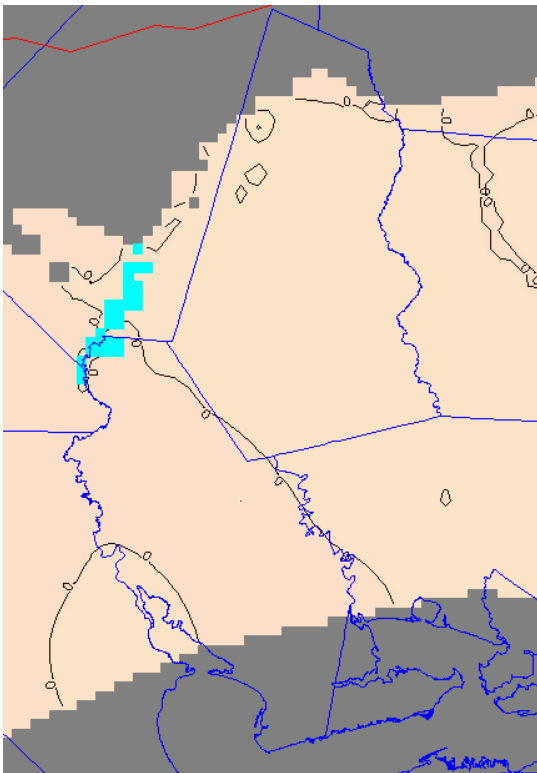
**Figure 26: Scenario 1: Drawdowns in the Chicot aquifer in 2020 Bee and San Patricio counties.**



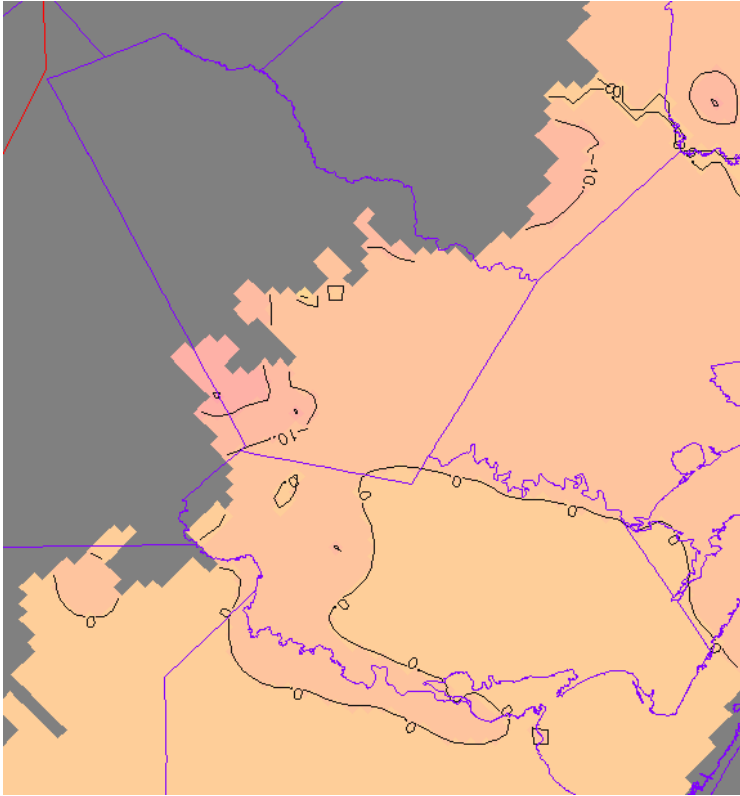
**Figure 27: Scenario 1: Drawdowns in the Evangeline aquifer 2020 Bee and San Patricio counties.**



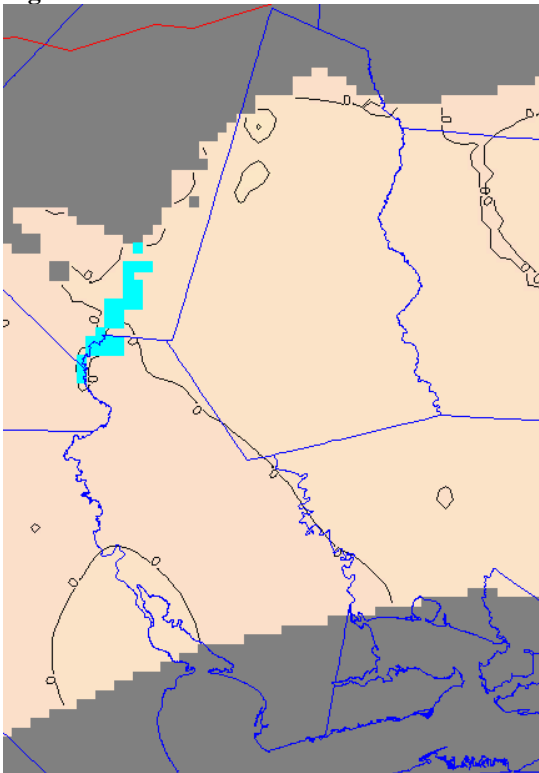
**Figure 28: Scenario 1: Drawdowns in the Chicot aquifer in 2030 Bee and San Patricio counties.**



**Figure 29: Scenario 1: Drawdowns in the Evangeline aquifer 2030 Bee and San Patricio counties.**

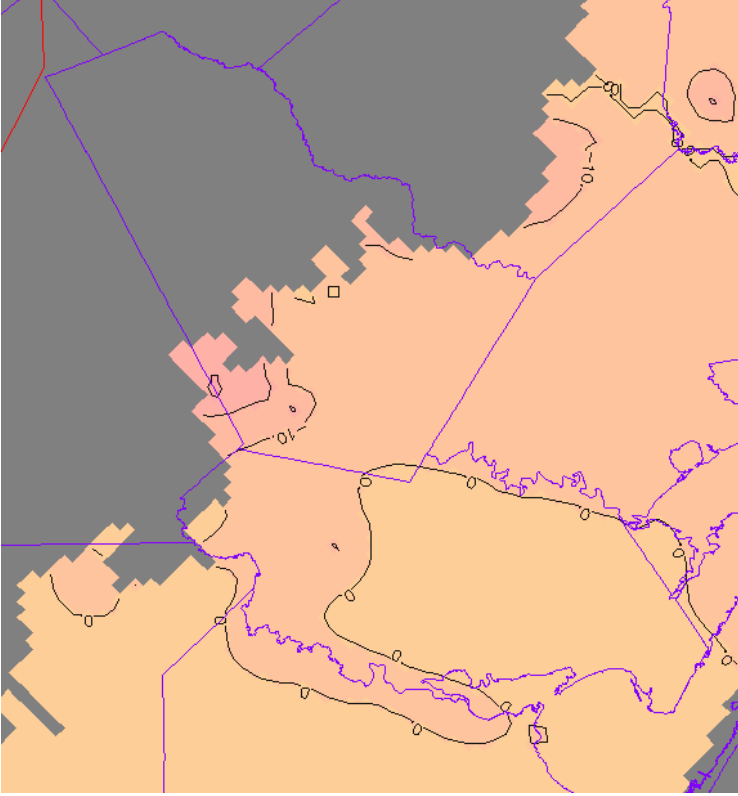


**Figure 30: Scenario 1: Drawdowns in the Chicot aquifer in 2040 Bee and San Patricio counties.**

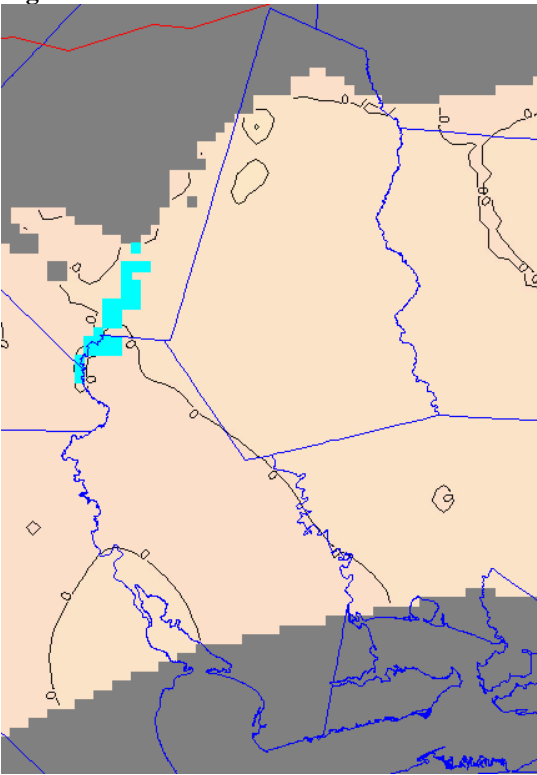


**Figure 31: Scenario 1: Drawdowns in the Evangeline aquifer 2040 Bee and San Patricio counties.**

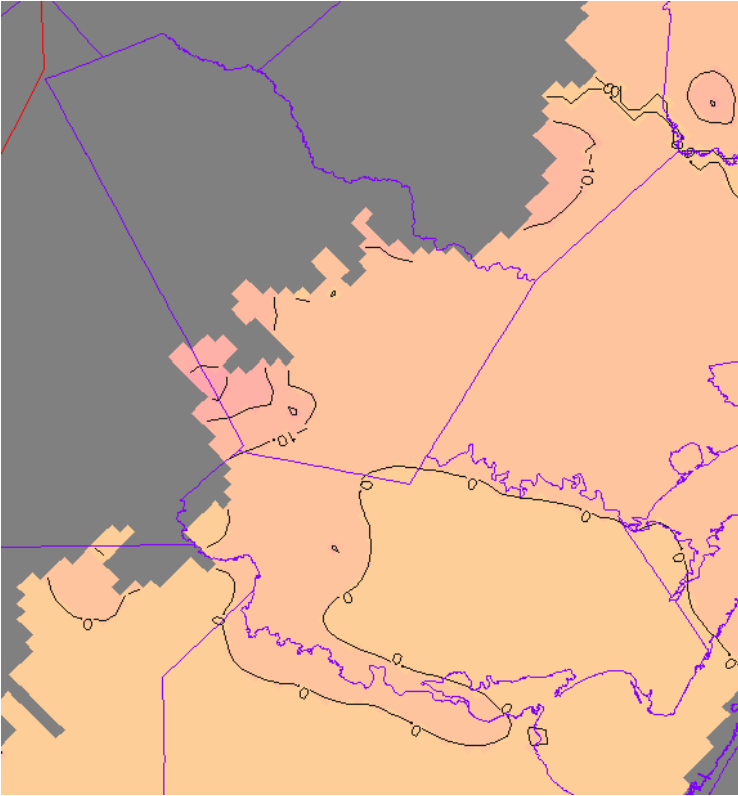




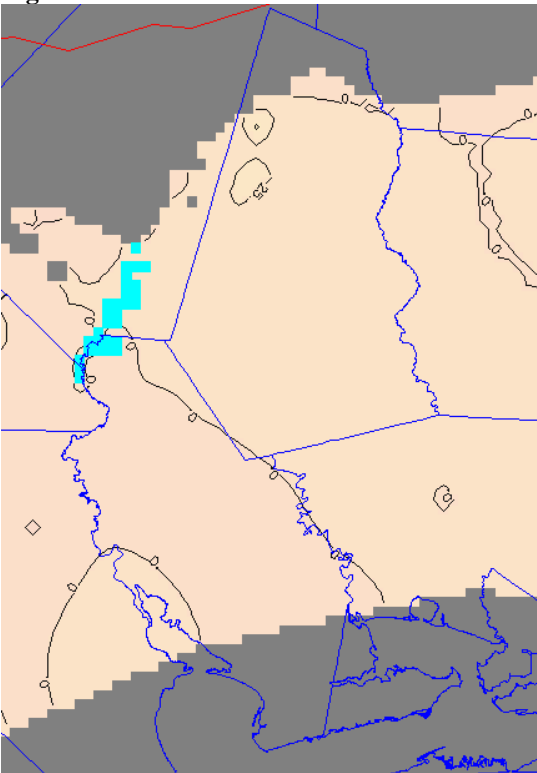
**Figure 32: Scenario 1: Drawdowns in the Chicot aquifer in 2050 Bee and San Patricio counties.**



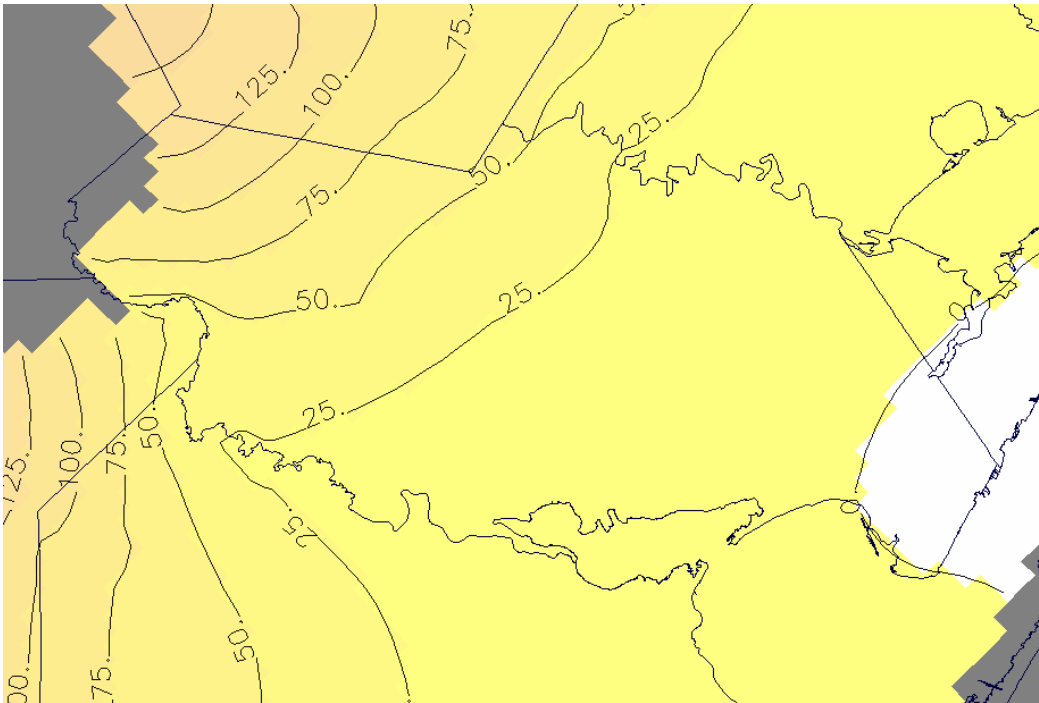
**Figure 33: Scenario 1: Drawdowns in the Evangeline aquifer 2050 Bee and San Patricio counties.**



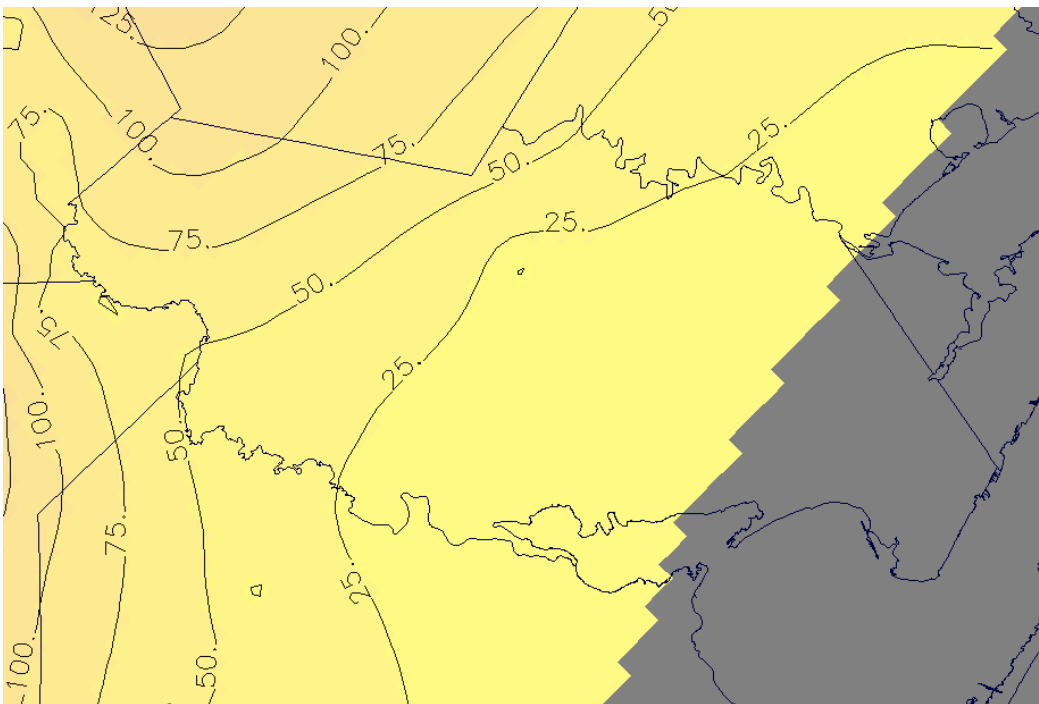
**Figure 34: Scenario 1: Drawdowns in the Chicot aquifer in 2060 Bee and San Patricio counties.**



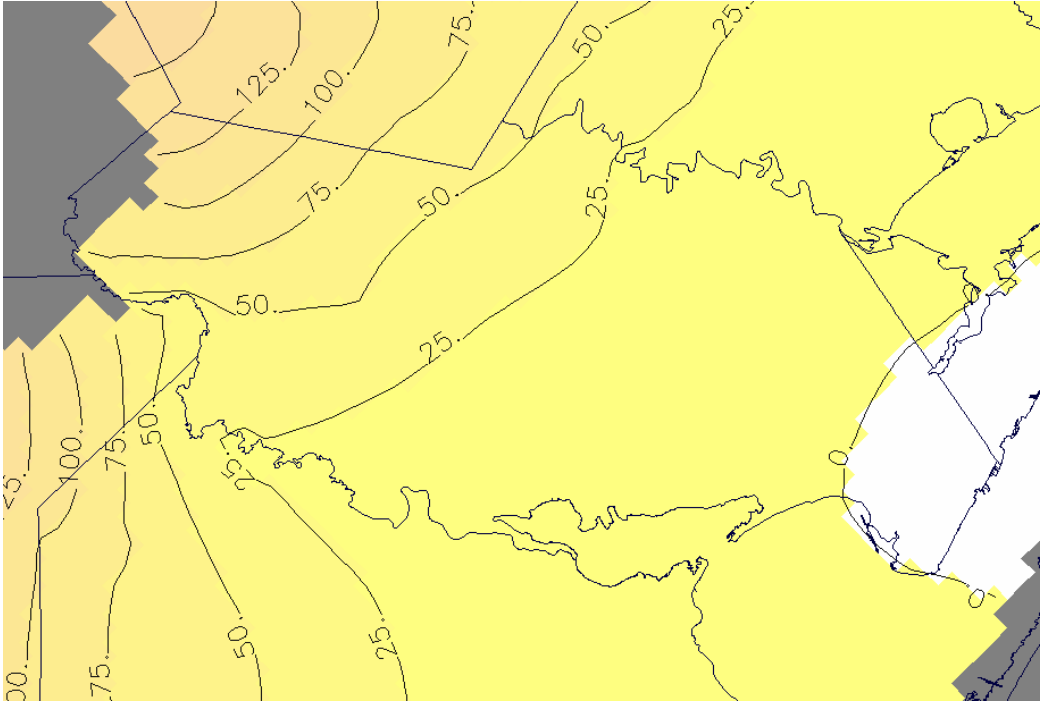
**Figure 35: Scenario 1: Drawdowns in the Evangeline aquifer 2060 Bee and San Patricio counties.**



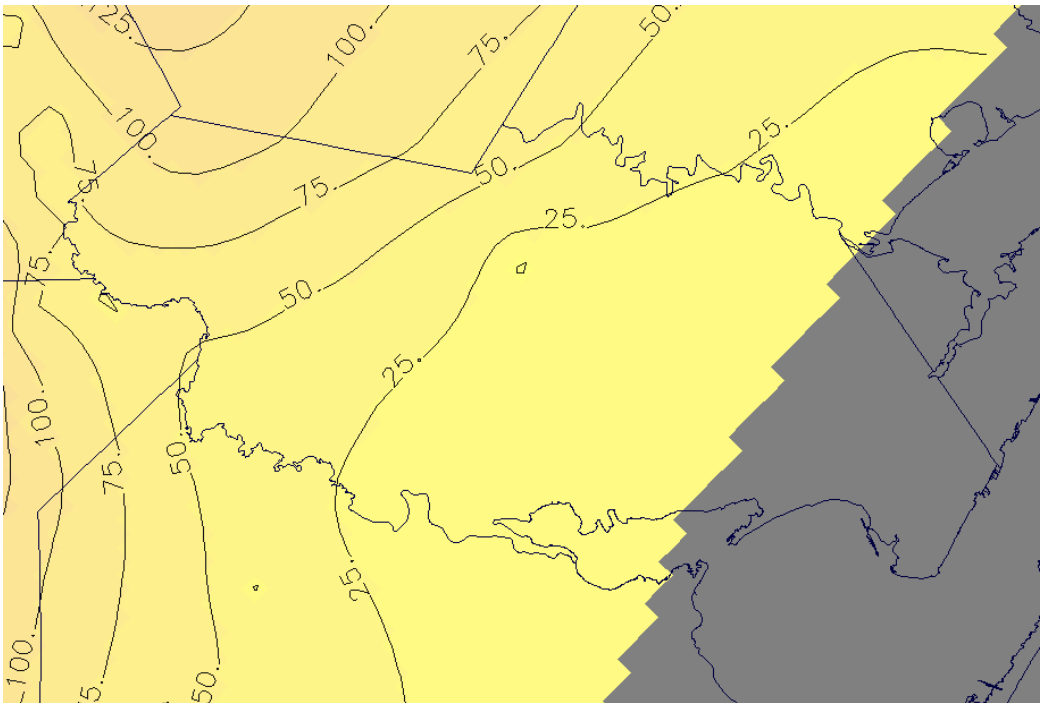
**Figure 36: Scenario 1: Water levels in the Chicot aquifer in San Patricio County 2005. Contour interval is 25 feet.**



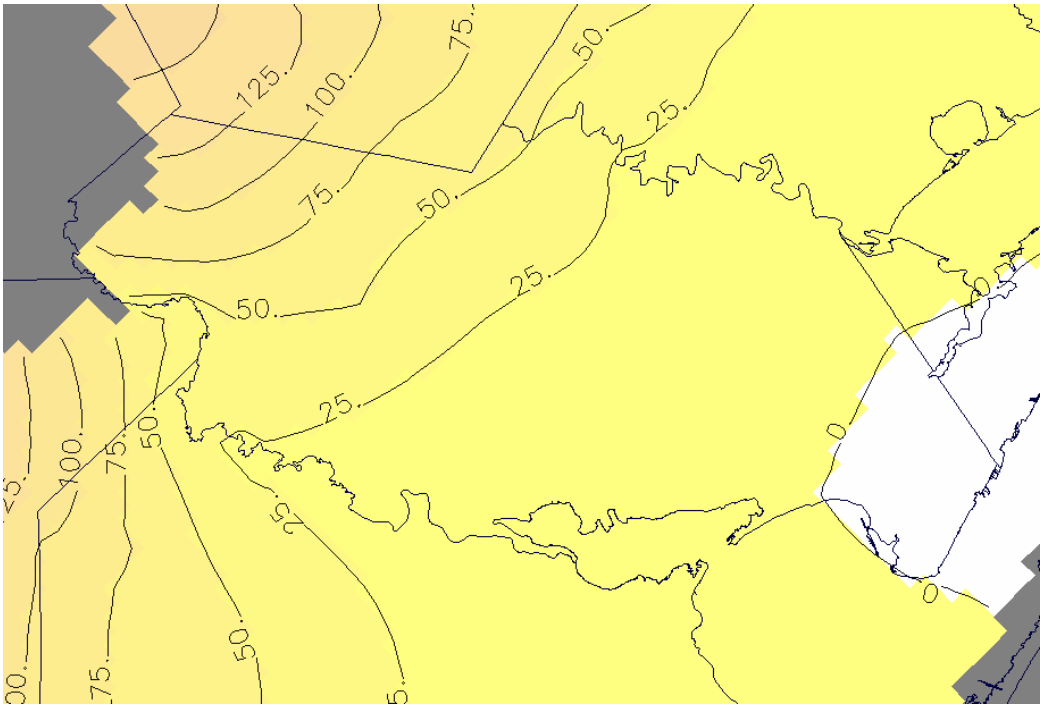
**Figure 37: Scenario 1: Water levels in the Evangeline aquifer in San Patricio County 2005. Contour interval is 25 feet.**



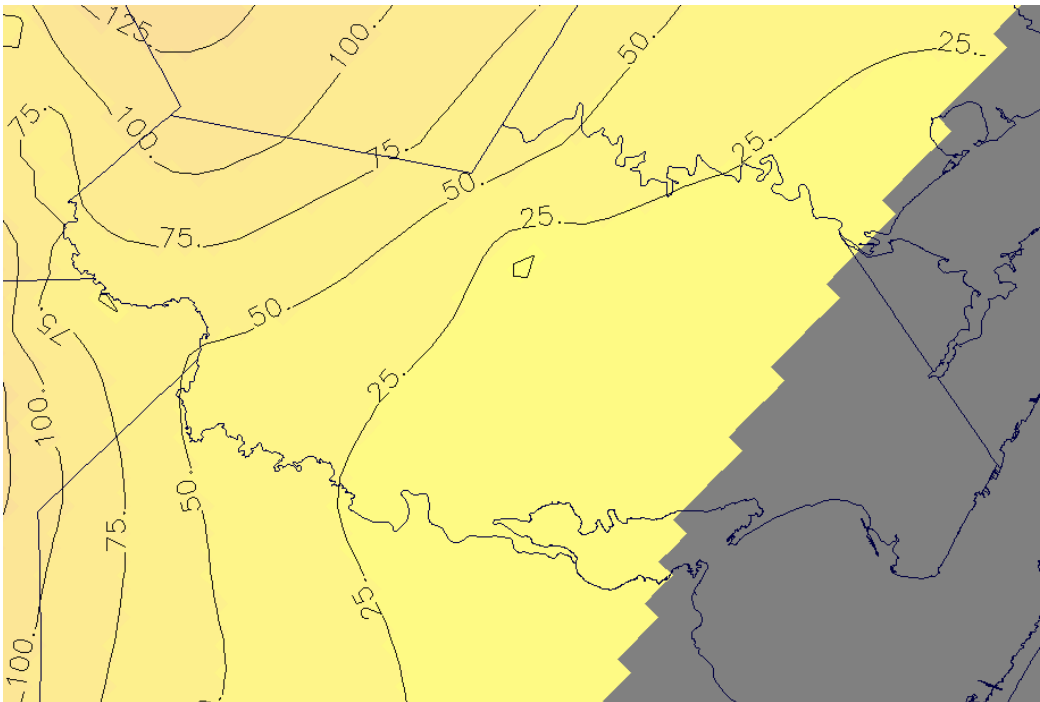
**Figure 38: Scenario 1: Water levels in the Chicot aquifer in San Patricio County 2010. Contour interval is 25 feet.**



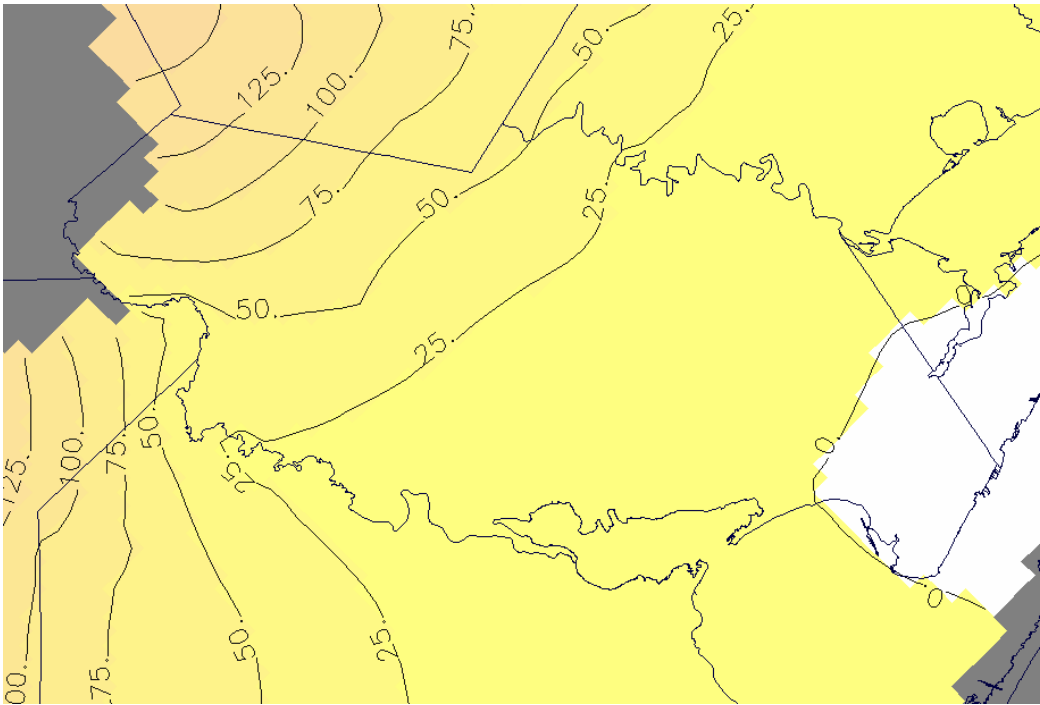
**Figure 39: Scenario 1: Water levels in the Evangeline aquifer in San Patricio County 2010. Contour interval is 25 feet.**



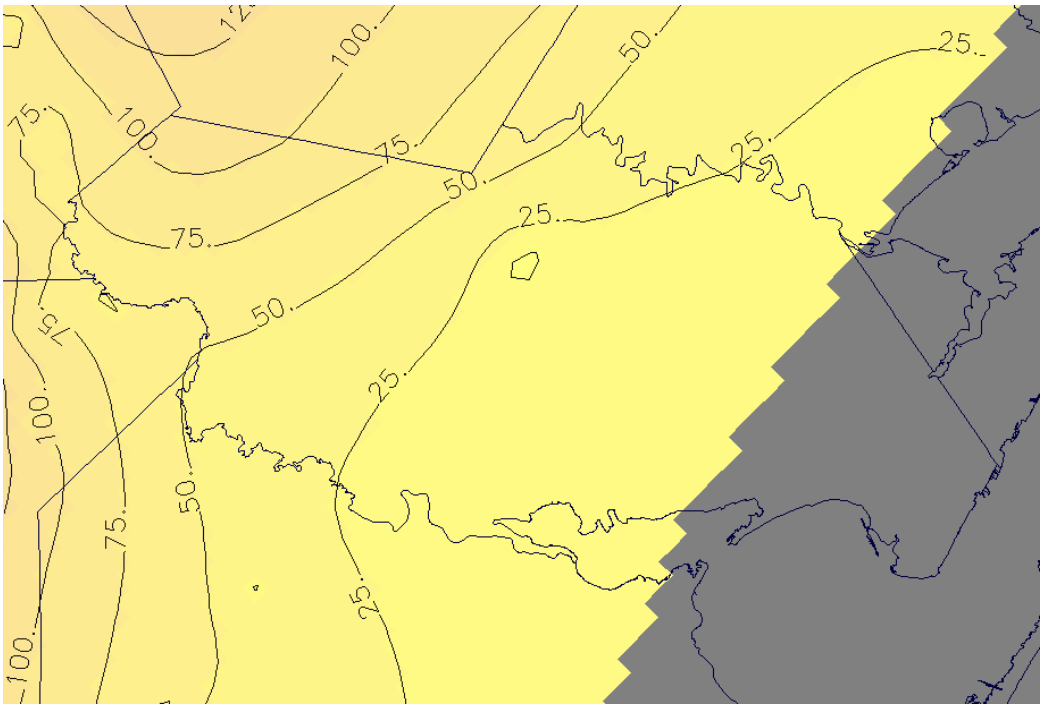
**Figure 40: Scenario 1: Water levels in the Chicot aquifer in San Patricio County 2020. Contour interval is 25 feet.**



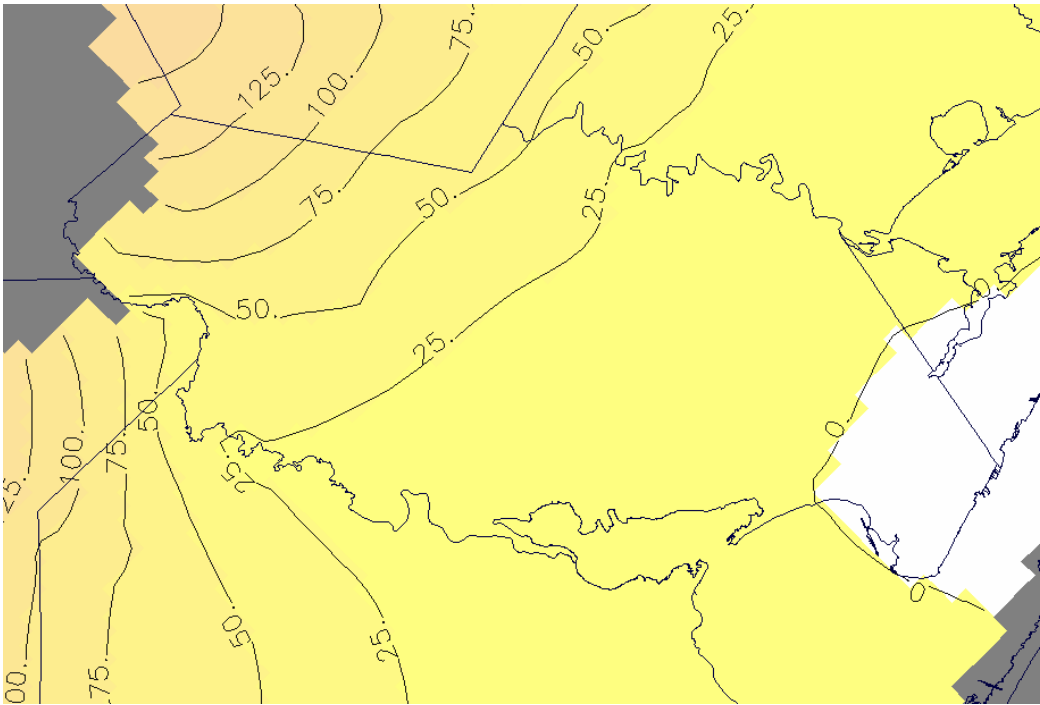
**Figure 41: Scenario 1: Water levels in the Evangeline aquifer in San Patricio County 2020. Contour interval is 25 feet.**



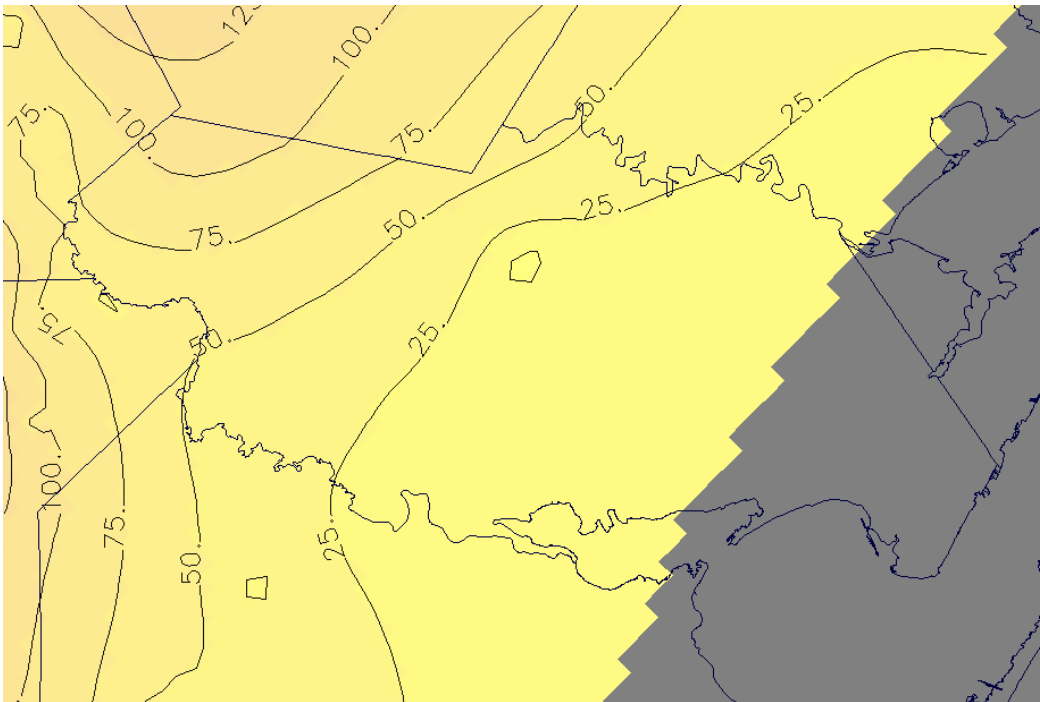
**Figure 42: Scenario 1: Water levels in the Chicot aquifer in San Patricio County 2030. Contour interval is 25 feet.**



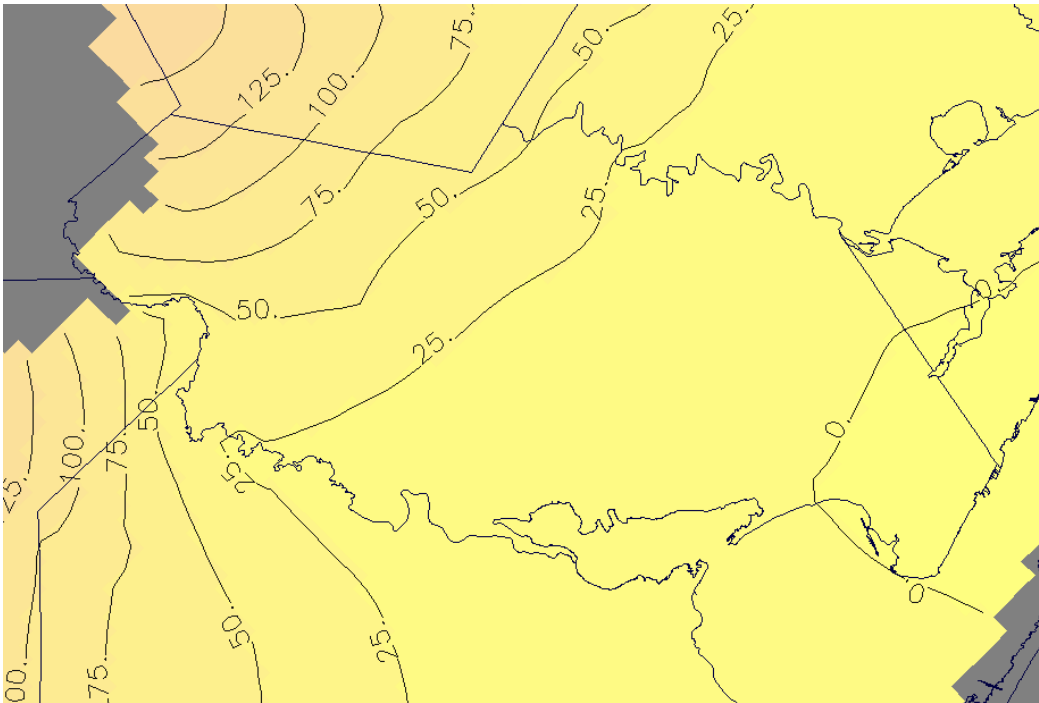
**Figure 43: Scenario 1: Water levels in the Evangeline aquifer in San Patricio County 2030. Contour interval is 25 feet.**



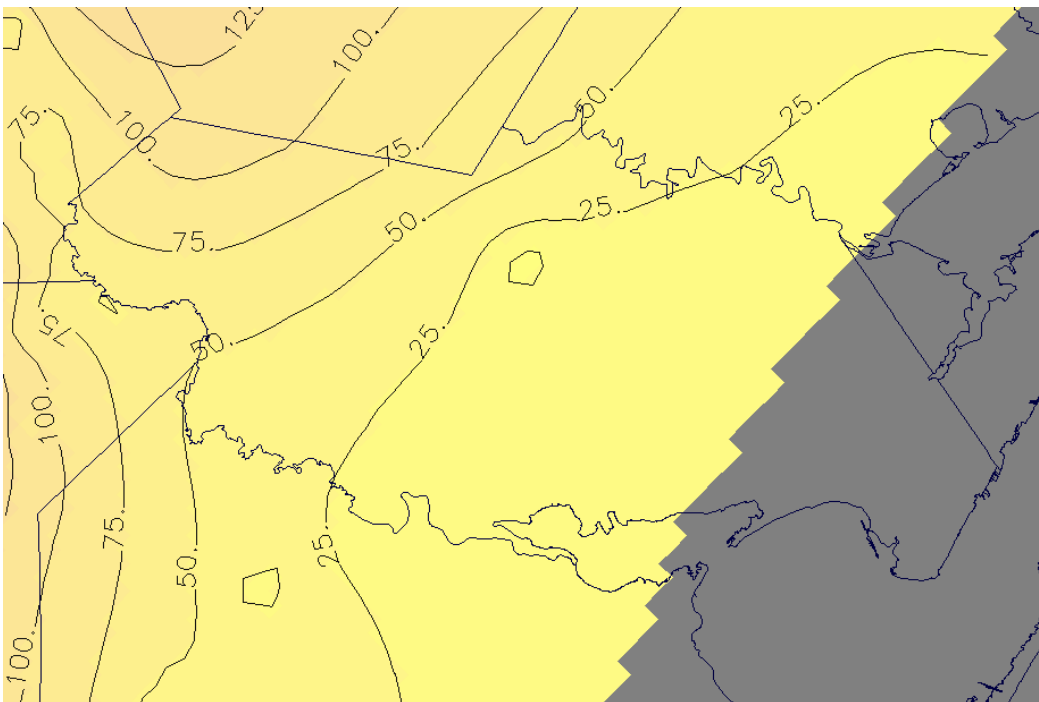
**Figure 44: Scenario 1: Water levels in the Chicot aquifer in San Patricio County 2040. Contour interval is 25 feet.**



**Figure 45: Scenario 1: Water levels in the Evangeline aquifer in San Patricio County 2040. Contour interval is 25 feet.**

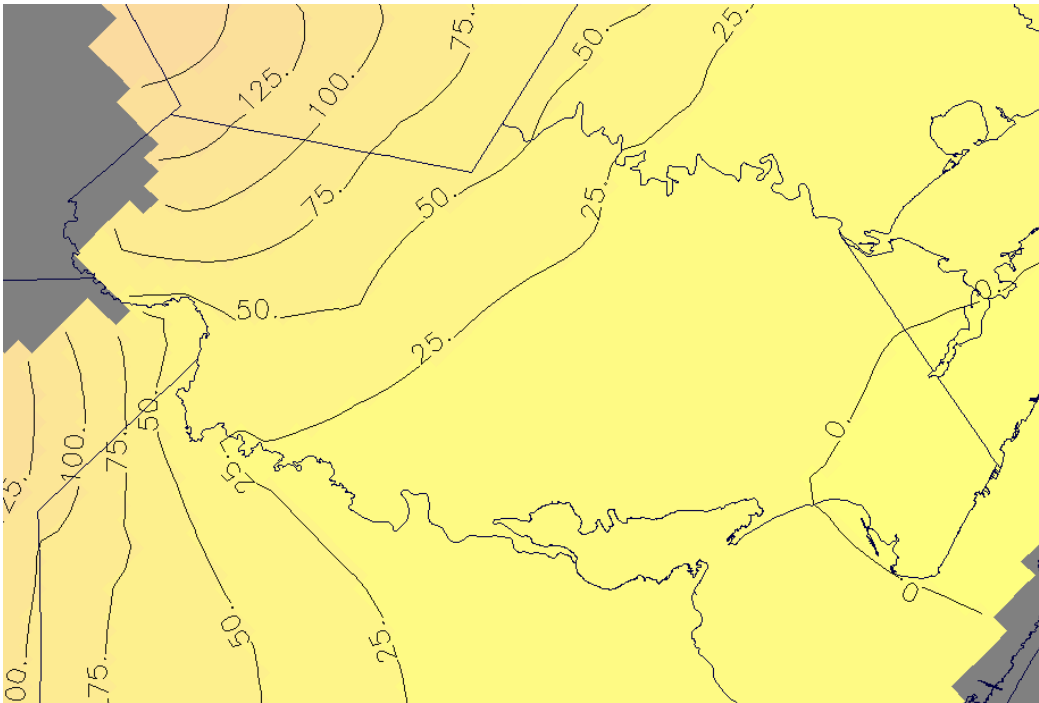


**Figure 46: Scenario 1: Water levels in the Chicot aquifer in San Patricio County 2050. Contour interval is 25 feet.**

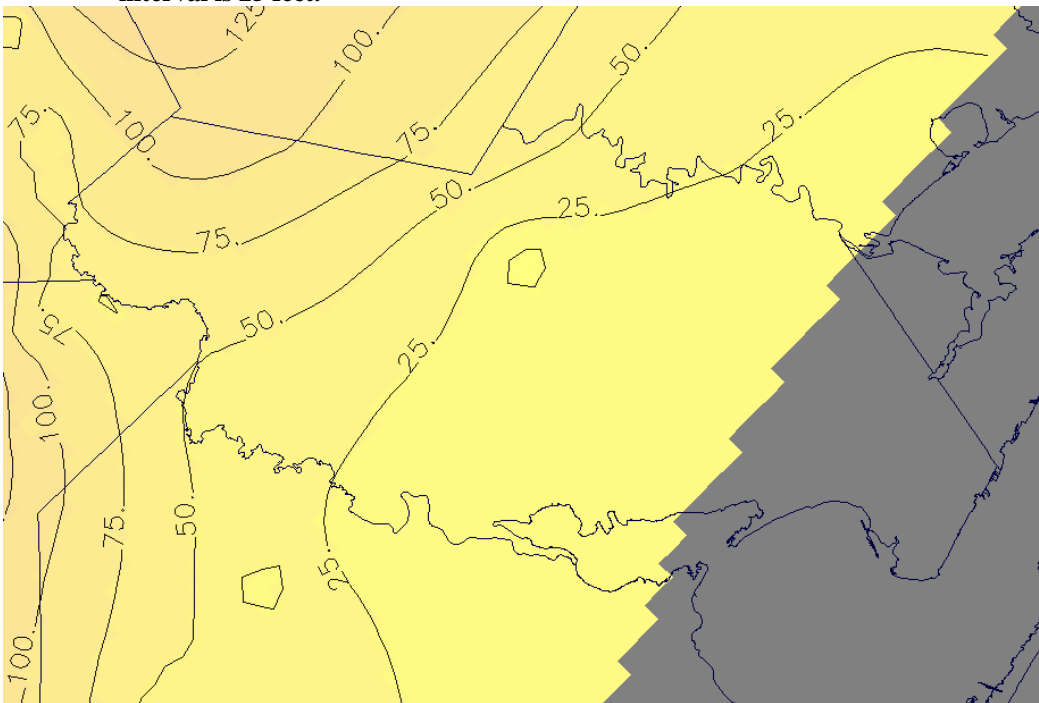


**Figure 47: Scenario 1: Water levels in the Evangeline aquifer in San Patricio County 2050. Contour interval is 25 feet.**





**Figure 48: Scenario 1: Water levels in the Chicot aquifer in San Patricio County 2060. Contour interval is 25 feet.**



**Figure 49: Scenario 1: Water levels in the Evangeline aquifer in San Patricio County 2060. Contour interval is 25 feet.**

**Table 3. Water budgets for Scenario 2 with 25,200 acre-feet per year pumping by SPMWD in Bee County (values in acre-feet per year).**

**Water Budget -- 2005**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	957	108	848
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	628	8994	-8366
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	47	9444	-9397
WELLS	0	1602	-1602
DRAINS	0	0	0
RECHARGE	18829	0	18829
ET	0	1364	-1364
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	6807	5755	1052
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	27267	27266	1
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	60	617	-558
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,200	5,841	-641
EXCHANGE (UPPER)	9,444	47	9,397
EXCHANGE (LOWER)	538	792	-254
WELLS	0	14,569	-14,569
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	470	-470
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5,078	2,818	2,260
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,156	25,155	2
DISCREPANCY [%]	0.01		

Table 3. Continued.

**Water Budget -- 2005**

**San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1,485	195	1,290
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,084	3,151	3,933
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	743	2,152	-1,409
WELLS	0	5,943	-5,943
DRAINS	0	348	-348
RECHARGE	12,061	0	12,061
ET	0	693	-693
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	50	2,797	-2,747
STREAM LEAKAGE	3,318	9,462	-6,144
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,742	24,741	1
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	38	0	38
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,888	1,260	629
EXCHANGE (UPPER)	2,152	743	1,409
EXCHANGE (LOWER)	442	2	440
WELLS	0	2,580	-2,580
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	912	0	912
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	987	-987
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,584	5,585	0
DISCREPANCY [%]	0		

Table 3. Continued.  
**Water Budget -- 2010**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	447	25	422
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	637	9007	-8370
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	59	9398	-9340
WELLS	0	1605	-1605
DRAINS	0	0	0
RECHARGE	18829	0	18829
ET	0	1356	-1356
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	6950	5530	1420
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26922	26922	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	33	449	-417
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,212	5,877	-665
EXCHANGE (UPPER)	9,398	59	9,340
EXCHANGE (LOWER)	507	812	-305
WELLS	0	14,421	-14,421
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	467	-467
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	5,008	2,907	2,101
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,993	24,992	1
DISCREPANCY [%]	0		

**Table 3. Continued.**  
**Water Budget -- 2010**

<b>San Patricio County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	858	44	814
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,165	3,067	4,099
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	740	2,128	-1,388
WELLS	0	6,013	-6,013
DRAINS	0	347	-347
RECHARGE	12,061	0	12,061
ET	0	688	-688
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	69	2,702	-2,634
STREAM LEAKAGE	3,312	9,215	-5,903
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,205	24,204	1
DISCREPANCY [%]	0		

<b>San Patricio County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	16	1	15
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,906	1,251	656
EXCHANGE (UPPER)	2,128	740	1,388
EXCHANGE (LOWER)	414	5	409
WELLS	0	2,542	-2,542
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	917	0	917
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	983	-983
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,533	5,533	0
DISCREPANCY [%]	0		

**Table 3. Continued.  
Water Budget -- 2020**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	90	152	-63
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	639	9058	-8420
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	28	9318	-9289
WELLS	0	1299	-1299
DRAINS	0	0	0
RECHARGE	18782	0	18782
ET	0	1354	-1354
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	7061	5418	1643
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26601	26600	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	9	291	-282
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,200	6,011	-811
EXCHANGE (UPPER)	9,318	28	9,289
EXCHANGE (LOWER)	453	832	-379
WELLS	0	14,139	-14,139
DRAINS	0	0	0
RECHARGE	4,882	0	4,882
ET	0	463	-463
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,933	3,031	1,903
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,796	24,797	-1
DISCREPANCY [%]	0		

**Table 3. Continued.  
Water Budget -- 2020**

<b>San Patricio County</b>	<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
STORAGE	632	0	632
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,303	2,984	4,319
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	743	2,154	-1,411
WELLS	0	6,467	-6,467
DRAINS	0	344	-344
RECHARGE	12,061	0	12,061
ET	0	682	-682
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	97	2,596	-2,499
STREAM LEAKAGE	3,393	9,003	-5,610
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,229	24,229	0
DISCREPANCY [%]	0		

<b>San Patricio County</b>	<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
STORAGE	17	1	16
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,942	1,225	717
EXCHANGE (UPPER)	2,154	743	1,411
EXCHANGE (LOWER)	408	6	402
WELLS	0	2,642	-2,642
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	930	0	930
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	974	-974
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,602	5,602	0
DISCREPANCY [%]	0		

**Table 3. Continued.**

**Water Budget -- 2030**

**Bee County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	9	55	-46
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	642	9100	-8458
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	29	9278	-9248
WELLS	0	1262	-1262
DRAINS	0	0	0
RECHARGE	18782	0	18782
ET	0	1376	-1376
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	7094	5486	1608
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26556	26556	0
DISCREPANCY [%]	0		

**Bee County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1	189	-188
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,196	6,084	-888
EXCHANGE (UPPER)	9,278	29	9,248
EXCHANGE (LOWER)	410	853	-444
WELLS	0	13,880	-13,880
DRAINS	0	0	0
RECHARGE	4,882	0	4,882
ET	0	465	-465
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,859	3,125	1,734
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,625	24,626	-1
DISCREPANCY [%]	0		



**Table 3. Continued.**

**Water Budget -- 2030**

**San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	296	1	295
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,398	2,891	4,507
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	759	2,115	-1,356
WELLS	0	6,544	-6,544
DRAINS	0	340	-340
RECHARGE	12,061	0	12,061
ET	0	679	-679
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	109	2,574	-2,465
STREAM LEAKAGE	3,410	8,889	-5,479
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,034	24,033	0
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	5	2	3
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,956	1,215	741
EXCHANGE (UPPER)	2,115	759	1,356
EXCHANGE (LOWER)	404	7	397
WELLS	0	2,598	-2,598
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	934	0	934
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	972	-972
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,565	5,565	0
DISCREPANCY [%]	0		

**Table 3 continued**  
**Water Budget -- 2040**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	1	66	-65
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	646	9127	-8481
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	28	9220	-9192
WELLS	0	1211	-1211
DRAINS	0	0	0
RECHARGE	18782	0	18782
ET	0	1386	-1386
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	7103	5551	1552
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26560	26560	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	0	160	-160
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,200	6,122	-922
EXCHANGE (UPPER)	9,220	28	9,192
EXCHANGE (LOWER)	377	868	-491
WELLS	0	13,637	-13,637
DRAINS	0	0	0
RECHARGE	4,882	0	4,882
ET	0	468	-468
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,801	3,197	1,604
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,480	24,481	-1
DISCREPANCY [%]	0		

**Table 3. Continued.**  
**Water Budget -- 2040**

<b>San Patricio County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	139	15	124
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,456	2,832	4,624
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	774	2,082	-1,308
WELLS	0	6,588	-6,588
DRAINS	0	337	-337
RECHARGE	12,061	0	12,061
ET	0	678	-678
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	113	2,584	-2,471
STREAM LEAKAGE	3,406	8,834	-5,428
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	23,950	23,950	0
DISCREPANCY [%]	0		

<b>San Patricio County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	3	4	-1
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,963	1,211	752
EXCHANGE (UPPER)	2,082	774	1,308
EXCHANGE (LOWER)	399	7	392
WELLS	0	2,551	-2,551
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	934	0	934
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	973	-973
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,532	5,532	0
DISCREPANCY [%]	0		

**Table 3. Continued.**

**Water Budget -- 2050**

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	1	62	-61
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	649	9153	-8504
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	27	9172	-9145
WELLS	0	1169	-1169
DRAINS	0	0	0
RECHARGE	18782	0	18782
ET	0	1396	-1396
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	7106	5613	1493
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26565	26565	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	0	132	-132
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,199	6,166	-966
EXCHANGE (UPPER)	9,172	27	9,145
EXCHANGE (LOWER)	353	876	-524
WELLS	0	13,427	-13,427
DRAINS	0	0	0
RECHARGE	4,882	0	4,882
ET	0	473	-473
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,751	3,256	1,496
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,358	24,358	0
DISCREPANCY [%]	0		

**Table 3. Continued.**

**Water Budget -- 2050**

<b>San Patricio County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	132	18	114
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,517	2,789	4,729
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	792	2,063	-1,271
WELLS	0	6,755	-6,755
DRAINS	0	334	-334
RECHARGE	12,061	0	12,061
ET	0	677	-677
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	119	2,595	-2,476
STREAM LEAKAGE	3,398	8,789	-5,391
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,020	24,020	0
DISCREPANCY [%]	0		

<b>San Patricio County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	3	2	0
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,968	1,203	765
EXCHANGE (UPPER)	2,063	792	1,271
EXCHANGE (LOWER)	395	7	388
WELLS	0	2,527	-2,527
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	936	0	936
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	972	-972
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,516	5,516	0
DISCREPANCY [%]	0		

**Table 3. Continued**

**Water Budget -- 2060**

**Bee County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1	55	-54
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	653	9,179	-8,526
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	28	9,130	-9,102
WELLS	0	1,135	-1,135
DRAINS	0	0	0
RECHARGE	18,782	0	18,782
ET	0	1,405	-1,405
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	7,108	5,669	1,439
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26,571	26,572	-1
DISCREPANCY [%]	0		

**Bee County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	0	117	-117
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,198	6,203	-1,005
EXCHANGE (UPPER)	9,130	28	9,102
EXCHANGE (LOWER)	334	881	-547
WELLS	0	13,243	-13,243
DRAINS	0	0	0
RECHARGE	4,882	0	4,882
ET	0	479	-479
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,709	3,306	1,402
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,253	24,257	-4
DISCREPANCY [%]	-0.02		

**Table 3. Continued.**

**Water Budget -- 2060**

**San Patricio County**

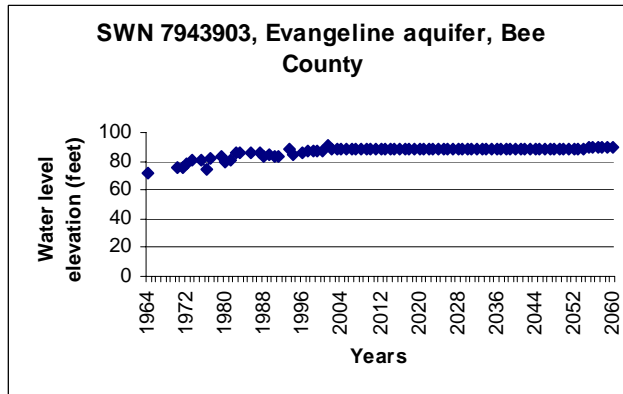
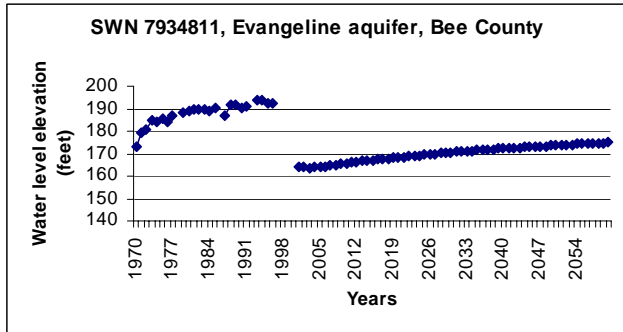
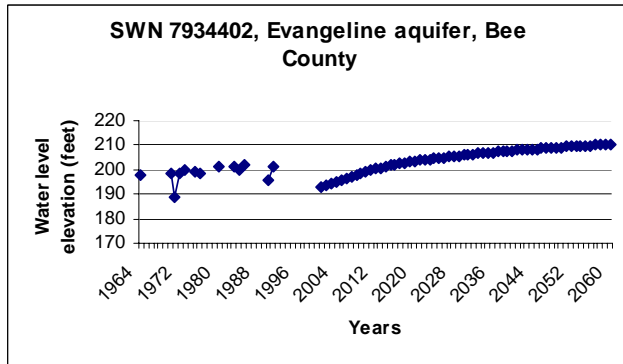
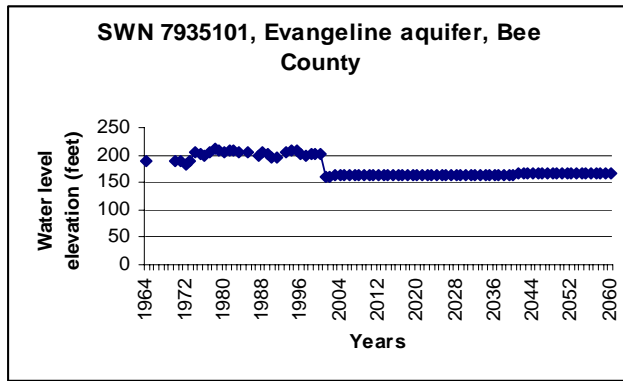
**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	156	17	139
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,575	2,774	4,801
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	814	2,060	-1,246
WELLS	0	6,946	-6,946
DRAINS	0	332	-332
RECHARGE	12,061	0	12,061
ET	0	675	-675
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	126	2,589	-2,462
STREAM LEAKAGE	3,409	8,748	-5,339
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,142	24,141	1
DISCREPANCY [%]	0		

**San Patricio County**

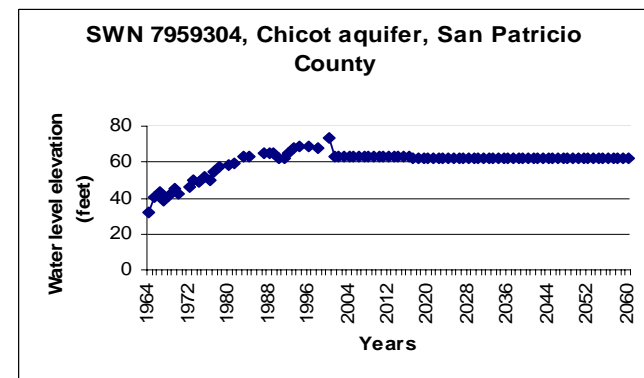
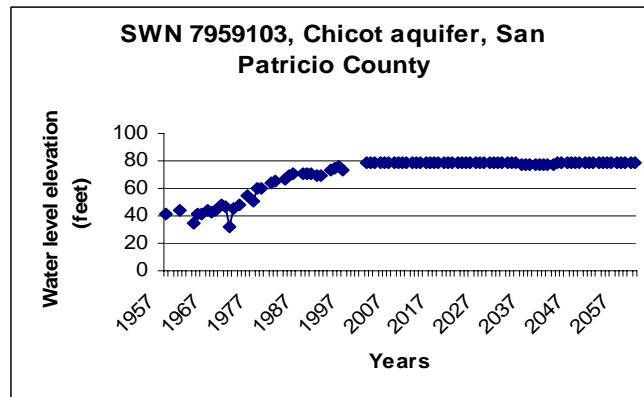
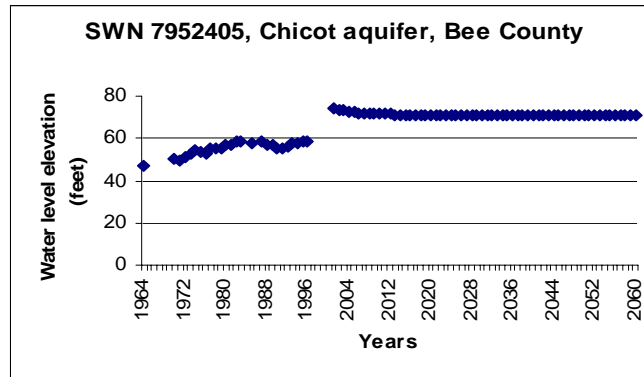
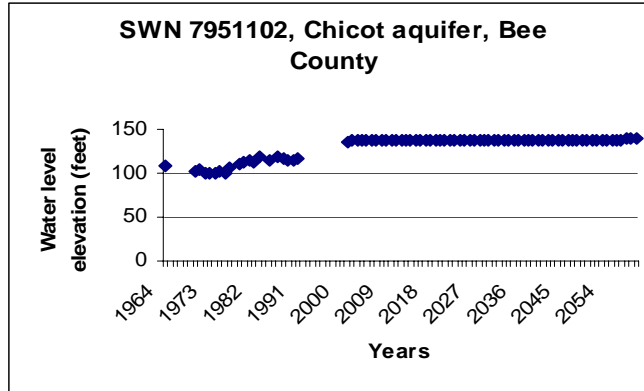
**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	3	2	1
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,982	1,194	788
EXCHANGE (UPPER)	2,060	814	1,246
EXCHANGE (LOWER)	391	7	384
WELLS	0	2,526	-2,526
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	939	0	939
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	971	-971
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,527	5,527	0
DISCREPANCY [%]	0		

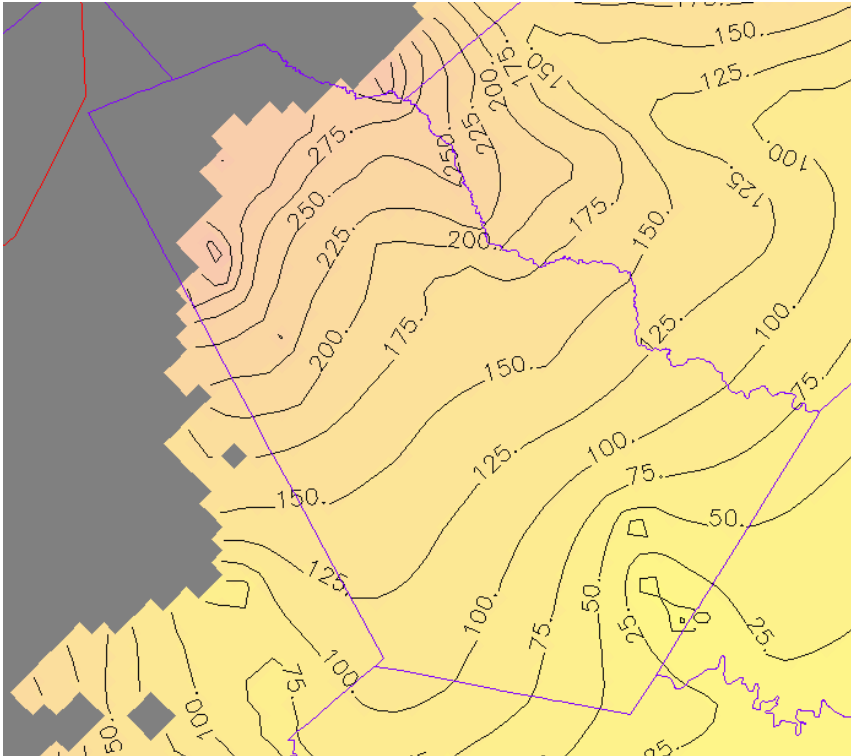


**Figure 50. Scenario 2: Water-level hydrographs for monitoring wells in Bee and San Patricio counties with 25,200 acre-feet of pumping by the SPMWD in Bee County.**

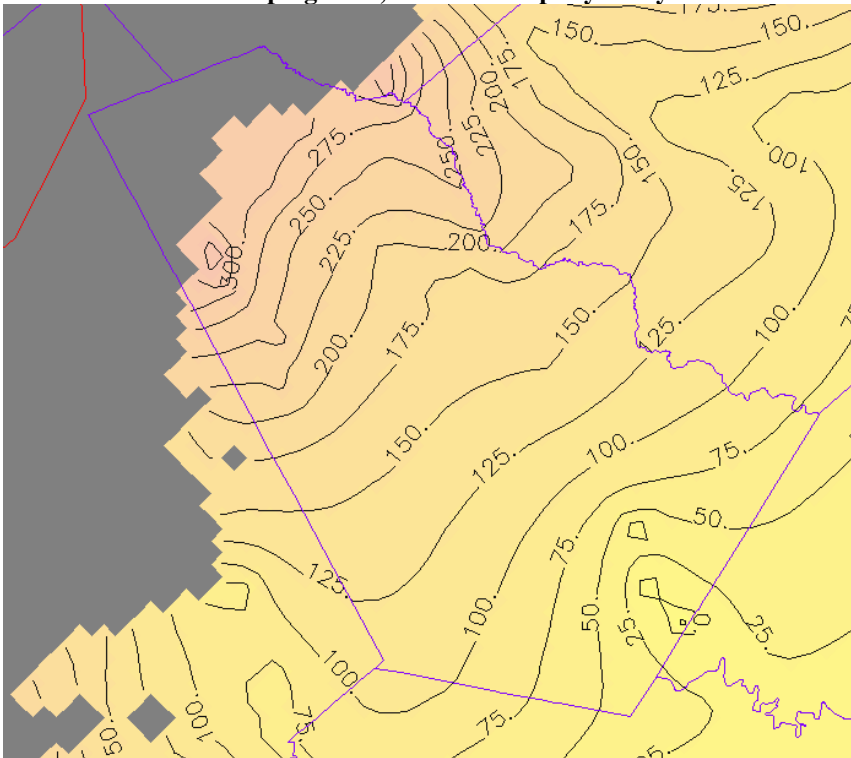




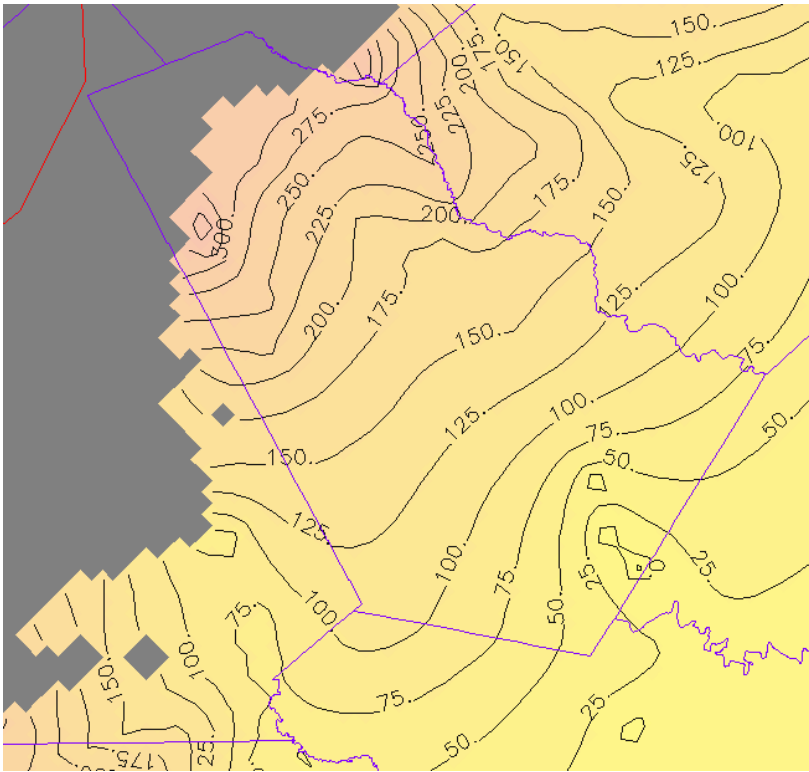
**Figure 50. Continued.**



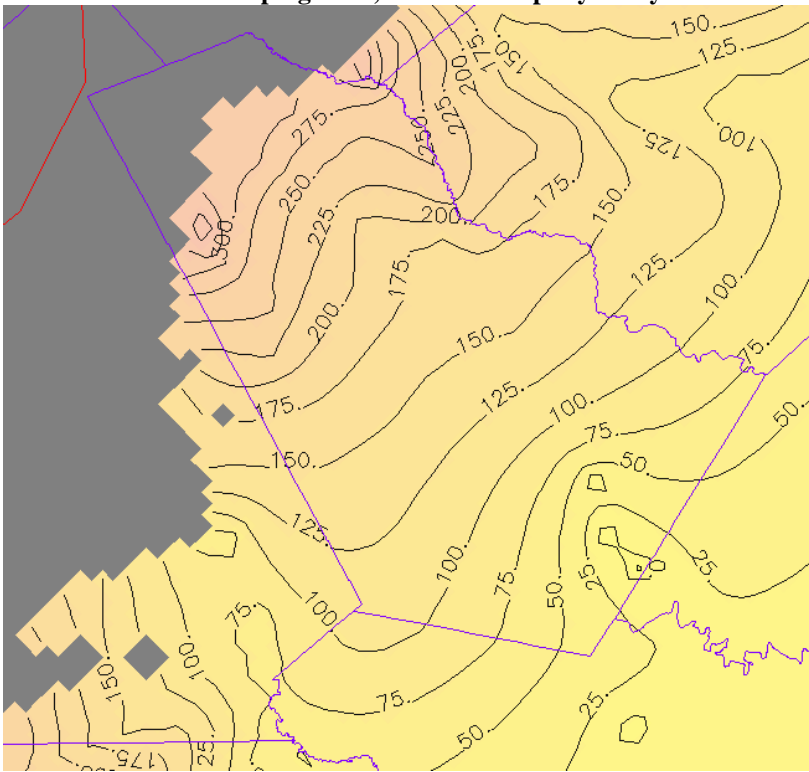
**Figure 51. Scenario 2: Water levels in the Evangeline aquifer in Bee County 2005. Contour interval is 25 feet. Pumping of 25,200 acre-feet per year by SPMWD in Bee County.**



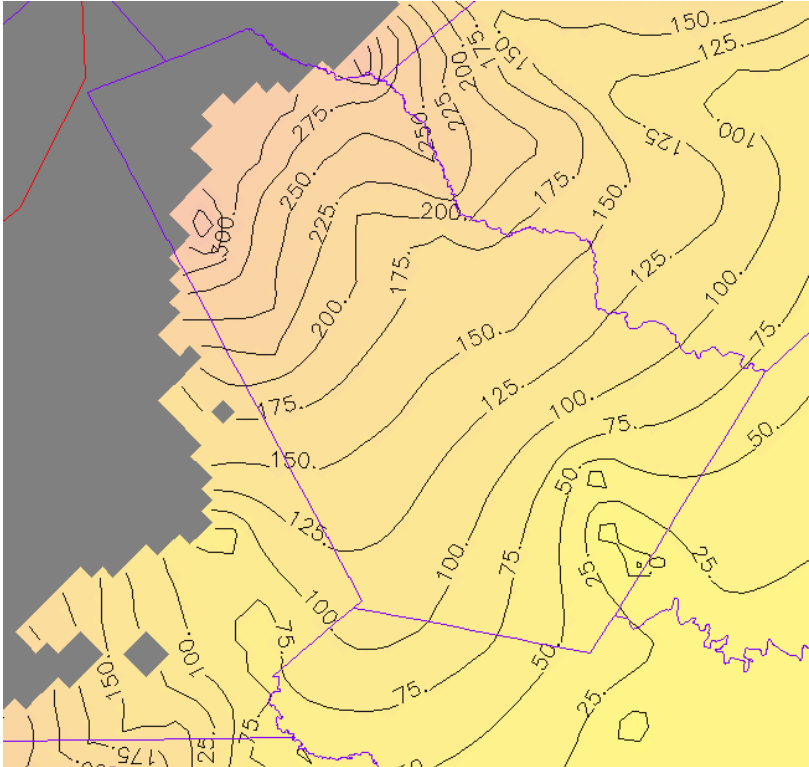
**Figure 52. Scenario 2: Water levels in the Evangeline aquifer in Bee County 2010. Contour interval is 25 feet. Pumping of 25,200 acre-feet per year by SPMWD in Bee County.**



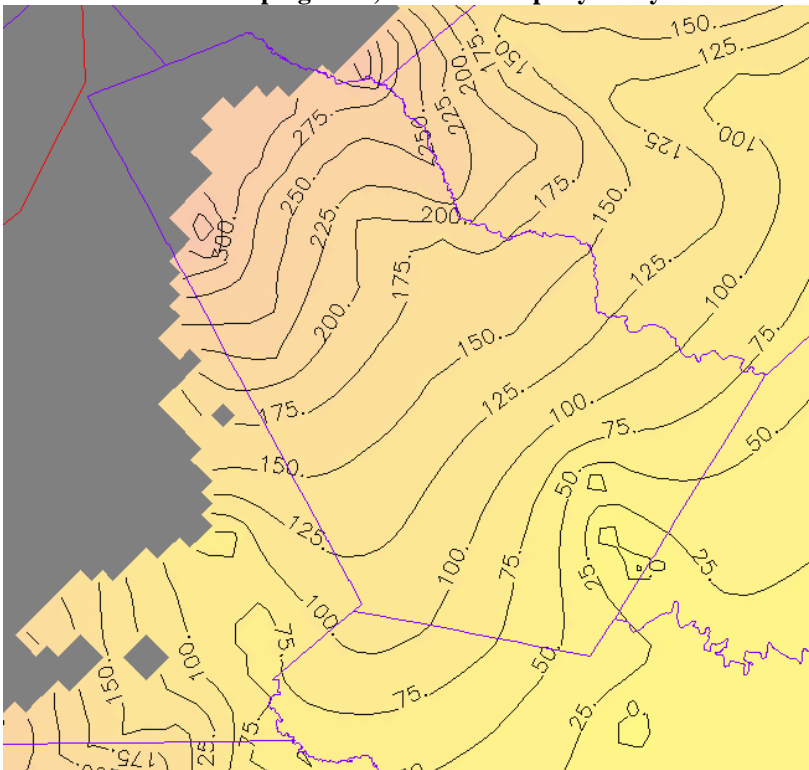
**Figure 53. Scenario 2: Water levels in the Evangeline aquifer in Bee County 2020. Contour interval is 25 feet. Pumping of 25,200 acre-feet per year by SPMWD in Bee County.**



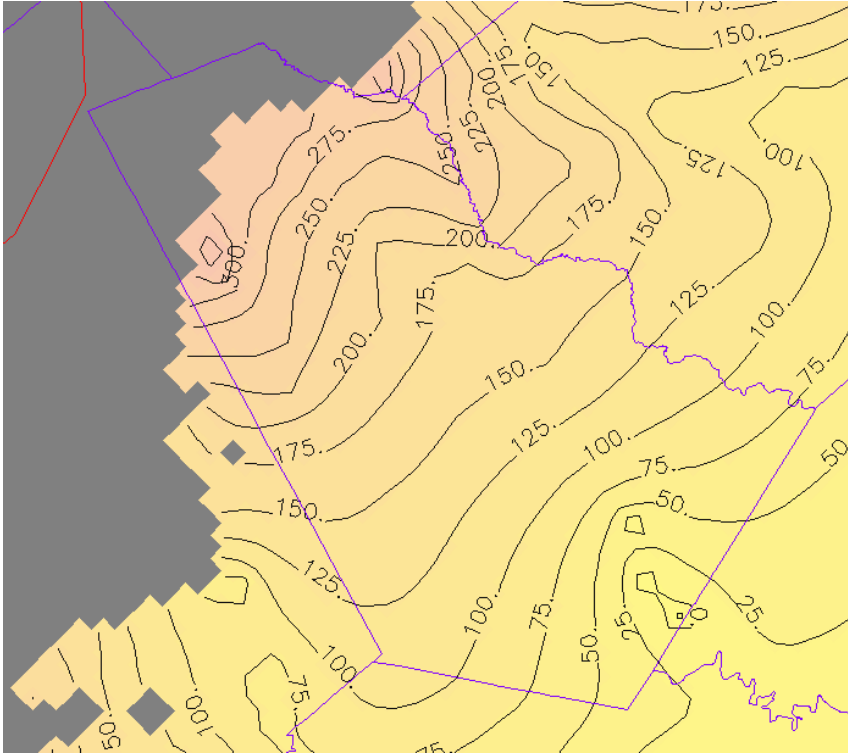
**Figure 54. Scenario 2: Water levels in the Evangeline aquifer in Bee County 2030. Contour interval is 25 feet. Pumping of 25,200 acre-feet per year by SPMWD in Bee County.**



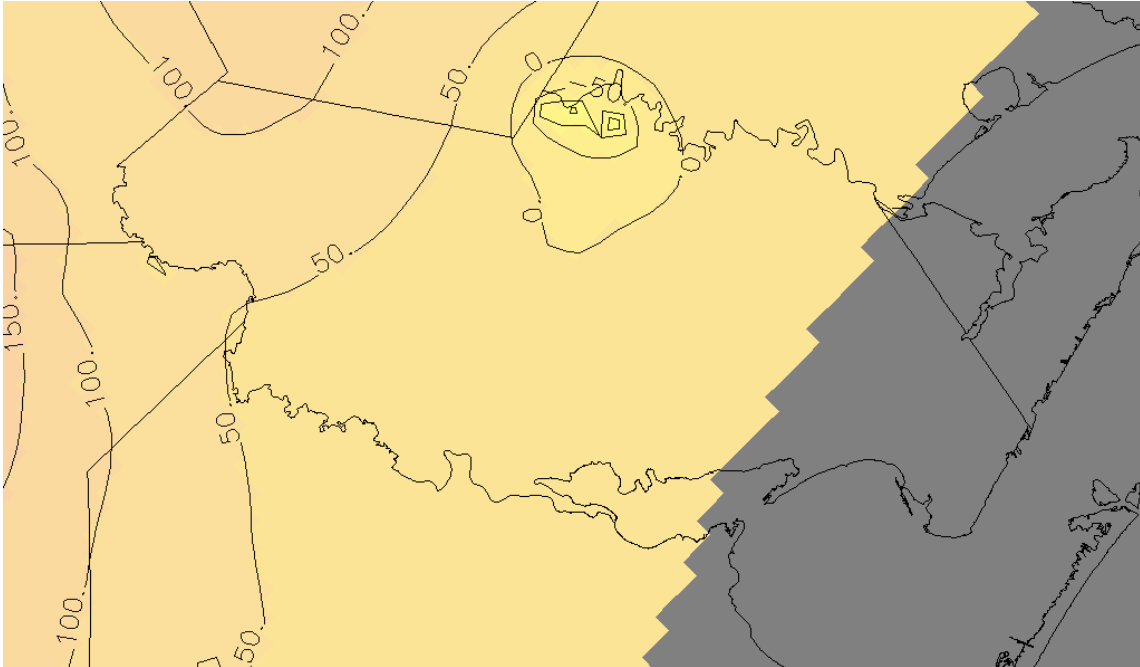
**Figure 55. Scenario 2: Water levels in the Evangeline aquifer in Bee County 2040. Contour interval is 25 feet. Pumping of 25,200 acre-feet per year by SPMWD in Bee County.**



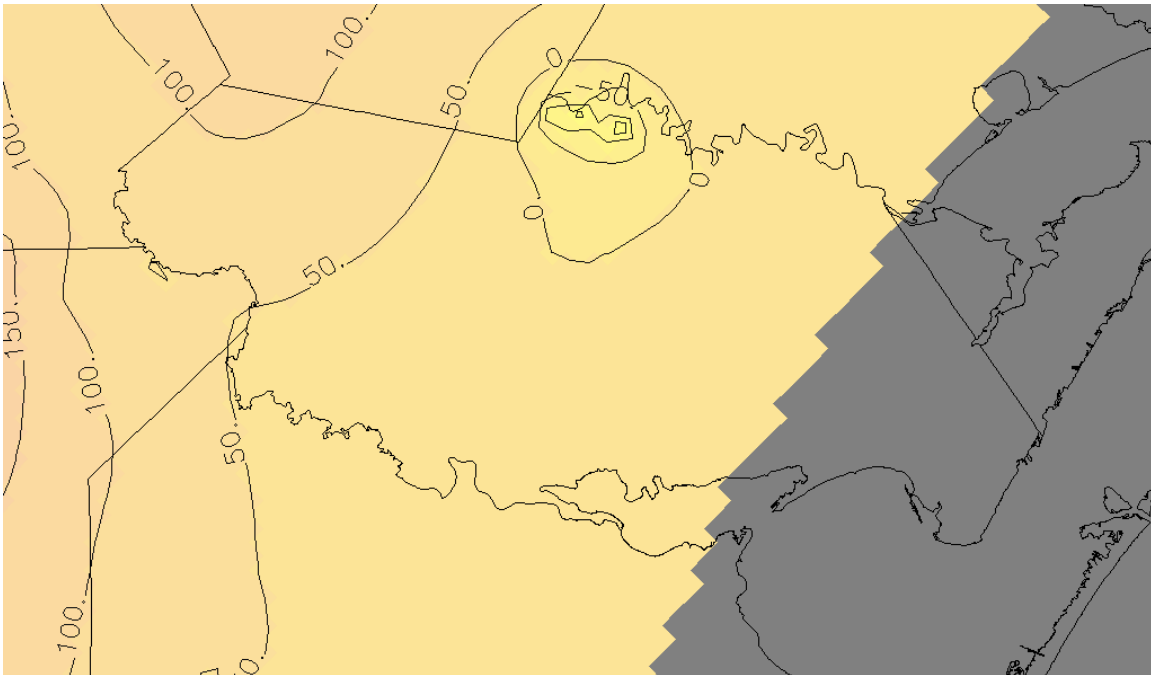
**Figure 56. Scenario 2: Water levels in the Evangeline aquifer in Bee County 2050. Contour interval is 25 feet. Pumping of 25,200 acre-feet per year by SPMWD in Bee County.**



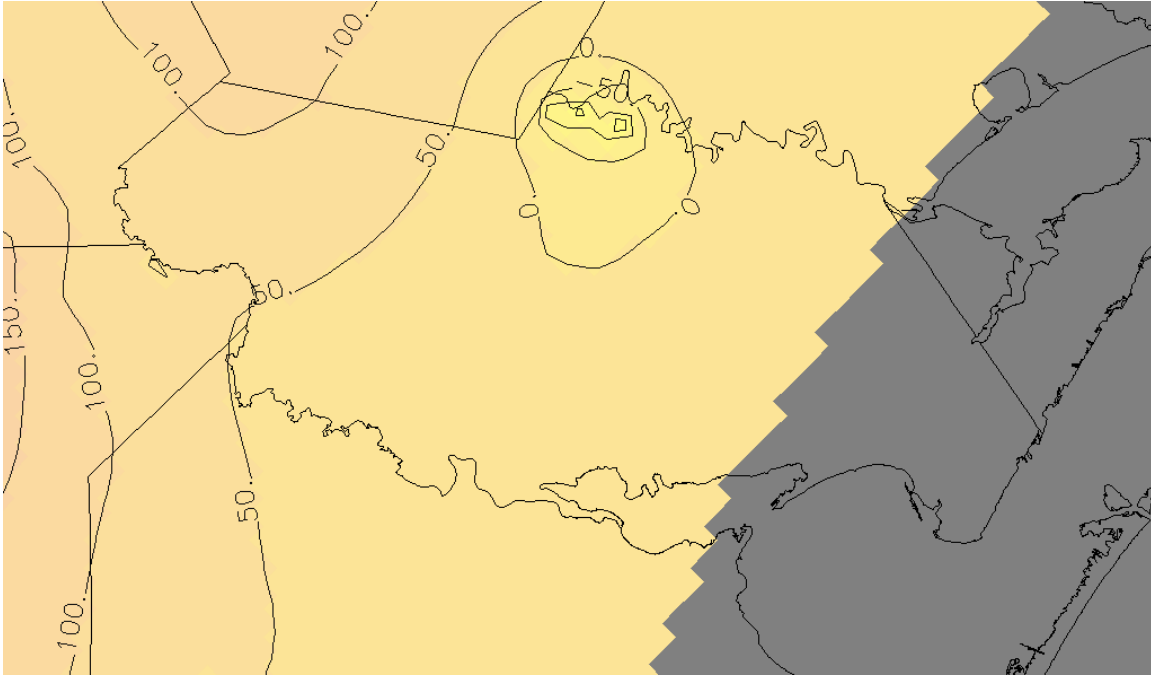
**Figure 57. Scenario 2: Water levels in the Evangeline aquifer in Bee County 2060. Contour interval is 25 feet. Pumping of 25,200 acre-feet per year by SPMWD in Bee County.**



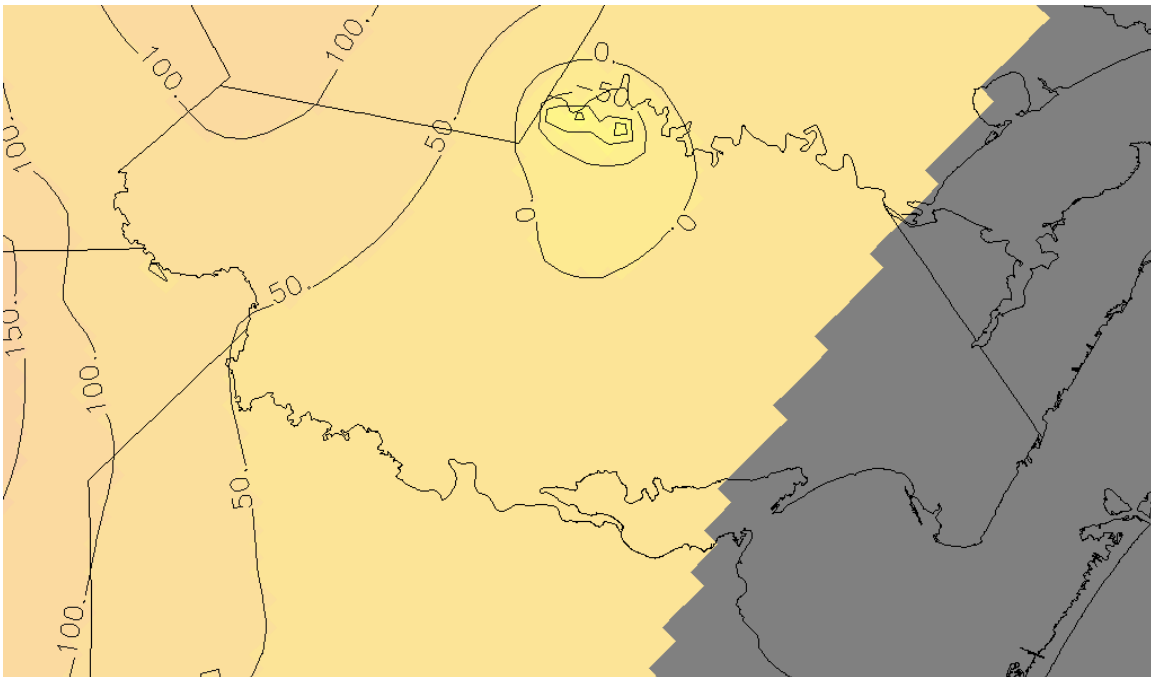
**Figure 58. Scenario 2: Water levels in the Evangeline aquifer in San Patricio County 2005. Contour interval is 50 feet. Pumping of 25,200 acre-feet per year by SPMWD in San Patricio County.**



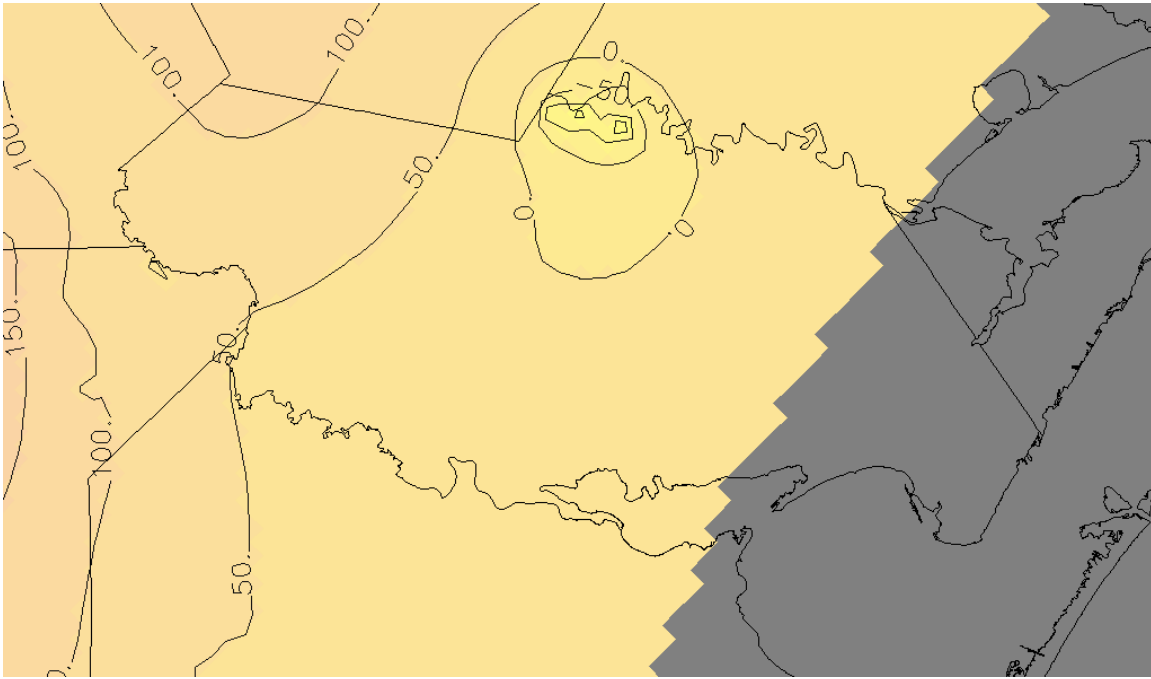
**Figure 59. Scenario 2: Water levels in the Evangeline aquifer in San Patricio County 2010. Contour interval is 50 feet. Pumping of 25,200 acre-feet per year by SPMWD in San Patricio County.**



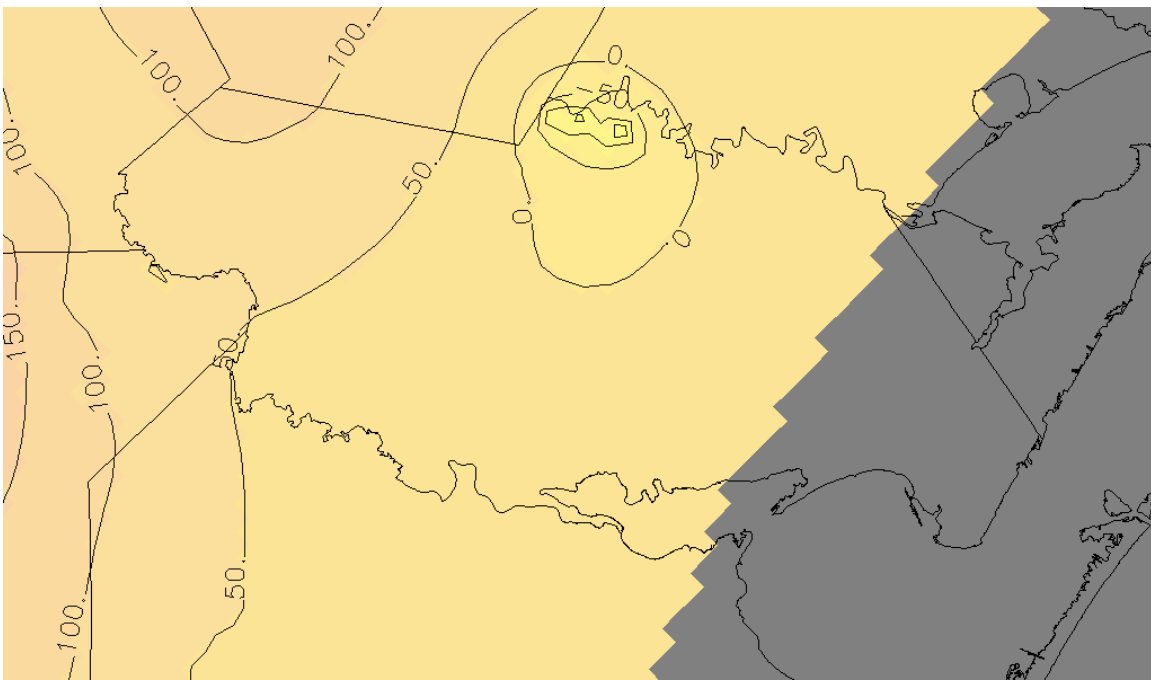
**Figure 60. Scenario 2: Water levels in the Evangeline aquifer in San Patricio County 2020. Contour interval is 50 feet. Pumping of 25,200 acre-feet per year by SPMWD in San Patricio County.**



**Figure 61. Scenario 2: Water levels in the Evangeline aquifer in San Patricio County 2030. Contour interval is 50 feet. Pumping of 25,200 acre-feet per year by SPMWD in San Patricio County.**

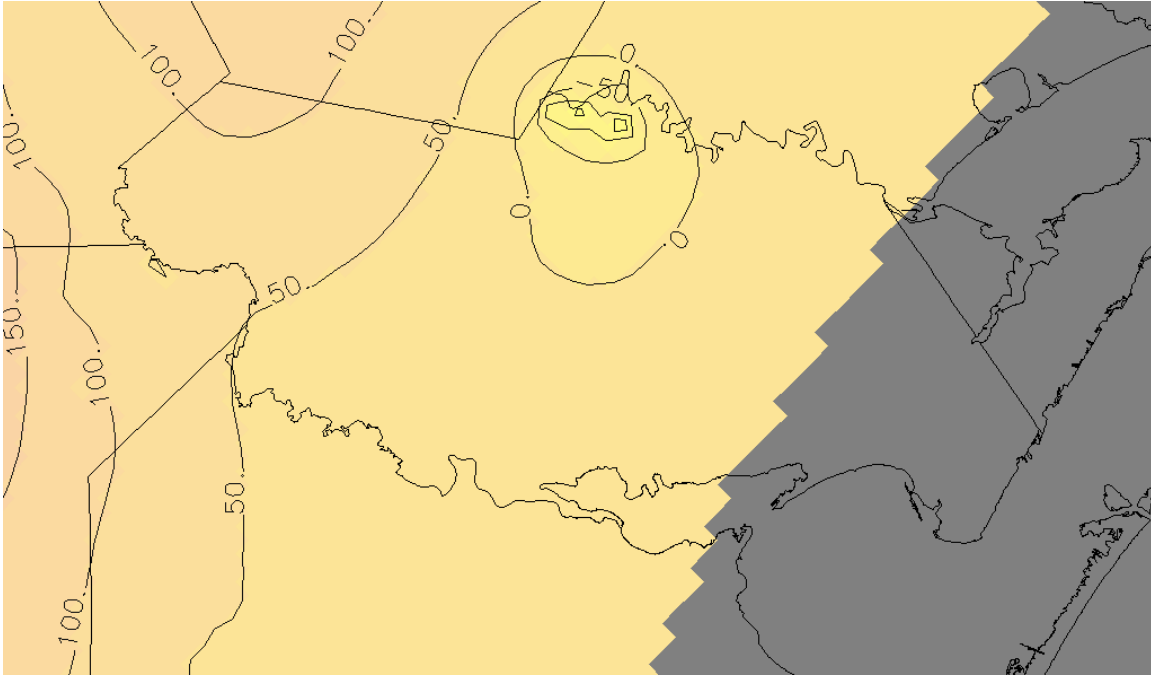


**Figure 62. Scenario 2: Water levels in the Evangeline aquifer in San Patricio County 2040. Contour interval is 50 feet. Pumping of 25,200 acre-feet per year by SPMWD in San Patricio County.**

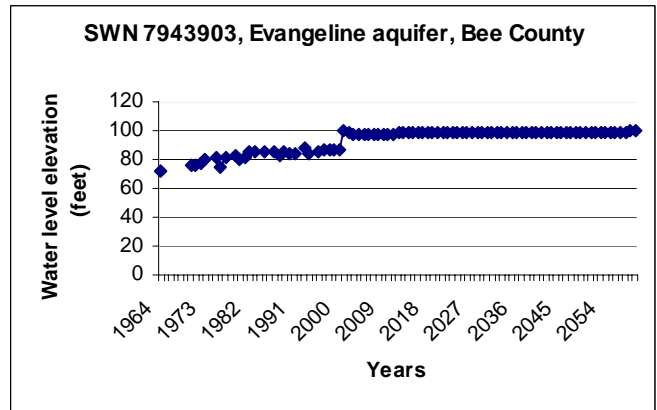
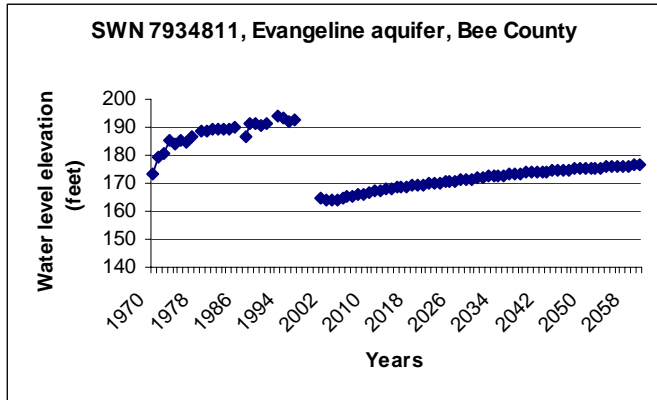
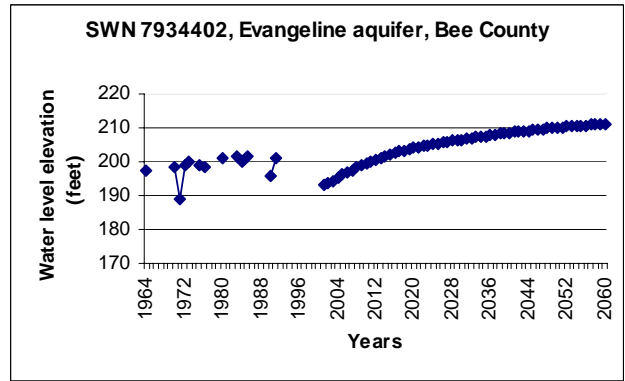
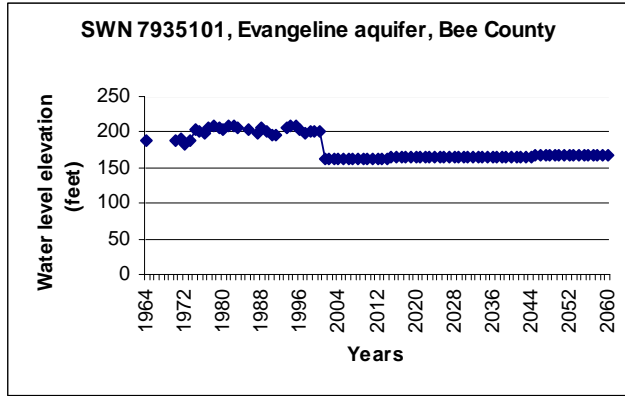


**Figure 63. Scenario 2: Water levels in the Evangeline aquifer in San Patricio County 2050. Contour interval is 50 feet. Pumping of 25,200 acre-feet per year by SPMWD in San Patricio County.**

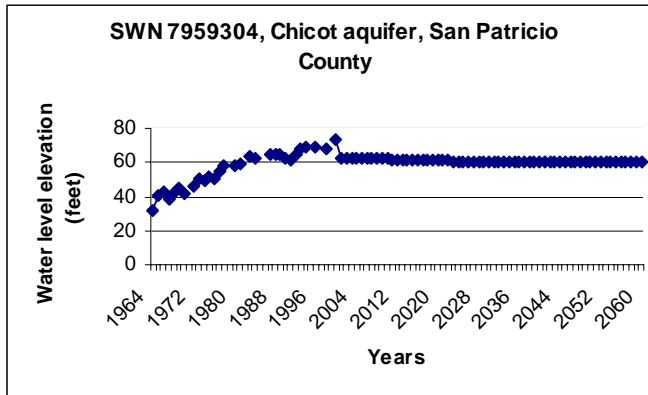
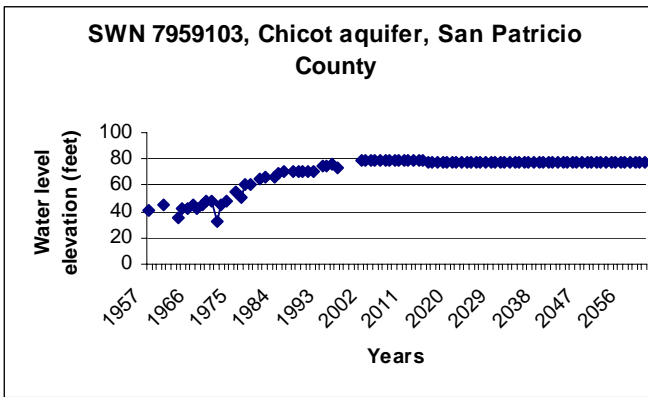
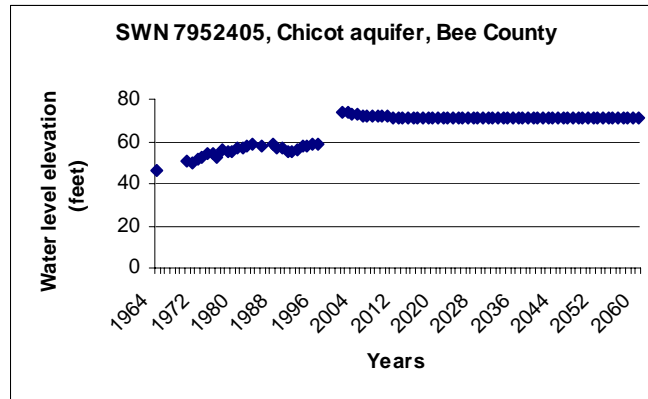
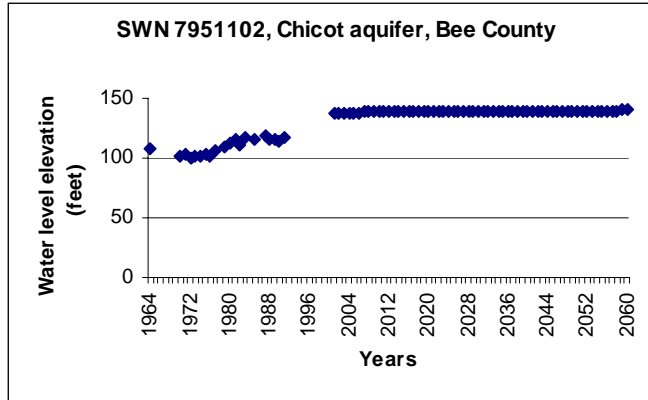




**Figure 64. Scenario 2: Water levels in the Evangeline aquifer in San Patricio County 2060. Contour interval is 50 feet. Pumping of 25,200 acre-feet per year by SPMWD in San Patricio County.**



**Figure 65. Scenario 2: Water level hydrographs for Bee and San Patricio counties with pumping of 25,200 acre-feet per year by SPMWD in San Patricio County.**



**Figure 65. continued.**

**Table 4. Scenario 2: Water budgets with 25,200 acre-feet per year pumping by SPMWD from San Patricio County.**

<b>Water Budget – 2005</b>		Units acre-feet/year		
<b>Bee County</b>	<b>Chicot Aquifer</b>	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM				
STORAGE		452	252	200
CONSTANT HEAD		0	0	0
HORIZ. EXCHANGE		629	9444	-8816
EXCHANGE (UPPER)		0	0	0
EXCHANGE (LOWER)		107	6587	-6480
WELLS		0	1602	-1602
DRAINS		0	0	0
RECHARGE		18829	0	18829
ET		0	1430	-1430
RIVER LEAKAGE		0	0	0
HEAD DEP BOUNDS		0	0	0
STREAM LEAKAGE		6632	7333	-701
INTERBED STORAGE		0	0	0
RESERV. LEAKAGE		0	0	0
SUM OF THE LAYER		26648	26648	0
DISCREPANCY [%]		0		
<b>Bee County</b>	<b>Evangeline Aquifer</b>	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM				
STORAGE		50	690	-639
CONSTANT HEAD		0	0	0
HORIZ. EXCHANGE		3,852	12,016	-8,165
EXCHANGE (UPPER)		6,587	107	6,480
EXCHANGE (LOWER)		332	824	-492
WELLS		0	3,369	-3,369
DRAINS		0	0	0
RECHARGE		4,836	0	4,836
ET		0	470	-470
RIVER LEAKAGE		0	0	0
HEAD DEP BOUNDS		0	0	0
STREAM LEAKAGE		4,701	2,880	1,820
INTERBED STORAGE		0	0	0
RESERV. LEAKAGE		0	0	0
SUM OF THE LAYER		20,357	20,356	0
DISCREPANCY [%]		0		

Table 4 continued.

**Water Budget -- 2005  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	2,666	127	2,539
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,421	2,892	4,530
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	627	5,404	-4,777
WELLS	0	5,943	-5,943
DRAINS	0	347	-347
RECHARGE	12,061	0	12,061
ET	0	683	-683
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	50	2,775	-2,725
STREAM LEAKAGE	4,017	8,673	-4,655
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26,844	26,843	0
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	61	0	61
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	9,542	1,324	8,218
EXCHANGE (UPPER)	5,404	627	4,777
EXCHANGE (LOWER)	665	3	662
WELLS	0	13,780	-13,780
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	911	0	911
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	988	-988
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	16,734	16,734	0
DISCREPANCY [%]	0		

Table 4 continued.

**Water Budget – 2010**

Units acre-feet/year

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	228	67	161
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	642	9495	-8853
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	126	6571	-6445
WELLS	0	1605	-1605
DRAINS	0	0	0
RECHARGE	18829	0	18829
ET	0	1441	-1441
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	6642	7288	-646
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26468	26468	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	29	494	-465
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	3,856	12,082	-8,226
EXCHANGE (UPPER)	6,571	126	6,445
EXCHANGE (LOWER)	313	847	-534
WELLS	0	3,221	-3,221
DRAINS	0	0	0
RECHARGE	4,836	0	4,836
ET	0	467	-467
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,611	2,980	1,631
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	20,216	20,217	-1
DISCREPANCY [%]	0		

Table 4 continued.

**Water Budget -- 2010  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1,671	11	1,660
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,577	2,769	4,808
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	618	5,357	-4,739
WELLS	0	6,013	-6,013
DRAINS	0	344	-344
RECHARGE	12,061	0	12,061
ET	0	677	-677
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	72	2,647	-2,574
STREAM LEAKAGE	4,181	8,361	-4,180
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26,181	26,180	1
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	31	0	31
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	9,590	1,312	8,277
EXCHANGE (UPPER)	5,357	618	4,739
EXCHANGE (LOWER)	629	5	624
WELLS	0	13,742	-13,742
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	915	0	915
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	983	-983
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	16,673	16,673	0
DISCREPANCY [%]	0		

Table 4 continued.

<b>Water Budget – 2020</b>		Units acre- feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	105	44	60	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	642	9532	-8891	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	149	6516	-6368	
WELLS	0	1575	-1575	
DRAINS	0	0	0	
RECHARGE	18829	0	18829	
ET	0	1448	-1448	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	6646	7253	-608	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	26370	26370	0	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	11	249	-238	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	3,842	12,244	-8,402	
EXCHANGE (UPPER)	6,516	149	6,368	
EXCHANGE (LOWER)	284	862	-578	
WELLS	0	2,939	-2,939	
DRAINS	0	0	0	
RECHARGE	4,836	0	4,836	
ET	0	464	-464	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,531	3,112	1,419	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	20,020	20,019	0	
DISCREPANCY [%]	0			



Table 4 continued.

**Water Budget -- 2020  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1,071	0	1,071
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,766	2,635	5,132
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	618	5,366	-4,748
WELLS	0	6,467	-6,467
DRAINS	0	336	-336
RECHARGE	12,061	0	12,061
ET	0	671	-671
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	110	2,493	-2,383
STREAM LEAKAGE	4,356	8,015	-3,659
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,982	25,982	0
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	26	0	26
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	9,660	1,286	8,374
EXCHANGE (UPPER)	5,366	618	4,748
EXCHANGE (LOWER)	607	7	601
WELLS	0	13,842	-13,842
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	927	0	927
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	974	-974
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	16,739	16,739	0
DISCREPANCY [%]	0		

Table 4 continued.

<b>Water Budget – 2030</b>		Units acre- feet/year		
<b>Bee County</b>	<b>Chicot Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	27	93	-66	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	645	9578	-8934	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	114	6485	-6371	
WELLS	0	1262	-1262	
DRAINS	0	0	0	
RECHARGE	18782	0	18782	
ET	0	1474	-1474	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	6663	7340	-677	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	26232	26232	0	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	1	222	-221	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	3,840	12,333	-8,493	
EXCHANGE (UPPER)	6,485	114	6,371	
EXCHANGE (LOWER)	259	880	-621	
WELLS	0	2,680	-2,680	
DRAINS	0	0	0	
RECHARGE	4,882	0	4,882	
ET	0	465	-465	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,449	3,222	1,226	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	19,916	19,917	-2	
DISCREPANCY [%]	-0.01			

Table 4 continued.

**Water Budget -- 2030  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	533	0	532
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,909	2,525	5,384
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	628	5,321	-4,694
WELLS	0	6,544	-6,544
DRAINS	0	329	-329
RECHARGE	12,061	0	12,061
ET	0	668	-668
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	126	2,446	-2,320
STREAM LEAKAGE	4,405	7,827	-3,423
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,661	25,661	1
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	9	1	8
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	9,694	1,276	8,418
EXCHANGE (UPPER)	5,321	628	4,694
EXCHANGE (LOWER)	586	7	579
WELLS	0	13,798	-13,798
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	931	0	931
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	972	-972
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	16,694	16,694	0
DISCREPANCY [%]	0		

Table 4 continued.

<b>Water Budget – 2040</b>		Units acre-foot/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	8	51	-44	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	649	9610	-8961	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	118	6441	-6323	
WELLS	0	1211	-1211	
DRAINS	0	0	0	
RECHARGE	18782	0	18782	
ET	0	1486	-1486	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	6682	7441	-759	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	26240	26240	0	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	0	166	-165	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	3,846	12,385	-8,539	
EXCHANGE (UPPER)	6,441	118	6,323	
EXCHANGE (LOWER)	241	893	-652	
WELLS	0	2,437	-2,437	
DRAINS	0	0	0	
RECHARGE	4,882	0	4,882	
ET	0	469	-469	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,384	3,327	1,057	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	19,795	19,796	-1	
DISCREPANCY [%]	0			

Table 4 continued.

**Water Budget -- 2040  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	263	4	259
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,991	2,455	5,536
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	638	5,288	-4,650
WELLS	0	6,588	-6,588
DRAINS	0	324	-324
RECHARGE	12,061	0	12,061
ET	0	666	-666
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	133	2,445	-2,312
STREAM LEAKAGE	4,415	7,731	-3,316
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,500	25,501	0
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	5	3	2
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	9,714	1,271	8,443
EXCHANGE (UPPER)	5,288	638	4,650
EXCHANGE (LOWER)	565	8	558
WELLS	0	13,751	-13,751
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	931	0	931
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	973	-973
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	16,655	16,655	0
DISCREPANCY [%]	0		

Table 4 continued.

**Water Budget – 2050**

Units acre-feet/year

<b>Bee County</b>	<b>Chicot Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	3	35	-33
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	653	9640	-8987
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	126	6404	-6278
WELLS	0	1169	-1169
DRAINS	0	0	0
RECHARGE	18782	0	18782
ET	0	1490	-1490
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	6685	7510	-824
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26248	26248	0
DISCREPANCY [%]	0		

<b>Bee County</b>	<b>Evangeline Aquifer</b>		
	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
FLOW TERM			
STORAGE	0	131	-131
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	3,849	12,438	-8,589
EXCHANGE (UPPER)	6,404	126	6,278
EXCHANGE (LOWER)	228	896	-668
WELLS	0	2,227	-2,227
DRAINS	0	0	0
RECHARGE	4,882	0	4,882
ET	0	474	-474
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	4,335	3,406	929
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	19,699	19,698	1
DISCREPANCY [%]	0		

Table 4 continued.

**Water Budget -- 2050  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	200	6	194
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	8,070	2,409	5,660
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	651	5,271	-4,620
WELLS	0	6,755	-6,755
DRAINS	0	321	-321
RECHARGE	12,061	0	12,061
ET	0	664	-664
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	140	2,449	-2,310
STREAM LEAKAGE	4,417	7,662	-3,245
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,539	25,538	1
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	5	2	3
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	9,728	1,264	8,464
EXCHANGE (UPPER)	5,271	651	4,620
EXCHANGE (LOWER)	547	8	539
WELLS	0	13,727	-13,727
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	934	0	934
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	973	-973
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	16,636	16,635	0
DISCREPANCY [%]	0		

Table 4 continued.

<b>Water Budget – 2060</b>		Units acre- feet/year		
<b>Bee County</b>	<b>Chicot Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	2	32	-30	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	656	9,667	-9,011	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	134	6,371	-6,238	
WELLS	0	1,135	-1,135	
DRAINS	0	0	0	
RECHARGE	18,782	0	18,782	
ET	0	1,492	-1,492	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	6,689	7,565	-877	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	26,262	26,263	-1	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	0	114	-114	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	3,851	12,483	-8,631	
EXCHANGE (UPPER)	6,371	134	6,238	
EXCHANGE (LOWER)	218	896	-678	
WELLS	0	2,043	-2,043	
DRAINS	0	0	0	
RECHARGE	4,882	0	4,882	
ET	0	480	-480	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,293	3,471	822	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	19,617	19,620	-3	
DISCREPANCY [%]	-0.02			



Table 4 continued.

**Water Budget -- 2060  
San Patricio County**

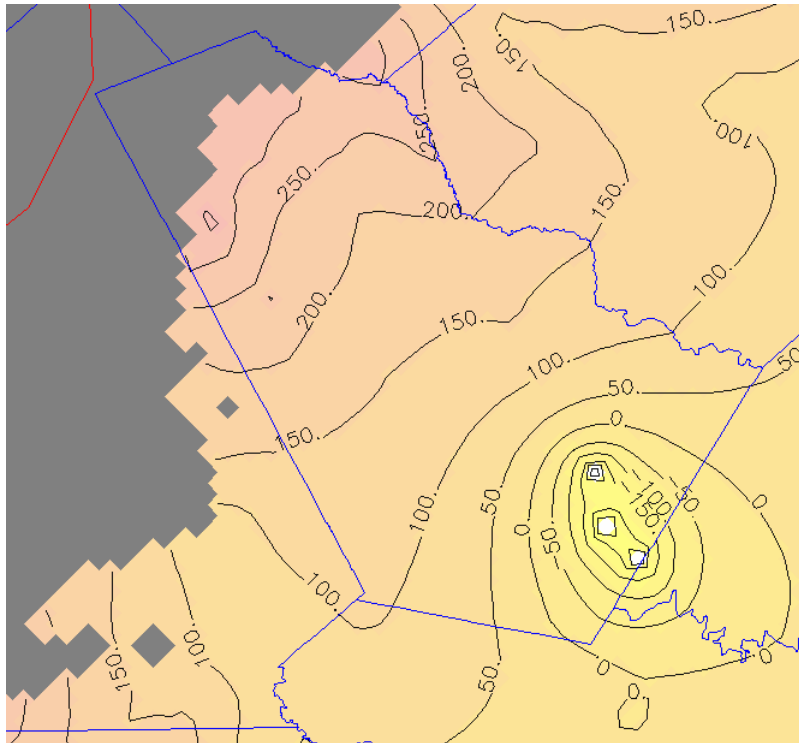
**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	196	8	188
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	8,141	2,397	5,745
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	669	5,272	-4,603
WELLS	0	6,946	-6,946
DRAINS	0	318	-318
RECHARGE	12,061	0	12,061
ET	0	662	-662
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	148	2,440	-2,292
STREAM LEAKAGE	4,435	7,605	-3,170
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,650	25,649	2
DISCREPANCY [%]	0.01		

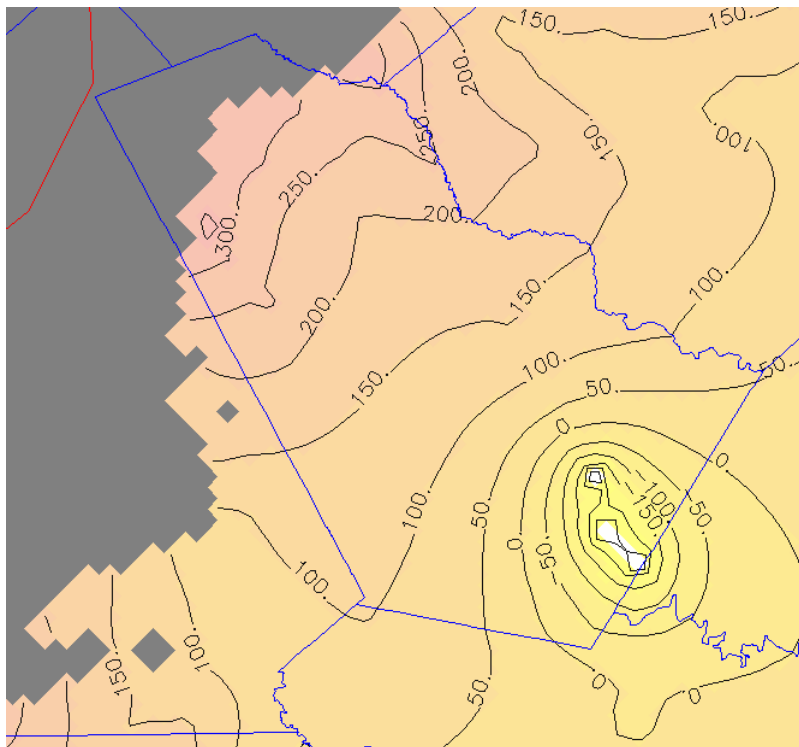
**San Patricio County**

**Evangeline Aquifer**

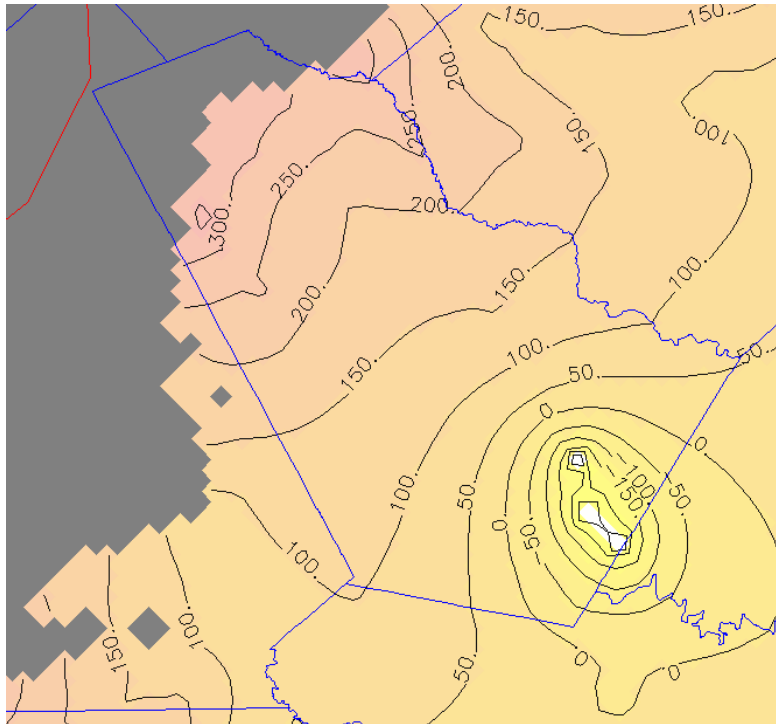
FLOW TERM	IN	OUT	IN-OUT
STORAGE	5	2	3
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	9,750	1,256	8,494
EXCHANGE (UPPER)	5,272	669	4,603
EXCHANGE (LOWER)	530	8	522
WELLS	0	13,726	-13,726
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	937	0	937
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	972	-972
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	16,645	16,644	1
DISCREPANCY [%]	0		



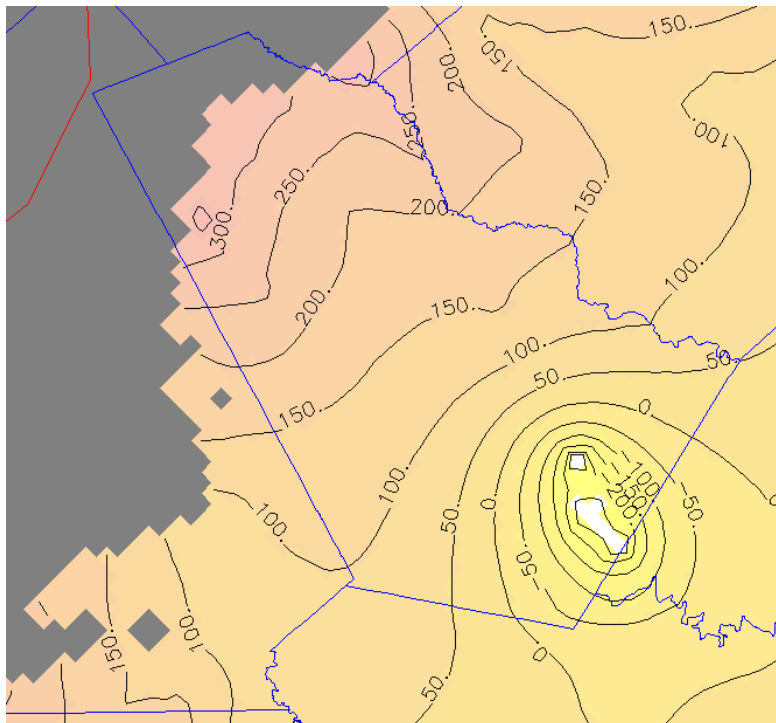
**Figure 66. Scenario 3: Water levels in the Evangeline aquifer in Bee County 2005 with combined 45,000 acre-feet per year pumping by SPMWD in Bee County. Contour interval is 50 feet.**



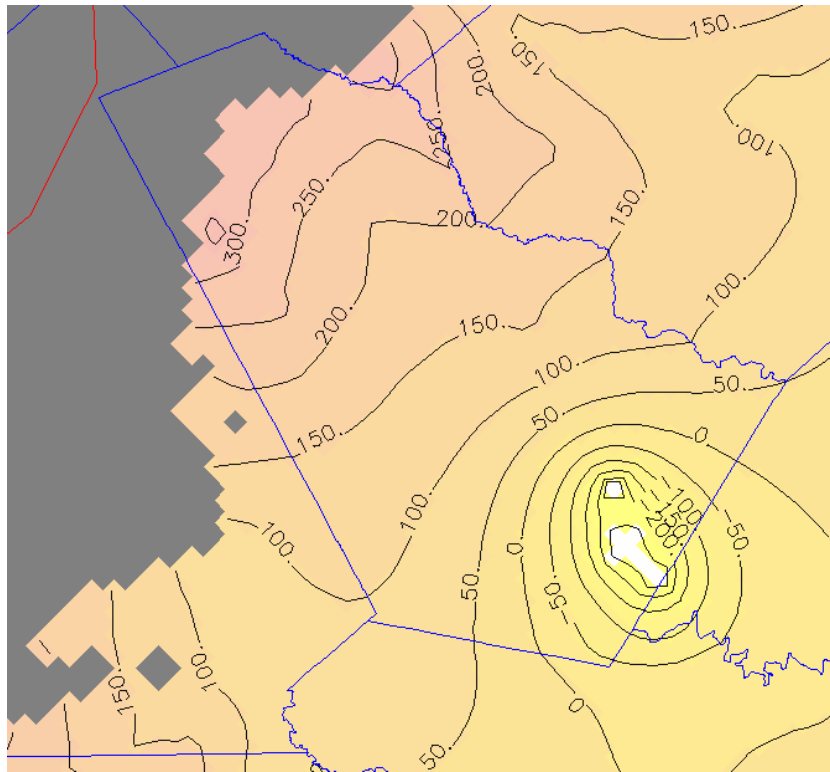
**Figure 67. Scenario 3: Water levels in the Evangeline aquifer in Bee County 2010 with combined 45,000 acre-feet per year pumping by SPMWD in Bee County. Contour interval is 50 feet.**



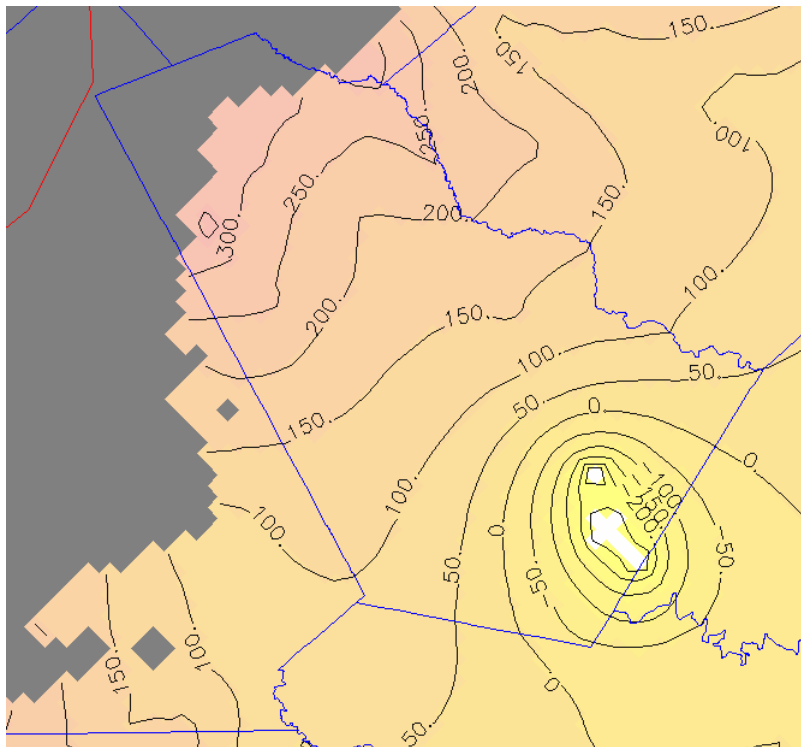
**Figure 68. Scenario 3: Water levels in the Evangeline aquifer in Bee County 2020 with combined 45,000 acre-feet per year pumping by SPMWD in Bee County. Contour interval is 50 feet.**



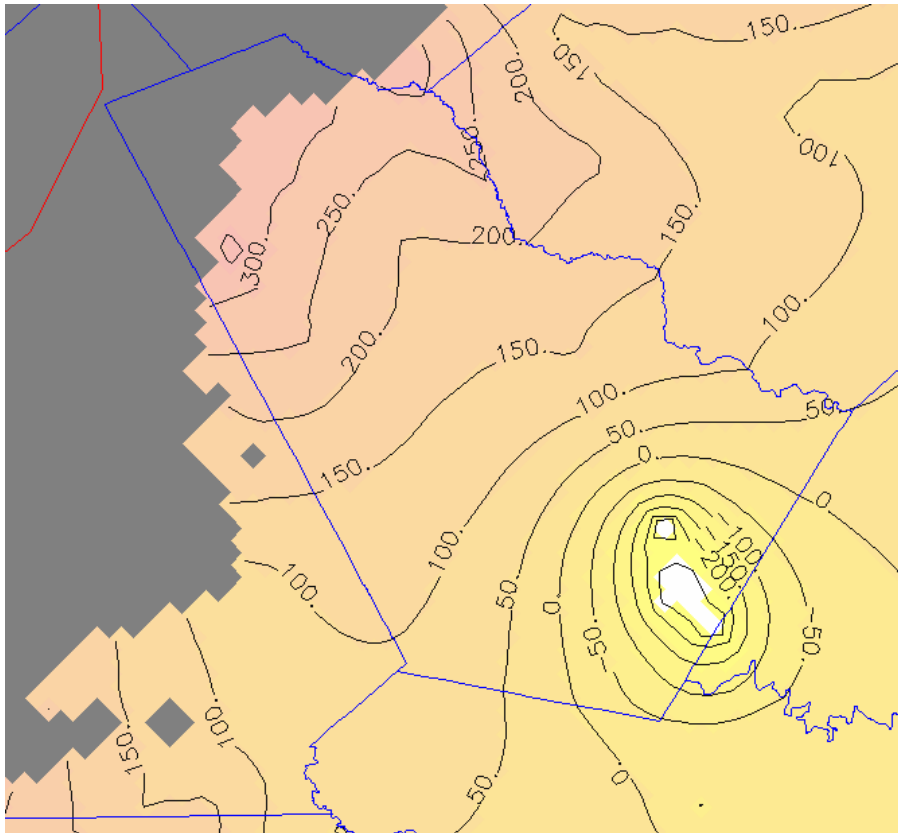
**Figure 69. Scenario 3: Water levels in the Evangeline aquifer in Bee County 2030 with combined 45,000 acre-feet per year pumping by SPMWD in Bee County. Contour interval is 50 feet.**



**Figure 70. Scenario 3: Water levels in the Evangeline aquifer in Bee County 2040 with combined 45,000 acre-feet per year pumping by SPMWD in Bee County. Contour interval is 50 feet.**



**Figure 71. Scenario 3: Water levels in the Evangeline aquifer in Bee County 2050 with combined 45,000 acre-feet per year pumping by SPMWD in Bee County. Contour interval is 50 feet.**



**Figure 72. Scenario 3: Water levels in the Evangeline aquifer in Bee County 2060 with combined 45,000 acre-feet per year pumping by SPMWD in Bee County. Contour interval is 50 feet.**

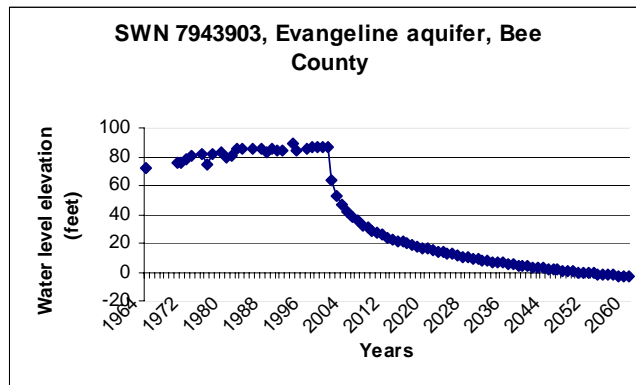
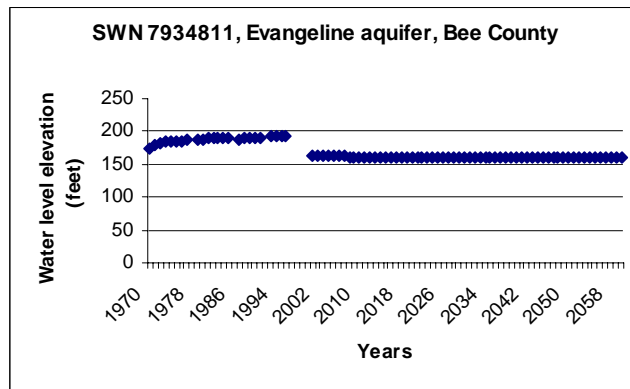
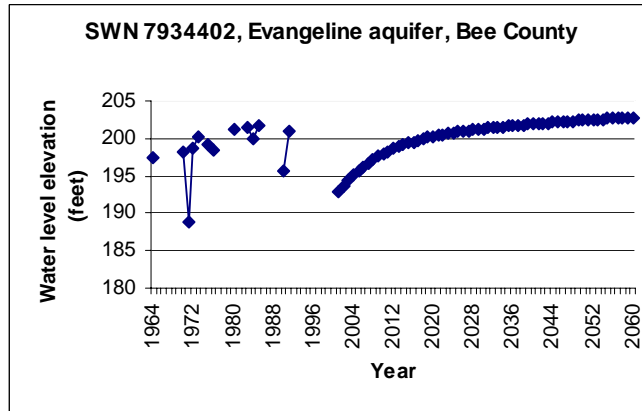
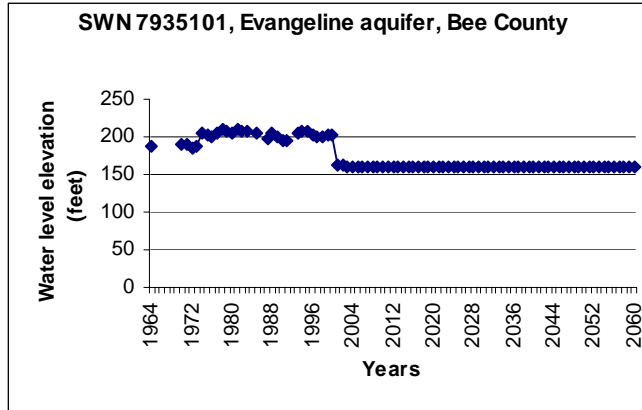


Figure 73. Scenario 3: Hydrographs of Bee and San Patricio counties with 45,000 acre-feet per year combined pumping by SPMWD in Bee County.

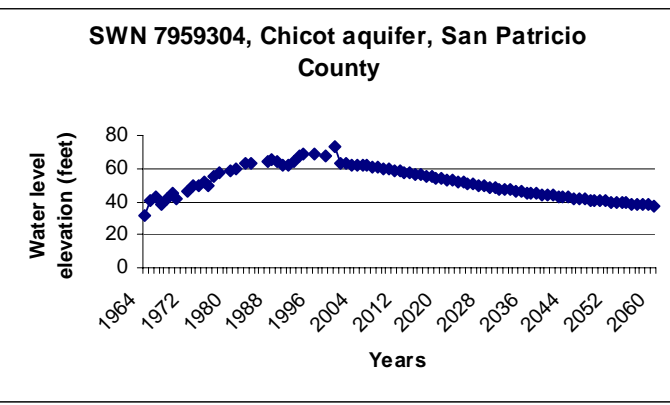
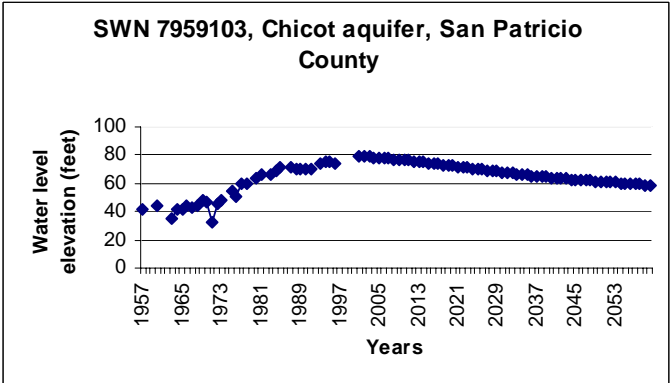
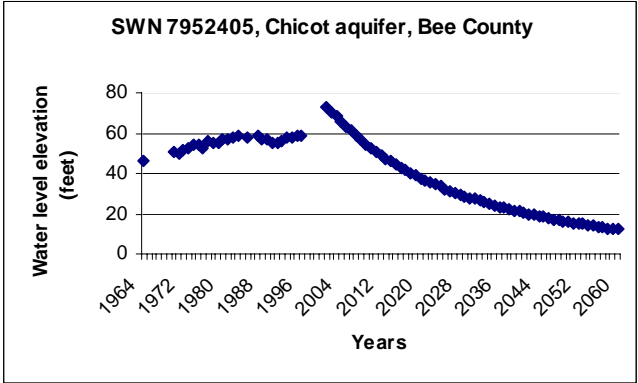
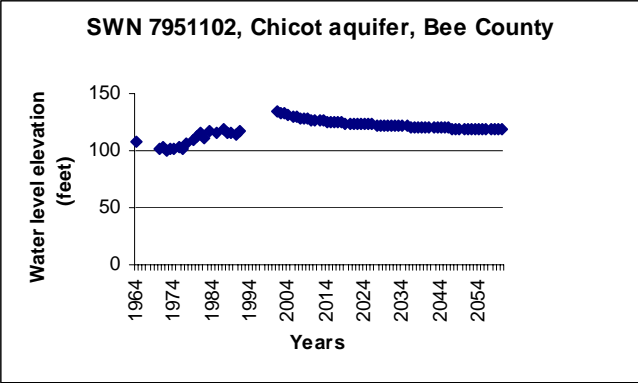


Figure 73 Continued.

**Table 5. Scenario 3: Water budgets for Bee and San Patricio counties with 45,000 acre-feet per year combined pumping by SPMWD in Bee County.**

<b>Water Budget -- 2005</b>		Units acre-feet/year		
<b>Bee County</b>	<b>Chicot Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	9,353	1	9,352	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	896	6,922	-6,025	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	15	24,304	-24,289	
WELLS	0	1,602	-1,602	
DRAINS	0	0	0	
RECHARGE	18,829	0	18,829	
ET	0	1,145	-1,145	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,216	2,337	4,878	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	36,309	36,311	-2	
DISCREPANCY [%]	-0.01			
<b>Bee County</b>	<b>Evangeline Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	3,152	477	2,675	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	17,785	6,062	11,723	
EXCHANGE (UPPER)	24,304	15	24,289	
EXCHANGE (LOWER)	2,002	713	1,289	
WELLS	0	48,369	-48,369	
DRAINS	0	0	0	
RECHARGE	4,836	0	4,836	
ET	0	469	-469	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	6,616	2,588	4,028	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	58,694	58,694	1	
DISCREPANCY [%]	0			



Table 5 continued.

**Water Budget – 2005  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	4,476	68	4,409
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	6,084	3,011	3,073
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	524	4,953	-4,429
WELLS	0	5,943	-5,943
DRAINS	0	346	-346
RECHARGE	12,061	0	12,061
ET	0	681	-681
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	51	2,766	-2,715
STREAM LEAKAGE	2,914	8,342	-5,428
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	26,110	26,108	2
DISCREPANCY [%]	0.01		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	184	0	184
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,634	4,420	-2,786
EXCHANGE (UPPER)	4,953	524	4,429
EXCHANGE (LOWER)	665	0	665
WELLS	0	2,580	-2,580
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	928	0	928
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	980	-980
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	8,516	8,515	0
DISCREPANCY [%]	0.01		

Table 5 continued.

<b>Water Budget -- 2010</b>		Units acre- feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	7706	0	7706	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	1264	6028	-4764	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	30	24429	-24399	
WELLS	0	1605	-1605	
DRAINS	0	0	0	
RECHARGE	18829	0	18829	
ET	0	1046	-1046	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	6887	1603	5284	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	34716	34712	4	
DISCREPANCY [%]	0.01			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	1,505	263	1,242	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	18,637	6,033	12,604	
EXCHANGE (UPPER)	24,429	30	24,399	
EXCHANGE (LOWER)	2,053	709	1,344	
WELLS	0	48,221	-48,221	
DRAINS	0	0	0	
RECHARGE	4,836	0	4,836	
ET	0	466	-466	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	6,866	2,581	4,285	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	58,325	58,303	21	
DISCREPANCY [%]	0.04			

Table 5 continued.

**Water Budget -- 2010  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	4,182	0	4,182
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,812	3,078	2,734
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	497	5,114	-4,617
WELLS	0	6,013	-6,013
DRAINS	0	343	-343
RECHARGE	12,061	0	12,061
ET	0	672	-672
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	73	2,636	-2,562
STREAM LEAKAGE	2,950	7,717	-4,767
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,576	25,573	3
DISCREPANCY [%]	0.01		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	119	0	119
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,671	4,640	-2,969
EXCHANGE (UPPER)	5,114	497	4,617
EXCHANGE (LOWER)	666	0	666
WELLS	0	2,542	-2,542
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	943	0	943
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	972	-972
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	8,665	8,663	2
DISCREPANCY [%]	0.02		

Table 5 continued.

<b>Water Budget -- 2020</b>		Units acre- feet/year		
<b>Bee County</b>	<b>Chicot Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	4,715	55	4,659	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	1,638	5,101	-3,464	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	0	23,911	-23,911	
WELLS	0	871	-871	
DRAINS	0	0	0	
RECHARGE	18,736	0	18,736	
ET	0	946	-946	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,059	1,265	5,794	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	32,147	32,150	-3	
DISCREPANCY [%]	-0.01			
<b>Bee County</b>	<b>Evangeline Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	747	103	644	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	19,372	6,097	13,276	
EXCHANGE (UPPER)	23,911	0	23,911	
EXCHANGE (LOWER)	1,966	717	1,249	
WELLS	0	47,939	-47,939	
DRAINS	0	0	0	
RECHARGE	4,929	0	4,929	
ET	0	463	-463	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,016	2,615	4,401	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	57,941	57,934	6	
DISCREPANCY [%]	0.01			

Table 5 continued.

**Water Budget -- 2020  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	3,779	0	3,779
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,671	3,142	2,528
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	473	5,226	-4,753
WELLS	0	6,467	-6,467
DRAINS	0	329	-329
RECHARGE	12,061	0	12,061
ET	0	659	-659
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	115	2,445	-2,330
STREAM LEAKAGE	3,019	6,851	-3,832
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	25,117	25,119	-1
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	98	0	98
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,756	4,811	-3,055
EXCHANGE (UPPER)	5,226	473	4,753
EXCHANGE (LOWER)	697	0	697
WELLS	0	2,642	-2,642
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	11	-11
RIVER LEAKAGE	967	0	967
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	957	-957
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	8,895	8,894	1
DISCREPANCY [%]	0.01		

Table 5 continued.

<b>Water Budget -- 2030</b>		Units acre- feet/year		
<b>Bee County</b>	<b>Chicot Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	3,265	1	3,264	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	1,921	4,742	-2,821	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	0	23,495	-23,495	
WELLS	0	841	-841	
DRAINS	0	0	0	
RECHARGE	18,736	0	18,736	
ET	0	891	-891	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,199	1,147	6,052	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	31,121	31,117	4	
DISCREPANCY [%]	0.01			
<b>Bee County</b>	<b>Evangeline Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	527	52	475	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	19,805	6,118	13,686	
EXCHANGE (UPPER)	23,495	0	23,495	
EXCHANGE (LOWER)	1,847	730	1,117	
WELLS	0	47,680	-47,680	
DRAINS	0	0	0	
RECHARGE	4,929	0	4,929	
ET	0	464	-464	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,091	2,646	4,446	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	57,694	57,691	3	
DISCREPANCY [%]	0.01			

Table 5 continued.

**Water Budget -- 2030  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	2,953	0	2,953
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,686	3,122	2,564
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	458	5,194	-4,735
WELLS	0	6,544	-6,544
DRAINS	0	311	-311
RECHARGE	12,061	0	12,061
ET	0	648	-648
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	142	2,337	-2,195
STREAM LEAKAGE	3,072	6,212	-3,140
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,372	24,368	4
DISCREPANCY [%]	0.02		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	71	0	71
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,820	4,910	-3,090
EXCHANGE (UPPER)	5,194	458	4,735
EXCHANGE (LOWER)	712	0	712
WELLS	0	2,598	-2,598
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	11	-11
RIVER LEAKAGE	980	0	980
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	951	-951
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	8,928	8,929	0
DISCREPANCY [%]	0		

Table 5 continued.

<b>Water Budget -- 2040</b>		Units acre- feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM		<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
STORAGE		2,352	0	2,352
CONSTANT HEAD		0	0	0
HORIZ. EXCHANGE		2,106	4,554	-2,449
EXCHANGE (UPPER)		0	0	0
EXCHANGE (LOWER)		0	23,186	-23,186
WELLS		0	806	-806
DRAINS		0	0	0
RECHARGE		18,736	0	18,736
ET		0	854	-854
RIVER LEAKAGE		0	0	0
HEAD DEP BOUNDS		0	0	0
STREAM LEAKAGE		7,245	1,037	6,208
INTERBED STORAGE		0	0	0
RESERV. LEAKAGE		0	0	0
SUM OF THE LAYER		30,438	30,437	1
DISCREPANCY [%]		0		
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM		<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>
STORAGE		391	48	344
CONSTANT HEAD		0	0	0
HORIZ. EXCHANGE		20,117	6,122	13,995
EXCHANGE (UPPER)		23,186	0	23,186
EXCHANGE (LOWER)		1,731	745	986
WELLS		0	47,437	-47,437
DRAINS		0	0	0
RECHARGE		4,929	0	4,929
ET		0	467	-467
RIVER LEAKAGE		0	0	0
HEAD DEP BOUNDS		0	0	0
STREAM LEAKAGE		7,139	2,672	4,467
INTERBED STORAGE		0	0	0
RESERV. LEAKAGE		0	0	0
SUM OF THE LAYER		57,494	57,492	2
DISCREPANCY [%]		0		



Table 5 continued.

**Water Budget -- 2040  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	2,338	0	2,338
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,749	3,094	2,654
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	447	5,157	-4,710
WELLS	0	6,588	-6,588
DRAINS	0	295	-295
RECHARGE	12,061	0	12,061
ET	0	638	-638
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	164	2,279	-2,115
STREAM LEAKAGE	2,996	5,700	-2,704
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	23,755	23,752	4
DISCREPANCY [%]	0.02		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	54	0	54
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,871	4,979	-3,107
EXCHANGE (UPPER)	5,157	447	4,710
EXCHANGE (LOWER)	713	0	713
WELLS	0	2,551	-2,551
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	11	-11
RIVER LEAKAGE	989	0	989
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	947	-947
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	8,936	8,935	1
DISCREPANCY [%]	0.01		

Table 5 continued.

<b>Water Budget -- 2050</b>		Units acre- feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	1,743	0	1,743	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,234	4,443	-2,209	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	0	22,957	-22,957	
WELLS	0	776	-776	
DRAINS	0	0	0	
RECHARGE	18,736	0	18,736	
ET	0	827	-827	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,261	966	6,295	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	29,973	29,969	4	
DISCREPANCY [%]	0.01			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	307	42	265	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	20,342	6,138	14,204	
EXCHANGE (UPPER)	22,957	0	22,957	
EXCHANGE (LOWER)	1,624	757	867	
WELLS	0	47,227	-47,227	
DRAINS	0	0	0	
RECHARGE	4,929	0	4,929	
ET	0	472	-472	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,174	2,699	4,475	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	57,332	57,335	-3	
DISCREPANCY [%]	0			

Table 5 continued.

**Water Budget -- 2050  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1,941	0	1,941
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	5,898	3,058	2,840
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	441	5,132	-4,691
WELLS	0	6,755	-6,755
DRAINS	0	281	-281
RECHARGE	12,061	0	12,061
ET	0	627	-627
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	188	2,234	-2,047
STREAM LEAKAGE	2,927	5,366	-2,439
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	23,456	23,454	2
DISCREPANCY [%]	0.01		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	46	0	46
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,912	5,020	-3,108
EXCHANGE (UPPER)	5,132	441	4,691
EXCHANGE (LOWER)	704	0	704
WELLS	0	2,527	-2,527
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	11	-11
RIVER LEAKAGE	998	0	998
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	943	-943
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	8,943	8,942	0
DISCREPANCY [%]	0		

Table 5 continued.

<b>Water Budget -- 2060</b>		Units acre- feet/year		
<b>Bee County</b>	<b>Chicot Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	1,326	0	1,326	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,322	4,360	-2,038	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	0	22,797	-22,797	
WELLS	0	751	-751	
DRAINS	0	0	0	
RECHARGE	18,736	0	18,736	
ET	0	808	-808	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,269	927	6,342	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	29,653	29,643	10	
DISCREPANCY [%]	0.03			
<b>Bee County</b>	<b>Evangeline Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	248	39	209	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	20,512	6,150	14,362	
EXCHANGE (UPPER)	22,797	0	22,797	
EXCHANGE (LOWER)	1,527	767	760	
WELLS	0	47,043	-47,043	
DRAINS	0	0	0	
RECHARGE	4,929	0	4,929	
ET	0	477	-477	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	7,199	2,722	4,477	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	57,212	57,198	14	
DISCREPANCY [%]	0.02			

Table 5 continued.

**Water Budget -- 2060  
San Patricio County**

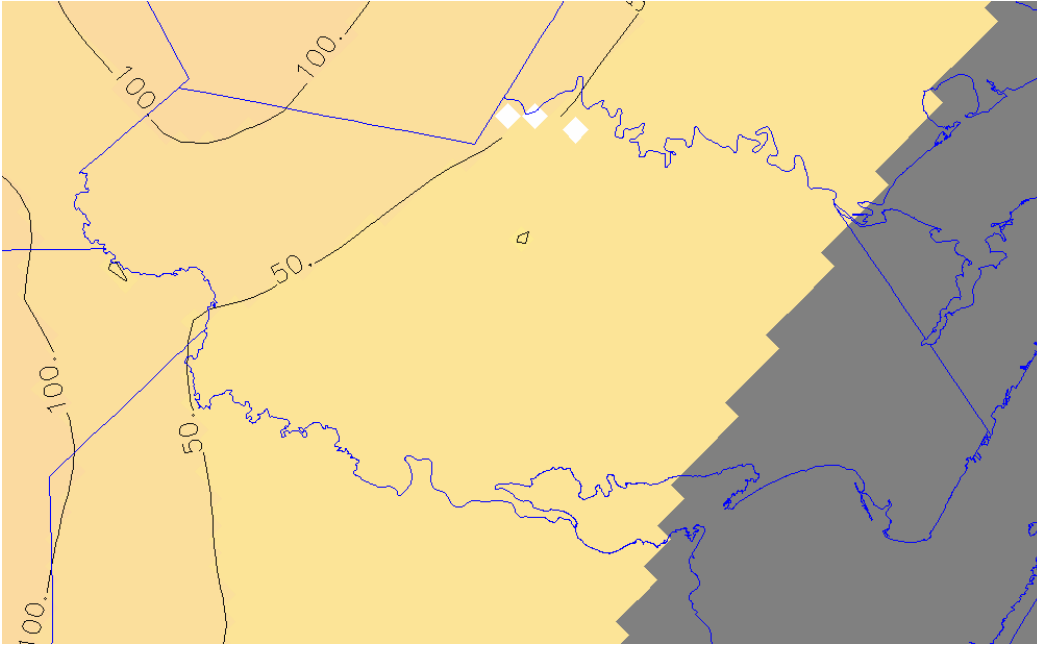
**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1,649	0	1,649
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	6,002	3,052	2,950
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	442	5,131	-4,689
WELLS	0	6,946	-6,946
DRAINS	0	270	-270
RECHARGE	12,061	0	12,061
ET	0	618	-618
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	211	2,184	-1,973
STREAM LEAKAGE	2,952	5,097	-2,145
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	23,318	23,298	20
DISCREPANCY [%]	0.09		

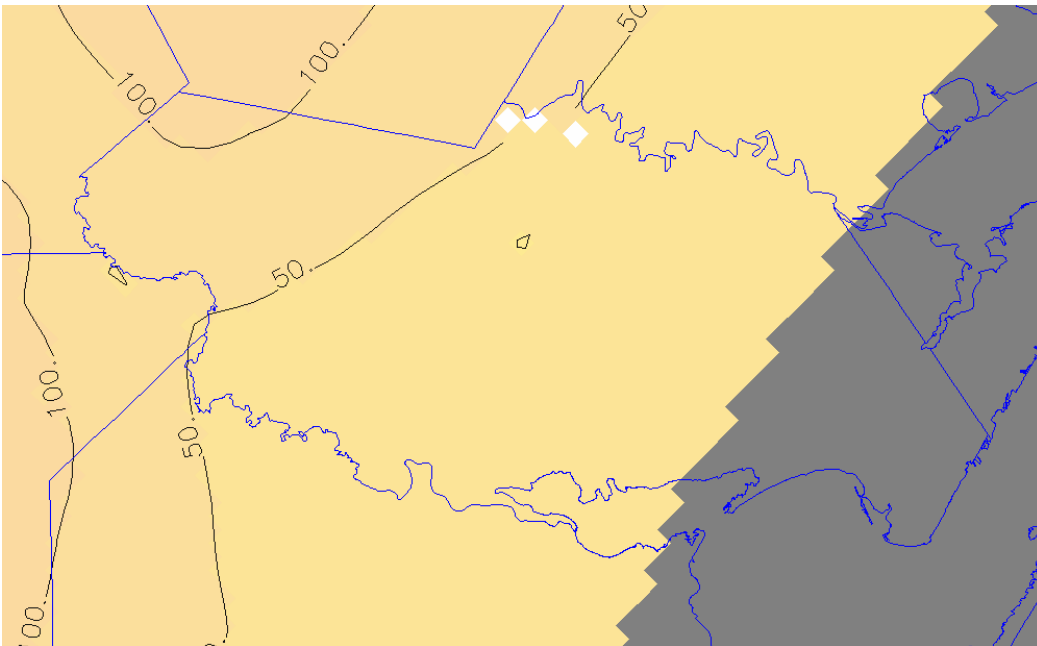
**San Patricio County**

**Evangeline Aquifer**

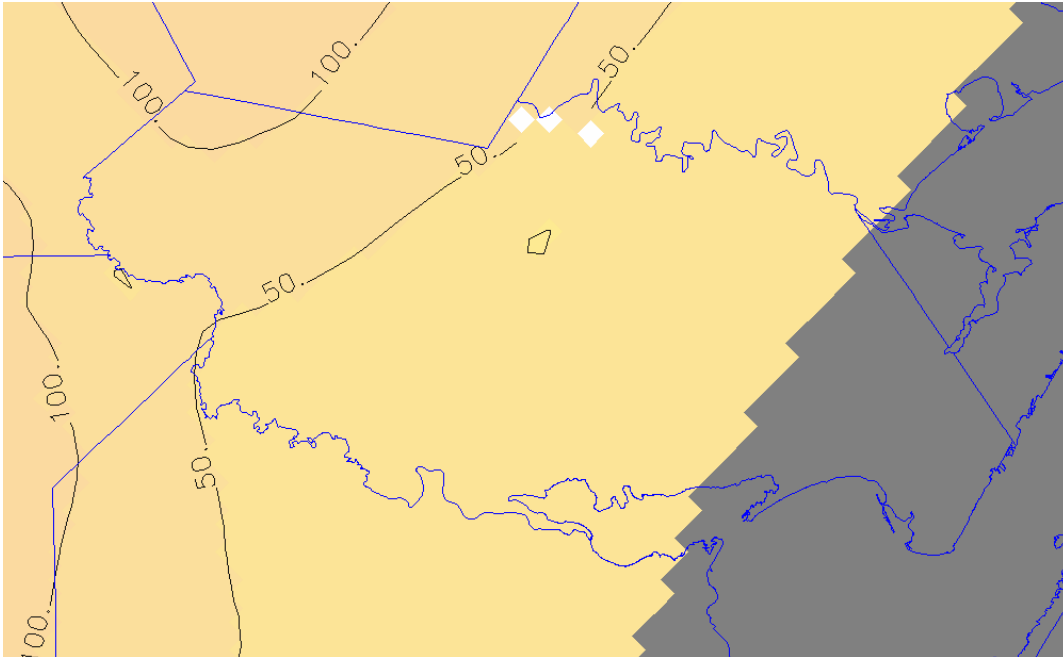
FLOW TERM	IN	OUT	IN-OUT
STORAGE	41	0	41
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	1,953	5,048	-3,095
EXCHANGE (UPPER)	5,131	442	4,689
EXCHANGE (LOWER)	689	0	689
WELLS	0	2,526	-2,526
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	11	-11
RIVER LEAKAGE	1,006	0	1,006
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	939	-939
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	8,971	8,966	5
DISCREPANCY [%]	0.06		



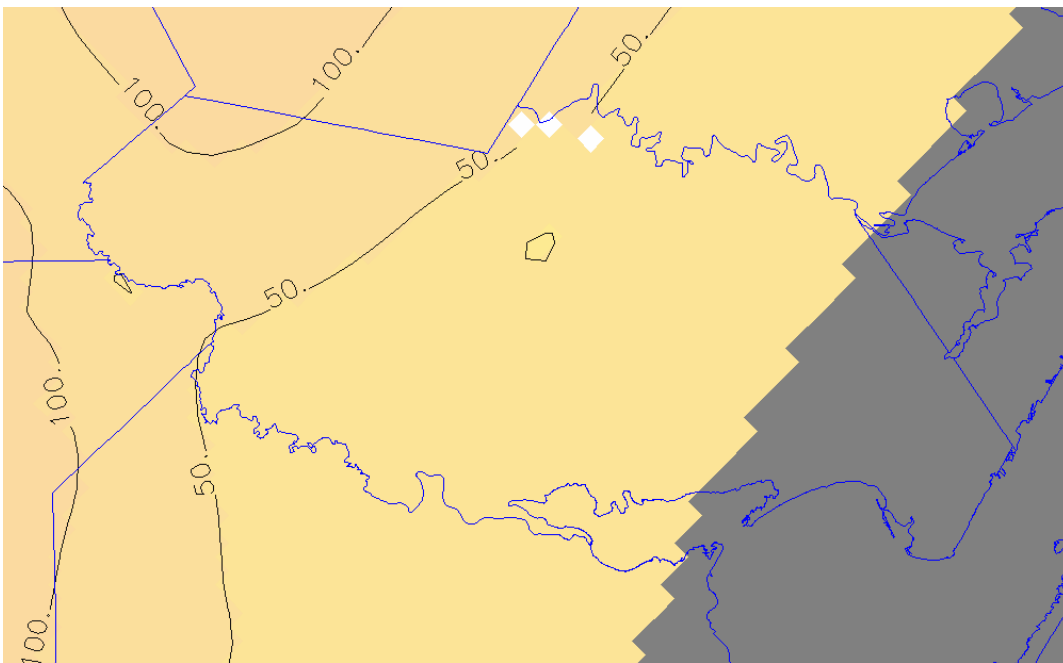
**Figure 74. Scenario 3: Water levels in the Evangeline aquifer in San Patricio County 2005 with combined 45,000 acre-feet per year pumping by SPMWD in San Patricio County. Contour interval is 50 feet.**



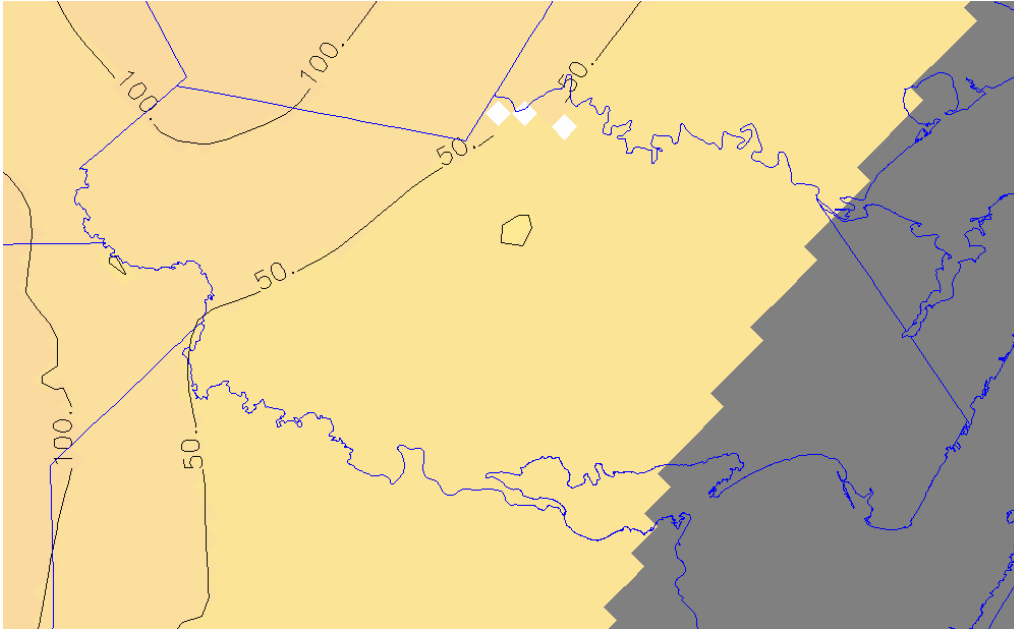
**Figure 75. Scenario 3: Water levels in the Evangeline aquifer in San Patricio County 2010 with combined 45,000 acre-feet per year pumping by SPMWD in San Patricio County. Contour interval is 50 feet.**



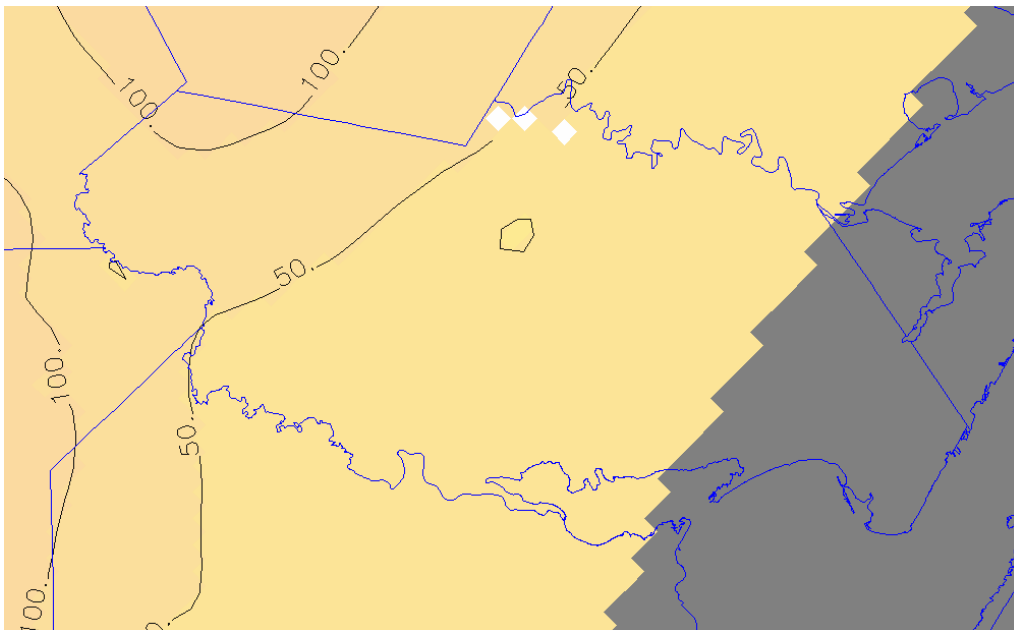
**Figure 76. Scenario 3: Water levels in the Evangeline aquifer in San Patricio County 2020 with combined 45,000 acre-feet per year pumping by SPMWD in San Patricio County. Contour interval is 50 feet.**



**Figure 77. Scenario 3: Water levels in the Evangeline aquifer in San Patricio County 2030 with combined 45,000 acre-feet per year pumping by SPMWD in San Patricio County. Contour interval is 50 feet.**

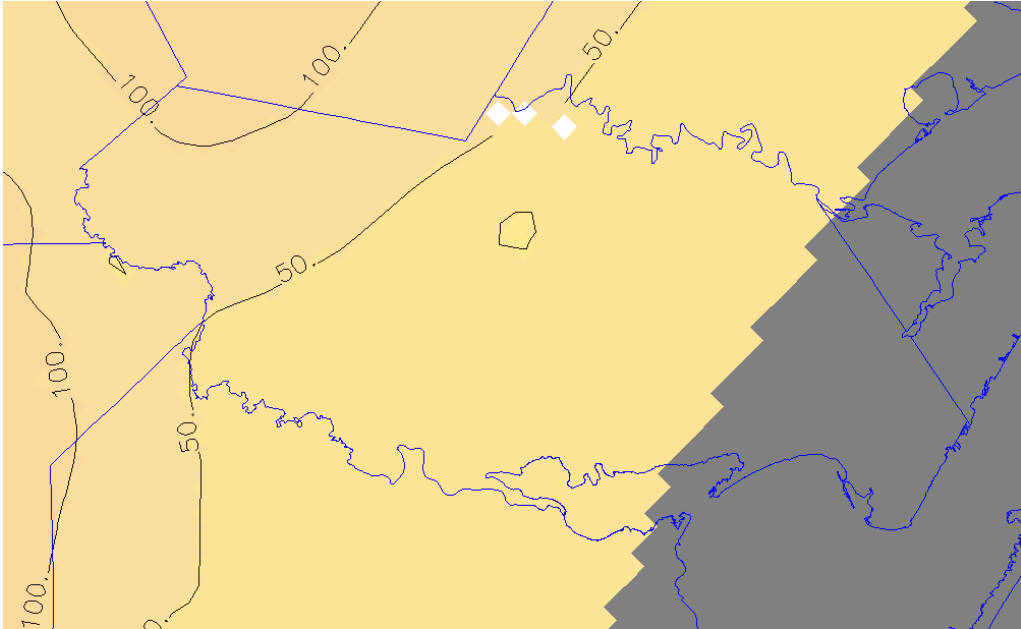


**Figure 78. Scenario 3: Water levels in the Evangeline aquifer in San Patricio County 2040 with combined 45,000 acre-feet per year pumping by SPMWD in San Patricio County. Contour interval is 50 feet.**



**Figure 79. Scenario 3: Water levels in the Evangeline aquifer in San Patricio County 2050 with combined 45,000 acre-feet per year pumping by SPMWD in San Patricio County. Contour interval is 50 feet.**





**Figure 80. Scenario 3: Water levels in the Evangeline aquifer in San Patricio County 2060 with combined 45,000 acre-feet per year pumping by SPMWD in San Patricio County. Contour interval is 50 feet.**

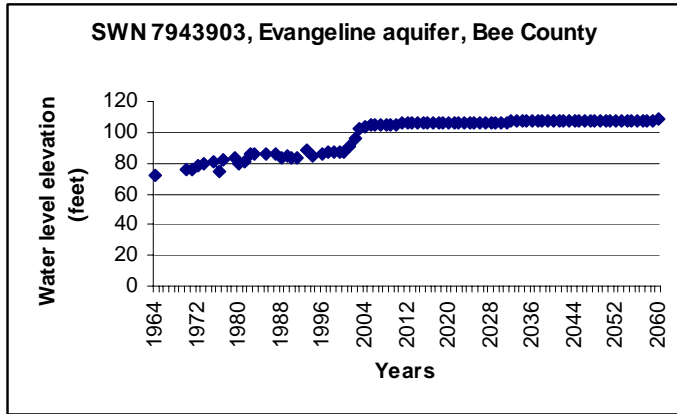
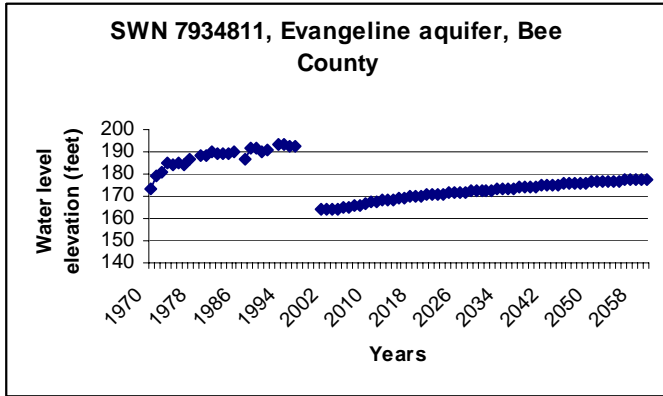
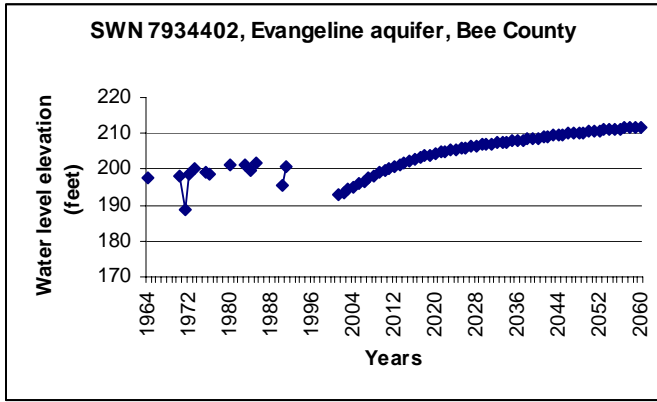
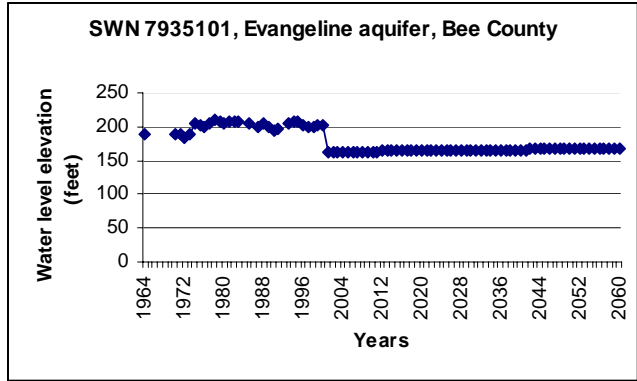


Figure 81. Scenario 3: Water-level hydrographs for Bee and San Patricio counties with 45,000 acre-feet per year combined pumping by the SPMWD in San Patricio County.

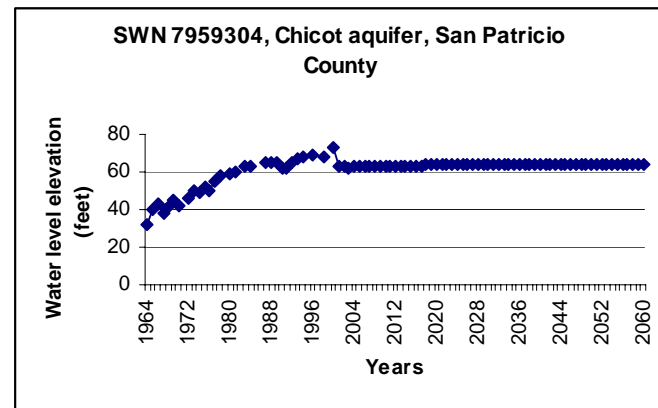
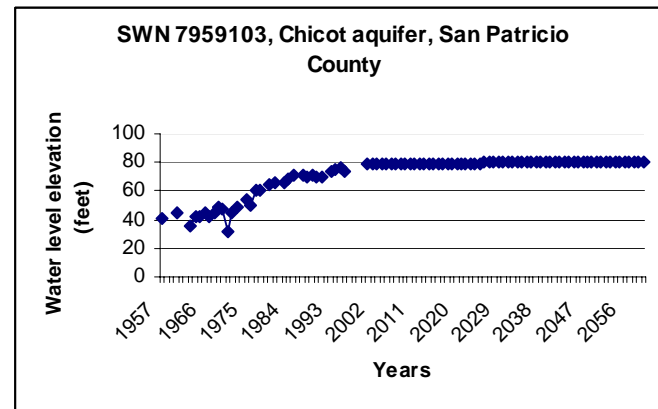
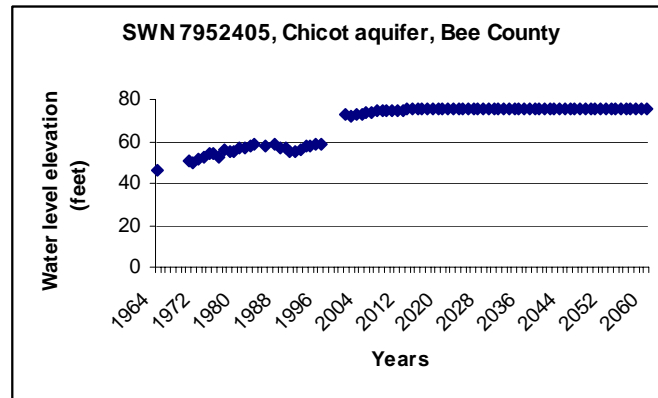
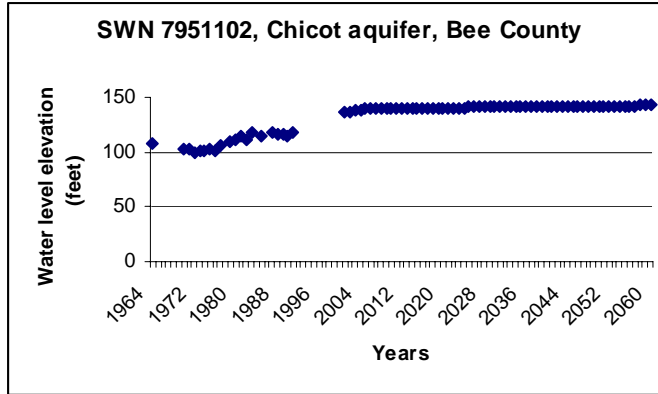


Figure 81 continued.

**Table 6: Scenario 3: Water budgets in Bee and San Patricio counties with 45,000 acre-feet per year combined pumping by SPMWD in San Patricio County.**

<b>Water Budget -- 2005</b>		Units acre-feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	IN	OUT	IN-OUT	
STORAGE	62	1281	-1219	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	624	9246	-8622	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	658	3950	-3292	
WELLS	0	1602	-1602	
DRAINS	0	0	0	
RECHARGE	18829	0	18829	
ET	0	1445	-1445	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	5579	8229	-2650	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	25751	25752	-1	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	IN	OUT	IN-OUT	
STORAGE	44	805	-761	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,705	7,189	-4,484	
EXCHANGE (UPPER)	3,950	658	3,292	
EXCHANGE (LOWER)	110	847	-738	
WELLS	0	3,369	-3,369	
DRAINS	0	0	0	
RECHARGE	4,836	0	4,836	
ET	0	470	-470	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,585	2,894	1,691	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	16,229	16,232	-4	
DISCREPANCY [%]	-0.02			

Table 6 continued.

**Water Budget – 2005  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	841	815	26
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,292	3,031	4,262
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	952	1,491	-539
WELLS	0	5,943	-5,943
DRAINS	0	347	-347
RECHARGE	12,061	0	12,061
ET	0	689	-689
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	51	2,780	-2,729
STREAM LEAKAGE	3,223	9,328	-6,105
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,421	24,424	-2
DISCREPANCY [%]	-0.01		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1	43	-42
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,595	946	1,649
EXCHANGE (UPPER)	1,491	952	539
EXCHANGE (LOWER)	379	6	373
WELLS	0	2,578	-2,578
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	908	0	908
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	989	-989
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,526	5,526	0
DISCREPANCY [%]	0		

Table 6 continued.

<b>Water Budget -- 2010</b>		Units acre- feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	23	464	-440	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	610	9220	-8609	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	697	3943	-3245	
WELLS	0	1605	-1605	
DRAINS	0	0	0	
RECHARGE	18829	0	18829	
ET	0	1472	-1472	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	5329	8787	-3458	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	25489	25490	-1	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	26	547	-521	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,697	7,250	-4,553	
EXCHANGE (UPPER)	3,943	697	3,245	
EXCHANGE (LOWER)	99	879	-779	
WELLS	0	3,221	-3,221	
DRAINS	0	0	0	
RECHARGE	4,836	0	4,836	
ET	0	467	-467	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,472	3,016	1,456	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	16,072	16,077	-5	
DISCREPANCY [%]	-0.03			

Table 6 continued.

**Water Budget – 2010  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	263	307	-43
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,330	2,958	4,371
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	984	1,455	-471
WELLS	0	6,013	-6,013
DRAINS	0	346	-346
RECHARGE	12,061	0	12,061
ET	0	690	-690
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	71	2,691	-2,621
STREAM LEAKAGE	3,184	9,433	-6,249
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	23,893	23,894	-1
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	2	9	-7
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,615	939	1,676
EXCHANGE (UPPER)	1,455	984	471
EXCHANGE (LOWER)	346	10	336
WELLS	0	2,540	-2,540
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	910	0	910
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	986	-986
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,480	5,480	0
DISCREPANCY [%]	0		

Table 6 continued.

<b>Water Budget -- 2020</b>		Units acre- feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	11	133	-122	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	604	9250	-8645	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	736	3897	-3161	
WELLS	0	1575	-1575	
DRAINS	0	0	0	
RECHARGE	18829	0	18829	
ET	0	1483	-1483	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	5251	9094	-3843	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	25432	25432	0	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	8	271	-263	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,680	7,413	-4,733	
EXCHANGE (UPPER)	3,897	736	3,161	
EXCHANGE (LOWER)	94	896	-802	
WELLS	0	2,939	-2,939	
DRAINS	0	0	0	
RECHARGE	4,836	0	4,836	
ET	0	464	-464	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,378	3,174	1,204	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	15,892	15,893	-1	
DISCREPANCY [%]	-0.01			



Table 6 continued.

**Water Budget -- 2020  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	230	65	165
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,417	2,927	4,490
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	999	1,499	-500
WELLS	0	6,467	-6,467
DRAINS	0	345	-345
RECHARGE	12,061	0	12,061
ET	0	688	-688
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	95	2,620	-2,526
STREAM LEAKAGE	3,200	9,391	-6,191
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,001	24,001	0
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	8	2	6
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,652	928	1,724
EXCHANGE (UPPER)	1,499	999	500
EXCHANGE (LOWER)	340	12	328
WELLS	0	2,640	-2,640
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	920	0	920
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	978	-978
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,571	5,571	0
DISCREPANCY [%]	0		

Table 6 continued.

<b>Water Budget -- 2030</b>		Units acre-foot/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	16	96	-80	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	608	9277	-8669	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	774	3854	-3081	
WELLS	0	1533	-1533	
DRAINS	0	0	0	
RECHARGE	18829	0	18829	
ET	0	1491	-1491	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	5241	9217	-3976	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	25468	25469	0	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	0	184	-184	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,676	7,485	-4,809	
EXCHANGE (UPPER)	3,854	774	3,081	
EXCHANGE (LOWER)	93	903	-810	
WELLS	0	2,680	-2,680	
DRAINS	0	0	0	
RECHARGE	4,836	0	4,836	
ET	0	465	-465	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,310	3,279	1,031	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	15,769	15,771	-2	
DISCREPANCY [%]	-0.01			

Table 6 continued.

**Water Budget -- 2030  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	97	58	39
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,484	2,872	4,612
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,024	1,477	-453
WELLS	0	6,544	-6,544
DRAINS	0	344	-344
RECHARGE	12,061	0	12,061
ET	0	687	-687
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	104	2,620	-2,516
STREAM LEAKAGE	3,187	9,355	-6,168
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	23,957	23,957	0
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	2	5	-3
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,658	925	1,733
EXCHANGE (UPPER)	1,477	1,024	453
EXCHANGE (LOWER)	340	12	328
WELLS	0	2,597	-2,597
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	923	0	923
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	977	-977
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,552	5,552	0
DISCREPANCY [%]	0		

Table 6 continued.

<b>Water Budget -- 2040</b>		Units acre- feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	0	132	-132	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	613	9297	-8684	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	761	3853	-3092	
WELLS	0	1211	-1211	
DRAINS	0	0	0	
RECHARGE	18782	0	18782	
ET	0	1515	-1515	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	5261	9411	-4150	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	25417	25418	-1	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	0	219	-219	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,678	7,533	-4,855	
EXCHANGE (UPPER)	3,853	761	3,092	
EXCHANGE (LOWER)	92	918	-826	
WELLS	0	2,437	-2,437	
DRAINS	0	0	0	
RECHARGE	4,882	0	4,882	
ET	0	470	-470	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,234	3,403	831	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	15,739	15,741	-2	
DISCREPANCY [%]	-0.01			

Table 6 continued.

**Water Budget -- 2040  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	49	75	-26
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,526	2,834	4,692
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,049	1,453	-403
WELLS	0	6,588	-6,588
DRAINS	0	343	-343
RECHARGE	12,061	0	12,061
ET	0	687	-687
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	106	2,640	-2,534
STREAM LEAKAGE	3,167	9,340	-6,173
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	23,959	23,959	0
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	1	7	-6
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,662	922	1,739
EXCHANGE (UPPER)	1,453	1,049	403
EXCHANGE (LOWER)	341	13	329
WELLS	0	2,550	-2,550
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	922	0	922
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	978	-978
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,531	5,531	0
DISCREPANCY [%]	0		

Table 6 continued.

<b>Water Budget -- 2050</b>		Units acre-foot/year		
<b>Bee County</b>	<b>Chicot Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	0	58	-58	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	617	9318	-8701	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	792	3815	-3023	
WELLS	0	1169	-1169	
DRAINS	0	0	0	
RECHARGE	18782	0	18782	
ET	0	1520	-1520	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	5229	9541	-4312	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	25421	25421	0	
DISCREPANCY [%]	0			
<b>Bee County</b>	<b>Evangeline Aquifer</b>			
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	0	146	-146	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,677	7,586	-4,908	
EXCHANGE (UPPER)	3,815	792	3,023	
EXCHANGE (LOWER)	94	922	-828	
WELLS	0	2,227	-2,227	
DRAINS	0	0	0	
RECHARGE	4,882	0	4,882	
ET	0	475	-475	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,181	3,501	679	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	15,649	15,649	0	
DISCREPANCY [%]	0			

Table 6 continued.

**Water Budget -- 2050  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	82	55	27
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,577	2,801	4,776
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,074	1,438	-364
WELLS	0	6,755	-6,755
DRAINS	0	342	-342
RECHARGE	12,061	0	12,061
ET	0	686	-686
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	111	2,657	-2,546
STREAM LEAKAGE	3,151	9,323	-6,172
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,056	24,056	0
DISCREPANCY [%]	0		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	2	4	-2
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,664	917	1,747
EXCHANGE (UPPER)	1,438	1,074	364
EXCHANGE (LOWER)	344	12	331
WELLS	0	2,526	-2,526
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	924	0	924
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	978	-978
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,524	5,524	0
DISCREPANCY [%]	0		

Table 6 continued.

<b>Water Budget -- 2060</b>		Units acre- feet/year		
<b>Bee County</b>		<b>Chicot Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	1	44	-43	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	622	9339	-8718	
EXCHANGE (UPPER)	0	0	0	
EXCHANGE (LOWER)	818	3783	-2965	
WELLS	0	1135	-1135	
DRAINS	0	0	0	
RECHARGE	18782	0	18782	
ET	0	1522	-1522	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	5220	9620	-4400	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	25443	25444	-1	
DISCREPANCY [%]	0			
<b>Bee County</b>		<b>Evangeline Aquifer</b>		
FLOW TERM	<b>IN</b>	<b>OUT</b>	<b>IN-OUT</b>	
STORAGE	0	122	-122	
CONSTANT HEAD	0	0	0	
HORIZ. EXCHANGE	2,676	7,626	-4,949	
EXCHANGE (UPPER)	3,783	818	2,965	
EXCHANGE (LOWER)	98	919	-821	
WELLS	0	2,043	-2,043	
DRAINS	0	0	0	
RECHARGE	4,882	0	4,882	
ET	0	481	-481	
RIVER LEAKAGE	0	0	0	
HEAD DEP BOUNDS	0	0	0	
STREAM LEAKAGE	4,140	3,575	565	
INTERBED STORAGE	0	0	0	
RESERV. LEAKAGE	0	0	0	
SUM OF THE LAYER	15,580	15,584	-4	
DISCREPANCY [%]	-0.03			



Table 6 continued.

**Water Budget --2060  
San Patricio County**

**Chicot Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	121	36	85
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	7,626	2,792	4,834
EXCHANGE (UPPER)	0	0	0
EXCHANGE (LOWER)	1,103	1,437	-334
WELLS	0	6,946	-6,946
DRAINS	0	340	-340
RECHARGE	12,061	0	12,061
ET	0	684	-684
RIVER LEAKAGE	0	0	0
HEAD DEP BOUNDS	118	2,654	-2,536
STREAM LEAKAGE	3,157	9,294	-6,137
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	24,186	24,183	2
DISCREPANCY [%]	0.01		

**San Patricio County**

**Evangeline Aquifer**

FLOW TERM	IN	OUT	IN-OUT
STORAGE	2	3	-1
CONSTANT HEAD	0	0	0
HORIZ. EXCHANGE	2,677	910	1,767
EXCHANGE (UPPER)	1,437	1,103	334
EXCHANGE (LOWER)	347	12	335
WELLS	0	2,525	-2,525
DRAINS	0	0	0
RECHARGE	152	0	152
ET	0	12	-12
RIVER LEAKAGE	927	0	927
HEAD DEP BOUNDS	0	0	0
STREAM LEAKAGE	0	977	-977
INTERBED STORAGE	0	0	0
RESERV. LEAKAGE	0	0	0
SUM OF THE LAYER	5,542	5,542	0
DISCREPANCY [%]	0		

**Table 7. Recharge rates and methodologies for the Texas Gulf Coast area (Chowdhury and others, 2004).**

Source	Recharge Rate (in/yr)	Study Area	Recharge Method
Groschen (1985)	0.06	San Patricio to Jim Hogg counties	Constant head
Ryder (1988)	0 to 6	Texas Gulf Coast	Specified head, top layer of the model
Dutton and Richter (1990)	0.1 to 0.4	Matagorda and Wharton counties	Head-dependent flux boundary, top layer of the model
Noble and others (1996)	6	Harris, Montgomery and Walker counties	Isotopes
Hay (1999)	0.078	Navidad River to Willacy County	Constant head
Harden and Associates (2001)	0.1 to 0.2	Brownsville and vicinity	Used maximum potential recharge (3 inches) and MODFLOW's River Package
Ryder and Ardis (2002)	0.12 <sup>1</sup> -0.25 <sup>2</sup>	Texas Gulf Coast	Specified head, top layer of the model
Kasmarek and Strom (2004)	0.32 <sup>3</sup> -0.43 <sup>4</sup>	Northern Gulf Coast GAM	Specified head, top layer of the model
Chowdhury and Mace (2004)	0.09 to 0.15	Southern Gulf Coast GAM	Calibrated recharge as a percent of distributed rainfall

1 = average recharge for the predevelopment model, 2 = average recharge for 1982

3 = average recharge for 1977, 4 = average recharge for 2000