# DRAFT GAM Run 09-008: GROUNDWATER MANAGEMENT AREA 16 MODEL RUNS TO ESTIMATE DRAWDOWNS UNDER ASSUMED FUTURE PUMPING FOR THE GULF COAST AQUIFER

by William R. Hutchison, Ph.D., P.E., P.G. Texas Water Development Board Groundwater Resources Division (512) 463-5067 June 7, 2011

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### **EXECUTIVE SUMMARY:**

Ten simulations of groundwater pumping were run using the Groundwater Management Area 16 model. Scenario 1 represented pumping that was requested by groundwater conservation district representatives of Groundwater Management Area 16. Scenarios 2 and 3 represented increases in pumping within the boundaries of Brush Country Groundwater Conservation District above the Scenario 1 values. Scenario 4 represented changes in Bee and McMullen counties from the Scenario 1 values. Scenarios 5 through 9 represented across-the-board decreases in pumping from Scenario 1. Scenario 10 represented individual county-by-county changes in pumping from Scenario 1. Scenarios 1 to 4 were completed by TWDB staff prior to the August 19, 2010 meeting of Groundwater Management 16. Scenarios 5 through 10 were completed during the August 19, 2010 meeting of Groundwater Management 16 during discussion of Scenarios 1 through 4.

Pumping and drawdown summaries of all ten scenarios are provided, as well as detailed sub-regional groundwater budgets of Scenario 10, which was used as the basis of establishing a desired future condition for Groundwater Management Area 16.

## **REQUESTOR:**

Mr. Scott Bledsoe from the Live Oak Underground Water Conservation District acting on behalf of Groundwater Management Area 16.

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### **DESCRIPTION OF REQUEST:**

Ten simulations of groundwater pumping were run using the Groundwater Management Area 16 model. Scenario 1 represented pumping that was requested by groundwater conservation district representatives of Groundwater Management Area 16. Scenarios 2 and 3 represented increases in pumping within the boundaries of Brush Country Groundwater Conservation District above the Scenario 1 values. Scenario 4 represented changes in Bee and McMullen counties from the Scenario 1 values. Scenarios 5 through 9 represented across-the-board decreases in pumping from Scenario 1. Scenario 10 represented individual county-by-county changes in pumping from Scenario 1. Scenarios 1 to 4 were completed by TWDB staff prior to the August 19, 2010 meeting of Groundwater Management 16. Scenarios 5 through 10 were completed during the August 19, 2010 meeting of Groundwater Management 16 during discussion of Scenarios 1 through 4.

### PARAMETERS AND ASSUMPTIONS:

- The Groundwater Management Area 16 groundwater flow model was used for these predictive simulations (Hutchison and others, 2011).
- The groundwater flow model encompasses the boundaries of Groundwater Management Area 16 and its underlying aquifer systems. The Groundwater Management Area 16 model includes portions of the underlying Gulf Coast, Yegua-Jackson, and Queen City-Sparta Carrizo-Wilcox aquifer systems. Layers 1 through 4 represent the Gulf Coast Aquifer System which is comprised of the Chicot Aquifer, Evangeline Aquifer, Burkeville Confining System, and Jasper Aquifer in descending order. Layer 5 is a bulk representation of the Yegua-Jackson Aquifer System including parts of the Catahoula Formation and layer 6 is a bulk representation of the Queen-City, Sparta, Carrizo-Wilcox aquifers (Hutchison and others, 2011).
- The transient groundwater flow model and the predictive simulations were run using MODFLOW 2000 (Harbaugh and others, 2000) with the Geometric Multigrid Solver (Wilson and Naff, 2004).
- The River Package was used to simulate the effects of flow between rivers, reservoirs, streams, creeks and the underlying aquifer systems in the Groundwater Management Area 16 model (Hutchison and others, 2011).

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- The Drain Package was used to simulate point (spring) and diffuse (wetland) discharges in the Groundwater Management Area 16 model (Hutchison and others, 2011).
- The General-Head Package was used to simulate lateral groundwater flow in the Groundwater Management Area 16 model along model boundaries (Hutchison and others, 2011).
- The average residual for the transient Groundwater Management Area 16 model is 14.66 feet. The standard deviation divided by the range of measured groundwater elevations is 0.039 and the absolute residual mean divided by the range is 3 percent.

### **METHODS AND RESULTS:**

The groundwater flow model for Groundwater Management Area 16 was calibrated from 1963 to 1999. These predictive simulations used average recharge conditions that were based on 1963 through 1999 recharge values from the Groundwater Management Area 16 transient groundwater flow model, general-head boundary values for 1999, and the river stage values for 1987. The river stage values for 1987 were used because annual precipitation factors drove the river stage estimates, and 1987 was an "average" precipitation year.

The simulations were run for 61 stress periods, covering the years 2000 to 2060. Pumping from 2000 to 2006 (stress periods 1 to 7) for all scenarios were set equal to pumping in the year 1999 from the calibrated model. Pumping for stress periods 8 to 60 were specified based on the scenario. The 1999 pumping was used for the first seven years of the predictive scenarios in order to allow the groundwater levels to adjust to average recharge conditions. Recharge for the last stress period in the transient model (1999) was relatively low compared to recharge averaged for 1963 through 1999. Groundwater level changes (drawdown) were calculated as the change in water levels from the end of 2010 to the end of 2060.

The pumping request by county and model layer made by the representatives of Groundwater Management Area 16 that was used in stress periods 8 to 60 of Scenario 1 is presented in Table 1. Pumping in Scenario 2 was a duplicate of the Scenario 1 with the exception that groundwater pumping in Brush Country Groundwater Conservation District was increased by a factor of 3 for stress periods 8 through 61. These pumping amounts are summarized in Table 2 by model layer and county.

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Pumping in Scenario 3 was also a duplicate of Scenario 1 with the exception that groundwater pumping in Brush Country Groundwater Conservation District was in increased by a factor of 5 for stress periods 8 through 61. These pumping amounts are summarized in Table 3 by model layer and county.

Drawdown estimates for Scenarios 1, 2 and 3 by county and for Gulf Coast Aquifer model layers are summarized in Tables 4, 5 and 6, respectively.

TABLE 1. REQUESTED GROUNDWATER PUMPING FOR SCENARIO 1 IN GROUNDWATER MANAGEMENT 16 BY COUNTY AND MODEL LAYER. ALL VALUES IN ACRE-FEET PER YEAR.

County	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	All Layers	Gulf Coast Layers
Bee	9,680	11,868	76	601	0	76	22,301	22,225
Brooks	222	3,859	0	0	0	0	4,081	4,081
Cameron	49,980	547	0	0	0	0	50,529	50,529
Duval	755	7,949	76	5,281	1	0	14,064	14,062
Hidalgo	10,208	39,791	0	0	0	0	49,999	49,999
JimHogg	0	878	0	4,001	0	0	4,880	4,879
JimWells	1,557	4,344	6	7	0	0	5,913	5,913
Ke ne dy	5,000	46,744	0	0	0	0	51,745	51,745
Kleberg	5,081	44,918	0	0	0	0	50,000	50,000
Live0ak	100	3,935	1,417	5,982	9	85	11,527	11,433
McMulle n	0	0	0	1,054	0	4	1,058	1,054
Nueces	2,431	6,569	0	0	0	0	9,000	9,000
SanPatricio	10,003	8,997	0	0	0	0	19,000	19,000
Starr	0	7,521	0	0	79	0	7,600	7,521
Webb	0	2,854	0	146	0	0	3,000	3,000
Willacy	7,000	25,000	0	0	0	0	32,000	32,000

Pumping in each county distributed evenly across entire county

Note that pumping in Bee, McMullen and Webb counties represent the entire county

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TABLE 2. REQUESTED GROUNDWATER PUMPING FOR SCENARIO 2 IN GROUNDWATER MANAGEMENT 16 BY COUNTY AND MODEL LAYER. ALL VALUES IN ACRE-FEET PER YEAR.

County	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	All Layers	Gulf Coast Layers
Bee	9,680	11,868	76	601	0	76	22,301	22,225
Brooks	422	9,411	0	0	0	0	9,833	9,833
Cameron	49,980	547	0	0	0	0	50,529	50,529
Duval	755	7,949	76	5,281	1	0	14,064	14,062
Hidalgo	10,588	40,597	0	0	0	0	51,185	51,185
Jim Hogg	0	2,634	0	12,004	1	0	14,640	14,639
Jim Wells	4,386	12,469	16	20	0	0	16,891	16,891
Kenedy	5,000	46,744	0	0	0	0	51,745	51,745
Kleberg	5,115	45,218	0	0	0	0	50,333	50,333
LiveOak	100	3,935	1,4 17	5,982	9	85	11,527	11,433
McMullen	0	0	0	1,054	0	4	1,058	1,054
Nueces	2,431	6,569	0	0	0	0	9,000	9,000
San Patricio	10,003	8,997	0	0	0	0	19,000	19,000
Starr	0	7,521	0	0	79	0	7,600	7,521
Webb	0	2,854	0	146	0	0	3,000	3,000
Willacy	7,000	25,000	0	0	0	0	32,000	32,000

Pumping in each county distributed evenly across entire county

Note that pumping in Bee, McMullen and Webb counties represent the entire county

TABLE 3. REQUESTED GROUNDWATER PUMPING FOR SCENARIO 3 IN GROUNDWATER MANAGEMENT 16 BY COUNTY AND MODEL LAYER. ALL VALUES IN ACRE-FEET PER YEAR.

								Gulf
County	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	All Layers	Coast
								Layers
Bee	9,680	11,868	76	601	0	76	22,301	22,225
Brooks	623	14,962	0	0	0	0	15,585	15,585
Cameron	49,980	547	0	0	0	0	50,529	50,529
Duval	755	7,949	76	5,281	1	0	14,064	14,062
Hidalgo	10,969	41,402	0	0	0	0	52,370	52,370
JimHogg	0	4,391	0	20,007	2	0	24,400	24,398
JimW ells	7,215	20,594	27	34	0	0	27,869	27,869
Kenedy	5,000	46,744	0	0	0	0	51,745	51,745
Kleberg	5,149	45,518	0	0	0	0	50,667	50,667
LiveOak	100	3,935	1,417	5,982	9	85	11,527	11,433
McMullen	0	0	0	1,054	0	4	1,058	1,054
Nueces	2,431	6,569	0	0	0	0	9,000	9,000
SanPatricio	10,003	8,997	0	0	0	0	19,000	19,000
Starr	0	7,521	0	0	79	0	7,600	7,521
Webb	0	2,854	0	146	0	0	3,000	3,000
Willacy	7,000	25,000	0	0	0	0	32,000	32,000

Pumping in each county distributed evenly across entire county

Note that pumping in Bee, McMullen and Webb counties represent the entire county

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TABLE 4. ESTIMATED GROUNDWATER MANAGEMENT AREA 16 DRAWDOWN IN 2060 BASED ON SCENARIO 1 PUMPING BY COUNTY AND MODEL LAYER CALCULATED FROM END OF 2010 CONDITIONS. ALL VALUES IN FEET.

					Gulf Coast
County	Layer 1	Layer 2	Layer 3	Layer 4	Aquifer
					Average
Bee	67	83	68	57	69
Brooks	48	88	63	63	68
Cameron	50	86	37	37	52
Du∨al	79	108	85	81	91
Hidalgo	59	101	59	58	71
JimWells	48	58	54	54	54
JimHogg		98	96	92	95
Kenedy	29	260	56	56	100
Kleburg	19	266	67	66	105
LiveOak	61	65	57	18	33
McMullen				11	11
Nueces	18	114	32	32	49
SanPatricio	31	90	24	24	42
Starr		108	93	68	88
Webb		232		78	158
Willacy	46	245	54	54	100
GMA 16 Average	38	137	57	55	76

TABLE 5. ESTIMATED GROUNDWATER MANAGEMENT AREA 16 DRAWDOWN IN 2060 BASED ON SCENARIO 2 PUMPING BY COUNTY AND MODEL LAYER CALCULATED FROM END OF 2010 CONDITIONS. ALL VALUES IN FEET.

					Gulf Coast
County	Layer 1	Layer 2	Layer 3	Layer 4	Aquifer
					Average
Bee	70	85	69	58	70
Brooks	68	125	99	98	102
Cameron	50	86	37	37	52
Duval	112	139	121	106	121
Hidalgo	64	106	64	63	76
JimWells	73	86	80	79	80
JimHogg		153	153	144	150
Kenedy	32	263	56	56	102
Kleburg	27	273	70	70	110
LiveOak	73	74	65	21	38
McMullen				11	11
Nueces	25	120	35	35	54
SanPatricio	34	93	26	26	45
Starr		132	119	88	111
Webb		248		101	178
Willacy	<b>4</b> 7	246	54	54	100
GMA 16 Average	44	153	69	68	88

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TABLE 6. ESTIMATED GROUNDWATER MANAGEMENT AREA 16 DRAWDOWN IN 2060 BASED ON SCENARIO 3 PUMPING BY COUNTY AND MODEL LAYER CALCULATED FROM END OF 2010 CONDITIONS. ALL VALUES IN FEET.

					Gulf Coast
County	Layer 1	Layer 2	Layer 3	Layer 4	Aquifer
					Average
Bee	72	86	71	59	71
Brooks	89	162	134	134	136
Cameron	50	86	37	37	52
Duval	1 <del>4</del> 6	171	158	131	150
Hidalgo	68	112	69	68	81
JimWells	98	115	107	105	107
JimHogg		208	211	196	204
Kenedy	36	267	57	57	104
Kleburg	35	280	73	73	115
LiveOak	84	83	74	23	43
McMullen				12	12
Nueces	33	126	38	38	59
SanPatricio	36	96	28	28	47
Starr		157	146	107	134
Webb		265		124	197
Willacy	<b>4</b> 7	246	54	54	101
GMA 16 Average	51	169	82	81	101

Based on a subsequent request prior to the August 19, 2010 meeting of Groundwater Management Area 16, Scenario 4 was run that included pumping reductions in Bee and Mc Mullen counties. A summary of the pumping for all four initial scenarios with only the county pumping totals is presented in Table 7, and pumping and drawdown comparison of Scenarios 1 and 4 by county is summarized in Table 8.

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TABLE 7. SUMMARY OF PUMPING TOTALS FOR THE FIRST FOUR SCENARIOS. ALL VALUES IN ACRE-FEET PER YEAR.

County	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Bee	22,301	22,301	22,301	18,000
Brooks	4,081	9,833	15,585	4,081
Cameron	50,529	50,529	50,529	50,529
Duval	14,064	14,064	14,064	14,064
Hidalgo	49,999	51,185	52,370	49,999
JimHogg	4,880	14,640	24,400	4,880
JimWells	5,913	16,891	27,869	5,913
Kenedy	51,745	51,745	51,745	51,745
Kleberg	50,000	50,333	50,667	50,000
LiveOak	11,527	11,527	11,527	11,527
McMullen	1,058	1,058	1,058	529
Nueces	9,000	9,000	9,000	9,000
SanPatricio	19,000	19,000	19,000	19,000
Starr	7,600	7,600	7,600	7,600
Webb	3,000	3,000	3,000	3,000
Willacy	32,000	32,000	32,000	32,000
GMA 16 Total	336,697	364,706	392,715	331,867

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TABLE 8. COMPARISON OF PUMPING AND ESTIMATED DRAWDOWN FOR SCENARIOS 1 AND 4.

	Scen	ario 1	Scen	ario 4
County	Pumping (AF/yr)	Drawdown (ft)	Pumping (AF/yr)	Drawdown (ft)
Bee	22,301	69	18,000	59
Brooks	4,081	68	4,081	68
Cameron	50,529	52	50,529	52
Duval	14,064	91	14,064	91
Hidalgo	49,999	71	49,999	71
JimHogg	4,880	54	4,880	53
JimWells	5,913	95	5,913	95
Kenedy	51,745	100	51,745	100
Kleberg	50,000	105	50,000	105
Live Oak	11,527	33	11,527	31
McMullen	1,058	11	529	10
Nueces	9,000	49	9,000	49
SanPatricio	19,000	42	19,000	40
Starr	7,600	88	7,600	88
Webb	3,000	158	3,000	158
Willacy	32,000	100	32,000	100
GMA 16	336,697	76	331,867	75

These four scenarios were discussed at the August 19, 2010 meeting of Groundwater Management Area 16. Based on the discussion, a series of runs were developed that were based on Scenario 1 that were designed to develop a better understanding of the relationship between future pumping and future drawdown:

- Scenario 5 represented 90 percent of the pumping of Scenario 1
- Scenario 6 represented 80 percent of the pumping of Scenario 1
- Scenario 7 represented 70 percent of the pumping of Scenario 1
- Scenario 8 represented 60 percent of the pumping of Scenario 1
- Scenario 9 represented 50 percent of the pumping of Scenario 1

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Table 9 summarizes the pumping by county for Scenarios 5 to 9, and includes Scenario 1 for comparison. Table 10 summarizes the drawdown for Scenarios 5 to 9, and includes Scenario 1 for comparison. The pumping versus drawdown relationship of Scenario 1 and Scenarios 5 to 9 is summarized in Figure 1.

TABLE 9. SUMMARY OF PUMPING FOR SCENARIOS 5 TO 9 BY COUNTY. ALL VALUES IN ACRE-FEET PER YEAR.

County	Scenario 1	Scenario 5 (90% of Scenario 1)	Scenario 6 (80% of Scenario 1)	Scenario 7 (70% of Scenario 1)	Scenario 8 (60% of Scenario 1)	Scenario 9 (50% of Scenario 1)
Bee	22,301	16,200	14,400	12,599	10,800	9,000
Brooks	4,081	3,673	3,265	2,857	2,449	2,041
Came ro n	50,529	45,477	40,422	35,369	30,317	25,265
Duvat	14,064	12,657	11,249	9,843	8,437	7,032
Hidalgo	49,999	45,001	40,000	35,001	30,000	24,999
JimHogg	4,880	4,392	3,904	3,416	2,928	2,440
JimWells	5,913	5,322	4,730	4,139	3,548	2,957
Ke ne dy	51,745	46,569	41,396	36,221	31,046	25,872
Kle be rg	50,000	45,000	40,000	35,000	30,000	25,000
Live Oak	11,527	10,375	9,222	8,069	6,916	5,764
McMullen	1,058	476	423	370	317	264
Nueces	9,000	8,100	7,200	6,300	5,400	4,500
SanPatricio	19,000	17,100	15,200	13,300	11,400	9,500
Starr	7,600	6,840	6,080	5,320	4,560	3,800
Webb	3,000	2,700	2,400	2,100	1,800	1,500
Willacy	32,000	28,800	25,600	22,400	19,200	16,000
GMA 16 Total	336,697	298,682	265,491	232,304	199,118	165,934

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TABLE 10. SUMMARY OF DRAWDOWN IN 2060 FOR SCENARIOS 5 TO 9 BY COUNTY. ALL VALUES IN FEET, AND ARE BASED ON A STARTING POINT OF 2010 CONDITIONS.

Co unty	Scenario 1	Scenario 5 (90% of Scenario 1)	Scenario 6 (80% of Scenario 1)	Scenario 7 (70% of Scenario 1)	Scenario 8 (60% of Scenario 1)	Scenario 9 (50% of Scenario 1)
Bee 16	69	52	46	39	33	27
Brooks	68	60	52	44	37	29
Came ro n	52	46	40	34	27	22
Duvat	91	82	74	65	57	49
Hidalgo	71	62	54	46	38	30
JimWells	54	47	41	35	29	23
JimHogg	95	87	79	70	62	54
Ke ne dy	100	90	79	69	58	48
Kle burg	105	92	79	67	54	42
Live Oak	33	27	23	19	16	13
McMullen16	11	9	9	9	8	8
Nueces	49	43	36	30	24	19
SanPatricio	42	35	29	24	19	15
Starr	88	80	71	63	55	46
Webb16	158	143	128	112	97	82
Willacy	100	89	79	68	57	47
GMA16	76	67	59	50	42	34

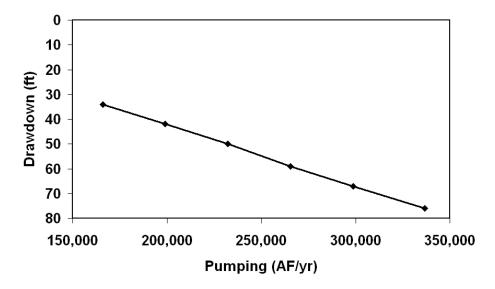


FIGURE 1. PUMPING VERSUS DRAWDOWN OF SCENARIO 1 AND SCENARIOS 5 TO 9 FOR GROUNDWATER MANAGEMENT AREA 16.

After further discussion, the groundwater conservation district representatives requested an additional model run, designated Scenario 10. Pumping input for Scenario 10 was specified and represented changing the pumping in some counties

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and not changing the pumping in other counties as compared to Scenario 1. Pumping for Scenario 10 by county and model layer is summarized in Table 11. Drawdown for Scenario 10 by county and model layer (Gulf Coast Aquifer only) and the average drawdown in the Gulf Coast Aquifer for each county are summarized in Table 12. Drawdown in each groundwater conservation district by model layer, the average drawdown in each groundwater conservation district and the total Gulf Coast Aquifer pumping in each groundwater conservation district is summarized in Table 13.

TABLE 11. REQUESTED GROUNDWATER PUMPING FOR SCENARIO 10 IN GROUNDWATER
MANAGEMENT 16 BY COUNTY AND MODEL LAYER. ALL VALUES IN ACRE-FEET PER YEAR.

								Gulf
County	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	All Layers	Coast
								Layers
Bee	8,673	10,634	68	539	0	68	19,982	19,914
Brooks	623	14,962	0	0	0	0	15,585	15,585
Cameron	49,980	547	0	0	0	0	50,529	50,529
Duval	755	7,949	76	5,281	1	0	14,064	14,062
Hidalgo	8,775	33,122	0	0	0	0	41,898	41,898
JimHogg	0	4,391	0	20,007	2	0	24,400	24,398
JimW ells	7,215	20,594	27	34	0	0	27,869	27,869
Kenedy	5,000	46,744	0	0	0	0	51,745	51,745
Kleberg	5,149	45,518	0	0	0	0	50,667	50,667
LiveOak	100	3,935	1,417	5,982	9	85	11,527	11,433
McMullen	0	0	0	527	0	2	529	527
Nueces	2,431	6,569	0	0	0	0	9,000	9,000
SanPatricio	10,003	8,997	0	0	0	0	19,000	19,000
Starr	0	7,521	0	0	79	0	7,600	7,521
Webb	0	2,854	0	146	0	0	3,000	3,000
Willacy	4,375	15,625	0	0	0	0	20,000	20,000

Pumping in each county distributed evenly across entire county

Note that pumping in Bee, McWullen and Webb counties represent the entire county

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TABLE 12. ESTIMATED GROUNDWATER MANAGEMENT AREA 16 DRAWDOWN IN 2060 BASED ON SCENARIO 10 PUMPING BY COUNTY AND MODEL LAYER CALCULATED FROM END OF 2010 CONDITIONS. ALL VALUES IN FEET.

					Gulf Coast
County	Layer 1	Layer 2	Layer 3	Layer 4	Aquifer
					Average
Bee	67	79	65	55	66
Brooks	84	157	130	130	131
Cameron	46	63	27	27	41
Duval	1 <del>4</del> 6	171	157	131	150
Hidalgo	55	91	57	56	66
JimWells	98	115	107	105	107
JimHogg		206	207	19 <del>4</del>	202
Kenedy	32	254	55	54	99
Kleburg	35	280	73	73	115
LiveOak	82	80	71	23	41
McMullen				11	11
Nueces	32	126	38	38	59
SanPatricio	34	94	27	27	46
Starr		150	137	102	127
Webb		265		124	197
Willacy	37	178	39	39	73
GMA 16 Average	46	158	77	77	94

TABLE 13. ESTIMATED GROUNDWATER MANAGEMENT AREA 16 DRAWDOWN IN 2060 BASED ON SCENARIO 10 PUMPING BY GROUNDWATER CONSERVATION DISTRICT AND MODEL LAYER CALCULATED FROM END OF 2010 CONDITIONS. GULF COAST AQUIFER AVERAGE DRAWDOWN AND PUMPING BY GROUNDWATER CONSERVATION DISTRICT ARE ALSO PRESENTED.

Guarra di cata u	Drawe	down (ft) in 20	60 from Estima	ated 2010 Con	ditions	Total Gulf
Groundwater Conservation District	Layer 1	Layer 2	Layer 3	Layer 4	Gulf Coast Aquifer Average	Coast Aquifer Pumping (AF/yr)
Bee	59	72	54	49	58	10,653
Brush Country	97	164	151	154	150	68,595
Corpus Christi	12	69	25	25	33	1,794
Duval	146	171	157	131	150	14,055
Kenedy	41	241	62	61	101	94,804
LiveO ak	82	80	71	23	41	11,433
McMullen				10	10	510
Red Sands		40	40	40	40	584
San Patricio	34	94	27	27	46	19,000
Starr		150	137	102	127	7,521

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### **LIMITATIONS:**

The groundwater model used in completing this analysis is the best available scientific tool that can be used to meet the stated objective(s). To the extent that this analysis will be used for planning purposes and/or regulatory purposes related to pumping in the past and into the future, it is important to recognize the assumptions and limitations associated with the use of the results. In reviewing the use of models in environmental regulatory decision making, the National Research Council (2007) noted:

"Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results."

A key aspect of using the groundwater model to evaluate the impacts of future pumping is the need to make assumptions about the location in the aquifer where future pumping will occur. In this case, as noted, pumping in each county is evenly distributed. This assumption was necessary, in part, due to the generally large increases in pumping as compared to historic pumping. There is a fair degree of uncertainty in many of these estimates due to the large increases in pumping in areas that had not historically been stressed. As actual pumping changes in the future, it will be necessary to evaluate the amount of that pumping as well as its location in the context of the assumptions associated with this analysis. Evaluating the amount and location of future pumping is as important as evaluating the changes in groundwater levels, spring flows, and other metrics that describe the impacts of that pumping. This analysis does not assess the possible impacts of pumping such as reduced water quality or land surface subsidence.

In addition, certain assumptions have been made regarding future precipitation, recharge, and streamflow in evaluating the impacts of future pumping. Those assumptions also need to be considered and compared to actual future data.

Given these limitations, users of this information are cautioned that the results should not be considered a definitive, permanent prediction of the changes in groundwater

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storage, streamflow and spring flow. Because the application of the groundwater model was designed to address regional scale questions, the results are most effective on a regional scale. The TWDB makes no warranties or representations relating to the actual conditions of any aquifer at a particular location or at a particular time.

It is important for groundwater conservation districts to monitor future groundwater pumping and overall conditions of the aquifer. Because of the limitations of the groundwater model and the assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine this analysis in the future given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future.

The groundwater conservation districts in Groundwater Management Area 16 adopted desired future conditions based on Scenario 10, and requested that TWDB develop sub-regional groundwater budgets for all county and district areas within Groundwater Management District 16. These sub-regional groundwater budgets are summarized in Appendix A.

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# Appendix A

Sub-Regional Groundwater Budgets for Groundwater Management Area 16 Counties and Groundwater Conservation Districts Draft Report GAM Run 09-008: Groundwater Management Area 16 Model Runs to Estimate Drawdowns under Assumed Future Pumping for the Gulf Coast Aquifer June 7, 2011
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TABLE A-1. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, GROUNDWATER MANAGEMENT AREA 16. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

				INFI	LOW					OUTI	LOW					
Year	Net River Leakage	Recharge	Net Vertical Leakage Lower	Lateral	Net Lateral Flow From GMA 15	Lateral	Net Lateral Flow From Mexico	Total Inflow	Wells	Drains	Net River Leakage	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010		51,105	16,464	18	4,201	17,677	14,238	103,703	358,096	2,168	4,465	364,729	-261,026	-261,023	-3	0.00
2011	-	51,105	17,138	20	4,409	20,169	14,671	107,512	358,096	1,865	2,111	362,072	-254,560	-254,545	-15	0.00
2012		51,105	17,788	22	4,551	22,255	15,089	110,810	358,096	1,681	201	359,978	-249,168	-249,161	-7	0.00
2013	1,582	51,105	18,413	23	4,686	24,032	15,490	115,331	358,096	1,513	-	359,609	-244,278	-244,274	-4	0.00
2014	3,273	51,105	19,015	24	4,813	25,571	15,867	119,668	358,096	1,351		359,447	-239,779	-239,777	-2	0.00
2015	4,890	51,105	19,597	26	4,931	26,924	16,207	123,680	358,096	1,196		359,292	-235,612	-235,612	0	0.00
2016	6,353	51,105	20,155	27	5,041	28,128	16,530	127,339	358,096	1,051	-	359,147	-231,808	-231,779	-29	0.00
2017	7,731	51,105	20,696	28	5,140	29,214	16,839	130,753	358,096	962	-	359,058	-228,305	-228,249	-56	0.00
2018	8,857	51,105	21,218	29	5,233	30,204	17,135	133,781	358,096	893	-	358,989	-225,208	-225,040	-168	0.00
2019	9,880	51,105	21,723	29	5,327	31,117	17,423	136,604	358,096	831	-	358,927	-222,323	-222,263	-60	0.00
2020	10,838	51,105	22,213	30	5,421	31,962	17,692	139,261	358,096	774	-	358,870	-219,609	-219,582	-27	0.00
2021	11,758	51,105	22,688	31	5,514	32,753	17,952	141,801	358,096	717		358,813	-217,012	-217,008	-4	0.00
2022	12,665	51,105	23,149	32	5,605	33,495	18,206	144,257	358,096	661	-	358,757	-214,500	-214,495	-5	0.00
2023	13,532	51,105	23,597	32	5,696	34,195	18,453	146,610	358,096	609		358,705	-212,095	-212,059	-36	0.00
2024	14,382	51,105	24,034	33	5,789	34,860	18,693	148,896	358,096	576		358,672	-209,776	-209,777	1	0.00
2025	15,095	51,105	24,460	33	5,881	35,492	18,925	150,991	358,096	543		358,639	-207,648	-207,525	-123	0.00
2026	15,711	51,105	24,877	34	5,972	36,094	19,150	152,943	358,096	510		358,606	-205,663	-205,595	-68	0.00
2027	16,291	51,105	25,281	34	6,069	36,671	19,370	154,821	358,096	474		358,570	-203,749	-203,731	-18	0.00
2028	16,874	51,105	25,674	36	6,165	37,225	19,583	156,662	358,096	441	-	358,537	-201,875	-201,864	-11	0.00
2029	17,376	51,105	26,058	36	6,259	37,760	19,789	158,383	358,096	421	-	358,517	-200,134	-200,082	-52	0.00
2030	17,857	51,105	26,434	36	6,352	38,277	19,992	160,053	358,096	397	-	358,493	-198,440	-198,424	-16	0.00
2031	18,313	51,105	26,801	37	6,443	38,777	20,188	161,664	358,096	372	-	358,468	-196,804	-196,809	5	0.00
2032	18,760	51,105	27,163	37	6,523	39,260	20,380	163,228	358,096	347		358,443	-195,215	-195,210	-5	0.00
2033	19,176	51,105	27,515	37	6,603	39,731	20,567	164,734	358,096	321	-	358,417	-193,683	-193,663	-20	0.00
2034	19,571	51,105	27,860	38	6,681	40,186	20,749	166,190	358,096	305	-	358,401	-192,211	-192,179	-32	0.00
2035	19,908	51,105	28,198	38	6,758	40,632	20,926	167,565	358,096	304		358,400	-190,835	-190,837	2	0.00
2036	20,205	51,105	28,529	38	6,833	41,065	21,100	168,875	358,096	303	-	358,399	-189,524	-189,485	-39	0.00
2037	20,469	51,105	28,853	38	6,906	41,489	21,269	170,129	358,096	301	-	358,397	-188,268	-188,246	-22	0.00
2038	20,683	51,105	29,168	38	6,977	41,902	21,433	171,306	358,096	300		358,396	-187,090	-187,093	3	0.00
2039	20,883	51,105	29,472	39	7,048	42,306	21,594	172,447	358,096	299	-	358,395	-185,948	-185,932	-16	0.00
2040	21,028	51,105	29,773	39	7,116	42,703	21,752	173,516	358,096	297	-	358,393	-184,877	-184,836	-41	0.00
2041	21,167	51,105	30,067	39	7,184	43,093	21,905	174,560	358,096	296		358,392	-183,832	-183,832	0	0.00
2042	21,282	51,105	30,356	39	7,250	43,477	22,057	175,566	358,096	295	-	358,391	-182,825	-182,810	-15	0.00
2043	21,392	51,105	30,639	39	7,315	43,853	22,204	176,547	358,096	293	-	358,389	-181,842	-181,842	0	0.00
2044	21,498	51,105	30,921	39	7,380	44,224	22,351	177,518	358,096	292	-	358,388	-180,870	-180,874	4	0.00
2045	21,581	51,105	31,196	39	7,443	44,589	22,495	178,448	358,096	291	-	358,387	-179,939	-179,922	-17	0.00
2046	21,635	51,105	31,466	39	7,504	44,950	22,636	179,335	358,096	290		358,386	-179,051	-179,054	3	0.00
2047	21,689	51,105	31,730	39	7,566	45,305	22,775	180,209	358,096	289	-	358,385	-178,176	-178,178	2	0.00
2048	21,743	51,105	31,991	39	7,626	45,657	22,912	181,073	358,096	288	-	358,384	-177,311	-177,316	5	0.00
2049	21,795	51,105	32,246	39	7,685	46,003	23,045	181,918	358,096	287		358,383	-176,465	-176,466	1	0.00
2050	21,848	51,105	32,497		7,744		23,178		358,096	286		358,382	-175,624	-175,629	5	0.00
2050	21,898	51,105	32,743		7,801	46,686	23,306	183,578	358,096	285	-	358,381	-174,803	-174,803	0	0.00
2051	21,946	51,105	32,983				23,433	184,386	358,096	284		358,380	-173,994	-173,997	3	0.00
2052	21,995	51,105	33,220			47,353	23,557	185,183	358,096	283	-	358,379	-173,196	-173,199		0.00
2053	22,040	51,105	33,451	39	7,969	47,681	23,679	185,964	358,096	282	-	358,378	-172,414	-172,415	1	0.00
2055	22,040	51,105	33,678			48,007	23,798	186,730	358,096	281	-	358,377	-171,647	-172,413	1	0.00
2055	22,122	51,105	33,902		· ·	48,329	23,758	187,488	358,096	280	-	358,376	-170,888	-170,890	2	0.00
2057	22,122	51,105	34,122		8,129		24,030	188,237	358,096	279		358,375	-170,138	-170,140	2	0.00
2057	22,103	51,105	34,339			48,965	24,030	188,978	358,096	278	-	358,374	-169,396	-169,399	3	0.00
2059	22,246	51,105	34,553		· ·	49,279	24,256	189,711	358,096	277	-	358,373	-168,662	-168,667	5	0.00
2060	22,288	51,105	34,763				24,236	190,436		276		358,372	-167,936	-167,942	6	0.00
2000	22,288	21,103	34,703	39	8,284	49,091	24,300	190,430	0,090	2/0	-	2/ 5,5 د د	-107,930	-107,942	0	V.U(

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TABLE A-2. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, GROUNDWATER MANAGEMENT AREA 16 OF BEE COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

				INFLOW						OUTFLOW						
Year	River Leakage	Recharge	Net Vertical Leakage Lower	Net Lateral Flow From Bee15	Net Lateral Flow From Karnes15	Net Lateral Flow From LiveOak	Total Inflow	Wells	Net Lateral Flow To Beel6 White	Net Lateral Flow To LiveOak	Net Lateral Flow To San Patricio	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	470	2,208	119	1,416	5	-	4,218	10,600	-	203	2,038	12,841	-8,623	-8,622	-1	0.01%
2011	470	2,208	213	1,556	5	-	4,452	10,600	2	144	1,852	12,598	-8,146	-8,147	1	0.01%
2012	470	2,208	303	1,684	5	-	4,670	10,600	4	96	1,687	12,387	-7,717	-7,715	-2	0.02%
2013	470	2,208	392	1,805	5	-	4,880	10,600	5	56	1,541	12,202	-7,322	-7,322	0	0.00%
2014	470	2,208	477	1,916	5	-	5,076	10,600	6	22	1,409	12,037	-6,961	-6,962	1	0.01%
2015	470	2,208	560	2,020	5	7	5,270	10,600	8	-	1,292	11,900	-6,630	-6,629	-1	0.01%
2016	470	2,208	640	2,118	5	31	5,472	10,600	9	-	1,185	11,794	-6,322	-6,321	-1	0.01%
2017	470	2,208	717	2,209	5	53	5,662	10,600	9	-	1,089	11,698	-6,036	-6,036	0	0.00%
2018	470	2,208	791	2,295	5	71	5,840	10,600	10	-	1,003	11,613	-5,773	-5,771	-2	0.02%
2019	470	2,208	863	2,378	5	86	6,010	10,600	11	-	926	11,537	-5,527	-5,526	-1	0.01%
2020	470	2,208	933	2,456	5	100	6,172	10,600	10	-	860	11,470	-5,298	-5,300	2	0.02%
2021	470	2,208	999	2,530	5	111	6,323	10,600	11	-	801	11,412	-5,089	-5,089	0	0.00%
2022	470	2,208	1,063	2,602	5	121	6,469	10,600	11	-	748	11,359	-4,890	-4,892	2	0.02%
2023	470	2,208	1,125	2,670	5	128	6,606	10,600	12	-	701	11,313	-4,707	-4,707	0	0.00%
2024	470	2,208	1,185	2,734	5	135	6,737	10,600	13	-	657	11,270	-4,533	-4,533	0	0.00%
2025	470	2,208	1,242	2,796	5	141	6,862	10,600	13	-	619	11,232	-4,370	-4,369	-1	0.01%
2026	470	2,208	1,297	2,856	5	144	6,980	10,600	13	-	584	11,197	-4,217	-4,216	-1	0.01%
2027	470	2,208	1,350	2,914	5	148	7,095	10,600	14	-	552	11,166	-4,071	-4,071	0	0.00%
2028	470	2,208	1,400	2,969	5	150	7,202	10,600	14	-	522	11,136	-3,934	-3,934	0	0.00%
2029	470	2,208	1,449	3,022	5	151	7,305	10,600	14	-	495	11,109	-3,804	-3,803	-1	0.01%
2030	470	2,208	1,495	3,073	5	153	7,404	10,600	14	-	470	11,084	-3,680	-3,680	0	0.00%
2031	470	2,208	1,541	3,122	5	153	7,499	10,600	14	-	448	11,062	-3,563	-3,562	-1	0.01%
2032	470	2,208	1,584	3,169	5	153	7,589	10,600	15	-	427	11,042	-3,453	-3,451	-2	0.02%
2033	470	2,208	1,627	3,215	5	153	7,678	10,600	15	-	408	11,023	-3,345	-3,345	0	0.00%
2034	470	2,208	1,666	3,258	5	152	7,759	10,600	15	-	390	11,005	-3,246	-3,245	-1	0.01%
2035	470	2,208	1,706	3,301	5	150	7,840	10,600	15	-	374	10,989	-3,149	-3,149	0	0.00%
2036	470	2,208	1,744	3,341	5	149	7,917	10,600	15	-	359	10,974	-3,057	-3,058	1	0.01%
2037	470	2,208	1,780	3,380	5	146	7,989	10,600	15	-	345	10,960	-2,971	-2,971	0	0.00%
2038	470	2,208	1,814	3,419	5	145	8,061	10,600	16	-	333	10,949	-2,888	-2,888	0	0.00%
2039	470	2,208	1,848	3,456	5	142	8,129	10,600	16	-	323	10,939	-2,810	-2,809	-1	0.01%
2040	470	2,208	1,881	3,492	5	140	8,196	10,600	16	-	313	10,929	-2,733	-2,733	0	0.00%
2041	470	2,208	1,912	3,526	5	137	8,258	10,600	16	-	305	10,921	-2,663	-2,661	-2	0.02%
2042	470	2,208	1,943	3,560	5	133	8,319	10,600	15	-	296	10,911	-2,592	-2,593	1	0.01%
2043	470	2,208	1,972	3,594	5	130	8,379	10,600	16	-	291	10,907	-2,528	-2,528	0	0.00%
2044	470	2,208	1,999	3,626	5	127	8,435	10,600	16	-	285	10,901	-2,466	-2,466	0	0.00%
2045	470	2,208	2,027	3,658	5	123	8,491	10,600	16	-	281	10,897	-2,406	-2,407	1	0.01%
2046	470	2,208	2,054	3,688	6	119	8,545	10,600	17	-	278	10,895	-2,350	-2,350	0	0.00%
2047	470	2,208	2,079	3,719	6	114	8,596	10,600	16		275	10,891	-2,295	-2,296	1	0.01%
2048	470	2,208	2,103	3,748	6	110	8,645	10,600	16		273	10,889	-2,244	-2,244	0	0.00%
2049	470	2,208	2,128	3,778	6	105	8,695	10,600	16		272	10,888	-2,193	-2,194	1	0.01%
2050	470	2,208	2,152	3,806	6	101	8,743	10,600	16		272	10,888	-2,145	-2,146	1	0.01%
2051	470		2,174		6		8,789	10,600	17		271	10,888	-2,099	-2,099	0	0.00%
2052	470		2,196		6	93	8,835	10,600	16		271	10,887	-2,052	-2,055	3	0.03%
2053	470		2,217	3,889	6	88		10,600	17	-	272	10,889	-2,011	-2,012	1	0.01%
2054	470		2,238		6	83		10,600	17	-	274	10,891	-1,972	-1,971	-1	0.01%
2055	470		2,258	3,940	6	79		10,600	16		275	10,891	-1,930	-1,931	1	0.01%
2056	470		2,278		6	74		10,600	17		277	10,894	-1,892	-1,893	1	0.01%
2057	470		2,296	3,991	6	69	9,040	10,600	16		280	10,896	-1,856	-1,856	0	0.00%
2058	470		2,315	4,016	6	65		10,600	17		282	10,899	-1,819	-1,820	1	0.01%
2059	470		2,333	4,040	6	60	_	10,600	17		285	10,902	-1,785	-1,786	1	0.01%
2060	470	2,208	2,350	4,064	6	56	9,154	10,600	16	-	289	10,905	-1,751	-1,752	1	0.01%

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TABLE A-3. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, GROUNDWATER MANAGEMENT AREA 16 OF BEE COUNTY, NON-DISTRICT AREA. ALL VALUES IN ACREFEET PER YEAR, EXCEPT AS NOTED.

		INF	LOW		OUTI	LOW				
Year	Recharge	Vertical Leakage Lower	Net Lateral Flow From Beel6	Total Inflow	Wells	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	21	11	-	32	60	60	-28	-28	0	0.00%
2011	21	11	2	34	60	60	-26	-26	0	0.00%
2012	21	12	4	37	60	60	-23	-24	1	1.65%
2013	21	12	5	38	60	60	-22	-22	0	0.00%
2014	21	12	6	39	60	60	-21	-20	-1	1.68%
2015	21	13	8	42	60	60	-18	-19	1	1.65%
2016	21	13	9	43	60	60	-17	-18	1	1.65%
2017	21	14	9	44	60	60	-16	-17	1	1.65%
2018	21	14	10	45	60	60	-15	-16	1	1.65%
2019	21	14	11	46	60	60	-14	-15	1	1.65%
2020	21	15	10	46	60	60	-14	-14	0	0.00%
2021	21	15	11	47	60	60	-13	-13	0	0.00%
2022	21	15	11	47	60	60	-13	-12	-1	1.68%
2023	21	15	12	48	60	60	-12	-12	0	0.00%
2024	21	16	13	50	60	60	-10	-11	1	1.65%
2025	21	16	13	50	60	60	-10	-11	1	1.65%
2026	21	16	13	50	60	60	-10	-10	0	0.00%
2027	21	16	14	51	60	60	-9	-10	1	1.65%
2028	21	16	14	51	60	60	-9	-9	0	0.00%
2029	21	17	14	52	60	60	-8	-9	1	1.65%
2030	21	17	14	52	60	60	-8	-9	1	1.65%
2031	21	17	14	52	60	60	-8	-8	0	0.00%
2032	21	17	15	53	60	60	-7	-8	1	1.65%
2033	21	17	15	53	60	60	-7	-8	1	1.65%
2034	21	17	15	53	60	60	-7	-7	0	0.00%
2035	21	17	15	53	60	60	-7	-7	0	0.00%
2036	21	17	15	53	60	60	-7	-7	0	0.00%
2037	21	17	15	53	60	60	-7	-7	0	0.00%
2038	21	18	16	55	60	60	-5	-6	1	1.65%
2039	21	18	16	55	60	60	-5	-6	1	1.65%
2040	21	18	16	55	60	60	-5	-6	1	1.65%
2041	21	18	16	55	60	60	-5	-6	1	1.65%
2042	21	18	15	54	60	60	-6	-6	0	0.00%
2043	21	18	16	55	60	60	-5	-6	1	1.65%
2044	21	18	16	55	60	60	-5	-5	0	0.00%
2045	21	18	16	55	60	60	-5	-5	0	0.00%
2046	21	18	17	56	60	60	-4	-5	1	1.65%
2047	21	18	16	55	60	60	-5	-5	0	0.00%
2048	21	18	16	55	60	60	-5	-5	0	0.00%
2049	21	18	16	55	60	60	-5	-5	0	0.00%
2050	21	18	16	55	60	60	-5	-5	0	0.00%
2051	21	18	17	56	60	60	-4	-5	1	1.65%
2052	21	18	16	55	60	60	-5	-4	-1	1.68%
2053	21	19	17	57	60	60	-3	-4	1	1.65%
2054	21	19	17	57	60	60	-3	-4	1	1.65%
2055	21	19	16	56	60	60	-4	-4	0	0.00%
2056	21	19	17	57	60	60	-3	-4	1	1.65%
2057	21	19	16	56	60	60	-4	-4	0	0.00%
2058	21	19	17	57	60	60	-3	-4	1	1.65%
2059	21	19	17	57	60	60	-3	-4	1	1.65%
2060	21	19	16	56	60	60	-4	-4	0	0.00%

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TABLE A-4. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, BROOKS COUNTY, BRUSH COUNTRY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

Year 2010 2011 2012	River Leakage			INFI		Net					Net		OUTFLOW								\ <u> </u>
2010 2011			Vertical Leakage	Net Lateral Flow From	Net Lateral Flow From	Lateral Flow From Jim Wells Brush	Net Lateral Flow From	Total		Net Lateral Flow To Brooks	Lateral Flow To Hidalgo Brush	Net Lateral Flow To Jim Wells Brush	Net Lateral Flow To	Net Lateral Flow To Kleburg	Net Lateral Flow To Kleburg	Net Lateral Flow To	Total	Inflow -	Storage	Model	Model Error
2011		Recharge	Lower	Duval	JimHogg	Country	Starr	Inflow	Wells	Kenedy	Country	Country	Kenedy	Kenedy	White	Starr	Outflow	Outflow	Change	Error	(percent)
	726	1,966	2,549	516	5,657	12		11,426	14,394	5,727	621		397	365	206	374	22,084	-10,658	-10,656	-2	-
	726 726	1,966	2,504	643 748	5,503	-	-	11,342	14,394	5,582	604	45 89		386	216 224	332	21,960	-10,618	-10,616	-2 0	-
2012	726	1,966 1,966	2,463 2,424	838	5,364 5,238		-	11,267 11,192	14,394 14,394	5,438 5,290	586 567	125	401 398	402 415	230	292 255	21,826 21,674	-10,559 -10,482	-10,559 -10,482	0	
2014	726	1,966	2,389	916	5,127			11,124	14,394	5,138	548	155	393	426	236	221	21,511	-10,387	-10,387	0	
2015	726	1,966	2,357	983	5,027			11,059	14,394	4,985	530	180	388	434	240	187	21,338	-10,279	-10,278	-1	
2016	726	1,966	2,328	1,043	4,938			11,001	14,394	4,844	512	200	382	440	244	157	21,173	-10,172	-10,170	-2	0.01%
2017	726	1,966	2,301	1,096	4,858			10,947	14,394	4,703	494	217	376	444	247	127	21,002	-10,055	-10,054	-1	0.00%
2018	726	1,966	2,276	1,142	4,788			10,898	14,394	4,562	477	232	369	447	249	99	20,829	-9,931	-9,929	-2	0.01%
2019	726	1,966	2,253	1,184	4,724	-		10,853	14,394	4,423	461	244	362	449	251	73	20,657	-9,804	-9,803	-1	-
2020	726	1,966	2,232	1,222	4,666	-	-	10,812	14,394	4,285	446	256	355	450	252	48	20,486	-9,674	-9,672	-2	_
2021	726	1,966	2,213	1,255	4,614	-	-	10,774	14,394	4,148	431	266	348	451	253	25	20,316	-9,542	-9,539	-3	-
2022	726 726	1,966 1,966	2,195 2,178	1,285 1,313	4,567 4,524		- 19	10,739	14,394 14,394	4,011 3,876	417 404	275 284	340 333	451 451	254 254	2	20,144 19,996	-9,405 0,270	-9,403 -9,266	-2 -4	-
2023	726	1,966	2,178	1,338	4,324	-	41	10,726 10,719	14,394	3,740	391	291	326	450	255	-	19,847	-9,270 -9,128	-9,200 -9,128	-4	-
2025	726	1,966	2,148	1,361	4,449		59	10,709	14,394	3,608	379	299	318	449	255	-	19,702	-8,993	-8,990	-3	
2026	726	1,966	2,135	1,381	4,416		78	10,702	14,394	3,481	366	306	311	448	255		19,561	-8,859	-8,856	-3	-
2027	726	1,966	2,122	1,400	4,387		96	10,697	14,394	3,356	356	312	303	446	254		19,421	-8,724	-8,725	1	_
2028	726	1,966	2,110	1,417	4,359		113	10,691	14,394	3,235	345	318	296	444	254		19,286	-8,595	-8,595	0	0.00%
2029	726	1,966	2,099	1,433	4,333		129	10,686	14,394	3,117	335	324	289	442	254		19,155	-8,469	-8,468	-1	0.01%
2030	726	1,966	2,088	1,447	4,310	-	145	10,682	14,394	3,001	326	328	282	440	253	-	19,024	-8,342	-8,343	1	0.01%
2031	726	1,966	2,078	1,460	4,288		160	10,678	14,394	2,889	317	334	275	438	253	-	18,900	-8,222	-8,222	0	-
2032	726	1,966	2,069	1,472	4,268		174	10,675	14,394	2,780	309	338	269	436	252	-	18,778	-8,103	-8,103	0	
2033	726	1,966	2,060	1,483	4,250		188	10,673	14,394	2,673	301	343	262	434	252	-	18,659	-7,986	-7,987	1	
2034	726 726	1,966 1,966	2,051	1,493 1,502	4,232 4,216	-	200 213	10,668	14,394 14,394	2,571 2,473	294 286	348 352	256 250	432 429	251 250	-	18,546 18,434	-7,878 -7,768	-7,873 -7,766	-5 -2	-
2036	726	1,966	2,043	1,502	4,210	-	226	10,667	14,394	2,380	280	355	244	429	250	-	18,330	-7,663	-7,663	-2	-
2037	726	1,966	2,028	1,519	4,188		237	10,664	14,394	2,290	273	358	239	425	249	-:-	18,228	-7,564	-7,563	-1	-
2038	726	1,966	2,021	1,527	4,175		249	10,664	14,394	2,203	267	362	234	423	248		18,131	-7,467	-7,466	-1	-
2039	726	1,966	2,015	1,533	4,162		260	10,662	14,394	2,118	260	364	229	421	247	-	18,033	-7,371	-7,371	0	-
2040	726	1,966	2,009	1,540	4,152	-	270	10,663	14,394	2,036	255	368	224	419	247	-	17,943	-7,280	-7,279	-1	0.01%
2041	726	1,966	2,003	1,545	4,142		281	10,663	14,394	1,956	249	370	219	417	246		17,851	-7,188	-7,189	1	0.01%
2042	726	1,966	1,997	1,551	4,132		291	10,663	14,394	1,878	244	373	214	416	245		17,764	-7,101	-7,101	0	0.00%
2043	726	1,966	1,992	1,556	4,123		300	10,663	14,394	1,803	239	375	209	414	245		17,679	-7,016	-7,015	-1	-
2044	726	1,966	1,986	1,560	4,114	•	309	10,661	14,394	1,730	234	378	204	412	244	-	17,596	-6,935	-6,932	-3	-
2045	726	1,966	1,981	1,565	4,107		318	10,663	14,394	1,658	230	381	200	410	243	-	17,516	-6,853 6,772	-6,850 6,771	-3 -2	_
2046	726 726	1,966 1,966	1,977 1,972	1,569 1,574	4,099 4,093		326 335	10,663 10,666	14,394 14,394	1,588 1,521	225 221	382 385	196 191	408 407	243 242	-	17,436 17,361	-6,773 -6,695	-6,771 -6,694	-2 -1	_
2047	726	1,966	1,972	1,577	4,093		343	10,667	14,394	1,321	217	387	187	407	242		17,287	-6,620	-6,620	-1	0.01%
2049	726	1,966	1,964	1,581	4,081	-	352	10,670	14,394	1,392	212	389	183	404	241	-	17,215	-6,545	-6,547	2	-
2050	726	1,966	1,960	1,584	4,075		359	10,670	14,394	1,331	209	392	179	402	240		17,147	-6,477	-6,477	0	0.00%
2051	726	1,966	1,956	1,587	4,070		367	10,672	14,394	1,272	205	394	176	401	240		17,082	-6,410	-6,408	-2	-
2052	726	1,966	1,952	1,589	4,066		373	10,672	14,394	1,214	201	395	172	399	239		17,014	-6,342	-6,342	0	0.00%
2053	726	1,966	1,949	1,592	4,061		381	10,675	14,394	1,157	197	398	168	398	239	-	16,951	-6,276	-6,277	1	0.01%
2054	726	1,966	1,945	1,594	4,057		387	10,675	14,394	1,103	194	399	165	397	238		16,890	-6,215	-6,214	-1	-
2055	726	1,966	1,942	1,596	4,054	-	395	10,679	14,394	1,050	191	401	161	396	238	-	16,831	-6,152	-6,152	0	-
2056	726	1,966	1,939	1,598	4,050	-	401	10,680	14,394	998	187	403		394	237	-	16,771	-6,091	-6,092	1	_
2057	726	1,966	1,936	1,600	4,046		407	10,681	14,394	948	185	405	155	393	237		16,717	-6,036	-6,033	-3	-
2058	726	1,966	1,933	1,602	4,044		414	10,685	14,394	899	181	407	152	392	236	-	16,661	-5,976	-5,976 5,000	0	-
2059	726 726	1,966 1,966	1,930 1,927	1,604 1,606	4,041 4,039	-	419 425	10,686 10,689	14,394 14,394	851 805	179 176	408 411	149 146	391 390	236 235	-	16,608 16,557	-5,922 -5,868	-5,920 -5,866	-2 -2	_

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TABLE A-5. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, BROOKS COUNTY, KENEDY COUNTY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

		INFI	LOW				OUTI	LOW						
Year	Net River Leakage	Recharge	Net Lateral Flow From Brooks Brush Country	Total Inflow	Wells	Net Lateral Flow To Hidalgo Brush Country	Net Lateral Flow To Hidalgo Kenedy	Net Lateral Flow To Kenedy	Net Lateral Flow To Kleburg Kenedy	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	73	619	5,727	6,419	1,201	140	2,216	9,509	1,609	14,675	-8,256	-8,255	-1	0.019
2011	157	619	5,582	6,358	1,201	145	2,231	9,707	1.595	14,879	-8,521	-8,519	-2	0.019
2012	157	619	5,438	6,214	1,201	148	2,181	9,785	1,570	14,885	-8,671	-8,671	0	0.009
2013	157	619	5,290	6,066	1,201	150	2,113	9,784	1,538	14,786	-8,720	-8,721	1	0.019
2014	157	619	5,138	5,914	1,201	150	2,036	9,732	1,503	14,622	-8,708	-8,710	2	0.019
2015	157	619	4,985	5,761	1,201	151	1,954	9,647	1,468	14,421	-8,660	-8,660	0	0.00
2016	157	619	4,844	5,620	1,201	151	1,869	9,551	1,445	14,217	-8,597	-8,598	1	0.019
2017	157	619	4,703	5,479	1,201	151	1,782	9,442	1,422	13,998	-8,519	-8,519	0	0.00
2018	157	619	4,562	5,338	1,201	150	1,694	9,322	1,396	13,763	-8,425	-8,428	3	0.029
2019	157	619	4,423	5,199	1,201	150	1,649	9,193	1,372	13,565	-8,366	-8,367	1	0.01
2020	157	619	4,285	5,061	1,201	149	1,583	9,058	1,348	13,339	-8,278	-8,280	2	0.01
2021	157	619	4,148	4,924	1,201	149	1,515	8,923	1,324	13,112	-8,188	-8,188	0	0.00
2022	157	619	4,011	4,787	1,201	148	1,448	8,784	1,299	12,880	-8,093	-8,095	2	0.02
2023	157	619	3,876	4,652	1,201	147	1,381	8,647	1,276	12,652	-8,000	-8,001	1	0.019
2024	157	619	3,740	4,516	1,201	147	1,315	8,509	1,251	12,423	-7,907	-7,907	0	0.00
2025	157	619	3,608	4,384	1,201	146	1,249	8,372	1,228	12,196	-7,812	-7,813	1	0.01
2026	157	619	3,481	4,257	1,201	145	1,256	8,226	1,204	12,032	-7,775	-7,777	2	0.02
2027	157	619	3,356	4,132	1,201	145	1,241	8,079	1,181	11,847	-7,715	-7,715	0	0.00
2028	157	619	3,235	4,011	1,201	144	1,224	7,933	1,157	11,659	-7,648	-7,649	1	0.00
2029	157	619	3,117	3,893	1,201	143	1,207	7,789	1,134	11,474	-7,581	-7,583	2	0.02
2030	157	619	3,001	3,777	1,201	142	1,191	7,647	1,112	11,293	-7,516	-7,517	1	0.02
2030	157	619	2,889	3,665	1,201	142	1,176	7,506	1,091	11,116	-7,451	-7,452	1	0.01
2031	157	619	2,780	3,556	1,201	141	1,170	7,370	1,069	10,942	-7,386	-7,387	1	0.01
2032	157	619	2,780	3,449	1,201	141	1,147	7,235	1,009	10,773	-7,324	-7,323	-1	0.01
2033	157	619	2,571	3,347	1,201	141	1,147	7,103	1,049	10,773	-7,324	-7,323	1	0.01
2034	157	619	2,473	3,249	1,201	139	1,133	6,977	1,029	10,449	-7,200	-7,200	2	0.01
2035	157	619	2,473	3,249	1,201	139	1,120	6,856	997	10,301	-7,200	-7,202	1	0.02
2030													2	0.01
	157	619	2,290	3,066	1,201	138	1,095	6,738	982	10,154	-7,088	-7,090		
2038	157	619	2,203	2,979	1,201	138	1,084	6,623	967	10,013	-7,034	-7,035	1	0.019
2039	157	619	2,118	2,894	1,201	138	1,073	6,511	952	9,875	-6,981	-6,982		0.019
2040	157	619	2,036	2,812	1,201	137	1,062	6,401	939	9,740	-6,928	-6,929	1	0.019
2041	157	619	1,956	2,732	1,201	137	1,052	6,293	925	9,608	-6,876	-6,877	1	0.01
2042	157	619	1,878	2,654	1,201	136	1,041	6,189	911	9,478	-6,824	-6,826	2	0.02
2043	157	619	1,803	2,579	1,201	136	1,032	6,085	898	9,352	-6,773	-6,775	2	0.029
2044	157	619	1,730	2,506	1,201	136	1,022	5,985	885	9,229	-6,723	-6,726	3	0.039
2045	157	619	1,658	2,434	1,201	135	1,014	5,888	873	9,111	-6,677	-6,678	1	0.019
2046	157	619	1,588	2,364	1,201	135	1,005	5,792	862	8,995	-6,631	-6,631	0	0.009
2047	157	619	1,521	2,297	1,201	135	997	5,698	850	8,881	-6,584	-6,586	2	0.029
2048	157	619	1,456	2,232	1,201	135	988	5,609	839	8,772	-6,540	-6,541	1	0.01
2049	157	619	1,392	2,168	1,201	134	981	5,520	829	8,665	-6,497	-6,498	1	0.019
2050	157	619	1,331	2,107	1,201	134		5,434	819	8,561	-6,454		1	0.01
2051	157	619	1,272	2,048	1,201	134	966	5,350	809	8,460	-6,412	-6,414	2	0.02
2052	157	619	1,214	1,990	1,201	134	959	5,269	799	8,362	-6,372	-6,373	1	0.01
2053	157	619	1,157	1,933	1,201	133	952	5,189	790	8,265	-6,332	-6,333	1	0.01
2054	157	619	1,103	1,879	1,201	133	945	5,110	781	8,170	-6,291	-6,295	4	0.059
2055	157	619	1,050	1,826	1,201	133	939	5,035	773	8,081	-6,255	-6,256	1	0.019
2056	157	619	998	1,774	1,201	133	933	4,960	765	7,992	-6,218	-6,219	1	0.019
2057	157	619	948	1,724	1,201	133	926	4,888	757	7,905	-6,181	-6,183	2	0.03
2058	157	619	899	1,675	1,201	133	921	4,817	748	7,820	-6,145	-6,147	2	0.039
2059	157	619	851	1,627	1,201	132	915	4,748	741	7,737	-6,110	-6,111	1	0.019
2060	157	619	805	1,581	1,201	132	909	4,680	733	7,655	-6,074	-6,077	3	0.04

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TABLE A-6. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, CAMERON COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

			INF	LOW				OUTFLOW					
Year	Net River Leakage	Recharge	Net Lateral Flow From Gulf	Net Lateral Flow From HidalgoWh ite	Net Lateral Flow From Mexico	Total Inflow	Wells	Net Lateral Flow To WillacyWh ite	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	4,505	2,500	2,455	4,562	8,725	22,747	50,561	681	51,242	-28,495	-28,497	2	0.00%
2011	4,727	2,500	2,876	4,719	9,044	23,866	50,561	648	51,209	-27,343	-27,341	-2	0.00%
2012	4,795	2,500	3,231	4,835	9,326	24,687	50,561	618	51,179	-26,492	-26,491	-1	0.00%
2013	4,861	2,500	3,540	4,924	9,579	25,404	50,561	590	51,151	-25,747	-25,746	-1	0.00%
2014	4,924	2,500	3,815	4,994	9,804	26,037	50,561	564	51,125	-25,088	-25,086	-2	0.00%
2015	4,978	2,500	4,063	5,052	9,992	26,585	50,561	537	51,098	-24,513	-24,515	2	0.00%
2016	5,003	2,500	4,290	5,098	10,165	27,056	50,561	511	51,072	-24,016	-23,996	-20	0.04%
2017	5,018	2,500	4,499	5,138	10,326	27,481	50,561	486	51,047	-23,566	-23,567	1	0.00%
2018	5,029	2,500	4,696	5,171	10,478	27,874	50,561	465	51,026	-23,152	-23,149	-3	0.01%
2019	5,029	2,500	4,880	5,199	10,624	28,232	50,561	447	51,008	-22,776	-22,775	-1	0.00%
2020	5,029	2,500	5,054	5,224	10,755	28,562	50,561	431	50,992	-22,430	-22,431	1	0.00%
2021	5,029	2,500	5,218	5,246	10,882	28,875	50,561	419	50,980	-22,105	-22,105	0	0.00%
2022	5,029	2,500	5,375	5,265	11,006	29,175	50,561	407	50,968	-21,793	-21,795	2	0.00%
2023	5,029	2,500	5,525	5,281	11,126	29,461	50,561	399	50,960	-21,499	-21,499	0	0.00%
2024	5,029	2,500	5,669	5,296	11,242	29,736	50,561	391	50,952	-21,216	-21,216	0	0.00%
2025	5,029	2,500	5,807	5,311	11,354	30,001	50,561	385	50,946	-20,945	-20,945	0	0.00%
2026	5,029	2,500	5,940	5,323	11,464	30,256	50,561	380	50,941	-20,685	-20,685	0	0.00%
2027	5,029	2,500	6,068	5,335	11,571	30,503	50,561	375	50,936	-20,433	-20,434	1	0.00%
2028	5,029	2,500	6,192	5,345	11,675	30,741	50,561	373	50,934	-20,193	-20,192	-1	0.00%
2029	5,029	2,500	6,312	5,355	11,777	30,973	50,561	371	50,932	-19,959	-19,958	-1	0.00%
2030	5,029	2,500	6,430	5,364	11,876	31,199	50,561	369	50,930	-19,731	-19,732	1	0.00%
2031	5,029	2,500	6,543	5,373	11,973	31,418	50,561	368	50,929	-19,511	-19,512	1	0.00%
2032	5,029	2,500	6,654	5,380	12,068	31,631	50,561	367	50,928	-19,297	-19,299	2	0.00%
2033	5,029	2,500	6,761	5,387	12,160	31,837	50,561	367	50,928	-19,091	-19,092	1	0.00%
2034	5,029	2,500	6,866	5,394	12,250	32,039	50,561	368	50,929	-18,890	-18,891	1	0.00%
2035	5,029	2,500	6,969	5,401	12,339	32,238	50,561	370	50,931	-18,693	-18,695	2	0.00%
2036	5,029	2,500	7,068	5,407	12,425	32,429	50,561	372	50,933	-18,504	-18,503	-1	0.00%
2037	5,029	2,500	7,168	5,412	12,510	32,619	50,561	375	50,936	-18,317	-18,317	0	0.00%
2038	5,029	2,500	7,263	5,417	12,593	32,802	50,561	376	50,937	-18,135	-18,135	0	0.00%
2039	5,029	2,500	7,358	5,422	12,675	32,984	50,561	380	50,941	-17,957	-17,957	0	0.00%
2040	5,029	2,500	7,450	5,427	12,755	33,161	50,561	384	50,945	-17,784	-17,783	-1	0.00%
2041	5,029	2,500	7,541	5,432	12,834	33,336	50,561	388	50,949	-17,613	-17,613	0	0.00%
2042	5,029	2,500	7,630	5,436	12,911	33,506	50,561	392	50,953	-17,447	-17,447	0	0.00%
2043	5,029	2,500	7,718	5,440	12,988	33,675	50,561	397	50,958	-17,283	-17,283	0	0.00%
2044	5,029	2,500	7,804	5,443	13,063	33,839	50,561	402	50,963	-17,124	-17,123	-1	0.00%
2045	5,029	2,500	7,889	5,447	13,136	34,001	50,561	407	50,968	-16,967	-16,967	0	0.00%
2046	5,029	2,500	7,972	5,451	13,209	34,161	50,561	412	50,973	-16,812	-16,813	1	0.00%
2047	5,029	2,500	8,055	5,454	13,280	34,318	50,561	419	50,980	-16,662	-16,662	0	
2048	5,029	2,500	8,136	5,457	13,350	34,472	50,561	425	50,986	-16,514	-16,513	-1	0.00%
2049	5,029	2,500	8,216	5,460	13,420	34,625	50,561	431	50,992	-16,367	-16,368	1	0.00%
2050				5,463	13,488	34,775	50,561	439	51,000	-16,225	-16,225	0	
2051	5,029	2,500	8,372	5,466	13,555	34,922	50,561	445	51,006	-16,084	-16,084	0	
2052	5,029	2,500	8,449	5,469	13,620	35,067	50,561	453	51,014	-15,947	-15,947	0	
2053	5,029	2,500	8,524	5,471	13,685	35,209	50,561	460	51,021	-15,812	-15,812	0	
2054	5,029	2,500	8,599	5,473	13,749	35,350	50,561	468	51,029	-15,679	-15,679	0	
2055	5,029	2,500	8,673	5,476	13,811	35,489	50,561	477	51,038	-15,549	-15,548	-1	0.00%
2056	5,029	2,500	8,746	5,478	13,873	35,626	50,561	485	51,046	-15,420	-15,420	0	
2057	5,029	2,500	8,818	5,480	13,933	35,760	50,561	494	51,055	-15,295	-15,294	-1	0.00%
2058	5,029	2,500	8,889	5,482	13,992	35,892	50,561	502	51,063	-15,171	-15,170	-1	0.00%
2059	5,029	2,500	8,959	5,484	14,051	36,023	50,561	511	51,072	-15,049	-15,048	-1	0.00%
2060	5,029	2,500	9,029	5,485	14,109	36,152	50,561	520	51,081	-14,929	-14,928	-1	0.00%

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TABLE A-7. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, DUVAL COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

1 -				INFLOW							OUTE	LOW							1
1 1	Net River Leakage	Recharge	Net Vertical Leakage Lower	Net Lateral Flow From Jim Hogg	Net Lateral Flow From Live Oak	Net Lateral Flow From Webb 16	Total Inflow	Wells	Net Vertical Leakage Lower	Net Lateral Flow To Brooks Brush Country	Net Lateral Flow To Jim Hogg	Net Lateral Flow To Jim Wells Brush Country	Net Lateral Flow To Live Oak	Net Lateral Flow To McMullen 16	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	4,989	7,029		203	-	331	12,552	14,064	1,179	516		15,946	37	62	31,804	-19,252	-19,252	0	0.00%
2011	4,989	7,029		145	-	327	12,490	14,064	1,079	643		15,741	34	61	31,622	-19,132	-19,134	2	0.01%
2012	4,989	7,029		99	-	324	12,441	14,064	959	748	-	15,531	32	59	31,393	-18,952	-18,954	2	0.01%
2013	4,989	7,029		61	-	320	12,399	14,064	825	838	-	15,322	28	58	31,135	-18,736	-18,737	1	0.00%
2014	4,989	7,029		31	-	318	12,367	14,064	682	916	-	15,117	26	57	30,862	-18,495	-18,495	0	0.00%
2015	4,989	7,029		7	-	317	12,342	14,064	535	983	-	14,918	23	55	30,578	-18,236	-18,240	4	0.01%
2016	4,989	7,029	•	-	-	315	12,333	14,064	383	1,043	14	14,728	21	54	30,307	-17,974	-17,975	1	0.00%
2017	4,989	7,029	•	-	-	314	12,332	14,064	230	1,096	32	14,545	19	52	30,038	-17,706	-17,707	1	0.00%
2018	4,989	7,029	•	-	-	313	12,331	14,064	78	1,142	47	14,371	16	51	29,769	-17,438	-17,439	1	0.00%
2019	4,989	7,029	74		-	312	12,404	14,064	-	1,184	58	14,206	15	50	29,577	-17,173	-17,173	0	0.00%
2020	4,989	7,029	225	-	-	312	12,555	14,064	-	1,222	69	14,049	12	48	29,464	-16,909	-16,910	1	0.00%
2021	4,989	7,029	374	-	-	311	12,703	14,064	-	1,255	77	13,900	10	47	29,353	-16,650	-16,651	1	0.00%
2022	4,989	7,029	523	-	-	310	12,851	14,064	-	1,285	85	13,759	8	45	29,246	-16,395	-16,397	2	0.01%
2023	4,989	7,029	668	-	-	309	12,995	14,064	-	1,313	91	13,624	6	44	29,142	-16,147	-16,147	0	0.00%
2024	4,989	7,029	812		-	309	13,139	14,064	-	1,338	96	13,497	4	43	29,042	-15,903	-15,904	1	0.00%
2025	4,989	7,029	953		-	308	13,279	14,064	-	1,361	100	13,376	3	41	28,945	-15,666	-15,665	-1	0.00%
2026	4,989	7,029	1,092	-	-	308	13,418	14,064	-	1,381	103	13,260	1	40	28,849	-15,431	-15,432	1	0.00%
2027	4,989	7,029	1,228	-	1	306	13,553	14,064	-	1,400	105	13,151	-	39	28,759	-15,206	-15,205	-1	0.00%
2028	4,989	7,029	1,362		2	305	13,687	14,064	-	1,417	107	13,046		36	28,670	-14,983	-14,983	0	0.00%
2029	4,989	7,029	1,493	-	4	304	13,819	14,064	-	1,433	108	12,947	-	35	28,587	-14,768	-14,767	-1	0.00%
2030	4,989	7,029	1,623		)	303	13,949	14,064	-	1,447	108	12,851		34	28,504	-14,555	-14,555	0	0.00%
2031	4,989	7,029	1,750	-	8	302	14,077	14,064	-	1,460	109	12,760	-	33 31	28,426	-14,349	-14,349	0	0.00%
2032	4,989 4,989	7,029	1,874	-	10	301 300	14,201 14,323	14,064	-	1,472 1,483	108 107	12,673 12,590	-	30	28,348 28,274	-14,147	-14,148	0	0.00%
2033	4,989	7,029 7,029	1,995 2,115	-	11	299	14,443	14,064 14,064	-	1,483	107	12,590	-	29	28,274	-13,951 -13,758	-13,951	2	0.00%
2034	4,989	7,029	2,233	-	12	299	14,560	14,064	-	1,502	100	12,309	-	29	28,201	-13,571	-13,760 -13,573	2	0.01%
2035	4,989	7,029	2,233	-	13	297	14,500	14,064		1,502	104	12,455		26	28,151	-13,390	-13,390	0	0.01%
2030	4,989	7,029	2,460		14	290	14,786	14,064	-	1,519	103	12,339		25	27,997	-13,211	-13,213	2	0.00%
2037	4,989	7,029	2,569		16	294	14,780	14,064		1,527	99	12,221		24	27,935	-13,211	-13,213	-1	0.01%
2039	4,989	7,029	2,678		17	292	15,003	14,064	-	1,533	97	12,155		22	27,871	-12,868	-12,870	2	0.00%
2040	4,989	7,029	2,783		18	289	15,108	14,064		1,540	94	12,092		21	27,811	-12,703	-12,705	2	0.01%
2041	4,989	7,029	2,886		19	287	15,210	14,064	_	1,545	92	12,032		20	27,753	-12,543	-12,544	1	0.00%
2042	4,989	7,029	2,989		19	284	15,310	14,064		1,551	89	11,973		19	27,696	-12,386	-12,387	1	0.00%
2043	4,989	7,029	3,088		21	282	15,409	14,064		1,556	86	11,918		18	27,642	-12,233	-12,234	1	0.00%
2044	4,989	7,029	3,185		22	280	15,505	14,064		1,560	84	11,864		16	27,588	-12,083	-12,085	2	0.01%
2045	4,989	7,029	3,281		22	277	15,598	14,064		1,565	80	11,813		15	27,537	-11,939	-11,939	0	0.01%
2046	4,989	7,029	3,374		24	275	15,691	14,064		1,569	77	11,762		14	27,486	-11,795	-11,797	2	0.01%
2047	4,989	7,029	3,467		25	272	15,782	14,064		1,574	74	11,714		13	27,439	-11,657	-11,657	0	0.00%
2048	4,989	7,029	3,557		25	271	15,871	14,064		1,577	70	11,667		12	27,390	-11,519	-11,522	3	0.01%
2049	4,989	7,029	3,645		26	268	15,957	14,064	-	1,581	67	11,623		11	27,346	-11,389	-11,389	0	0.00%
2050	4,989	7,029	3,732		28	265	16,043	14,064	-	1,584	64	11,580		10	27,302	-11,259	-11,260	1	0.00%
2051	4,989	7,029	3,817		28	262	16,125	14,064		1,587	60			10	_			-2	0.01%
2052	4,989	7,029	3,901		29		16,207	14,064		1,589	57	11,498		9	27,217	-11,010	-11,009	-1	0.00%
2053	4,989	7,029	3,983		29		16,287	14,064		1,592	52	11,459		7	27,174	-10,887	-10,889	2	0.01%
2054	4,989	7,029	4,064		30	254	16,366			1,594	49			6				1	0.00%
2055	4,989	7,029	4,142		31	250	16,441	14,064		1,596	45			5				1	0.00%
2056	4,989	7,029	4,220		32	247	16,517	14,064		1,598	41	11,351		4			-10,542	1	0.00%
2057	4,989	7,029	4,297		32	244	16,591	14,064	-	1,600	38			3			-10,432	1	0.00%
2058	4,989	7,029	4,371		33	241	16,663	14,064	-	1,602	34			3	26,987	-10,324	-10,324	0	0.00%
2059	4,989	7,029	4,445		34	238	16,735	14,064		1,604	30			2	26,953	-10,218	-10,218	0	0.00%
2060	4,989	7,029	4,517		34	235	16,804	14,064	-	1,606	26	11,222			26,918	-10,114	-10,114	0	0.00%

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TABLE A-8. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, HIDALGO COUNTY, BRUSH COUNTRY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

				INF	LOW					OUTFLOW					
Year	River Leakage	Recharge	Net Lateral Flow From Brooks Brush Country	Net Lateral Flow From Brooks Kenedy	Net Lateral Flow From Hidalgo Kenedy	Net Lateral Flow From Hidalgo White	Net Lateral Flow From Starr	Total Inflow	Wells	Net Lateral Flow To Hidalgo Kenedy	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	1	53	621	140	-	883	703	2,401	2,575	247	2,822	-421	-419	-2	0.07%
2011	1	53	604	145	-	897	682	2,382	2,575	165	2,740	-358	-357	-1	0.04%
2012	1	53	586	148	-	906	662	2,356	2,575	97	2,672	-316	-316	0	0.00%
2013	1	53	567	150	-	913	644	2,328	2,575	40	2,615	-287	-287	0	0.00%
2014	1	53	548	150	11	919	626	2,308	2,575	-	2,575	-267	-266	-1	0.04%
2015	1	53	530	151	56	923	611	2,325	2,575	-	2,575	-250	-249	-1	0.04%
2016	1	53	512	151	99	927	596	2,339	2,575	-	2,575	-236	-237	1	0.04%
2017	1	53	494	151	138	930	582	2,349	2,575	-	2,575	-226	-226	0	0.00%
2018	1	53	477	150	173	933	570	2,357	2,575	-	2,575	-218	-217	-1	0.04%
2019	1	53	461	150	206	935	558	2,364	2,575	-	2,575	-211	-210	-1	0.04%
2020	1	53	446	149	236	937	547	2,369	2,575		2,575	-206	-205	-1	0.04%
2021	1	53	431	149	264	939	537	2,374	2,575		2,575	-201	-200	-1	0.04%
2022	1	53	417	148	291	941	528	2,379	2,575		2,575	-196	-196	0	0.00%
2023	1	53	404	147	316	943	519	2,383	2,575	-	2,575	-192	-191	-1	0.04%
2024	1	53	391	147	340	945	511	2,388	2,575	-	2,575	-187	-187	0	
2025	1	53	379	146	362	947	504	2,392	2,575	-	2,575	-183	-183	0	
2026	1	53	366	145	382	948	497	2,392	2,575	-	2,575	-183	-181	-2	0.08%
2027	1	53	356	145	399	950	490	2,394	2,575	-	2,575	-181	-180	-1	0.04%
2028	1	53	345	144	415	952	484	2,394	2,575		2,575	-181	-179	-2	0.08%
2029	1	53	335	143	430	954	479	2,395	2,575	-	2,575	-180	-178	-2	0.08%
2030	1	53	326	142	444	957	474	2,397	2,575	-	2,575	-178	-177	-1	0.04%
2031	1	53	317	142	457	959	469	2,398	2,575	-	2,575	-177	-176	-1	0.04%
2031	1	53	309	142	470	961	465	2,400	2,575	-	2,575	-177	-174	-1	0.04%
2032	1	53	301	141	481	964	461	2,402	2,575	-	2,575	-173	-173	-1	
2033	1	53	294	141	493	966	457	2,404	2,575		2,575	-171	-171	0	_
2034	1	53	294	139	502	968	457	2,404	2,575	-	2,575	-171	-171	-2	0.00%
	1	53			513	908				-				-2	
2036	1	53	280	139	522	971	450	2,407	2,575	-	2,575	-168 -168	-168	-1	
2037	1		273	138			447	2,407	2,575	-	2,575		-167		0.04%
2038		53	267	138	530	975	445	2,409	2,575	-	2,575	-166	-165	-1	0.04%
2039	1	53	260	138	539	978	442	2,411	2,575	-	2,575	-164	-163	-1	0.04%
2040	1	53	255	137	547	980	440	2,413	2,575	-	2,575	-162	-161	-1	0.04%
2041	1	53	249	137	555	982	437	2,414	2,575	-	2,575	-161	-160	-1	0.04%
2042	1	53	244	136	562	984	435	2,415	2,575	-	2,575	-160	-158	-2	0.08%
2043	1	53	239	136	569	986	433	2,417	2,575	-	2,575	-158	-156	-2	0.08%
2044	1	53	234	136	576	988	432	2,420	2,575	-	2,575	-155	-155	0	
2045	1	53	230	135	582	990	430	2,421	2,575	-	2,575	-154	-153	-1	0.04%
2046	1	53	225	135	589	992	428	2,423	2,575	-	2,575	-152	-151	-1	0.04%
2047	1	53	221	135	593	994	427	2,424	2,575	-	2,575	-151	-150	-1	0.04%
2048	1	53	217	135	599	996	425	2,426	2,575	-	2,575	-149	-148	-1	0.04%
2049	1	53	212	134	605	998	424	2,427	2,575	-	2,575	-148	-147	-1	0.04%
2050	1	53	209	134	610	1,000	423	2,430	2,575	-	2,575	-145	-145	0	
2051	1	53	205	134	615	1,002		2,432	2,575	-	2,575	-143	-144	1	0.04%
2052	1	53	201	134	619	1,003		2,432	2,575	-	2,575	-143	-142	-1	0.04%
2053	1	53		133	624	1,005	420	2,433	2,575	-	2,575	-142	-141	-1	0.04%
2054	1	53	194	133	627	1,007	419	2,434	2,575	-	2,575	-141	-140	-1	
2055	1	53	191	133	631	1,008		2,435	2,575	-	2,575	-140	-138	-2	
2056		53	187	133	635	1,010		2,436	2,575	-	2,575	-139	-137	-2	
2057	1	53	185	133	639	1,012		2,440	2,575	-	2,575	-135	-136	1	
2058	1	53		133	642	1,013	416	2,439	2,575	-	2,575	-136	-134	-2	0.08%
2059	1	53	179	132	646	1,015	415	2,441	2,575	-	2,575	-134	-133	-1	0.04%
2060	1	53	176	132	649	1,016	415	2,442	2,575	-	2,575	-133	-132	-1	0.04%

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TABLE A-9. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, HIDALGO COUNTY, KENEDY COUNTY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

1 1	Net River Leakage -	Recharge	Net Lateral Flow From	Net Lateral Flow From	Net				OUTFLOW Net						1
2010 2011 2012			Brooks Kenedy	Hidalgo Brush Country	Lateral Flow From Hidalgo White	Total Inflow	Wells	Net River Leakage	Lateral Flow To Hidalgo Brush Country	Net Lateral Flow To Kenedy	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2012		261	2,216	247	1,259	3,983	3,515	2,200		1,462	7,177	-3,194	-3,194	0	0.00%
	-	261	2,231	165	1,264	3,921	3,515	2,001		1,502	7,018	-3,097	-3,095	-2	0.03%
2013	-	261	2,181	97	1,268	3,807	3,515	1,790		1,526	6,831	-3,024	-3,024	0	0.00%
	-	261	2,113	40	1,268	3,682	3,515	1,582	-	1,541	6,638	-2,956	-2,955	-1	0.02%
2014	-	261	2,036	-	1,265	3,562	3,515	1,379	11	1,551	6,456	-2,894	-2,892	-2	0.03%
2015	-	261	1,954	-	1,259	3,474	3,515	1,181	56	1,558	6,310	-2,836	-2,835	-1	0.02%
2016	-	261	1,869	-	1,249	3,379	3,515	989	99	1,563	6,166	-2,787	-2,785	-2	0.03%
2017	-	261	1,782	-	1,237	3,280	3,515	801	138	1,567	6,021	-2,741	-2,740	-1	0.02%
2018	-	261	1,694	-	1,223	3,178	3,515	703	173	1,571	5,962	-2,784	-2,699	-85	1.44%
2019	-	261	1,649	-	1,219	3,129	3,515	553	206	1,568	5,842	-2,713	-2,713	0	0.00%
2020	-	261	1,583	-	1,213	3,057	3,515	426	236	1,565	5,742	-2,685	-2,684	-1	0.02%
2021	-	261	1,515	-	1,204	2,980	3,515	301	264	1,562	5,642	-2,662	-2,660	-2	0.04%
2022	-	261	1,448	-	1,194	2,903	3,515	177	291	1,559	5,542	-2,639	-2,637	-2	0.04%
2023	-	261	1,381	-	1,182	2,824	3,515	55	316	1,556	5,442	-2,618	-2,616	-2	0.04%
2024	66	261	1,315	-	1,170	2,812	3,515	-	340	1,553	5,408	-2,596	-2,595	-1	0.02%
2025	91	261	1,249	-	1,156	2,757	3,515	-	362	1,551	5,428	-2,671	-2,575	-96	1.78%
2026	91	261	1,256	-	1,163	2,771	3,515	-	382	1,526	5,423	-2,652	-2,650	-2	0.04%
2027	91	261	1,241	-	1,171	2,764	3,515	-	399	1,501	5,415	-2,651	-2,651	0	0.00%
2028	91	261	1,224	-	1,176	2,752	3,515	-	415	1,476	5,406	-2,654	-2,653	-1	0.02%
2029	91	261	1,207	-	1,181	2,740	3,515	-	430	1,449	5,394	-2,654	-2,654	0	0.00%
2030	91	261	1,191	-	1,186	2,729	3,515	-	444	1,424	5,383	-2,654	-2,653	-1	0.02%
2031	91	261	1,176	-	1,190	2,718	3,515	-	457	1,398	5,370	-2,652	-2,651	-1	0.02%
2032	91	261	1,161	-	1,194	2,707	3,515	-	470	1,371	5,356	-2,649	-2,648	-1	0.02%
2033	91	261	1,147	-	1,197	2,696	3,515	-	481	1,345	5,341	-2,645	-2,645	0	0.00%
2034	91	261	1,133	-	1,200	2,685	3,515	-	493	1,319	5,327	-2,642	-2,640	-2	0.04%
2035	91	261	1,120	-	1,202	2,674	3,515	-	502	1,293	5,310	-2,636	-2,635	-1	0.02%
2036	91	261	1,108	-	1,204	2,664	3,515	-	513	1,267	5,295	-2,631	-2,630	-1	0.02%
2037	91	261	1,095	-	1,207	2,654	3,515	-	522	1,242	5,279	-2,625	-2,624	-1	0.02%
2038	91	261	1,084	-	1,208	2,644	3,515	-	530	1,217	5,262	-2,618	-2,618	0	0.00%
2039	91	261	1,073	-	1,210	2,635	3,515	-	539	1,192	5,246	-2,611	-2,611	0	0.00%
2040	91	261	1,062	-	1,211	2,625	3,515	-	547	1,167	5,229	-2,604	-2,604	0	0.00%
2041	91	261	1,052	-	1,212	2,616	3,515	-	555	1,143	5,213	-2,597	-2,597	0	0.00%
2042	91	261	1.041	-	1,212	2,605	3,515	-	562	1,118	5,195	-2,590	-2,589	-1	0.02%
2043	91	261	1.032	-	1,212	2,596	3,515	-	569	1.094	5,178	-2,582	-2,582	0	0.00%
2044	91	261	1,022	-	1,213	2,587	3,515	-	576	1,071	5,162	-2,575	-2,574	-1	0.02%
2045	91	261	1,014	-	1,212	2,578	3,515	-	582	1,047	5,144	-2,566	-2,566	0	0.00%
2046	91	261	1,005	-	1,213	2,570	3,515	-	589	1,024	5,128	-2,558	-2,557	-1	0.02%
2047	91	261	997	-	1,212	2,561	3,515	-	593	1,002	5,110	-2,549	-2,549	0	0.00%
2048	91	261	988	-	1,211	2,551	3,515	-	599	980	5,094	-2,543	-2,541	-2	0.04%
2049	91	261	981	-	1,211	2,544	3,515	-	605	957	5,077	-2,533	-2,532	-1	0.02%
2050	91	261	973	-	1,210	2,535	3,515	-	610	935	5,060	-2,525	-2,523	-2	0.04%
2051	91	261	966	-	1,209	2,527	3,515	-	615	914	5,044	-2,517	-2,515	-2	0.04%
2052	91	261	959	-	1,208	2,519	3,515	-	619	892	5,026	-2,507	-2,506	-1	0.02%
2053	91	261	952	-	1,207	2,511	3,515	-	624	871	5,010	-2,499	-2,497	-2	0.04%
2054	91	261	945	-	1,206	2,503	3,515	-	627	851	4,993	-2,490	-2,488	-2	0.04%
2055	91	261	939	-	1,205	2,496	3,515	-	631	830	4,976	-2,480	-2,479	-1	0.02%
2056	91	261	933	-	1,204	2,489	3,515	-	635	810	4,960	-2,471	-2,470	-1	0.02%
2057	91	261	926	-	1,202	2,480	3,515	-	639	789	4,943	-2,463	-2,461	-2	0.04%
2058	91	261	921	-	1,201	2,474	3,515	-	642	770	4,927	-2,453	-2,452	-1	0.02%
2059	91	261	915	-	1,199	2,466	3,515	-	646	750	4,911	-2,445	-2,443	-2	0.04%
2060	91	261	909		1,197	2,458	3,515		649	731	4,895	-2,437	-2,434	-3	0.06%

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TABLE A-10. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, HIDALGO COUNTY, RED SANDS GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

		INFLOW			OUTFLOW					
1		Net			Net					
		Lateral			Lateral					
		Flow From	T . 1		Flow To	T . 1		~.		Model
Year	Recharge	Hidalgo White	Total Inflow	Wells	Hidalgo White	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Error (percent)
2010	113	134	247	584	-	584	-337	-337	0	0.00%
2011	113	101	214	584	-	584	-370	-370	0	0.00%
2012	113	71	184	584	-	584	-400	-400	0	0.00%
2013	113	42	155	584	-	584	-429	-429	0	0.00%
2014	113	15	128	584	-	584	-456	-456	0	0.00%
2015	113	-	113	584	12	596	-483	-483	0	0.00%
2016	113	-	113	584	38	622	-509	-508	-1	0.16%
2017	113	-	113	584	62	646	-533	-533	0	0.00%
2018	113	-	113	584	87	671	-558	-557	-1	0.15%
2019	113	-	113	584	110	694	-581	-581	0	0.00%
2020	113	-	113	584	134	718	-605	-604	-1	0.14%
2021	113	-	113	584	156	740	-627	-627	0	0.00%
2022	113	-	113	584	178	762	-649	-649	0	0.00%
2023	113	-	113	584	200	784	-671	-671	0	0.00%
2024	113	-	113	584	222	806	-693	-692	-1	0.12%
2025	113	-	113	584	242	826	-713	-713	0	0.00%
2026	113	-	113	584	263	847	-734	-733	-1	0.12%
2027	113	-	113	584	282	866	-753	-753	0	0.00%
2028	113	-	113	584	301	885	-772	-772	0	0.00%
2029	113	-	113	584	320	904	-791	-791	0	0.00%
2030	113	-	113	584	338	922	-809	-810	1	0.11%
2031	113	-	113	584	356	940	-827	-827	0	0.00%
2032	113	-	113	584	374	958	-845	-845	0	0.00%
2033	113	-	113	584	391	975	-862	-861	-1	0.10%
2034	113	-	113	584	406	990	-877	-878	1	0.10%
2035	113	-	113	584	423	1,007	-894	-893	-1	0.10%
2036	113	-	113	584	438	1,022	-909	-908	-1	0.10%
2037	113	-	113	584	453	1,037	-924	-923	-1	0.10%
2038	113	-	113	584	466	1,050	-937	-937	0	0.00%
2039	113	-	113	584	480	1,064	-951	-951	0	0.00%
2040	113	-	113	584	493	1,077	-964	-964	0	0.00%
2041	113	-	113	584	506	1,090	-977	-977	0	0.00%
2042	113	-	113	584	518	1,102	-989	-989	0	0.00%
2043	113	-	113	584	530	1,114	-1,001	-1,001	0	0.00%
2044	113	-	113	584	541	1,125	-1,012	-1,012	0	0.00%
2045	113	-	113	584	552	1,136	-1,023	-1,023	0	0.00%
2046	113	-	113	584	562	1,146	-1,033	-1,033	0	0.00%
2047	113	-	113	584	572	1,156	-1,043	-1,043	0	0.00%
2048	113	-	113	584	582	1,166	-1,053	-1,052	-1	0.09%
2049	113	-	113	584	590	1,174	-1,061	-1,061	0	0.00%
2050	113	-	113	584	599	1,183	-1,070	-1,070	0	0.00%
2051	113	-	113	584	607	1,191	-1,078	-1,078	0	0.00%
2052	113	-	113	584	615	1,199	-1,086	-1,086	0	0.00%
2053	113	-	113	584	623	1,207	-1,094	-1,093	-1	0.08%
2054	113	-	113	584	630	1,214	-1,101	-1,100	-1	0.08%
2055	113	-	113	584	636	1,220	-1,107	-1,107	0	0.00%
2056	113	-	113	584	643	1,227	-1,114	-1,113	-1	0.08%
2057	113	-	113	584	649	1,233	-1,120	-1,120	0	0.00%
2058	113	-	113	584	655	1,239	-1,126	-1,125	-1	0.08%
2059	113	-	113	584	659	1,243	-1,130	-1,131	1	0.08%
2060	113	-	113	584	665	1,249	-1,136	-1,136	0	0.00%

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TABLE A-11. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, HIDALGO COUNTY, NON-DISTRICT AREA. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

				INFLOW								OUTFLOW								
Year	Net River Leakage	Recharge	Net Vertical Leakage Lower	Net Lateral Flow From Hidalgo Red Sands	Net Lateral Flow From Mexico	Net Lateral Flow From Starr	Total Inflow	Wells	Net Lateral Flow To Cameron	Net Lateral Flow To Hidalgo Brush Country	Net Lateral Flow To Hidalgo Kenedy	Net Lateral Flow To Hidalgo Red Sands	Net Lateral Flow To Kenedy	Net Lateral Flow To Willacy Kenedy	Net Lateral Flow To Willacy White	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	2,192	4,111	659		5,479	4,552	16,993	35,251	4,562	883	1,259	134	419	301	1,058	43,867	-26,874	-26,873	-1	0.00%
2011	2,258	4,111	707		5,591	4,418	17,085	35,251	4,719	897	1,264	101	450	316	1,160	44,158	-27,073	-27,071	-2	0.00%
2012	2,292	4,111	749		5,728	4,290	17,170	35,251	4,835	906	1,268	71	470	327	1,256	44,384	-27,214	-27,213	-1	0.00%
2013	2,324	4,111	787	-	5,876	4,171	17,269	35,251	4,924	913	1,268	42	485	337	1,347	44,567	-27,298	-27,300	2	0.00%
2014	2,351	4,111	823	-	6,026	4,059	17,370	35,251	4,994	919	1,265	15	496	344	1,433	44,717	-27,347	-27,346	-1	0.00%
2015	2,372	4,111	858	12	6,177	3,957	17,487	35,251	5,052	923	1,259		503	350	1,512	44,850	-27,363	-27,364	1	0.00%
2016	2,390	4,111	891	38	6,327	3,862	17,619	35,251	5,098	927	1,249		508	355	1,587	44,975	-27,356	-27,356	0	0.00%
2017	2,406	4,111	923	62	6,474	3,774	17,750	35,251	5,138	930	1,237	-	511	360	1,655	45,082	-27,332	-27,331	-1	0.00%
2018	2,422	4,111	953	87	6,618	3,693	17,884	35,251	5,171	933	1,223	-	513	364	1,718	45,173	-27,289	-27,287	-2	0.00%
2019	2,438	4,111	984	110	6,759	3,618	18,020	35,251	5,199	935	1,219	-	513	366	1,776	45,259	-27,239	-27,242	3	0.01%
2020	2,453	4,111	1,013	134	6,896	3,548	18,155	35,251	5,224	937	1,213	-	514	369	1,829	45,337	-27,182	-27,184	2	0.00%
2021	2,465	4,111	1,042	156	7,029	3,482	18,285	35,251	5,246	939	1,204		513	372	1,879	45,404	-27,119	-27,114	-5	0.01%
2022	2,476	4,111	1,070	178	7,159	3,423	18,417	35,251	5,265	941	1,194		512	373	1,923	45,459	-27,042	-27,042	0	0.00%
2023	2,486	4,111	1,097	200	7,286	3,366	18,546	35,251	5,281	943	1,182		510	374	1,963	45,504	-26,958	-26,959	1	0.00%
2024	2,496	4,111	1,124	222	7,408	3,313	18,674	35,251	5,296	945	1,170		508	375	2,001	45,546	-26,872	-26,871	-1	0.00%
2025	2,506	4,111	1,151	242	7,527	3,265	18,802	35,251	5,311	947	1,156		506	376	2,035	45,582	-26,780	-26,779	-1	0.00%
2026	2,516	4,111	1,177	263	7,643	3,219	18,929	35,251	5,323	948	1,163		504	376	2,066	45,631	-26,702	-26,703	1	0.00%
2027	2,525	4,111	1,203	282	7,754	3,176	19,051	35,251	5,335	950	1,171		501	377	2,094	45,679	-26,628	-26,625	-3	0.01%
2028	2,535	4,111	1,228	301	7,863	3,136	19,174	35,251	5,345	952	1,176		498	376	2,118	45,716	-26,542	-26,543	1	0.00%
2029	2,544	4,111	1,252	320	7,967	3,099	19.293	35,251	5,355	954	1,181		495	375	_	45,752	-26,459	-26,459	0	0.00%
2030	2,553	4,111	1,277	338	_	3,063	19,411	35,251	5,364	957	1,186		490	374		45,784	-26,373	-26,372	-1	_
2031	2,561	4,111	1,300	356	_	3,030	19,527	35,251	5,373	959	1,190		488	372		45,813	-26,286	-26,283	-3	_
2032	2,564	4,111	1,328	374		2,999	19,642	35,251	5,380	961	1,194		484	371	2,196	45,837	-26,195	-26,195	0	0.00%
2033	2,569	4,111	1,352	391	8,359	2,970	19,752	35,251	5,387	964	1,197		479	369		45,858	-26,106	-26,107	1	0.00%
2034	2,573	4,111	1,378	406	8,450	2,942	19,860	35,251	5,394	966	1,200		475	366		45,876	-26,016	-26,017	1	0.00%
2035	2,577	4,111	1,403	423	8,539	2,916	19,969	35,251	5,401	968	1,202		472	364		45,894	-25,925	-25,926	1	
2036	2,580	4,111	1,427	438	8,625	2,892	20,073	35,251	5,407	971	1,204		468	362	2,246	45,909	-25,836	-25,835	-1	
2037	2,584	4,111	1,451	453	8,709	2,868	20,176	35,251	5,412	973	1,207		464	359	_	45,921	-25,745	-25,744	-1	
2038	2,590	4,111	1,473	466		2,847	20,277	35,251	5,417	975	1,208		460	356		45,930	-25,653	-25,654	1	0.00%
2039	2,596	4,111	1,493	480	8,868	2,827	20,375	35,251	5,422	978	1,210		456	354	_	45,941	-25,566	-25,565	-1	
2040	2,602	4,111	1,512	493	_	2,807	20,470	35,251	5,427	980	1,211		452	351	2,276	45,948	-25,478	-25,476	-2	_
2041	2,609	4,111	1,532	506		2,789	20,567	35,251	5,432	982	1,212		448	348		45,954	-25,387	-25,387	0	
2042	2,615	4,111	1,552	518		2,772	20,661	35,251	5,436	984	1,212		444	345		45,958	-25,297	-25,297	0	0.00%
2043	2,616	4,111	1,572	530		2,755	20,748	35,251	5,440	986	1,212	-	440	343		45,961	-25,213	-25,208	-5	_
2044	2,616		1,596	541		2,740	20,840	35,251	5,443	988	1,213	-	436	339		45,962	-25,122	-25,122	0	0.00%
2045	2,616		1,619	552		2,727	20,931	35,251	5,447	990	1,212		432	336	_	45,962	-25,031	-25,034	3	0.01%
2045	2,616	4,111	1,641	562	9,374	2,713	21,017	35,251	5,451	992	1,212		428	333	2,294	45,964	-23,031	-24,947	0	0.017
2040	2,616	4,111	1,663	572	_	2,700	21,103	35,251	5,454	992	1,213		425	330	2,290	45,963	-24,860	-24,860	0	0.007
2047	2,616	4,111	1,686	582	9,506	2,700	21,103	35,251	5,457	994	1,212		423	327	2,297	45,961	-24,800	-24,773	1	0.007
2048	2,616	4,111	1,708	590	9,570	2,677	21,189	35,251	5,460	998	1,211		421	324	2,298	45,960	-24,772	-24,773	-1	0.00%
2049	2,616	4,111	1,708	599	9,570	2,666	21,272	35,251	5,463	1,000	1,211	-	418	324	2,298	45,955	-24,600	-24,687	-1	0.00%
2050	2,616	4,111	1,729	607	9,695	2,000	21,436	35,251	5,466	1,000	1,210	<u> </u>	414	318		45,953	-24,000	-24,002	0	0.00%
2051	2,616		1,772	615		2,647	21,430	35,251	5,469	1,002	1,209	<u> </u>	410	315		45,948	-24,317			
															_				1	
2053	2,616		1,793	623		2,638	21,596	35,251	5,471	1,005	1,207		402	312		45,943	-24,347	-24,349	2	
2054	2,616		1,813	630	_	2,630	21,673	35,251	5,473	1,007	1,206		400	308	_	45,938	-24,265	-24,267	2	
2055	2,616		1,833	636	_	2,622	21,747	35,251	5,476	1,008	1,205		396		_	45,933	-24,186	_	0	
2056	_		1,852	643	_	2,615	21,822	35,251	5,478	1,010	1,204		392	302		45,927	-24,105	-24,105	0	
2057	2,616		1,872	649		2,608	21,896	35,251	5,480	1,012	1,202		389	299		45,920	-24,024	-24,026	2	
2058			1,891	655		2,601	21,967	35,251	5,482	1,013	1,201	-	385	296		45,913	-23,946	_	0	
2059	_		1,910	659	_	2,595	22,037	35,251	5,484	1,015	1,199		382	293		45,906	-23,869	-23,868	-1	
2060	2,616	4,111	1,929	665	10,199	2,590	22,110	35,251	5,485	1,016	1,197	-	378	290	2,280	45,897	-23,787	-23,790	3	0.019

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TABLE A-12. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, HIDALGO COUNTY, NON-DISTRICT AREA. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

				INFLOW								OUTFLOW								
Year	Net River Leakage	Recharge	Net Vertical Leakage Lower	Net Lateral Flow From Hidalgo Red Sands	Net Lateral Flow From Mexico	Net Lateral Flow From Starr	Total Inflow	Wells	Net Lateral Flow To Cameron	Net Lateral Flow To Hidalgo Brush Country	Net Lateral Flow To Hidalgo Kenedy	Net Lateral Flow To Hidalgo Red Sands	Net Lateral Flow To Kenedy	Net Lateral Flow To Willacy Kenedy	Net Lateral Flow To Willacy White	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	2,192	4,111	659		5,479	4,552	16,993	35,251	4,562	883	1,259	134	419	301	1,058	43,867	-26,874	-26,873	-1	0.00%
2011	2,258	4,111	707		5,591	4,418	17,085	35,251	4,719	897	1,264	101	450	316	1,160	44,158	-27,073	-27,071	-2	
2012	2,292	4,111	749	-	5,728	4,290	17,170	35,251	4,835	906	1,268	71	470	327	1,256	44,384	-27,214	-27,213	-1	
2013		4,111	787		5,876	4,171	17,269	35,251	4,924	913	1,268	42	485	337	1,347	44,567	-27,298	-27,300	2	_
2014	2,351	4,111	823	- 12	6,026	4,059	17,370	35,251	4,994	919	1,265	15	496	344	1,433	44,717	-27,347	-27,346	-1	
2015	2,372	4,111 4,111	858 891	12 38		3,957 3,862	17,487 17,619	35,251 35,251	5,052 5,098	923 927	1,259	•	503 508	350 355	1,512 1,587	44,850 44,975	-27,363 -27,356	-27,364 -27,356	0	
2010	2,406	4,111	923	62	_	3,774	17,750	35,251	5,138	930	1,247		511	360	1,655	45,082	-27,332	-27,331	-1	-
2018	<del>-</del>	4,111	953	87	6,618	3,693	17,884	35,251	5,171	933	1,223		513	364	1,718	45,173	-27,289	-27,287	-2	_
2019	2,438	4,111	984	110	_	3,618	18,020	35,251	5,199	935	1,219		513	366	1,776	45,259	-27,239	-27,242	3	-
2020	2,453	4,111	1,013	134	6,896	3,548	18,155	35,251	5,224	937	1,213		514	369	1,829	45,337	-27,182	-27,184	2	_
2021	2,465	4,111	1,042	156	7,029	3,482	18,285	35,251	5,246	939	1,204		513	372	1,879	45,404	-27,119	-27,114	-5	0.01%
2022	2,476	4,111	1,070	178	7,159	3,423	18,417	35,251	5,265	941	1,194		512	373	1,923	45,459	-27,042	-27,042	0	0.00%
2023	2,486	4,111	1,097	200	7,286	3,366	18,546	35,251	5,281	943	1,182		510	374	1,963	45,504	-26,958	-26,959	1	0.00%
2024	2,496	4,111	1,124	222	7,408	3,313	18,674	35,251	5,296	945	1,170		508	375	2,001	45,546	-26,872	-26,871	-1	0.00%
2025	2,506	4,111	1,151	242	7,527	3,265	18,802	35,251	5,311	947	1,156		506	376	2,035	45,582	-26,780	-26,779	-1	0.00%
2026	2,516	4,111	1,177	263	7,643	3,219	18,929	35,251	5,323	948	1,163		504	376	2,066	45,631	-26,702	-26,703	1	_
2027	2,525	4,111	1,203	282	7,754	3,176	19,051	35,251	5,335	950	1,171		501	377	2,094	45,679	-26,628	-26,625	-3	
2028		4,111	1,228	301	7,863	3,136	19,174	35,251	5,345	952	1,176		498	376	2,118	45,716	-26,542	-26,543	1	_
2029	2,544	4,111	1,252	320	7,967	3,099	19,293	35,251	5,355	954	1,181		495	375	2,141	45,752	-26,459	-26,459	0	_
2030	2,553	4,111	1,277	338	_	3,063	19,411	35,251	5,364	957	1,186		490	374	2,162	45,784	-26,373	-26,372	-1	_
2031	2,561	4,111	1,300	356	<u> </u>	3,030	19,527	35,251	5,373	959	1,190		488	372	2,180	45,813	-26,286	-26,283	-3	_
2032	2,564	4,111	1,328	374	8,266	2,999	19,642	35,251	5,380	961	1,194		484	371	2,196	45,837	-26,195	-26,195	0	_
2033	2,569 2,573	4,111 4,111	1,352 1,378	391 406	8,359 8,450	2,970 2,942	19,752 19,860	35,251 35,251	5,387 5,394	964 966	1,197 1,200		479 475	369 366	2,211 2,224	45,858 45,876	-26,106 -26,016	-26,107 -26,017	1	0.00%
2034	2,577	4,111	1,403	400	_	2,942	19,860	35,251	5,401	968	1,200		472	364	2,224	45,894	-25,925	-25,926	1	_
2036	2,580	4,111	1,403	438	<u> </u>	2,892	20,073	35,251	5,407	971	1,202		468	362	2,246	45,909	-25,836	-25,835	-1	
2037	2,584	4,111	1,451	453	8,709	2,868	20,176	35,251	5,412	973	1,207		464	359	2,255	45,921	-25,745	-25,744	-1	_
2038		4,111	1,473	466		2,847	20,277	35,251	5,417	975	1,208		460	356	2,263	45,930	-25,653	-25,654	1	_
2039		4,111	1,493	480	8,868	2,827	20,375	35,251	5,422	978	1,210		456	354	2,270	45,941	-25,566	-25,565	-1	_
2040	2,602	4,111	1,512	493	8,945	2,807	20,470	35,251	5,427	980	1,211		452	351	2,276	45,948	-25,478	-25,476	-2	
2041	2,609	4,111	1,532	506	9,020	2,789	20,567	35,251	5,432	982	1,212		448	348	2,281	45,954	-25,387	-25,387	0	
2042	2,615	4,111	1,552	518	9,093	2,772	20,661	35,251	5,436	984	1,212		444	345	2,286	45,958	-25,297	-25,297	0	
2043	2,616	4,111	1,572	530	9,164	2,755	20,748	35,251	5,440	986	1,212		440	343	2,289	45,961	-25,213	-25,208	-5	0.01%
2044	2,616	4,111	1,596	541	9,236	2,740	20,840	35,251	5,443	988	1,213		436	339	2,292	45,962	-25,122	-25,122	0	0.00%
2045	2,616	4,111	1,619	552	9,306	2,727	20,931	35,251	5,447	990	1,212	-	432	336	2,294	45,962	-25,031	-25,034	3	0.01%
2046	2,616	4,111	1,641	562	9,374	2,713	21,017	35,251	5,451	992	1,213		428	333	2,296	45,964	-24,947	-24,947	0	0.00%
2047	2,616	4,111	1,663	572	9,441	2,700	21,103	35,251	5,454	994	1,212		425	330	2,297	45,963	-24,860	-24,860	0	_
2048	2,616	4,111	1,686	582	9,506	2,688	21,189	35,251	5,457	996	1,211		421	327	2,298	45,961	-24,772	-24,773	1	0.00%
2049	<del>-</del>	4,111	1,708	590	9,570	2,677	21,272	35,251	5,460	998	1,211		418	324	2,298	45,960	-24,688	-24,687	-1	
2050	_	4,111		599		2,666	21,355			1,000		-	414		2,297	45,955	-24,600	-24,602	2	0.00%
2051		4,111		607	9,695	2,656					_		410	318		45,953	-24,517	-24,517	0	
2052	_	4,111	<del>-</del>	615		2,647	21,517	35,251	5,469	1,003	1,208	-	406	315	2,296	45,948	-24,431	-24,432	1	
2053		4,111		623	_	2,638	21,596		5,471	1,005	1,207		402	312	2,295	45,943	-24,347	-24,349	2	_
2054		4,111	1,813	630		2,630	21,673			1,007	1,206		400	308	2,293	45,938 45,022	-24,265 24,186	-24,267	2	
2055 2056		4,111 4,111		636 643		2,622 2,615	21,747			1,008		•	396 392		2,292 2,290	45,933 45,927	-24,186 -24,105	-24,186 -24,105	0	
2050	2,616	4,111		649		2,608	21,822		5,480	1,010	1,204		389	299	2,290	45,927	-24,103	-24,103	2	_
2058		4,111		655		2,601	21,890	35,251	5,482	1,012			385	299	2,287	45,920	-24,024	-24,020	0	
2059		4,111	1,910	659		_	22,037	35,251		1,015			382		2,282	45,906	-23,869	-23,868	-1	
2060	_	4,111	_				22,110			1,016			378		2,280	45,897	-23,787	-23,790	3	_
2000	2,010	7,111	1,727	003	10,177	2,270	22,110	10401	2,702	1,010	2,277		5/0	230	2,200	15,051	20,707	20,770	,	0.0170

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TABLE A-13. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, JIM HOGG COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

2012   891   3,817   13,78   -   -   266   15   17,958   24,414   5,284   599   911   30,788   12,830   12,830   12,830   12,830   12,830   12,830   12,830   13,837   13,378   -   -   266   15   18,357   34,414   5,238   61   839   39,522   12,355   12,228   12,							OUTFLOW						LOW	INF				
2011   891   3,817   12,000   .   .   277   14   17,619   24,414   5,560   145   991   31,035   13,434   13,434   0.000   13,031   13,434   13,434   0.000   13,031   13,434   0.000   13,031   13,434   0.000   13,031   13,434   0.000   13,031   13,434   0.000   13,031   13,434   0.000   13,031   13,435   0.000   12,235   0.000	Model Error (percent)					Lateral Flow To	Lateral Flow To	Lateral Flow To Brooks Brush	Wells		Lateral Flow From	Lateral Flow From	Lateral Flow From	Lateral Flow From	Vertical Leakage	Recharge		Year
2012   891   3,817   12,965	0.00%	1	-14,107	-14,106				5,657	24,414	17,249			-	-	12,242	· ·		2010
2013   891   3,817   13,278	0.00%	0	-13,434	-13,434	31,053	991		5,503	24,414	17,619	14		-	-	12,620	3,817	891	2011
2014   881   3,817   13,567   .   .   .   .   .   .   .   .   .	0.00%	0	-12,830	-12,830	30,788	911	99	5,364	24,414	17,958	15	272	-	-	12,963	3,817	891	2012
2015   881   3,817   13,835   .   .   229   16   18,818   24,414   5,027   7   713   30,161   41,342   41,342   .   .   .   .   .   .   .   .   .	0.00%	0	-12,285	-12,285	30,552	839	61	5,238	24,414	18,267	15	266	-	-	13,278	3,817	891	2013
2016   891   3,811   14,084   14   -   256   11   19,079   24,414   4,988   -   689   3,011   1-10,932   -10,930   -10,030	0.00%	-1	-11,792	-11,793	30,346	774	31	5,127	24,414	18,553	16	262	-	-	13,567	3,817	891	2014
2017   891   3,817   14,317   32   .   253   17   19,327   24,414   4,858   .   668   29,860   .10,553   .10,552   .10   2018   891   3,817   14,741   .   58   .   248   .   18   19,773   24,414   4,724   .   .   .   .   .   .   .   .   .	0.00%	-1	-11,342	-11,343	30,161	713	7	5,027	24,414	18,818	16	259	-	-	13,835	3,817	891	2015
2016   891   3,817   14,355   47   .   220   17   19,557   24,414   4,788   .   562   29,764   -10,207   -10,204   3,209   3,817   14,741   58   .   248   18   19,773   24,414   4,724   .   518   29,656   .9838   .9,838   .9,838   .9,3	0.01%	-2	-10,930	-10,932	30,011	659	-	4,938	24,414	19,079	17	256	-	14	14,084	3,817	891	2016
2019   891   3,817   14,741   58   -   248   18   19,773   24,414   4,724   -   518   29,656   -9,883   -9,881   3,200   591   3,817   14,934   69   -   246   18   19,773   24,414   4,666   -   478   29,538   -9,383   -9,821   3,200   3		-1	-10,552	-10,553	29,880	608	-	4,858	24,414	19,327	17	253	-	32	14,317	3,817	891	2017
2000   891   3,817   14,934   69   .   246   18   19,975   24,414   4,666   .   478   29,558   9,583   -9,582   .1	0.01%	-3	-10,204	-10,207	29,764	562	-	4,788	24,414	19,557	17	250	-	47	14,535	3,817	891	2018
2021   891   3,817   15,116   77   - 244   18   20,163   24,414   4,614   - 441   29,469   -9,306   -9,303   -2,202   291   3,817   15,290   85   - 242   18   20,441   24,414   4,515   - 405   29,386   -9,043   -9,042   -1,203   2031   891   3,817   15,433   91   - 239   19   20,510   24,414   4,524   - 372   29,310   -8,800   -8,708   -2,202   2031   3,817   15,610   96   - 237   19   20,670   24,414   4,449   - 310   29,173   -8,352   -8,352   -0,205   891   3,817   15,759   100   - 225   19   20,821   24,414   4,449   - 310   29,173   -8,352   -8,352   -0,205   891   3,817   15,901   105   - 223   19   20,941   24,414   4,449   - 310   29,173   -8,352   -8,352   -0,206   891   3,817   16,047   105   - 228   20   21,230   24,414   4,435   - 255   29,005   -7,755   -7,754   -2,203   891   3,817   16,047   107   - 228   20   21,230   24,414   4,359   - 220   29,003   -7,773   -7,771   -2,203   891   3,817   16,421   108   - 224   20   21,472   24,414   4,310   - 188   28,905   -7,595   -7,594   -2,203   20,903   3,817   16,421   108   - 224   20   21,472   24,414   4,310   - 188   28,905   -7,433   -7,431   -2,203   20,913   3,817   16,528   109   - 221   20   21,472   24,414   4,206   - 183   28,805   -7,247   -7,273   -7,	0.01%	-2	-9,881	-9,883	29,656	518	-	4,724	24,414	19,773	18	248	-	58	14,741	3,817	891	2019
2022   89    3,817   15,290   85   -     242   18   20,343   24,414   4,567   -     405   29,356   -9,045   -9,042   -1,	0.00%	-1	-9,582	-9,583	29,558	478	-	4,666	24,414	19,975	18	246	-	69	14,934	3,817	891	2020
2025   891   3,817   15,453   91   -     228   19   20,510   24,414   4,524   -   372   29,310   -8,800   -8,798   -2, 2025   891   3,817   15,709   100   -     223   19   20,570   24,414   4,485   -   341   29,240   -8,570   -8,588   -3, 2025   891   3,817   15,709   103   -   2233   19   20,964   24,414   4,449   -   310   29,173   -8,332   -8,332   -   (2,000   2,000   2,000   -1,773   -1,331   -1,000   -   (2,000   2,000   2,000   -1,773   -1,771   -1,000   -1,966   -7,954   -2,000   -1,773   -7,771   -1,000   -1,966   -7,954   -2,000   -1,773   -7,771   -1,000   -1,	0.01%	-3	-9,303	-9,306	29,469	441	-	4,614	24,414	20,163	18	244	_	77	15,116	3,817	891	2021
2024   891   3,817   15,610   96   - 237   19   20,670   24,414   4,485   - 341   29,240   -8,570   -8,568   -2, 2025   891   3,817   15,799   100   - 2255   19   20,821   24,414   4,449   - 310   29,173   -8,352   -8,352   0   0   0   0   0   0   0   0   0	0.00%	-1	-9,042	-9,043	29,386	405	-		24,414	20,343	18	242	-	85	15,290	3,817	891	2022
2024   891   3,817   15,610   96   - 237   19   20,670   24,414   4,485   - 341   29,240   -8,570   -8,568   -2, 2025   891   3,817   15,799   100   - 2255   19   20,821   24,414   4,449   - 310   29,173   -8,352   -8,352   0   0   0   0   0   0   0   0   0	0.01%	-2	-8,798	-8,800	29,310	372	-	4,524	24,414	20,510	19	239		91	15,453	3,817	891	2023
2026   891   3,817   15,901   103   -   233   19   20,964   24,414   4,416   -   283   29,113   8,149   8,147   -	0.01%	-2	-8,568		29,240	341	-	4,485	24,414	20,670	19	237	-	96	15,610	3,817	891	2024
2026   S91   3,817   15,901   103   -   233   19   20,964   24,414   4,416   -   283   29,113   8,149   -8,147   -	0.00%	0					-			-							891	2025
2027   S91   3,817   16,037   105   -		-2					-											
2008   891   3,817   16,167   107   -   228   20   21,230   24,414   4,359   -   230   29,003   -7,773   -7,771   -7,200   2009   891   3,817   16,292   108   -   226   20   21,554   24,414   4,333   -   206   28,953   -7,599   -7,597   -7,297		-2								-								
2029   89  3,817   16,292   108   -     226   20   21,354   24,414   4,333   -     206   28,953   -7,599   -7,397   -7,2030   891   3,817   16,412   108   -     224   20   21,472   24,414   4,310   -     181   28,905   -7,433   -7,431   -2,2031   891   3,817   16,528   109   -     221   20   21,586   24,414   4,288   -     158   28,860   -7,274   -7,273   -1,2032   891   3,817   16,639   108   -     218   20   21,693   24,414   4,288   -     137   28,819   -7,126   -7,122   -4,2033   891   3,817   16,639   108   -     216   20   21,998   24,414   4,280   -     116   28,780   -6,978   -4,9																		
2030 891 3,817 16,412 108 - 224 20 21,472 24,414 4,310 - 181 28,905 7,433 -7,431 -2 2031 891 3,817 16,528 109 - 221 20 21,586 24,414 4,288 - 158 28,860 -7,274 -7,273 -1 2032 891 3,817 16,639 108 - 218 20 21,693 24,414 4,268 - 137 28,819 -7,126 -7,122 44 2033 891 3,817 16,639 108 - 216 20 21,99 24,414 4,250 - 116 28,780 6,982 -6,978 44 2034 891 3,817 16,852 106 - 213 21 21,900 24,414 4,250 - 116 28,780 6,982 -6,978 44 2035 891 3,817 16,951 104 - 211 21 21,995 24,414 4,216 - 76 28,706 -6,711 -6,708 -3 2036 891 3,817 17,049 103 - 208 21 22,099 24,414 4,216 - 76 28,706 -6,711 -6,708 -3 2036 891 3,817 17,144 101 - 205 21 22,199 24,414 4,18 - 39 28,672 -6,583 -6,582 -1 2037 891 3,817 17,235 99 - 202 21 22,236 24,414 4,175 - 21 28,610 -6,634 -6,462 -6,460 -2 2038 891 3,817 17,325 99 - 199 21 22,248 24,414 4,162 - 3 28,579 -6,231 -6,230 -1 2040 891 3,817 17,404 92 30 193 21 22,242 24,414 4,162 - 3 28,579 -6,231 -6,230 -1 2040 891 3,817 17,494 92 30 193 21 22,388 24,414 4,162 - 3 28,579 -6,231 -6,230 -1 2040 891 3,817 17,575 89 46 190 21 22,442 24,414 4,162 - 2 28,556 -6,018 -6,016 -2 2041 891 3,817 17,575 89 46 190 21 22,442 24,414 4,123 - 28,556 -6,018 -5,016 -2 2042 891 3,817 17,655 86 62 187 21 22,199 24,414 4,113 - 28,528 -5,723 -5,818 -5,817 -1 2044 891 3,817 17,655 86 62 187 21 22,199 24,414 4,100 - 2 28,556 -6,018 -5,016 -2 2042 891 3,817 17,807 80 92 181 21 22,289 24,414 4,107 - 28,528 -5,723 -5,818 -5,817 -1 2044 891 3,817 17,807 70 107 177 21 22,289 24,414 4,107 - 28,528 -5,723 -5,631 -5,643 -5					-													
2031   891   3,817   16,528   109   -           221       20       21,586     24,414     4,288   -       158       28,860     -7,274   -7,273   -1	_																	
2032 891 3,817 16,639 108 - 218 20 21,693 24,414 4,268 - 137 28,819 -7,126 -7,122 4.4  2033 891 3,817 16,677 107 - 216 20 21,798 24,414 4,250 - 116 28,780 -6,982 -6,978 4.4  2034 891 3,817 16,852 106 - 213 21 21,900 24,414 4,232 - 95 28,741 -6,841 -6,841 -6,841  2035 891 3,817 16,951 104 - 211 21 21,995 24,414 4,216 - 76 28,706 -6,711 -6,708 -2  2036 891 3,817 17,049 103 - 208 21 22,089 24,414 4,201 - 57 28,672 -6,583 -6,582 -1  2037 891 3,817 17,144 101 - 205 21 22,179 24,414 4,188 - 39 28,641 -6,462 -6,460 -2  2038 891 3,817 17,235 99 - 202 21 22,265 24,414 4,175 - 21 28,610 -6,345 -6,342 -3  2039 891 3,817 17,323 97 - 199 21 22,248 24,414 4,162 - 3 28,579 -6,231 -6,230 -1  2040 891 3,817 17,409 94 13 196 21 22,442 24,414 4,162 - 28,566 -6,124 -6,121 -3  2041 891 3,817 17,575 89 46 190 21 22,538 24,414 4,142 - 28,556 -6,018 -6,016 -2  2042 891 3,817 17,575 89 46 190 21 22,629 24,414 4,123 - 28,556 -6,018 -6,016 -2  2044 891 3,817 17,575 89 46 190 21 22,629 24,414 4,123 - 28,556 -6,018 -5,915 -2  2044 891 3,817 17,575 89 46 190 21 22,629 24,414 4,123 - 28,556 -6,018 -5,917 -5,915 -2  2044 891 3,817 17,655 86 62 187 21 22,279 24,414 4,102 - 28,556 -5,016 -5,915 -2  2044 891 3,817 17,655 86 62 187 21 22,289 24,414 4,107 - 28,528 -5,723 -5,818 -5,915 -2  2044 891 3,817 17,655 86 62 187 21 22,289 24,414 4,107 - 28,521 -5,662 -5,915 -5,915 -2  2044 891 3,817 17,655 86 62 187 21 22,289 24,414 4,107 - 28,521 -5,632 -5,631 -1  2044 891 3,817 17,655 86 62 187 21 22,289 24,414 4,107 - 28,528 -5,723										-								
2033   89   3,817   16,747   107   -   216   20   21,798   24,414   4,250   -   116   28,780   -6,982   -6,978   -4,																		
2034 891 3,817 16,852 106 - 213 21 21,900 24,414 4,232 - 95 28,741 -6,841 -6,841 (2035) 891 3,817 16,951 104 - 211 21 21,995 24,414 4,216 - 76 28,706 -6,711 -6,708 33 2036 891 3,817 17,049 103 - 208 21 22,089 24,414 4,201 - 57 28,672 -6,583 -6,582 -1 2037 891 3,817 17,144 101 - 205 21 22,179 24,414 4,188 - 39 28,641 -6,462 -6,460 -2 2038 891 3,817 17,235 99 - 202 21 22,265 24,414 4,175 - 21 28,610 -6,345 -6,342 -3 2039 891 3,817 17,323 97 - 199 21 22,348 24,414 4,162 - 3 28,579 -6,231 -6,230 -1 2040 891 3,817 17,410 94 13 196 21 22,442 24,414 4,162 - 3 28,566 -6,124 -6,121 -3 2040 891 3,817 17,494 92 30 193 21 22,538 24,414 4,142 - 28,556 -6,018 -6,016 -2 2042 891 3,817 17,575 89 46 190 21 22,629 24,414 4,123 - 28,556 -6,018 -6,016 -2 2042 891 3,817 17,655 86 62 187 21 22,719 24,414 4,123 - 28,526 -5,723 -5,818 -5,817 -1 2044 891 3,817 17,732 84 77 183 21 22,719 24,414 4,107 - 28,525 -5,235 -5,818 -5,817 -1 2046 891 3,817 17,807 80 92 181 21 22,889 24,414 4,107 - 28,521 -5,632 -5,631 -1 2046 891 3,817 17,807 80 92 181 21 22,899 24,414 4,107 - 28,521 -5,632 -5,631 -1 2046 891 3,817 17,807 80 92 181 21 22,899 24,414 4,107 - 28,521 -5,632 -5,631 -1 2046 891 3,817 17,807 80 92 181 21 22,899 24,414 4,107 - 28,521 -5,632 -5,631 -1 2046 891 3,817 17,807 80 92 181 21 22,899 24,414 4,009 - 28,513 -5,543 -5,543 -5,543 -2,448 -4,449 -1 -2,448 -4,449 -1 -2,448 -4,449 -1 -2,448 -4,449 -1 -2,449 -2,4																		
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2036         891         3,817         17,049         103         -         208         21         22,089         24,414         4,201         -         57         28,672         -6,583         -6,582         -1           2037         891         3,817         17,144         101         -         205         21         22,179         24,414         4,188         -         39         28,641         -6,462         -6,460         -2           2038         891         3,817         17,235         99         -         202         21         22,265         24,414         4,175         -         21         28,610         -6,345         -6,342         -3           2039         891         3,817         17,323         97         -         199         21         22,482         24,414         4,162         -         3         28,579         -6,231         -6,230         -1           2040         891         3,817         17,410         94         13         196         21         22,442         24,414         4,162         -         28,566         -6,018         -6,016         -2           2041         891         3,817         17,575																		
2037         891         3,817         17,144         101         -         205         21         22,179         24,414         4,188         -         39         28,641         -6,462         -6,460         -2           2038         891         3,817         17,235         99         -         202         21         22,265         24,414         4,175         -         21         28,610         -6,345         -6,342         -3           2039         891         3,817         17,323         97         -         199         21         22,348         24,414         4,162         -         3         28,579         -6,231         -6,230         -1           2040         891         3,817         17,410         94         13         196         21         22,442         24,414         4,162         -         28,566         -6,124         -6,121         -3           2041         891         3,817         17,494         92         30         193         21         22,538         24,414         4,142         -         -         28,566         -6,018         -6,016         -2           2042         891         3,817         17,655         <																		
2038         891         3,817         17,235         99         -         202         21         22,265         24,414         4,175         -         21         22,610         -6,345         -6,342         -3           2039         891         3,817         17,323         97         -         199         21         22,348         24,414         4,162         -         3         28,579         -6,231         -6,230         -1           2040         891         3,817         17,410         94         13         196         21         22,442         24,414         4,152         -         -         28,566         -6,124         -6,121         -3           2041         891         3,817         17,494         92         30         193         21         22,538         24,414         4,142         -         -         28,566         -6,018         -6,016         -2           2042         891         3,817         17,575         89         46         190         21         22,629         24,414         4,122         -         -28,546         -5,917         -5,915         -2           2043         891         3,817         17,655         <	0.00%														-			
2039 891 3,817 17,323 97 - 199 21 22,348 24,414 4,162 - 3 25,579 -6,231 -6,230 -1 2040 891 3,817 17,410 94 13 196 21 22,442 24,414 4,152 - 28,566 -6,124 -6,121 -3 2041 891 3,817 17,494 92 30 193 21 22,538 24,414 4,142 - 28,556 -6,018 -6,016 -2 2042 891 3,817 17,575 89 46 190 21 22,629 24,414 4,132 - 28,536 -5,917 -5,915 -2 2043 891 3,817 17,655 86 62 187 21 22,719 24,414 4,123 - 28,537 -5,818 -5,817 -1 2044 891 3,817 17,732 84 77 183 21 22,805 24,414 4,114 - 28,528 -5,723 -5,723 -5,723 2045 891 3,817 17,807 80 92 181 21 22,889 24,414 4,107 - 28,528 -5,723 -5,631 -1 2046 891 3,817 17,807 77 107 177 21 22,899 24,414 4,099 - 28,513 -5,543 -5,543 -5,543 2047 891 3,817 17,951 74 121 173 21 23,048 24,414 4,099 - 28,513 -5,543 -5,543 -5,543 2048 891 3,817 18,021 70 135 170 21 23,048 24,414 4,09 - 28,507 -5,459 -5,457 -2 2048 891 3,817 18,021 70 135 170 21 23,125 24,414 4,081 - 28,507 -5,549 -5,256 -5,294 2050 891 3,817 18,059 67 148 166 21 23,199 24,414 4,081 - 28,489 -5,216 -5,216 -5,216	_														-			
2040 891 3,817 17,410 94 13 196 21 22,442 24,414 4,152 - 28,566 6,6124 6,121 32 2041 891 3,817 17,494 92 30 193 21 22,538 24,414 4,142 - 28,556 6,018 6,016 -2 2042 891 3,817 17,575 89 46 190 21 22,629 24,414 4,132 - 28,546 5,917 -5,915 -2 2043 891 3,817 17,655 86 62 187 21 22,719 24,414 4,123 - 28,537 -5,818 -5,817 -1 2044 891 3,817 17,732 84 77 183 21 22,805 24,414 4,114 - 28,528 -5,723 -5,723 -6 2045 891 3,817 17,807 80 92 181 21 22,889 24,414 4,107 - 28,528 -5,723 -5,631 -1 2046 891 3,817 17,800 77 107 177 21 22,970 24,414 4,099 - 28,513 -5,543 -5,543 -5,543 2047 891 3,817 17,951 74 121 173 21 23,048 24,414 4,099 - 28,507 -5,459 -5,457 -2 2048 891 3,817 18,021 70 135 170 21 23,125 24,414 4,087 - 28,520 -5,236 -5,375 -1 2049 891 3,817 18,089 67 148 166 21 23,199 24,414 4,081 - 28,489 -5,216 -5,216 -5,216										-								
2041         891         3,817         17,494         92         30         193         21         22,538         24,414         4,142         -         -         28,556         -6,018         -6,016         -2           2042         891         3,817         17,575         89         46         190         21         22,629         24,414         4,132         -         -         28,546         -5,917         -5,915         -2           2043         891         3,817         17,655         86         62         187         21         22,719         24,414         4,123         -         -         28,537         -5,818         -5,817         -1           2044         891         3,817         17,732         84         77         183         21         22,805         24,414         4,114         -         -         28,528         -5,723         -5,723         -5,723           2045         891         3,817         17,807         80         92         181         21         22,889         24,414         4,107         -         -28,521         -5,632         -5,631         -1           2046         891         3,817         17,880						3	-											
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2044         891         3,817         17,732         84         77         183         21         22,805         24,414         4,114         -         -         28,528         -5,723         -5,723         -5,723         (2,631         -1,222         -1,223						-	-											
2045         891         3,817         17,807         80         92         181         21         22,889         24,414         4,107         -         -         28,521         -5,632         -5,631         -1           2046         891         3,817         17,880         77         107         177         21         22,970         24,414         4,099         -         -         28,513         -5,543         -5,543         -5,543         -           2047         891         3,817         17,951         74         121         173         21         23,048         24,414         4,093         -         -         28,507         -5,459         -5,457         -2           2048         891         3,817         18,021         70         135         170         21         23,125         24,414         4,087         -         -         28,501         -5,376         -5,375         -1           2049         891         3,817         18,089         67         148         166         21         23,199         24,414         4,081         -         28,495         -5,296         -5,294         -2           2050         891         3,817		-1				-	-											
2046     891     3,817     17,880     77     107     177     21     22,970     24,414     4,099     -     -     28,513     -5,543     -5,543     0       2047     891     3,817     17,951     74     121     173     21     23,048     24,414     4,093     -     -     28,507     -5,459     -5,457     -2       2048     891     3,817     18,021     70     135     170     21     23,125     24,414     4,087     -     -     28,501     -5,376     -5,375     -1       2049     891     3,817     18,089     67     148     166     21     23,199     24,414     4,081     -     -     28,495     -5,296     -5,294     -2       2050     891     3,817     18,155     64     162     163     21     23,273     24,414     4,075     -     -     28,489     -5,216     -5,216     0		0				-	-											
2047     891     3,817     17,951     74     121     173     21     23,048     24,414     4,093     -     -     28,507     -5,459     -5,457     -2       2048     891     3,817     18,021     70     135     170     21     23,125     24,414     4,087     -     -     28,501     -5,376     -5,375     -1       2049     891     3,817     18,089     67     148     166     21     23,199     24,414     4,081     -     -     28,495     -5,296     -5,294     -2       2050     891     3,817     18,155     64     162     163     21     23,273     24,414     4,075     -     -     28,489     -5,216     -5,216     -5,216		-1				-	-											
2048     891     3,817     18,021     70     135     170     21     23,125     24,414     4,087     -     -     28,501     -5,376     -5,375     -1       2049     891     3,817     18,089     67     148     166     21     23,199     24,414     4,081     -     -     28,495     -5,296     -5,294     -2       2050     891     3,817     18,155     64     162     163     21     23,273     24,414     4,075     -     -     28,489     -5,216     -5,216     0		0				-	-								-			
2049     891     3,817     18,089     67     148     166     21     23,199     24,414     4,081     -     -     28,495     -5,296     -5,294     -2       2050     891     3,817     18,155     64     162     163     21     23,273     24,414     4,075     -     -     28,499     -5,216     -5,216     0		-2		-5,459	28,507	-	-	4,093	24,414						17,951	3,817	891	
2050 891 3,817 18,155 64 162 163 21 23,273 24,414 4,075 28,489 -5,216 -5,216 (	0.00%	-1	-5,375		28,501	-	-	4,087	24,414	23,125						3,817	891	2048
	0.01%	-2	-5,294	-5,296	28,495	-	-	4,081	24,414	23,199	21	166	148	67	18,089	3,817	891	2049
, , , , , , , , , , <del>, , , , , , , , , </del>	0.00%	0	-5,216	-5,216	28,489	-	-	4,075	24,414	23,273	21	163	162	64	18,155	3,817	891	2050
2051 891 3,817 18,220 60 175 159 21 23,343 24,414 4,070 28,484 -5,141 -5,140 -1	0.00%	-1	-5,140	-5,141	28,484	-	-	4,070	24,414	23,343	21	159	175	60	18,220	3,817	891	2051
2052 891 3,817 18,283 57 188 155 21 23,412 24,414 4,066 28,480 -5,068 -5,067 -1	0.00%	-1	-5,067	-5,068	28,480	-	-	4,066	24,414	23,412	21	155	188	57	18,283	3,817	891	2052
2053 891 3,817 18,345 52 200 152 21 23,478 24,414 4,061 28,475 4,997 4,996 -1	0.00%	-1	-4,996	-4,997	28,475	-	-	4,061	24,414	23,478	21	152	200	52	18,345	3,817	891	2053
2054 891 3,817 18,406 49 213 148 21 23,545 24,414 4,057 28,471 4,926 4,926	0.00%	0	-4,926	-4,926	28,471	-	-	4,057	24,414	23,545	21	148	213	49	18,406	3,817	891	2054
2055 891 3,817 18,465 45 225 144 21 23,608 24,414 4,054 28,468 -4,860 -4,858 -2	0.01%	-2	-4,858	-4,860	28,468	-	-	4,054	24,414	23,608	21	144	225	45	18,465	3,817	891	2055
		-2				-	-					139					891	2056
		1				-				_		136	249	38			891	2057
		-1				-				_						-		
		-1														-		
		-3								_						-		

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TABLE A-14. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, JIM WELLS COUNTY, BRUSH COUNTRY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

					INFLOW								OUTI	FLOW							
Year	River Leakage	Recharge	Net Vertical Leakage Lower	Net Lateral Flow From Brooks Brush Country	Net Lateral Flow From Duval	Net Lateral Flow From Jim Wells White	Net Lateral Flow From LiveOak	Net Lateral Flow From Nueces White	Total Inflow	Wells	Net Lateral Flow To Brooks Brush Country	Net Lateral Flow To Jim Wells Kenedy	Net Lateral Flow To Kleburg Kenedy	Net Lateral Flow To Kleburg White	Net Lateral Flow To Nueces White	Net Lateral Flow To San Patricio	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	1,847	2,366	4,783		15,946	289		-	25,963	27,463	12	7,254	3,204	1,261	5,550	696	45,440	-19,477	-19,476	-1	0.00%
2011	1,847	2,366	4,861	45	-	279			25,909	27,463		7,055	3,168	1,271	5,263	693	44,913	-19,004	-19,003	-1	0.00%
2012	1,847	2,366	4,930	89		268			25,833	27,463		6,879	3,134	1,278	4,993	684	44,431	-18,598	-18,599	1	0.00%
2013	1,847	2,366	4,989	125		259			25,735	27,463		6,718	3,100	1,282	4,739	672	43,974	-18,239	-18,239	0	0.00%
2014	1,847	2,366	5,043	155		249		•	25,628	27,463		6,567	3,066	1,283	4,498	656	43,533	-17,905	-17,907	2	0.00%
2015	1,847	2,366	5,090	180		240	871	•	25,512	27,463		6,422	3,032	1,281	4,267	638	43,103	-17,591	-17,594		0.01%
2016	1,847 1,847	2,366 2,366	5,132 5,171	200	14,728 14,545	231	890 906	•	25,394 25,276	27,463 27,463	•	6,285 6,153	2,999	1,279	4,048 3,837	621	42,695 42,294	-17,301	-17,300 -17,017	-1	0.00%
2017	1,847	2,366	5,207	232	14,343	216		-	25,270	27,463		6,023	2,903	1,270	3,635	584	42,294	-17,018 -16,743	-16,742	-1	0.00%
2019	1,847	2,366	5,240	244		211	935		25,049	27,463		5,897	2,893	1,262	3,441	567	41,523	-16,474	-16,476	-1	0.00%
2020	1,847	2,366	5,271	256	-	204	946	· .	24,939	27,463	<u> </u>	5,777	2,857	1,254	3,257	551	41,159	-16,220	-16,219	-1	0.00%
2021	1,847	2,366	5,298	266		198			24,833	27,463		5,658	2,821	1,244	3,080	536	40,802	-15,969	-15,969	0	0.00%
2022	1,847	2,366	5,325		13,759	192			24,733	27,463		5,543	2,785	1,233	2,911	522	40,457	-15,724	-15,723	-1	0.00%
2023	1,847	2,366	5,349	284		187	980		24,637	27,463		5,429	2,748	1,220	2,749	507	40,116	-15,479	-15,480	1	0.00%
2024	1,847	2,366	5,372	291	13,497	182	988		24,543	27,463		5,318	2,710	1,207	2,593	494	39,785	-15,242	-15,240	-2	0.01%
2025	1,847	2,366	5,394	299		178			24,457	27,463		5,209	2,673	1,192	2,442	482	39,461	-15,004	-15,003	-1	0.00%
2026	1,847	2,366	5,414	306	13,260	174	1,005		24,372	27,463		5,102	2,634	1,177	2,296	470	39,142	-14,770	-14,769	-1	0.00%
2027	1,847	2,366	5,433	312	13,151	170	1,013		24,292	27,463		4,996	2,596	1,161	2,156	457	38,829	-14,537	-14,540	3	0.01%
2028	1,847	2,366	5,451	318	13,046	166	1,019		24,213	27,463		4,895	2,558	1,145	2,020	446	38,527	-14,314	-14,315	1	0.00%
2029	1,847	2,366	5,468	324	12,947	162	1,026		24,140	27,463		4,795	2,521	1,129	1,894	436	38,238	-14,098	-14,099	1	0.00%
2030	1,847	2,366	5,483	328	12,851	159	1,033		24,067	27,463		4,699	2,484	1,112	1,774	425	37,957	-13,890	-13,889	-1	0.00%
2031	1,847	2,366	5,499	334	12,760	156	1,038		24,000	27,463		4,606	2,448	1,095	1,659	413	37,684	-13,684	-13,686	2	0.01%
2032	1,847	2,366	5,513	338	12,673	152	1,044		23,933	27,463		4,514	2,412	1,079	1,550	402	37,420	-13,487	-13,488	1	0.00%
2033	1,847	2,366	5,526	343	12,590	150	1,048	-	23,870	27,463		4,426	2,378	1,063	1,443	392	37,165	-13,295	-13,295	0	0.00%
2034	1,847	2,366	5,540	348		147	1,054		23,811	27,463		4,340	2,344	1,047	1,340	381	36,915	-13,104	-13,105	1	0.00%
2035	1,847	2,366	5,551	352		144	1,059		23,752	27,463		4,257	2,310	1,031	1,241	371	36,673	-12,921	-12,921	0	0.00%
2036	1,847	2,366	5,564	355		141	1,063		23,695	27,463		4,176	2,278	1,017	1,143	360	36,437	-12,742	-12,744	2	0.01%
2037	1,847	2,366	5,575	358		138	1,068		23,640	27,463		4,099	2,247	1,004	1,053	350	36,216	-12,576	-12,574	-2	0.01%
2038	1,847	2,366	5,585	362		136		•	23,589	27,463	•	4,024	2,218	990	966	341	36,002	-12,413	-12,411	-2	0.01%
2039	1,847	2,366	5,596	364	-	134	1,076	•	23,538	27,463		3,952	2,189	977	883	331	35,795	-12,257	-12,254	-5	0.01%
2040	1,847 1,847	2,366 2,366	5,606 5,615	368 370		132	1,080		23,491	27,463 27,463		3,882 3,815	2,160 2,134	963 951	802 729	321 311	35,591 35,403	-12,100	-12,101 -11,958	1	0.00%
2041	1,847	2,366	5,625	373	-	128			23,400	27,463		3,751	2,134	931	662	301	35,222	-11,958 -11,822	-11,938	1	0.00%
2042	1,847	2,366	5,633	375		126	1,000		23,358	27,463		3,689	2,107	926	598	291	35,050	-11,692	-11,621	-1	0.00%
2043	1,847	2,366	5,642	378		125	1,095		23,318	27,463		3,629	2,083	914	538	280	34,882	-11,564	-11,564	-2 0	0.01%
2044	1,847	2,366	5,650	381	11,813	123	1,101		23,281	27,463		3,571	2,034	902	480	270	34,720	-11,439	-11,440	1	0.00%
2046	1,847	2,366	5,658	382		121	1,104		23,240	27,463		3,515	2,011	890	425	259	34,563	-11,323	-11,321	-2	0.01%
2047	1,847	2,366	5,666	385	11,714	120	1,109		23,207	27,463		3,461	1,989	879	371	249	34,412	-11,205	-11,205	0	0.00%
2048	1,847	2,366	5,674	387	11,667	118			23,171	27,463		3,409	1,967	869	319	238	34,265	-11,094	-11,092	-2	0.01%
2049	1,847	2,366	5,681		_	117			23,140			3,358	1,947		269	227	34,122	-10,982	-10,982	0	0.00%
2050	1,847	2,366	5,688			116			23,109	27,463		3,310	1,926		221	216	33,984	-10,875	-10,875	0	0.00%
2051	1,847	2,366	5,696	394	11,539	114	1,125		23,081	27,463		3,263	1,907	838	174	205	33,850	-10,769	-10,770	1	0.00%
2052	1,847	2,366	5,703	395	11,498	114	1,129		23,052	27,463		3,218	1,888	829	129	194	33,721	-10,669	-10,668	-1	0.00%
2053	1,847	2,366	5,709	398	11,459	112	1,133		23,024	27,463		3,173	1,870	819	85	183	33,593	-10,569	-10,569	0	0.00%
2054	1,847	2,366	5,716	399	11,422	112	1,137		22,999	27,463		3,131	1,852	810	42	173	33,471	-10,472	-10,471	-1	0.00%
2055	1,847	2,366	5,723	401	11,385	110	1,142		22,974	27,463		3,090	1,835	801	1	162	33,352	-10,378	-10,376	-2	0.01%
2056	1,847	2,366	5,730		11,351	109	_	40	22,992	27,463		3,049	1,818			151	33,274	-10,282	-10,283	1	0.00%
2057	1,847	2,366	5,736			109		79	23,009	27,463		3,010	1,802		-	141	33,200	-10,191	-10,191	0	0.00%
2058	1,847	2,366	5,742			108	_	117	23,025	27,463		2,973	1,787	776	-	130	33,129	-10,104	-10,101	-3	-
2059	1,847	2,366	5,748			107	1,159	155	23,043	27,463		2,935	1,771			118	33,055	-10,012	-10,013	1	0.00%
2060	1,847	2,366	5,755	411	11,222	106	1,163	191	23,061	27,463		2,899	1,756	759	-	108	32,985	-9,924	-9,927	3	0.01%

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TABLE A-15. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, JIM WELLS COUNTY, KENEDY COUNTY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

		INF	LOW			OUTE	LOW					
Year	River Leakage	Recharge	Net Lateral Flow From Jim Wells Brush Country	Total Inflow	Wells	Net Lateral Flow To Kleburg Kenedy	Net Lateral Flow To Nueces White	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	168	115	7,254	7,537	356	7,741	1,771	9,868	-2,331	-2,331	0	0.00%
2011	168	115	7,055	7,338	356	7,643	1,736	9,735	-2,397	-2,397	0	0.00%
2012	168	115	6,879	7,162	356	7,548	1,700	9,604	-2,442	-2,442	0	0.00%
2013	168	115	6,718	7,001	356	7,454	1,662	9,472	-2,471	-2,472	1	0.01%
2014	168	115	6,567	6,850	356	7,360	1,623	9,339	-2,489	-2,490	1	0.01%
2015	168	115	6,422	6,705	356	7,266	1,582	9,204	-2,499	-2,498	-1	0.01%
2016	168	115	6,285	6,568	356	7,173	1,539	9,068	-2,500	-2,500	0	0.00%
2017	168	115	6,153	6,436	356	7,079	1,497	8,932	-2,496	-2,496	0	0.00%
2018	168	115	6,023	6,306	356	6,984	1,454	8,794	-2,488	-2,488	0	0.00%
2019	168	115	5,897	6,180	356	6,890	1,412	8,658	-2,478	-2,477	-1	0.01%
2020	168	115	5,777	6,060	356	6,796	1,370	8,522	-2,462	-2,463	1	0.01%
2021	168	115	5,658	5,941	356	6,703	1,330	8,389	-2,448	-2,446	-2	0.02%
2022	168	115	5,543	5,826	356	6,608	1,289	8,253	-2,427	-2,428	1	0.01%
2023	168	115	5,429	5,712	356	6,514	1,250	8,120	-2,408	-2,407	-1	0.01%
2024	168	115	5,318	5,601	356	6,419	1,211	7,986	-2,385	-2,385	0	0.00%
2025	168	115	5,209	5,492	356	6,324	1,173	7,853	-2,361	-2,362	1	0.01%
2026	168	115	5,102	5,385	356	6,229	1,136	7,721	-2,336	-2,337	1	0.01%
2027	168	115	4,996	5,279	356	6,136	1,101	7,593	-2,314	-2,313	-1	0.01%
2028	168	115	4,895	5,178	356	6,043	1,066	7,465	-2,287	-2,288	1	0.01%
2029	168	115	4,795	5,078	356	5,952	1,033	7,341	-2,263	-2,263	0	0.00%
2030	168	115	4,699	4,982	356	5,863	1,000	7,219	-2,237	-2,238	1	0.01%
2031	168	115	4,606	4,889	356	5,776	969	7,101	-2,212	-2,213	1	0.01%
2032	168	115	4,514	4,797	356	5,690	939	6,985	-2,188	-2,188	0	0.00%
2033 2034	168 168	115 115	4,426 4,340	4,709	356 356	5,607	909 881	6,872	-2,163	-2,163	-1	0.00%
2034	168	115	4,340	4,623 4,540	356	5,525 5,445	853	6,762 6,654	-2,139 -2,114	-2,138 -2,114	-1	0.01%
2035	168	115	4,237	4,340	356	5,368	826	6,550	-2,114	-2,114	-1	0.00%
2037	168	115	4,170	4,382	356	5,293	800	6,449	-2,091	-2,090	-1	0.02%
2038	168	115	4,024	4,307	356	5,221	774	6,351	-2,044	-2,007	1	0.00%
2039	168	115	3,952	4,235	356	5,151	750	6,257	-2,022	-2,023	1	0.02%
2040	168	115	3,882	4,165	356	5,085	726	6,167	-2,002	-2,002	0	0.00%
2041	168	115	3,815	4,098	356	5,020	704	6,080	-1.982	-1,982	0	0.00%
2042	168	115	3,751	4,034	356	4,956	683	5,995	-1,961	-1,962	1	0.02%
2043	168	115	3,689	3,972	356	4,895	662	5,913	-1,941	-1,942	1	0.02%
2044	168	115	3,629	3,912	356	4,836	643	5,835	-1,923	-1,923	0	0.00%
2045	168	115	3,571	3,854	356	4,778	624	5,758	-1,904	-1,905	1	0.02%
2046	168	115	3,515	3,798	356	4,723	606	5,685	-1,887	-1,886	-1	0.02%
2047	168	115	3,461	3,744	356	4,669	588	5,613	-1,869	-1,869	0	0.00%
2048	168	115	3,409	3,692	356	4,617	571	5,544	-1,852	-1,852	0	0.00%
2049	168	115	3,358	3,641	356	4,567	554	5,477	-1,836	-1,835	-1	0.02%
2050	168	115	3,310	3,593	356	4,519	537	5,412	-1,819	-1,818	-1	0.02%
2051	168	115	3,263	3,546	356	4,471	521	5,348	-1,802	-1,802	0	0.00%
2052	168	115	3,218	3,501	356	4,425	506	5,287	-1,786	-1,787	1	0.02%
2053	168	115	3,173	3,456	356	4,381	491	5,228	-1,772	-1,772	0	0.00%
2054	168	115	3,131	3,414	356	4,338	477	5,171	-1,757	-1,757	0	0.00%
2055	168	115	3,090	3,373	356	4,296	463	5,115	-1,742	-1,742	0	0.00%
2056	168	115	3,049	3,332	356	4,255	449	5,060	-1,728	-1,727	-1	0.02%
2057	168	115	3,010	3,293	356	4,215	436	5,007	-1,714	-1,713	-1	0.02%
2058	168	115	2,973	3,256	356	4,177	422	4,955	-1,699	-1,699	0	0.00%
2059	168	115	2,935	3,218	356	4,139	409	4,904	-1,686	-1,686	0	0.00%
2060	168	115	2,899	3,182	356	4,102	397	4,855	-1,673	-1,673	0	0.00%

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TABLE A-16. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, JIM WELLS COUNTY, NON-DISTRICT AREA. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

		INFLOW			OUTFLOW					
	River		Total		Net Lateral Flow To Jim Wells Brush	Total	Inflow -	Storage	Model	Model Error
Year	Leakage	Recharge	Inflow	Wells	Country	Outflow	Outflow	Change	Error	(percent)
2010	46	23	69	68	289	357	-288	-288	0	0.00%
2011	46	23	69	68	279	347	-278	-279	1	0.29%
2012	46	23	69	68	268	336	-267	-268	1	0.30%
2013	46	23	69	68	259	327	-258	-258	0	0.00%
2014	46	23	69	68	249	317	-248	-249	1	0.31%
2015	46	23	69	68	240	308	-239	-240	1	0.32%
2016	46	23	69	68	231	299	-230	-231	1	0.33%
2017	46	23	69	68	224	292	-223	-224	1	0.34%
2018	46	23	69	68	216	284	-215	-217	2	0.70%
2019	46	23	69	68	211	279	-210	-210	0	0.00%
2020	46	23	69	68	204	272	-203	-204	1	0.37%
2021	46	23	69	68	198	266	-197	-198	1	0.38%
2022	46	23	69	68	192	260	-191	-192	1	0.38%
2023	46	23	69	68	187	255	-186	-187	1	0.39%
2024	46	23	69	68	182	250	-181	-183	2	0.80%
2025	46	23	69	68	178	246	-177	-178	1	0.41%
2026	46	23	69	68	174	242	-173	-174	1	0.41%
2027	46	23	69	68	170	238	-169	-170	1	0.42%
2028	46	23	69	68	166	234	-165	-166	1	0.43%
2029	46	23	69	68 68	162	230	-161	-162	0	0.43%
2030	46 46	23	69 69	68	159 156	227 224	-158 -155	-158 -155	0	0.00%
2031	46	23	69	68	150	224	-151	-152	1	0.00%
2032	46	23	69	68	150	218	-131	-132	0	0.437
2034	46	23	69	68	147	215	-149	-146	0	0.00%
2035	46	23	69	68	144	212	-143	-143	0	0.00%
2036	46	23	69	68	141	209	-140	-141	1	0.48%
2037	46	23	69	68	138	206	-137	-138	1	0.48%
2038	46	23	69	68	136	204	-135	-136	1	0.49%
2039	46	23	69	68	134	202	-133	-134	1	0.49%
2040	46	23	69	68	132	200	-131	-132	1	0.50%
2041	46	23	69	68	130	198	-129	-130	1	0.50%
2042	46	23	69	68	128	196	-127	-128	1	0.51%
2043	46	23	69	68	126	194	-125	-126	1	0.51%
2044	46	23	69	68	125	193	-124	-124	0	0.00%
2045	46	23	69	68	123	191	-122	-123	1	0.52%
2046	46	23	69	68	121	189	-120	-121	1	0.53%
2047	46	23	69	68	120	188	-119	-120	1	0.53%
2048	46	23	69	68	118	186	-117	-118	1	0.54%
2049	46	23	69	68	117	185	-116	-117	1	0.54%
2050	46	23	69	68	116	184	-115	-116	1	0.54%
2051	46	23	69	68	114	182	-113	-115	2	1.09%
2052	46	23	69	68	114	182	-113	-113	0	0.00%
2053	46	23	69	68	112	180	-111	-112	1	0.55%
2054	46	23	69	68	112	180	-111	-111	0	0.00%
2055	46	23	69	68	110	178	-109	-110	1	0.56%
2056	46	23	69	68	109	177	-108	-109	1	0.56%
2057	46	23	69	68	109	177	-108	-108	0	0.00%
2058	46	23	69	68	108	176	-107	-107	0	0.00%
2059	46	23	69	68	107	175	-106	-106	0	0.00%
2060	46	23	69	68	106	174	-105	-105	0	0.00%

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TABLE A-17. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, KENEDY COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

					INFLOW							OUTI	LOW						
Year	Net River Leakage	Recharge	Net Lateral Flow From Brooks Brush Country	Net Lateral Flow From Brooks Kenedy	Net Lateral Flow From Gulf	Net Lateral Flow From Hidalgo Kenedy	Net Lateral Flow From Hidalgo White	Net Lateral Flow From Willacy Kenedy	Total Inflow	Wells	Net River Leakage	Net Lateral Flow To Kleburg Kenedy	Net Lateral Flow To Kleburg White	Net Lateral Flow To Willacy White	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010		4,074	397	9,509	3,903	1,462	419	1,620	21,384	51,778	127	2,398	1,022	364	55,689	-34,305	-34,304	-1	0.00%
2011	-	4,074	401	9,707	4,935	1,502	450	1,727	22,796	51,778	100	2,283	1,005	364	55,530	-32,734	-32,733	-1	0.00%
2012		4,074	401	9,785	5,811	1,526	470	1,783	23,850	51,778	75	2,177	989	363	55,382	-31,532	-31,533	1	0.00%
2013		4,074	398	9,784	6,560	1,541	485	1,806	24,648	51,778	52	2,079	974	361	55,244	-30,596	-30,594	-2	0.00%
2014	-	4,074	393	9,732	7,210	1,551	496	1,808	25,264	51,778	30	1,986	958	358	55,110	-29,846	-29,847	1	0.00%
2015		4,074	388	9,647	7,781	1,558	503	1,795	25,746	51,778	9	1,901	944	356	54,988	-29,242	-29,241	-1	0.00%
2016	12	4,074	382	9,551	8,290	1,563	508	1,771	26,151	51,778	-	1,853	931	353	54,915	-28,764	-28,764	0	0.00%
2017	33	4,074	376	9,442	8,747	1,567	511	1,742	26,492	51,778	-	1,805	918	350	54,851	-28,359	-28,360	1	0.00%
2018	53	4,074	369	9,322	9,162	1,571	513	1,710	26,774	51,778	-	1,757	905	347	54,787	-28,013	-28,012	-1	0.00%
2019	74	4,074	362	9,193	9,542	1,568	513	1,677	27,003	51,778	-	1,712	893	343	54,726	-27,723	-27,724	1	0.00%
2020	95	4,074	355	9,058	9,892	1,565	514	1,643	27,196	51,778	-	1,669	881	340	54,668	-27,472	-27,473	1	0.00%
2021	116	4,074	348	8,923	10,218	1,562	513	1,608	27,362	51,778	-	1,626	870	338	54,612	-27,250	-27,251	1	0.00%
2022	137	4,074	340	8,784	10,522	1,559	512	1,574	27,502	51,778	-	1,583	858	334	54,553	-27,051	-27,052	1	0.00%
2023	158	4,074	333	8,647	10,807	1,556	510	1,539	27,624	51,778	-	1,539	847	331	54,495	-26,871	-26,872	1	0.00%
2024	179	4,074	326	8,509	11,076	1,553	508	1,506	27,731	51,778	-	1,496	835	327	54,436	-26,705	-26,708	3	0.01%
2025	200	4,074	318	8,372	11,330	1,551	506	1,473	27,824	51,778	-	1,452	825	325	54,380	-26,556	-26,557	1	0.00%
2026	213	4,074	311	8,226	11,572	1,526	504	1,441	27,867	51,778	-	1,409	813	322	54,322	-26,455	-26,450	-5	0.01%
2027	213	4,074	303	8,079	11,801	1,501	501	1,411	27,883	51,778	-	1,352	801	320	54,251	-26,368	-26,367	-1	0.00%
2028	213	4,074	296	7,933	12,021	1,476	498	1,383	27,894	51,778	-	1,295	789	317	54,179	-26,285	-26,286	1	0.00%
2029	213	4,074	289	7,789	12,230	1,449	495	1,357	27,896	51,778	-	1,249	776	315	54,118	-26,222	-26,222	0	0.00%
2030	213	4,074	282	7,647	12,432	1,424	490	1,331	27,893	51,778	-	1,201	762	311	54,052	-26,159	-26,159	0	0.00%
2031	213	4,074	275	7,506	12,625	1,398	488	1,308	27,887	51,778	-	1,172	747	309	54,006	-26,119	-26,120	1	0.00%
2032	213	4,074	269	7,370	12,812	1,371	484	1,286	27,879	51,778	-	1,139	730	307	53,954	-26,075	-26,078	3	0.01%
2033	213	4,074	262	7,235	12,992	1,345	479	1,265	27,865	51,778	-	1,106	715	305	53,904	-26,039	-26,038	-1	0.00%
2034	213	4,074	256	7,103	13,166	1,319	475	1,245	27,851	51,778	-	1,077	698	303	53,856	-26,005	-26,006	1	0.00%
2035	213	4,074	250	6,977	13,335	1,293	472	1,227	27,841	51,778	-	1,092	680	301	53,851	-26,010	-26,012	2	0.00%
2036	213	4,074	244	6,856	13,498	1,267	468	1,209	27,829	51,778	-	1,100	661	299	53,838	-26,009	-26,010	1	0.00%
2037	213	4,074	239	6,738	13,657	1,242	464	1,192	27,819	51,778	-	1,108	641	297	53,824	-26,005	-26,006	1	0.00%
2038	213	4,074	234	6,623	13,811	1,217	460	1,176	27,808	51,778	-	1,116	621	296	53,811	-26,003	-26,002	-1	0.00%
2039	213	4,074	229	6,511	13,962	1,192	456	1,162	27,799	51,778	-	1,123	600	294	53,795	-25,996	-25,997	1	0.00%
2040	213	4,074	224	6,401	14,109	1,167	452	1,148	27,788	51,778	-	1,130	578	292	53,778	-25,990	-25,992	2	0.00%
2041	213	4,074	219	6,293	14,251	1,143	448	1,134	27,775	51,778	-	1,137	556	291	53,762	-25,987	-25,987	0	0.00%
2042	213	4,074	214	6,189	14,391	1,118	444	1,121	27,764	51,778	-	1,145	533	289	53,745	-25,981	-25,981	0	0.00%
2043	213	4,074	209	6,085	14,527	1,094	440	1,109	27,751	51,778	-	1,154	516	288	53,736	-25,985	-25,981	-4	0.01%
2044	213	4,074	204	5,985	14,662	1,071	436	1,098	27,743	51,778		1,162	496	287	53,723	-25,980	-25,980	0	0.00%
2045	213	4,074	200	5,888	14,793	1,047	432	1,087	27,734	51,778	-	1,173	476	286	53,713	-25,979	-25,978	-1	0.00%
2046	213	4,074	196	5,792	14,922	1,024	428	1,078	27,727	51,778		1,183	488	285	53,734	-26,007	-26,007	0	0.00%
2047	213	4,074	191	5,698	15,049	1,002	425	1,069	27,721	51,778	-	1,193	494	284	53,749	-26,028	-26,030	2	0.00%
2048	213	4,074	187	5,609	15,173	980	421	1,059	27,716	51,778		1,205	500	283	53,766	-26,050	-26,051	1	0.00%
2049	213	4,074	183		15,296	957	418	1,050	27,711	51,778		1,217	505	282	53,782	-26,071		0	
2050	213	4,074	179	5,434	15,417	935	414	1,042	27,708	51,778		1,228	509	282	53,797	-26,089		0	0.00%
2051	213	4,074	176	5,350	15,536	914	410	1,035	27,708	51,778		1,240	513	281	53,812	-26,104	-26,106	2	0.00%
2052	213	4,074	172	5,269	15,653	892	406	1,027	27,706	51,778		1,250	518	281	53,827	-26,121	-26,122	1	0.00%
2053	213	4,074	168	5,189	15,769	871	402	1,020	27,706	51,778		1,262	522	281	53,843	-26,137	-26,136	-1	0.00%
2054	213	4,074	165	5,110	15,883	851	400	1,014	27,710	51,778	-	1,273	526	280	53,857	-26,147	-26,149	2	0.00%
2055	213	4,074	161	5,035	15,996	830	396	1,007	27,712	51,778		1,284	529	280	53,871	-26,159	-26,161	2	0.00%
2056	213	4,074	158	4,960	16,106	810		1,001	27,714	51,778		1,295	533	280	53,886	-26,172	_	0	0.00%
2057	213	4,074	155	4,888	16,216	789	389	996		51,778		1,306	537	280	53,901	-26,181	-26,182	1	0.00%
2058	213	4,074	152		16,324	770		989	27,724	51,778		1,316	540	280	-	-26,190		0	
2059	213	4,074	149			750		984	27,731	51,778		1,327	543	280	53,928	-26,197	-26,198	1	0.00%
2060	213	4,074			16,537	731		980	27,739	51,778		1,337	546			-26,202		2	

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TABLE A-18. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, KLEBERG COUNTY, KENEDY COUNTY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

						INFLOW								OUTFLOW	'					
			Net Lateral Flow From	Net Lateral	Net	Net Lateral Flow From Jim Wells	Net Lateral	Net	Net Lateral	Net Lateral				CITION	Net Lateral Flow To					M-1-1
v	Net River	Deckers	Brooks Brush	Flow From Brooks	Lateral Flow From	Brush	Flow From Jim Wells	Lateral Flow From	Flow From Nueces	Flow From Nueces	Total Inflow	W.II.	During	Net River	Kleburg	Total Outflow	Inflow -	Storage	Model	Model Error
Year 2010	Leakage	Recharge	Country	Kenedy	<b>Gulf</b> 5,430	Country	Kenedy	Kenedy 2,398	Kenedy 798	White		Wells 38,012	Drains 565	Leakage	White		Outflow	Change -21,525	Error	(percent) 0.00%
2010		1,720 1,720	365 386	1,609 1,595	5,876	3,204 3,168	7,741 7,643	2,398	811	5,628 5,665	28,893 29,147	38,012	488	5,192 4,656	6,648 6,464	50,417 49,620	-21,524 -20,473	-21,323	-1	0.007
2011		1,720	402	1,570	6.232	3,134	7,548	2,177	817	5,671	29,271	38.012	417	4,170	6,268	48,867	-19,596	-19,593	-3	0.007
2013		1,720	415	1,538	6,521	3,100	7,454	2,079	820	5,659	29,306	38,012	356		6,063	48,154	-18,848	-18,847	-1	0.009
2014		1,720	426	1,503	6,760	3,066		1,986	819	5,629	29,269	38.012	299		5,854	47,459	-18,190	-18,187	-3	0.019
2015		1,720	434	1,468	6,958	3,032	7,266	1,901	816	5,589	29,184	38,012	244		5,645	46,785	-17,601	-17,599	-2	0.00
2016		1,720	440	1,445	7,126	2,999		1,853	813	5,541	29,110	38,012	195	2,573	5,434	46,214	-17,104	-17,101	-3	0.01
2017		1,720	444	1,422	7,269	2,963	7,079	1,805	808	5,490	29,000	38,012	160	2,262	5,226	45,660	-16,660	-16,652	-8	0.029
2018		1,720	447	1,396	7,394	2,928	6,984	1,757	802	5,434	28,862	38,012	125	1,955	5,023	45,115	-16,253	-16,252	-1	0.009
2019		1,720	449	1,372	7,502	2,893	6,890	1,712	797	5,391	28,726	38,012	93	1,686	4,859	44,650	-15,924	-15,924	0	0.00
2020		1,720	450	1,348	7,599	2,857	6,796	1,669	790	5,345	28,574	38,012	68	1,414	4,698	44,192	-15,618	-15,618	0	0.009
2021		1,720	451	1,324	7,687	2,821	6,703	1,626	784	5,299	28,415	38,012	44	1,143	4,542	43,741	-15,326	-15,327	1	0.009
2022	-	1,720	451	1,299	7,765	2,785	6,608	1,583	777	5,251	28,239	38,012	20	873	4,390	43,295	-15,056	-15,055	-1	0.009
2023		1,720	451	1,276	7,838	2,748	6,514	1,539	770	5,203	28,059	38,012	0	617	4,242	42,871	-14,812	-14,799	-13	0.039
2024	-	1,720	450	1,251	7,904	2,710	6,419	1,496	763	5,169	27,882	38,012	0	381	4,101	42,494	-14,612	-14,610	-2	0.009
2025	-	1,720	449	1,228	7,967	2,673	6,324	1,452	756	5,136	27,705	38,012	0	146	3,962	42,120	-14,415	-14,414	-1	0.00
2026	81	1,720	448	1,204	8,025	2,634	6,229	1,409	750	5,107	27,607	38,012	0		3,853	41,865	-14,258	-14,249	-9	0.02
2027	290	1,720	446	1,181	8,081	2,596	6,136	1,352	743	5,090	27,635	38,012	0		3,739	41,751	-14,116	-14,117	1	0.00
2028	510	1,720	444	1,157	8,133	2,558	6,043	1,295	737	5,077	27,674	38,012	0		3,654	41,666	-13,992	-13,983	-9	0.02
2029	678	1,720	442	1,134	8,182	2,521	5,952	1,249	732	5,063	27,673	38,012	0		3,561	41,573	-13,900	-13,855	-45	0.11
2030	848	1,720	440	1,112		2,484		1,201	726	5,061	27,685	38,012	0		3,453	41,465	-13,780	-13,768	-12	0.03
2031	996	1,720	438	1,091	8,275	2,448	-	1,172	720	5,058	27,694	38,012	0		3,357	41,369	-13,675	-13,675	0	0.00
2032	1,145	1,720	436	1,069	8,319	2,412	5,690	1,139	715	5,055	27,700	38,012	0		3,264	41,276	-13,576	-13,574	-2	0.00
2033	1,280	1,720	434	1,049	8,361	2,378		1,106	709	5,053	27,697	38,012	0		3,173	41,185	-13,488	-13,472	-16	0.04
2034	1,384	1,720	432	1,029	8,402	2,344		1,077	704	5,051	27,668	38,012	0		3,061	41,073	-13,405	-13,386	-19	0.05
2035	1,427	1,720	429	1,012	8,441	2,310	5,445	1,092	698	5,049	27,623	38,012	0	•	2,949	40,961	-13,338	-13,335	-3	0.01
2036	1,448	1,720 1,720	427 425	997 982	8,478 8,516	2,278		1,100	694 689	5,048	27,558 27,480	38,012	0		2,836 2,694	40,848	-13,290	-13,265 -13,226	-25 0	0.06
2038		1,720	423	967	8,551	2,247	5,293 5,221	1,116		5,052 5,063	27,411	38,012 38,012	0		2,602	40,706 40,614	-13,226 -13,203	-13,220	1	0.00
2039	1,448	1,720	421	952	8,587	2,210		1,110	680	5,076	27,411	38,012	0		2,509	40,521	-13,174	-13,174	0	0.00
2040	1,448	1,720	419	939	8,620	2,160	5,085	1,130	675	5,092	27,288	38,012	0		2,420	40,432	-13,144	-13,143	-1	0.00
2041	1,448	1,720	417	925	8,654	2,134	5,020	1,137	671	5,107	27,233	38,012	0		2,334	40,346	-13,113	-13,113	0	0.00
2042	1,448	1,720	416	911	8,686	2,107	4,956	1,145	667	5,123	27,179	38,012	0		2,251	40,263	-13,084	-13,083	-1	0.00
2043	1,448	1,720	414	898	8,718	2,083	4,895	1,154	663	5,139	27,132	38,012	0		2,178	40,190	-13,058	-13,060	2	0.009
2044	1,448	1,720	412	885	8,749		4,836	1,162	658	5,155	27,083	38.012	0		2,108	40,120	-13,037	-13,035	-2	0.00
2045	1,448	1,720	410	873	8,781	2,034		1,173	654	5,170	27,041	38,012	0		2,039	40,051	-13,010	-13,011	1	0.00
2046	1,448	1,720	408	862	8,810	2,011	4,723	1,183	650	5,185	27,000	38,012	0		1,989	40,001	-13,001	-13,001	0	0.009
2047	1,448	1,720	407	850	8,840	1,989	-	1,193	646	5,200	26,962	38,012	0		1,937	39,949	-12,987	-12,987	0	0.00
2048			405	839		_		1,205	642	5,215	26,927	38,012	0		1,889	39,901	-12,974	-12,973	-1	0.00
2049		1,720	404	829		1,947		1,217	639	5,231	26,899	38,012	0		1,842	39,854	-12,955	-12,958	3	0.019
2050	1,448	1,720	402	819	8,924	1,926		1,228	635	5,245	26,866	38,012	0		1,797	39,809	-12,943	-12,942	-1	0.00
2051	1,448	1,720	401	809	8,952	1,907	4,471	1,240	631	5,261	26,840	38,012	0		1,754	39,766	-12,926	-12,927	1	0.00
2052	1,448	1,720	399	799	8,979	1,888		1,250	627	5,276	26,811	38,012	0		1,713	39,725	-12,914	-12,911	-3	0.01
2053	1,448	1,720	398	790	9,006	1,870	4,381	1,262	624	5,292	26,791	38,012	0		1,675	39,687	-12,896	-12,895	-1	0.00
2054	1,448	1,720	397	781	9,032	1,852	4,338	1,273	621	5,308	26,770	38,012	0		1,638	39,650	-12,880	-12,879	-1	0.00
2055	1,448	1,720	396	773	9,058	1,835	4,296	1,284	618	5,323	26,751	38,012	0		1,602	39,614	-12,863	-12,863	0	0.00
2056	1,448	1,720	394	765	9,084	1,818	4,255	1,295	614	5,340	26,733	38,012	0		1,567	39,579	-12,846	-12,847	1	0.00
2057	1,448	1,720	393	757	9,109	1,802	4,215	1,306	610	5,355	26,715	38,012	0		1,534	39,546	-12,831	-12,830	-1	0.00
2058	1,448	1,720	392	748	9,135	1,787	4,177	1,316	608	5,371	26,702	38,012	0		1,503	39,515	-12,813	-12,814	1	0.009
2059	1,448	1,720	391	741	9,159	1,771	4,139	1,327	604	5,388	26,688	38,012	0		1,472	39,484	-12,796	-12,797	1	0.00
2060	1,448	1,720	390	733	9,184	1,756	4,102	1,337	601	5,404	26,675	38,012	0	-	1,443	39,455	-12,780	-12,780	0	0.00

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TABLE A-19. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, KLEBERG COUNTY, NON-DISTRICT AREA. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

					INFLOW						OUT	LOW					
Year	Net River Leakage	Recharge	Net Lateral Flow From Brooks Brush Country	Net Lateral Flow From Gulf	Net Lateral Flow From Jim Wells Brush Country	Net Lateral Flow From Kenedy	Net Lateral Flow From Kleburg Kenedy	Net Lateral Flow From Nueces White	Total Inflow	Wells	Drains	Net River Leakage	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	-	528	206	3,320	1,261	1,022	6,648	298	13,283	12,689	405	3,965	17,059	-3,776	-3,777	1	0.01%
2011	-	528	216	-	1,271	1,005	6,464	307	13,251	12,689	379	3,649	16,717	-3,466	-3,464	-2	0.01%
2012	-	528	224	3,558	1,278	989	6,268	315	13,160	12,689	358	3,370	16,417	-3,257	-3,257	0	0.00%
2013	-	528	230	3,631	1,282	974	6,063	321	13,029	12,689	339	3,107	16,135	-3,106	-3,107	1	0.01%
2014	-	528	236	<u> </u>	1,283	958	5,854	326	12,872	12,689	322	2,854	15,865	-2,993	-2,993	0	0.00%
2015	-	528	240	3,733	1,281	944	5,645	329	12,700	12,689	305	2,610	15,604	-2,904	-2,904	0	0.00%
2016	-	528	244	<u> </u>	1,279	931	5,434	332	12,517	12,689	289	2,374	15,352	-2,835	-2,835	0	0.00%
2017	-	528	247	3,802	1,275	918	5,226	334	12,330	12,689	274	2,144	15,107	-2,777	-2,778	1	0.01%
2018	-	528	249	<u> </u>	1,270	905	5,023	335	12,140	12,689	262	1,937	14,888	-2,748	-2,729	-19	0.13%
2019	-	528	251	3,856	1,262	893	4,859	337	11,986	12,689	251	1,788	14,728	-2,742	-2,718	-24	0.16%
2020	-	528	252		1,254	881	4,698	339	11,830	12,689	239	1,639	14,567	-2,737	-2,736	-1	0.01%
2021	-	528	253	3,899	1,244	870	4,542	342	11,678	12,689	226	1,488	14,403	-2,725	-2,726	1	0.01%
2022	-	528	254		1,233	858	4,390	344	11,527	12,689	214	1,336	14,239	-2,712	-2,714	2	0.01%
2023	-	528	254		1,220	847	4,242	346	11,374	12,689	201	1,197	14,087	-2,713	-2,701	-12	0.09%
2024	-	528	255		1,207	835	4,101	349	11,230	12,689	187	1,048	13,924	-2,694	-2,696	2	0.01%
2025	-	528	255	3,971	1,192	825	3,962	351	11,084	12,689	174	924	13,787	-2,703	-2,684	-19	0.14%
2026 2027	-	528	255	3,987	1,177	813	3,853	353	10,966	12,689	159	832	13,680	-2,714	-2,681	-33 -22	0.24%
	-	528 528	254 254		1,161	801 789	3,739	356	10,841	12,689	143	734	13,566	-2,725	-2,703		0.16%
2028	-	528	254	4,016 4,030	1,145 1,129	776	3,654	360	10,746	12,689	125 107	636 544	13,450	-2,704	-2,705	-3	0.01%
2029	-	528	253	4,030		762	3,561 3,453	363 367	10,641	12,689	86	467	13,340 13,242	-2,699	-2,696 -2,723	-3 -1	0.02%
2030	-	528	253	4,043	1,112 1,095	747	3,357	372	10,518 10,408	12,689 12,689	62	386	13,137	-2,724 -2,729	-2,729	-1	0.01%
2031	-	528	252	4,050	1,093	730	3,264	376	10,408	12,689	38	302	13,029	-2,729	-2,729	-1	0.00%
2032	-	528	252		1,079	715	3,204	380	10,298	12,689	14	221	12,924	-2,732	-2,730	-1	0.01%
2033	-	528	251	4,081	1,003	698	3,061	385	10,192	12,689	0	123	12,924	-2,749	-2,739	-10	0.02%
2034		528	250		1,047	680	2,949	389	9,933	12,689	0	18	12,707	-2,774	-2,775	1	0.01%
2035	91	528	250	4,100	1,031	661	2,836	393	9,893	12,689	0	10	12,689	-2,774	-2,775	0	0.01%
2037	197	528	249	4,128	1,004	641	2,694	398	9,839	12,689	0	-	12,689	-2,750	-2,790	-24	0.19%
2037	269	528	248	4,140	990	621	2,602	403	9,801	12,689	0	-	12,689	-2,888	-2,889	1	0.01%
2039	344	528	247	4,151	977	600	2,509	409	9,765	12,689	0		12,689	-2,924	-2,925	1	0.01%
2040	409	528	247	4,161	963	578	2,420	414	9,720	12,689	0		12,689	-2,969	-2,969	0	0.00%
2041	475	528	246		951	556	2,334	420	9,683	12,689	0		12,689	-3,006	-3,008	2	0.02%
2042	527	528	245	4,183	938	533	2,251	425	9,630	12,689	0	-	12,689	-3,059	-3,043	-16	0.13%
2043	576	528	245	<u> </u>	926	516	2,178	431	9,594	12,689	0		12,689	-3,095	-3,096	1	0.01%
2044	625	528	244	4,205	914	496	2,108	436	9,556	12,689	0		12,689	-3,133	-3,133	0	0.00%
2045	655	528	243	4,216	902	476	2,039	442	9,501	12,689	0	-	12,689	-3,188	-3,167	-21	0.17%
2046	655	528	243	4,227	890	488	1,989	447	9,467	12,689	0	-	12,689	-3,222	-3,222	0	0.00%
2047	655	528	242	4,237	879	494	1,937	453	9,425	12,689	0	-	12,689	-3,264	-3,263	-1	0.01%
2048	655	528	241	4,248	869	500	1,889	458	9,388	12,689	0	-	12,689	-3,301	-3,302	1	0.01%
2049	655	528	241	4,258	858	505	1,842	464	9,351	12,689	0	-	12,689	-3,338	-3,339	1	0.01%
2050	655	528	240	4,269	848	509	1,797	469	9,315	12,689	0	-	12,689	-3,374	-3,374	0	0.00%
2051	655	528	240	4,279	838	513	1,754	475	9,282	12,689	0	-	12,689	-3,407	-3,406	-1	0.01%
2052	655	528	239	4,290	829	518	1,713	480	9,252	12,689	0	-	12,689	-3,437	-3,437	0	0.00%
2053	655	528	239	4,300	819	522	1,675	485	9,223	12,689	0	-	12,689	-3,466	-3,465	-1	0.01%
2054	655	528	238	4,312	810	526	1,638	491	9,198	12,689	0	-	12,689	-3,491	-3,492	1	0.01%
2055	655	528	238	4,322	801	529	1,602	496	9,171	12,689	0	-	12,689	-3,518	-3,517	-1	0.01%
2056	655	528	237	4,333	793	533	1,567	502	9,148	12,689	0	-	12,689	-3,541	-3,541	0	0.00%
2057	655	528	237	4,344	784	537	1,534	507	9,126	12,689	0	-	12,689	-3,563	-3,563	0	0.00%
2058	655	528	236	4,355	776	540	1,503	513	9,106	12,689	0	-	12,689	-3,583	-3,584	1	0.01%
2059	655	528	236	4,365	768	543	1,472	518	9,085	12,689	0	-	12,689	-3,604	-3,604	0	0.00%
2060	655	528	235	4,376	759	546	1,443	523	9,065	12,689	0	-	12,689	-3,624	-3,622	-2	0.02%

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TABLE A-20. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, LIVE OAK COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

				INFLOW							OUTI	FLOW							
Year	Recharge	Net Vertical Leakage Lower	Net Lateral Flow From Bee 16	Net Lateral Flow From Duval	Net Lateral Flow From Karnes 15	Net Lateral Flow From McMullen 16	Total Inflow	Wells	Drains	Net River Leakage	Net Lateral Flow To Bee 16	Net Lateral Flow To Duval	Net Lateral Flow To Jim Wells Brush Country	Net Lateral Flow To San Patricio	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	7,107	6,844	203	37	5	230	14,426	11,441	355	8,611		-	732	1,163	22,302	-7,876	-7,874	-2	0.01%
2011	7,107	6,712	144	34	5	228	14,230	11,441	352	8,517			770	1,151	22,231	-8,001	-8,000	-1	0.00%
2012	7,107	6,588	_	_			14,056	11,441	349	8,418			802	1,142	22,152	-8,096	-8,095	-1	0.00%
2013	7,107	6,470		_	_	225	13,892	11,441	346	8,321		-	827	1,136	22,071	-8,179	-8,178	-1	0.00%
2014	7,107	6,359		26	_	223	13,743	11,441	344	8,223			851	1,131	21,990	-8,247	-8,245	-2	0.01%
2015	7,107	6,254		23		221	13,610	11,441	341	8,126	7		871	1,128	21,914	-8,304	-8,301	-3	0.01%
2016	7,107	6,154		21		220	13,507	11,441	339	8,026	31	-	890	1,125	21,852	-8,345	-8,344	-1	0.00%
2017	7,107 7,107	6,059 5,969		19 16	_	218 217	13,408 13,314	11,441 11,441	336 334	7,928 7,829	53 71	-	906 921	1,123 1,121	21,787	-8,379 -8,403	-8,377 -8,401	-2	0.01%
2019	7,107	5,883		15	_	217	13,226	11,441	332	7,739	86	-	935	1,121	21,717	-8,426	-8,417	-2 -9	0.01%
2020	7,107	5,804		12	_	215	13,143	11,441	330	7,642	100		946	1,117	21,576	-8,433	-8,435	2	0.04%
2021	7,107	5,728		10		214	13,064	11,441	328	7,550	111		958	1,117	21,505	-8,441	-8,440	-1	0.00%
2022	7,107	5,655		8		213	12,988	11,441	326	7,458	121		969	1,115	21,430	-8,442	-8,440	-2	0.01%
2023	7,107	5,586		6	5		12,916	11,441	324	7,365	128		980	1,114	21,352	-8,436	-8,435	-1	0.00%
2024	7,107	5,520		4	5	211	12,847	11,441	322	7,276	135		988	1,113	21,275	-8,428	-8,424	-4	0.02%
2025	7,107	5,459		3	5	210	12,784	11,441	320	7,200	141		997	1,112	21,211	-8,427	-8,415	-12	0.06%
2026	7,107	5,403		1	5	209	12,725	11,441	318	7,124	144		1,005	1,110	21,142	-8,417	-8,418	1	0.00%
2027	7,107	5,348			5	209	12,669	11,441	316	7,050	148	1	1,013	1,108	21,077	-8,408	-8,408	0	0.00%
2028	7,107	5,295			5	208	12,615	11,441	315	6,975	150	2	1,019	1,107	21,009	-8,394	-8,393	-1	0.00%
2029	7,107	5,246			5	208	12,566	11,441	313	6,901	151	4	1,026	1,105	20,941	-8,375	-8,376	1	0.00%
2030	7,107	5,199			5	207	12,518	11,441	312	6,835	153	5	1,033	1,104	20,883	-8,365	-8,354	-11	0.05%
2031	7,107	5,155			5	207	12,474	11,441	310	6,775	153	7	1,038	1,101	20,825	-8,351	-8,352	1	0.00%
2032	7,107	5,114	-		5	206	12,432	11,441	308	6,717	153	8	1,044	1,099	20,770	-8,338	-8,337	-1	0.00%
2033	7,107	5,075	-		5	206	12,393	11,441	307	6,657	153	10	1,048	1,097	20,713	-8,320	-8,319	-1	0.00%
2034	7,107	5,039			5	205	12,356	11,441	305	6,598	152	11	1,054	1,094	20,655	-8,299	-8,298	-1	0.00%
2035	7,107	5,004			5	205	12,321	11,441	304	6,539	150	12	1,059	1,092	20,597	-8,276	-8,275	-1	0.00%
2036	7,107	4,972	-		5	205	12,289	11,441	303	6,480	149	13	1,063	1,089	20,538	-8,249	-8,251	2	0.01%
2037	7,107	4,941			5	204	12,257	11,441	301	6,422	146	14		1,087	20,479	-8,222	-8,223	1	0.00%
2038	7,107	4,911			5	204	12,227	11,441	300	6,364	145	16		1,084	20,422	-8,195	-8,195	0	0.00%
2039	7,107	4,883		-	5	204	12,199	11,441	299	6,306	142	17	1,076	1,082	20,363	-8,164	-8,164	0	0.00%
2040	7,107	4,856		-	5	204	12,172	11,441	297	6,251	140	18	1,080	1,079	20,306	-8,134	-8,133	-1	0.00%
2041 2042	7,107 7,107	4,832 4,808			5	204 204	12,148 12,124	11,441 11,441	296 295	6,197 6,150	137 133	19 19		1,077 1,073	20,252	-8,104 -8,075	-8,103 -8,072	-1 -3	0.00%
2042	7,107	4,785		-	5	203	12,124	11,441	293	6,100	130	21	1,088	1,070	20,199	-8,048	-8,012	-3 -1	0.01%
2043	7,107	4,764			5	203	12,100	11,441	292	6.052	127	22	1,095	1,070	20,148	-8,019	-8,018	-1	0.00%
2045	7,107	4,744			5	203	12,059	11,441	291	6,007	123	22	1,101	1,064	20,049	-7,990	-7,992	2	0.01%
2046	7,107	4,724			5	203	12,039	11,441	290	5,963	119	24	1,104	1,062	20,003	-7,964	-7,964	0	0.00%
2047	7,107	4,705			5	203	12,020	11,441	289	5,919	114	25	1,109	1,059	19,956	-7,936	-7,935	-1	0.00%
2048	7,107	4,686			5	203	12,001	11,441	288	5,874	110	25	1,112	1,056	19,906	-7,905	-7,905	0	0.00%
2049	7,107	4,670		-	5	203	11,985	11,441	287	5,830	105		1,117	1,054	19,860	-7,875	-7,875	0	0.00%
2050	7,107	4,653			5	203	11,968	11,441	286	5,786	101	28	1,120	1,051	19,813	-7,845	-7,845	0	0.00%
2051	7,107	4,637			5	203	11,952	11,441	285	5,745	97	28	1,125	1,048	19,769	-7,817	-7,814	-3	0.02%
2052	7,107	4,621			5	203	11,936	11,441	284	5,705	93	29	1,129	1,046	19,727	-7,791	-7,788	-3	0.02%
2053	7,107	4,606	-		5	203	11,921	11,441	283	5,665	88	29	1,133	1,043	19,682	-7,761	-7,760	-1	0.01%
2054	7,107	4,592	-		5	203	11,907	11,441		5,626	83	30	1,137	1,040	19,639	-7,732	-7,731	-1	0.01%
2055	7,107	4,579	-		5	203	11,894	11,441	281	5,589	79	31	1,142	1,037	19,600	-7,706	-7,706	0	0.00%
2056	7,107	4,565			5	204	11,881	11,441		5,553	74		1,146		19,561	-7,680	-7,680	0	-
2057	7,107	4,553		-	5	204	11,869	11,441		5,517	69		1,150	1,032	19,520	-7,651	-7,652	1	0.01%
2058	7,107	4,540		-	5	204	11,856	11,441		_	65				19,479	-7,623	-7,624	1	
2059	7,107	4,528			5	204	11,844	11,441		5,443	60		1,159	1,027	19,441	-7,597	-7,597	0	
2060	7,107	4,516	-	-	4	204	11,831	11,441	276	5,407	56	34	1,163	1,024	19,401	-7,570	-7,569	-1	0.01%

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TABLE A-21. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, GROUNDWATER MANAGEMENT AREA 16 PORTION OF MCMULLEN COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

		INFI	LOW				OUTFLOW						
Year	Net River Leakage	Recharge	Net Lateral Flow From Duval	Total Inflow	Wells	Net Vertical Leakage Lower	Net Lateral Flow To Live Oak	Net Lateral Flow To McMullen 13	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	1,902	2,195	62	4,159	510	6,192	230	9	6,941	-2,782	-2,782	0	0.00%
2011	1,907	2,195	61	4,163	510	6,127	228	9	6,874	-2,711	-2,711	0	0.00%
2012	1,910	2,195	59	4,164	510	6,069	227	9	6,815	-2,651	-2,650	-1	0.01%
2013	1,912	2,195	58	4,165	510	6,018	225	9	6,762	-2,597	-2,596	-1	0.01%
2014	1,913	2,195	57	4,165	510	5,972	223	9	6,714	-2,549	-2,549	0	0.00%
2015	1,915	2,195	55	4,165	510	5,932	221	9	6,672	-2,507	-2,507	0	0.00%
2016	1,916	2,195	54	4,165	510	5,897	220	9	6,636	-2,471	-2,470	-1	0.01%
2017	1,918	2,195	52	4,165	510	5,866	218	9	6,603	-2,438	-2,438	0	0.00%
2018	1,919	2,195	51	4,165	510	5,838	217	9	6,574	-2,409	-2,409	0	0.00%
2019	1,920	2,195	50	4,165	510	5,814	216	9	6,549	-2,384	-2,384	0	0.00%
2020	1,921	2,195	48	4,164	510	5,792	215	9	6,526	-2,362	-2,362	0	0.00%
2021	1,922	2,195	47	4,164	510	5,774	214	9	6,507	-2,343	-2,343	0	0.00%
2022	1,923	2,195	45	4,163	510	5,758	213	9	6,490	-2,327	-2,325	-2	0.03%
2023	1,924	2,195	44	4,163	510	5,744	212	9	6,475	-2,312	-2,311	-1	0.02%
2024	1,925	2,195	43	4,163	510	5,731	211	9	6,461	-2,298	-2,299	1	0.02%
2025	1,926	2,195	41	4,162	510	5,721	210	9	6,450	-2,288	-2,288	0	0.00%
2026	1,927	2,195	40	4,162	510	5,712	209	9	6,440	-2,278	-2,278	0	0.00%
2027	1,928	2,195	39	4,162	510	5,704	209	9	6,432	-2,270	-2,271	1	0.02%
2028	1,929	2,195	36	4,160	510	5,698	208	8	6,424	-2,264	-2,264	0	0.00%
2029	1,930	2,195	35	4,160	510	5,692	208	8	6,418	-2,258	-2,258	0	0.00%
2030	1,930	2,195	34	4,159	510	5,687	207	8	6,412	-2,253	-2,254	1	0.02%
2031	1,931	2,195	33	4,159	510	5,684	207	8	6,409	-2,250	-2,250	0	0.00%
2032	1,932	2,195	31	4,158	510	5,680	206	8	6,404	-2,246	-2,247	1	0.02%
2033	1,932	2,195	30	4,157	510	5,678	206	8	6,402	-2,245	-2,245	0	0.00%
2034	1,933	2,195	29	4,157	510	5,676	205	8	6,399	-2,242	-2,243	1	0.02%
2035	1,933	2,195	28	4,156	510	5,674	205	8	6,397	-2,241	-2,242	1	0.02%
2036	1,934	2,195	26	4,155	510	5,674	205	8	6,397	-2,242	-2,242	0	0.00%
2037	1,934	2,195	25	4,154	510	5,673	204	8	6,395	-2,241	-2,242	1	0.02%
2038	1,935	2,195	24	4,154	510	5,673	204	8	6,395	-2,241	-2,242	1	0.02%
2039	1,935	2,195	22	4,152	510	5,673	204	8	6,395	-2,243	-2,243	0	0.00%
2040	1,936	2,195	21	4,152	510	5,674	204	8	6,396	-2,244	-2,244	0	0.00%
2041	1,936	2,195	20	4,151	510	5,674	204	8	6,396	-2,245	-2,245	0	0.00%
2042	1,937	2,195	19	4,151	510	5,675	204	8	6,397	-2,246	-2,247	1	0.02%
2043	1,937	2,195	18	4,150	510	5,677	203	8	6,398	-2,248	-2,249	1	0.02%
2044	1,938	2,195	16	4,149	510	5,678	203	8	6,399	-2,250	-2,251	1	0.02%
2045	1,938	2,195	15 14	4,148	510	5,680	203	8	6,401	-2,253	-2,253	-1	0.00%
2046	1,938	2,195	14	4,147	510 510	5,682	203	8	6,403	-2,256	-2,255	-1 1	0.02% 0.02%
2047	1,939	2,195	13	4,147	510	5,683			6,404	-2,257	-2,258	0	
2048	1,939	2,195	12	4,146		5,685	203	8	6,406	-2,260	-2,260	0	0.00%
2049		2,195		4,146	510	5,687	203	_	6,408	-2,262		1	
2050	1,940		10	4,145	510	5,689		8	6,410	-2,265	-2,265	0	0.00%
2051	1,940		10	4,145	510	5,691	203		6,412	-2,267	-2,268	1	0.02%
2052	1,941		9	4,145	510	5,692	203		6,413	-2,268	-2,270	2	0.03%
2053	1,941			4,143	510	5,695	203		6,416	-2,273	-2,273	0	0.00%
2054	1,941	2,195	6	4,142	510	5,696			6,417	-2,275	-2,276	1	0.02%
2055	1,942	2,195	5	4,142	510	5,698	203		6,419	-2,277	-2,278	1	0.02%
2056 2057			3	4,141	510 510	5,701	204 204		6,423	-2,282	-2,281	-1 0	0.02% 0.00%
2057	1,942 1,943	2,195	3	4,140 4,141	510	5,702	204		6,424	-2,284	-2,284	1	0.00%
	· ·					5,704	204		6,426	-2,285	-2,286		
2059	1,943		2	4,140	510	5,705			6,427	-2,287	-2,289	2	0.03%
2060	1,943	2,195	-	4,138	510	5,707	204	8	6,429	-2,291	-2,291	0	0.00%

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TABLE A-22. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, NUECES COUNTY, CORPUS CHRISTI AQUIFER STORAGE AND RECOVERY CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

				INFLOW							OUTE	LOW							
Year	Net River Leakage	Recharge	Net Lateral Flow From Gulf	Net Lateral Flow From Nueces Kenedy	Net Lateral Flow From Nueces White	Net Lateral Flow From San Patricio	Total Inflow	Wells	Drains	Net River Leakage	Net Lateral Flow To Gulf	Net Lateral Flow To Nueces Kenedy	Net Lateral Flow To Nueces White	Net Lateral Flow To San Patricio	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010		464		49	2,133		2,646	1,795	224	1,256	205			402	3,882	-1,236	-1,236	0	0.00%
2011		464		28	1,979		2,471	1,795	202	1,181	80			380	3,638	-1,167	-1,166	-1	0.03%
2012		464	30	8	1,838		2,340	1,795	181	1,104				359	3,439	-1,099	-1,098	-1	0.03%
2013		464	130	-	1,706		2,300	1,795	161	1,028		9	-	341	3,334	-1,034	-1,034	0	0.00%
2014		464	217	-	1,583		2,264	1,795	141	956		25		325	3,242	-978	-977	-1	0.03%
2015		464	296	-	1,466		2,226	1,795	122	893		39		310	3,159	-933	-933	0	0.00%
2016		464	368		1,353		2,185	1,795	103	832		51		297	3,078	-893	-892	-1	0.03%
2017		464	434	-	1,245		2,143	1,795	85	773		63		284	3,000	-857	-854	-3	0.10%
2018		464	495		1,143		2,102	1,795	74		•	73	•	272	2,935	-833	-825	-8	0.27%
2019		464	552		1,046		2,062	1,795	66		•	82		260	2,873	-811	-810	-1	0.03%
2020	-	464	606	-	950		2,020	1,795	57		•	90	-	249	2,810	-790	-791	1	0.04%
2021	-	464	657	-	850		1,971	1,795	49		-	99	-	239	2,751	-780 -771	-780 760	0	0.00%
2022		464 464	707 755	-	751 654		1,922 1,873	1,795	42 34	520 471	•	107 114	•	229 219	2,693 2,633	-7/1 -760	-769 -759	-2 -1	0.07% 0.04%
2023 2024	-	464	801		558		1,823	1,795 1,795	26			114		209	2,574	-751	-739 -749	-1	0.04%
2025		464	846		464		1,774	1,795	18			129		199	2,514	-740	-749	-2	0.00%
2025		464	889		372		1,725	1,795	11			136		189	2,456	-731	-730	-1	0.00%
2027	-	464	931		281	-	1,676	1,795	3		-	142		181	2,400	-724	-721	-3	0.13%
2028		464	973		192		1,629	1,795	0		-	149		171	2,349	-720	-714	-6	0.26%
2029		464	1,017		103		1,584	1,795	0			155		162	2,301	-717	-716	-1	0.04%
2030		464	1,059		15		1,538	1,795	0			161		152	2,252	-714	-712	-2	0.09%
2031		464	1,101				1,565	1,795	0			167	71		2,274	-709	-709	0	0.00%
2032		464	1,143				1,607	1,795	0			173	159	132	2,313	-706	-705	-1	0.04%
2033		464	1,183				1,647	1,795	0			178	244	124	2,356	-709	-702	-7	0.30%
2034	21	464	1,224				1,709	1,795	0			182	328	116	2,421	-712	-711	-1	0.04%
2035	58	464	1,265	-			1,787	1,795	0		-	186	411	107	2,499	-712	-713	1	0.04%
2036	93	464	1,304				1,861	1,795	0			189	492	101	2,577	-716	-714	-2	0.08%
2037	128	464	1,345				1,937	1,795	0			192	571	97	2,655	-718	-716	-2	0.08%
2038	146	464	1,384	-	-		1,994	1,795	0			196	645	91	2,727	-733	-732	-1	0.04%
2039	151	464	1,422	-			2,037	1,795	0			198	714	86	2,793	-756	-741	-15	0.54%
2040	152	464	1,463				2,079	1,795	0			201	778	82	2,856	-777	-770	-7	0.25%
2041	152	464	1,505	-	-		2,121	1,795	0			203	839	76		-792	-792	0	0.00%
2042	152	464	1,545				2,161	1,795	0			207	900	69	2,971	-810	-807	-3	0.10%
2043	152	464	1,587	-	-		2,203	1,795	0			209	960	62	3,026	-823	-821	-2	0.07%
2044	152	464	1,629		-		2,245	1,795	0			211	1,019	56	3,081	-836	-834	-2	0.06%
2045	152	464	1,671	-		-	2,287	1,795	0		-	213	1,077	50	3,135	-848	-846	-2	0.06%
2046	152	464	1,713				2,329	1,795	0		•	215	1,134	44	3,188	-859	-857	-2	0.06%
2047	152 152	464 464	1,757	-	-		2,373 2,416	1,795	0		•	217 219	1,191 1,247	38 32	3,241 3,293	-868 -877	-867 -877	-1 0	0.03%
2048 2049	152	464	1,800 1,843		-		2,410	1,795 1,795	0		-	219	1,247		_	-886	-877	0	0.00%
2049	152	464	1,843				2,439	1,795	0			223	1,358		3,397	-895	-894	-1	0.00%
2050	152	464	1,931				2,547	1,795	0			225	1,412			-901	-894 -901	-1	0.03%
2051	152	464	1,931				2,590	1,795	0			227	1,412		3,499	-901	-901	-1	0.00%
2052	152	464	2,019				2,635	1,795	0			229	1,520	6		-915	-915	-1	0.00%
2054	152	464	2,063				2,679	1,795	0			230	1,573	2	3,600	-921	-921	0	0.00%
2055	152	464	2,108			3	2,727	1,795	0			232	1,627		3,654	-927	-927	0	0.00%
2056	152	464	2,153			7	2,776	1,795	0			234	1,679		3,708	-932	-932	0	0.00%
2057	152	464	2,198			11	2,825	1,795	0			235	1,731		3,761	-936	-936	0	0.00%
2058	152	464	2,242			16	2,874	1,795	0			238	1,783		3,816	-942	-941	-1	0.03%
2059	152	464	2,287		-	19	2,922	1,795	0			240	1,834		3,869	-947	-945	-2	0.05%
2060	152	464				23	2,972	1,795	0			241	1,885		3,921	-949	-948	-1	0.03%

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TABLE A-23. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, NUECES COUNTY, KENEDY COUNTY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

			INF	LOW					OUTFLOW						
Year	Net River Leakage	Recharge	Net Lateral Flow From Gulf	Net Lateral Flow From Nueces CC	Net Lateral Flow From Nueces White	Total Inflow	Wells	Net Lateral Flow To Kleburg Kenedy	Net Lateral Flow To Nueces CC	Net Lateral Flow To Nueces White	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	47	91	40	-	164	342	346	798	49	-	1,193	-851	-852	1	0.08%
2011	56		75	-	129	351	346	811	28	-	1,185	-834	-835	1	0.08%
2012	64	91	109	-	100	364	346	817	8		1,171	-807	-807	0	0.00%
2013	73		140	9	78	391	346	820		-	1,166	-775	-775	0	0.00%
2014	76		167	25	59	418	346	819	-	-	1,165	-747	-746	-1	0.09%
2015	76	91	192	39	44	442	346	816	-	-	1,162	-720	-720	0	0.00%
2016	76	91	215	51	31	464	346	813	-	-	1,159	-695	-695	0	0.00%
2017	76	91	235	63	19	484	346	808	-	-	1,154	-670	-670	0	0.00%
2018	76	91	254	73	8	502	346	802	-		1,148	-646	-647	1	0.09%
2019	76	91	271	82	-	520	346	797	1	3	1,146	-626	-625	-1	0.09%
2020	76	91	286	90	-	543	346	790	-	12	1,148	-605	-605	0	0.00%
2021	76	91	301	99	-	567	346	784	-	22	1,152	-585	-585	0	0.00%
2022	76	91	314	107	-	588	346	777	-	32	1,155	-567	-567	0	0.00%
2023	76		327	114	-	608	346	770	-	41	1,157	-549	-549	0	0.00%
2024	76	91	338	122	-	627	346	763	-	51	1,160	-533	-533	0	0.00%
2025	76		349	129	-	645	346	756	-	60	1,162	-517	-517	0	0.00%
2026	76		360	136	-	663	346	750	-	68	1,164	-501	-502	1	0.09%
2027	76		369	142	-	678	346	743	-	78	1,167	-489	-488	-1	0.09%
2028	76		379	149	-	695	346	737	-	86		-474	-475	1	0.09%
2029	76		388	155	-	710	346	732	-	96	1,174	-464	-463	-1	0.09%
2030	76		396	161	-	724	346	726	-	104	1,176	-452	-451	-1	0.09%
2031	76		405	167	-	739	346	720	-	113	1,179	-440	-441	1	0.08%
2032	76		413	173	-	753	346	715	-	122	1,183	-430	-430	0	0.00%
2033	76		420	178	-	765	346	709	-	131	1,186	-421	-420	-1	0.08%
2034	76		428	182	-	777	346	704	-	140	1,190	-413	-412	-1	0.08%
2035	76		435	186	-	788	346	698	-	148	1,192	-404	-405	1	0.08%
2036	76		442	189	-	798	346	694	-	156	1,196	-398	-398	0	0.00%
2037	76 76		449	192	-	808	346	689 684	-	164 173	1,199	-391 -385	-392	1	0.08%
2038	76		455 462	196 198		818 827	346 346	680		182	1,203 1,208	-381	-386 -381	0	0.08%
2039	76		462	201	-	836	346	675		189	1,210	-374	-376	2	0.00%
2040	76		474	201	-	844	346	671	-	198	1,215	-371	-371	0	0.17%
2042	76		480	207	-	854	346	667	-	207	1,220	-366	-367	1	0.00%
2042	76		486	209	-	862	346	663	-	215	1,224	-362	-363	1	0.08%
2043	76		492	211	-	870	346	658	-	224	1,228	-358	-359	1	0.08%
2045	76		498	213	-	878	346	654	-	232	1,232	-354	-356	2	0.16%
2046	76		503	215	-	885	346	650	-	242	1,238	-353	-353	0	0.00%
2047	76		508	217	-	892	346	646	-	250	1,242	-350	-350	0	0.00%
2048	76		514	219	-	900	346	642	-	259	1,247	-347	-348	1	0.08%
2049	76	91	519	221	-	907	346	639	-	268	1,253	-346	-346	0	0.00%
2050			524	223	-	914	346	635	-	277	1,258	-344	-344	0	0.00%
2051	76	91	530	225	-	922	346	631	-	286		-341	-342	1	0.08%
2052	76	91	535	227	-	929	346	627	•	295	1,268	-339	-340	1	0.08%
2053	76	91	540	229	-	936	346	624	-	304	1,274	-338	-339	1	0.08%
2054	76	91	545	230	-	942	346	621	-	313	1,280	-338	-337	-1	0.08%
2055	76	91	550	232	-	949	346	618	-	322	1,286	-337	-336	-1	0.08%
2056	76	91	555	234	-	956	346	614	-	331	1,291	-335	-335	0	0.00%
2057	76	91	560	235	-	962	346	610	-	340	1,296	-334	-334	0	0.00%
2058			565	238	-	970	346	608	-	349	1,303	-333	-333	0	0.00%
2059			569	240	-	976	346	604	-	358		-332	-333	1	0.08%
2060	76	91	574	241	-	982	346	601	-	367	1,314	-332	-332	0	0.00%

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TABLE A-24. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, NUECES COUNTY, NON-DISTRICT AREA. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

Year	Net River Leakage	Recharge	Net Lateral Flow From Aransas	Net Lateral Flow From Gulf		Flow From	Net Lateral Flow From Nueces CC	Net Lateral Flow From Nueces Kenedy	Total Inflow	Wells	Drains	Net River Leakage	Net Lateral Flow To Jim Wells Brush Country	Net Lateral Flow To Kleburg Kenedy	Net Lateral Flow To Kleburg White	Net Lateral Flow To Nueces CC	Net Lateral Flow To Nueces Kenedy	Net Lateral Flow To San Patricio	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010		1,791	69	52	5,550	1,771			9,233	6,865	168	1,378		5,628	298	2,133	164	910	17,544	-8,311	-8,311	0	0.00%
2011		1,791	75	60	5,263	1,736			8,925	6,865	160	1,213		5,665	307	1,979	129	932	17,250	-8,325	-8,322	-3	0.02%
2012		1,791	79	68	4,993	1,700			8,631	6,865	152	1,068		5,671	315	1,838	100	930	16,939	-8,308	-8,307	-1	0.01%
2013	٠	1,791	82	75	4,739	1,662			8,349	6,865	143	933		5,659	321	1,706	78	917	16,622	-8,273	-8,272	-1	0.01%
2014		1,791	84	81	4,498	1,623			8,077	6,865	134	798		5,629	326	1,583	59	899	16,293	-8,216	-8,218	2	0.01%
2015		1,791	86	85		1,582			7,811	6,865	125	665		5,589	329	1,466	44		15,962	-8,151	-8,151	0	0.00%
2016	-	1,791	88	90		1,539			7,556	6,865	116	534		5,541	332	1,353	31		15,632	-8,076	-8,077	1	0.01%
2017		1,791	89	93		1,497			7,307	6,865	107	405	•	5,490	334	1,245	19		15,304	-7,997	-7,997	0	0.00%
2018		1,791	90	96		1,454			7,066	6,865	98		•	5,434	335	1,143	8	818	14,981	-7,915	-7,916	1	0.01%
2019	-	1,791	92	98	_	_		3	6,837	6,865	89		•	5,391	337	1,046	•	808	14,692	-7,855	-7,857	2	0.01%
2020	- 70	1,791	93	101	3,257	1,370	•	12	6,624	6,865	80 70	38	•	5,345	339	950	-	835	14,452	-7,828	-7,825	-3	0.02%
2021	70 177	1,791 1,791	93 94	101	3,080 2,911			22 32	6,487 6,396	6,865 6,865	60	•	<u> </u>	5,299 5,251	342 344	850 751		852 868	14,278 14,139	-7,791 -7,743	-7,789 -7,741	-2 -2	0.01%
2023	282	1,791	95	102			-	41	6,312	6,865	50			5,203	346	654	-	885	14,003	-7,691	-7,690	-1	-
2024	384	1,791		105	_			51	6,231	6,865	41		<u> </u>	5,169	349	558	-	901	13,883	-7,652	-7,651	-1	0.01%
2025	484	1,791	97	105				60	6,152	6,865	31			5,136	351	464		916	13,763	-7,611	-7,610	-1	0.01%
2026	582	1,791		106				68	6,077	6,865	21			5,107	353	372		931	13,649	-7,572	-7,572	0	_
2027	678	1,791	99	106	2,156	1,101		78	6,009	6,865	11			5,090	356	281		946	13,549	-7,540	-7,542	2	0.01%
2028	767	1,791	99	105	2,020	1,066		86	5,934	6,865	1		-	5,077	360	192	-	960	13,455	-7,521	-7,513	-8	0.06%
2029	832	1,791	100	106	1,894	1,033		96	5,852	6,865	0			5,063	363	103	-	973	13,367	-7,515	-7,508	-7	0.05%
2030	899	1,791	101	106	1,774	1,000		104	5,775	6,865	0			5,061	367	15		981	13,289	-7,514	-7,513	-1	0.01%
2031	965	1,791	102	106	1,659	969	71	113	5,776	6,865	0			5,058	372	-		989	13,284	-7,508	-7,505	-3	_
2032	1,031	1,791	102	105			159	122	5,799	6,865	0			5,055	376			996	13,292	-7,493	-7,492	-1	_
2033	1,096	1,791	103	105			244	131	5,822	6,865	0		•	5,053	380		-	1,003	13,301	-7,479	-7,476	-3	_
2034	1,160	1,791	104	106			328	140	5,850	6,865	0		•	5,051	385	-	-	1,008	13,309	-7,459	-7,458	-1	0.01%
2035	1,224	1,791	104	105			411	148	5,877	6,865	0	•	•	5,049	389	•	•	1,013	13,316	-7,439	-7,439	0	$\overline{}$
2036	1,267 1,307	1,791 1,791	105 106	105 105	1,143 1,053		492 571	156 164	5,885	6,865	0	•	•	5,048	393	•	•	1,018 1,012	13,324 13,327	-7,439 -7,430	-7,420 -7,430	-19	0.14%
2037	1,347	1,791	100	105		_	645	173	5,897 5,908	6,865 6,865	0	•		5,052 5,063	398 403			1,012	13,337	-7,430 -7,429	-7,430 -7,431	2	0.00%
2039	1,387	1,791	107	103			714	182	5,918	6,865	0		<u> </u>	5,076	409	· .		1,002	13,352	-7,434	-7,434	0	0.01%
2040	1,387	1,791	108	104			778	189	5,885	6,865	0			5,092	414	-	-	997	13,368	-7,483	-7,441	-42	0.31%
2041	1,387	1,791	109	103			839	198	5,860	6,865	0			5,107	420			985	13,377	-7,517	-7,515	-2	0.01%
2042	1,387	1,791	109	103	662	683	900	207	5,842	6,865	0			5,123	425			971	13,384	-7,542	-7,542	0	0.00%
2043	1,387	1,791	110	103	598	662	960	215	5,826	6,865	0			5,139	431			957	13,392	-7,566	-7,565	-1	0.01%
2044	1,387	1,791	110	102	538	643	1,019	224	5,814	6,865	0		-	5,155	436			943	13,399	-7,585	-7,584	-1	0.01%
2045	1,387	1,791		102			1,077	232	5,804	6,865	0			5,170	442			929	13,406	-7,602	-7,601	-1	-
2046	1,387	1,791	112	102			1,134	242	5,799	6,865	0			5,185	447	-	-	916	13,413	-7,614	-7,615	1	0.01%
2047	1,387	1,791	112	101	371	_	1,191	250	5,791	6,865	0		•	5,200	453			901	13,419	-7,628	-7,626	-2	0.01%
2048	1,387	1,791	113	101	319		1,247	259	5,788	6,865	0		•	5,215	458		-	886	13,424	-7,636	-7,636	0	0.00%
2049	1,387	1,791		100			1,303	268	5,785	6,865	0		•	5,231	464	•	•	871	13,431	-7,646	-7,644	-2	_
2050	1,387	1,791		100			1,358	277	5,785	6,865	0	•	•	5,245	469	•	•	856	13,435	-7,650	-7,650	0	0.00%
2051	1,387 1,387	1,791 1,791		100 99		_	1,412	286 295	5,786 5,788	6,865 6,865	0			5,261 5,276	475 480			841 827	13,442 13,448	-7,656 -7,660	-7,654 -7,658	-2 -2	
2052	1,387	1,791		99		_	1,400	304	5,793	6,865	0		•	5,292	480	-		811	13,453		-7,660	-2	_
2054	1,387	1,791		99			1,573	313	5,798	6,865	0		-	5,308	491	-	-	796	13,460	-7,662	-7,660	-2	
2055	1,387	1,791		98			1,627	322	5,806	6,865	0		<u> </u>	5,323	496	-		780	13,464	-7,658		2	
2056	1,387	1,791		98		449	1,679	331	5,852	6,865	0		40	_	502			765	13,512	-7,660	-7,659	-1	
2057	1,387	1,791		97		436	1,731	340	5,900	6,865	0		79		507			749	13,555	-7,655	-7,656	1	0.01%
2058	1,387	1,791	119	97		422	1,783	349	5,948	6,865	0		117	5,371	513			733	13,599	-7,651	-7,653	2	0.01%
2059	1,387	1,791	119	96	-	409	1,834	358	5,994	6,865	0		155	5,388	518			718	13,644	-7,650	-7,648	-2	0.01%
2060	1,387	1,791	120	96		397	1,885	367	6,043	6,865	0		191	5,404	523			702	13,685	-7,642	-7,643	1	0.01%

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TABLE A-25. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, SAN PATRICIO COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

				INFLOW												OUTFLOW						
2012   -	Vear		Recharge	Leakage	Lateral Flow From	Lateral Flow From	Lateral Flow From	Lateral Flow From Jim Wells Brush	Lateral Flow From	Lateral Flow From	Lateral Flow From Nueces	Lateral Flow From		Wells	Drains	1	Lateral Flow To		1 1			Error
			·																		0	_
					_		_		_	_											-1	
							_			_											-1	
1906   1909   1209   181   191   192   1986   698   1230   1297   1964   1298   1964   1970	2013		2,203	80	477	1,541	867	672	1,136	341	917		10,545	19,012	167	140		19,319	-8,774	-8,775	1	0.01%
1906   1906	2014	81	2,203	81	498	1,409	935	656	1,131	325	899	2,304	10,522	19,012	112			19,124	-8,602	-8,603	1	0.01%
	2015	299	2,203	81	515	1,292	998	638	1,128	310	879	2,299	10,642	19,012	59			19,071	-8,429	-8,429	0	0.00%
100   101   2.200   15	2016	510	2,203	82	531	1,185	1,063	621	1,125	297	860	2,294	10,771	19,012	8			19,020	-8,249	-8,254	3	0.02%
200	2017	709	2,203	82	547	1,089	1,122	603	1,123	284	839	2,282	10,883	19,012	0			19,012	-8,129	-8,117	-12	0.06%
	2018	817	2,203	83	562	1,003	1,182	584	1,121	272	818	2,274	10,919	19,012	0	-	-	19,012	-8,093	-8,038	-55	0.29%
	2019	891	2,203	84	576	926	1,242	567	1,119	260	808	2,271	10,947	19,012	0			19,012	-8,065	-8,037	-28	0.15%
	2020	943	2,203	84	591	860	1,303	551	1,117	249	835	2,270	11,006	19,012	0			19,012	-8,006	-8,006	0	0.00%
2022   1.074   2.205   66   652   701   1.479   507   1.114   2.09   685   2.289   11.189   18.00   0   -   18.012   7.232   7.244   4   0.05%	2021	990	2,203	85	605	801	1,362	536	1,117	239	852	2,273	11,063	19,012	0			19,012	-7,949	-7,946	-3	0.02%
2002   1.112   2.216   87   642   667   1.586   444   1.113   209   916   2.381   1.366   1.9012   0   -   9.9012   3.752   3.753   1   0.015	2022	1,037	2,203	85	618	748	1,420	522	1,115	229	868	2,280	11,125	19,012	0	-		19,012	-7,887	-7,886	-1	0.01%
2022   1,513   2,206	2023	1,074	2,203	86	632	701	1,479	507	1,114	219	885	2,289	11,189	19,012	0	-		19,012	-7,823	-7,814	-9	0.05%
No.   1,177   2,286   88   671   584   1,467   470   1,116   196   931   2,386   1,468   19,012   0   -     19,012   7,686   7,584   4.12   0.085   0.007   1,200   2,206   88   684   595   1,700   487   1,086   19,012   1,001   1,000	2024	1,112	2,203	87	645	657	1,536	494	1,113	209	901	2,303	11,260	19,012	0			19,012	-7,752	-7,753	1	0.01%
No.   1,000   2,008   88   684   555   1,700   457   1,100   188   946   2,365   11,444   19,012   0   -     19,012   -7,528   -7,528   1   0,015   0,005   1,245   2,008   96   97   522   1,755   446   1,00   171   960   2,389   11,581   19,012   0   -     19,012   -7,528   -7,528   1   0,005   0,00	2025	1,151	2,203	87	658	619	1,593	482	1,112	199	916	2,318	11,338	19,012	0			19,012	-7,674	-7,676	2	0.01%
	2026	1,177	2,203	88	671	584	1,647	470	1,110	189	931	2,336	11,406	19,012	0			19,012	-7,606	-7,594	-12	0.06%
No.   1,246   2,268   69   709   493   1,806   446   1,105   160   973   2,477   11,641   19,012   0   .   19,012   -7,371   -7,373   2   0,075	2027	1,200	2,203	88	684	552	1,702	457	1,108	181	946	2,363	11,484	19,012	0			19,012	-7,528	-7,529	1	0.01%
No.   1,266   2,266   99   722   470   1,877   425   1,104   152   981   2,446   11,715   19,012   0   .   19,012   -7,285   -7,285   2   0,015			2,203			_	1,755	446	1,107			2,389	11,561	19,012	0			19,012		-7,451	0	0.00%
Mail   1,292   2,203   98   734   448   1,907   413   1,101   148   999   2,475   11,795   19,012   0   -	2029	1,246	2,203				1,806		1,105			2,417	11,641	19,012	0	-		19,012	-7,371	-7,373	2	0.01%
2022   1,311   2,203   91   746   427   1,957   440   1,099   132   996   2,498   11,158   19,012   0 -						_	<u> </u>									-	-		-		2	
1,238   2,208   91   778   448   2,006   392   1,077   124   1,003   2,516   11,916   19,012   0 19,012   -7,086   -7,087   1   0.015			-	90					-					19,012	0					- '	1	
1,144   2,203   99   770   390   2,055   381   1,094   116   1,008   2,539   11,988   19,012   0   19,012   -7,023   -7,021   2   0.015						_			-			-			-						-5	
2005   1,352   2,203   92   782   374   2,108   371   1,092   107   1,013   2,500   12,044   19,012   0   19,012   4,594   4,590   - 2, 0.015			-									-	-						_		1	
2056   1,366   2,203   92   799   359   2,150   360   1,089   101   1,018   2,583   12,108   19,012   0 -															_				_		-2	
2037   1,365   2,203   94   844   345   2,196   330   1,087   97   1,012   2,605   12,157   19,012   0   -   19,012   -6,855   -6,855   0   0,00%			-								-								_	-	-3	
2038   1,371   2,203   99   815   333   2,245   341   1,084   91   1,006   2,627   12,207   19,012   0 -     19,012   4,6805   4,805   0   0,0096						_									_				_		-2	
2009   1,371   2,203   94   836   322   2,287   331   1,082   86   1,002   2,649   12,255   19,012   0 -   -   19,012   -6,779   -6,755   4   0,02%   0,00%						_									_				_		0	
2040   1,371   2,203   94   833   313   2,332   321   1,079   82   997   2,670   12,299   19,012   0   -   -   19,012   -6,713   -6,715   2   0,015							_								_				_		0	_
2041   1,371   2,203   94   848   305   2,374   311   1,077   76   985   2,698   12,335   19,012   0   -   19,012   4,645   -4,645   0   0.00%																			_		-4	
2042 1,371 2,203 94 859 286 2,418 301 1,073 69 971 2,712 12,367 19,012 0 - 19,012 4,645 6,645 0 0,00% 2043 1,371 2,203 94 869 291 2,460 291 1,070 62 957 2,733 12,401 19,012 0 - 19,012 4,6511 6,611 0 0,00% 2044 1,371 2,203 95 879 285 2,502 280 1,068 56 943 2,755 12,437 19,012 0 - 19,012 4,6575 4,576 1 0,0134 2045 1,371 2,203 95 888 281 2,542 270 1,064 50 929 2,775 12,468 19,012 0 - 19,012 4,6575 4,544 4,542 - 2,00134 2046 1,371 2,203 95 899 278 2,584 259 1,062 44 916 2,796 12,507 19,012 0 - 19,012 4,6505 4,508 3 0,02% 2047 1,371 2,203 95 908 275 2,604 249 1,059 38 901 2,816 12,539 19,012 0 - 19,012 4,449 4,449 1,149 1							_		_	_											2	_
2045 1,371 2,203 95 879 285 2,502 280 1,068 56 943 2,755 12,437 19,012 0 - 19,012 6,661 6,661 0 0.00% 2044 1,371 2,203 95 879 285 2,502 280 1,068 56 943 2,755 12,437 19,012 0 - 19,012 6,675 6,576 1 0.01% 2045 1,371 2,203 95 888 281 2,542 270 1,064 50 929 2,775 12,468 19,012 0 - 19,012 6,611 6,661 0 0.00% 2046 1,371 2,203 95 899 278 2,584 259 1,062 44 916 2,786 12,507 19,012 0 - 19,012 6,573 6,576 3 0.02% 2047 1,371 2,203 95 908 275 2,624 249 1,059 38 901 2,816 12,539 19,012 0 - 19,012 6,440 6,439 6,405 2048 1,371 2,203 95 918 273 2,663 238 1,056 32 886 2,837 12,572 19,012 0 - 19,012 6,440 6,439 6,405 2049 1,371 2,203 96 977 272 2,703 227 1,054 26 871 2,877 12,641 19,012 0 - 19,012 6,405 6,405 6,405 0 0.00% 2050 1,371 2,203 96 945 271 2,782 216 1,051 21 856 2,877 12,641 19,012 0 - 19,012 6,338 6,337 6,337 6,337 1 0.00% 2051 1,371 2,203 96 945 271 2,789 205 1,048 16 841 2,898 12,674 19,012 0 - 19,012 6,338 6,337 1 0.00% 2051 1,371 2,203 96 95 271 2,819 194 1,046 11 827 2,917 12,710 19,012 0 - 19,012 6,338 6,337 1 0.00% 2051 1,371 2,203 96 951 271 2,819 194 1,046 11 827 2,917 12,710 19,012 0 - 19,012 6,338 6,337 1 1 0.01% 2053 1,371 2,203 96 951 271 2,819 194 1,046 11 827 2,917 12,710 19,012 0 - 19,012 6,338 6,337 1 1 0.01% 2055 1,371 2,203 96 951 271 2,819 194 1,046 11 827 2,917 12,710 19,012 0 - 19,012 6,306 6,304 2 0.01% 2055 1,371 2,203 96 951 272 2,42 2,856 183 1,046 6 811 2,896 12,741 19,012 0 - 19,012 6,306 6,304 2 0.01% 2055 1,371 2,203 96 964 272 2,856 183 1,046 6 811 2,956 12,741 19,012 0 - 19,012 6,266 6,207 1 1 0.01% 2055 1,371 2,203 96 971 272 2,856 183 1,046 6 811 2,956 12,741 19,012 0 - 19,012 6,266 6,207 1 1 0.01% 2055 1,371 2,203 96 971 272 2,856 183 1,046 6 811 2,956 12,741 19,012 0 - 19,012 6,266 6,207 1 1 0.01% 2055 1,371 2,203 96 971 272 2,856 183 1,046 6 811 2,956 12,741 19,012 0 - 19,012 6,266 6,207 1 1 0.01% 2055 1,371 2,203 96 971 274 2,894 173 1,040 2 786 2,955 12,776 19,012 0 - 19,012 6,276 6,276 6,204 1 1 0.01% 2055 1,371 2,203 97 998 280 3,003 141 1,032 - 786 2,955 12,776 19,012 0 - 79						_	<del>-</del>														3	_
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2056     1,371     2,203     97     989     277     2,967     151     1,035     -     765     2,994     12,849     19,012     0     -     7     19,019     -6,170     -6,171     1     0.01%       2057     1,371     2,203     97     998     280     3,003     141     1,032     -     749     3,013     12,887     19,012     0     -     11     19,023     -6,136     -6,138     2     0.01%       2058     1,371     2,203     97     1,006     282     3,040     130     1,029     -     733     3,032     12,923     19,012     0     -     16     19,028     -6,106     -6,106     1     0.01%       2059     1,371     2,203     97     1,014     285     3,074     118     1,027     -     718     3,080     12,957     19,012     0     -     19     19,031     -6,074     -6,073     -     1     0.01%			_			_	_		_			_								_	-1	
2057     1,371     2,203     97     998     280     3,003     141     1,032     -     749     3,013     12,887     19,012     0     -     11     19,023     -6,136     -6,138     2     0.01%       2058     1,371     2,203     97     1,006     282     3,040     130     1,029     -     733     3,032     12,923     19,012     0     -     16     19,038     -6,106     1     0.01%       2059     1,371     2,203     97     1,014     285     3,074     118     1,027     -     718     3,080     12,957     19,012     0     -     19     19,031     -6,074     -6,073     -     1     0.01%																	7				1	$\overline{}$
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	2060	1,371	2,203								702	-	12,994	19,012			23	19,035	-6,041	-6,041	0	0.00%

Draft Report GAM Run 09-008: Groundwater Management Area 16 Model Runs to Estimate Drawdowns under Assumed Future Pumping for the Gulf Coast Aquifer June 7, 2011
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TABLE A-26. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, STARR COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

			INFI	LOW						OUTFLOW						
Year	Net River Leakage	Net Vertical Leakage Lower	Net Lateral Flow From Brooks Brush Country	Net Lateral Flow From Jim Hogg	Net Lateral Flow From Mexico	Total Inflow	Wells	Net Vertical Leakage Lower	Net Lateral Flow To Brooks Brush Country	Net Lateral Flow To Hidalgo Brush Country	Net Lateral Flow To Hidalgo White	Net Lateral Flow To Jim Hogg	Total Outflow	Inflow - Outflow	Storage Change	Model Error (percent)
2010	1,585	-	374	1,081	34	6,213	7,526	3,399	-	703	4,552	-	16,180	-9,967	-9,964	0.02%
2011	1,616	-	332	991	35	6,113	7,526	3,331	-	682	4,418	-	15,957	-9,844	-9,842	0.01%
2012	1,646	-	292	911	35	6,023	7,526	3,255	-	662	4,290	-	15,733	-9,710	-9,708	0.01%
2013	1,676	-	255	839	36	5,945	7,526	3,175	-	644	4,171	-	15,516	-9,571	-9,568	0.02%
2014	1,705	-	221	774	37	5,876	7,526	3,090	-	626	4,059	-	15,301	-9,425	-9,427	0.01%
2015	1,733	-	187	713	37	5,809	7,526	3,004	-	611	3,957	-	15,098	-9,289	-9,286	0.02%
2016	1,761	-	157	659	38	5,754	7,526	2,917	-	596	3,862	-	14,901	-9,147	-9,146	0.01%
2017	1,788	-	127	608	38	5,700	7,526	2,829	-	582	3,774	-	14,711	-9,011	-9,008	0.02%
2018	1,813	-	99	562	39	5,652	7,526	2,739	-	570	3,693	-	14,528	-8,876	-8,874	0.01%
2019	1,837	-	73	518	40	5,607	7,526	2,649	-	558	3,618	-	14,351	-8,744	-8,743	0.01%
2020	1,861	-	48	478	40	5,566	7,526	2,561	-	547	3,548	-	14,182	-8,616	-8,614	0.01%
2021	1,884 1,899	-	25	441 405	41	5,530	7,526 7,526	2,471	-	537 528	3,482 3,423	-	14,016	-8,486 0.274	-8,488 0.264	0.01% 0.07%
2022	1,912	-		372	41	5,486 5,465	7,526	2,383 2,293	- 19	519	3,366	-	13,860 13,723	-8,374 -8,258	-8,364 -8,258	0.07%
2023	1,912	-	-	341	42	5,449			41	511		-	13,723			0.00%
2024	1,928	-	-	310	43	5,430	7,526 7,526	2,202 2,112	59	504	3,313 3,265	-	13,466	-8,144 -8,036	-8,145 -8,035	0.01%
2025	1,950			283	43	5,416	7,526	2,023	78	497	3,219		13,343	-8,030	-7,926	0.01%
2020	1,963	-	-	255	44	5,401	7,526	1,934	96	490	3,176	-	13,222	-7,821	-7,920	0.01%
2028	1,903		-	230	45	5,389	7,526	1,845	113	484	3,136	-	13,104	-7,715	-7,716	0.01%
2029	1,986	-	-	206	45	5,376	7,526	1,758	129	479	3,099	-	12,991	-7,615	-7,710	0.01%
2030	1,998	-	-	181	46	5,364	7,526	1,671	145	474	3,063	-	12,879	-7,515	-7,514	0.01%
2030	2,009	-	-	158	47	5,353	7,526	1,586	160	469	3,030	-	12,771	-7,418	-7,314	0.01%
2032	2,021	-	-	137	48	5,345	7,526	1,502	174	465	2,999	-	12,666	-7,321	-7,321	0.02%
2032	2,021	-	-	116	48	5,334	7,526	1,419	188	461	2,970	-	12,564	-7,230	-7,228	0.02%
2034	2,042	-	-	95	49	5,325	7,526	1,336	200	457	2,942	-	12,461	-7,136	-7,137	0.01%
2035	2,053	_	-	76	49	5,317	7,526	1,255	213	454	2,916	_	12,364	-7,047	-7,047	0.00%
2036	2,063	-	-	57	49	5,308	7,526	1,175	226	450	2,892	-	12,269	-6,961	-6,960	0.01%
2037	2.074	-	-	39	50	5,302	7,526	1,095	237	447	2,868	-	12,173	-6,871	-6,874	0.02%
2038	2,082	-	-	21	50	5,292	7,526	1,017	249	445	2,847	-	12,084	-6,792	-6,790	0.02%
2039	2,093	-	-	3	51	5,286	7,526	940	260	442	2,827	-	11,995	-6,709	-6,709	0.00%
2040	2,102	-	-	-	51	5,292	7,526	864	270	440	2,807	13	11,920	-6,628	-6,630	0.02%
2041	2,111	-	-		52	5,302	7,526	789	281	437	2,789	30	11,852	-6,550	-6,551	0.01%
2042	2,120	-	-	-	52	5,311	7,526	716	291	435	2,772	46	11,786	-6,475	-6,475	0.00%
2043	2,129	-	-		52	5,320	7,526	643	300	433	2,755	62	11,719	-6,399	-6,399	0.00%
2044	2,138	-	-		53	5,330	7,526	572	309	432	2,740	77	11,656	-6,326	-6,327	0.01%
2045	2,147	-	-	-	53	5,339	7,526	502	318	430	2,727	92	11,595	-6,256	-6,255	0.01%
2046	2,156	-	-	-	54	5,349	7,526	433	326	428	2,713	107	11,533	-6,184	-6,185	0.01%
2047	2,165	-	-	-	54	5,358	7,526	364	335	427	2,700	121	11,473	-6,115	-6,116	0.01%
2048	2,172	-	-	-	54	5,365	7,526	297	343	425	2,688	135	11,414	-6,049	-6,048	0.01%
2049	2,181	-	-	-	55	5,375	7,526	231	352	424	2,677	148	11,358	-5,983	-5,982	0.01%
2050	2,190	-	-	-	55	5,384	7,526	166	359	423	2,666	162	11,302	-5,918	-5,917	0.01%
2051		-	-	-	55	5,392	7,526		367	422	2,656		11,247	-5,855	-5,853	0.02%
2052		-	-	-	56	5,401	7,526	40	373	421	2,647		11,195	-5,794	-5,794	0.00%
2053	2,214	21	-	-	57	5,431	7,526	-	381	420	2,638	200	11,165	-5,734	-5,734	0.00%
2054			-	-	57	5,496		-	387	419	2,630		11,175	-5,679	-5,676	0.03%
2055		140		-	58	5,561	7,526	-	395	418	2,622	225	11,186	-5,625	-5,624	0.01%
2056		199		-	58	5,624	7,526	-	401	417	2,615		11,196	-5,572	-5,572	0.00%
2057	2,232	256		-	58	5,685	7,526	-	407	417	2,608	249	11,207	-5,522	-5,520	0.02%
2058		313	-	-	58	5,746	7,526	-	414	416	2,601	261	11,218	-5,472	-5,470	0.02%
2059		370		-	58	5,808	7,526		419	415	2,595		11,227	-5,419	-5,420	0.01%
2060	2,246	426	-	-	58	5,869	7,526	-	425	415	2,590	283	11,239	-5,370	-5,370	0.00%

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TABLE A-27. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, GROUNDWATER MANAGEMENT AREA 16 PORTION OF WEBB COUNTY. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

		INFI	LOW			1	OUTFLOW						
Year	River Leakage	Net Vertical Leakage Lower	Net Lateral Flow From Zapata	Total Inflow	Wells	Net Vertical Leakage Lower	Net Lateral Flow To Duval	Net Lateral Flow To Jim Hogg	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	192	-	14	1,169	3,002	53	331	285	3,671	-2,502	-2,505	3	0.08%
2011	192	-	15	1,170	3,002	33	327	277	3,639	-2,469	-2,469	0	0.00%
2012	192	-	16	1,171	3,002	16	324	272	3,614	-2,443	-2,442	-1	0.03%
2013	192	-	17	1,172	3,002	2	320	266	3,590	-2,418	-2,420	2	0.06%
2014	192	9	18	1,182	3,002	-	318	262	3,582	-2,400	-2,401	1	0.03%
2015	192	19	18	1,192	3,002	-	317	259	3,578	-2,386	-2,385	-1	0.03%
2016		28	19	1,202	3,002	-	315	256	3,573	-2,371	-2,371	0	0.00%
2017	192	36		1,211	3,002	-	314	253	3,569	-2,358	-2,359	1	0.03%
2018	192	43	20	1,218	3,002	-	313	250	3,565	-2,347	-2,347	0	0.00%
2019	192	50	21	1,226	3,002	-	312	248	3,562	-2,336	-2,336	0	0.00%
2020	192	57	21	1,233	3,002	-	312	246	3,560	-2,327	-2,327	0	0.00%
2021	192	63	22	1,240	3,002	-	311	244	3,557	-2,317	-2,317	0	0.00%
2022	192	69	22	1,246	3,002	-	310	242	3,554	-2,308	-2,308	0	0.00%
2023	192	75	23	1,253	3,002	-	309	239	3,550	-2,297	-2,299	2	0.06%
2024	192	79	23	1,257	3,002	-	309	237	3,548	-2,291	-2,291	0	0.00%
2025	192	85	23	1,263	3,002	-	308	235	3,545	-2,282	-2,283	1	0.03%
2026	192	89	23	1,267	3,002	-	308	233	3,543	-2,276	-2,275	-1	0.03%
2027	192	94	24	1,273	3,002	-	306	230	3,538	-2,265	-2,267	2	0.06%
2028	192	98	24	1,277	3,002	-	305	228	3,535	-2,258	-2,259	1	0.03%
2029	192	103	24	1,282	3,002	-	304	226	3,532	-2,250	-2,251	1	0.03%
2030	192	107	24	1,286	3,002	-	303	224	3,529	-2,243	-2,243	0	0.00%
2031	192	111	25	1,291	3,002	-	302	221	3,525	-2,234	-2,235	1	0.03%
2032	192	115	25	1,295	3,002	-	301	218	3,521	-2,226	-2,227	1	0.03%
2033	192	119	25	1,299	3,002	-	300	216	3,518	-2,219	-2,220	1	0.03%
2034	192	122	25	1,302	3,002	-	299	213	3,514	-2,212	-2,212	0	0.00%
2035	192	126	25	1,306	3,002	-	297	211	3,510	-2,204	-2,204	0	0.00%
2036		129	25	1,309	3,002	-	296	208	3,506	-2,197	-2,196	-1	0.03%
2037	192	133	25	1,313	3,002	-	294	205	3,501	-2,188	-2,188	0	0.00%
2038	192	136	26	1,317	3,002	-	292	202	3,496	-2,179	-2,180	1	0.03%
2039	192	139	26	1,320	3,002	-	290	199	3,491	-2,171	-2,172	1	0.03%
2040	192	142	26	1,323	3,002	-	289	196	3,487	-2,164	-2,164	0	0.00%
2041	192	145	26	1,326	3,002	-	287	193	3,482	-2,156	-2,156	0	0.00%
2042	192	149	26	1,330	3,002	-	284	190	3,476	-2,146	-2,147	1	0.03%
2043	192	151	26	1,332	3,002	-	282	187	3,471	-2,139	-2,139	0	0.00%
2044	192	154	26	1,335	3,002	-	280	183	3,465	-2,130	-2,131	1	0.03%
2045	192	157	26	1,338	3,002	-	277	181	3,460	-2,122	-2,122	0	0.00%
2046		159	26	1,340	3,002	-	275	177	3,454	-2,114	-2,114	0	0.00%
2047	192	161	26	1,342	3,002	-	272	173	3,447	-2,105	-2,105	0	0.00%
2048	192	165	26	1,346	3,002	-	271	170	3,443	-2,097	-2,097	0	0.00%
2049		167	26	1,348	3,002	-	268	166	3,436	-2,088	-2,088	0	0.00%
2050		169		1,350	3,002	-	265	163	3,430	-2,080	-2,080	0	0.00%
2051	192	171	26	1,352	3,002	-	262	159	3,423	-2,071	-2,071	0	0.00%
2052	192	174		1,355	3,002	-	259		3,416	-2,061	-2,062	1	0.03%
2053		176		1,357	3,002	-	257	152	3,411	-2,054	-2,053	-1	0.03%
2054	192	178	26	1,359	3,002	-	254	148	3,404	-2,045	-2,044	-1	0.03%
2055	192	180	26	1,361	3,002	-	250	144	3,396	-2,035	-2,035	0	0.00%
2056		182	26	1,363	3,002	-	247	139	3,388	-2,025	-2,026	1	0.03%
2057	192	184	26	1,365	3,002	-	244	136	3,382	-2,017	-2,017	0	0.00%
2058		186		1,367	3,002	-	241	132	3,375	-2,008	-2,008	0	0.00%
2059		188	26	1,369	3,002	-	238	128	3,368	-1,999	-1,999	0	0.00%
2060	192	190	26	1,371	3,002	-	235	123	3,360	-1,989	-1,989	0	0.00%

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TABLE A-28. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, WILLACY COUNTY, KENEDY COUNTY GROUNDWATER CONSERVATION DISTRICT. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

l		INFLOW			OUTFLOW					
Year	Recharge	Net Lateral Flow From Willacy White	Total Inflow	Wells	Net Lateral Flow To Kenedy	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010	173	1,442	1,916	2,127	1,620	3,747	-1,831	-1,830	-1	0.03%
2011	173	1,622	2,111	2,127	1,727	3,854	-1,743	-1,743	0	0.00%
2012	173	1,746	2,246	2,127	1,783	3,910	-1,664	-1,664	0	0.00%
2013	173	1,826	2,336	2,127	1,806	3,933	-1,597	-1,598	1	0.03%
2014	173	1,874	2,391	2,127	1,808	3,935	-1,544	-1,544	0	0.00%
2015	173	1,901	2,424	2,127	1,795	3,922	-1,498	-1,497	-1	0.03%
2016	173	1,914	2,442	2,127	1,771	3,898	-1,456	-1,456	0	0.00%
2017	173	1,918	2,451	2,127	1,742	3,869	-1,418	-1,419	1	0.03%
2018	173	1,915	2,452	2,127	1,710	3,837	-1,385	-1,386	1	0.03%
2019	173	1,908	2,447	2,127	1,677	3,804	-1,357	-1,357	0	0.00%
2020	173	1,897	2,439	2,127	1,643	3,770	-1,331	-1,330	-1	0.03%
2021	173	1,884	2,429	2,127	1,608	3,735	-1,306	-1,306	0	0.00%
2022	173	1,870	2,416	2,127	1,574	3,701	-1,285	-1,285	0	0.00%
2023	173	1,852	2,399	2,127	1,539	3,666	-1,267	-1,266	-1	0.03%
2024	173	1,834	2,382	2,127	1,506	3,633	-1,251	-1,249	-2	0.06%
2025	173	1,817	2,366	2,127	1,473	3,600	-1,234	-1,233	-1	0.03%
2026	173	1,798	2,347	2,127	1,441	3,568	-1,221	-1,219	-2	0.06%
2027	173	1,782	2,332	2,127	1,411	3,538	-1,206	-1,207	1	0.03%
2028	173	1,765	2,314	2,127	1,383	3,510	-1,196	-1,196	0	0.00%
2029	173	1,749	2,297	2,127	1,357	3,484	-1,187	-1,186	-1	0.03%
2030	173	1,734	2,281	2,127	1,331	3,458	-1,177	-1,177	0	0.00%
2031	173	1,721	2,266	2,127	1,308	3,435	-1,169	-1,169	0	0.00%
2032	173	1,707	2,251	2,127	1,286	3,413	-1,162	-1,162	0	0.00%
2033	173	1,696	2,238	2,127	1,265	3,392	-1,154	-1,155	1	0.03%
2034	173	1,684	2,223	2,127	1,245	3,372	-1,149	-1,149	0	0.00%
2035	173	1,673 1,663	2,210	2,127	1,227	3,354	-1,144	-1,143	-1	0.03%
2036 2037	173		2,198	2,127	1,209	3,336	-1,138	-1,138	-1	0.00%
2037	173 173	1,653 1,645	2,185 2,174	2,127 2,127	1,192 1,176	3,319 3,303	-1,134 -1,129	-1,133	-1	0.03%
2038	173	1,643	2,174	2,127	1,176	3,289	-1,129	-1,129 -1,124	-1	0.00%
2039	173	1,630	2,154	2,127	1,148	3,289	-1,123	-1,124	-1	0.03%
2040	173	1,630	2,134	2,127	1,148	3,273	-1,121		-1	0.03%
2041	173	1,624	2,135	2,127	1,134	3,248	-1,110	-1,117 -1,113	0	0.03%
2042	173	1,617	2,133	2,127	1,121	3,248	-1,113	-1,113	1	0.00%
2043	173	1,611	2,127	2,127	1,109	3,230	-1,109	-1,110	0	0.03%
2044	173	1,601	2,110	2,127	1,098	3,223	-1,107	-1,107	0	0.00%
2045	173	1,597	2,110	2,127	1,037	3,214	-1,104	-1,104	0	0.00%
2040	173	1,597	2,103	2,127	1,078	3,196	-1,102	-1,102	-1	0.00%
2047	173	1,589	2,090	2,127	1,009	3,186	-1,100	-1,099	-1	0.03%
2048	173	1,586	2,089	2,127	1,059	3,177	-1,097	-1,097	0	0.00%
2050	173	1,583	2,076	2,127	1,042	3,169	-1,094	-1,094	-1	0.03%
2051	173	1,580	2,070	2,127	1,042	3,162	-1,093	-1,092	-1	0.03%
2052	173	1,578	2,066	2,127	1,033	3,154	-1,088	-1,088	0	0.00%
2052	173	1,577	2,062	2,127	1,020	3,147	-1,085	-1,086	1	0.00%
2054	173	1,575	2,056	2,127	1,014	3,141	-1,085	-1,085	0	0.00%
2055	173	1,573	2,051	2,127	1,007	3,134	-1,083	-1,083	0	0.00%
2056	173	1,572	2,047	2,127	1,007	3,128	-1,081	-1,081	0	0.00%
2057	173	1,572	2,047	2,127	996	3,123	-1,081	-1,080	0	0.00%
2058	173	1,571	2,039	2,127	989	3,116	-1,000	-1,078	1	0.03%
2059	173	1,569	2,035	2,127	984	3,111	-1,076	-1,077	1	0.03%
2000	173	1,568	2,031	2,127	980	3,107	-1,076	-1,075	-1	0.03%

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TABLE A-29. ANNUAL GROUNDWATER BUDGET FOR THE GULF COAST AQUIFER, WILLACY COUNTY, NON-DISTRICT AREA. ALL VALUES IN ACRE-FEET PER YEAR, EXCEPT AS NOTED.

			INF	LOW				OUTI						
Year	Net River Leakage	Net Lateral Flow From Cameron	Net Lateral Flow From Gulf	Net Lateral Flow From Hidalgo White	Net Lateral Flow From Kenedy	Total Inflow	Wells	Net River Leakage	Net Lateral Flow To Willacy Kenedy	Total Outflow	Inflow - Outflow	Storage Change	Model Error	Model Error (percent)
2010		681	2,026	1,058	364	5,581	17,886	473	1,442	19,801	-14,220	-14,220	0	_
2011	-	648	2,243	1,160	364	5,867	17,886	242	1,622	19,750	-13,883	-13,884	1	0.01%
2012	-	618	2,420	1,256	363	6,109	17,886	32	1,746	19,664	-13,555	-13,555	0	0.00%
2013	136	590	2,571	1,347	361	6,457	17,886	-	1,826	19,712	-13,255	-13,256	1	0.01%
2014	270	564	2,701	1,433	358	6,778	17,886	-	1,874	19,760	-12,982	-12,983	1	0.01%
2015	399	537	2,816	1,512	356	7,072	17,886	-	1,901	19,787	-12,715	-12,715	0	0.00%
2016	527	511	2,918	1,587	353	7,348	17,886	-	1,914	19,800	-12,452	-12,450	-2	0.01%
2017	611	486	3,011	1,655	350	7,565	17,886	-	1,918	19,804	-12,239	-12,201	-38	0.19%
2018	666	465	3,095	1,718	347	7,743	17,886	-	1,915	19,801	-12,058	-12,059	1	0.01%
2019	721	447	3,172	1,776	343	7,911	17,886	-	1,908	19,794	-11,883	-11,882	-1	0.01%
2020	751	431	3,242	1,829	340	8,045	17,886	-	1,897	19,783	-11,738	-11,711	-27	0.14%
2021	769	419	3,307	1,879	338	8,164	17,886	-	1,884	19,770	-11,606	-11,609	3	0.02%
2022	788	407	3,367	1,923	334	8,271	17,886	-	1,870	19,756	-11,485	-11,484	-1	0.01%
2023	807	399	3,423	1,963	331	8,375	17,886	-	1,852	19,738	-11,363	-11,363	0	0.00%
2024	828	391	3,474	2,001	327	8,473	17,886	-	1,834	19,720	-11,247	-11,247	0	0.00%
2025	849	385	3,523	2,035	325	8,569	17,886	-	1,817	19,703	-11,134	-11,135	1	0.01%
2026	861	380	3,568	2,066	322	8,649	17,886	-	1,798	19,684	-11,035	-11,028	-7	0.04%
2027	872	375	3,610	2,094	320	8,723	17,886	-	1,782	19,668	-10,945	-10,946	1	0.01%
2028	884	373	3,650	2,118	317	8,794	17,886	-	1,765	19,651	-10,857	-10,858	1	0.01%
2029	896	371	3,688	2,141	315	8,863	17,886	-	1,749	19,635	-10,772	-10,775	3	0.02%
2030	909	369	3,723	2,162	311	8,926	17,886	-	1,734	19,620	-10,694	-10,696	2	0.01%
2031	922	368	3,756	2,180	309	8,987	17,886	-	1,721	19,607	-10,620	-10,620	0	0.00%
2032	931	367	3,788	2,196	307	9,041	17,886	-	1,707	19,593	-10,552	-10,548	-4	0.02%
2033	936	367	3,818	2,211	305	9,089	17,886	-	1,696	19,582	-10,493	-10,493	0	0.00%
2034	941	368	3,847	2,224	303	9,135	17,886	-	1,684	19,570	-10,435	-10,436	1	0.01%
2035	946	370	3,873	2,236	301	9,178	17,886	-	1,673	19,559	-10,381	-10,381	0	0.00%
2036	952	372	3,900	2,246	299	9,221	17,886	-	1,663	19,549	-10,328	-10,329	1	0.01%
2037	957	375	3,925	2,255	297	9,261	17,886	-	1,653	19,539	-10,278	-10,279	1	0.01%
2038	963	376	3,949	2,263	296	9,299	17,886	-	1,645	19,531	-10,232	-10,232	0	0.00%
2039	969	380	3,972	2,270	294	9,337	17,886	-	1,637	19,523	-10,186	-10,186	0	0.00%
2040	975	384	3,995	2,276	292	9,374	17,886	-	1,630	19,516	-10,142	-10,143	1	0.01%
2041	978	388	4,017	2,281	291	9,407	17,886	-	1,624	19,510	-10,103	-10,101	-2	0.01%
2042	978	392	4,038	2,286	289	9,435	17,886	-	1,617	19,503	-10,068	-10,069	1	0.01%
2043	978	397	4,058	2,289	288	9,462	17,886	-	1,611	19,497	-10,035	-10,036	1	0.01%
2044	978	402	4,077	2,292	287	9,488	17,886	-	1,606	19,492	-10,004	-10,004	0	0.00%
2045	978	407	4,097	2,294	286	9,514	17,886	-	1,601	19,487	-9,973	-9,973	0	
2046	978	412	4,116	2,296	285	9,539	17,886	-	1,597	19,483	-9,944	-9,944	0	0.00%
2047	978	419	4,134	2,297	284	9,564	17,886	-	1,593	19,479	-9,915	-9,915	0	0.00%
2048	978	425	4,152	2,298	283	9,588	17,886	-	1,589	19,475	-9,887	-9,887	0	0.00%
2049		431	4,170	2,298	282	9,611	17,886	-	1,586		-9,861	-9,860	-1	0.01%
2050		439		2,297	282	9,636			1,583	19,469	-9,833	-9,834	1	0.01%
2051	978	445		2,297	281	9,657	17,886		1,580	19,466	-9,809	-9,808	-1	0.01%
2052	978	453		2,296	281	9,682	17,886		1,578	19,464	-9,782	-9,782	0	
2053	978	460		2,295	281	9,705	17,886		1,577	19,463	-9,758	-9,758	0	
2054		468		2,293	280	9,726	17,886		1,575	19,461	-9,735	-9,733	-2	0.01%
2055	978	477	4,271	2,292	280	9,750	17,886	-	1,573	19,459	-9,709	-9,709	0	
2056		485		2,290	280	9,772	17,886		1,572	19,458	-9,686	-9,686	0	
2057		494		2,287	280	9,795	17,886		1,571	19,457	-9,662	-9,662	0	0.00%
2058		502		2,285	280	9,816	17,886		1,570	19,456	-9,640	-9,639	-1	0.01%
2059		511	4,335	2,282	280	9,838	17,886		1,569	19,455	-9,617	-9,616	-1	0.01%
2060	978	520	4,351	2,280	280	9,861	17,886	-	1,568	19,454	-9,593	-9,594	1	0.01%