

Appendix F
Groundwater Budgets

Table F-1. Recharge Estimates for the Southwest New Mexico Water Planning Region

Basin	County	Precipitation (inches)	Area		Recharge Coefficient (%)	Recharge (acre-ft)	Percentage of Precipitation that Recharges Groundwater
			(square miles)	(acres)			
Animas	Grant	10	205	131,143	1.0	1,093	
Animas	Grant	12	131	84,102	1.5	1,262	
Animas	Grant	16	7	4,197	4.7	263	
Animas	Grant	8	334	213,477	0.0	0	
Animas	Hidalgo	10	604	386,502	1.0	3,221	
Animas	Hidalgo	12	444	284,200	1.5	4,263	
Animas	Hidalgo	16	139	89,093	4.7	5,583	
Animas	Hidalgo	20	8	4,870	4.7	382	
Animas	Hidalgo	8	487	311,877	0.0	0	
Animas	Luna	10	10	6,168	1.0	51	
Animas	Luna	12	1	863	1.5	13	
Animas	Luna	8	26	16,800	0.0	0	
Total			2,396	1,533,292		16,130	1.2
Gila	Catron	12	708	453,343	1.5	6,800	
Gila	Catron	16	335	214,194	4.7	13,423	
Gila	Catron	20	145	93,033	4.7	7,288	
Gila	Catron	25	61	38,883	4.7	3,807	
Gila	Catron	30	5	3,038	4.7	357	
Gila	Grant	10	115	73,863	1.0	616	
Gila	Grant	12	1,045	668,940	1.5	10,034	
Gila	Grant	16	593	379,725	4.7	23,796	
Gila	Grant	20	103	66,022	4.7	5,172	
Gila	Grant	25	10	6,218	4.7	609	
Gila	Hidalgo	10	169	108,028	1.0	900	
Gila	Hidalgo	12	18	11,662	1.5	175	
Gila	Hidalgo	8	45	28,566	0.0	0	
Total			3,352	2,145,516		72,976	3.0
Hachita - Moscos	Grant	10	49	31,481	1.0	262	
Hachita - Moscos	Grant	12	6	4,029	1.5	60	
Hachita - Moscos	Grant	8	60	38,666	0.0	0	
Hachita - Moscos	Hidalgo	10	181	115,925	1.0	966	
Hachita - Moscos	Hidalgo	12	193	123,682	1.5	1,855	
Hachita - Moscos	Hidalgo	16	3	1,666	4.7	104	
Hachita - Moscos	Hidalgo	18	0	90	4.7	6	
Hachita - Moscos	Luna	10	164	104,834	1.0	874	
Hachita - Moscos	Luna	12	11	7,033	1.5	105	
Hachita - Moscos	Luna	8	85	54,123	0.0	0	
Total			752	481,529		4,234	1.0

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Basin	County	Precipitation (inches)	Area		Recharge Coefficient (%)	Recharge (acre-ft)	Percentage of Precipitation that Recharges Groundwater
			(square miles)	(acres)			
Little Colorado	Catron	10	537	343,615	1.0	2,863	
Little Colorado	Catron	12	665	425,802	1.5	6,387	
Little Colorado	Catron	16	206	131,654	4.7	8,250	
Little Colorado	Catron	20	16	10,007	4.7	784	
Little Colorado	Catron	6	10	6,505	0.0	0	
Little Colorado	Catron	8	372	237,958	0.0	0	
Total			1,806	1,155,541		18,285	1.7
Lower Rio Grande	Grant	20	0.1	49	4.7	4	
Lower Rio Grande	Grant	25	0.4	253	4.7	25	
Lower Rio Grande	Grant	30	0.1	33	4.7	4	
Total			97.2	62,220.0		961	1.5
Mimbres	Grant	10	228	145,755	1.0	1,215	
Mimbres	Grant	12	459	293,483	1.5	4,402	
Mimbres	Grant	16	242	154,592	4.7	9,688	
Mimbres	Grant	20	99	63,285	4.7	4,957	
Mimbres	Grant	25	29	18,442	4.7	1,806	
Mimbres	Grant	30	5	2,958	4.7	348	
Mimbres	Grant	8	58	37,127	0.0	0	
Mimbres	Luna	10	329	210,410	1.0	1,753	
Mimbres	Luna	12	64	40,718	1.5	611	
Mimbres	Luna	16	5	3,311	4.7	207	
Mimbres	Luna	8	2,135	1,366,334	0.0	0	0.2
Total			3,651	2,336,414		24,987	1.3
North Plains	Catron	10	160	102,336	1.0	853	
North Plains	Catron	12	14	8,797	1.5	132	
North Plains	Catron	8	121	77,637	0.0	0	
Total			295	188,770		985	0.7
Nutt - Hocket	Luna	10	50	31,775	1.0	265	
Nutt - Hocket	Luna	8	89	57,071	0.0	0	
Total			139	88,846		265	0.4
Playas - San Basilio	Grant	10	37	23,720	1.0	198	
Playas - San Basilio	Grant	12	6	3,680	1.5	55	
Playas - San Basilio	Hidalgo	10	400	255,750	1.0	2,131	
Playas - San Basilio	Hidalgo	12	389	248,809	1.5	3,732	
Playas - San Basilio	Hidalgo	16	39	24,690	4.7	1,547	
Playas - San Basilio	Hidalgo	18	6	3,928	4.7	277	
Playas - San Basilio	Hidalgo	20	2	1,405	4.7	110	
Playas - San Basilio	Hidalgo	8	48	30,792	0.0	0	
Total			926	592,774		8,050	1.5

Table F-1. Recharge Estimates for the Southwest New Mexico Water Planning Region
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Basin	County	Precipitation (inches)	Area		Recharge Coefficient (%)	Recharge (acre-ft)	Percentage of Precipitation that Recharges Groundwater
			(square miles)	(acres)			
Rio Grande	Catron	16	1	593	4.7	37	
Rio Salado	Catron	10	134	85,510	1.0	713	
Rio Salado	Catron	12	94	60,401	1.5	906	
Rio Salado	Catron	16	4	2,352	4.7	147	
Rio Salado	Catron	8	4	2,757	0.0	0	
Total			237	151,613		1,803	1.3
San Agustin Plains	Catron	10	508	325,231	1.0	2,710	
San Agustin Plains	Catron	12	779	498,531	1.5	7,478	
San Agustin Plains	Catron	16	192	122,893	4.7	7,701	
San Agustin Plains	Catron	20	9	5,524	4.7	433	
San Agustin Plains	Catron	8	53	33,634	0.0	0	
Total			1,540	985,813		18,322	1.9
San Bernadino	Hidalgo	12	17	10,892	1.5	163	
San Bernadino	Hidalgo	16	18	11,399	4.7	714	
San Bernadino	Hidalgo	20	1	871	4.7	68	
Total			36	23,161		946	3.4
San Francisco	Catron	12	651	416,768	1.5	6,252	
San Francisco	Catron	16	808	517,425	4.7	32,425	
San Francisco	Catron	20	202	129,337	4.7	10,131	
San Francisco	Catron	25	45	28,654	4.7	2,806	
San Francisco	Catron	30	4	2,608	4.7	306	
San Francisco	Grant	12	70	45,066	1.5	676	
San Francisco	Grant	16	81	51,554	4.7	3,231	
San Francisco	Grant	20	3	1,617	4.7	127	
Total			1,864	1,193,029		55,954	3.7
San Simon	Hidalgo	10	121	77,263	1.0	644	
San Simon	Hidalgo	12	60	38,639	1.5	580	
San Simon	Hidalgo	16	42	26,977	4.7	1,691	
San Simon	Hidalgo	8	20	12,818	0.0	0	
Total			243	155,697		2,914	2.0

Table F-2. San Simon Basin Groundwater Budget

Component	Hidalgo Co. part	
	Flow (ac-ft/yr)	Reference
Inflow		
Recharge	2,914	See Table F-1
Stream loss		Unknown
Flow from adjacent basin		Unknown
Return flow Municipal	8	50% of municipal diversions
Return flow mining	0	Wilson et al., 2003
Return flow irrigation	543	Wilson et al., 2003
Total Inflow	3,465	
Outflow		
Municipal wells	16	Wilson et al., 2003, see Table F-14
Commercial (self-supplied)	4	Wilson et al., 2003, see Table F-14
Domestic wells	5	See Table F-15
Irrigation wells	1,339	Wilson et al., 2003, see Table F-14
Industrial (self-supplied)	0	Wilson et al., 2003
Livestock (self-supplied)	0	Wilson et al., 2003
Mining (self-supplied)	0	Wilson et al., 2003 see Table F-14
Power (self-supplied)	0	Wilson et al., 2003
Evapotranspiration		Unknown
Springs/stream gain		Unknown
Sub flow out	2,101	Balance budget, based on WL contours
Total Outflow	3,465	
Error and/or change in storage	0	

EF = On farm irrigation efficiency (Wilson et al., 2003)

Shaded values represent estimate based on water budget balance and water level contours

Table F-3. Animas Basin Groundwater Budget

Component	Luna Co. part		Grant Co. part		Hidalgo Co. part		Total Basin Flow (ac-ft/yr)
	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	
Inflow							
Recharge	64	See Table F-1	2,617	See Table F-1	13,449	See Table F-1 (12,758 Hawley et al., pg 90)	16,130
Stream loss		Unknown		Unknown		Unknown	0
Flow from adjacent basin		Unknown		Unknown		Unknown	0
Return flow Municipal	0	Wilson et al., 2003	0	Wilson et al., 2003	415	Wilson et al., 2003	415
Return flow mining	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Return flow irrigation	0	Wilson et al., 2003	262	Wilson et al., 2003, 55% EF	11,711	Wilson et al., 2003	11,973
Total Inflow	64		2,879		25,575		28,518
Outflow							
Municipal wells	0	Wilson et al., 2003	0	Wilson et al., 2003	830	Wilson et al., 2003 and Eng. Inc., see Table F-14	830
Commercial (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	502	Wilson et al., 2003, see Table F-14	502
Domestic wells	0	see Table F-15	39	see Table F-15	139	see Table F-15	177
Irrigation wells	0	Wilson et al., 2003	582	Wilson et al., 2003, see Table F-14	27,225	Wilson et al., 2003, see Table F-14	27,807
Industrial (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	3	Wilson et al., 2003, see Table F-14	3
Livestock (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Mining (self-supplied)	0	Wilson et al., 2003 see Table F-14	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Power (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Evapotranspiration		Unknown		Unknown		Unknown	0
Springs/stream gain		Unknown		Unknown		Unknown	0
Sub flow out		Unknown		Unknown	2,700	Reeder, 1957 pg 25 to Gila	2,700
Total Outflow	0		621		31,398		32,019
Error and/or change in storage	64		2,258		-5,823		-3,501

EF = On farm irrigation efficiency (Wilson et al., 2003)

Table F-4. Playas-San Basilio Groundwater Basin Water Budget

Component	Grant Co. part		Hidalgo Co. part		Total Basin Flow (ac-ft/yr)
	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	
Inflow					
Recharge	253	see Table F-1	7,798	see Table F-1 (5,670 Hawley et al., 2000 pg 70)	8,051
Stream loss		unknown		unknown	0
Flow from adjacent basin		unknown		unknown	0
Return flow Municipal	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Return flow mining	0	Wilson et al., 2003	216	Wilson et al., 2003	216
Return flow irrigation	0	Wilson et al., 2003	892	Wilson et al 2003 (55% EF)	892
Total Inflow	253		8,906		9,159
Outflow					
Municipal wells	0	Wilson et al., 2003	13	Eng. Inc, see Table F-14	13
Commercial (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Domestic wells	0	see Table F-15	19	see Table F-15	19
Irrigation wells	0	Wilson et al., 2003	1,983	Wilson et al., 2003, see Table F-14	1,983
Industrial (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Livestock (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Mining (self-supplied)	0	Wilson et al., 2003 see Table F-14	4,332	Wilson et al., 2003	4,332
Power (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Evapotranspiration	253	Balance budget, based on water level contours	2,552	Balance budget, based on water level contours	2,805
Springs/stream gain		unknown		unknown	0
Sub flow out		unknown	7	Hawley et al., 2000 pg 70	7
Total Outflow	253		8,906		9,159
Error and/or change in storage	0		0		0

EF = On-farm irrigation efficiency (Wilson et al., 2003)

Shaded values represent estimate based on water budget balance and water level contours

Table F-5. Hachita-Moscós Basin Groundwater Budget

Component	Luna Co. part		Grant Co. part		Hidalgo Co. part		Total Basin Flow (ac-ft/yr)
	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	
Inflow							
Recharge	979	See Table F-1	323	See Table F-1	2,932	See Table F-1	4,234
Stream loss		Unknown		Unknown		Unknown	0
Flow from adjacent basin		Unknown		Unknown	7	Hawley, 2000, pg 70	7
Return flow Municipal	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Return flow mining	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Return flow irrigation	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Total Inflow	979		323		2,939		4,241
Outflow							
Municipal wells	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Commercial (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Domestic wells	13	See Table F-15	9	See Table F-15	0.4	See Table F-15	22
Irrigation wells	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Industrial (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Livestock (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	60	Wilson et al., 2003, RG	60
Mining (self-supplied)	0	Wilson et al., 2003 see Table F-14	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Power (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Evapotranspiration		Unknown	310	Balance budget, based on water level contours	1,990	Balance budget, based on water level contours	2,300
Springs/stream gain		Unknown		Unknown		Unknown	0
Sub flow out	970	Hawley et al., 2000, pg 57	0	Hawley et al., 2000	890	Hawley, 2000, pg 55	1,860
Total Outflow	983		319		2,940		4,241
Error and/or change in storage	-4		4		-1		0

EF = On-farm irrigation efficiency (Wilson et al., 2003)

Shaded values represent estimate based on water budget balance and water level contours

Table F-6. Mimbres Basin Groundwater Budget

Component	Luna Co. part		Grant Co. part		Total Basin Flow (ac-ft/yr)
	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	
Inflow					
Recharge	2,572	See Table F-1 (30,000 Hanson et al., pg 39)	22,415	See Table F-1 (25,200 Hanson et al., pg 39, 14,300 Trauger [pg 62])	24,987
Stream loss	10,000	Hawley et al., pg 39 (13,300 Hanson, et a; pg 39)	0	Hanson et al.	10,000
Flow from adjacent basin	0	Hanson et al., 1994 pg 43, Hawley et al., 2000	0	Hawley et al., 2000 pg 39	0
rF	2,160	50% of Municipal Diversions	1,507	50% of Municipal Diversions	3,667
Return flow mining	6	Wilson et al., 2003	3,804	Wilson et al., 2003	3,810
Return flow irrigation	45,256	RF from SW and GW	3,470	55 and 65% EF from GW and SW	48,726
Total Inflow	59,994		31,196		91,190
Outflow					
Municipal wells	4,320	Wilson et al., 2003 & Eng. Inc, see Table F-14	3,013	Wilson et al., 2003 & Eng. Inc, see Table F-14	7,333
Commercial (self-supplied)	176	Wilson et al., 2003, see Table F-14	24	Wilson et al., 2003, see Table F-14	199
Domestic wells	656	see Table F-15	817	see Table F-15	1,473
Irrigation wells	75,242	Mimbres River	3,044	Wilson et al., 2003, see Table F-14	78,286
Industrial (self-supplied)	42	Wilson et al., 2003, see Table F-14	0	Wilson et al., 2003	42
Livestock (self-supplied)	342	RG (part may be in Nutt-Hocket area)	69	Wilson et al., 2003	410
Mining (self-supplied)	7	Wilson et al., 2003 see Table F-14	18,714	Wilson et al., 2003	18,721
Power (self-supplied)	0	Wilson et al., 2003	280	Wilson et al., 2003	280
Evapotranspiration	10,000	Range is probably 0 to more than 10,000 afy. WRRRI et al 2000 suggest that irrigation wells are diverting the majority of the predevelopment ET estimate of 42,000 by Hanson et al., 1994.	3,400	Hanson et al., 1994 pg 39	13,400
Springs/stream gain			4,800	Hanson et al., 1994 pg 39 (14,300 Trauger, 1972)	4,800
Sub flow out	0	Hawley et al., 2000	0	Hanson et al., 1994, pg 43	0
Total Outflow	90,784		34,161		124,945
Error and/or change in storage	-30,790		-2,965		-33,755

EF = On farm irrigation efficiency (Wilson et al., 2003)

Table F-7. Nutt-Hockett Basin Groundwater Budget

Component	Luna Co. part	
	Flow (ac-ft/yr)	Reference
Inflow		
Recharge	265	See Table F-1
Stream loss		Unknown
Flow from adjacent basin		Unknown
Return flow Municipal	0	Wilson et al., 2003
Return flow mining	20	Wilson et al., 2003
Return flow irrigation	5,500	Wilson et al., 2003
Total Inflow	5,786	
Outflow		
Municipal wells	0	Wilson et al., 2003
Commercial (self-supplied)	0	Wilson et al., 2003
Domestic wells	8	DBS&A Calc, see Table F-15
Irrigation wells	16,432	Wilson et al., 2003, see Table F-14
Industrial (self-supplied)	0	Wilson et al., 2003
Livestock (self-supplied)	0	Wilson et al., 2003
Mining (self-supplied)	34	Wilson et al., 2003 see Table F-14
Power (self-supplied)	0	Wilson et al., 2003
Evapotranspiration		Unknown
Springs/stream gain		Unknown
Sub flow out		Unknown
Total Outflow	16,474	
Error and/or change in storage	-10,688	

EF = On farm irrigation efficiency (Wilson et al., 2003)

Table F-8. Gila Basin Groundwater Budget

Component	Catron Co. part		Grant Co. part		Hidalgo Co. part		Total Basin Flow (ac-ft/yr)
	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	
Inflow							
Recharge	31,675	See Table F-1	40,226	See Table F-1 (60,000 Trauger 1972)	1,075	See Table F-1	72,976
Stream loss		Unknown		Unknown		Unknown	0
Flow from adjacent basin		Unknown			2,700	Reeder, 1957, pg 25 from Animas	2,700
Return flow Municipal	0	Wilson et al., 2003	593	50% of municipal diversions (including surface diversions)	12	50% of municipal diversions	605
Return flow mining	0	Wilson et al., 2003	467	Wilson et al., 2003, Tyrone	0	Wilson et al., 2003	467
Return flow irrigation	0	Wilson et al., 2003	20,475	return from GW and SW div	6,543	from GW and SW	27,018
Total Inflow	31,675		61,761		10,330		103,766
Outflow							
Municipal wells	0	Wilson et al., 2003	1,053	Wilson et al., 2003, see Table F-14	25	Wilson et al., 2003, see Table F-14	1,077
Commercial (self-supplied)	0	Wilson et al., 2003	121	Wilson et al., 2003, see Table F-14	2	Wilson et al., 2003, see Table F-14	123
Domestic wells	15	See Table F-15	51	See Table F-15	36	See Table F-15	102
Irrigation wells	0	Wilson et al., 2003	474	Upper Gila, Gila & Red Rocks	2,596	Wilson et al., 2003, see Table F-14	3,070
Industrial (self-supplied)	8	Wilson et al., 2003, see Table F-14	11	Wilson et al., 2003	0	Wilson et al., 2003	18
Livestock (self-supplied)	0	Wilson et al., 2003	148	Wilson et al., LC	200	LC	348
Mining (self-supplied)	0	Wilson et al., 2003	2,744	Wilson et al., 2003, see Table F-14	0	Wilson et al., 2003	2,744
Power (self-supplied)	0	Wilson et al., 2003 see Table F-14	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Evapotranspiration		Unknown		Unknown		Unknown	0
Springs/stream gain		Unknown	54,604	see calc below (60,000 Trauger, pg 61)		Unknown	54,604
Sub flow out		Unknown		Unknown		Unknown	41,680
Total Outflow	23		59,205		2,858		103,766
Error and/or change in storage	31,652		2,556		7,472		0

EF = On farm irrigation efficiency (Wilson et al., 2003)

Shaded values represent estimate based on water budget balance and water level contours

130,788 Median flow, Gila River below Blue Creek, near Virden

102,656 Less median flow, Gila River near Gila

28,132 Gain

22,462 Plus adjustment for surface water diversions

4,010 Plus adjustment for riparian ET

54,604 Total stream gain

Table F-9. San Francisco Basin Groundwater Budget

Component	Catron Co. part		Grant Co. part		Total Basin Flow (ac-ft/yr)
	Flow (ac-ft/yr)	Reference	Flow (ac-ft/yr)	Reference	
Inflow					
Recharge	51,920	See Table F-1	4,033	See Table F-1	55,953
Stream loss	0	DBS&A Estimate		Unknown	0
Flow from adjacent basin		Unknown		Unknown	0
Return flow municipal	53	50% of municipal diversions	0	Wilson et al., 2003	53
Return flow mining	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Return flow irrigation	15,941	Wilson et al., 2003	0	Wilson et al., 2003	15,941
Total Inflow	67,914		4,033		71,947
Outflow					
Municipal wells	106	Wilson et al., 2003, see Table F-14	0	Wilson et al., 2003	106
Commercial (self-supplied)	24	Wilson et al., 2003, see Table F-14	1	Wilson et al., 2003, see Table F-14	25
Domestic wells	133	See Table F-15	7	See Table F-15	140
Irrigation wells	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Industrial (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Livestock (self-supplied)	33	Wilson et al., 2003, split with Little Colorado	0	Wilson et al., 2003	33
Mining (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Power (self-supplied)	0	Wilson et al., 2003	0	Wilson et al., 2003	0
Evapotranspiration		Unknown		Unknown	0
Springs/stream gain	59,927	DBS&A Calc, see below		Unknown	59,927
Sub flow out		Unknown		Unknown	11,717
Total Outflow	60,223		8		71,947
Error and/or change in storage	7,691		4,025		0

EF = On-farm irrigation efficiency (Wilson et al., 2003)

Shaded values represent estimate based on water budget balance and water level contours

50,034 Median flow, San Francisco River near Glenwood
 12,161 Less median flow, San Francisco River near Reserve
 37,873 Gain
 17,564 Plus adjustment for surface water diversions
 4,490 Plus adjustment for riparian ET
 59,927 Calculated gain from groundwater

Table F-10. San Agustin Plains Basin Groundwater Budget

Component	Catron Co. part	
	Flow (ac-ft/yr)	Reference
Inflow		
Recharge	18,322	See Table F-1
Stream loss		Unknown
Flow from adjacent basin	0	Meyers et al., 1994
Return flow municipal	0	Wilson et al., 2003
Return flow mining	0	Wilson et al., 2003
Return flow irrigation	153	Wilson et al., 2003 (55% EF)
Total Inflow	18,475	
Outflow		
Municipal wells	0	Wilson et al., 2003
Commercial (self-supplied)	4	Wilson et al., 2003, see Table F-14
Domestic wells	58	See Table F-15
Irrigation wells	339	Wilson et al., 2003, see Table F-14
Industrial (self-supplied)	0	Wilson et al., 2003
Livestock (self-supplied)	55	half of Wilson's estimate for Rio Grande in Catron Co.
Mining (self-supplied)	0	Wilson et al., 2003 see Table F-14
Power (self-supplied)	0	Wilson et al., 2003
Evapotranspiration	18,019	Balance budget, based on water level contours
Springs/stream gain		Unknown
Sub flow out	0	Meyers et al., 1994
Total Outflow	18,475	
Error and/or change in storage	0	

EF = On-farm irrigation efficiency (Wilson et al., 2003)

Shaded values represent estimate based on water budget balance and water level contours

Table F-11. Little Colorado Basin Groundwater Budget

Component	Catron Co. Part	
	Flow (ac-ft/yr)	Reference
Inflow		
Recharge	18,285	See Table F-1
Stream loss		Unknown
Flow from adjacent basin	0	
Return flow municipal	21	50% of municipal diversions
Return flow mining	0	Wilson et al., 2003
Return flow irrigation	1,267	Wilson et al., 2003 (from SW Diversions
Total Inflow	19,573	
Outflow		
Municipal wells	41	Wilson et al., 2003, & Eng. Inc. see Table F-14
Commercial (self-supplied)	4	Wilson et al., 2003, see Table F-14
Domestic wells	59	See Table F-15
Irrigation wells	0	Wilson et al., 2003
Industrial (self-supplied)	0	Wilson et al., 2003
Livestock (self-supplied)	33	Wilson et al., 2003, split between San Francisco drainage
Mining (self-supplied)	0	Wilson et al., 2003 see Table F-14
Power (self-supplied)	0	Wilson et al., 2003
Evapotranspiration		Unknown
Springs/stream gain		Unknown
Sub flow out	19,436	Balance budget, based on water level contours
Total Outflow	19,573	
Error and/or change in storage	0	

EF = On-farm irrigation efficiency (Wilson et al., 2003)

Shaded values represent estimate based on water budget balance and water level contours

Table F-12. North Plains Basin Groundwater Budget

Component	Catron Co. part	
	Flow (ac-ft/yr)	Reference
Inflow		
Recharge	985	See Table F-1
Stream loss		Unknown
Flow from adjacent basin		Unknown
Return flow municipal	0	Wilson et al., 2003
Return flow mining	0	Wilson et al., 2003
Return flow irrigation	0	Wilson et al., 2003
Total Inflow	985	
Outflow		
Municipal wells	0	Wilson et al., 2003
Commercial (self-supplied)	0	Wilson et al., 2003
Domestic wells	3	DBS&A Calc, see Table F-15
Irrigation wells	0	Wilson et al., 2003
Industrial (self-supplied)	0	Wilson et al., 2003
Livestock (self-supplied)	0	Wilson et al., 2003
Mining (self-supplied)	0	Wilson et al., 2003 see Table F-14
Power (self-supplied)	0	Wilson et al., 2003
Evapotranspiration		Unknown
Springs/stream gain		Unknown
Sub flow out	982	Balance budget, based on water level contours
Total Outflow	985	
Error and/or change in storage	0	

Shaded values represent estimate based on water budget balance and water level contours

Table F-13. Rio Salado Basin Groundwater Budget

Component	Catron Co. part	
	Flow (ac-ft/yr)	Reference
Inflow		
Recharge	1803	See Table F-1
Stream loss		Unknown
Flow from adjacent basin		Unknown
Return flow municipal	0	Wilson et al., 2003
Return flow mining	0	Wilson et al., 2003
Return flow irrigation	0	Wilson et al., 2003
Total Inflow	1803	
Outflow		
Municipal wells	0	Wilson et al., 2003
Commercial (self-supplied)	0	Wilson et al., 2003
Domestic wells	0	See Table F-15
Irrigation wells	0	Wilson et al., 2003
Industrial (self-supplied)	0	Wilson et al., 2003
Livestock (self-supplied)	55	half of Wilson's estimate for Rio Grande in Catron Co.
Mining (self-supplied)	0	Wilson et al., 2003 see Table F-14
Power (self-supplied)	0	Wilson et al., 2003
Evapotranspiration		Unknown
Springs/stream gain		Unknown
Sub flow out	1748	Balance budget, based on water level contours
Total Outflow	1803	
Error and/or change in storage	0	

EF = On-farm irrigation efficiency (Wilson et al., 2003)

Shaded values represent estimate based on water budget balance and water level contours