

RIO GRANDE CANALIZATION PROJECT

WATER BUDGET STUDY

Final Report

Appendix G2 - Water Budget Analysis Summary

2010-2012 Study Period Analysis

(Based on FLO-2D Modeling Results)

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Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
1/1/2010	1.7	1.1	0.0	0.0	1.0	51.7	0.0	1.7	0.1	0.0	11.5	0.0	0.0	42.2
1/2/2010	1.8	1.7	0.1	0.0	1.0	51.7	3.0	1.8	0.1	0.0	11.5	0.0	0.0	40.0
1/3/2010	2.1	1.5	2.0	0.0	1.0	51.7	5.2	2.1	0.1	0.0	11.5	0.0	0.0	39.5
1/4/2010	2.2	1.3	3.2	0.0	1.0	51.7	6.5	2.2	0.1	0.0	11.5	0.0	0.0	39.3
1/5/2010	2.2	1.6	3.4	0.0	1.0	51.7	6.5	2.2	0.1	0.0	11.5	0.0	0.0	39.6
1/6/2010	2.2	1.9	3.2	0.0	1.0	51.7	6.5	2.2	0.1	0.0	11.5	0.0	0.0	39.8
1/7/2010	2.1	1.5	3.4	0.0	1.0	51.7	6.5	2.1	0.1	0.0	11.5	0.0	0.0	39.5
1/8/2010	2.0	2.5	3.5	0.0	1.0	51.7	6.5	2.0	0.1	0.0	11.5	0.0	0.0	40.7
1/9/2010	1.9	1.6	3.6	0.0	1.0	51.7	6.5	1.9	0.1	0.0	11.5	0.0	0.0	39.8
1/10/2010	1.9	1.0	3.6	0.0	1.0	51.7	6.6	1.9	0.1	0.0	11.5	0.0	0.0	39.2
1/11/2010	2.1	1.7	3.3	0.0	1.0	51.7	6.5	2.1	0.1	0.0	11.5	0.0	0.0	39.7
1/12/2010	2.2	2.6	3.3	0.0	1.0	51.7	6.5	2.2	0.1	0.0	11.5	0.0	0.0	40.5
1/13/2010	2.2	1.2	3.2	0.0	1.0	51.7	6.5	2.2	0.1	0.0	11.5	0.0	0.0	39.2
1/14/2010	2.1	2.1	3.4	0.0	1.0	51.7	6.5	2.1	0.1	0.0	11.5	0.0	0.0	40.2
1/15/2010	1.9	1.1	3.5	0.0	1.0	51.7	6.4	1.9	0.1	0.0	11.5	0.0	0.0	39.3
1/16/2010	2.0	0.4	3.5	0.0	1.0	51.7	6.5	2.0	0.1	0.0	11.5	0.0	0.0	38.5
1/17/2010	1.9	2.3	3.6	0.0	1.0	51.7	6.5	1.9	0.1	0.0	11.5	0.0	0.0	40.5
1/18/2010	1.9	2.6	3.5	0.0	1.0	51.7	6.5	1.9	0.1	0.0	11.5	0.0	0.0	40.9
1/19/2010	1.9	0.8	3.5	0.0	1.0	51.7	6.4	1.9	0.1	0.0	11.5	0.0	0.0	39.1
1/20/2010	1.9	1.2	3.6	0.0	1.0	51.7	6.5	1.9	0.1	0.0	11.5	0.0	0.0	39.5
1/21/2010	2.1	2.0	3.3	0.0	1.0	51.7	6.4	2.1	0.1	0.0	11.5	0.0	0.0	40.0
1/22/2010	2.1	1.2	3.4	0.0	1.0	51.7	6.5	2.1	0.1	0.0	11.5	0.0	0.0	39.2
1/23/2010	2.1	0.4	3.4	0.0	1.0	51.7	6.5	2.1	0.1	0.0	11.5	0.0	0.0	38.5
1/24/2010	2.1	0.8	3.2	0.0	1.0	51.7	6.4	2.1	0.1	0.0	11.5	0.0	0.0	38.8
1/25/2010	2.1	2.0	3.2	0.0	1.0	51.7	6.3	2.1	0.1	0.0	11.5	0.0	0.0	40.1
1/26/2010	1.8	1.3	3.5	0.0	1.0	51.7	6.4	1.8	0.1	0.0	11.5	0.0	0.0	39.6
1/27/2010	91.4	1.6	0.0	0.0	1.0	51.7	6.5	15.9	0.1	0.0	11.5	0.0	0.0	111.8
1/28/2010	176.3	2.7	0.0	0.0	1.0	51.7	6.5	17.5	0.1	0.0	11.5	0.0	0.0	196.2
1/29/2010	175.9	2.0	0.0	0.0	1.0	51.7	6.1	18.9	0.1	0.0	11.5	0.0	0.0	194.1
1/30/2010	177.0	1.9	0.0	0.0	1.0	51.7	10.1	19.7	0.1	0.0	11.5	0.0	0.0	190.3
1/31/2010	177.6	2.8	0.0	0.0	1.0	51.7	13.0	19.9	0.1	0.0	11.5	0.0	0.0	188.7
2/1/2010	178.1	1.2	0.0	0.0	1.0	51.7	13.1	19.9	0.1	0.0	11.5	0.0	0.0	187.6
2/2/2010	178.8	1.6	0.0	0.0	1.0	51.7	13.2	19.9	0.1	0.0	11.5	0.0	0.0	188.4
2/3/2010	104.7	1.1	0.0	0.0	1.0	51.7	13.3	18.8	0.1	0.0	11.5	0.0	0.0	114.9
2/4/2010	1.5	1.2	10.4	0.0	1.0	51.7	13.0	1.5	0.1	0.0	11.5	0.0	0.0	39.9
2/5/2010	1.7	1.5	1.1	0.0	1.0	51.7	3.8	1.7	0.1	0.0	11.5	0.0	0.0	40.0
2/6/2010	1.8	0.7	3.4	0.0	1.0	51.7	6.2	1.8	0.1	0.0	11.5	0.0	0.0	39.1
2/7/2010	1.9	0.5	3.5	0.0	1.0	51.7	6.4	1.9	0.1	0.0	11.5	0.0	0.0	38.8
2/8/2010	1.7	1.9	3.8	0.0	1.0	51.7	6.5	1.7	0.1	0.0	11.5	0.0	0.0	40.3
2/9/2010	1.7	2.2	3.7	0.0	1.0	51.7	6.4	1.7	0.1	0.0	11.5	0.0	0.0	40.6
2/10/2010	2.3	1.3	3.1	0.0	1.0	51.7	6.5	2.3	0.1	0.0	11.5	0.0	0.0	39.2
2/11/2010	3.0	1.1	2.5	0.0	1.0	51.7	6.5	3.0	0.1	0.0	11.5	0.0	0.0	38.3
2/12/2010	3.6	2.1	1.8	0.0	1.0	51.7	6.5	3.6	0.1	0.0	11.5	0.0	0.0	38.7
2/13/2010	4.2	1.2	1.2	0.0	1.0	51.7	6.4	4.2	0.1	0.0	11.5	0.0	0.0	37.2
2/14/2010	4.9	1.8	0.5	0.0	1.0	51.7	6.4	4.9	0.1	0.0	11.5	0.0	0.0	37.1
2/15/2010	5.5	0.7	0.0	0.0	1.0	51.7	6.5	5.5	0.1	0.0	11.5	0.0	0.0	35.4
2/16/2010	6.1	0.7	0.0	0.0	1.0	51.7	6.3	6.1	0.1	0.0	11.5	0.0	0.0	35.5
2/17/2010	6.8	2.9	0.0	0.0	1.0	51.7	6.4	6.8	0.1	0.0	11.5	0.0	0.0	37.6
2/18/2010	7.4	0.8	0.0	0.0	1.0	51.7	6.3	7.4	0.1	0.0	11.5	0.0	0.0	35.7
2/19/2010	8.1	1.0	0.0	0.0	1.0	51.7	6.4	8.1	0.1	0.0	11.5	0.0	0.0	35.7
2/20/2010	8.7	1.0	0.0	0.0	1.0	51.7	6.4	8.7	0.1	0.0	11.5	0.0	0.0	35.8

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	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
2/21/2010	9.3	2.9	0.0	0.0	1.0	51.7	6.5	9.3	0.1	0.0	11.5	0.0	0.0	37.5
2/22/2010	10.0	1.3	0.0	0.0	1.0	51.7	6.4	10.0	0.1	0.0	11.5	0.0	0.0	36.1
2/23/2010	10.6	3.7	0.0	0.0	1.0	51.7	6.4	10.6	0.1	0.0	11.5	0.0	0.0	38.5
2/24/2010	22.8	1.2	0.0	0.0	1.0	51.7	6.4	15.9	0.1	0.0	11.5	0.0	0.0	42.8
2/25/2010	21.1	2.8	0.0	0.0	1.0	51.7	6.5	15.9	0.1	0.0	11.5	0.0	0.0	42.6
2/26/2010	247.3	1.7	0.0	0.0	1.0	51.7	6.4	18.3	0.1	0.0	11.5	0.0	0.0	265.6
2/27/2010	188.8	0.8	0.0	0.0	1.0	51.7	6.5	20.6	0.1	0.0	11.5	0.0	0.0	203.6
2/28/2010	189.4	2.1	0.0	0.0	1.0	51.7	19.5	21.2	0.1	0.0	11.5	0.0	0.0	191.9
3/1/2010	192.5	1.7	0.0	0.0	1.0	28.8	0.0	10.4	6.3	1.6	33.7	0.0	0.0	172.0
3/2/2010	195.0	0.9	0.0	0.0	1.0	28.8	0.0	32.1	6.3	4.6	33.7	0.0	0.0	149.0
3/3/2010	195.7	0.9	0.0	0.0	1.0	28.8	0.0	60.5	6.3	9.4	33.7	0.0	0.0	116.5
3/4/2010	590.0	1.9	0.0	0.0	1.0	28.8	27.9	119.4	6.3	15.2	33.7	0.0	0.0	419.2
3/5/2010	693.7	0.3	0.0	0.0	1.0	28.8	231.8	123.0	6.3	16.4	33.7	0.0	0.0	312.6
3/6/2010	898.3	1.1	0.0	0.0	1.0	28.8	249.9	121.4	6.3	16.4	33.7	0.0	0.0	501.5
3/7/2010	898.7	1.0	0.0	0.0	1.0	28.8	624.4	143.8	6.3	16.4	33.7	0.0	0.0	104.9
3/8/2010	1094.3	1.1	0.0	0.0	1.0	28.8	746.2	140.3	6.3	16.4	33.7	0.0	0.0	182.2
3/9/2010	1363.4	0.6	0.0	0.0	1.0	28.8	895.3	142.4	6.3	16.4	33.7	0.0	0.0	299.7
3/10/2010	1451.2	1.1	0.0	0.0	1.0	28.8	1158.0	143.5	6.3	16.4	33.7	0.0	0.0	124.3
3/11/2010	1451.0	1.2	0.0	0.0	1.0	28.8	1277.4	141.0	6.3	16.4	33.7	0.0	0.0	7.2
3/12/2010	1517.1	1.3	0.0	0.0	1.0	28.8	1303.2	138.3	6.3	16.4	33.7	0.0	0.0	50.4
3/13/2010	1769.7	0.6	0.0	0.0	1.0	28.8	1383.5	138.3	6.3	16.4	33.7	0.0	0.0	221.9
3/14/2010	1767.8	0.8	0.0	0.0	1.0	28.8	1581.6	138.2	6.3	16.4	33.7	0.0	0.0	22.3
3/15/2010	1881.6	0.7	0.0	0.0	1.0	28.8	1602.4	136.0	6.3	16.4	33.7	166.6	1.7	-51.0
3/16/2010	2498.5	0.4	0.0	0.0	1.0	28.8	1629.0	137.0	6.3	16.4	33.7	327.3	3.3	375.8
3/17/2010	2628.1	0.6	0.0	0.0	1.0	28.8	2002.8	139.6	6.3	16.4	33.7	305.5	3.1	151.2
3/18/2010	2420.3	1.2	0.0	0.0	1.0	28.8	2120.7	137.7	6.3	16.4	33.7	281.7	2.8	-148.0
3/19/2010	2251.8	0.8	0.0	0.0	1.0	28.8	1971.0	134.3	6.3	16.4	33.7	281.7	2.8	-163.8
3/20/2010	2375.5	1.2	0.0	0.0	1.0	28.8	1857.6	132.8	6.3	16.4	33.7	281.7	2.8	75.3
3/21/2010	2610.9	0.7	0.0	0.0	1.0	28.8	1978.8	133.8	6.3	16.4	33.7	277.7	2.8	191.8
3/22/2010	2605.3	2.1	0.0	0.0	1.0	28.8	2160.7	134.0	6.3	16.4	33.7	289.6	2.9	-6.4
3/23/2010	3023.8	0.5	0.0	0.0	1.0	28.8	2254.8	135.0	6.3	16.4	33.7	301.5	3.0	303.4
3/24/2010	3724.5	0.2	0.0	0.0	1.0	28.8	2712.7	139.0	6.3	16.4	33.7	519.7	5.2	321.6
3/25/2010	3554.5	0.8	254.9	0.0	1.0	28.8	3175.7	139.8	6.3	16.4	33.7	634.7	6.3	-173.0
3/26/2010	3374.1	2.2	258.3	0.0	1.0	28.8	3032.4	137.8	6.3	16.4	33.7	601.0	6.0	-169.2
3/27/2010	3377.6	1.4	119.7	0.0	1.0	28.8	2943.0	136.8	6.3	16.4	33.7	555.4	5.6	-168.6
3/28/2010	3616.6	0.1	0.0	0.0	1.0	28.8	3054.4	137.2	6.3	16.4	33.7	555.4	5.6	-162.4
3/29/2010	3855.6	0.8	22.6	0.0	1.0	28.8	3280.2	137.9	6.3	16.4	33.7	599.0	6.0	-170.7
3/30/2010	3924.6	0.3	189.3	0.0	1.0	28.8	3438.6	137.9	6.3	16.4	33.7	676.4	6.8	-172.0
3/31/2010	3964.3	0.1	294.2	0.0	1.0	28.8	3474.0	137.3	6.3	16.4	33.7	785.5	7.9	-172.7
4/1/2010	3937.4	0.1	360.5	0.0	1.0	28.8	3432.1	136.4	6.3	23.2	33.7	866.8	8.7	-179.4
4/2/2010	3743.1	0.7	473.7	0.0	1.0	28.8	3323.3	134.9	6.3	23.2	33.7	894.5	8.9	-177.5
4/3/2010	3612.5	0.6	352.7	0.0	1.0	28.8	3168.9	133.6	6.3	23.2	33.7	797.4	8.0	-175.4
4/4/2010	3617.5	0.8	248.1	0.0	1.0	28.8	3126.8	133.1	6.3	23.2	33.7	739.8	7.4	-174.1
4/5/2010	3839.9	1.2	131.7	0.0	1.0	28.8	3211.0	133.4	6.3	23.2	33.7	761.7	7.6	-174.2
4/6/2010	4038.4	0.7	171.1	0.0	1.0	28.8	3395.3	133.8	6.3	23.2	33.7	815.2	8.2	-175.6
4/7/2010	4272.1	1.3	212.7	0.0	1.0	28.8	3555.6	134.2	6.3	23.2	33.7	930.2	9.3	-176.6
4/8/2010	4297.7	0.6	358.7	0.0	1.0	28.8	3645.8	134.0	6.3	23.2	33.7	1011.6	10.1	-177.9
4/9/2010	3875.9	0.1	616.2	0.0	1.0	28.8	3547.6	132.5	6.3	23.2	33.7	945.5	9.5	-176.3
4/10/2010	3644.8	0.2	450.9	0.0	1.0	28.8	3291.5	131.0	6.3	23.2	33.7	805.3	8.1	-173.3
4/11/2010	3651.1	1.3	328.3	0.0	1.0	28.8	3199.0	130.4	6.3	23.2	33.7	781.5	7.8	-171.3
4/12/2010	3541.8	1.7	430.9	0.0	1.0	28.8	3172.3	129.8	6.3	23.2	33.7	801.3	8.0	-170.5

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
4/13/2010	3450.7	0.1	443.0	0.0	1.0	28.8	3041.9	128.9	6.3	23.2	33.7	852.9	8.5	-171.7
4/14/2010	3409.3	0.3	432.1	0.0	1.0	28.8	2926.1	128.1	6.3	23.2	33.7	916.4	9.2	-171.3
4/15/2010	3309.0	1.0	493.3	0.0	1.0	28.8	2807.6	127.0	6.3	23.2	33.7	995.7	10.0	-170.4
4/16/2010	2809.1	0.4	734.6	0.0	1.0	28.8	2604.6	124.0	6.3	23.2	33.7	940.2	9.4	-167.4
4/17/2010	2435.1	2.6	686.7	0.0	1.0	28.8	2238.2	121.4	6.3	23.2	33.7	884.6	8.8	-162.0
4/18/2010	2443.9	0.3	317.1	0.0	1.0	28.8	2006.4	120.1	6.3	23.2	33.7	755.7	7.6	-161.7
4/19/2010	2124.1	0.3	523.1	0.0	1.0	28.8	1993.7	119.5	6.3	23.2	33.7	654.5	6.5	-160.2
4/20/2010	2040.3	0.9	380.7	0.0	1.0	28.8	1813.1	117.9	6.3	23.2	33.7	608.9	6.1	-157.5
4/21/2010	2108.1	0.1	258.7	0.0	1.0	28.8	1755.1	117.4	6.3	23.2	33.7	612.7	6.1	-157.8
4/22/2010	1999.0	0.3	382.8	0.0	1.0	28.8	1772.0	116.8	6.3	23.2	33.7	610.9	6.1	-157.0
4/23/2010	1903.4	2.6	378.8	0.0	1.0	28.8	1678.3	115.7	6.3	23.2	33.7	605.0	6.0	-153.6
4/24/2010	1859.2	1.0	0.0	0.0	1.0	28.8	1315.6	115.7	6.3	13.1	33.7	482.0	4.8	-81.2
4/25/2010	1861.2	0.2	0.0	0.0	1.0	28.8	0.0	82.0	6.3	4.7	33.7	440.3	4.4	1319.7
4/26/2010	1931.7	1.9	0.0	0.0	1.0	28.8	0.0	250.4	6.3	17.8	33.7	533.6	5.3	1116.3
4/27/2010	2053.2	1.5	0.0	0.0	1.0	28.8	1042.7	247.8	6.3	24.0	33.7	583.4	5.8	140.8
4/28/2010	2285.5	0.8	0.0	0.0	1.0	28.8	1218.6	200.9	6.3	24.0	33.7	656.5	6.6	169.5
4/29/2010	2533.6	1.2	0.0	0.0	1.0	28.8	1344.5	186.5	6.3	24.0	33.7	763.6	7.6	198.4
4/30/2010	2358.3	1.5	0.0	0.0	1.0	28.8	1514.7	175.8	6.3	24.0	33.7	678.3	6.8	-50.1
5/1/2010	2144.5	0.4	0.0	0.0	1.0	28.8	1474.6	164.6	6.3	29.9	33.7	612.9	6.1	-153.4
5/2/2010	2144.3	1.2	0.0	0.0	1.0	28.8	1359.7	156.7	6.3	29.9	33.7	606.9	6.1	-24.0
5/3/2010	2258.2	2.5	0.0	0.0	1.0	28.8	1355.9	153.0	6.3	29.9	33.7	643.9	6.4	61.5
5/4/2010	2421.2	1.4	0.0	0.0	1.0	28.8	1446.7	151.4	6.3	29.9	33.7	666.4	6.7	111.3
5/5/2010	2564.4	1.0	0.0	0.0	1.0	28.8	1585.8	150.5	6.3	29.9	33.7	670.3	6.7	112.0
5/6/2010	2545.2	0.8	0.0	0.0	1.0	28.8	1706.5	147.3	6.3	29.9	33.7	666.4	6.7	-20.9
5/7/2010	2517.0	1.6	0.0	0.0	1.0	28.8	1704.9	133.5	6.3	29.9	33.7	682.0	6.8	-48.7
5/8/2010	2571.0	0.3	0.0	0.0	1.0	28.8	1672.7	123.5	6.3	29.9	33.7	694.2	6.9	33.9
5/9/2010	2567.7	0.9	0.0	0.0	1.0	28.8	1704.7	117.2	6.3	29.9	33.7	706.1	7.1	-6.5
5/10/2010	2666.4	0.3	0.0	0.0	1.0	28.8	1726.7	107.6	6.3	29.9	33.7	765.6	7.7	19.1
5/11/2010	2827.5	1.1	0.0	0.0	1.0	28.8	1764.5	90.9	6.3	29.9	33.7	829.1	8.3	95.7
5/12/2010	3174.0	0.4	0.0	0.0	1.0	28.8	1923.5	76.5	6.3	29.9	33.7	862.8	8.6	262.9
5/13/2010	3312.0	0.7	0.0	0.0	1.0	28.8	2174.3	69.7	6.3	29.9	33.7	918.6	9.2	100.9
5/14/2010	3194.2	1.4	0.0	0.0	1.0	28.8	2253.4	64.9	6.3	29.9	33.7	926.3	9.3	-98.4
5/15/2010	3023.8	0.6	0.0	0.0	1.0	28.8	2161.6	61.4	6.3	29.9	33.7	801.3	8.0	-48.0
5/16/2010	2915.2	1.6	0.0	0.0	1.0	28.8	2167.3	59.3	6.3	29.9	33.7	704.1	7.0	-61.0
5/17/2010	2998.8	1.8	0.0	0.0	1.0	28.8	2137.3	57.7	6.3	29.9	33.7	781.5	7.8	-23.8
5/18/2010	2854.8	2.6	77.0	0.0	1.0	28.8	2036.4	56.4	6.3	29.9	33.7	896.5	9.0	-103.8
5/19/2010	2979.9	0.7	0.0	0.0	1.0	28.8	1863.5	55.7	6.3	29.9	33.7	999.1	10.0	12.2
5/20/2010	3153.7	1.1	0.0	0.0	1.0	28.8	1898.7	55.9	6.3	29.9	33.7	1077.7	10.8	71.7
5/21/2010	3046.5	0.5	0.0	0.0	1.0	28.8	1980.6	56.0	6.3	29.9	33.7	992.1	9.9	-31.8
5/22/2010	2904.2	1.5	0.0	0.0	1.0	28.8	2026.7	55.6	6.3	29.9	33.7	833.1	8.3	-58.1
5/23/2010	2899.9	1.7	0.0	0.0	1.0	28.8	2009.1	55.4	6.3	29.9	33.7	807.3	8.1	-18.3
5/24/2010	3053.8	1.6	0.0	0.0	1.0	28.8	2038.2	55.5	6.3	29.9	33.7	839.0	8.4	74.2
5/25/2010	3253.3	2.1	0.0	0.0	1.0	28.8	2151.6	55.9	6.3	29.9	33.7	882.6	8.8	116.4
5/26/2010	3266.6	0.5	0.0	0.0	1.0	28.8	2259.5	56.1	6.3	29.9	33.7	910.6	9.1	-8.3
5/27/2010	3096.4	3.0	35.3	0.0	1.0	28.8	2266.0	55.6	6.3	29.9	33.7	866.7	8.7	-102.4
5/28/2010	2825.2	1.8	80.2	0.0	1.0	28.8	2113.9	54.7	6.3	29.9	33.7	792.5	7.9	-101.9
5/29/2010	2703.9	0.8	0.0	0.0	1.0	28.8	1969.9	54.1	6.3	29.9	33.7	682.3	6.8	-48.5
5/30/2010	2703.7	1.1	0.0	0.0	1.0	28.8	1923.9	53.9	6.3	29.9	33.7	708.1	7.1	-28.4
5/31/2010	2798.7	0.8	0.0	0.0	1.0	28.8	1910.0	53.6	6.3	29.9	33.7	837.0	8.4	-49.5
6/1/2010	2978.1	1.3	0.0	0.0	1.0	28.8	1881.2	53.7	6.3	35.3	33.7	952.1	9.5	37.4
6/2/2010	3378.2	1.3	0.0	0.0	1.0	28.8	2021.4	54.7	6.3	35.3	33.7	912.2	9.1	336.6

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrfl	Qcdfs	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
6/3/2010	3606.7	2.4	0.0	0.0	1.0	28.8	2305.9	55.8	6.3	35.3	33.7	1005.6	10.1	186.3
6/4/2010	3722.1	2.1	0.0	0.0	1.0	28.8	2519.4	56.4	6.3	35.3	33.7	961.2	9.6	132.1
6/5/2010	3809.8	0.1	0.0	0.0	1.0	28.8	2724.9	56.9	6.3	35.3	33.7	858.8	8.6	115.1
6/6/2010	3797.9	0.8	0.0	0.0	1.0	28.8	2840.8	57.0	6.3	35.3	33.7	872.7	8.7	-26.0
6/7/2010	4099.1	3.7	0.0	0.0	1.0	28.8	2911.1	57.2	6.3	35.3	33.7	930.2	9.3	149.4
6/8/2010	4281.2	0.6	0.0	0.0	1.0	28.8	3155.1	57.7	6.3	35.3	33.7	920.3	9.2	93.9
6/9/2010	4271.3	0.9	0.0	0.0	1.0	28.8	3250.2	57.6	6.3	35.3	33.7	964.0	9.6	-54.6
6/10/2010	4147.2	0.7	35.1	0.0	1.0	28.8	3145.7	57.1	6.3	35.3	33.7	1037.6	10.4	-113.3
6/11/2010	4035.7	2.2	0.0	0.0	1.0	28.8	2987.8	56.7	6.3	35.3	33.7	1000.1	10.0	-62.2
6/12/2010	4032.2	1.6	0.0	0.0	1.0	28.8	2974.1	56.8	6.3	35.3	33.7	922.3	9.2	25.9
6/13/2010	4033.2	0.8	0.0	0.0	1.0	28.8	3091.8	56.9	6.3	35.3	33.7	841.0	8.4	-9.5
6/14/2010	4193.6	1.0	0.0	0.0	1.0	28.8	3163.8	57.1	6.3	35.3	33.7	827.1	8.3	92.9
6/15/2010	4387.5	0.6	0.0	0.0	1.0	28.8	3227.5	57.3	6.3	35.3	33.7	958.0	9.6	90.2
6/16/2010	4244.3	1.6	0.0	0.0	1.0	28.8	3258.8	57.3	6.3	35.3	33.7	984.6	9.8	-110.2
6/17/2010	4456.7	2.4	0.0	0.0	1.0	28.8	3233.8	57.5	6.3	35.3	33.7	974.0	9.7	138.6
6/18/2010	4242.0	5.0	45.7	0.0	1.0	28.8	3334.7	57.4	6.3	35.3	33.7	954.0	9.5	-108.4
6/19/2010	4146.3	0.8	0.0	0.0	1.0	28.8	3243.9	57.0	6.3	35.3	33.7	858.8	8.6	-66.8
6/20/2010	4153.5	4.4	0.0	0.0	1.0	28.8	3223.5	56.9	6.3	35.3	33.7	831.1	8.3	-7.2
6/21/2010	4344.8	1.7	0.0	0.0	1.0	28.8	3241.3	56.9	6.3	35.3	33.7	966.0	9.7	27.2
6/22/2010	4517.5	2.8	0.0	0.0	1.0	28.8	3291.7	57.0	6.3	35.3	33.7	1051.2	10.5	64.3
6/23/2010	4519.9	3.3	0.0	0.0	1.0	28.8	3367.6	57.2	6.3	35.3	33.7	1019.6	10.2	23.0
6/24/2010	4512.1	3.0	0.0	0.0	1.0	28.8	3363.8	57.5	6.3	35.3	33.7	1047.3	10.5	-9.4
6/25/2010	4682.4	1.9	0.0	0.0	1.0	28.8	3409.0	57.7	6.3	35.3	33.7	1055.7	10.6	105.9
6/26/2010	4801.6	3.1	0.0	0.0	1.0	28.8	3559.1	57.8	6.3	35.3	33.7	1051.2	10.5	80.6
6/27/2010	4793.3	3.9	0.0	0.0	1.0	28.8	3636.2	57.6	6.3	35.3	33.7	1079.0	10.8	-31.8
6/28/2010	4706.6	3.7	0.0	0.0	1.0	28.8	3662.2	57.6	6.3	35.3	33.7	908.4	9.1	27.4
6/29/2010	4132.8	8.5	278.2	0.0	1.0	28.8	3547.2	57.1	6.3	35.3	33.7	864.8	8.6	-103.7
6/30/2010	3439.8	3.1	426.5	0.0	1.0	28.8	3064.0	55.2	6.3	35.3	33.7	803.3	8.0	-106.6
7/1/2010	3246.8	5.6	84.3	0.0	1.0	28.8	2628.0	53.8	6.3	31.0	33.7	704.1	7.0	-97.5
7/2/2010	2744.9	6.7	291.5	0.0	1.0	28.8	2394.6	52.0	6.3	31.0	33.7	642.7	6.4	-93.9
7/3/2010	2363.3	4.3	220.5	0.0	1.0	28.8	2001.7	50.1	6.3	31.0	33.7	583.1	5.8	-93.9
7/4/2010	2641.8	4.8	0.0	0.0	1.0	28.8	1820.5	50.5	6.3	31.0	33.7	547.4	5.5	181.5
7/5/2010	3100.0	9.3	0.0	0.0	1.0	28.8	2113.3	52.5	6.3	31.0	33.7	523.6	5.2	373.4
7/6/2010	3417.1	5.1	0.0	0.0	1.0	28.8	2489.0	53.9	6.3	31.0	33.7	583.1	5.8	249.1
7/7/2010	3962.8	7.8	0.0	0.0	1.0	28.8	2815.3	54.8	6.3	31.0	33.7	744.0	7.4	307.8
7/8/2010	4188.7	6.5	0.0	0.0	1.0	28.8	3117.7	55.3	6.3	31.0	33.7	819.2	8.2	153.6
7/9/2010	4128.7	5.8	0.0	0.0	1.0	28.8	3232.3	55.5	6.3	31.0	33.7	811.2	8.1	-13.9
7/10/2010	4169.0	4.6	149.7	0.0	1.0	28.8	3492.6	52.9	6.3	31.0	33.7	827.1	8.3	-98.8
7/11/2010	3676.4	4.9	139.6	0.0	1.0	28.8	3186.2	52.9	6.3	15.7	33.7	630.7	6.3	-81.2
7/12/2010	3235.6	5.3	146.3	0.0	1.0	28.8	2885.1	52.9	6.3	15.7	33.7	497.9	5.0	-79.5
7/13/2010	3334.2	6.7	0.0	0.0	1.0	28.8	2618.7	52.9	6.3	15.7	33.7	505.8	5.1	132.6
7/14/2010	3525.9	4.4	0.0	0.0	1.0	28.8	2686.7	52.9	6.3	15.7	33.7	545.8	5.5	213.6
7/15/2010	3786.8	13.7	0.0	0.0	1.0	28.8	2794.3	52.9	6.3	15.7	33.7	628.8	6.3	292.4
7/16/2010	3790.6	3.4	0.0	0.0	1.0	28.8	2955.1	52.9	6.3	15.7	33.7	793.9	7.9	-41.8
7/17/2010	3787.7	3.8	0.0	0.0	1.0	28.8	2919.3	52.9	6.3	15.7	33.7	789.4	7.9	-3.9
7/18/2010	3783.7	6.5	0.0	0.0	1.0	28.8	2880.8	52.9	6.3	15.7	33.7	753.7	7.5	69.4
7/19/2010	4005.8	6.3	0.0	0.0	1.0	28.8	2891.6	52.9	6.3	15.7	33.7	1015.5	10.2	16.0
7/20/2010	4172.7	7.0	0.0	0.0	1.0	28.8	2891.5	52.9	6.3	15.7	33.7	1037.4	10.4	161.7
7/21/2010	4247.1	8.3	0.0	0.0	1.0	28.8	3017.0	52.9	6.3	15.7	33.7	1011.6	10.1	138.0
7/22/2010	4159.4	7.8	0.0	0.0	1.0	28.8	3097.2	52.9	6.3	15.7	33.7	904.7	9.0	77.5
7/23/2010	3955.4	6.4	0.0	0.0	1.0	28.8	3102.5	52.9	6.3	15.7	33.7	793.4	7.9	-20.9

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/24/2010	3122.7	7.6	502.9	0.0	1.0	28.8	2987.9	52.9	6.3	15.7	33.7	638.7	6.4	-78.5
7/25/2010	3511.8	6.2	0.0	0.0	1.0	28.8	2477.9	52.9	6.3	15.7	33.7	386.8	3.9	570.7
7/26/2010	2474.8	6.5	726.9	0.0	1.0	28.8	2956.8	52.9	6.3	15.7	33.7	246.0	2.5	-75.7
7/27/2010	2309.5	5.7	46.5	0.0	1.0	28.8	2158.7	52.9	6.3	15.7	33.7	198.3	2.0	-76.1
7/28/2010	2668.3	6.0	0.0	0.0	1.0	28.8	2017.0	52.9	6.3	15.7	33.7	222.1	2.2	354.1
7/29/2010	2639.7	7.6	0.0	0.0	1.0	28.8	2325.4	52.9	6.3	15.7	33.7	220.2	2.2	20.7
7/30/2010	2466.0	8.7	34.9	0.0	1.0	28.8	2287.7	52.9	6.3	15.7	33.7	214.2	2.1	-73.2
7/31/2010	2682.9	6.7	0.0	0.0	1.0	28.8	2175.9	52.9	6.3	15.7	33.7	206.3	2.1	226.6
8/1/2010	2685.0	7.2	0.0	0.0	1.0	28.8	2362.0	52.9	6.3	14.8	33.7	206.3	2.1	44.1
8/2/2010	2798.3	8.7	0.0	0.0	1.0	28.8	2377.6	52.9	6.3	14.8	33.7	202.3	2.0	147.2
8/3/2010	3088.2	8.8	0.0	0.0	1.0	28.8	2422.4	52.9	6.3	14.8	33.7	376.9	3.8	216.1
8/4/2010	3501.2	6.8	0.0	0.0	1.0	28.8	2579.4	52.9	6.3	14.8	33.7	614.9	6.1	229.8
8/5/2010	3704.1	6.6	0.0	0.0	1.0	28.8	2667.7	52.9	6.3	14.8	33.7	785.5	7.9	171.8
8/6/2010	3816.0	5.4	0.0	0.0	1.0	28.8	2714.6	52.9	6.3	14.8	33.7	880.7	8.8	139.5
8/7/2010	3910.8	6.8	0.0	0.0	1.0	28.8	2816.1	52.9	6.3	14.8	33.7	862.8	8.6	152.2
8/8/2010	3900.6	5.6	0.0	0.0	1.0	28.8	2921.5	52.9	6.3	14.8	33.7	831.1	8.3	67.5
8/9/2010	4185.3	7.8	0.0	0.0	1.0	28.8	2942.4	52.9	6.3	14.8	33.7	997.6	10.0	165.3
8/10/2010	4315.0	7.3	0.0	0.0	1.0	28.8	3094.0	52.9	6.3	14.8	33.7	1048.4	10.5	91.6
8/11/2010	4219.7	8.8	0.0	0.0	1.0	28.8	3117.8	52.9	6.3	14.8	33.7	1029.4	10.3	-6.8
8/12/2010	4204.8	8.6	0.0	0.0	1.0	28.8	3029.6	52.9	6.3	14.8	33.7	1049.8	10.5	45.7
8/13/2010	4083.3	10.2	0.0	0.0	1.0	28.8	3007.2	52.9	6.3	14.8	33.7	1043.3	10.4	-45.2
8/14/2010	3964.0	7.5	0.0	0.0	1.0	28.8	2938.3	52.9	6.3	14.8	33.7	807.3	8.1	140.1
8/15/2010	3952.3	7.5	0.0	0.0	1.0	28.8	3028.5	52.9	6.3	14.8	33.7	783.5	7.8	62.2
8/16/2010	4044.2	9.4	0.0	0.0	1.0	28.8	3039.7	52.9	6.3	14.8	33.7	799.3	8.0	128.8
8/17/2010	4132.1	3.3	0.0	0.0	1.0	28.8	3096.4	52.9	6.3	14.8	33.7	825.1	8.3	127.7
8/18/2010	4120.7	8.4	0.0	0.0	1.0	28.8	3124.7	52.9	6.3	14.8	33.7	868.4	8.7	49.5
8/19/2010	3928.1	6.0	0.0	0.0	1.0	28.8	3087.9	52.9	6.3	14.8	33.7	747.8	7.5	13.1
8/20/2010	4022.6	7.0	0.0	0.0	1.0	28.8	3026.7	52.9	6.3	14.8	33.7	843.0	8.4	73.6
8/21/2010	4179.1	11.8	0.0	0.0	1.0	28.8	3053.0	52.9	6.3	14.8	33.7	858.8	8.6	192.6
8/22/2010	4163.5	5.7	0.0	0.0	1.0	28.8	3183.2	52.9	6.3	14.8	33.7	841.0	8.4	58.7
8/23/2010	3924.5	15.0	78.5	0.0	1.0	28.8	3147.1	52.9	6.3	14.8	33.7	856.9	8.6	-72.4
8/24/2010	3410.1	10.0	146.4	0.0	1.0	28.8	3075.5	52.9	6.3	14.8	33.7	482.0	4.8	-73.7
8/25/2010	3019.2	5.1	187.9	0.0	1.0	28.8	2829.3	52.9	6.3	14.8	33.7	378.8	3.8	-77.6
8/26/2010	3012.5	5.5	18.4	0.0	1.0	28.8	2421.0	52.9	6.3	14.8	33.7	610.9	6.1	-79.5
8/27/2010	3150.7	4.6	0.0	0.0	1.0	28.8	2305.0	52.9	6.3	14.8	33.7	622.8	6.2	143.4
8/28/2010	3192.7	2.1	0.0	0.0	1.0	28.8	2396.1	52.9	6.3	14.8	33.7	601.0	6.0	113.9
8/29/2010	3059.6	6.6	0.0	0.0	1.0	28.8	2494.8	52.9	6.3	14.8	33.7	529.6	5.3	-41.3
8/30/2010	2870.3	7.3	89.8	0.0	1.0	28.8	2401.8	52.9	6.3	14.8	33.7	559.3	5.6	-77.2
8/31/2010	2539.3	5.1	190.4	0.0	1.0	28.8	2121.8	52.9	6.3	14.8	33.7	608.9	6.1	-79.9
9/1/2010	2503.1	5.2	0.0	0.0	1.0	28.8	1799.2	52.9	6.3	11.9	33.7	670.4	6.7	-43.0
9/2/2010	2566.5	5.6	0.0	0.0	1.0	28.8	1652.9	52.9	6.3	11.9	33.7	763.6	7.6	73.0
9/3/2010	2824.4	3.9	0.0	0.0	1.0	28.8	1676.5	52.9	6.3	11.9	33.7	936.2	9.4	131.3
9/4/2010	3250.4	4.4	0.0	0.0	1.0	28.8	1818.2	52.9	6.3	11.9	33.7	987.8	9.9	364.0
9/5/2010	3221.8	8.2	0.0	0.0	1.0	28.8	2143.6	52.9	6.3	11.9	33.7	969.9	9.7	31.7
9/6/2010	3192.5	4.6	0.0	0.0	1.0	28.8	2142.9	52.9	6.3	11.9	33.7	956.0	9.6	13.6
9/7/2010	3288.2	5.9	0.0	0.0	1.0	28.8	2128.4	52.9	6.3	11.9	33.7	956.0	9.6	125.1
9/8/2010	3224.4	2.8	0.0	0.0	1.0	28.8	2200.4	52.9	6.3	11.9	33.7	957.8	9.6	-15.5
9/9/2010	2599.2	4.3	412.8	0.0	1.0	28.8	2104.6	52.9	6.3	11.9	33.7	908.4	9.1	-80.8
9/10/2010	1886.0	5.2	449.4	0.0	1.0	28.8	1834.6	52.9	6.3	11.9	33.7	501.8	5.0	-75.8
9/11/2010	1562.1	4.7	35.2	0.0	1.0	28.8	1443.5	52.9	6.3	11.9	33.7	154.7	1.5	-72.9
9/12/2010	1211.7	11.0	165.6	0.0	1.0	28.8	1334.7	52.9	6.3	11.9	33.7	43.6	0.4	-65.5

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
9/13/2010	1038.5	9.0	91.4	0.0	1.0	28.8	1130.9	52.9	6.3	11.9	33.7	0.0	0.0	-67.0
9/14/2010	978.5	7.0	19.3	0.0	1.0	28.8	998.9	52.9	6.3	11.9	33.7	0.0	0.0	-69.0
9/15/2010	932.2	7.5	0.0	0.0	1.0	28.8	930.9	52.9	6.3	11.9	33.7	0.0	0.0	-66.2
9/16/2010	810.6	2.9	71.2	0.0	1.0	28.8	882.9	52.9	6.3	11.9	33.7	0.0	0.0	-73.1
9/17/2010	756.0	3.5	41.3	0.0	1.0	28.8	798.3	52.9	6.3	11.9	33.7	0.0	0.0	-72.5
9/18/2010	801.1	3.1	0.0	0.0	1.0	28.8	749.3	52.9	6.3	11.9	33.7	0.0	0.0	-20.0
9/19/2010	803.0	7.0	0.0	0.0	1.0	28.8	769.9	52.9	6.3	11.9	33.7	0.0	0.0	-34.8
9/20/2010	961.0	1.7	0.0	0.0	1.0	28.8	766.5	52.9	6.3	11.9	33.7	0.0	0.0	121.2
9/21/2010	1118.9	5.5	0.0	0.0	1.0	28.8	865.1	52.9	6.3	11.9	33.7	0.0	0.0	184.3
9/22/2010	1115.2	5.8	0.0	0.0	1.0	28.8	1024.5	52.9	6.3	11.9	33.7	0.0	0.0	21.5
9/23/2010	799.1	7.3	247.2	0.0	1.0	28.8	1047.3	52.9	6.3	11.9	33.7	0.0	0.0	-68.7
9/24/2010	554.7	8.0	269.8	0.0	1.0	28.8	825.5	52.9	6.3	11.9	33.7	0.0	0.0	-68.0
9/25/2010	553.2	9.7	118.6	0.0	1.0	28.8	672.9	52.9	6.3	11.9	33.7	0.0	0.0	-66.3
9/26/2010	551.3	4.9	57.4	0.0	1.0	28.8	609.8	52.9	6.3	11.9	33.7	0.0	0.0	-71.1
9/27/2010	549.5	2.9	58.4	0.0	1.0	28.8	608.9	52.9	6.3	11.9	33.7	0.0	0.0	-73.1
9/28/2010	689.6	2.5	0.0	0.0	1.0	28.8	608.1	52.9	6.3	11.9	33.7	0.0	0.0	9.0
9/29/2010	926.7	6.7	0.0	0.0	1.0	28.8	644.8	52.9	6.3	11.9	33.7	0.0	0.0	213.7
9/30/2010	837.9	3.8	0.0	0.0	1.0	28.8	807.7	52.9	6.3	11.9	33.7	0.0	0.0	-41.1
10/1/2010	800.8	2.3	21.9	0.0	1.0	28.8	823.7	52.9	6.3	0.0	33.7	0.0	0.0	-61.8
10/2/2010	958.7	3.8	0.0	0.0	1.0	28.8	772.4	52.9	6.3	0.0	33.7	0.0	0.0	126.9
10/3/2010	954.4	2.9	0.0	0.0	1.0	28.8	860.6	52.9	6.3	0.0	33.7	0.0	0.0	33.5
10/4/2010	944.6	3.7	0.0	0.0	1.0	28.8	893.1	52.9	6.3	0.0	33.7	0.0	0.0	-7.9
10/5/2010	775.0	4.2	108.9	0.0	1.0	28.8	884.9	52.9	6.3	0.0	33.7	0.0	0.0	-59.9
10/6/2010	593.7	3.2	188.4	0.0	1.0	28.8	783.1	52.9	6.3	0.0	33.7	0.0	0.0	-60.9
10/7/2010	387.0	5.1	290.0	0.0	1.0	28.8	678.0	52.9	6.3	0.0	33.7	0.0	0.0	-59.0
10/8/2010	155.4	2.0	0.0	0.0	1.0	28.8	103.4	27.7	6.3	0.0	33.7	0.0	0.0	16.0
10/9/2010	155.5	3.4	0.0	0.0	1.0	28.8	45.7	21.4	6.3	0.0	33.7	0.0	0.0	81.6
10/10/2010	155.6	2.9	0.0	0.0	1.0	28.8	13.3	19.5	6.3	0.0	33.7	0.0	0.0	115.5
10/11/2010	155.7	5.8	0.0	0.0	1.0	28.8	8.6	19.7	6.3	0.0	33.7	0.0	0.0	123.0
10/12/2010	155.8	5.2	0.0	0.0	1.0	28.8	8.5	19.5	6.3	0.0	33.7	0.0	0.0	122.8
10/13/2010	155.9	2.8	0.0	0.0	1.0	28.8	8.5	19.8	6.3	0.0	33.7	0.0	0.0	120.2
10/14/2010	156.0	3.9	0.0	0.0	1.0	28.8	8.7	19.7	6.3	0.0	33.7	0.0	0.0	121.4
10/15/2010	156.1	2.8	0.0	0.0	1.0	28.8	8.5	19.7	6.3	0.0	33.7	0.0	0.0	120.4
10/16/2010	156.3	4.1	0.0	0.0	1.0	28.8	8.6	19.7	6.3	0.0	33.7	0.0	0.0	121.9
10/17/2010	156.4	1.6	0.0	0.0	1.0	28.8	8.7	19.7	6.3	0.0	33.7	0.0	0.0	119.5
10/18/2010	156.5	1.9	0.0	0.0	1.0	28.8	8.6	19.7	6.3	0.0	33.7	0.0	0.0	119.9
10/19/2010	156.6	5.2	0.0	0.0	1.0	28.8	8.7	19.6	6.3	0.0	33.7	0.0	0.0	123.3
10/20/2010	156.7	2.3	0.0	0.0	1.0	28.8	8.8	19.7	6.3	0.0	33.7	0.0	0.0	120.3
10/21/2010	158.7	3.0	0.0	0.0	1.0	28.8	8.8	19.6	6.3	0.0	33.7	0.0	0.0	123.1
10/22/2010	158.7	4.2	0.0	0.0	1.0	28.8	8.8	19.7	6.3	0.0	33.7	0.0	0.0	124.2
10/23/2010	158.7	6.2	0.0	0.0	1.0	28.8	9.1	19.6	6.3	0.0	33.7	0.0	0.0	126.0
10/24/2010	158.7	2.6	0.0	0.0	1.0	28.8	9.2	19.7	6.3	0.0	33.7	0.0	0.0	122.2
10/25/2010	158.7	2.5	0.0	0.0	1.0	28.8	9.2	19.7	6.3	0.0	33.7	0.0	0.0	122.1
10/26/2010	154.3	2.5	0.0	0.0	1.0	28.8	9.4	19.5	6.3	0.0	33.7	0.0	0.0	117.8
10/27/2010	154.5	5.0	0.0	0.0	1.0	28.8	9.3	19.5	6.3	0.0	33.7	0.0	0.0	120.5
10/28/2010	154.6	3.7	0.0	0.0	1.0	28.8	8.5	19.4	6.3	0.0	33.7	0.0	0.0	120.2
10/29/2010	154.6	1.5	0.0	0.0	1.0	28.8	8.3	19.5	6.3	0.0	33.7	0.0	0.0	118.1
10/30/2010	154.6	2.8	0.0	0.0	1.0	28.8	8.3	19.4	6.3	0.0	33.7	0.0	0.0	119.5
10/31/2010	154.7	4.4	0.0	0.0	1.0	28.8	8.4	19.4	6.3	0.0	33.7	0.0	0.0	121.1
11/1/2010	154.8	2.5	0.0	0.0	1.0	51.7	8.5	19.4	0.1	0.0	11.5	0.0	0.0	170.6
11/2/2010	154.9	2.4	0.0	0.0	1.0	51.7	8.4	19.5	0.1	0.0	11.5	0.0	0.0	170.6

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
11/3/2010	155.0	3.1	0.0	0.0	1.0	51.7	8.4	19.6	0.1	0.0	11.5	0.0	0.0	171.3
11/4/2010	155.0	2.2	0.0	0.0	1.0	51.7	8.4	19.6	0.1	0.0	11.5	0.0	0.0	170.4
11/5/2010	155.1	0.8	0.0	0.0	1.0	51.7	8.4	19.6	0.1	0.0	11.5	0.0	0.0	169.1
11/6/2010	155.2	0.4	0.0	0.0	1.0	51.7	8.4	19.6	0.1	0.0	11.5	0.0	0.0	168.8
11/7/2010	155.2	1.2	0.0	0.0	1.0	51.7	8.5	19.5	0.1	0.0	11.5	0.0	0.0	169.6
11/8/2010	155.3	2.1	0.0	0.0	1.0	51.7	8.5	19.5	0.1	0.0	11.5	0.0	0.0	170.5
11/9/2010	155.3	0.4	0.0	0.0	1.0	51.7	8.5	19.4	0.1	0.0	11.5	0.0	0.0	169.1
11/10/2010	155.5	0.9	0.0	0.0	1.0	51.7	8.6	19.5	0.1	0.0	11.5	0.0	0.0	169.5
11/11/2010	155.5	1.0	0.0	0.0	1.0	51.7	8.5	19.3	0.1	0.0	11.5	0.0	0.0	169.8
11/12/2010	155.6	3.8	0.0	0.0	1.0	51.7	8.6	19.5	0.1	0.0	11.5	0.0	0.0	172.5
11/13/2010	155.6	1.3	0.0	0.0	1.0	51.7	8.6	19.3	0.1	0.0	11.5	0.0	0.0	170.2
11/14/2010	155.7	2.5	0.0	0.0	1.0	51.7	8.7	19.3	0.1	0.0	11.5	0.0	0.0	171.3
11/15/2010	156.7	1.4	0.0	0.0	1.0	51.7	8.7	19.2	0.1	0.0	11.5	0.0	0.0	171.3
11/16/2010	157.4	2.1	0.0	0.0	1.0	51.7	8.7	19.3	0.1	0.0	11.5	0.0	0.0	172.7
11/17/2010	157.3	1.6	0.0	0.0	1.0	51.7	8.9	19.3	0.1	0.0	11.5	0.0	0.0	171.9
11/18/2010	157.4	1.1	0.0	0.0	1.0	51.7	9.0	19.4	0.1	0.0	11.5	0.0	0.0	171.3
11/19/2010	157.6	0.8	0.0	0.0	1.0	51.7	9.0	19.3	0.1	0.0	11.5	0.0	0.0	171.3
11/20/2010	157.5	0.3	0.0	0.0	1.0	51.7	9.0	19.3	0.1	0.0	11.5	0.0	0.0	170.7
11/21/2010	157.9	0.2	0.0	0.0	1.0	51.7	9.1	19.3	0.1	0.0	11.5	0.0	0.0	170.8
11/22/2010	158.0	1.1	0.0	0.0	1.0	51.7	9.1	19.2	0.1	0.0	11.5	0.0	0.0	172.0
11/23/2010	158.3	1.0	0.0	0.0	1.0	51.7	9.2	19.3	0.1	0.0	11.5	0.0	0.0	172.0
11/24/2010	158.3	3.0	0.0	0.0	1.0	51.7	9.3	19.2	0.1	0.0	11.5	0.0	0.0	174.0
11/25/2010	158.3	2.4	0.0	0.0	1.0	51.7	9.3	19.3	0.1	0.0	11.5	0.0	0.0	173.3
11/26/2010	158.0	1.3	0.0	0.0	1.0	51.7	9.3	19.3	0.1	0.0	11.5	0.0	0.0	171.9
11/27/2010	158.1	1.1	0.0	0.0	1.0	51.7	9.3	19.2	0.1	0.0	11.5	0.0	0.0	171.9
11/28/2010	158.1	2.2	0.0	0.0	1.0	51.7	9.2	19.2	0.1	0.0	11.5	0.0	0.0	173.1
11/29/2010	158.4	2.0	0.0	0.0	1.0	51.7	9.2	19.2	0.1	0.0	11.5	0.0	0.0	173.1
11/30/2010	158.3	1.1	0.0	0.0	1.0	51.7	9.2	19.3	0.1	0.0	11.5	0.0	0.0	172.0
12/1/2010	158.5	1.9	0.0	0.0	1.0	51.7	9.2	19.3	0.1	0.0	11.5	0.0	0.0	173.1
12/2/2010	159.0	2.2	0.0	0.0	1.0	51.7	9.3	19.3	0.1	0.0	11.5	0.0	0.0	173.9
12/3/2010	159.1	0.7	0.0	0.0	1.0	51.7	9.3	19.3	0.1	0.0	11.5	0.0	0.0	172.3
12/4/2010	159.1	2.3	0.0	0.0	1.0	51.7	9.5	19.2	0.1	0.0	11.5	0.0	0.0	173.9
12/5/2010	159.2	2.4	0.0	0.0	1.0	51.7	9.4	19.3	0.1	0.0	11.5	0.0	0.0	174.1
12/6/2010	159.4	2.2	0.0	0.0	1.0	51.7	9.5	19.3	0.1	0.0	11.5	0.0	0.0	174.0
12/7/2010	159.2	1.6	0.0	0.0	1.0	51.7	9.5	19.2	0.1	0.0	11.5	0.0	0.0	173.2
12/8/2010	159.1	1.6	0.0	0.0	1.0	51.7	9.5	19.3	0.1	0.0	11.5	0.0	0.0	173.0
12/9/2010	159.1	6.0	0.0	0.0	1.0	51.7	9.5	19.2	0.1	0.0	11.5	0.0	0.0	177.6
12/10/2010	159.2	1.4	0.0	0.0	1.0	51.7	9.5	19.1	0.1	0.0	11.5	0.0	0.0	173.1
12/11/2010	159.5	2.9	0.0	0.0	1.0	51.7	9.5	19.3	0.1	0.0	11.5	0.0	0.0	174.8
12/12/2010	159.7	1.8	0.0	0.0	1.0	51.7	9.6	19.1	0.1	0.0	11.5	0.0	0.0	173.9
12/13/2010	159.8	2.6	0.0	0.0	1.0	51.7	9.5	19.3	0.1	0.0	11.5	0.0	0.0	174.8
12/14/2010	159.9	2.4	0.0	0.0	1.0	51.7	9.6	19.7	0.1	0.0	11.5	0.0	0.0	174.3
12/15/2010	160.0	4.1	0.0	0.0	1.0	51.7	9.6	19.6	0.1	0.0	11.5	0.0	0.0	176.1
12/16/2010	160.1	2.4	0.0	0.0	1.0	51.7	9.5	19.8	0.1	0.0	11.5	0.0	0.0	174.4
12/17/2010	159.9	1.7	0.0	0.0	1.0	51.7	9.6	19.8	0.1	0.0	11.5	0.0	0.0	173.4
12/18/2010	160.1	2.5	0.0	0.0	1.0	51.7	9.6	19.6	0.1	0.0	11.5	0.0	0.0	174.5
12/19/2010	133.3	2.6	0.0	0.0	1.0	51.7	9.6	19.3	0.1	0.0	11.5	0.0	0.0	148.3
12/20/2010	160.0	4.4	0.0	0.0	1.0	51.7	9.5	18.9	0.1	0.0	11.5	0.0	0.0	177.2
12/21/2010	160.1	1.9	0.0	0.0	1.0	51.7	4.9	19.1	0.1	0.0	11.5	0.0	0.0	179.2
12/22/2010	160.4	1.6	0.0	0.0	1.0	51.7	8.6	19.6	0.1	0.0	11.5	0.0	0.0	175.0
12/23/2010	160.6	2.6	0.0	0.0	1.0	51.7	9.6	19.6	0.1	0.0	11.5	0.0	0.0	175.1

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
12/24/2010	160.7	0.7	0.0	0.0	1.0	51.7	9.6	19.5	0.1	0.0	11.5	0.0	0.0	173.5
12/25/2010	160.8	2.4	0.0	0.0	1.0	51.7	9.7	19.6	0.1	0.0	11.5	0.0	0.0	175.0
12/26/2010	160.9	4.1	0.0	0.0	1.0	51.7	9.7	19.6	0.1	0.0	11.5	0.0	0.0	176.9
12/27/2010	160.9	2.5	0.0	0.0	1.0	51.7	9.8	19.4	0.1	0.0	11.5	0.0	0.0	175.4
12/28/2010	160.9	2.5	0.0	0.0	1.0	51.7	9.8	19.5	0.1	0.0	11.5	0.0	0.0	175.3
12/29/2010	160.9	2.5	0.0	0.0	1.0	51.7	9.8	19.5	0.1	0.0	11.5	0.0	0.0	175.2
12/30/2010	161.0	1.3	0.0	0.0	1.0	51.7	9.8	19.4	0.1	0.0	11.5	0.0	0.0	174.3
12/31/2010	160.9	0.8	0.0	0.0	1.0	51.7	9.8	19.4	0.1	0.0	11.5	0.0	0.0	173.7
1/1/2011	161.1	1.1	0.0	0.0	1.0	51.7	9.8	19.5	0.1	0.0	11.5	0.0	0.0	174.1
1/2/2011	161.2	1.7	0.0	0.0	1.0	51.7	9.8	19.3	0.1	0.0	11.5	0.0	0.0	174.9
1/3/2011	161.2	1.5	0.0	0.0	1.0	51.7	9.8	19.3	0.1	0.0	11.5	0.0	0.0	174.7
1/4/2011	161.5	1.3	0.0	0.0	1.0	51.7	9.9	19.4	0.1	0.0	11.5	0.0	0.0	174.7
1/5/2011	161.5	1.6	0.0	0.0	1.0	51.7	10.0	19.3	0.1	0.0	11.5	0.0	0.0	175.0
1/6/2011	175.4	1.9	0.0	0.0	1.0	51.7	10.0	19.5	0.1	0.0	11.5	0.0	0.0	189.0
1/7/2011	215.4	1.5	0.0	0.0	1.0	51.7	10.1	20.4	0.1	0.0	11.5	0.0	0.0	227.6
1/8/2011	215.4	2.5	0.0	0.0	1.0	51.7	12.7	21.5	0.1	0.0	11.5	0.0	0.0	224.9
1/9/2011	215.5	1.6	0.0	0.0	1.0	51.7	18.8	22.2	0.1	0.0	11.5	0.0	0.0	217.2
1/10/2011	216.8	1.0	0.0	0.0	1.0	51.7	19.8	22.3	0.1	0.0	11.5	0.0	0.0	216.9
1/11/2011	218.9	1.7	0.0	0.0	1.0	51.7	19.9	22.3	0.1	0.0	11.5	0.0	0.0	219.5
1/12/2011	217.1	2.6	0.0	0.0	1.0	51.7	20.0	22.3	0.1	0.0	11.5	0.0	0.0	218.6
1/13/2011	214.0	1.2	0.0	0.0	1.0	51.7	20.3	22.3	0.1	0.0	11.5	0.0	0.0	213.9
1/14/2011	214.4	2.1	0.0	0.0	1.0	51.7	20.2	22.2	0.1	0.0	11.5	0.0	0.0	215.3
1/15/2011	214.5	1.1	0.0	0.0	1.0	51.7	19.7	22.1	0.1	0.0	11.5	0.0	0.0	214.9
1/16/2011	214.8	0.4	0.0	0.0	1.0	51.7	19.7	22.1	0.1	0.0	11.5	0.0	0.0	214.6
1/17/2011	214.8	2.3	0.0	0.0	1.0	51.7	19.7	22.1	0.1	0.0	11.5	0.0	0.0	216.5
1/18/2011	214.8	2.6	0.0	0.0	1.0	51.7	19.7	22.1	0.1	0.0	11.5	0.0	0.0	216.9
1/19/2011	120.1	0.8	0.0	0.0	1.0	51.7	19.7	20.8	0.1	0.0	11.5	0.0	0.0	121.5
1/20/2011	84.1	1.2	0.0	0.0	1.0	51.7	19.0	17.4	0.1	0.0	11.5	0.0	0.0	90.0
1/21/2011	0.0	2.0	4.3	0.0	1.0	51.7	5.4	0.0	0.1	0.0	11.5	0.0	0.0	42.2
1/22/2011	0.0	1.2	4.8	0.0	1.0	51.7	5.9	0.0	0.1	0.0	11.5	0.0	0.0	41.3
1/23/2011	0.0	0.4	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	40.6
1/24/2011	0.0	0.8	5.3	0.0	1.0	51.7	6.3	0.0	0.1	0.0	11.5	0.0	0.0	40.9
1/25/2011	0.0	2.0	5.4	0.0	1.0	51.7	6.4	0.0	0.1	0.0	11.5	0.0	0.0	42.2
1/26/2011	43.4	1.3	0.0	0.0	1.0	51.7	6.3	16.8	0.1	0.0	11.5	0.0	0.0	62.8
1/27/2011	273.7	1.6	0.0	0.0	1.0	51.7	6.2	19.7	0.1	0.0	11.5	0.0	0.0	290.5
1/28/2011	183.4	2.7	0.0	0.0	1.0	51.7	6.2	22.3	0.1	0.0	11.5	0.0	0.0	198.7
1/29/2011	183.4	2.0	0.0	0.0	1.0	51.7	23.4	22.4	0.1	0.0	11.5	0.0	0.0	180.9
1/30/2011	183.5	1.9	0.0	0.0	1.0	51.7	16.5	21.4	0.1	0.0	11.5	0.0	0.0	188.6
1/31/2011	183.6	2.8	0.0	0.0	1.0	51.7	14.0	21.4	0.1	0.0	11.5	0.0	0.0	192.2
2/1/2011	183.7	1.2	0.0	0.0	1.0	51.7	14.0	21.3	0.1	0.0	11.5	0.0	0.0	190.7
2/2/2011	183.8	1.6	0.0	0.0	1.0	51.7	14.1	21.3	0.1	0.0	11.5	0.0	0.0	191.2
2/3/2011	183.5	1.1	0.0	0.0	1.0	51.7	14.0	21.2	0.1	0.0	11.5	0.0	0.0	190.4
2/4/2011	183.1	1.2	0.0	0.0	1.0	51.7	14.1	21.3	0.1	0.0	11.5	0.0	0.0	190.1
2/5/2011	183.1	1.5	0.0	0.0	1.0	51.7	14.1	21.2	0.1	0.0	11.5	0.0	0.0	190.4
2/6/2011	183.1	0.7	0.0	0.0	1.0	51.7	14.0	21.1	0.1	0.0	11.5	0.0	0.0	189.9
2/7/2011	183.2	0.5	0.0	0.0	1.0	51.7	14.0	21.1	0.1	0.0	11.5	0.0	0.0	189.7
2/8/2011	265.6	1.9	0.0	0.0	1.0	51.7	14.0	22.1	0.1	0.0	11.5	0.0	0.0	272.6
2/9/2011	178.9	2.2	0.0	0.0	1.0	51.7	14.8	22.9	0.1	0.0	11.5	0.0	0.0	184.6
2/10/2011	261.8	1.3	0.0	0.0	1.0	51.7	25.5	22.9	0.1	0.0	11.5	0.0	0.0	255.9
2/11/2011	168.5	1.1	0.0	0.0	1.0	51.7	16.3	22.6	0.1	0.0	11.5	0.0	0.0	171.9
2/12/2011	168.6	2.1	0.0	0.0	1.0	51.7	24.8	21.4	0.1	0.0	11.5	0.0	0.0	165.7

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
2/13/2011	168.6	1.2	0.0	0.0	1.0	51.7	13.9	20.3	0.1	0.0	11.5	0.0	0.0	176.8
2/14/2011	168.6	1.8	0.0	0.0	1.0	51.7	11.2	20.2	0.1	0.0	11.5	0.0	0.0	180.1
2/15/2011	160.3	0.7	0.0	0.0	1.0	51.7	11.3	20.2	0.1	0.0	11.5	0.0	0.0	170.6
2/16/2011	0.0	0.7	10.1	0.0	1.0	51.7	11.2	0.0	0.1	0.0	11.5	0.0	0.0	40.9
2/17/2011	0.0	2.9	8.0	0.0	1.0	51.7	9.1	0.0	0.1	0.0	11.5	0.0	0.0	43.0
2/18/2011	0.0	0.8	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.0
2/19/2011	0.0	1.0	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.1
2/20/2011	0.0	1.0	5.3	0.0	1.0	51.7	6.3	0.0	0.1	0.0	11.5	0.0	0.0	41.1
2/21/2011	0.0	2.9	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	43.0
2/22/2011	0.0	1.3	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.4
2/23/2011	0.0	3.7	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	43.8
2/24/2011	0.0	1.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.3
2/25/2011	0.0	2.8	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	42.9
2/26/2011	0.0	1.7	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.9
2/27/2011	0.0	0.8	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	40.9
2/28/2011	0.0	2.1	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	42.2
3/1/2011	0.0	1.7	5.2	0.0	1.0	28.8	6.2	0.0	6.3	5.9	33.7	0.0	0.0	-15.4
3/2/2011	0.0	0.9	5.2	0.0	1.0	28.8	6.2	0.0	6.3	5.9	33.7	0.0	0.0	-16.3
3/3/2011	0.0	0.9	5.0	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.3
3/4/2011	0.0	1.9	5.2	0.0	1.0	28.8	6.3	0.0	6.3	5.9	33.7	0.0	0.0	-15.3
3/5/2011	0.0	0.3	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.8
3/6/2011	0.0	1.1	5.1	0.0	1.0	28.8	6.2	0.0	6.3	5.9	33.7	0.0	0.0	-16.1
3/7/2011	23.7	1.0	0.0	0.0	1.0	28.8	0.0	2.1	6.3	0.6	33.7	0.0	0.0	11.8
3/8/2011	23.6	1.1	0.0	0.0	1.0	28.8	0.0	6.7	6.3	2.1	33.7	0.0	0.0	5.7
3/9/2011	23.8	0.6	0.0	0.0	1.0	28.8	0.0	10.1	6.3	3.1	33.7	0.0	0.0	1.0
3/10/2011	24.0	1.1	0.0	0.0	1.0	28.8	0.0	15.0	6.3	5.4	33.7	0.0	0.0	-5.5
3/11/2011	601.5	1.2	0.0	0.0	1.0	28.8	0.0	51.8	6.3	9.4	33.7	0.0	0.0	531.4
3/12/2011	840.2	1.3	0.0	0.0	1.0	28.8	27.0	129.5	6.3	15.2	33.7	0.0	0.0	659.7
3/13/2011	842.0	0.6	0.0	0.0	1.0	28.8	240.2	142.0	6.3	16.4	33.7	0.0	0.0	433.8
3/14/2011	843.4	0.8	0.0	0.0	1.0	28.8	655.4	154.0	6.3	16.4	33.7	0.0	0.0	8.2
3/15/2011	1198.3	0.7	0.0	0.0	1.0	28.8	688.2	146.5	6.3	16.4	33.7	0.0	0.0	337.6
3/16/2011	1692.7	0.4	0.0	0.0	1.0	28.8	976.0	153.2	6.3	16.4	33.7	0.0	0.0	537.3
3/17/2011	1817.0	0.6	0.0	0.0	1.0	28.8	1463.3	156.0	6.3	16.4	33.7	0.0	0.0	171.7
3/18/2011	2332.8	1.2	0.0	0.0	1.0	28.8	1714.7	156.5	6.3	16.4	33.7	0.0	0.0	436.2
3/19/2011	2560.2	0.8	0.0	0.0	1.0	28.8	2165.2	157.2	6.3	16.4	33.7	0.0	0.0	211.9
3/20/2011	2546.6	1.2	0.0	0.0	1.0	28.8	2375.1	148.3	6.3	16.4	33.7	0.0	0.0	-2.2
3/21/2011	2706.2	0.7	0.0	0.0	1.0	28.8	2436.7	127.1	6.3	16.4	33.7	0.0	0.0	116.5
3/22/2011	2926.4	2.1	0.0	0.0	1.0	28.8	2618.4	109.9	6.3	16.4	33.7	0.0	0.0	173.6
3/23/2011	2975.3	0.5	0.0	0.0	1.0	28.8	2805.9	101.8	6.3	16.4	33.7	0.0	0.0	41.6
3/24/2011	2978.2	0.2	0.0	0.0	1.0	28.8	2858.0	97.8	6.3	16.4	33.7	0.0	0.0	-4.0
3/25/2011	3008.7	0.8	0.0	0.0	1.0	28.8	2872.0	95.9	6.3	16.4	33.7	0.0	0.0	15.0
3/26/2011	3014.9	2.2	0.0	0.0	1.0	28.8	2903.3	94.7	6.3	16.4	33.7	0.0	0.0	-7.4
3/27/2011	3054.5	1.4	0.0	0.0	1.0	28.8	2934.9	93.6	6.3	16.4	33.7	0.0	0.0	0.9
3/28/2011	3094.2	0.1	0.0	0.0	1.0	28.8	2966.9	92.7	6.3	16.4	33.7	0.0	0.0	8.1
3/29/2011	3133.9	0.8	0.0	0.0	1.0	28.8	2997.8	91.9	6.3	16.4	33.7	0.0	0.0	18.5
3/30/2011	3160.7	0.3	0.0	0.0	1.0	28.8	3029.0	91.3	6.3	16.4	33.7	0.0	0.0	14.2
3/31/2011	2765.4	0.1	188.8	0.0	1.0	28.8	2955.3	89.0	6.3	16.4	33.7	0.0	0.0	-116.6
4/1/2011	2158.1	0.1	390.9	0.0	1.0	28.8	2550.0	84.5	6.3	23.2	33.7	0.0	0.0	-118.9
4/2/2011	1919.3	0.7	135.9	0.0	1.0	28.8	2056.3	80.8	6.3	23.2	33.7	0.0	0.0	-114.5
4/3/2011	1931.9	0.6	0.0	0.0	1.0	28.8	1842.6	79.4	6.3	23.2	33.7	0.0	0.0	-22.9
4/4/2011	2105.2	0.8	0.0	0.0	1.0	28.8	1857.0	79.8	6.3	23.2	33.7	0.0	0.0	135.8

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
4/5/2011	2319.7	1.2	0.0	0.0	1.0	28.8	2025.8	81.1	6.3	23.2	33.7	0.0	0.0	180.6
4/6/2011	2414.8	0.7	0.0	0.0	1.0	28.8	2218.2	81.8	6.3	23.2	33.7	0.0	0.0	82.1
4/7/2011	2152.0	1.3	97.2	0.0	1.0	28.8	2250.2	80.5	6.3	23.2	33.7	0.0	0.0	-113.6
4/8/2011	1981.2	0.6	57.7	0.0	1.0	28.8	2039.9	78.5	6.3	23.2	33.7	0.0	0.0	-112.3
4/9/2011	1770.2	0.1	91.9	0.0	1.0	28.8	1863.1	76.7	6.3	23.2	33.7	0.0	0.0	-111.1
4/10/2011	1659.5	0.2	19.5	0.0	1.0	28.8	1680.1	74.9	6.3	23.2	33.7	0.0	0.0	-109.1
4/11/2011	1665.1	1.3	0.0	0.0	1.0	28.8	1577.1	74.1	6.3	23.2	33.7	0.0	0.0	-18.2
4/12/2011	1534.6	1.7	14.1	0.0	1.0	28.8	1549.7	73.3	6.3	23.2	33.7	0.0	0.0	-106.0
4/13/2011	1435.0	0.1	10.1	0.0	1.0	28.8	1446.1	72.2	6.3	23.2	33.7	0.0	0.0	-106.5
4/14/2011	1442.7	0.3	0.0	0.0	1.0	28.8	1356.1	71.5	6.3	23.2	33.7	0.0	0.0	-18.0
4/15/2011	1445.5	1.0	0.0	0.0	1.0	28.8	1346.7	71.3	6.3	23.2	33.7	0.0	0.0	-4.9
4/16/2011	1671.9	0.4	0.0	0.0	1.0	28.8	1376.1	72.1	6.3	23.2	33.7	0.0	0.0	190.7
4/17/2011	1992.8	2.6	0.0	0.0	1.0	28.8	1590.5	74.5	6.3	23.2	33.7	0.0	0.0	297.0
4/18/2011	2076.4	0.3	0.0	0.0	1.0	28.8	1875.7	76.0	6.3	23.2	33.7	0.0	0.0	91.6
4/19/2011	2153.1	0.3	0.0	0.0	1.0	28.8	1983.5	76.5	6.3	23.2	33.7	0.0	0.0	60.0
4/20/2011	2068.6	0.9	0.0	0.0	1.0	28.8	2032.2	76.2	6.3	23.2	33.7	0.0	0.0	-72.3
4/21/2011	1834.1	0.1	103.3	0.0	1.0	28.8	1938.5	74.6	6.3	23.2	33.7	0.0	0.0	-108.9
4/22/2011	1561.7	0.3	162.3	0.0	1.0	28.8	1725.0	72.3	6.3	23.2	33.7	0.0	0.0	-106.4
4/23/2011	1575.3	2.6	0.0	0.0	1.0	28.8	1504.5	71.0	6.3	23.2	33.7	0.0	0.0	-31.0
4/24/2011	1731.7	1.0	0.0	0.0	1.0	28.8	1498.8	71.6	6.3	23.2	33.7	0.0	0.0	129.0
4/25/2011	1736.7	0.2	0.0	0.0	1.0	28.8	1617.2	72.3	6.3	23.2	33.7	0.0	0.0	14.0
4/26/2011	2012.2	1.9	0.0	0.0	1.0	28.8	1680.5	73.5	6.3	23.2	33.7	0.0	0.0	226.7
4/27/2011	1655.3	1.5	174.1	0.0	1.0	28.8	1830.4	72.7	6.3	23.2	33.7	0.0	0.0	-105.6
4/28/2011	1545.9	0.8	44.3	0.0	1.0	28.8	1591.3	70.6	6.3	23.2	33.7	0.0	0.0	-104.2
4/29/2011	1229.2	1.2	204.3	0.0	1.0	28.8	1434.5	68.8	6.3	23.2	33.7	0.0	0.0	-102.0
4/30/2011	1012.3	1.5	168.6	0.0	1.0	28.8	1182.0	66.2	6.3	23.2	33.7	0.0	0.0	-99.1
5/1/2011	932.7	0.4	40.5	0.0	1.0	28.8	974.2	64.0	6.3	28.8	33.7	0.0	0.0	-103.6
5/2/2011	897.3	1.2	0.0	0.0	1.0	28.8	863.1	62.9	6.3	28.8	33.7	0.0	0.0	-66.5
5/3/2011	795.8	2.5	16.6	0.0	1.0	28.8	813.4	61.8	6.3	28.8	33.7	0.0	0.0	-99.3
5/4/2011	755.9	1.4	0.0	0.0	1.0	28.8	0.0	42.5	6.3	4.1	33.7	0.0	0.0	700.5
5/5/2011	795.8	1.0	0.0	0.0	1.0	28.8	0.0	133.1	6.3	14.8	33.7	0.0	0.0	638.7
5/6/2011	804.7	0.8	0.0	0.0	1.0	28.8	114.0	242.2	6.3	26.9	33.7	0.0	0.0	412.2
5/7/2011	1002.0	1.6	0.0	0.0	1.0	28.8	518.9	239.3	6.3	28.8	33.7	0.0	0.0	206.5
5/8/2011	1414.2	0.3	0.0	0.0	1.0	28.8	690.1	231.4	6.3	28.8	33.7	0.0	0.0	454.0
5/9/2011	1411.9	0.9	0.0	0.0	1.0	28.8	1063.6	231.3	6.3	28.8	33.7	0.0	0.0	78.9
5/10/2011	1587.6	0.3	0.0	0.0	1.0	28.8	1187.3	209.1	6.3	28.8	33.7	0.0	0.0	152.5
5/11/2011	1692.4	1.1	0.0	0.0	1.0	28.8	1375.8	166.4	6.3	28.8	33.7	0.0	0.0	112.3
5/12/2011	1527.0	0.4	0.0	0.0	1.0	28.8	1488.3	137.5	6.3	28.8	33.7	0.0	0.0	-137.4
5/13/2011	1409.1	0.7	0.0	0.0	1.0	28.8	1384.3	123.8	6.3	28.8	33.7	0.0	0.0	-137.3
5/14/2011	1407.4	1.4	0.0	0.0	1.0	28.8	1280.7	118.7	6.3	28.8	33.7	0.0	0.0	-29.6
5/15/2011	1406.2	0.6	0.0	0.0	1.0	28.8	1262.9	116.6	6.3	28.8	33.7	0.0	0.0	-11.7
5/16/2011	1529.2	1.6	0.0	0.0	1.0	28.8	1274.6	116.2	6.3	28.8	33.7	0.0	0.0	101.1
5/17/2011	1742.3	1.8	0.0	0.0	1.0	28.8	1390.7	117.7	6.3	28.8	33.7	0.0	0.0	196.7
5/18/2011	1856.6	2.6	0.0	0.0	1.0	28.8	1583.2	119.1	6.3	28.8	33.7	0.0	0.0	117.9
5/19/2011	1691.8	0.7	0.0	0.0	1.0	28.8	1673.2	116.8	6.3	28.8	33.7	0.0	0.0	-136.4
5/20/2011	1574.8	1.1	0.0	0.0	1.0	28.8	1555.0	109.8	6.3	28.8	33.7	0.0	0.0	-127.8
5/21/2011	1331.1	0.5	98.0	0.0	1.0	28.8	1430.1	96.3	6.3	28.8	33.7	0.0	0.0	-135.8
5/22/2011	1197.7	1.5	45.5	0.0	1.0	28.8	1244.2	80.2	6.3	28.8	33.7	0.0	0.0	-118.7
5/23/2011	1196.3	1.7	0.0	0.0	1.0	28.8	1119.9	73.3	6.3	28.8	33.7	0.0	0.0	-34.2
5/24/2011	1142.0	1.6	0.0	0.0	1.0	28.8	1092.4	71.1	6.3	28.8	33.7	0.0	0.0	-58.8
5/25/2011	1078.3	2.1	0.0	0.0	1.0	28.8	1051.6	69.9	6.3	28.8	33.7	0.0	0.0	-80.1

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/26/2011	1078.1	0.5	0.0	0.0	1.0	28.8	997.7	69.2	6.3	28.8	33.7	0.0	0.0	-27.3
5/27/2011	1186.6	3.0	0.0	0.0	1.0	28.8	986.7	69.4	6.3	28.8	33.7	0.0	0.0	94.4
5/28/2011	1408.3	1.8	0.0	0.0	1.0	28.8	1080.9	71.1	6.3	28.8	33.7	0.0	0.0	219.1
5/29/2011	1609.9	0.8	0.0	0.0	1.0	28.8	1288.4	73.2	6.3	28.8	33.7	0.0	0.0	210.1
5/30/2011	1760.3	1.1	0.0	0.0	1.0	28.8	1499.4	74.8	6.3	28.8	33.7	0.0	0.0	148.2
5/31/2011	2749.5	0.8	0.0	0.0	1.0	28.8	1809.8	79.4	6.3	28.8	33.7	0.0	0.0	822.1
6/1/2011	3291.1	1.3	0.0	0.0	1.0	28.8	2630.0	83.2	6.3	34.2	33.7	434.4	4.3	96.1
6/2/2011	3141.9	1.3	283.0	0.0	1.0	28.8	2858.7	83.3	6.3	34.2	33.7	567.3	5.7	-133.0
6/3/2011	3123.3	2.4	208.8	0.0	1.0	28.8	2771.7	82.6	6.3	34.2	33.7	561.3	5.6	-131.2
6/4/2011	3211.9	2.1	124.6	0.0	1.0	28.8	2770.2	82.5	6.3	34.2	33.7	567.3	5.7	-131.5
6/5/2011	3209.1	0.1	183.7	0.0	1.0	28.8	2828.6	82.5	6.3	34.2	33.7	565.3	5.7	-133.5
6/6/2011	3201.1	0.8	275.3	0.0	1.0	28.8	2803.0	82.0	6.3	34.2	33.7	674.4	6.7	-133.3
6/7/2011	3346.9	3.7	129.0	0.0	1.0	28.8	2737.2	81.6	6.3	34.2	33.7	739.8	7.4	-130.8
6/8/2011	3513.2	0.6	15.4	0.0	1.0	28.8	2837.4	82.1	6.3	34.2	33.7	692.2	6.9	-133.9
6/9/2011	3385.5	0.9	288.0	0.0	1.0	28.8	2968.4	82.1	6.3	34.2	33.7	706.1	7.1	-133.7
6/10/2011	3300.7	0.7	296.5	0.0	1.0	28.8	2903.9	81.6	6.3	34.2	33.7	694.2	6.9	-133.2
6/11/2011	3368.3	2.2	185.2	0.0	1.0	28.8	2898.0	81.6	6.3	34.2	33.7	656.5	6.6	-131.3
6/12/2011	3364.9	1.6	251.5	0.0	1.0	28.8	2974.8	81.5	6.3	34.2	33.7	642.6	6.4	-131.8
6/13/2011	3514.2	0.8	176.2	0.0	1.0	28.8	3011.1	81.7	6.3	34.2	33.7	680.3	6.8	-133.1
6/14/2011	3617.5	1.0	257.0	0.0	1.0	28.8	3082.1	81.6	6.3	34.2	33.7	793.4	7.9	-133.9
6/15/2011	3611.6	0.6	287.2	0.0	1.0	28.8	3084.7	81.4	6.3	34.2	33.7	815.2	8.2	-134.4
6/16/2011	3499.4	1.6	331.8	0.0	1.0	28.8	3042.8	80.9	6.3	34.2	33.7	789.4	7.9	-132.6
6/17/2011	3247.9	2.4	443.8	0.0	1.0	28.8	2909.3	79.9	6.3	34.2	33.7	783.5	7.8	-130.8
6/18/2011	3128.5	5.0	323.6	0.0	1.0	28.8	2727.2	78.9	6.3	34.2	33.7	726.0	7.3	-126.6
6/19/2011	3126.1	0.8	251.3	0.0	1.0	28.8	2684.2	78.7	6.3	34.2	33.7	694.2	6.9	-130.3
6/20/2011	3478.0	4.4	36.4	0.0	1.0	28.8	2771.6	79.6	6.3	34.2	33.7	743.8	7.4	-128.0
6/21/2011	3656.5	1.7	141.8	0.0	1.0	28.8	3027.8	80.7	6.3	34.2	33.7	771.6	7.7	-132.1
6/22/2011	3801.1	2.8	148.4	0.0	1.0	28.8	3183.0	81.5	6.3	34.2	33.7	767.6	7.7	-131.8
6/23/2011	3815.2	3.3	310.9	0.0	1.0	28.8	3298.1	81.6	6.3	34.2	33.7	829.1	8.3	-132.0
6/24/2011	3695.3	3.0	431.2	0.0	1.0	28.8	3308.4	81.5	6.3	34.2	33.7	819.2	8.2	-132.1
6/25/2011	3692.0	1.9	389.7	0.0	1.0	28.8	3281.4	81.3	6.3	34.2	33.7	801.3	8.0	-132.8
6/26/2011	3688.3	3.1	334.8	0.0	1.0	28.8	3298.2	81.3	6.3	34.2	33.7	726.0	7.3	-130.8
6/27/2011	3683.9	3.9	358.1	0.0	1.0	28.8	3303.2	81.0	6.3	34.2	33.7	739.8	7.4	-129.9
6/28/2011	3760.6	3.7	289.5	0.0	1.0	28.8	3277.6	81.1	6.3	34.2	33.7	773.6	7.7	-130.6
6/29/2011	4055.0	8.5	139.6	0.0	1.0	28.8	3366.6	81.5	6.3	34.2	33.7	829.1	8.3	-126.7
6/30/2011	4226.5	3.1	306.9	0.0	1.0	28.8	3542.7	81.8	6.3	34.2	33.7	991.7	9.9	-134.0
7/1/2011	4215.4	5.6	378.9	0.0	1.0	28.8	3599.6	81.9	6.3	30.0	33.7	995.7	10.0	-127.5
7/2/2011	4205.2	6.7	402.4	0.0	1.0	28.8	3599.0	81.8	6.3	30.0	33.7	1009.6	10.1	-126.4
7/3/2011	4196.7	4.3	414.1	0.0	1.0	28.8	3584.4	81.5	6.3	30.0	33.7	1027.4	10.3	-128.7
7/4/2011	3857.8	4.8	556.1	0.0	1.0	28.8	3520.4	80.8	6.3	30.0	33.7	894.5	8.9	-126.2
7/5/2011	3529.1	9.3	445.8	0.0	1.0	28.8	3351.2	79.9	6.3	30.0	33.7	624.8	6.2	-118.1
7/6/2011	2690.5	5.1	815.8	0.0	1.0	28.8	3084.8	77.8	6.3	30.0	33.7	422.5	4.2	-118.1
7/7/2011	2070.1	7.8	537.7	0.0	1.0	28.8	2493.8	74.3	6.3	30.0	33.7	115.0	1.2	-108.8
7/8/2011	1950.9	6.5	46.5	0.0	1.0	28.8	1998.4	72.3	6.3	30.0	33.7	0.0	0.0	-107.0
7/9/2011	1821.3	5.8	19.3	0.0	1.0	28.8	1841.6	71.4	6.3	30.0	33.7	0.0	0.0	-106.8
7/10/2011	1828.2	4.6	0.0	0.0	1.0	28.8	1736.0	70.8	6.3	30.0	33.7	0.0	0.0	-14.2
7/11/2011	1835.1	4.9	0.0	0.0	1.0	28.8	1728.4	70.9	6.3	30.0	33.7	0.0	0.0	0.5
7/12/2011	1841.0	5.3	0.0	0.0	1.0	28.8	1734.6	70.9	6.3	30.0	33.7	0.0	0.0	0.6
7/13/2011	1848.7	6.7	0.0	0.0	1.0	28.8	1740.8	70.8	6.3	30.0	33.7	0.0	0.0	3.6
7/14/2011	1686.4	4.4	36.7	0.0	1.0	28.8	1724.1	70.1	6.3	30.0	33.7	0.0	0.0	-106.9
7/15/2011	1692.1	13.7	0.0	0.0	1.0	28.8	1608.2	69.6	6.3	30.0	33.7	0.0	0.0	-12.1

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/16/2011	1824.8	3.4	0.0	0.0	1.0	28.8	1609.9	70.0	6.3	30.0	33.7	0.0	0.0	108.1
7/17/2011	1823.7	3.8	0.0	0.0	1.0	28.8	1708.9	70.5	6.3	30.0	33.7	0.0	0.0	7.9
7/18/2011	1984.7	6.5	0.0	0.0	1.0	28.8	1748.1	70.8	6.3	30.0	33.7	0.0	0.0	132.1
7/19/2011	2208.4	6.3	0.0	0.0	1.0	28.8	1907.0	72.2	6.3	30.0	33.7	0.0	0.0	195.4
7/20/2011	2203.0	7.0	0.0	0.0	1.0	28.8	2086.2	72.7	6.3	30.0	33.7	0.0	0.0	10.9
7/21/2011	2066.7	8.3	8.7	0.0	1.0	28.8	2076.4	72.1	6.3	30.0	33.7	0.0	0.0	-105.0
7/22/2011	1963.0	7.8	0.0	0.0	1.0	28.8	1959.7	71.3	6.3	30.0	33.7	0.0	0.0	-100.4
7/23/2011	2015.4	6.4	0.0	0.0	1.0	28.8	1882.0	71.1	6.3	30.0	33.7	0.0	0.0	28.5
7/24/2011	2012.1	7.6	0.0	0.0	1.0	28.8	1908.8	71.3	6.3	30.0	33.7	0.0	0.0	-0.6
7/25/2011	2007.5	6.2	0.0	0.0	1.0	28.8	1910.2	71.1	6.3	30.0	33.7	0.0	0.0	-7.8
7/26/2011	2078.5	6.5	0.0	0.0	1.0	28.8	1919.5	71.2	6.3	30.0	33.7	0.0	0.0	54.2
7/27/2011	2135.8	5.7	0.0	0.0	1.0	28.8	1981.5	71.4	6.3	30.0	33.7	0.0	0.0	48.4
7/28/2011	1667.0	6.0	283.3	0.0	1.0	28.8	1951.4	70.4	6.3	30.0	33.7	0.0	0.0	-105.6
7/29/2011	1791.6	7.6	0.0	0.0	1.0	28.8	1640.0	69.3	6.3	30.0	33.7	0.0	0.0	49.7
7/30/2011	1835.5	8.7	0.0	0.0	1.0	28.8	1682.7	69.7	6.3	30.0	33.7	0.0	0.0	51.7
7/31/2011	1821.5	6.7	0.0	0.0	1.0	28.8	1728.5	69.8	6.3	30.0	33.7	0.0	0.0	-10.2
8/1/2011	1936.9	7.2	0.0	0.0	1.0	28.8	1741.2	69.9	6.3	29.4	33.7	0.0	0.0	93.4
8/2/2011	1881.9	8.7	0.0	0.0	1.0	28.8	1817.7	70.2	6.3	29.4	33.7	0.0	0.0	-36.8
8/3/2011	1721.3	8.8	42.8	0.0	1.0	28.8	1765.2	69.7	6.3	29.4	33.7	0.0	0.0	-101.5
8/4/2011	1705.2	6.8	0.0	0.0	1.0	28.8	1641.3	69.1	6.3	29.4	33.7	0.0	0.0	-38.0
8/5/2011	1746.1	6.6	0.0	0.0	1.0	28.8	1615.3	69.1	6.3	29.4	33.7	0.0	0.0	28.7
8/6/2011	1815.9	5.4	0.0	0.0	1.0	28.8	1652.0	69.5	6.3	29.4	33.7	0.0	0.0	60.2
8/7/2011	1795.3	6.8	0.0	0.0	1.0	28.8	1706.6	69.8	6.3	29.4	33.7	0.0	0.0	-13.9
8/8/2011	1774.7	5.6	0.0	0.0	1.0	28.8	1696.1	69.8	6.3	29.4	33.7	0.0	0.0	-25.3
8/9/2011	1753.1	7.8	0.0	0.0	1.0	28.8	1676.2	69.7	6.3	29.4	33.7	0.0	0.0	-24.5
8/10/2011	1789.3	7.3	0.0	0.0	1.0	28.8	1662.6	69.8	6.3	29.4	33.7	0.0	0.0	24.6
8/11/2011	1845.0	8.8	0.0	0.0	1.0	28.8	1694.1	69.8	6.3	29.4	33.7	0.0	0.0	50.2
8/12/2011	1875.9	8.6	0.0	0.0	1.0	28.8	1744.5	70.2	6.3	29.4	33.7	0.0	0.0	30.3
8/13/2011	1907.8	10.2	0.0	0.0	1.0	28.8	1778.7	70.5	6.3	29.4	33.7	0.0	0.0	29.3
8/14/2011	1889.6	7.5	0.0	0.0	1.0	28.8	1802.7	70.7	6.3	29.4	33.7	0.0	0.0	-15.8
8/15/2011	1872.6	7.5	0.0	0.0	1.0	28.8	1790.1	70.8	6.3	29.4	33.7	0.0	0.0	-20.3
8/16/2011	1888.5	9.4	0.0	0.0	1.0	28.8	1777.1	71.0	6.3	29.4	33.7	0.0	0.0	10.3
8/17/2011	1919.0	3.3	0.0	0.0	1.0	28.8	1791.5	71.2	6.3	29.4	33.7	0.0	0.0	20.1
8/18/2011	1911.1	8.4	0.0	0.0	1.0	28.8	1815.2	71.3	6.3	29.4	33.7	0.0	0.0	-6.6
8/19/2011	1905.4	6.0	0.0	0.0	1.0	28.8	1812.0	71.1	6.3	29.4	33.7	0.0	0.0	-11.2
8/20/2011	1898.8	7.0	0.0	0.0	1.0	28.8	1805.8	70.6	6.3	29.4	33.7	0.0	0.0	-10.2
8/21/2011	1890.9	11.8	0.0	0.0	1.0	28.8	1798.5	70.3	6.3	29.4	33.7	0.0	0.0	-5.6
8/22/2011	1883.6	5.7	0.0	0.0	1.0	28.8	1791.2	70.0	6.3	29.4	33.7	0.0	0.0	-11.5
8/23/2011	1895.6	15.0	0.0	0.0	1.0	28.8	1787.9	70.0	6.3	29.4	33.7	0.0	0.0	13.1
8/24/2011	2028.1	10.0	0.0	0.0	1.0	28.8	1818.0	70.1	6.3	29.4	33.7	0.0	0.0	110.5
8/25/2011	2089.0	5.1	0.0	0.0	1.0	28.8	1927.7	70.5	6.3	29.4	33.7	0.0	0.0	56.3
8/26/2011	1985.3	5.5	0.0	0.0	1.0	28.8	1965.4	71.0	6.3	29.4	33.7	0.0	0.0	-85.2
8/27/2011	1893.5	4.6	0.0	0.0	1.0	28.8	1880.7	71.2	6.3	29.4	33.7	0.0	0.0	-93.4
8/28/2011	1884.6	2.1	0.0	0.0	1.0	28.8	1802.2	71.0	6.3	29.4	33.7	0.0	0.0	-26.1
8/29/2011	1875.6	6.6	0.0	0.0	1.0	28.8	1784.6	70.7	6.3	29.4	33.7	0.0	0.0	-12.7
8/30/2011	1584.5	7.3	150.6	0.0	1.0	28.8	1736.1	69.7	6.3	29.4	33.7	0.0	0.0	-103.0
8/31/2011	1396.4	5.1	105.9	0.0	1.0	28.8	1503.3	67.7	6.3	29.4	33.7	0.0	0.0	-103.2
9/1/2011	1727.7	5.2	0.0	0.0	1.0	28.8	1367.9	68.1	6.3	24.9	33.7	0.0	0.0	261.8
9/2/2011	1922.8	5.6	0.0	0.0	1.0	28.8	1618.5	69.2	6.3	24.9	33.7	0.0	0.0	205.6
9/3/2011	1933.2	3.9	0.0	0.0	1.0	28.8	1809.0	69.9	6.3	24.9	33.7	0.0	0.0	23.1
9/4/2011	1938.4	4.4	0.0	0.0	1.0	28.8	1839.3	70.0	6.3	24.9	33.7	0.0	0.0	-1.5

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
9/5/2011	1954.5	8.2	0.0	0.0	1.0	28.8	1845.8	70.3	6.3	24.9	33.7	0.0	0.0	11.5
9/6/2011	1970.1	4.6	0.0	0.0	1.0	28.8	1859.8	70.3	6.3	24.9	33.7	0.0	0.0	9.5
9/7/2011	1983.7	5.9	0.0	0.0	1.0	28.8	1875.5	70.4	6.3	24.9	33.7	0.0	0.0	8.7
9/8/2011	1993.1	2.8	0.0	0.0	1.0	28.8	1888.9	70.3	6.3	24.9	33.7	0.0	0.0	1.5
9/9/2011	1969.0	4.3	0.0	0.0	1.0	28.8	1893.9	70.4	6.3	24.9	33.7	0.0	0.0	-26.1
9/10/2011	804.4	5.2	922.8	0.0	1.0	28.8	1728.3	64.8	6.3	24.9	33.7	0.0	0.0	-95.7
9/11/2011	0.0	4.7	984.9	0.0	1.0	28.8	985.9	54.0	6.3	24.9	33.7	0.0	0.0	-85.4
9/12/2011	0.0	11.0	462.4	0.0	1.0	28.8	463.5	37.0	6.3	24.8	33.7	0.0	0.0	-62.0
9/13/2011	0.0	9.0	295.0	0.0	1.0	28.8	296.0	19.1	6.3	23.2	33.7	0.0	0.0	-44.5
9/14/2011	0.0	7.0	294.3	0.0	1.0	28.8	295.3	9.7	6.3	23.3	33.7	0.0	0.0	-37.2
9/15/2011	0.0	7.5	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-15.6
9/16/2011	0.0	2.9	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-20.2
9/17/2011	0.0	3.5	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-19.6
9/18/2011	0.0	3.1	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-20.0
9/19/2011	0.0	7.0	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-16.1
9/20/2011	0.0	1.7	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-21.4
9/21/2011	0.0	5.5	5.0	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-17.6
9/22/2011	0.0	5.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-17.3
9/23/2011	0.0	7.3	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-15.8
9/24/2011	0.0	8.0	5.0	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-15.1
9/25/2011	0.0	9.7	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-13.4
9/26/2011	0.0	4.9	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-18.2
9/27/2011	0.0	2.9	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-20.2
9/28/2011	0.0	2.5	5.0	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-20.6
9/29/2011	0.0	6.7	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-16.4
9/30/2011	0.0	3.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-19.3
10/1/2011	0.0	2.3	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.9
10/2/2011	0.0	3.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.4
10/3/2011	0.0	2.9	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.3
10/4/2011	0.0	3.7	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-7.6
10/5/2011	0.0	4.2	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.0
10/6/2011	0.0	3.2	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.0
10/7/2011	0.0	5.1	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.1
10/8/2011	0.0	2.0	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-9.2
10/9/2011	0.0	3.4	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.8
10/10/2011	0.0	2.9	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.3
10/11/2011	0.0	5.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-5.4
10/12/2011	0.0	5.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.0
10/13/2011	0.0	2.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.5
10/14/2011	0.0	3.9	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.3
10/15/2011	0.0	2.8	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.5
10/16/2011	0.0	4.1	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-7.1
10/17/2011	0.0	1.6	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-9.6
10/18/2011	0.0	1.9	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-9.3
10/19/2011	0.0	5.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.0
10/20/2011	0.0	2.3	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.9
10/21/2011	0.0	3.0	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.2
10/22/2011	0.0	4.2	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.0
10/23/2011	0.0	6.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-5.0
10/24/2011	0.0	2.6	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.6
10/25/2011	0.0	2.5	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.7

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
10/26/2011	0.0	2.5	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.7
10/27/2011	0.0	5.0	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.2
10/28/2011	0.0	3.7	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-7.5
10/29/2011	0.0	1.5	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-9.7
10/30/2011	0.0	2.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.5
10/31/2011	0.0	4.4	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.8
11/1/2011	0.0	2.5	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.6
11/2/2011	0.0	2.4	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.6
11/3/2011	0.0	3.1	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.2
11/4/2011	0.0	2.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.3
11/5/2011	0.0	0.8	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	40.9
11/6/2011	0.0	0.4	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.5
11/7/2011	0.0	1.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.4
11/8/2011	0.0	2.1	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.2
11/9/2011	0.0	0.4	4.9	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	40.6
11/10/2011	0.0	0.9	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.0
11/11/2011	0.0	1.0	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.1
11/12/2011	0.0	3.8	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.9
11/13/2011	0.0	1.3	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.5
11/14/2011	0.0	2.5	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.6
11/15/2011	0.0	1.4	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.5
11/16/2011	0.0	2.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.3
11/17/2011	0.0	1.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.8
11/18/2011	0.0	1.1	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.3
11/19/2011	0.0	0.8	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.9
11/20/2011	0.0	0.3	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	40.4
11/21/2011	0.0	0.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.3
11/22/2011	0.0	1.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.2
11/23/2011	0.0	1.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.1
11/24/2011	0.0	3.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.1
11/25/2011	0.0	2.4	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.6
11/26/2011	0.0	1.3	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.5
11/27/2011	0.0	1.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.3
11/28/2011	0.0	2.2	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.4
11/29/2011	0.0	2.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.2
11/30/2011	0.0	1.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.2
12/1/2011	0.0	1.9	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.0
12/2/2011	0.0	2.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.4
12/3/2011	0.0	0.7	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.9
12/4/2011	0.0	2.3	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.4
12/5/2011	0.0	2.4	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.6
12/6/2011	0.0	2.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.4
12/7/2011	0.0	1.6	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.8
12/8/2011	0.0	1.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.8
12/9/2011	0.0	6.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	46.1
12/10/2011	0.0	1.4	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.5
12/11/2011	0.0	2.9	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	43.1
12/12/2011	0.0	1.8	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.9
12/13/2011	0.0	2.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.8
12/14/2011	0.0	2.4	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.6
12/15/2011	0.0	4.1	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	44.2

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
12/16/2011	0.0	2.4	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.6
12/17/2011	0.0	1.7	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.8
12/18/2011	0.0	2.5	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.7
12/19/2011	0.0	2.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.8
12/20/2011	0.0	4.4	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	44.6
12/21/2011	0.0	1.9	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	42.0
12/22/2011	0.0	1.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.8
12/23/2011	0.0	2.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.7
12/24/2011	0.0	0.7	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	40.8
12/25/2011	0.0	2.4	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.6
12/26/2011	0.0	4.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	44.2
12/27/2011	0.0	2.5	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.7
12/28/2011	0.0	2.5	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	42.6
12/29/2011	0.0	2.5	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	42.6
12/30/2011	0.0	1.3	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.5
12/31/2011	0.0	0.8	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.0
1/1/2012	0.0	1.1	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.2
1/2/2012	0.0	1.7	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.8
1/3/2012	0.0	1.5	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.6
1/4/2012	0.0	1.3	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.5
1/5/2012	0.0	1.6	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.8
1/6/2012	0.0	1.9	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.0
1/7/2012	0.0	1.5	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.7
1/8/2012	0.0	2.5	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.7
1/9/2012	0.0	1.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.7
1/10/2012	0.0	1.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.1
1/11/2012	0.0	1.7	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.8
1/12/2012	0.0	2.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.8
1/13/2012	0.0	1.2	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.4
1/14/2012	0.0	2.1	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	42.3
1/15/2012	0.0	1.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.3
1/16/2012	0.0	0.4	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.5
1/17/2012	0.0	2.3	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	42.4
1/18/2012	0.0	2.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.8
1/19/2012	0.0	0.8	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.0
1/20/2012	0.0	1.2	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.4
1/21/2012	0.0	2.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.2
1/22/2012	0.0	1.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.3
1/23/2012	0.0	0.4	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	40.6
1/24/2012	0.0	0.8	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	40.9
1/25/2012	0.0	2.0	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.2
1/26/2012	0.0	1.3	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.5
1/27/2012	0.0	1.6	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.7
1/28/2012	0.0	2.7	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.8
1/29/2012	0.0	2.0	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.2
1/30/2012	0.0	1.9	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.0
1/31/2012	0.0	2.8	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	42.9
2/1/2012	0.0	1.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.4
2/2/2012	0.0	1.6	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.7
2/3/2012	0.0	1.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.2
2/4/2012	0.0	1.2	5.2	0.0	1.0	51.7	6.3	0.0	0.1	0.0	11.5	0.0	0.0	41.4

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
2/5/2012	0.0	1.5	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.7
2/6/2012	0.0	0.7	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.9
2/7/2012	0.0	0.5	4.9	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	40.6
2/8/2012	0.0	1.9	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.0
2/9/2012	0.0	2.2	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.3
2/10/2012	0.0	1.3	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.5
2/11/2012	0.0	1.1	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.3
2/12/2012	0.0	2.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.3
2/13/2012	0.0	1.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.4
2/14/2012	0.0	1.8	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.9
2/15/2012	0.0	0.7	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.9
2/16/2012	0.0	0.7	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.9
2/17/2012	0.0	2.9	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.0
2/18/2012	0.0	0.8	5.2	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.0
2/19/2012	0.0	1.0	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.1
2/20/2012	0.0	1.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.1
2/21/2012	0.0	2.9	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.0
2/22/2012	0.0	1.3	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.4
2/23/2012	0.0	3.7	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.8
2/24/2012	0.0	1.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.3
2/25/2012	0.0	2.8	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.9
2/26/2012	0.0	1.7	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.9
2/27/2012	0.0	0.8	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.9
2/28/2012	0.0	2.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.2
2/29/2012	0.0	0.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.1
3/1/2012	0.0	1.7	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-15.4
3/2/2012	0.0	0.9	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.3
3/3/2012	0.0	0.9	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.3
3/4/2012	0.0	1.9	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-15.3
3/5/2012	0.0	0.3	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.8
3/6/2012	0.0	1.1	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.1
3/7/2012	0.0	1.0	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.1
3/8/2012	0.0	1.1	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.1
3/9/2012	0.0	0.6	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.5
3/10/2012	0.0	1.1	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.0
3/11/2012	0.0	1.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-15.9
3/12/2012	0.0	1.3	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-15.8
3/13/2012	0.0	0.6	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.5
3/14/2012	0.0	0.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.3
3/15/2012	0.0	0.7	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.5
3/16/2012	0.0	0.4	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.8
3/17/2012	0.0	0.6	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.5
3/18/2012	0.0	1.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.0
3/19/2012	0.0	0.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.4
3/20/2012	0.0	1.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-15.9
3/21/2012	0.0	0.7	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.5
3/22/2012	0.0	2.1	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-15.1
3/23/2012	0.0	0.5	5.0	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.6
3/24/2012	0.0	0.2	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.9
3/25/2012	0.0	0.8	5.0	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.4
3/26/2012	0.0	2.2	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-14.9

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
3/27/2012	0.0	1.4	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-15.7
3/28/2012	0.0	0.1	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-17.0
3/29/2012	0.0	0.8	5.1	0.0	1.0	28.8	6.1	0.0	6.3	5.9	33.7	0.0	0.0	-16.3
3/30/2012	0.0	0.3	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-16.9
3/31/2012	0.0	0.1	5.0	0.0	1.0	28.8	6.0	0.0	6.3	5.9	33.7	0.0	0.0	-17.1
4/1/2012	868.8	0.1	0.0	0.0	1.0	28.8	0.0	103.7	6.3	2.4	33.7	0.0	0.0	752.5
4/2/2012	2320.7	0.7	0.0	0.0	1.0	28.8	0.0	433.6	6.3	13.0	33.7	0.0	0.0	1864.6
4/3/2012	2320.7	0.6	0.0	0.0	1.0	28.8	885.5	701.5	6.3	23.0	33.7	0.0	0.0	701.1
4/4/2012	2538.8	0.8	0.0	0.0	1.0	28.8	1718.4	582.0	6.3	23.2	33.7	0.0	0.0	205.9
4/5/2012	2895.9	1.2	0.0	0.0	1.0	28.8	2030.3	486.2	6.3	23.2	33.7	0.0	0.0	347.2
4/6/2012	2856.2	0.7	0.0	0.0	1.0	28.8	2432.8	364.7	6.3	23.2	33.7	0.0	0.0	26.0
4/7/2012	2757.0	1.3	0.0	0.0	1.0	28.8	2552.3	246.0	6.3	23.2	33.7	0.0	0.0	-73.3
4/8/2012	2757.0	0.6	0.0	0.0	1.0	28.8	2525.5	211.2	6.3	23.2	33.7	0.0	0.0	-12.4
4/9/2012	2737.2	0.1	0.0	0.0	1.0	28.8	2525.1	202.5	6.3	23.2	33.7	0.0	0.0	-23.8
4/10/2012	2717.4	0.2	0.0	0.0	1.0	28.8	2510.7	199.0	6.3	23.2	33.7	0.0	0.0	-25.5
4/11/2012	2717.4	1.3	0.0	0.0	1.0	28.8	2497.8	196.7	6.3	23.2	33.7	0.0	0.0	-9.2
4/12/2012	2717.4	1.7	0.0	0.0	1.0	28.8	2498.3	194.8	6.3	23.2	33.7	0.0	0.0	-7.4
4/13/2012	2320.7	0.1	96.4	0.0	1.0	28.8	2418.1	189.6	6.3	23.2	33.7	0.0	0.0	-223.9
4/14/2012	1904.1	0.3	168.4	0.0	1.0	28.8	2073.6	181.2	6.3	23.2	33.7	0.0	0.0	-215.3
4/15/2012	1884.3	1.0	0.0	0.0	1.0	28.8	1749.4	176.2	6.3	23.2	33.7	0.0	0.0	-73.7
4/16/2012	1884.3	0.4	0.0	0.0	1.0	28.8	1688.2	175.1	6.3	23.2	33.7	0.0	0.0	-12.0
4/17/2012	1884.3	2.6	0.0	0.0	1.0	28.8	1686.5	174.2	6.3	23.2	33.7	0.0	0.0	-7.1
4/18/2012	1884.3	0.3	0.0	0.0	1.0	28.8	1687.3	173.4	6.3	23.2	33.7	0.0	0.0	-9.4
4/19/2012	1810.9	0.3	0.0	0.0	1.0	28.8	1678.6	171.9	6.3	23.2	33.7	0.0	0.0	-72.7
4/20/2012	1640.3	0.9	0.0	0.0	1.0	28.8	1606.7	168.6	6.3	23.2	33.7	0.0	0.0	-167.4
4/21/2012	1578.8	0.1	0.0	0.0	1.0	28.8	1468.2	165.8	6.3	23.2	33.7	0.0	0.0	-88.4
4/22/2012	1578.8	0.3	0.0	0.0	1.0	28.8	1400.2	164.6	6.3	23.2	33.7	0.0	0.0	-19.0
4/23/2012	1586.8	2.6	0.0	0.0	1.0	28.8	1392.1	164.2	6.3	23.2	33.7	0.0	0.0	-0.4
4/24/2012	1604.6	1.0	0.0	0.0	1.0	28.8	1400.2	164.1	6.3	23.2	33.7	0.0	0.0	8.0
4/25/2012	1729.6	0.2	0.0	0.0	1.0	28.8	1428.4	165.2	6.3	23.2	33.7	0.0	0.0	102.8
4/26/2012	1828.8	1.9	0.0	0.0	1.0	28.8	1534.6	167.0	6.3	23.2	33.7	0.0	0.0	95.7
4/27/2012	2009.3	1.5	0.0	0.0	1.0	28.8	1631.5	168.4	6.3	23.2	33.7	99.2	1.0	77.2
4/28/2012	1826.8	0.8	39.1	0.0	1.0	28.8	1666.6	166.0	6.3	23.2	33.7	200.3	2.0	-201.6
4/29/2012	1602.6	1.2	48.8	0.0	1.0	28.8	1454.1	161.0	6.3	23.2	33.7	198.3	2.0	-196.2
4/30/2012	1600.7	1.5	0.0	0.0	1.0	28.8	1261.2	158.4	6.3	23.2	33.7	200.3	2.0	-53.2
5/1/2012	1612.6	0.4	0.0	0.0	1.0	28.8	1220.7	158.1	6.3	23.2	33.7	200.3	2.0	-1.5
5/2/2012	1646.3	1.2	0.0	0.0	1.0	28.8	1222.5	157.6	6.3	28.8	33.7	261.6	2.6	-35.8
5/3/2012	1660.2	2.5	0.0	0.0	1.0	28.8	1198.8	156.6	6.3	28.8	33.7	297.9	3.0	-32.6
5/4/2012	912.4	1.4	521.0	0.0	1.0	28.8	1136.5	146.9	6.3	28.8	33.7	297.9	3.0	-188.5
5/5/2012	317.4	1.0	713.8	0.0	1.0	28.8	734.2	121.2	6.3	28.8	33.7	297.9	3.0	-163.2
5/6/2012	307.4	0.8	359.4	0.0	1.0	28.8	359.7	75.9	6.3	28.6	33.7	308.2	3.1	-118.0
5/7/2012	299.5	1.6	157.7	0.0	1.0	28.8	150.0	36.2	6.3	27.7	33.7	308.2	3.1	-76.6
5/8/2012	188.4	0.3	0.0	0.0	1.0	28.8	42.8	21.6	6.3	24.9	33.7	144.8	1.4	-57.0
5/9/2012	0.0	0.9	1.2	0.0	1.0	28.8	2.2	20.3	6.3	16.3	33.7	0.0	0.0	-46.9
5/10/2012	0.0	0.3	0.0	0.0	1.0	28.8	0.0	18.7	6.3	11.8	33.7	0.0	0.0	-40.3
5/11/2012	0.0	1.1	0.0	0.0	1.0	28.8	0.0	12.6	6.3	13.0	33.7	0.0	0.0	-34.7
5/12/2012	0.0	0.4	0.0	0.0	1.0	28.8	0.0	5.4	6.3	7.3	33.7	0.0	0.0	-22.5
5/13/2012	0.0	0.7	0.0	0.0	1.0	28.8	0.0	3.3	6.3	2.3	33.7	0.0	0.0	-15.1
5/14/2012	0.0	1.4	0.0	0.0	1.0	28.8	0.0	2.0	6.3	1.8	33.7	0.0	0.0	-12.6
5/15/2012	0.0	0.6	0.0	0.0	1.0	28.8	0.0	2.6	6.3	1.6	33.7	0.0	0.0	-13.8
5/16/2012	216.2	1.6	0.0	0.0	1.0	28.8	0.0	8.8	6.3	4.0	33.7	152.7	1.5	40.6

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/17/2012	448.3	1.8	0.0	0.0	1.0	28.8	0.0	18.8	6.3	5.6	33.7	299.5	3.0	113.0
5/18/2012	303.5	2.6	0.0	0.0	1.0	28.8	0.0	33.5	6.3	10.6	33.7	295.3	3.0	-46.5
5/19/2012	287.6	0.7	6.9	0.0	1.0	28.8	0.0	32.9	6.3	16.4	33.7	295.5	3.0	-62.7
5/20/2012	285.6	1.1	8.9	0.0	1.0	28.8	0.0	23.2	6.3	21.3	33.7	295.5	3.0	-57.5
5/21/2012	317.4	0.5	0.0	0.0	1.0	28.8	0.0	15.2	6.3	20.5	33.7	291.6	2.9	-22.5
5/22/2012	440.3	1.5	0.0	0.0	1.0	28.8	0.0	15.3	6.3	9.5	33.7	378.8	3.8	24.2
5/23/2012	442.3	1.7	0.0	0.0	1.0	28.8	0.0	18.6	6.3	7.1	33.7	418.5	4.2	-14.6
5/24/2012	448.3	1.6	0.0	0.0	1.0	28.8	0.0	20.8	6.3	10.0	33.7	432.4	4.3	-27.8
5/25/2012	438.3	2.1	0.0	0.0	1.0	28.8	0.0	16.0	6.3	11.0	33.7	432.4	4.3	-33.5
5/26/2012	426.4	0.5	4.9	0.0	1.0	28.8	0.0	11.7	6.3	4.9	33.7	432.4	4.3	-31.6
5/27/2012	426.4	3.0	4.9	0.0	1.0	28.8	0.0	10.7	6.3	3.3	33.7	432.4	4.3	-26.6
5/28/2012	426.4	1.8	4.9	0.0	1.0	28.8	0.0	12.0	6.3	3.5	33.7	432.4	4.3	-29.2
5/29/2012	2070.7	0.8	0.0	0.0	1.0	28.8	0.0	63.3	6.3	10.8	33.7	442.3	4.4	1540.5
5/30/2012	2525.0	1.1	0.0	0.0	1.0	28.8	474.6	152.8	6.3	26.9	33.7	442.3	4.4	1414.8
5/31/2012	2271.1	0.8	0.0	0.0	1.0	28.8	1805.3	167.1	6.3	28.8	33.7	380.8	3.8	-124.2
6/1/2012	2584.5	1.3	0.0	0.0	1.0	28.8	1737.3	167.7	6.3	28.8	33.7	380.8	3.8	257.1
6/2/2012	2993.1	1.3	0.0	0.0	1.0	28.8	1831.8	172.7	6.3	34.2	33.7	618.8	6.2	320.5
6/3/2012	2989.1	2.4	0.0	0.0	1.0	28.8	2067.7	175.1	6.3	34.2	33.7	700.8	7.0	-3.5
6/4/2012	3026.8	2.1	0.0	0.0	1.0	28.8	2151.0	176.9	6.3	34.2	33.7	503.2	5.0	148.3
6/5/2012	3383.8	0.1	0.0	0.0	1.0	28.8	2383.5	179.5	6.3	34.2	33.7	515.7	5.2	255.6
6/6/2012	3645.6	0.8	0.0	0.0	1.0	28.8	2655.0	181.3	6.3	34.2	33.7	670.3	6.7	88.8
6/7/2012	3665.5	3.7	0.0	0.0	1.0	28.8	2727.1	181.5	6.3	34.2	33.7	689.0	6.9	20.2
6/8/2012	3961.0	0.6	0.0	0.0	1.0	28.8	2685.6	183.3	6.3	34.2	33.7	842.1	8.4	197.8
6/9/2012	4153.4	0.9	0.0	0.0	1.0	28.8	2884.1	185.3	6.3	34.2	33.7	940.7	9.4	90.4
6/10/2012	4143.5	0.7	0.0	0.0	1.0	28.8	3114.7	185.8	6.3	34.2	33.7	793.2	7.9	-1.8
6/11/2012	3984.8	2.2	0.0	0.0	1.0	28.8	3187.4	184.9	6.3	34.2	33.7	673.4	6.7	-109.8
6/12/2012	3887.6	1.6	0.0	0.0	1.0	28.8	3056.5	183.5	6.3	34.2	33.7	706.5	7.1	-108.8
6/13/2012	3689.3	0.8	0.0	0.0	1.0	28.8	2861.0	181.4	6.3	34.2	33.7	816.6	8.2	-221.4
6/14/2012	3391.7	1.0	0.0	0.0	1.0	28.8	2619.3	178.5	6.3	34.2	33.7	771.9	7.7	-229.0
6/15/2012	3369.9	0.6	0.0	0.0	1.0	28.8	2435.6	178.3	6.3	34.2	33.7	622.2	6.2	83.8
6/16/2012	3459.2	1.6	0.0	0.0	1.0	28.8	2535.2	178.9	6.3	34.2	33.7	655.6	6.6	40.1
6/17/2012	3465.1	2.4	0.0	0.0	1.0	28.8	2553.7	179.6	6.3	34.2	33.7	663.2	6.6	20.0
6/18/2012	3292.6	5.0	0.0	0.0	1.0	28.8	2568.4	178.5	6.3	34.2	33.7	632.9	6.3	-133.0
6/19/2012	3272.7	0.8	0.0	0.0	1.0	28.8	2479.9	177.7	6.3	34.2	33.7	598.4	6.0	-32.9
6/20/2012	3312.4	4.4	0.0	0.0	1.0	28.8	2451.0	176.9	6.3	34.2	33.7	689.4	6.9	-51.8
6/21/2012	3362.0	1.7	0.0	0.0	1.0	28.8	2437.5	176.6	6.3	34.2	33.7	705.8	7.1	-7.7
6/22/2012	3371.9	2.8	0.0	0.0	1.0	28.8	2429.5	176.6	6.3	34.2	33.7	734.4	7.3	-17.6
6/23/2012	3350.1	3.3	0.0	0.0	1.0	28.8	2427.0	176.1	6.3	34.2	33.7	728.1	7.3	-29.5
6/24/2012	3354.0	3.0	0.0	0.0	1.0	28.8	2353.1	175.9	6.3	34.2	33.7	791.2	7.9	-15.3
6/25/2012	3437.4	1.9	0.0	0.0	1.0	28.8	2336.3	176.0	6.3	34.2	33.7	827.2	8.3	47.2
6/26/2012	3504.8	3.1	0.0	0.0	1.0	28.8	2461.7	176.7	6.3	34.2	33.7	783.3	7.8	34.0
6/27/2012	3340.2	3.9	0.0	0.0	1.0	28.8	2493.3	175.7	6.3	34.2	33.7	758.6	7.6	-135.5
6/28/2012	3159.7	3.7	0.0	0.0	1.0	28.8	2345.0	174.0	6.3	34.2	33.7	752.8	7.5	-160.4
6/29/2012	3221.2	8.5	0.0	0.0	1.0	28.8	2228.1	173.2	6.3	34.2	33.7	747.3	7.5	29.2
6/30/2012	3276.7	3.1	0.0	0.0	1.0	28.8	2271.9	173.7	6.3	34.2	33.7	746.6	7.5	35.8
7/1/2012	3290.6	5.6	0.0	0.0	1.0	28.8	2323.4	174.1	6.3	34.2	33.7	727.4	7.3	19.5
7/2/2012	3296.5	6.7	0.0	0.0	1.0	28.8	2353.0	173.7	6.3	30.0	33.7	744.9	7.4	-15.9
7/3/2012	3106.1	4.3	0.0	0.0	1.0	28.8	2337.3	172.8	6.3	30.0	33.7	651.6	6.5	-98.1
7/4/2012	2989.1	4.8	0.0	0.0	1.0	28.8	2286.5	171.5	6.3	30.0	33.7	541.4	5.4	-51.1
7/5/2012	2802.6	9.3	0.0	0.0	1.0	28.8	2210.4	169.9	6.3	30.0	33.7	533.5	5.3	-147.4
7/6/2012	2651.9	5.1	0.0	0.0	1.0	28.8	2005.7	168.3	6.3	30.0	33.7	580.5	5.8	-143.4

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/7/2012	2441.7	7.8	0.0	0.0	1.0	28.8	1808.1	167.2	6.3	30.0	33.7	621.1	6.2	-193.3
7/8/2012	2217.5	6.5	0.0	0.0	1.0	28.8	1639.8	165.9	6.3	30.0	33.7	416.0	4.2	-42.1
7/9/2012	2231.4	5.8	0.0	0.0	1.0	28.8	1646.6	165.7	6.3	30.0	33.7	379.7	3.8	1.2
7/10/2012	1933.9	4.6	54.9	0.0	1.0	28.8	1622.2	165.1	6.3	30.0	33.7	367.6	3.7	-205.4
7/11/2012	1691.9	4.9	48.1	0.0	1.0	28.8	1417.1	160.0	6.3	30.0	33.7	323.9	3.2	-199.5
7/12/2012	1763.3	5.3	0.0	0.0	1.0	28.8	1234.8	158.8	6.3	30.0	33.7	319.6	3.2	12.0
7/13/2012	1892.2	6.7	0.0	0.0	1.0	28.8	1246.1	161.3	6.3	30.0	33.7	333.5	3.3	114.5
7/14/2012	2001.3	4.4	0.0	0.0	1.0	28.8	1330.7	163.2	6.3	30.0	33.7	359.6	3.6	108.4
7/15/2012	2086.6	13.7	0.0	0.0	1.0	28.8	1447.0	163.6	6.3	30.0	33.7	358.0	3.6	87.9
7/16/2012	2804.6	3.4	0.0	0.0	1.0	28.8	1567.5	164.2	6.3	30.0	33.7	763.2	7.6	265.4
7/17/2012	3481.0	3.8	0.0	0.0	1.0	28.8	1959.9	171.4	6.3	30.0	33.7	747.5	7.5	558.3
7/18/2012	3770.6	6.5	0.0	0.0	1.0	28.8	2552.1	177.9	6.3	30.0	33.7	764.9	7.6	234.3
7/19/2012	3873.7	6.3	0.0	0.0	1.0	28.8	2806.5	180.1	6.3	30.0	33.7	759.0	7.6	86.6
7/20/2012	3865.8	7.0	0.0	0.0	1.0	28.8	2855.6	180.5	6.3	30.0	33.7	774.0	7.7	14.8
7/21/2012	3834.0	8.3	0.0	0.0	1.0	28.8	2791.9	180.3	6.3	30.0	33.7	874.7	8.7	-53.4
7/22/2012	3814.2	7.8	0.0	0.0	1.0	28.8	2752.0	180.1	6.3	30.0	33.7	861.0	8.6	-19.9
7/23/2012	3849.9	6.4	0.0	0.0	1.0	28.8	2751.8	180.4	6.3	30.0	33.7	867.2	8.7	8.0
7/24/2012	3891.6	7.6	0.0	0.0	1.0	28.8	2779.6	180.7	6.3	30.0	33.7	867.2	8.7	22.9
7/25/2012	3814.2	6.2	0.0	0.0	1.0	28.8	2795.1	179.8	6.3	30.0	33.7	875.3	8.8	-78.8
7/26/2012	3683.3	6.5	0.0	0.0	1.0	28.8	2665.9	177.1	6.3	30.0	33.7	1004.5	10.0	-207.9
7/27/2012	3627.8	5.7	0.0	0.0	1.0	28.8	2470.7	175.6	6.3	30.0	33.7	1001.7	10.0	-64.8
7/28/2012	3536.5	6.0	0.0	0.0	1.0	28.8	2413.4	175.0	6.3	30.0	33.7	953.7	9.5	-49.3
7/29/2012	3465.1	7.6	0.0	0.0	1.0	28.8	2385.0	175.0	6.3	30.0	33.7	865.9	8.7	-2.0
7/30/2012	3562.3	8.7	0.0	0.0	1.0	28.8	2403.8	175.6	6.3	30.0	33.7	905.9	9.1	36.5
7/31/2012	3750.7	6.7	0.0	0.0	1.0	28.8	2472.6	177.1	6.3	30.0	33.7	962.5	9.6	95.5
8/1/2012	3768.6	7.2	0.0	0.0	1.0	28.8	2599.2	177.8	6.3	30.0	33.7	911.1	9.1	38.3
8/2/2012	3554.4	8.7	0.0	0.0	1.0	28.8	2571.5	176.2	6.3	29.4	33.7	942.4	9.4	-175.9
8/3/2012	3377.9	8.8	0.0	0.0	1.0	28.8	2380.2	173.6	6.3	29.4	33.7	946.2	9.5	-162.4
8/4/2012	3322.3	6.8	0.0	0.0	1.0	28.8	2266.7	172.1	6.3	29.4	33.7	896.9	9.0	-55.1
8/5/2012	3302.5	6.6	0.0	0.0	1.0	28.8	2255.0	171.5	6.3	29.4	33.7	856.5	8.6	-22.1
8/6/2012	3385.8	5.4	0.0	0.0	1.0	28.8	2266.1	172.2	6.3	29.4	33.7	857.4	8.6	47.3
8/7/2012	3564.3	6.8	0.0	0.0	1.0	28.8	2367.3	174.3	6.3	29.4	33.7	846.6	8.5	134.8
8/8/2012	3697.2	5.6	0.0	0.0	1.0	28.8	2522.6	176.0	6.3	29.4	33.7	862.8	8.6	93.3
8/9/2012	3744.8	7.8	0.0	0.0	1.0	28.8	2568.4	176.8	6.3	29.4	33.7	923.1	9.2	35.5
8/10/2012	3875.7	7.3	0.0	0.0	1.0	28.8	2587.8	177.7	6.3	29.4	33.7	994.2	9.9	73.8
8/11/2012	4036.4	8.8	0.0	0.0	1.0	28.8	2739.6	179.1	6.3	29.4	33.7	956.2	9.6	121.1
8/12/2012	3994.7	8.6	0.0	0.0	1.0	28.8	2884.0	179.8	6.3	29.4	33.7	842.4	8.4	49.2
8/13/2012	3978.8	10.2	0.0	0.0	1.0	28.8	2922.8	178.6	6.3	29.4	33.7	881.2	8.8	-41.9
8/14/2012	2703.5	7.5	547.7	0.0	1.0	28.8	2693.6	174.1	6.3	29.4	33.7	558.5	5.6	-212.8
8/15/2012	1967.6	7.5	442.3	0.0	1.0	28.8	2146.1	164.2	6.3	29.4	33.7	264.9	2.6	-199.9
8/16/2012	1884.3	9.4	0.0	0.0	1.0	28.8	1806.0	159.8	6.3	29.4	33.7	11.5	0.1	-123.2
8/17/2012	1884.3	3.3	0.0	0.0	1.0	28.8	1706.1	159.7	6.3	29.4	33.7	11.5	0.1	-29.3
8/18/2012	1884.3	8.4	0.0	0.0	1.0	28.8	1694.9	159.7	6.3	29.4	33.7	11.5	0.1	-13.1
8/19/2012	1884.3	6.0	0.0	0.0	1.0	28.8	1695.4	159.1	6.3	29.4	33.7	11.5	0.1	-15.4
8/20/2012	1874.4	7.0	0.0	0.0	1.0	28.8	1694.7	158.6	6.3	29.4	33.7	11.5	0.1	-23.1
8/21/2012	1874.4	11.8	0.0	0.0	1.0	28.8	1687.6	158.9	6.3	29.4	33.7	11.5	0.1	-11.5
8/22/2012	1866.4	5.7	0.0	0.0	1.0	28.8	1685.2	158.8	6.3	29.4	33.7	11.5	0.1	-22.9
8/23/2012	1691.9	15.0	0.0	0.0	1.0	28.8	1657.8	156.9	6.3	29.4	33.7	11.5	0.1	-159.0
8/24/2012	1467.8	10.0	49.2	0.0	1.0	28.8	1506.5	153.2	6.3	29.4	33.7	11.5	0.1	-183.9
8/25/2012	1477.7	5.1	0.0	0.0	1.0	28.8	1325.1	151.6	6.3	29.4	33.7	11.5	0.1	-45.0
8/26/2012	1477.7	5.5	0.0	0.0	1.0	28.8	1294.9	151.9	6.3	29.4	33.7	11.5	0.1	-14.8

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
8/27/2012	1477.7	4.6	0.0	0.0	1.0	28.8	1296.3	152.0	6.3	29.4	33.7	11.5	0.1	-17.2
8/28/2012	1418.2	2.1	0.0	0.0	1.0	28.8	1290.8	151.5	6.3	29.4	33.7	11.5	0.1	-73.1
8/29/2012	1378.5	6.6	0.0	0.0	1.0	28.8	1245.8	150.3	6.3	29.4	33.7	11.5	0.1	-62.2
8/30/2012	1394.4	7.3	0.0	0.0	1.0	28.8	1208.6	149.4	6.3	29.4	33.7	11.5	0.1	-7.5
8/31/2012	1402.3	5.1	0.0	0.0	1.0	28.8	1213.1	149.3	6.3	29.4	33.7	11.5	0.1	-6.2
9/1/2012	1410.2	5.2	0.0	0.0	1.0	28.8	1222.7	149.3	6.3	29.4	33.7	11.5	0.1	-7.6
9/2/2012	1418.2	5.6	0.0	0.0	1.0	28.8	1232.3	149.8	6.3	24.9	33.7	11.5	0.1	-5.0
9/3/2012	1243.6	3.9	0.0	0.0	1.0	28.8	1227.9	148.5	6.3	24.9	33.7	11.5	0.1	-175.6
9/4/2012	1108.8	4.4	3.1	0.0	1.0	28.8	1101.4	145.4	6.3	24.9	33.7	11.5	0.1	-177.2
9/5/2012	1108.8	8.2	0.0	0.0	1.0	28.8	976.1	144.5	6.3	24.9	33.7	11.5	0.1	-50.3
9/6/2012	1100.8	4.6	0.0	0.0	1.0	28.8	939.0	144.6	6.3	24.9	33.7	11.5	0.1	-24.8
9/7/2012	1092.9	5.9	0.0	0.0	1.0	28.8	933.5	144.6	6.3	24.9	33.7	11.5	0.1	-26.0
9/8/2012	1079.0	2.8	0.0	0.0	1.0	28.8	925.5	143.7	6.3	24.9	33.7	11.5	0.1	-34.1
9/9/2012	1065.1	4.3	0.0	0.0	1.0	28.8	914.7	142.6	6.3	24.9	33.7	11.5	0.1	-34.5
9/10/2012	1049.3	5.2	0.0	0.0	1.0	28.8	902.3	141.7	6.3	24.9	33.7	11.5	0.1	-36.2
9/11/2012	1035.4	4.7	0.0	0.0	1.0	28.8	887.2	141.4	6.3	24.9	33.7	11.5	0.1	-35.3
9/12/2012	1015.5	11.0	0.0	0.0	1.0	28.8	872.7	140.7	6.3	24.9	33.7	11.5	0.1	-33.6
9/13/2012	533.6	9.0	321.3	0.0	1.0	28.8	844.4	134.5	6.3	24.9	33.7	11.5	0.1	-161.7
9/14/2012	0.0	7.0	628.7	0.0	1.0	28.8	618.3	112.6	6.3	24.9	33.7	11.5	0.1	-141.9
9/15/2012	0.0	7.5	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-15.6
9/16/2012	0.0	2.9	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-20.2
9/17/2012	0.0	3.5	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-19.6
9/18/2012	0.0	3.1	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-20.0
9/19/2012	0.0	7.0	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-16.1
9/20/2012	0.0	1.7	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-21.4
9/21/2012	0.0	5.5	5.0	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-17.6
9/22/2012	0.0	5.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-17.3
9/23/2012	0.0	7.3	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-15.8
9/24/2012	0.0	8.0	5.0	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-15.1
9/25/2012	0.0	9.7	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-13.4
9/26/2012	0.0	4.9	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-18.2
9/27/2012	0.0	2.9	5.1	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-20.2
9/28/2012	0.0	2.5	5.0	0.0	1.0	28.8	6.1	0.0	6.3	11.9	33.7	0.0	0.0	-20.6
9/29/2012	0.0	6.7	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-16.4
9/30/2012	0.0	3.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	11.9	33.7	0.0	0.0	-19.3
10/1/2012	0.0	2.3	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.9
10/2/2012	0.0	3.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.4
10/3/2012	0.0	2.9	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.3
10/4/2012	0.0	3.7	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-7.6
10/5/2012	0.0	4.2	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.0
10/6/2012	0.0	3.2	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.0
10/7/2012	0.0	5.1	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.1
10/8/2012	0.0	2.0	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-9.2
10/9/2012	0.0	3.4	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.8
10/10/2012	0.0	2.9	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.3
10/11/2012	0.0	5.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-5.4
10/12/2012	0.0	5.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.0
10/13/2012	0.0	2.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.5
10/14/2012	0.0	3.9	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.3
10/15/2012	0.0	2.8	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.5
10/16/2012	0.0	4.1	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-7.1

Table G2-1: RGCP Channel Water Budget Equation Analysis Segment 1

2010-12 Study Period

(Units - Acre-Feet)

	Segment 1 - Caballo Dam to Leasburg Dam (Upper Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, River Below Caballo Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (none in Segment 1)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Leasburg Cable	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Percha, Arrey, & Leasburg)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
10/17/2012	0.0	1.6	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-9.6
10/18/2012	0.0	1.9	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-9.3
10/19/2012	0.0	5.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.0
10/20/2012	0.0	2.3	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.9
10/21/2012	0.0	3.0	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.2
10/22/2012	0.0	4.2	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-7.0
10/23/2012	0.0	6.2	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-5.0
10/24/2012	0.0	2.6	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-8.6
10/25/2012	0.0	2.5	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.7
10/26/2012	0.0	2.5	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.7
10/27/2012	0.0	5.0	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.2
10/28/2012	0.0	3.7	5.1	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-7.5
10/29/2012	0.0	1.5	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-9.7
10/30/2012	0.0	2.8	5.0	0.0	1.0	28.8	6.0	0.0	6.3	0.0	33.7	0.0	0.0	-8.5
10/31/2012	0.0	4.4	5.0	0.0	1.0	28.8	6.1	0.0	6.3	0.0	33.7	0.0	0.0	-6.8
11/1/2012	0.0	2.5	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.6
11/2/2012	0.0	2.4	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.6
11/3/2012	0.0	3.1	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.2
11/4/2012	0.0	2.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.3
11/5/2012	0.0	0.8	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	40.9
11/6/2012	0.0	0.4	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.5
11/7/2012	0.0	1.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.4
11/8/2012	0.0	2.1	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.2
11/9/2012	0.0	0.4	4.9	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	40.6
11/10/2012	0.0	0.9	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.0
11/11/2012	0.0	1.0	5.1	0.0	1.0	51.7	6.2	0.0	0.1	0.0	11.5	0.0	0.0	41.1
11/12/2012	0.0	3.8	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.9
11/13/2012	0.0	1.3	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.5
11/14/2012	0.0	2.5	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.6
11/15/2012	0.0	1.4	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.5
11/16/2012	0.0	2.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.3
11/17/2012	0.0	1.6	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.8
11/18/2012	0.0	1.1	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	41.3
11/19/2012	0.0	0.8	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.9
11/20/2012	0.0	0.3	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	40.4
11/21/2012	0.0	0.2	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	40.3
11/22/2012	0.0	1.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.2
11/23/2012	0.0	1.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.1
11/24/2012	0.0	3.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	43.1
11/25/2012	0.0	2.4	5.0	0.0	1.0	51.7	6.0	0.0	0.1	0.0	11.5	0.0	0.0	42.6
11/26/2012	0.0	1.3	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.5
11/27/2012	0.0	1.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.3
11/28/2012	0.0	2.2	5.0	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.4
11/29/2012	0.0	2.0	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	42.2
11/30/2012	0.0	1.1	5.1	0.0	1.0	51.7	6.1	0.0	0.1	0.0	11.5	0.0	0.0	41.2

RGCP - Project Scale Water Budget - Segment 1 (Caballo Dam to Leasburg Dam)

$$\Delta S_{ic} = (Q_{us} + P_c + Q_{cin} + Q_{irf} + Q_{gwrf}) - (Q_{cds} + Q_{cs} + Q_{fpr} + ET + Q_{da} + Q_{du})$$

- Sum of Inflow
- Sum of Outflow
- ΔS_{ic} - Change in Channel Storage

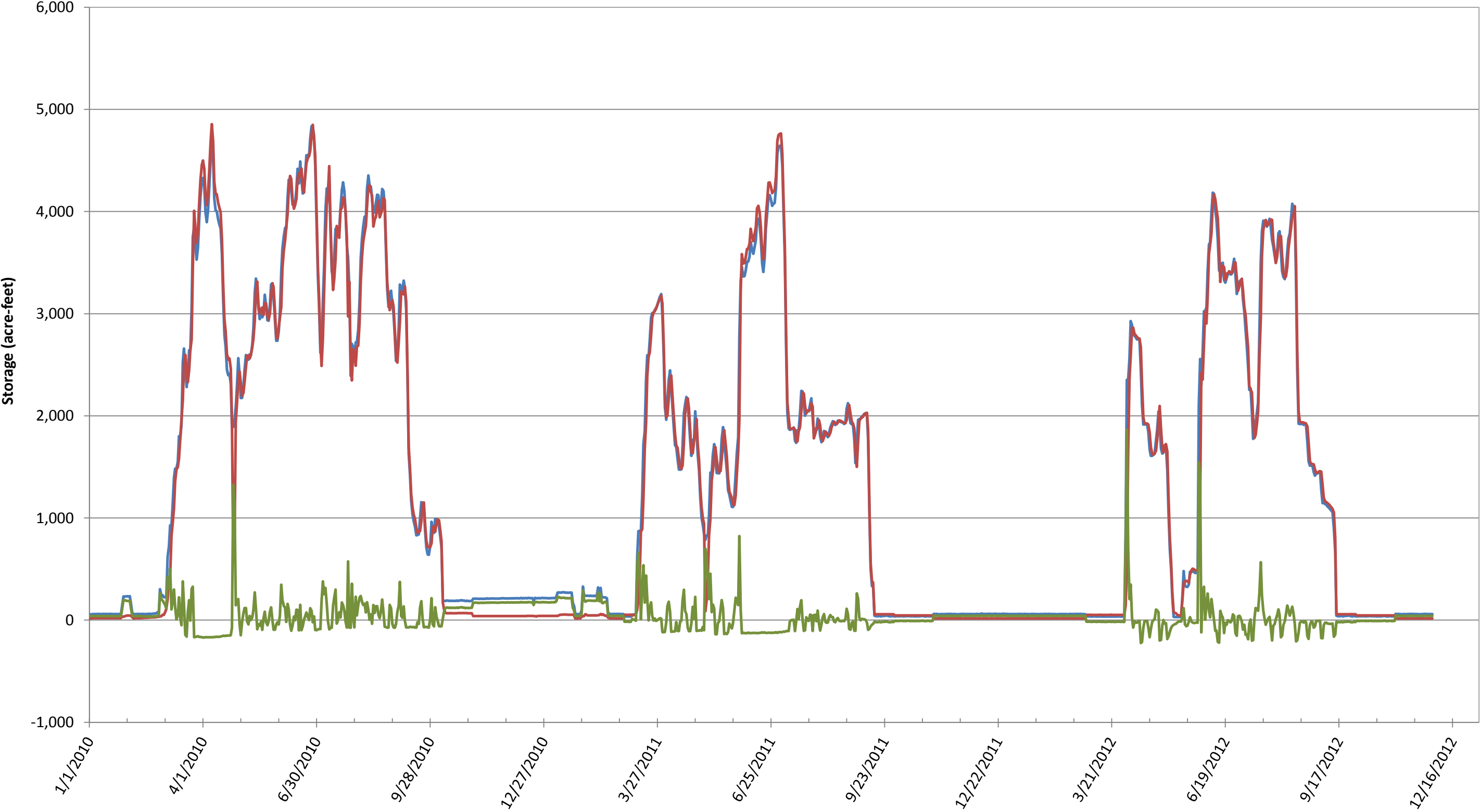


Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 22010-12 Study Period(Units - Acre-Feet)														
	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
1/1/2010	0.0	1.4	0.0	11.4	44.5	6.5	0.0	0.0	0.1	0.0	1.4	0.0	0.0	62.4
1/2/2010	3.0	1.2	0.0	11.6	44.5	6.5	0.0	3.0	0.1	0.0	1.4	0.0	0.0	62.3
1/3/2010	5.2	0.5	0.0	11.7	44.5	6.5	11.1	5.2	0.1	0.0	1.4	0.0	0.0	50.6
1/4/2010	6.5	1.3	0.0	11.6	44.5	6.5	28.2	6.5	0.1	0.0	1.4	0.0	0.0	34.2
1/5/2010	6.5	0.5	0.0	11.6	44.5	6.5	28.9	6.5	0.1	0.0	1.4	0.0	0.0	32.7
1/6/2010	6.5	1.6	0.0	11.7	44.5	6.5	28.7	6.5	0.1	0.0	1.4	0.0	0.0	34.1
1/7/2010	6.5	1.9	0.0	11.6	44.5	6.5	28.8	6.5	0.1	0.0	1.4	0.0	0.0	34.2
1/8/2010	6.5	1.2	0.0	11.3	44.5	6.5	28.8	6.5	0.1	0.0	1.4	0.0	0.0	33.3
1/9/2010	6.5	1.2	0.0	11.3	44.5	6.5	28.5	6.5	0.1	0.0	1.4	0.0	0.0	33.5
1/10/2010	6.6	0.9	0.0	11.5	44.5	6.5	28.6	6.6	0.1	0.0	1.4	0.0	0.0	33.2
1/11/2010	6.5	2.0	0.0	11.5	44.5	6.5	28.6	6.5	0.1	0.0	1.4	0.0	0.0	34.4
1/12/2010	6.5	0.7	0.0	12.0	44.5	6.5	28.8	6.5	0.1	0.0	1.4	0.0	0.0	33.4
1/13/2010	6.5	2.2	0.0	12.4	44.5	6.5	29.2	6.5	0.1	0.0	1.4	0.0	0.0	34.9
1/14/2010	6.5	0.3	0.0	12.5	44.5	6.5	29.4	6.5	0.1	0.0	1.4	0.0	0.0	32.9
1/15/2010	6.4	1.1	0.0	12.4	44.5	6.5	29.5	6.4	0.1	0.0	1.4	0.0	0.0	33.5
1/16/2010	6.5	0.2	0.0	12.3	44.5	6.5	29.3	6.5	0.1	0.0	1.4	0.0	0.0	32.7
1/17/2010	6.5	0.4	0.0	12.4	44.5	6.5	29.4	6.5	0.1	0.0	1.4	0.0	0.0	33.0
1/18/2010	6.5	1.6	0.0	12.2	44.5	6.5	29.4	6.5	0.1	0.0	1.4	0.0	0.0	34.0
1/19/2010	6.4	1.2	0.0	12.3	44.5	6.5	29.2	6.4	0.1	0.0	1.4	0.0	0.0	33.7
1/20/2010	6.5	1.4	0.0	12.3	44.5	6.5	29.2	6.5	0.1	0.0	1.4	0.0	0.0	33.9
1/21/2010	6.4	1.0	0.0	12.2	44.5	6.5	29.1	6.4	0.1	0.0	1.4	0.0	0.0	33.6
1/22/2010	6.5	1.2	0.0	12.6	44.5	6.5	29.1	6.5	0.1	0.0	1.4	0.0	0.0	34.2
1/23/2010	6.5	0.1	0.0	12.7	44.5	6.5	29.5	6.5	0.1	0.0	1.4	0.0	0.0	32.8
1/24/2010	6.4	1.3	0.0	12.0	44.5	6.5	29.4	6.4	0.1	0.0	1.4	0.0	0.0	33.4
1/25/2010	6.3	1.2	0.0	10.7	44.5	6.5	28.6	6.3	0.1	0.0	1.4	0.0	0.0	32.8
1/26/2010	6.4	0.5	0.0	9.9	44.5	6.5	27.5	6.4	0.1	0.0	1.4	0.0	0.0	32.4
1/27/2010	6.5	0.9	0.0	10.2	44.5	6.5	27.1	6.5	0.1	0.0	1.4	0.0	0.0	33.6
1/28/2010	6.5	0.6	0.0	11.4	44.5	6.5	27.5	6.5	0.1	0.0	1.4	0.0	0.0	34.0
1/29/2010	6.1	0.3	0.0	10.7	44.5	6.5	28.2	6.1	0.1	0.0	1.4	0.0	0.0	32.4
1/30/2010	10.1	0.7	0.0	10.1	44.5	6.5	27.3	10.1	0.1	0.0	1.4	0.0	0.0	33.0
1/31/2010	13.0	1.2	0.0	10.3	44.5	6.5	29.4	13.0	0.1	0.0	1.4	0.0	0.0	31.5
2/1/2010	13.1	0.6	0.0	10.3	44.5	6.5	32.8	13.1	0.1	0.0	1.4	0.0	0.0	27.6
2/2/2010	13.2	0.3	0.0	10.3	44.5	6.5	33.1	13.2	0.1	0.0	1.4	0.0	0.0	26.9
2/3/2010	13.3	1.0	0.0	10.5	44.5	6.5	33.3	13.3	0.1	0.0	1.4	0.0	0.0	27.8
2/4/2010	13.0	1.2	0.0	11.0	44.5	6.5	33.7	13.0	0.1	0.0	1.4	0.0	0.0	28.0
2/5/2010	3.8	1.6	0.0	10.5	44.5	6.5	33.5	3.8	0.1	0.0	1.4	0.0	0.0	28.1
2/6/2010	6.2	1.0	0.0	10.3	44.5	6.5	25.6	6.2	0.1	0.0	1.4	0.0	0.0	35.3
2/7/2010	6.4	1.1	0.0	10.3	44.5	6.5	27.3	6.4	0.1	0.0	1.4	0.0	0.0	33.6
2/8/2010	6.5	0.9	0.0	10.4	44.5	6.5	27.6	6.5	0.1	0.0	1.4	0.0	0.0	33.2
2/9/2010	6.4	1.4	0.0	10.2	44.5	6.5	27.6	6.4	0.1	0.0	1.4	0.0	0.0	33.5
2/10/2010	6.5	0.3	0.0	6.2	44.5	6.5	26.6	6.5	0.1	0.0	1.4	0.0	0.0	29.5
2/11/2010	6.5	0.5	0.0	6.6	44.5	6.5	24.1	6.5	0.1	0.0	1.4	0.0	0.0	32.6
2/12/2010	6.5	3.1	0.0	6.7	44.5	6.5	24.4	6.5	0.1	0.0	1.4	0.0	0.0	34.9
2/13/2010	6.4	0.8	0.0	8.8	44.5	6.5	25.1	6.4	0.1	0.0	1.4	0.0	0.0	34.1
2/14/2010	6.4	1.6	0.0	10.0	44.5	6.5	26.9	6.4	0.1	0.0	1.4	0.0	0.0	34.1
2/15/2010	6.5	0.6	0.0	0.0	44.5	6.5	24.8	6.5	0.1	0.0	1.4	0.0	0.0	25.3

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
2/16/2010	6.3	1.0	0.0	10.2	44.5	6.5	20.9	6.3	0.1	0.0	1.4	0.0	0.0	39.8
2/17/2010	6.4	1.3	0.0	9.0	44.5	6.5	27.5	6.4	0.1	0.0	1.4	0.0	0.0	32.4
2/18/2010	6.3	0.3	0.0	8.8	44.5	6.5	26.8	6.3	0.1	0.0	1.4	0.0	0.0	31.9
2/19/2010	6.4	0.6	0.0	12.1	44.5	6.5	27.6	6.4	0.1	0.0	1.4	0.0	0.0	34.7
2/20/2010	6.4	0.8	0.0	13.5	44.5	6.5	30.1	6.4	0.1	0.0	1.4	0.0	0.0	33.8
2/21/2010	6.5	2.2	0.0	13.3	44.5	6.5	30.9	6.5	0.1	0.0	1.4	0.0	0.0	34.1
2/22/2010	6.4	0.9	0.0	13.3	44.5	6.5	30.8	6.4	0.1	0.0	1.4	0.0	0.0	32.9
2/23/2010	6.4	0.1	0.0	13.2	44.5	6.5	30.9	6.4	0.1	0.0	1.4	0.0	0.0	32.0
2/24/2010	6.4	2.6	0.0	12.5	44.5	6.5	30.7	6.4	0.1	0.0	1.4	0.0	0.0	34.0
2/25/2010	6.5	0.5	0.0	12.8	44.5	6.5	30.4	6.5	0.1	0.0	1.4	0.0	0.0	32.5
2/26/2010	6.4	0.4	0.0	12.8	44.5	6.5	30.6	6.4	0.1	0.0	1.4	0.0	0.0	32.1
2/27/2010	6.5	0.1	0.0	12.9	44.5	6.5	30.7	6.5	0.1	0.0	1.4	0.0	0.0	31.8
2/28/2010	19.5	0.2	0.0	13.0	44.5	6.5	30.8	19.5	0.1	0.0	1.4	0.0	0.0	31.9
3/1/2010	0.0	1.6	0.0	12.4	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	46.4
3/2/2010	0.0	1.1	0.0	11.7	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	45.2
3/3/2010	0.0	1.2	0.0	11.7	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	45.3
3/4/2010	27.9	0.8	0.0	11.6	44.5	3.0	0.0	1.9	6.3	0.0	8.9	0.0	0.0	70.8
3/5/2010	231.8	0.2	0.0	11.6	44.5	3.0	0.0	69.0	6.3	5.4	8.9	0.0	0.0	201.6
3/6/2010	249.9	0.2	9.8	11.5	44.5	3.0	315.7	125.5	6.3	9.8	8.9	0.0	0.0	-147.3
3/7/2010	624.4	0.6	0.0	11.9	44.5	3.0	351.8	140.2	6.3	9.8	8.9	0.0	0.0	167.4
3/8/2010	746.2	0.4	0.0	12.0	44.5	3.0	354.5	171.3	6.3	9.8	8.9	0.0	0.0	255.3
3/9/2010	895.3	0.1	0.0	12.0	44.5	3.0	334.3	169.8	6.3	9.8	8.9	0.0	0.0	425.9
3/10/2010	1158.0	0.9	0.0	12.1	44.5	3.0	510.0	200.2	6.3	9.9	8.9	184.5	1.8	298.8
3/11/2010	1277.4	1.2	0.0	12.1	44.5	3.0	751.1	204.0	6.3	9.9	8.9	275.7	2.8	82.3
3/12/2010	1303.2	1.1	0.0	11.9	44.5	3.0	812.0	190.3	6.3	9.9	8.9	277.7	2.8	58.7
3/13/2010	1383.5	0.4	0.0	12.0	44.5	3.0	857.1	174.5	6.3	9.9	8.9	281.7	2.8	105.1
3/14/2010	1581.6	0.4	0.0	12.2	44.5	3.0	1029.0	167.0	6.3	9.9	8.9	277.7	2.8	143.0
3/15/2010	1602.4	0.9	0.0	12.2	44.5	3.0	1161.4	153.9	6.3	9.9	8.9	285.6	2.9	37.0
3/16/2010	1629.0	0.0	0.0	12.2	44.5	3.0	1136.8	141.6	6.3	9.9	8.9	293.6	2.9	91.7
3/17/2010	2002.8	0.1	0.0	12.5	44.5	3.0	1389.4	140.8	6.3	9.9	8.9	295.5	3.0	212.1
3/18/2010	2120.7	0.9	0.0	13.1	44.5	3.0	1668.9	140.7	6.3	9.9	8.9	293.6	2.9	54.0
3/19/2010	1971.0	0.3	0.0	12.2	44.5	3.0	1598.3	138.8	6.3	9.9	8.9	295.5	3.0	-26.7
3/20/2010	1857.6	0.8	0.0	10.8	44.5	3.0	1441.7	137.0	6.3	9.9	8.9	293.6	2.9	19.4
3/21/2010	1978.8	0.0	0.0	10.1	44.5	3.0	1449.9	136.8	6.3	9.9	8.9	293.6	2.9	131.1
3/22/2010	2160.7	0.3	0.0	10.9	44.5	3.0	1543.3	137.5	6.3	9.9	8.9	420.5	4.2	93.1
3/23/2010	2254.8	0.1	0.0	11.5	44.5	3.0	1532.0	137.3	6.3	9.9	8.9	505.8	5.1	113.7
3/24/2010	2712.7	0.1	0.0	11.3	44.5	3.0	1727.7	138.6	6.3	9.9	8.9	591.1	5.9	287.1
3/25/2010	3175.7	0.0	0.0	11.1	44.5	3.0	2069.5	140.1	6.3	9.9	8.9	906.4	9.1	90.2
3/26/2010	3032.4	0.1	0.0	11.1	44.5	3.0	1932.7	139.2	6.3	9.9	8.9	1025.5	10.3	-34.3
3/27/2010	2943.0	1.5	0.0	11.0	44.5	3.0	1798.9	138.4	6.3	9.9	8.9	1001.7	10.0	35.8
3/28/2010	3054.4	0.7	0.0	0.0	44.5	3.0	1835.9	138.3	6.3	9.9	8.9	1011.6	10.1	88.5
3/29/2010	3280.2	0.3	0.0	13.0	44.5	3.0	2056.1	138.5	6.3	9.9	8.9	1001.7	10.0	116.4
3/30/2010	3438.6	0.0	0.0	13.2	44.5	3.0	2247.6	138.6	6.3	9.9	8.9	991.7	9.9	92.4
3/31/2010	3474.0	0.1	0.0	13.6	44.5	3.0	2234.8	138.3	6.3	9.9	8.9	1086.9	10.9	45.7
4/1/2010	3432.1	0.1	0.0	13.6	44.5	3.0	2095.9	137.9	6.3	13.9	8.9	1209.9	12.1	15.9
4/2/2010	3323.3	0.7	0.0	13.8	44.5	3.0	1930.2	137.4	6.3	13.9	8.9	1352.7	13.5	-68.9
4/3/2010	3168.9	0.6	0.0	14.7	44.5	3.0	1782.5	136.6	6.3	13.9	8.9	1283.3	12.8	-4.3
4/4/2010	3126.8	0.7	0.0	20.2	44.5	3.0	1763.2	136.1	6.3	13.9	8.9	1206.0	12.1	56.5
4/5/2010	3211.0	1.1	0.0	17.5	44.5	3.0	1817.9	136.0	6.3	13.9	8.9	1190.1	11.9	99.8
4/6/2010	3395.3	1.2	0.0	28.3	44.5	3.0	1937.3	136.2	6.3	13.9	8.9	1243.6	12.4	121.5
4/7/2010	3555.6	0.2	0.0	20.1	44.5	3.0	2036.5	136.3	6.3	13.9	8.9	1325.0	13.2	91.9

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
4/8/2010	3645.8	0.1	0.0	20.2	44.5	3.0	2085.7	136.4	6.3	13.9	8.9	1386.4	13.9	70.9
4/9/2010	3547.6	0.0	0.0	22.1	44.5	3.0	1945.5	135.8	6.3	13.9	8.9	1531.2	15.3	-29.8
4/10/2010	3291.5	0.0	0.0	25.2	44.5	3.0	1673.6	135.0	6.3	13.9	8.9	1557.0	15.6	-35.4
4/11/2010	3199.0	0.9	0.0	26.3	44.5	3.0	1627.0	134.3	6.3	13.9	8.9	1428.1	14.3	50.3
4/12/2010	3172.3	1.1	0.0	27.9	44.5	3.0	1689.5	134.1	6.3	13.9	8.9	1426.1	14.3	-34.8
4/13/2010	3041.9	0.2	0.0	34.7	44.5	3.0	1674.7	133.6	6.3	13.9	8.9	1332.9	13.3	-51.1
4/14/2010	2926.1	0.1	0.0	33.0	44.5	3.0	1698.3	133.2	6.3	13.9	8.9	1154.4	11.5	-13.3
4/15/2010	2807.6	1.4	0.0	30.4	44.5	3.0	1636.8	133.1	6.3	13.9	8.9	1065.1	10.7	17.5
4/16/2010	2604.6	0.3	0.0	30.1	44.5	3.0	1476.4	132.4	6.3	13.9	8.9	1075.0	10.8	-35.9
4/17/2010	2238.2	0.2	0.0	30.5	44.5	3.0	1121.1	130.4	6.3	13.9	8.9	1176.2	11.8	-145.9
4/18/2010	2006.4	0.2	0.0	38.8	44.5	3.0	952.6	128.9	6.3	13.9	8.9	950.1	9.5	27.2
4/19/2010	1993.7	0.2	0.0	35.7	44.5	3.0	933.1	129.1	6.3	13.9	8.9	983.8	9.8	-2.7
4/20/2010	1813.1	0.1	0.0	35.5	44.5	3.0	837.9	128.1	6.3	13.9	8.9	918.3	9.2	-21.7
4/21/2010	1755.1	0.1	0.0	36.3	44.5	3.0	765.9	127.3	6.3	13.9	8.9	850.9	8.5	61.3
4/22/2010	1772.0	1.0	0.0	39.9	44.5	3.0	794.4	127.5	6.3	13.9	8.9	874.7	8.7	30.5
4/23/2010	1678.3	0.7	0.0	38.8	44.5	3.0	778.9	126.6	6.3	13.9	8.9	815.2	8.2	11.2
4/24/2010	1315.6	0.7	0.0	37.1	44.5	3.0	453.0	126.6	6.3	6.7	8.9	735.9	7.4	60.4
4/25/2010	0.0	0.4	571.6	36.5	44.5	3.0	0.0	0.0	6.3	0.0	8.9	652.6	6.5	-14.5
4/26/2010	0.0	0.3	544.1	68.0	44.5	3.0	0.0	0.0	6.3	0.0	8.9	656.5	6.6	-14.5
4/27/2010	1042.7	0.7	0.0	56.3	44.5	3.0	0.0	130.7	6.3	8.3	8.9	656.5	6.6	333.9
4/28/2010	1218.6	0.1	0.0	41.8	44.5	3.0	269.0	165.6	6.3	14.4	8.9	672.4	6.7	168.7
4/29/2010	1344.5	0.1	0.0	51.3	44.5	3.0	426.4	133.0	6.3	14.4	8.9	670.4	6.7	180.3
4/30/2010	1514.7	0.4	0.0	50.0	44.5	3.0	508.1	123.4	6.3	14.4	8.9	817.2	8.2	130.4
5/1/2010	1474.6	0.1	0.0	51.7	44.5	3.0	618.0	115.7	6.3	17.9	8.9	763.6	7.6	39.7
5/2/2010	1359.7	1.8	0.0	51.0	44.5	3.0	580.8	108.1	6.3	17.9	8.9	749.8	7.5	-15.6
5/3/2010	1355.9	1.4	0.0	54.6	44.5	3.0	537.3	103.4	6.3	17.9	8.9	727.9	7.3	53.7
5/4/2010	1446.7	0.3	0.0	44.6	44.5	3.0	576.2	101.5	6.3	17.9	8.9	743.8	7.4	80.7
5/5/2010	1585.8	0.5	0.0	44.4	44.5	3.0	677.1	101.1	6.3	17.9	8.9	710.1	7.1	152.9
5/6/2010	1706.5	0.4	0.0	46.6	44.5	3.0	761.2	100.4	6.3	17.9	8.9	779.5	7.8	123.0
5/7/2010	1704.9	1.2	0.0	42.7	44.5	3.0	734.1	92.8	6.3	17.9	8.9	880.7	8.8	51.9
5/8/2010	1672.7	0.0	0.0	49.4	44.5	3.0	691.6	68.1	6.3	17.9	8.9	898.5	9.0	74.2
5/9/2010	1704.7	0.0	0.0	46.6	44.5	3.0	709.6	39.2	6.3	17.9	8.9	916.4	9.2	96.4
5/10/2010	1726.7	0.0	0.0	50.7	44.5	3.0	754.5	25.6	6.3	17.9	8.9	914.4	9.1	93.2
5/11/2010	1764.5	0.6	0.0	50.3	44.5	3.0	762.8	21.1	6.3	17.9	8.9	934.2	9.3	107.3
5/12/2010	1923.5	0.0	0.0	53.2	44.5	3.0	827.5	19.2	6.3	17.9	8.9	966.0	9.7	173.8
5/13/2010	2174.3	0.1	0.0	48.8	44.5	3.0	1039.7	18.8	6.3	17.9	8.9	993.7	9.9	180.3
5/14/2010	2253.4	1.0	0.0	50.0	44.5	3.0	1124.4	18.8	6.3	17.9	8.9	1176.2	11.8	-5.7
5/15/2010	2161.6	1.2	0.0	50.6	44.5	3.0	1134.8	18.7	6.3	17.9	8.9	1069.1	10.7	-0.3
5/16/2010	2167.3	1.8	0.0	49.4	44.5	3.0	1210.3	18.6	6.3	17.9	8.9	906.4	9.1	92.5
5/17/2010	2137.3	0.4	0.0	51.5	44.5	3.0	1229.5	18.6	6.3	17.9	8.9	880.7	8.8	70.1
5/18/2010	2036.4	0.5	0.0	50.4	44.5	3.0	1153.3	18.5	6.3	17.9	8.9	910.4	9.1	14.3
5/19/2010	1863.5	0.0	0.0	50.3	44.5	3.0	955.2	18.2	6.3	17.9	8.9	916.4	9.2	33.0
5/20/2010	1898.7	0.4	0.0	48.4	44.5	3.0	805.7	18.2	6.3	17.9	8.9	1027.4	10.3	104.9
5/21/2010	1980.6	1.6	0.0	47.8	44.5	3.0	773.0	18.1	6.3	17.9	8.9	1170.2	11.7	77.2
5/22/2010	2026.7	0.2	0.0	48.9	44.5	3.0	911.6	18.1	6.3	17.9	8.9	1096.9	11.0	58.5
5/23/2010	2009.1	1.3	0.0	50.3	44.5	3.0	1027.0	18.1	6.3	17.9	8.9	936.2	9.4	88.9
5/24/2010	2038.2	0.3	0.0	50.6	44.5	3.0	1041.5	18.1	6.3	17.9	8.9	987.8	9.9	51.4
5/25/2010	2151.6	1.6	0.0	50.7	44.5	3.0	1120.3	18.3	6.3	17.9	8.9	977.9	9.8	97.1
5/26/2010	2259.5	0.2	0.0	56.0	44.5	3.0	1185.6	18.2	6.3	17.9	8.9	1059.2	10.6	62.2
5/27/2010	2266.0	0.9	0.0	50.4	44.5	3.0	1254.9	18.2	6.3	17.9	8.9	1027.4	10.3	26.5
5/28/2010	2113.9	1.0	0.0	49.0	44.5	3.0	1161.4	18.2	6.3	17.9	8.9	1027.4	10.3	-33.3

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/29/2010	1969.9	0.5	0.0	48.7	44.5	3.0	1013.2	18.0	6.3	17.9	8.9	967.9	9.7	29.8
5/30/2010	1923.9	0.0	0.0	50.8	44.5	3.0	948.6	17.8	6.3	17.9	8.9	950.1	9.5	67.9
5/31/2010	1910.0	1.2	0.0	49.9	44.5	3.0	919.4	17.8	6.3	17.9	8.9	964.0	9.6	69.7
6/1/2010	1881.2	0.6	0.0	50.4	44.5	3.0	859.9	17.7	6.3	21.2	8.9	987.8	9.9	73.3
6/2/2010	2021.4	0.4	0.0	51.5	44.5	3.0	883.7	17.6	6.3	21.2	8.9	1055.2	10.6	123.4
6/3/2010	2305.9	1.0	0.0	48.7	44.5	3.0	1120.5	18.0	6.3	21.2	8.9	1025.5	10.3	197.0
6/4/2010	2519.4	0.4	0.0	50.2	44.5	3.0	1234.9	18.2	6.3	21.2	8.9	1182.1	11.8	139.8
6/5/2010	2724.9	0.3	0.0	50.9	44.5	3.0	1406.1	18.3	6.3	21.2	8.9	1217.9	12.2	139.0
6/6/2010	2840.8	1.1	0.0	51.4	44.5	3.0	1613.6	18.4	6.3	21.2	8.9	1166.3	11.7	100.0
6/7/2010	2911.1	2.5	0.0	56.9	44.5	3.0	1699.8	18.4	6.3	21.2	8.9	1108.8	11.1	148.5
6/8/2010	3155.1	1.2	0.0	58.6	44.5	3.0	1910.4	18.5	6.3	21.2	8.9	1180.2	11.8	111.4
6/9/2010	3250.2	0.3	0.0	53.9	44.5	3.0	2041.8	18.5	6.3	21.2	8.9	1225.8	12.3	24.0
6/10/2010	3145.7	3.5	0.0	48.6	44.5	3.0	2003.5	18.4	6.3	21.2	8.9	1206.0	12.1	-24.5
6/11/2010	2987.8	0.7	0.0	56.0	44.5	3.0	1838.4	18.4	6.3	21.2	8.9	1152.4	11.5	40.6
6/12/2010	2974.1	0.9	0.0	56.8	44.5	3.0	1773.2	18.2	6.3	21.2	8.9	1204.0	12.0	41.6
6/13/2010	3091.8	0.2	0.0	56.3	44.5	3.0	1916.9	18.2	6.3	21.2	8.9	1090.9	10.9	128.2
6/14/2010	3163.8	1.9	0.0	55.8	44.5	3.0	2003.3	18.4	6.3	21.2	8.9	1096.9	11.0	109.3
6/15/2010	3227.5	3.2	0.0	57.8	44.5	3.0	2071.5	18.4	6.3	21.2	8.9	1090.9	10.9	113.2
6/16/2010	3258.8	1.8	0.0	57.0	44.5	3.0	2133.8	18.5	6.3	21.2	8.9	1096.9	11.0	73.6
6/17/2010	3233.8	2.5	0.0	54.8	44.5	3.0	2032.8	18.4	6.3	21.2	8.9	1120.7	11.2	124.2
6/18/2010	3334.7	4.5	0.0	54.6	44.5	3.0	2043.1	18.4	6.3	21.2	8.9	1265.5	12.7	71.9
6/19/2010	3243.9	1.4	0.0	54.3	44.5	3.0	1919.2	18.3	6.3	21.2	8.9	1311.1	13.1	56.7
6/20/2010	3223.5	1.5	0.0	54.8	44.5	3.0	1856.3	18.3	6.3	21.2	8.9	1366.6	13.7	44.5
6/21/2010	3241.3	0.7	0.0	57.6	44.5	3.0	1852.5	18.2	6.3	21.2	8.9	1382.5	13.8	52.3
6/22/2010	3291.7	0.4	0.0	56.4	44.5	3.0	1847.6	18.2	6.3	21.2	8.9	1438.0	14.4	50.5
6/23/2010	3367.6	1.5	0.0	58.1	44.5	3.0	1874.1	18.1	6.3	21.2	8.9	1446.0	14.5	94.6
6/24/2010	3363.8	1.8	0.0	61.3	44.5	3.0	1882.9	18.1	6.3	21.2	8.9	1493.6	14.9	37.4
6/25/2010	3409.0	1.0	0.0	60.5	44.5	3.0	1886.7	18.1	6.3	21.2	8.9	1499.5	15.0	71.0
6/26/2010	3559.1	0.9	0.0	61.3	44.5	3.0	2039.8	18.2	6.3	21.2	8.9	1436.0	14.4	132.0
6/27/2010	3636.2	3.7	0.0	64.2	44.5	3.0	2179.1	18.4	6.3	21.2	8.9	1404.3	14.0	106.9
6/28/2010	3662.2	2.6	0.0	65.9	44.5	3.0	2213.6	18.3	6.3	21.2	8.9	1394.4	13.9	109.2
6/29/2010	3547.2	4.7	0.0	72.5	44.5	3.0	2213.6	18.3	6.3	21.2	8.9	1374.5	13.7	22.7
6/30/2010	3064.0	2.8	102.7	69.7	44.5	3.0	1797.2	18.0	6.3	21.2	8.9	1483.6	14.8	-54.3
7/1/2010	2628.0	1.5	0.0	68.3	44.5	3.0	1461.6	17.7	6.3	18.6	8.9	1277.4	12.8	-49.8
7/2/2010	2394.6	4.9	0.0	67.6	44.5	3.0	1421.0	17.6	6.3	18.6	8.9	1085.0	10.8	-47.0
7/3/2010	2001.7	1.2	37.3	69.9	44.5	3.0	1278.7	17.3	6.3	18.6	8.9	874.7	8.7	-51.0
7/4/2010	1820.5	2.1	0.0	69.3	44.5	3.0	1160.2	16.9	6.3	18.6	8.9	618.8	6.2	106.1
7/5/2010	2113.3	4.9	0.0	68.7	44.5	3.0	1295.4	17.1	6.3	18.6	8.9	620.8	6.2	264.0
7/6/2010	2489.0	1.3	0.0	67.1	44.5	3.0	1640.0	17.5	6.3	18.6	8.9	666.4	6.7	243.2
7/7/2010	2815.3	1.8	0.0	65.5	44.5	3.0	1854.6	17.7	6.3	18.6	8.9	811.2	8.1	208.7
7/8/2010	3117.7	2.2	0.0	63.2	44.5	3.0	2073.0	17.9	6.3	18.6	8.9	890.6	8.9	210.5
7/9/2010	3232.3	6.2	0.0	65.2	44.5	3.0	1981.2	18.0	6.3	18.6	8.9	1277.4	12.8	35.6
7/10/2010	3492.6	4.8	366.1	67.5	44.5	3.0	2602.1	18.0	6.3	18.6	8.9	1368.6	13.7	-49.7
7/11/2010	3186.2	3.0	0.0	72.6	44.5	3.0	1729.7	18.0	6.3	8.0	8.9	1295.2	13.0	237.9
7/12/2010	2885.1	1.8	0.0	76.2	44.5	3.0	1659.9	18.0	6.3	8.0	8.9	1180.2	11.8	124.4
7/13/2010	2618.7	2.1	0.0	76.4	44.5	3.0	1459.8	18.0	6.3	8.0	8.9	1088.9	10.9	149.8
7/14/2010	2686.7	1.6	0.0	75.1	44.5	3.0	1525.9	18.0	6.3	8.0	8.9	971.9	9.7	266.6
7/15/2010	2794.3	3.5	0.0	72.6	44.5	3.0	1476.5	18.0	6.3	8.0	8.9	1118.7	11.2	275.3
7/16/2010	2955.1	2.0	0.0	71.7	44.5	3.0	1423.4	18.0	6.3	8.0	8.9	1350.7	13.5	254.4
7/17/2010	2919.3	6.5	0.0	71.3	44.5	3.0	1366.3	18.0	6.3	8.0	8.9	1402.3	14.0	229.1
7/18/2010	2880.8	1.9	0.0	69.8	44.5	3.0	1417.4	18.0	6.3	8.0	8.9	1307.1	13.1	228.7

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/19/2010	2891.6	2.7	0.0	69.5	44.5	3.0	1411.2	18.0	6.3	8.0	8.9	1321.0	13.2	232.6
7/20/2010	2891.5	2.6	0.0	70.0	44.5	3.0	1416.4	18.0	6.3	8.0	8.9	1297.2	13.0	251.6
7/21/2010	3017.0	5.0	0.0	72.4	44.5	3.0	1536.4	18.0	6.3	8.0	8.9	1263.5	12.6	295.8
7/22/2010	3097.2	2.1	0.0	72.7	44.5	3.0	1455.1	18.0	6.3	8.0	8.9	1455.9	14.6	262.3
7/23/2010	3102.5	4.7	0.0	68.9	44.5	3.0	1369.8	18.0	6.3	8.0	8.9	1576.9	15.8	231.0
7/24/2010	2987.9	1.6	0.0	67.8	44.5	3.0	1464.8	18.0	6.3	8.0	8.9	1449.9	14.5	144.8
7/25/2010	2477.9	2.0	0.0	68.2	44.5	3.0	1215.4	18.0	6.3	8.0	8.9	1221.8	12.2	113.3
7/26/2010	2956.8	4.7	0.0	79.2	44.5	3.0	1630.7	18.0	6.3	8.0	8.9	1106.8	11.1	307.1
7/27/2010	2158.7	2.0	40.5	89.9	44.5	3.0	1490.6	18.0	6.3	8.0	8.9	843.0	8.4	-38.1
7/28/2010	2017.0	3.3	0.0	87.2	44.5	3.0	1159.4	18.0	6.3	8.0	8.9	797.4	8.0	154.7
7/29/2010	2325.4	6.9	0.0	71.9	44.5	3.0	1229.8	18.0	6.3	8.0	8.9	856.9	8.6	321.7
7/30/2010	2287.7	2.9	0.0	70.4	44.5	3.0	1287.3	18.0	6.3	8.0	8.9	902.5	9.0	175.4
7/31/2010	2175.9	1.2	0.0	70.8	44.5	3.0	1130.3	18.0	6.3	8.0	8.9	958.0	9.6	163.9
8/1/2010	2362.0	6.9	0.0	75.1	44.5	3.0	1188.5	18.0	6.3	7.6	8.9	975.9	9.8	284.4
8/2/2010	2377.6	6.6	0.0	77.0	44.5	3.0	1287.5	18.0	6.3	7.6	8.9	948.1	9.5	230.5
8/3/2010	2422.4	4.8	0.0	72.8	44.5	3.0	1270.9	18.0	6.3	7.6	8.9	997.7	10.0	235.3
8/4/2010	2579.4	1.9	0.0	72.0	44.5	3.0	1260.2	18.0	6.3	7.6	8.9	1110.7	11.1	285.8
8/5/2010	2667.7	4.2	0.0	69.1	44.5	3.0	1306.1	18.0	6.3	7.6	8.9	1184.1	11.8	253.1
8/6/2010	2714.6	3.7	0.0	65.2	44.5	3.0	1220.4	18.0	6.3	7.6	8.9	1328.9	13.3	235.8
8/7/2010	2816.1	4.7	0.0	64.3	44.5	3.0	1277.4	18.0	6.3	7.6	8.9	1332.9	13.3	276.3
8/8/2010	2921.5	1.4	0.0	76.4	44.5	3.0	1418.7	18.0	6.3	7.6	8.9	1307.1	13.1	275.2
8/9/2010	2942.4	5.1	0.0	77.4	44.5	3.0	1447.2	18.0	6.3	7.6	8.9	1323.0	13.2	256.4
8/10/2010	3094.0	3.6	0.0	92.6	44.5	3.0	1516.8	18.0	6.3	7.6	8.9	1372.6	13.7	303.0
8/11/2010	3117.8	5.1	0.0	80.1	44.5	3.0	1576.3	18.0	6.3	7.6	8.9	1382.5	13.8	246.4
8/12/2010	3029.6	6.6	0.0	71.8	44.5	3.0	1458.2	18.0	6.3	7.6	8.9	1438.0	14.4	213.9
8/13/2010	3007.2	4.3	0.0	67.2	44.5	3.0	1387.7	18.0	6.3	7.6	8.9	1469.8	14.7	223.5
8/14/2010	2938.3	10.7	0.0	67.4	44.5	3.0	1317.5	18.0	6.3	7.6	8.9	1463.8	14.6	237.5
8/15/2010	3028.5	6.8	0.0	70.7	44.5	3.0	1489.0	18.0	6.3	7.6	8.9	1336.9	13.4	282.7
8/16/2010	3039.7	2.6	0.0	65.6	44.5	3.0	1555.4	18.0	6.3	7.6	8.9	1299.2	13.0	255.9
8/17/2010	3096.4	4.5	0.0	63.3	44.5	3.0	1542.6	18.0	6.3	7.6	8.9	1354.7	13.5	269.2
8/18/2010	3124.7	3.3	0.0	66.1	44.5	3.0	1506.0	18.0	6.3	7.6	8.9	1442.0	14.4	248.1
8/19/2010	3087.9	3.4	0.0	72.5	44.5	3.0	1504.3	18.0	6.3	7.6	8.9	1428.1	14.3	233.3
8/20/2010	3026.7	8.3	0.0	75.9	44.5	3.0	1527.3	18.0	6.3	7.6	8.9	1348.8	13.5	236.5
8/21/2010	3053.0	1.8	0.0	73.3	44.5	3.0	1542.1	18.0	6.3	7.6	8.9	1317.0	13.2	270.7
8/22/2010	3183.2	7.1	0.0	73.7	44.5	3.0	1664.3	18.0	6.3	7.6	8.9	1305.1	13.1	296.3
8/23/2010	3147.1	4.9	0.0	74.6	44.5	3.0	1713.9	18.0	6.3	7.6	8.9	1299.2	13.0	215.6
8/24/2010	3075.5	3.7	0.0	75.0	44.5	3.0	1662.3	18.0	6.3	7.6	8.9	1273.4	12.7	222.4
8/25/2010	2829.3	5.8	0.0	94.1	44.5	3.0	1628.6	18.0	6.3	7.6	8.9	1158.3	11.6	147.2
8/26/2010	2421.0	2.8	0.0	75.7	44.5	3.0	1385.1	18.0	6.3	7.6	8.9	1067.1	10.7	51.4
8/27/2010	2305.0	5.8	0.0	74.1	44.5	3.0	1202.9	18.0	6.3	7.6	8.9	1003.6	10.0	182.5
8/28/2010	2396.1	2.8	0.0	69.5	44.5	3.0	1170.2	18.0	6.3	7.6	8.9	1055.2	10.6	246.9
8/29/2010	2494.8	1.2	0.0	81.1	44.5	3.0	1138.5	18.0	6.3	7.6	8.9	1200.0	12.0	242.9
8/30/2010	2401.8	4.9	0.0	90.7	44.5	3.0	1127.9	18.0	6.3	7.6	8.9	1207.9	12.1	166.1
8/31/2010	2121.8	3.8	0.0	81.0	44.5	3.0	908.7	18.0	6.3	7.6	8.9	1243.6	12.4	58.3
9/1/2010	1799.2	0.9	0.0	75.7	44.5	3.0	531.7	18.0	6.3	6.1	8.9	1334.9	13.3	14.4
9/2/2010	1652.9	4.8	0.0	72.7	44.5	3.0	288.5	18.0	6.3	6.1	8.9	1354.7	13.5	91.6
9/3/2010	1676.5	2.8	0.0	72.5	44.5	3.0	254.9	18.0	6.3	6.1	8.9	1328.9	13.3	172.0
9/4/2010	1818.2	4.8	0.0	73.9	44.5	3.0	377.3	18.0	6.3	6.1	8.9	1251.6	12.5	272.1
9/5/2010	2143.6	4.1	0.0	80.6	44.5	3.0	734.3	18.0	6.3	6.1	8.9	1154.4	11.5	343.5
9/6/2010	2142.9	5.3	0.0	78.1	44.5	3.0	858.8	18.0	6.3	6.1	8.9	1176.2	11.8	195.4
9/7/2010	2128.4	5.6	0.0	72.1	44.5	3.0	775.1	18.0	6.3	6.1	8.9	1241.7	12.4	193.4

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
9/8/2010	2200.4	2.0	0.0	72.7	44.5	3.0	727.9	18.0	6.3	6.1	8.9	1334.9	13.3	216.3
9/9/2010	2104.6	2.1	0.0	74.6	44.5	3.0	735.0	18.0	6.3	6.1	8.9	1332.9	13.3	117.7
9/10/2010	1834.6	2.4	0.0	77.4	44.5	3.0	719.4	18.0	6.3	6.1	8.9	1130.6	11.3	71.6
9/11/2010	1443.5	3.2	0.0	79.0	44.5	3.0	817.0	18.0	6.3	6.1	8.9	724.0	7.2	-6.9
9/12/2010	1334.7	5.8	0.0	83.0	44.5	3.0	809.3	18.0	6.3	6.1	8.9	501.8	5.0	120.6
9/13/2010	1130.9	3.0	0.0	81.9	44.5	3.0	855.2	18.0	6.3	6.1	8.9	345.1	3.5	23.7
9/14/2010	998.9	3.3	0.0	70.9	44.5	3.0	704.1	18.0	6.3	6.1	8.9	325.3	3.3	51.9
9/15/2010	930.9	2.1	0.0	68.7	44.5	3.0	608.6	18.0	6.3	6.1	8.9	321.3	3.2	80.1
9/16/2010	882.9	3.7	0.0	69.5	44.5	3.0	532.3	18.0	6.3	6.1	8.9	349.1	3.5	83.0
9/17/2010	798.3	1.6	0.0	73.2	44.5	3.0	468.7	18.0	6.3	6.1	8.9	368.9	3.7	43.7
9/18/2010	749.3	3.1	0.0	68.2	44.5	3.0	391.0	18.0	6.3	6.1	8.9	368.9	3.7	68.8
9/19/2010	769.9	3.0	0.0	64.5	44.5	3.0	439.0	18.0	6.3	6.1	8.9	285.6	2.9	121.0
9/20/2010	766.5	3.3	0.0	63.1	44.5	3.0	475.2	18.0	6.3	6.1	8.9	253.9	2.5	112.0
9/21/2010	865.1	0.5	0.0	65.4	44.5	3.0	422.0	18.0	6.3	6.1	8.9	335.2	3.4	182.0
9/22/2010	1024.5	3.7	0.0	63.5	44.5	3.0	463.9	18.0	6.3	6.1	8.9	404.6	4.0	231.4
9/23/2010	1047.3	3.8	0.0	66.5	44.5	3.0	590.1	18.0	6.3	6.1	8.9	404.6	4.0	131.2
9/24/2010	825.5	1.4	12.8	67.7	44.5	3.0	645.0	18.0	6.3	6.1	8.9	305.5	3.1	-34.9
9/25/2010	672.9	3.7	0.0	66.1	44.5	3.0	495.0	18.0	6.3	6.1	8.9	257.9	2.6	-2.0
9/26/2010	609.8	1.2	0.0	63.6	44.5	3.0	390.1	18.0	6.3	6.1	8.9	259.8	2.6	33.0
9/27/2010	608.9	0.3	0.0	61.0	44.5	3.0	341.9	18.0	6.3	6.1	8.9	253.9	2.5	82.7
9/28/2010	608.1	0.2	0.0	59.6	44.5	3.0	335.5	18.0	6.3	6.1	8.9	257.9	2.6	82.8
9/29/2010	644.8	1.6	0.0	59.0	44.5	3.0	327.7	18.0	6.3	6.1	8.9	263.8	2.6	122.1
9/30/2010	807.7	1.6	0.0	58.0	44.5	3.0	345.2	18.0	6.3	6.1	8.9	285.6	2.9	244.8
10/1/2010	823.7	2.6	0.0	57.5	44.5	3.0	782.8	18.0	6.3	0.0	8.9	0.0	0.0	115.3
10/2/2010	772.4	0.7	0.0	56.2	44.5	3.0	753.1	18.0	6.3	0.0	8.9	0.0	0.0	90.6
10/3/2010	860.6	1.9	0.0	55.5	44.5	3.0	728.4	18.0	6.3	0.0	8.9	0.0	0.0	204.0
10/4/2010	893.1	2.0	0.0	55.4	44.5	3.0	837.0	18.0	6.3	0.0	8.9	0.0	0.0	127.8
10/5/2010	884.9	1.8	0.0	54.8	44.5	3.0	837.7	18.0	6.3	0.0	8.9	0.0	0.0	118.1
10/6/2010	783.1	0.4	0.0	53.8	44.5	3.0	818.8	18.0	6.3	0.0	8.9	0.0	0.0	32.8
10/7/2010	678.0	0.5	0.0	54.1	44.5	3.0	722.1	18.0	6.3	0.0	8.9	0.0	0.0	24.8
10/8/2010	103.4	1.1	23.1	53.9	44.5	3.0	224.9	87.2	6.3	0.0	8.9	0.0	0.0	-98.2
10/9/2010	45.7	1.2	6.6	54.5	44.5	3.0	151.3	78.7	6.3	0.0	8.9	0.0	0.0	-89.7
10/10/2010	13.3	0.8	0.0	52.9	44.5	3.0	101.4	13.3	6.3	0.0	8.9	0.0	0.0	-15.3
10/11/2010	8.6	2.7	0.0	50.8	44.5	3.0	71.2	8.6	6.3	0.0	8.9	0.0	0.0	14.6
10/12/2010	8.5	0.6	0.0	47.0	44.5	3.0	64.6	8.5	6.3	0.0	8.9	0.0	0.0	15.4
10/13/2010	8.5	1.7	0.0	43.3	44.5	3.0	61.1	8.5	6.3	0.0	8.9	0.0	0.0	16.3
10/14/2010	8.7	1.2	0.0	41.4	44.5	3.0	58.1	8.7	6.3	0.0	8.9	0.0	0.0	16.8
10/15/2010	8.5	2.1	0.0	40.0	44.5	3.0	56.5	8.5	6.3	0.0	8.9	0.0	0.0	17.9
10/16/2010	8.6	0.5	0.0	41.2	44.5	3.0	56.3	8.6	6.3	0.0	8.9	0.0	0.0	17.8
10/17/2010	8.7	5.0	0.0	40.0	44.5	3.0	56.5	8.7	6.3	0.0	8.9	0.0	0.0	20.8
10/18/2010	8.6	1.4	0.0	34.4	44.5	3.0	54.0	8.6	6.3	0.0	8.9	0.0	0.0	14.3
10/19/2010	8.7	3.2	0.0	29.9	44.5	3.0	49.4	8.7	6.3	0.0	8.9	0.0	0.0	16.0
10/20/2010	8.8	3.8	0.0	28.8	44.5	3.0	46.5	8.8	6.3	0.0	8.9	0.0	0.0	18.5
10/21/2010	8.8	2.8	0.0	28.1	44.5	3.0	45.6	8.8	6.3	0.0	8.9	0.0	0.0	17.7
10/22/2010	8.8	2.6	0.0	28.0	44.5	3.0	45.1	8.8	6.3	0.0	8.9	0.0	0.0	17.8
10/23/2010	9.1	2.6	0.0	27.2	44.5	3.0	44.9	9.1	6.3	0.0	8.9	0.0	0.0	17.2
10/24/2010	9.2	2.8	0.0	24.6	44.5	3.0	44.1	9.2	6.3	0.0	8.9	0.0	0.0	15.6
10/25/2010	9.2	1.6	0.0	23.9	44.5	3.0	42.2	9.2	6.3	0.0	8.9	0.0	0.0	15.6
10/26/2010	9.4	2.8	0.0	23.0	44.5	3.0	41.7	9.4	6.3	0.0	8.9	0.0	0.0	16.5
10/27/2010	9.3	2.2	0.0	22.2	44.5	3.0	40.6	9.3	6.3	0.0	8.9	0.0	0.0	16.1
10/28/2010	8.5	3.2	0.0	21.7	44.5	3.0	39.9	8.5	6.3	0.0	8.9	0.0	0.0	17.3

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
10/29/2010	8.3	1.4	0.0	21.6	44.5	3.0	39.0	8.3	6.3	0.0	8.9	0.0	0.0	16.3
10/30/2010	8.3	1.2	0.0	21.1	44.5	3.0	38.9	8.3	6.3	0.0	8.9	0.0	0.0	15.7
10/31/2010	8.4	0.7	0.0	20.6	44.5	3.0	38.4	8.4	6.3	0.0	8.9	0.0	0.0	15.2
11/1/2010	8.5	1.8	0.0	20.4	44.5	6.5	38.1	8.5	0.1	0.0	1.4	0.0	0.0	33.6
11/2/2010	8.4	0.5	0.0	19.0	44.5	6.5	37.5	8.4	0.1	0.0	1.4	0.0	0.0	31.5
11/3/2010	8.4	1.9	0.0	18.5	44.5	6.5	36.6	8.4	0.1	0.0	1.4	0.0	0.0	33.3
11/4/2010	8.4	0.5	0.0	20.3	44.5	6.5	36.7	8.4	0.1	0.0	1.4	0.0	0.0	33.7
11/5/2010	8.4	2.4	0.0	22.4	44.5	6.5	38.5	8.4	0.1	0.0	1.4	0.0	0.0	35.8
11/6/2010	8.4	0.4	0.0	24.8	44.5	6.5	40.5	8.4	0.1	0.0	1.4	0.0	0.0	34.2
11/7/2010	8.5	1.5	0.0	22.8	44.5	6.5	41.7	8.5	0.1	0.0	1.4	0.0	0.0	32.1
11/8/2010	8.5	1.4	0.0	22.4	44.5	6.5	40.1	8.5	0.1	0.0	1.4	0.0	0.0	33.2
11/9/2010	8.5	0.8	0.0	22.7	44.5	6.5	39.8	8.5	0.1	0.0	1.4	0.0	0.0	33.2
11/10/2010	8.6	0.2	0.0	31.9	44.5	6.5	42.3	8.6	0.1	0.0	1.4	0.0	0.0	39.3
11/11/2010	8.5	1.2	0.0	32.5	44.5	6.5	48.2	8.5	0.1	0.0	1.4	0.0	0.0	35.0
11/12/2010	8.6	0.7	0.0	34.2	44.5	6.5	49.1	8.6	0.1	0.0	1.4	0.0	0.0	35.3
11/13/2010	8.6	1.1	0.0	44.3	44.5	6.5	53.5	8.6	0.1	0.0	1.4	0.0	0.0	41.4
11/14/2010	8.7	4.9	0.0	54.3	44.5	6.5	62.6	8.7	0.1	0.0	1.4	0.0	0.0	46.2
11/15/2010	8.7	0.9	0.0	72.8	44.5	6.5	74.4	8.7	0.1	0.0	1.4	0.0	0.0	48.8
11/16/2010	8.7	1.6	0.0	89.9	44.5	6.5	91.0	8.7	0.1	0.0	1.4	0.0	0.0	50.0
11/17/2010	8.9	0.2	0.0	89.3	44.5	6.5	100.7	8.9	0.1	0.0	1.4	0.0	0.0	38.3
11/18/2010	9.0	0.2	0.0	89.6	44.5	6.5	100.4	9.0	0.1	0.0	1.4	0.0	0.0	39.0
11/19/2010	9.0	0.7	0.0	97.8	44.5	6.5	103.1	9.0	0.1	0.0	1.4	0.0	0.0	44.9
11/20/2010	9.0	0.1	0.0	110.3	44.5	6.5	111.5	9.0	0.1	0.0	1.4	0.0	0.0	48.4
11/21/2010	9.1	0.1	0.0	121.0	44.5	6.5	122.3	9.1	0.1	0.0	1.4	0.0	0.0	48.3
11/22/2010	9.1	0.3	0.0	120.7	44.5	6.5	128.9	9.1	0.1	0.0	1.4	0.0	0.0	41.6
11/23/2010	9.2	0.3	0.0	127.0	44.5	6.5	130.2	9.2	0.1	0.0	1.4	0.0	0.0	46.6
11/24/2010	9.3	1.0	0.0	125.6	44.5	6.5	134.0	9.3	0.1	0.0	1.4	0.0	0.0	42.2
11/25/2010	9.3	0.1	0.0	125.6	44.5	6.5	133.2	9.3	0.1	0.0	1.4	0.0	0.0	42.0
11/26/2010	9.3	0.7	0.0	127.5	44.5	6.5	133.4	9.3	0.1	0.0	1.4	0.0	0.0	44.3
11/27/2010	9.3	2.2	0.0	130.1	44.5	6.5	135.3	9.3	0.1	0.0	1.4	0.0	0.0	46.6
11/28/2010	9.2	1.4	0.0	121.1	44.5	6.5	134.6	9.2	0.1	0.0	1.4	0.0	0.0	37.4
11/29/2010	9.2	1.1	0.0	120.7	44.5	6.5	128.6	9.2	0.1	0.0	1.4	0.0	0.0	42.7
11/30/2010	9.2	0.5	0.0	118.9	44.5	6.5	127.5	9.2	0.1	0.0	1.4	0.0	0.0	41.4
12/1/2010	9.2	1.4	0.0	98.7	44.5	6.5	120.9	9.2	0.1	0.0	1.4	0.0	0.0	28.6
12/2/2010	9.3	0.2	0.0	95.3	44.5	6.5	107.0	9.3	0.1	0.0	1.4	0.0	0.0	38.1
12/3/2010	9.3	2.1	0.0	99.9	44.5	6.5	106.0	9.3	0.1	0.0	1.4	0.0	0.0	45.5
12/4/2010	9.5	0.9	0.0	111.5	44.5	6.5	111.9	9.5	0.1	0.0	1.4	0.0	0.0	49.9
12/5/2010	9.4	2.3	0.0	116.5	44.5	6.5	120.7	9.4	0.1	0.0	1.4	0.0	0.0	47.6
12/6/2010	9.5	0.9	0.0	53.9	44.5	6.5	106.3	9.5	0.1	0.0	1.4	0.0	0.0	-2.0
12/7/2010	9.5	0.9	0.0	9.9	44.5	6.5	51.0	9.5	0.1	0.0	1.4	0.0	0.0	9.4
12/8/2010	9.5	1.8	0.0	10.0	44.5	6.5	26.1	9.5	0.1	0.0	1.4	0.0	0.0	35.2
12/9/2010	9.5	1.7	0.0	10.4	44.5	6.5	26.2	9.5	0.1	0.0	1.4	0.0	0.0	35.4
12/10/2010	9.5	1.6	0.0	12.7	44.5	6.5	26.8	9.5	0.1	0.0	1.4	0.0	0.0	36.9
12/11/2010	9.5	1.8	0.0	10.8	44.5	6.5	27.7	9.5	0.1	0.0	1.4	0.0	0.0	34.4
12/12/2010	9.6	0.7	0.0	10.9	44.5	6.5	26.5	9.6	0.1	0.0	1.4	0.0	0.0	34.6
12/13/2010	9.5	1.6	0.0	14.4	44.5	6.5	27.3	9.5	0.1	0.0	1.4	0.0	0.0	38.2
12/14/2010	9.6	1.8	0.0	13.4	44.5	6.5	29.3	9.6	0.1	0.0	1.4	0.0	0.0	35.4
12/15/2010	9.6	3.2	0.0	20.3	44.5	6.5	30.6	9.6	0.1	0.0	1.4	0.0	0.0	42.4
12/16/2010	9.5	0.5	0.0	23.1	44.5	6.5	35.6	9.5	0.1	0.0	1.4	0.0	0.0	37.4
12/17/2010	9.6	1.6	0.0	20.2	44.5	6.5	36.4	9.6	0.1	0.0	1.4	0.0	0.0	34.8
12/18/2010	9.6	2.2	0.0	21.6	44.5	6.5	34.9	9.6	0.1	0.0	1.4	0.0	0.0	38.4

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
12/19/2010	9.6	1.1	0.0	32.2	44.5	6.5	38.7	9.6	0.1	0.0	1.4	0.0	0.0	44.2
12/20/2010	9.5	1.9	0.0	48.5	44.5	6.5	51.1	9.5	0.1	0.0	1.4	0.0	0.0	48.8
12/21/2010	4.9	0.2	0.0	60.7	44.5	6.5	64.2	4.9	0.1	0.0	1.4	0.0	0.0	46.2
12/22/2010	8.6	2.2	0.0	67.7	44.5	6.5	69.8	8.6	0.1	0.0	1.4	0.0	0.0	49.6
12/23/2010	9.6	1.0	0.0	69.6	44.5	6.5	77.7	9.6	0.1	0.0	1.4	0.0	0.0	42.4
12/24/2010	9.6	1.2	0.0	70.4	44.5	6.5	79.9	9.6	0.1	0.0	1.4	0.0	0.0	41.2
12/25/2010	9.7	1.2	0.0	77.9	44.5	6.5	82.9	9.7	0.1	0.0	1.4	0.0	0.0	45.7
12/26/2010	9.7	2.8	0.0	82.2	44.5	6.5	88.7	9.7	0.1	0.0	1.4	0.0	0.0	45.9
12/27/2010	9.8	2.0	0.0	89.0	44.5	6.5	93.5	9.8	0.1	0.0	1.4	0.0	0.0	47.0
12/28/2010	9.8	1.0	0.0	92.1	44.5	6.5	98.4	9.8	0.1	0.0	1.4	0.0	0.0	44.2
12/29/2010	9.8	2.4	0.0	93.9	44.5	6.5	100.7	9.8	0.1	0.0	1.4	0.0	0.0	45.1
12/30/2010	9.8	2.0	0.0	95.7	44.5	6.5	102.4	9.8	0.1	0.0	1.4	0.0	0.0	44.9
12/31/2010	9.8	0.3	0.0	99.2	44.5	6.5	104.5	9.8	0.1	0.0	1.4	0.0	0.0	44.5
1/1/2011	9.8	1.4	0.0	101.3	44.5	6.5	107.2	9.8	0.1	0.0	1.4	0.0	0.0	45.0
1/2/2011	9.8	1.2	0.0	105.7	44.5	6.5	109.6	9.8	0.1	0.0	1.4	0.0	0.0	46.8
1/3/2011	9.8	0.5	0.0	110.5	44.5	6.5	113.8	9.8	0.1	0.0	1.4	0.0	0.0	46.8
1/4/2011	9.9	1.3	0.0	110.7	44.5	6.5	116.8	9.9	0.1	0.0	1.4	0.0	0.0	44.7
1/5/2011	10.0	0.5	0.0	110.2	44.5	6.5	116.7	10.0	0.1	0.0	1.4	0.0	0.0	43.4
1/6/2011	10.0	1.6	0.0	108.4	44.5	6.5	116.0	10.0	0.1	0.0	1.4	0.0	0.0	43.6
1/7/2011	10.1	1.9	0.0	109.1	44.5	6.5	115.0	10.1	0.1	0.0	1.4	0.0	0.0	45.5
1/8/2011	12.7	1.2	0.0	110.8	44.5	6.5	116.1	12.7	0.1	0.0	1.4	0.0	0.0	45.5
1/9/2011	18.8	1.2	0.0	111.0	44.5	6.5	119.3	18.8	0.1	0.0	1.4	0.0	0.0	42.4
1/10/2011	19.8	0.9	0.0	112.0	44.5	6.5	124.6	19.8	0.1	0.0	1.4	0.0	0.0	37.7
1/11/2011	19.9	2.0	0.0	113.7	44.5	6.5	126.9	19.9	0.1	0.0	1.4	0.0	0.0	38.3
1/12/2011	20.0	0.7	0.0	113.9	44.5	6.5	128.1	20.0	0.1	0.0	1.4	0.0	0.0	36.0
1/13/2011	20.3	2.2	0.0	115.5	44.5	6.5	128.8	20.3	0.1	0.0	1.4	0.0	0.0	38.4
1/14/2011	20.2	0.3	0.0	116.1	44.5	6.5	130.2	20.2	0.1	0.0	1.4	0.0	0.0	35.7
1/15/2011	19.7	1.1	0.0	115.6	44.5	6.5	130.3	19.7	0.1	0.0	1.4	0.0	0.0	35.9
1/16/2011	19.7	0.2	0.0	115.6	44.5	6.5	129.6	19.7	0.1	0.0	1.4	0.0	0.0	35.7
1/17/2011	19.7	0.4	30.9	0.0	44.5	6.5	95.1	71.1	0.1	0.0	1.4	0.0	0.0	-65.7
1/18/2011	19.7	1.6	0.0	69.4	44.5	6.5	43.4	19.7	0.1	0.0	1.4	0.0	0.0	77.1
1/19/2011	19.7	1.2	0.0	27.7	44.5	6.5	72.8	19.7	0.1	0.0	1.4	0.0	0.0	5.6
1/20/2011	19.0	1.4	0.0	17.0	44.5	6.5	45.0	19.0	0.1	0.0	1.4	0.0	0.0	22.9
1/21/2011	5.4	1.0	0.0	13.4	44.5	6.5	37.4	5.4	0.1	0.0	1.4	0.0	0.0	26.5
1/22/2011	5.9	1.2	0.0	19.5	44.5	6.5	25.5	5.9	0.1	0.0	1.4	0.0	0.0	44.7
1/23/2011	6.2	0.1	0.0	24.7	44.5	6.5	30.5	6.2	0.1	0.0	1.4	0.0	0.0	43.8
1/24/2011	6.3	1.3	0.0	34.9	44.5	6.5	36.7	6.3	0.1	0.0	1.4	0.0	0.0	49.0
1/25/2011	6.4	1.2	0.0	37.2	44.5	6.5	44.1	6.4	0.1	0.0	1.4	0.0	0.0	43.8
1/26/2011	6.3	0.5	0.0	27.2	44.5	6.5	42.8	6.3	0.1	0.0	1.4	0.0	0.0	34.4
1/27/2011	6.2	0.9	0.0	10.8	44.5	6.5	32.0	6.2	0.1	0.0	1.4	0.0	0.0	29.3
1/28/2011	6.2	0.6	0.0	8.9	44.5	6.5	20.9	6.2	0.1	0.0	1.4	0.0	0.0	38.1
1/29/2011	23.4	0.3	0.0	14.1	44.5	6.5	20.9	23.4	0.1	0.0	1.4	0.0	0.0	43.0
1/30/2011	16.5	0.7	0.0	18.4	44.5	6.5	38.5	16.5	0.1	0.0	1.4	0.0	0.0	30.1
1/31/2011	14.0	1.2	0.0	24.9	44.5	6.5	39.5	14.0	0.1	0.0	1.4	0.0	0.0	36.1
2/1/2011	14.0	0.6	0.0	27.5	44.5	6.5	41.5	14.0	0.1	0.0	1.4	0.0	0.0	36.1
2/2/2011	14.1	0.3	0.0	27.1	44.5	6.5	43.1	14.1	0.1	0.0	1.4	0.0	0.0	33.8
2/3/2011	14.0	1.0	0.0	25.8	44.5	6.5	42.8	14.0	0.1	0.0	1.4	0.0	0.0	33.6
2/4/2011	14.1	1.2	0.0	27.2	44.5	6.5	42.1	14.1	0.1	0.0	1.4	0.0	0.0	35.7
2/5/2011	14.1	1.6	0.0	28.3	44.5	6.5	43.3	14.1	0.1	0.0	1.4	0.0	0.0	36.1
2/6/2011	14.0	1.0	0.0	29.3	44.5	6.5	44.2	14.0	0.1	0.0	1.4	0.0	0.0	35.7
2/7/2011	14.0	1.1	0.0	30.2	44.5	6.5	45.1	14.0	0.1	0.0	1.4	0.0	0.0	35.7

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
2/8/2011	14.0	0.9	0.0	35.2	44.5	6.5	47.4	14.0	0.1	0.0	1.4	0.0	0.0	38.2
2/9/2011	14.8	1.4	0.0	37.5	44.5	6.5	50.9	14.8	0.1	0.0	1.4	0.0	0.0	37.5
2/10/2011	25.5	0.3	0.0	26.5	44.5	6.5	49.3	25.5	0.1	0.0	1.4	0.0	0.0	27.0
2/11/2011	16.3	0.5	0.0	14.0	44.5	6.5	47.7	16.3	0.1	0.0	1.4	0.0	0.0	16.3
2/12/2011	24.8	3.1	0.0	11.8	44.5	6.5	32.9	24.8	0.1	0.0	1.4	0.0	0.0	31.5
2/13/2011	13.9	0.8	0.0	14.7	44.5	6.5	38.4	13.9	0.1	0.0	1.4	0.0	0.0	26.6
2/14/2011	11.2	1.6	0.0	14.2	44.5	6.5	32.0	11.2	0.1	0.0	1.4	0.0	0.0	33.3
2/15/2011	11.3	0.6	0.0	15.2	44.5	6.5	29.0	11.3	0.1	0.0	1.4	0.0	0.0	36.4
2/16/2011	11.2	1.0	0.0	16.5	44.5	6.5	29.9	11.2	0.1	0.0	1.4	0.0	0.0	37.1
2/17/2011	9.1	1.3	0.0	16.6	44.5	6.5	30.7	9.1	0.1	0.0	1.4	0.0	0.0	36.7
2/18/2011	6.0	0.3	0.0	13.8	44.5	6.5	28.2	6.0	0.1	0.0	1.4	0.0	0.0	35.5
2/19/2011	6.2	0.6	0.0	13.1	44.5	6.5	23.4	6.2	0.1	0.0	1.4	0.0	0.0	39.8
2/20/2011	6.3	0.8	0.0	14.0	44.5	6.5	23.6	6.3	0.1	0.0	1.4	0.0	0.0	40.7
2/21/2011	6.2	2.2	0.0	13.0	44.5	6.5	23.9	6.2	0.1	0.0	1.4	0.0	0.0	40.9
2/22/2011	6.2	0.9	0.0	9.5	44.5	6.5	22.3	6.2	0.1	0.0	1.4	0.0	0.0	37.6
2/23/2011	6.2	0.1	0.0	8.4	44.5	6.5	19.9	6.2	0.1	0.0	1.4	0.0	0.0	38.2
2/24/2011	6.1	2.6	0.0	9.5	44.5	6.5	19.3	6.1	0.1	0.0	1.4	0.0	0.0	42.3
2/25/2011	6.2	0.5	0.0	10.1	44.5	6.5	20.3	6.2	0.1	0.0	1.4	0.0	0.0	39.9
2/26/2011	6.2	0.4	0.0	9.8	44.5	6.5	20.5	6.2	0.1	0.0	1.4	0.0	0.0	39.1
2/27/2011	6.2	0.1	0.0	10.2	44.5	6.5	20.5	6.2	0.1	0.0	1.4	0.0	0.0	39.3
2/28/2011	6.2	0.2	0.0	11.5	44.5	6.5	21.1	6.2	0.1	0.0	1.4	0.0	0.0	40.0
3/1/2011	6.2	1.6	0.0	11.4	44.5	3.0	21.9	6.2	6.3	3.0	8.9	0.0	0.0	20.4
3/2/2011	6.2	1.1	0.0	11.6	44.5	3.0	21.9	6.2	6.3	3.0	8.9	0.0	0.0	20.1
3/3/2011	6.1	1.2	0.0	12.6	44.5	3.0	22.2	6.1	6.3	3.0	8.9	0.0	0.0	20.9
3/4/2011	6.3	0.8	0.0	14.3	44.5	3.0	23.2	6.3	6.3	3.0	8.9	0.0	0.0	21.1
3/5/2011	6.1	0.2	0.0	13.5	44.5	3.0	24.1	6.1	6.3	3.0	8.9	0.0	0.0	18.8
3/6/2011	6.2	0.2	0.0	11.0	44.5	3.0	23.1	6.2	6.3	3.0	8.9	0.0	0.0	17.4
3/7/2011	0.0	0.6	0.0	10.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	43.0
3/8/2011	0.0	0.4	0.0	9.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	41.8
3/9/2011	0.0	0.1	0.0	7.4	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	39.8
3/10/2011	0.0	0.9	0.0	6.2	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	39.4
3/11/2011	0.0	1.2	0.0	5.6	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	39.0
3/12/2011	27.0	1.1	0.0	6.2	44.5	3.0	0.0	1.8	6.3	0.0	8.9	0.0	0.0	64.8
3/13/2011	240.2	0.4	0.0	6.1	44.5	3.0	0.0	71.1	6.3	5.4	8.9	0.0	0.0	202.6
3/14/2011	655.4	0.4	0.0	4.2	44.5	3.0	297.3	194.0	6.3	9.8	8.9	0.0	0.0	191.3
3/15/2011	688.2	0.9	0.0	3.3	44.5	3.0	335.8	201.5	6.3	9.8	8.9	0.0	0.0	177.6
3/16/2011	976.0	0.0	0.0	3.4	44.5	3.0	393.9	212.5	6.3	9.9	8.9	0.0	0.0	395.4
3/17/2011	1463.3	0.1	0.0	3.2	44.5	3.0	910.7	268.5	6.3	9.9	8.9	0.0	0.0	309.8
3/18/2011	1714.7	0.9	0.0	3.5	44.5	3.0	1323.4	251.3	6.3	9.9	8.9	0.0	0.0	166.8
3/19/2011	2165.2	0.3	0.0	3.6	44.5	3.0	1742.0	224.8	6.3	9.9	8.9	0.0	0.0	224.7
3/20/2011	2375.1	0.8	0.0	3.5	44.5	3.0	2125.0	185.8	6.3	9.9	8.9	0.0	0.0	91.0
3/21/2011	2436.7	0.0	0.0	3.5	44.5	3.0	2241.0	148.9	6.3	9.9	8.9	0.0	0.0	72.8
3/22/2011	2618.4	0.3	0.0	3.8	44.5	3.0	2393.9	132.9	6.3	9.9	8.9	0.0	0.0	118.1
3/23/2011	2805.9	0.1	0.0	3.5	44.5	3.0	2627.7	107.4	6.3	9.9	8.9	0.0	0.0	96.8
3/24/2011	2858.0	0.1	0.0	3.3	44.5	3.0	2753.4	78.7	6.3	9.9	8.9	0.0	0.0	51.8
3/25/2011	2872.0	0.0	0.0	3.6	44.5	3.0	2791.6	61.3	6.3	9.9	8.9	0.0	0.0	45.2
3/26/2011	2903.3	0.1	0.0	3.8	44.5	3.0	2825.5	55.2	6.3	9.9	8.9	0.0	0.0	48.9
3/27/2011	2934.9	1.5	0.0	4.0	44.5	3.0	2859.8	53.3	6.3	9.9	8.9	0.0	0.0	49.7
3/28/2011	2966.9	0.7	0.0	4.2	44.5	3.0	2893.0	52.8	6.3	9.9	8.9	0.0	0.0	48.4
3/29/2011	2997.8	0.3	0.0	4.3	44.5	3.0	2924.2	52.6	6.3	9.9	8.9	0.0	0.0	48.0
3/30/2011	3029.0	0.0	0.0	4.5	44.5	3.0	2955.5	52.5	6.3	9.9	8.9	0.0	0.0	47.9

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
3/31/2011	2955.3	0.1	0.0	4.5	44.5	3.0	2906.0	52.2	6.3	9.9	8.9	0.0	0.0	24.2
4/1/2011	2550.0	0.1	119.2	4.8	44.5	3.0	2272.2	51.5	6.3	13.9	8.9	446.3	4.5	-77.4
4/2/2011	2056.3	0.7	60.6	4.8	44.5	3.0	1694.1	50.4	6.3	13.9	8.9	472.1	4.7	-75.7
4/3/2011	1842.6	0.6	0.0	4.1	44.5	3.0	1396.6	49.6	6.3	13.9	8.9	450.2	4.5	-30.7
4/4/2011	1857.0	0.7	0.0	4.1	44.5	3.0	1390.1	49.4	6.3	13.9	8.9	368.9	3.7	71.9
4/5/2011	2025.8	1.1	0.0	4.4	44.5	3.0	1552.6	49.7	6.3	13.9	8.9	321.3	3.2	126.1
4/6/2011	2218.2	1.2	0.0	4.2	44.5	3.0	1754.4	50.2	6.3	13.9	8.9	321.3	3.2	116.2
4/7/2011	2250.2	0.2	0.0	4.1	44.5	3.0	1811.8	50.1	6.3	13.9	8.9	410.6	4.1	0.4
4/8/2011	2039.9	0.1	0.0	3.3	44.5	3.0	1668.6	49.7	6.3	13.9	8.9	392.7	3.9	-49.3
4/9/2011	1863.1	0.0	0.0	2.2	44.5	3.0	1486.7	49.2	6.3	13.9	8.9	388.8	3.9	-40.9
4/10/2011	1680.1	0.0	0.0	2.5	44.5	3.0	1312.8	48.6	6.3	13.9	8.9	138.8	1.4	200.8
4/11/2011	1577.1	0.9	0.0	2.8	44.5	3.0	1177.8	48.0	6.3	13.9	8.9	0.0	0.0	373.5
4/12/2011	1549.7	1.1	0.0	2.9	44.5	3.0	1137.5	47.7	6.3	13.9	8.9	0.0	0.0	386.9
4/13/2011	1446.1	0.2	0.0	2.7	44.5	3.0	1083.1	47.3	6.3	13.9	8.9	0.0	0.0	337.1
4/14/2011	1356.1	0.1	0.0	2.7	44.5	3.0	985.4	46.7	6.3	13.9	8.9	0.0	0.0	345.3
4/15/2011	1346.7	1.4	0.0	2.8	44.5	3.0	942.0	46.4	6.3	13.9	8.9	0.0	0.0	380.9
4/16/2011	1376.1	0.3	0.0	3.1	44.5	3.0	955.9	46.6	6.3	13.9	8.9	0.0	0.0	395.5
4/17/2011	1590.5	0.2	0.0	3.2	44.5	3.0	1077.0	47.3	6.3	13.9	8.9	0.0	0.0	488.0
4/18/2011	1875.7	0.2	0.0	3.3	44.5	3.0	1382.1	48.4	6.3	13.9	8.9	234.0	2.3	233.1
4/19/2011	1983.5	0.2	0.0	3.9	44.5	3.0	1576.7	48.6	6.3	13.9	8.9	299.5	3.0	81.2
4/20/2011	2032.2	0.1	0.0	3.8	44.5	3.0	1658.4	48.9	6.3	13.9	8.9	303.5	3.0	43.7
4/21/2011	1938.5	0.1	0.0	3.3	44.5	3.0	1625.3	48.8	6.3	13.9	8.9	307.4	3.1	-21.3
4/22/2011	1725.0	1.0	0.0	2.8	44.5	3.0	1460.2	48.2	6.3	13.9	8.9	303.5	3.0	-64.6
4/23/2011	1504.5	0.7	0.0	0.8	44.5	3.0	1232.7	47.3	6.3	13.9	8.9	299.5	3.0	-55.0
4/24/2011	1498.8	0.7	0.0	0.3	44.5	3.0	1121.7	47.1	6.3	13.9	8.9	289.6	2.9	59.8
4/25/2011	1617.2	0.4	0.0	0.3	44.5	3.0	1197.2	47.4	6.3	13.9	8.9	307.4	3.1	84.3
4/26/2011	1680.5	0.3	0.0	0.3	44.5	3.0	1280.5	47.5	6.3	13.9	8.9	299.5	3.0	72.1
4/27/2011	1830.4	0.7	0.0	0.3	44.5	3.0	1436.6	48.2	6.3	13.9	8.9	287.6	2.9	77.5
4/28/2011	1591.3	0.1	23.8	0.3	44.5	3.0	1291.0	47.5	6.3	13.9	8.9	368.9	3.7	-73.5
4/29/2011	1434.5	0.1	0.0	0.4	44.5	3.0	1076.1	46.3	6.3	13.9	8.9	374.9	3.7	-43.8
4/30/2011	1182.0	0.4	66.0	1.6	44.5	3.0	964.9	45.5	6.3	13.9	8.9	329.3	3.3	-71.2
5/1/2011	974.2	0.1	0.0	1.8	44.5	3.0	976.5	44.0	6.3	17.4	8.9	0.0	0.0	-29.4
5/2/2011	863.1	1.8	0.0	2.0	44.5	3.0	863.3	42.3	6.3	17.4	8.9	0.0	0.0	-23.8
5/3/2011	813.4	1.4	0.0	1.9	44.5	3.0	785.5	41.2	6.3	17.4	8.9	0.0	0.0	4.9
5/4/2011	0.0	0.3	0.0	1.2	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.9
5/5/2011	0.0	0.5	0.0	1.5	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	34.3
5/6/2011	114.0	0.4	0.0	1.4	44.5	3.0	0.0	9.0	6.3	0.1	8.9	0.0	0.0	139.1
5/7/2011	518.9	1.2	0.0	1.3	44.5	3.0	52.5	162.2	6.3	11.2	8.9	0.0	0.0	327.7
5/8/2011	690.1	0.0	0.0	1.1	44.5	3.0	355.8	209.1	6.3	17.4	8.9	0.0	0.0	141.3
5/9/2011	1063.6	0.0	0.0	1.2	44.5	3.0	492.8	243.0	6.3	17.4	8.9	0.0	0.0	343.9
5/10/2011	1187.3	0.0	0.0	1.1	44.5	3.0	901.1	263.6	6.3	17.4	8.9	0.0	0.0	38.7
5/11/2011	1375.8	0.6	0.0	0.2	44.5	3.0	1029.7	244.6	6.3	17.4	8.9	0.0	0.0	117.2
5/12/2011	1488.3	0.0	0.0	0.7	44.5	3.0	1230.2	199.4	6.3	17.4	8.9	0.0	0.0	74.4
5/13/2011	1384.3	0.1	0.0	0.2	44.5	3.0	1267.3	143.2	6.3	17.4	8.9	0.0	0.0	-10.9
5/14/2011	1280.7	1.0	0.0	0.9	44.5	3.0	1199.1	98.5	6.3	17.4	8.9	0.0	0.0	-0.1
5/15/2011	1262.9	1.2	0.0	1.5	44.5	3.0	1179.0	80.9	6.3	17.4	8.9	0.0	0.0	20.6
5/16/2011	1274.6	1.8	0.0	1.7	44.5	3.0	1193.0	77.3	6.3	17.4	8.9	0.0	0.0	22.7
5/17/2011	1390.7	0.4	0.0	1.7	44.5	3.0	1248.5	77.2	6.3	17.4	8.9	0.0	0.0	82.0
5/18/2011	1583.2	0.5	0.0	1.8	44.5	3.0	1423.7	78.5	6.3	17.4	8.9	0.0	0.0	98.3
5/19/2011	1673.2	0.0	0.0	1.8	44.5	3.0	1587.3	79.3	6.3	17.4	8.9	0.0	0.0	23.3
5/20/2011	1555.0	0.4	0.0	2.0	44.5	3.0	1552.3	78.5	6.3	17.4	8.9	0.0	0.0	-58.6

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/21/2011	1430.1	1.6	0.0	2.7	44.5	3.0	1424.7	77.2	6.3	17.4	8.9	0.0	0.0	-52.5
5/22/2011	1244.2	0.2	0.0	2.6	44.5	3.0	1274.8	75.2	6.3	17.4	8.9	0.0	0.0	-88.0
5/23/2011	1119.9	1.3	0.0	2.3	44.5	3.0	1109.5	73.1	6.3	17.4	8.9	0.0	0.0	-44.2
5/24/2011	1092.4	0.3	0.0	1.4	44.5	3.0	1034.2	72.0	6.3	17.4	8.9	0.0	0.0	2.8
5/25/2011	1051.6	1.6	0.0	1.2	44.5	3.0	1015.7	71.4	6.3	17.4	8.9	0.0	0.0	-17.8
5/26/2011	997.7	0.2	0.0	1.0	44.5	3.0	967.2	70.3	6.3	17.4	8.9	0.0	0.0	-23.6
5/27/2011	986.7	0.9	0.0	0.9	44.5	3.0	923.2	69.5	6.3	17.4	8.9	0.0	0.0	10.8
5/28/2011	1080.9	1.0	0.0	1.0	44.5	3.0	944.9	70.1	6.3	17.4	8.9	0.0	0.0	82.9
5/29/2011	1288.4	0.5	0.0	1.4	44.5	3.0	1102.2	72.3	6.3	17.4	8.9	0.0	0.0	130.7
5/30/2011	1499.4	0.0	0.0	1.7	44.5	3.0	1334.3	74.6	6.3	17.4	8.9	0.0	0.0	107.2
5/31/2011	1809.8	1.2	0.0	1.8	44.5	3.0	1490.6	76.0	6.3	17.4	8.9	0.0	0.0	261.2
6/1/2011	2630.0	0.6	0.0	2.0	44.5	3.0	1938.2	78.8	6.3	20.6	8.9	319.3	3.2	306.2
6/2/2011	2858.7	0.4	0.0	2.4	44.5	3.0	1997.5	79.3	6.3	20.6	8.9	858.8	8.6	-65.6
6/3/2011	2771.7	1.0	0.0	2.7	44.5	3.0	1870.2	78.9	6.3	20.6	8.9	902.5	9.0	-67.4
6/4/2011	2770.2	0.4	0.0	2.5	44.5	3.0	1803.0	78.6	6.3	20.6	8.9	910.4	9.1	-10.3
6/5/2011	2828.6	0.3	0.0	2.0	44.5	3.0	1771.2	78.5	6.3	20.6	8.9	1021.5	10.2	-31.6
6/6/2011	2803.0	1.1	0.0	2.5	44.5	3.0	1762.6	78.4	6.3	20.6	8.9	999.7	10.0	-25.3
6/7/2011	2737.2	2.5	0.0	3.0	44.5	3.0	1726.9	78.1	6.3	20.6	8.9	981.8	9.8	-35.3
6/8/2011	2837.4	1.2	0.0	3.2	44.5	3.0	1785.7	78.2	6.3	20.6	8.9	952.1	9.5	34.5
6/9/2011	2968.4	0.3	0.0	3.0	44.5	3.0	1906.2	78.2	6.3	20.6	8.9	979.8	9.8	15.8
6/10/2011	2903.9	3.5	0.0	3.4	44.5	3.0	1876.9	78.0	6.3	20.6	8.9	977.9	9.8	-14.0
6/11/2011	2898.0	0.7	0.0	3.5	44.5	3.0	1829.8	77.8	6.3	20.6	8.9	981.8	9.8	20.7
6/12/2011	2974.8	0.9	0.0	3.9	44.5	3.0	1889.7	77.9	6.3	20.6	8.9	993.7	9.9	26.3
6/13/2011	3011.1	0.2	0.0	4.2	44.5	3.0	1921.7	77.9	6.3	20.6	8.9	999.7	10.0	24.2
6/14/2011	3082.1	1.9	0.0	4.1	44.5	3.0	2008.8	78.0	6.3	20.6	8.9	979.8	9.8	29.4
6/15/2011	3084.7	3.2	0.0	4.1	44.5	3.0	2010.9	77.9	6.3	20.6	8.9	1043.3	10.4	-32.3
6/16/2011	3042.8	1.8	0.0	4.3	44.5	3.0	1970.6	77.7	6.3	20.6	8.9	1075.0	10.8	-66.4
6/17/2011	2909.3	2.5	0.0	4.4	44.5	3.0	1919.8	77.4	6.3	20.6	8.9	1007.6	10.1	-80.5
6/18/2011	2727.2	4.5	0.0	4.5	44.5	3.0	1727.5	76.7	6.3	20.6	8.9	993.7	9.9	-53.8
6/19/2011	2684.2	1.4	0.0	4.3	44.5	3.0	1702.6	76.6	6.3	20.6	8.9	906.4	9.1	12.1
6/20/2011	2771.6	1.5	0.0	4.9	44.5	3.0	1747.0	76.5	6.3	20.6	8.9	886.6	8.9	75.8
6/21/2011	3027.8	0.7	0.0	4.9	44.5	3.0	1951.2	76.9	6.3	20.6	8.9	916.4	9.2	96.9
6/22/2011	3183.0	0.4	0.0	5.9	44.5	3.0	2051.8	76.9	6.3	20.6	8.9	1043.3	10.4	25.2
6/23/2011	3298.1	1.5	0.0	6.6	44.5	3.0	2091.5	76.9	6.3	20.6	8.9	1152.4	11.5	-7.4
6/24/2011	3308.4	1.8	0.0	6.9	44.5	3.0	2081.4	76.9	6.3	20.6	8.9	1168.3	11.7	-3.0
6/25/2011	3281.4	1.0	0.0	7.4	44.5	3.0	2062.4	76.7	6.3	20.6	8.9	1192.1	11.9	-34.8
6/26/2011	3298.2	0.9	0.0	7.4	44.5	3.0	2111.5	76.6	6.3	20.6	8.9	1104.8	11.0	20.6
6/27/2011	3303.2	3.7	0.0	7.4	44.5	3.0	2175.3	76.7	6.3	20.6	8.9	1067.1	10.7	2.6
6/28/2011	3277.6	2.6	0.0	7.3	44.5	3.0	2196.8	76.6	6.3	20.6	8.9	997.7	10.0	23.9
6/29/2011	3366.6	4.7	0.0	7.5	44.5	3.0	2215.1	76.9	6.3	20.6	8.9	1065.1	10.7	29.2
6/30/2011	3542.7	2.8	0.0	8.0	44.5	3.0	2328.8	77.0	6.3	20.6	8.9	1138.5	11.4	16.1
7/1/2011	3599.6	1.5	0.0	8.4	44.5	3.0	2332.9	77.1	6.3	18.0	8.9	1231.7	12.3	-22.9
7/2/2011	3599.0	4.9	0.0	8.6	44.5	3.0	2287.3	77.0	6.3	18.0	8.9	1271.4	12.7	-13.9
7/3/2011	3584.4	1.2	0.0	9.0	44.5	3.0	2240.1	76.8	6.3	18.0	8.9	1285.3	12.9	1.6
7/4/2011	3520.4	2.1	0.0	9.8	44.5	3.0	2203.7	76.6	6.3	18.0	8.9	1283.3	12.8	-22.2
7/5/2011	3351.2	4.9	0.0	10.5	44.5	3.0	2033.6	76.2	6.3	18.0	8.9	1307.1	13.1	-40.5
7/6/2011	3084.8	1.3	54.8	10.4	44.5	3.0	1919.1	76.0	6.3	18.0	8.9	1275.4	12.8	-109.1
7/7/2011	2493.8	1.8	98.6	10.9	44.5	3.0	1763.1	75.6	6.3	18.0	8.9	884.6	8.8	-105.1
7/8/2011	1998.4	2.2	0.0	10.3	44.5	3.0	1554.3	74.4	6.3	18.0	8.9	478.0	4.8	-81.5
7/9/2011	1841.6	6.2	0.0	10.7	44.5	3.0	1332.9	73.4	6.3	18.0	8.9	497.9	5.0	-31.3
7/10/2011	1736.0	4.8	0.0	10.6	44.5	3.0	1223.5	73.0	6.3	18.0	8.9	487.9	4.9	-18.7

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/11/2011	1728.4	3.0	0.0	10.6	44.5	3.0	1215.7	72.7	6.3	18.0	8.9	446.3	4.5	21.7
7/12/2011	1734.6	1.8	0.0	10.0	44.5	3.0	1278.1	72.8	6.3	18.0	8.9	380.8	3.8	29.0
7/13/2011	1740.8	2.1	0.0	8.8	44.5	3.0	1300.1	72.8	6.3	18.0	8.9	372.9	3.7	20.2
7/14/2011	1724.1	1.6	0.0	8.9	44.5	3.0	1315.2	72.6	6.3	18.0	8.9	361.0	3.6	0.1
7/15/2011	1608.2	3.5	0.0	8.8	44.5	3.0	1233.2	72.0	6.3	18.0	8.9	361.0	3.6	-31.3
7/16/2011	1609.9	2.0	0.0	8.4	44.5	3.0	1168.3	72.0	6.3	18.0	8.9	361.0	3.6	33.4
7/17/2011	1708.9	6.5	0.0	8.3	44.5	3.0	1268.4	72.7	6.3	18.0	8.9	337.2	3.4	59.8
7/18/2011	1748.1	1.9	0.0	10.6	44.5	3.0	1387.6	73.4	6.3	18.0	8.9	271.7	2.7	42.2
7/19/2011	1907.0	2.7	0.0	16.2	44.5	3.0	1541.9	73.7	6.3	18.0	8.9	204.3	2.0	120.3
7/20/2011	2086.2	2.6	0.0	17.5	44.5	3.0	1724.8	74.4	6.3	18.0	8.9	236.0	2.4	85.3
7/21/2011	2076.4	5.0	0.0	22.3	44.5	3.0	1744.5	74.6	6.3	18.0	8.9	295.5	3.0	3.5
7/22/2011	1959.7	2.1	0.0	26.1	44.5	3.0	1641.6	74.1	6.3	18.0	8.9	303.5	3.0	-16.9
7/23/2011	1882.0	4.7	0.0	25.1	44.5	3.0	1523.3	73.7	6.3	18.0	8.9	303.5	3.0	25.7
7/24/2011	1908.8	1.6	0.0	24.3	44.5	3.0	1453.6	73.7	6.3	18.0	8.9	384.8	3.8	36.9
7/25/2011	1910.2	2.0	0.0	24.0	44.5	3.0	1442.3	73.9	6.3	18.0	8.9	406.6	4.1	27.8
7/26/2011	1919.5	4.7	0.0	23.2	44.5	3.0	1435.0	73.8	6.3	18.0	8.9	410.6	4.1	42.4
7/27/2011	1981.5	2.0	0.0	22.7	44.5	3.0	1482.2	73.8	6.3	18.0	8.9	402.6	4.0	61.9
7/28/2011	1951.4	3.3	0.0	22.3	44.5	3.0	1527.4	73.8	6.3	18.0	8.9	418.5	4.2	-28.4
7/29/2011	1640.0	6.9	0.0	21.9	44.5	3.0	1295.1	72.8	6.3	18.0	8.9	384.8	3.8	-69.5
7/30/2011	1682.7	2.9	0.0	22.3	44.5	3.0	1095.3	72.5	6.3	18.0	8.9	474.0	4.7	80.4
7/31/2011	1728.5	1.2	0.0	22.7	44.5	3.0	1138.0	72.9	6.3	18.0	8.9	601.0	6.0	-45.2
8/1/2011	1741.2	6.9	0.0	22.8	44.5	3.0	1584.8	72.9	6.3	17.6	8.9	0.0	0.0	127.9
8/2/2011	1817.7	6.6	0.0	22.5	44.5	3.0	1726.1	73.1	6.3	17.7	8.9	0.0	0.0	62.2
8/3/2011	1765.2	4.8	0.0	21.3	44.5	3.0	1738.4	73.2	6.3	17.6	8.9	0.0	0.0	-5.6
8/4/2011	1641.3	1.9	0.0	20.4	44.5	3.0	1628.7	72.5	6.3	17.6	8.9	0.0	0.0	-22.9
8/5/2011	1615.3	4.2	0.0	19.9	44.5	3.0	1551.5	72.2	6.3	17.6	8.9	0.0	0.0	30.4
8/6/2011	1652.0	3.7	0.0	19.4	44.5	3.0	1566.0	72.2	6.3	17.6	8.9	0.0	0.0	51.7
8/7/2011	1706.6	4.7	0.0	18.9	44.5	3.0	1622.6	72.6	6.3	17.6	8.9	0.0	0.0	49.8
8/8/2011	1696.1	1.4	0.0	18.4	44.5	3.0	1641.1	72.6	6.3	17.6	8.9	0.0	0.0	17.0
8/9/2011	1676.2	5.1	0.0	18.4	44.5	3.0	1621.0	72.5	6.3	17.6	8.9	0.0	0.0	20.9
8/10/2011	1662.6	3.6	0.0	18.5	44.5	3.0	1600.5	72.4	6.3	17.6	8.9	0.0	0.0	26.4
8/11/2011	1694.1	5.1	0.0	19.0	44.5	3.0	1610.9	72.5	6.3	17.6	8.9	0.0	0.0	49.6
8/12/2011	1744.5	6.6	0.0	19.3	44.5	3.0	1658.1	72.8	6.3	17.6	8.9	0.0	0.0	54.1
8/13/2011	1778.7	4.3	0.0	18.5	44.5	3.0	1699.9	72.9	6.3	17.6	8.9	0.0	0.0	43.5
8/14/2011	1802.7	10.7	0.0	16.8	44.5	3.0	1731.1	73.1	6.3	17.7	8.9	0.0	0.0	40.6
8/15/2011	1790.1	6.8	0.0	17.6	44.5	3.0	1732.5	73.1	6.3	17.6	8.9	0.0	0.0	23.6
8/16/2011	1777.1	2.6	0.0	16.4	44.5	3.0	1715.3	73.0	6.3	17.6	8.9	0.0	0.0	22.5
8/17/2011	1791.5	4.5	0.0	16.6	44.5	3.0	1717.3	72.9	6.3	17.6	8.9	0.0	0.0	37.1
8/18/2011	1815.2	3.3	0.0	15.9	44.5	3.0	1742.3	73.0	6.3	17.6	8.9	0.0	0.0	33.8
8/19/2011	1812.0	3.4	0.0	15.9	44.5	3.0	1750.2	73.1	6.3	17.6	8.9	0.0	0.0	22.7
8/20/2011	1805.8	8.3	0.0	15.9	44.5	3.0	1744.0	73.0	6.3	17.6	8.9	0.0	0.0	27.6
8/21/2011	1798.5	1.8	0.0	15.9	44.5	3.0	1737.3	72.9	6.3	17.6	8.9	0.0	0.0	20.6
8/22/2011	1791.2	7.1	0.0	16.4	44.5	3.0	1729.8	72.6	6.3	17.6	8.9	0.0	0.0	27.0
8/23/2011	1787.9	4.9	0.0	15.9	44.5	3.0	1723.6	72.3	6.3	17.6	8.9	0.0	0.0	27.5
8/24/2011	1818.0	3.7	0.0	15.9	44.5	3.0	1730.4	72.2	6.3	17.6	8.9	0.0	0.0	49.6
8/25/2011	1927.7	5.8	0.0	15.9	44.5	3.0	1816.6	72.3	6.3	17.6	8.9	0.0	0.0	75.2
8/26/2011	1965.4	2.8	0.0	15.9	44.5	3.0	1901.3	72.4	6.3	17.6	8.9	0.0	0.0	25.1
8/27/2011	1880.7	5.8	0.0	15.9	44.5	3.0	1856.7	72.0	6.3	17.6	8.9	0.0	0.0	-11.5
8/28/2011	1802.2	2.8	0.0	15.9	44.5	3.0	1764.9	71.9	6.3	17.6	8.9	0.0	0.0	-1.2
8/29/2011	1784.6	1.2	0.0	15.9	44.5	3.0	1724.0	72.1	6.3	17.7	8.9	0.0	0.0	20.3
8/30/2011	1736.1	4.9	0.0	15.9	44.5	3.0	1712.0	72.0	6.3	17.6	8.9	0.0	0.0	-12.4

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
8/31/2011	1503.3	3.8	0.0	15.9	44.5	3.0	1553.6	71.3	6.3	17.6	8.9	0.0	0.0	-87.2
9/1/2011	1367.9	0.9	0.0	7.6	44.5	3.0	1340.1	69.2	6.3	15.0	8.9	0.0	0.0	-15.5
9/2/2011	1618.5	4.8	0.0	0.0	44.5	3.0	1409.6	69.7	6.3	15.0	8.9	0.0	0.0	161.4
9/3/2011	1809.0	2.8	0.0	0.0	44.5	3.0	1684.9	71.0	6.3	15.0	8.9	0.0	0.0	73.3
9/4/2011	1839.3	4.8	0.0	0.0	44.5	3.0	1773.4	71.2	6.3	15.0	8.9	0.0	0.0	16.8
9/5/2011	1845.8	4.1	0.0	0.0	44.5	3.0	1780.7	71.2	6.3	15.0	8.9	0.0	0.0	15.3
9/6/2011	1859.8	5.3	0.0	0.0	44.5	3.0	1791.7	71.4	6.3	15.0	8.9	0.0	0.0	19.4
9/7/2011	1875.5	5.6	0.0	0.0	44.5	3.0	1807.4	71.7	6.3	15.0	8.9	0.0	0.0	19.4
9/8/2011	1888.9	2.0	0.0	0.0	44.5	3.0	1822.3	71.6	6.3	15.0	8.9	0.0	0.0	14.4
9/9/2011	1893.9	2.1	0.0	0.0	44.5	3.0	1832.9	71.8	6.3	15.0	8.9	0.0	0.0	8.6
9/10/2011	1728.3	2.4	36.0	0.0	44.5	3.0	1808.7	72.0	6.3	15.0	8.9	0.0	0.0	-96.7
9/11/2011	985.9	3.2	285.2	0.0	44.5	3.0	1315.6	68.0	6.3	15.0	8.9	0.0	0.0	-92.0
9/12/2011	463.5	5.8	240.2	0.0	44.5	3.0	748.2	55.5	6.3	15.0	8.9	0.0	0.0	-76.8
9/13/2011	296.0	3.0	84.0	0.0	44.5	3.0	424.5	35.1	6.3	15.0	8.9	0.0	0.0	-59.3
9/14/2011	295.3	3.3	48.2	0.0	44.5	3.0	388.0	16.8	6.3	15.0	8.9	0.0	0.0	-40.6
9/15/2011	6.1	2.1	0.0	0.0	44.5	3.0	11.1	6.1	6.3	6.1	8.9	0.0	0.0	17.3
9/16/2011	6.0	3.7	0.0	0.0	44.5	3.0	11.0	6.0	6.3	6.1	8.9	0.0	0.0	18.9
9/17/2011	6.1	1.6	0.0	0.0	44.5	3.0	10.9	6.1	6.3	6.1	8.9	0.0	0.0	16.9
9/18/2011	6.0	3.1	0.0	0.0	44.5	3.0	11.0	6.0	6.3	6.1	8.9	0.0	0.0	18.3
9/19/2011	6.1	3.0	0.0	3.5	44.5	3.0	11.7	6.1	6.3	6.1	8.9	0.0	0.0	21.0
9/20/2011	6.1	3.3	0.0	6.6	44.5	3.0	14.8	6.1	6.3	6.1	8.9	0.0	0.0	21.4
9/21/2011	6.1	0.5	0.0	5.0	44.5	3.0	16.5	6.1	6.3	6.1	8.9	0.0	0.0	15.3
9/22/2011	6.0	3.7	0.0	2.2	44.5	3.0	14.6	6.0	6.3	6.1	8.9	0.0	0.0	17.5
9/23/2011	6.1	3.8	0.0	0.3	44.5	3.0	12.7	6.1	6.3	6.1	8.9	0.0	0.0	17.6
9/24/2011	6.1	1.4	0.0	0.0	44.5	3.0	11.1	6.1	6.3	6.1	8.9	0.0	0.0	16.5
9/25/2011	6.1	3.7	0.0	0.0	44.5	3.0	10.8	6.1	6.3	6.1	8.9	0.0	0.0	19.1
9/26/2011	6.1	1.2	0.0	0.0	44.5	3.0	10.7	6.1	6.3	6.1	8.9	0.0	0.0	16.8
9/27/2011	6.1	0.3	0.0	0.0	44.5	3.0	10.8	6.1	6.3	6.1	8.9	0.0	0.0	15.8
9/28/2011	6.1	0.2	0.0	0.0	44.5	3.0	10.8	6.1	6.3	6.1	8.9	0.0	0.0	15.7
9/29/2011	6.0	1.6	0.0	0.0	44.5	3.0	10.8	6.0	6.3	6.1	8.9	0.0	0.0	17.0
9/30/2011	6.0	1.6	0.0	0.0	44.5	3.0	10.7	6.0	6.3	6.1	8.9	0.0	0.0	17.2
10/1/2011	6.1	2.6	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.2
10/2/2011	6.0	0.7	0.0	0.0	44.5	3.0	10.8	6.0	6.3	0.0	8.9	0.0	0.0	22.3
10/3/2011	6.0	1.9	0.0	0.0	44.5	3.0	10.8	6.0	6.3	0.0	8.9	0.0	0.0	23.5
10/4/2011	6.1	2.0	0.0	0.0	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	23.7
10/5/2011	6.0	1.8	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.4
10/6/2011	6.0	0.4	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	22.1
10/7/2011	6.1	0.5	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	22.2
10/8/2011	6.1	1.1	0.0	0.0	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	22.8
10/9/2011	6.0	1.2	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	22.9
10/10/2011	6.1	0.8	0.0	0.0	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	22.5
10/11/2011	6.0	2.7	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	24.3
10/12/2011	6.1	0.6	0.0	0.0	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	22.2
10/13/2011	6.0	1.7	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.4
10/14/2011	6.0	1.2	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	22.8
10/15/2011	6.1	2.1	0.0	0.0	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	23.8
10/16/2011	6.1	0.5	0.0	0.0	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	22.2
10/17/2011	6.1	5.0	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	26.6
10/18/2011	6.0	1.4	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.1
10/19/2011	6.1	3.2	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.8
10/20/2011	6.0	3.8	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	25.5

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
10/21/2011	6.1	2.8	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.4
10/22/2011	6.0	2.6	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	24.3
10/23/2011	6.1	2.6	0.0	0.0	44.5	3.0	10.6	6.1	6.3	0.0	8.9	0.0	0.0	24.4
10/24/2011	6.1	2.8	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.4
10/25/2011	6.0	1.6	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.3
10/26/2011	6.0	2.8	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	24.4
10/27/2011	6.1	2.2	0.0	0.1	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	23.8
10/28/2011	6.1	3.2	0.0	0.1	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.8
10/29/2011	6.0	1.4	0.0	0.0	44.5	3.0	10.8	6.0	6.3	0.0	8.9	0.0	0.0	23.0
10/30/2011	6.0	1.2	0.0	0.0	44.5	3.0	10.6	6.0	6.3	0.0	8.9	0.0	0.0	22.9
10/31/2011	6.1	0.7	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	22.3
11/1/2011	6.1	1.8	0.0	0.0	44.5	6.5	10.8	6.1	0.1	0.0	1.4	0.0	0.0	40.6
11/2/2011	6.0	0.5	0.0	0.0	44.5	6.5	10.8	6.0	0.1	0.0	1.4	0.0	0.0	39.3
11/3/2011	6.1	1.9	0.0	0.0	44.5	6.5	10.8	6.1	0.1	0.0	1.4	0.0	0.0	40.7
11/4/2011	6.1	0.5	0.0	0.1	44.5	6.5	10.9	6.1	0.1	0.0	1.4	0.0	0.0	39.2
11/5/2011	6.0	2.4	0.0	0.0	44.5	6.5	11.0	6.0	0.1	0.0	1.4	0.0	0.0	41.0
11/6/2011	6.1	0.4	0.0	0.0	44.5	6.5	11.1	6.1	0.1	0.0	1.4	0.0	0.0	38.9
11/7/2011	6.1	1.5	0.0	0.0	44.5	6.5	11.1	6.1	0.1	0.0	1.4	0.0	0.0	39.9
11/8/2011	6.1	1.4	0.0	0.0	44.5	6.5	11.2	6.1	0.1	0.0	1.4	0.0	0.0	39.7
11/9/2011	6.0	0.8	0.0	0.0	44.5	6.5	11.3	6.0	0.1	0.0	1.4	0.0	0.0	39.1
11/10/2011	6.1	0.2	0.0	0.0	44.5	6.5	11.3	6.1	0.1	0.0	1.4	0.0	0.0	38.4
11/11/2011	6.2	1.2	0.0	0.0	44.5	6.5	11.4	6.2	0.1	0.0	1.4	0.0	0.0	39.3
11/12/2011	6.1	0.7	0.0	0.0	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	38.6
11/13/2011	6.1	1.1	0.0	0.1	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	39.0
11/14/2011	6.0	4.9	0.0	0.1	44.5	6.5	11.8	6.0	0.1	0.0	1.4	0.0	0.0	42.7
11/15/2011	6.0	0.9	0.0	0.1	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	38.7
11/16/2011	6.1	1.6	0.0	0.0	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	39.4
11/17/2011	6.1	0.2	0.0	0.0	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	38.0
11/18/2011	6.0	0.2	0.0	0.0	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	37.9
11/19/2011	6.1	0.7	0.0	0.0	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	38.6
11/20/2011	6.0	0.1	0.0	0.0	44.5	6.5	11.8	6.0	0.1	0.0	1.4	0.0	0.0	37.8
11/21/2011	6.1	0.1	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	37.9
11/22/2011	6.1	0.3	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.1
11/23/2011	6.1	0.3	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.1
11/24/2011	6.1	1.0	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.7
11/25/2011	6.0	0.1	0.0	0.1	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	37.8
11/26/2011	6.1	0.7	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.4
11/27/2011	6.1	2.2	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.9
11/28/2011	6.1	1.4	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.1
11/29/2011	6.1	1.1	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.8
11/30/2011	6.1	0.5	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.2
12/1/2011	6.0	1.4	0.0	0.1	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	39.1
12/2/2011	6.1	0.2	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.0
12/3/2011	6.1	2.1	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.8
12/4/2011	6.0	0.9	0.0	0.1	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	38.6
12/5/2011	6.1	2.3	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	40.1
12/6/2011	6.1	0.9	0.0	0.0	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.5
12/7/2011	6.0	0.9	0.0	0.1	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	38.7
12/8/2011	6.1	1.8	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.5
12/9/2011	6.1	1.7	0.0	0.1	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	39.3
12/10/2011	6.0	1.6	0.0	0.1	44.5	6.5	12.0	6.0	0.1	0.0	1.4	0.0	0.0	39.2

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
12/11/2011	6.0	1.8	0.0	0.1	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	39.5
12/12/2011	6.1	0.7	0.0	0.1	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	38.3
12/13/2011	6.1	1.6	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.3
12/14/2011	6.1	1.8	0.0	0.1	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	39.5
12/15/2011	6.0	3.2	0.0	0.1	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	40.9
12/16/2011	6.1	0.5	0.0	0.1	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	38.1
12/17/2011	6.1	1.6	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.2
12/18/2011	6.1	2.2	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	40.0
12/19/2011	6.1	1.1	0.0	0.1	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	38.7
12/20/2011	6.1	1.9	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.6
12/21/2011	6.2	0.2	0.0	0.1	44.5	6.5	12.0	6.2	0.1	0.0	1.4	0.0	0.0	37.9
12/22/2011	6.1	2.2	0.0	0.1	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	39.9
12/23/2011	6.1	1.0	0.0	0.1	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.8
12/24/2011	6.0	1.2	0.0	0.1	44.5	6.5	12.0	6.0	0.1	0.0	1.4	0.0	0.0	38.9
12/25/2011	6.1	1.2	0.0	0.2	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.0
12/26/2011	6.1	2.8	0.0	0.2	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	40.6
12/27/2011	6.0	2.0	0.0	0.4	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	39.9
12/28/2011	6.2	1.0	0.0	0.8	44.5	6.5	12.2	6.2	0.1	0.0	1.4	0.0	0.0	39.2
12/29/2011	6.2	2.4	0.0	1.0	44.5	6.5	12.6	6.2	0.1	0.0	1.4	0.0	0.0	40.4
12/30/2011	6.1	2.0	0.0	0.2	44.5	6.5	12.5	6.1	0.1	0.0	1.4	0.0	0.0	39.3
12/31/2011	6.1	0.3	0.0	0.3	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	38.1
1/1/2012	6.2	1.4	0.0	0.1	44.5	6.5	12.0	6.2	0.1	0.0	1.4	0.0	0.0	39.0
1/2/2012	6.2	1.2	0.0	0.1	44.5	6.5	11.8	6.2	0.1	0.0	1.4	0.0	0.0	39.0
1/3/2012	6.1	0.5	0.0	0.4	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.6
1/4/2012	6.1	1.3	0.0	0.1	44.5	6.5	12.0	6.1	0.1	0.0	1.4	0.0	0.0	38.9
1/5/2012	6.2	0.5	0.0	0.1	44.5	6.5	11.8	6.2	0.1	0.0	1.4	0.0	0.0	38.3
1/6/2012	6.1	1.6	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	39.5
1/7/2012	6.2	1.9	0.0	0.1	44.5	6.5	11.7	6.2	0.1	0.0	1.4	0.0	0.0	39.8
1/8/2012	6.1	1.2	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	39.0
1/9/2012	6.1	1.2	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	38.9
1/10/2012	6.1	0.9	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	38.7
1/11/2012	6.1	2.0	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	39.9
1/12/2012	6.1	0.7	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	38.5
1/13/2012	6.2	2.2	0.0	0.2	44.5	6.5	11.8	6.2	0.1	0.0	1.4	0.0	0.0	40.1
1/14/2012	6.2	0.3	0.0	1.1	44.5	6.5	12.0	6.2	0.1	0.0	1.4	0.0	0.0	38.8
1/15/2012	6.1	1.1	0.0	0.2	44.5	6.5	12.4	6.1	0.1	0.0	1.4	0.0	0.0	38.4
1/16/2012	6.1	0.2	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	38.1
1/17/2012	6.2	0.4	0.0	0.1	44.5	6.5	11.7	6.2	0.1	0.0	1.4	0.0	0.0	38.3
1/18/2012	6.1	1.6	0.0	0.1	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	39.5
1/19/2012	6.2	1.2	0.0	0.1	44.5	6.5	11.7	6.2	0.1	0.0	1.4	0.0	0.0	39.1
1/20/2012	6.1	1.4	0.0	0.1	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	39.3
1/21/2012	6.1	1.0	0.0	0.1	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	38.9
1/22/2012	6.1	1.2	0.0	0.1	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	39.2
1/23/2012	6.2	0.1	0.0	0.1	44.5	6.5	11.6	6.2	0.1	0.0	1.4	0.0	0.0	38.2
1/24/2012	6.2	1.3	0.0	0.1	44.5	6.5	11.7	6.2	0.1	0.0	1.4	0.0	0.0	39.3
1/25/2012	6.0	1.2	0.0	0.1	44.5	6.5	11.6	6.0	0.1	0.0	1.4	0.0	0.0	39.2
1/26/2012	6.1	0.5	0.0	0.1	44.5	6.5	11.6	6.1	0.1	0.0	1.4	0.0	0.0	38.5
1/27/2012	6.0	0.9	0.0	0.1	44.5	6.5	11.7	6.0	0.1	0.0	1.4	0.0	0.0	38.9
1/28/2012	6.1	0.6	0.0	0.1	44.5	6.5	11.6	6.1	0.1	0.0	1.4	0.0	0.0	38.6
1/29/2012	6.1	0.3	0.0	0.1	44.5	6.5	11.6	6.1	0.1	0.0	1.4	0.0	0.0	38.4
1/30/2012	6.1	0.7	0.0	0.1	44.5	6.5	11.6	6.1	0.1	0.0	1.4	0.0	0.0	38.7

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
1/31/2012	6.2	1.2	0.0	0.1	44.5	6.5	11.6	6.2	0.1	0.0	1.4	0.0	0.0	39.2
2/1/2012	6.1	0.6	0.0	0.1	44.5	6.5	11.6	6.1	0.1	0.0	1.4	0.0	0.0	38.7
2/2/2012	6.2	0.3	0.0	0.1	44.5	6.5	11.6	6.2	0.1	0.0	1.4	0.0	0.0	38.3
2/3/2012	6.1	1.0	0.0	0.1	44.5	6.5	11.5	6.1	0.1	0.0	1.4	0.0	0.0	39.1
2/4/2012	6.3	1.2	0.0	0.1	44.5	6.5	11.5	6.3	0.1	0.0	1.4	0.0	0.0	39.3
2/5/2012	6.1	1.6	0.0	0.1	44.5	6.5	11.5	6.1	0.1	0.0	1.4	0.0	0.0	39.7
2/6/2012	6.1	1.0	0.0	0.1	44.5	6.5	11.5	6.1	0.1	0.0	1.4	0.0	0.0	39.2
2/7/2012	6.0	1.1	0.0	0.1	44.5	6.5	11.5	6.0	0.1	0.0	1.4	0.0	0.0	39.3
2/8/2012	6.1	0.9	0.0	0.1	44.5	6.5	11.5	6.1	0.1	0.0	1.4	0.0	0.0	39.1
2/9/2012	6.0	1.4	0.0	0.1	44.5	6.5	11.4	6.0	0.1	0.0	1.4	0.0	0.0	39.6
2/10/2012	6.0	0.3	0.0	0.1	44.5	6.5	11.4	6.0	0.1	0.0	1.4	0.0	0.0	38.6
2/11/2012	6.0	0.5	0.0	0.1	44.5	6.5	11.4	6.0	0.1	0.0	1.4	0.0	0.0	38.8
2/12/2012	6.1	3.1	0.0	0.1	44.5	6.5	11.4	6.1	0.1	0.0	1.4	0.0	0.0	41.4
2/13/2012	6.1	0.8	0.0	0.1	44.5	6.5	11.4	6.1	0.1	0.0	1.4	0.0	0.0	39.1
2/14/2012	6.1	1.6	0.0	0.1	44.5	6.5	11.3	6.1	0.1	0.0	1.4	0.0	0.0	39.9
2/15/2012	6.1	0.6	0.0	0.1	44.5	6.5	11.3	6.1	0.1	0.0	1.4	0.0	0.0	39.0
2/16/2012	6.1	1.0	0.0	0.1	44.5	6.5	11.2	6.1	0.1	0.0	1.4	0.0	0.0	39.4
2/17/2012	6.1	1.3	0.0	0.1	44.5	6.5	11.3	6.1	0.1	0.0	1.4	0.0	0.0	39.7
2/18/2012	6.2	0.3	0.0	0.1	44.5	6.5	11.3	6.2	0.1	0.0	1.4	0.0	0.0	38.7
2/19/2012	6.0	0.6	0.0	0.1	44.5	6.5	11.2	6.0	0.1	0.0	1.4	0.0	0.0	39.1
2/20/2012	6.1	0.8	0.0	0.1	44.5	6.5	11.2	6.1	0.1	0.0	1.4	0.0	0.0	39.3
2/21/2012	6.1	2.2	0.0	0.1	44.5	6.5	11.1	6.1	0.1	0.0	1.4	0.0	0.0	40.7
2/22/2012	6.1	0.9	0.0	0.1	44.5	6.5	11.0	6.1	0.1	0.0	1.4	0.0	0.0	39.6
2/23/2012	6.1	0.1	0.0	0.1	44.5	6.5	11.0	6.1	0.1	0.0	1.4	0.0	0.0	38.8
2/24/2012	6.1	2.6	0.0	0.1	44.5	6.5	11.0	6.1	0.1	0.0	1.4	0.0	0.0	41.3
2/25/2012	6.1	0.5	0.0	0.1	44.5	6.5	11.0	6.1	0.1	0.0	1.4	0.0	0.0	39.2
2/26/2012	6.0	0.4	0.0	0.1	44.5	6.5	11.0	6.0	0.1	0.0	1.4	0.0	0.0	39.0
2/27/2012	6.1	0.1	0.0	0.1	44.5	6.5	10.9	6.1	0.1	0.0	1.4	0.0	0.0	38.8
2/28/2012	6.1	0.2	0.0	0.1	44.5	6.5	10.8	6.1	0.1	0.0	1.4	0.0	0.0	39.0
2/29/2012	6.1	0.0	0.0	0.1	44.5	6.5	10.8	6.1	0.1	0.0	1.4	0.0	0.0	38.8
3/1/2012	6.1	1.6	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	20.3
3/2/2012	6.1	1.1	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	19.7
3/3/2012	6.1	1.2	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	19.8
3/4/2012	6.1	0.8	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	19.5
3/5/2012	6.0	0.2	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	18.8
3/6/2012	6.1	0.2	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	18.8
3/7/2012	6.0	0.6	0.0	0.1	44.5	3.0	10.7	6.0	6.3	3.0	8.9	0.0	0.0	19.3
3/8/2012	6.0	0.4	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	19.0
3/9/2012	6.1	0.1	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	18.7
3/10/2012	6.1	0.9	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	19.5
3/11/2012	6.1	1.2	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	19.8
3/12/2012	6.1	1.1	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	19.7
3/13/2012	6.0	0.4	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	19.0
3/14/2012	6.0	0.4	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	19.0
3/15/2012	6.0	0.9	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	19.5
3/16/2012	6.1	0.0	0.0	0.1	44.5	3.0	10.7	6.1	6.3	3.0	8.9	0.0	0.0	18.7
3/17/2012	6.0	0.1	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	18.6
3/18/2012	6.1	0.9	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	19.5
3/19/2012	6.0	0.3	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	18.9
3/20/2012	6.1	0.8	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	19.4
3/21/2012	6.1	0.0	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	18.7

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
3/22/2012	6.0	0.3	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	18.9
3/23/2012	6.1	0.1	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	18.7
3/24/2012	6.0	0.1	0.0	0.1	44.5	3.0	10.9	6.0	6.3	3.0	8.9	0.0	0.0	18.7
3/25/2012	6.1	0.0	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	18.6
3/26/2012	6.0	0.1	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	18.6
3/27/2012	6.0	1.5	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	20.1
3/28/2012	6.1	0.7	0.0	0.1	44.5	3.0	10.7	6.1	6.3	3.0	8.9	0.0	0.0	19.4
3/29/2012	6.1	0.3	0.0	0.1	44.5	3.0	10.8	6.1	6.3	3.0	8.9	0.0	0.0	18.9
3/30/2012	6.0	0.0	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	18.6
3/31/2012	6.0	0.1	0.0	0.1	44.5	3.0	10.8	6.0	6.3	3.0	8.9	0.0	0.0	18.8
4/1/2012	0.0	0.1	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.6
4/2/2012	0.0	0.7	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.2
4/3/2012	885.5	0.6	0.0	0.1	44.5	3.0	0.0	286.1	6.3	2.9	8.9	0.0	0.0	629.5
4/4/2012	1718.4	0.7	0.0	0.1	44.5	3.0	262.8	1045.1	6.3	13.8	8.9	0.0	0.0	429.9
4/5/2012	2030.3	1.1	0.0	0.1	44.5	3.0	783.3	903.5	6.3	13.9	8.9	0.0	0.0	363.2
4/6/2012	2432.8	1.2	0.0	0.1	44.5	3.0	1593.2	625.7	6.3	13.9	8.9	0.0	0.0	233.7
4/7/2012	2552.3	0.2	0.0	0.1	44.5	3.0	2117.8	385.0	6.3	13.9	8.9	0.0	0.0	68.3
4/8/2012	2525.5	0.1	0.0	0.1	44.5	3.0	2248.2	269.3	6.3	13.9	8.9	0.0	0.0	26.5
4/9/2012	2525.1	0.0	0.0	0.1	44.5	3.0	2265.9	245.5	6.3	13.9	8.9	0.0	0.0	32.3
4/10/2012	2510.7	0.0	0.0	0.1	44.5	3.0	2262.5	240.2	6.3	13.9	8.9	0.0	0.0	26.5
4/11/2012	2497.8	0.9	0.0	0.1	44.5	3.0	2248.4	238.4	6.3	13.9	8.9	0.0	0.0	30.4
4/12/2012	2498.3	1.1	0.0	0.1	44.5	3.0	2220.8	237.4	6.3	13.9	8.9	214.2	2.1	-154.4
4/13/2012	2418.1	0.2	0.0	0.1	44.5	3.0	2042.4	236.3	6.3	13.9	8.9	257.1	2.6	-98.9
4/14/2012	2073.6	0.1	0.0	0.1	44.5	3.0	1727.3	232.8	6.3	13.9	8.9	220.6	2.2	-88.4
4/15/2012	1749.4	1.4	0.0	0.1	44.5	3.0	1400.1	227.0	6.3	13.9	8.9	236.8	2.4	-94.5
4/16/2012	1688.2	0.3	0.0	0.1	44.5	3.0	1227.5	223.6	6.3	13.9	8.9	201.7	2.0	54.3
4/17/2012	1686.5	0.2	0.0	0.1	44.5	3.0	1243.8	223.0	6.3	13.9	8.9	190.4	1.9	48.0
4/18/2012	1687.3	0.2	0.0	0.1	44.5	3.0	1252.8	222.5	6.3	13.9	8.9	238.0	2.4	-7.3
4/19/2012	1678.6	0.2	0.0	0.1	44.5	3.0	1217.0	222.0	6.3	13.9	8.9	257.9	2.6	0.5
4/20/2012	1606.7	0.1	0.0	0.1	44.5	3.0	1162.9	220.7	6.3	13.9	8.9	236.0	2.4	5.6
4/21/2012	1468.2	0.1	0.0	0.1	44.5	3.0	1065.4	217.2	6.3	13.9	8.9	234.0	2.3	-29.9
4/22/2012	1400.2	1.0	0.0	0.1	44.5	3.0	964.0	213.9	6.3	13.9	8.9	234.0	2.3	7.7
4/23/2012	1392.1	0.7	0.0	0.1	44.5	3.0	930.7	212.8	6.3	13.9	8.9	236.0	2.4	31.8
4/24/2012	1400.2	0.7	0.0	0.1	44.5	3.0	932.6	212.6	6.3	13.9	8.9	234.0	2.3	40.2
4/25/2012	1428.4	0.4	0.0	0.1	44.5	3.0	941.4	212.6	6.3	13.9	8.9	281.7	2.8	11.7
4/26/2012	1534.6	0.3	0.0	0.1	44.5	3.0	966.4	215.0	6.3	13.9	8.9	311.4	3.1	60.7
4/27/2012	1631.5	0.7	0.0	0.1	44.5	3.0	1049.6	217.8	6.3	13.9	8.9	311.4	3.1	72.0
4/28/2012	1666.6	0.1	0.0	0.1	44.5	3.0	1128.4	218.8	6.3	13.9	8.9	311.4	3.1	26.6
4/29/2012	1454.1	0.1	0.0	0.1	44.5	3.0	1046.3	216.1	6.3	13.9	8.9	186.4	1.9	23.9
4/30/2012	1261.2	0.4	0.0	0.1	44.5	3.0	926.8	209.3	6.3	13.9	8.9	186.4	1.9	-42.4
5/1/2012	1220.7	0.1	0.0	0.1	44.5	3.0	839.8	205.1	6.3	13.9	8.9	0.0	0.0	194.4
5/2/2012	1222.5	1.8	0.0	0.1	44.5	3.0	972.7	205.6	6.3	17.4	8.9	0.0	0.0	60.9
5/3/2012	1198.8	1.4	0.0	0.1	44.5	3.0	991.2	204.7	6.3	17.4	8.9	0.0	0.0	19.4
5/4/2012	1136.5	0.3	0.0	0.1	44.5	3.0	969.0	203.1	6.3	17.4	8.9	0.0	0.0	-20.3
5/5/2012	734.2	0.5	43.9	0.1	44.5	3.0	822.8	187.4	6.3	17.4	8.9	0.0	0.0	-216.5
5/6/2012	359.7	0.4	81.5	0.1	44.5	3.0	485.7	135.2	6.3	17.4	8.9	0.0	0.0	-164.4
5/7/2012	150.0	1.2	36.5	0.1	44.5	3.0	231.1	78.6	6.3	17.4	8.9	0.0	0.0	-107.0
5/8/2012	42.8	0.0	5.9	0.1	44.5	3.0	93.4	36.6	6.3	17.4	8.9	0.0	0.0	-66.2
5/9/2012	2.2	0.0	0.0	0.1	44.5	3.0	16.2	18.1	6.3	17.7	8.9	0.0	0.0	-17.3
5/10/2012	0.0	0.0	0.0	0.1	44.5	3.0	0.0	1.7	6.3	5.9	8.9	0.0	0.0	24.9
5/11/2012	0.0	0.6	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.1

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/12/2012	0.0	0.0	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.5
5/13/2012	0.0	0.1	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.6
5/14/2012	0.0	1.0	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.5
5/15/2012	0.0	1.2	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.6
5/16/2012	0.0	1.8	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	34.2
5/17/2012	0.0	0.4	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.9
5/18/2012	0.0	0.5	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.0
5/19/2012	0.0	0.0	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.5
5/20/2012	0.0	0.4	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.9
5/21/2012	0.0	1.6	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	34.0
5/22/2012	0.0	0.2	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.7
5/23/2012	0.0	1.3	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.7
5/24/2012	0.0	0.3	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.7
5/25/2012	0.0	1.6	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	34.1
5/26/2012	0.0	0.2	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.7
5/27/2012	0.0	0.9	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.3
5/28/2012	0.0	1.0	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	33.5
5/29/2012	0.0	0.5	0.0	0.1	44.5	3.0	0.0	0.0	6.3	0.0	8.9	0.0	0.0	32.9
5/30/2012	474.6	0.0	0.0	0.1	44.5	3.0	0.0	7.7	6.3	0.4	8.9	0.0	0.0	499.0
5/31/2012	1805.3	1.2	0.0	0.1	44.5	3.0	794.9	171.5	6.3	16.9	8.9	130.9	1.3	724.8
6/1/2012	1737.3	0.6	485.4	0.1	44.5	3.0	1336.0	218.5	6.3	17.4	8.9	931.2	9.3	-247.5
6/2/2012	1831.8	0.4	0.0	0.1	44.5	3.0	695.9	217.3	6.3	20.6	8.9	991.7	9.9	-63.2
6/3/2012	2067.7	1.0	0.0	0.1	44.5	3.0	745.7	221.4	6.3	20.6	8.9	1081.0	10.8	29.3
6/4/2012	2151.0	0.4	0.0	0.1	44.5	3.0	795.5	222.1	6.3	20.6	8.9	1023.5	10.2	119.2
6/5/2012	2383.5	0.3	0.0	0.1	44.5	3.0	967.9	224.2	6.3	20.6	8.9	1267.4	12.7	-66.8
6/6/2012	2655.0	1.1	0.0	0.1	44.5	3.0	1069.8	226.3	6.3	20.6	8.9	1392.4	13.9	-23.5
6/7/2012	2727.1	2.5	0.0	0.1	44.5	3.0	1063.6	227.1	6.3	20.6	8.9	1396.4	14.0	51.3
6/8/2012	2685.6	1.2	0.0	0.1	44.5	3.0	1028.7	226.3	6.3	20.6	8.9	1372.6	13.7	66.2
6/9/2012	2884.1	0.3	0.0	0.1	44.5	3.0	1180.7	227.3	6.3	20.6	8.9	1360.7	13.6	122.1
6/10/2012	3114.7	3.5	0.0	0.1	44.5	3.0	1437.4	228.2	6.3	20.6	8.9	1303.1	13.0	156.9
6/11/2012	3187.4	0.7	0.0	0.1	44.5	3.0	1632.5	228.5	6.3	20.6	8.9	1279.3	12.8	56.4
6/12/2012	3056.5	0.9	0.0	0.1	44.5	3.0	1614.2	227.9	6.3	20.6	8.9	977.9	9.8	246.2
6/13/2012	2861.0	0.2	0.0	0.1	44.5	3.0	1663.8	227.5	6.3	20.6	8.9	1077.0	10.8	-98.8
6/14/2012	2619.3	1.9	0.0	0.1	44.5	3.0	1399.3	226.6	6.3	20.6	8.9	1083.0	10.8	-79.1
6/15/2012	2435.6	3.2	0.0	0.1	44.5	3.0	1136.7	224.4	6.3	20.6	8.9	1085.0	10.8	1.0
6/16/2012	2535.2	1.8	0.0	0.1	44.5	3.0	1158.0	225.0	6.3	20.6	8.9	1209.9	12.1	-47.6
6/17/2012	2553.7	2.5	0.0	0.1	44.5	3.0	1112.4	224.3	6.3	20.6	8.9	1209.9	12.1	17.2
6/18/2012	2568.4	4.5	0.0	0.1	44.5	3.0	1168.3	224.1	6.3	20.6	8.9	1160.3	11.6	28.1
6/19/2012	2479.9	1.4	0.0	0.1	44.5	3.0	1116.6	223.3	6.3	20.6	8.9	1033.4	10.3	116.2
6/20/2012	2451.0	1.5	0.0	0.1	44.5	3.0	1165.3	223.0	6.3	20.6	8.9	1055.2	10.6	17.2
6/21/2012	2437.5	0.7	0.0	0.1	44.5	3.0	1147.1	223.0	6.3	20.6	8.9	1025.5	10.3	51.1
6/22/2012	2429.5	0.4	0.0	0.1	44.5	3.0	1154.5	222.6	6.3	20.6	8.9	1065.1	10.7	-4.0
6/23/2012	2427.0	1.5	0.0	0.1	44.5	3.0	1124.5	222.6	6.3	20.6	8.9	1128.6	11.3	-38.8
6/24/2012	2353.1	1.8	0.0	0.1	44.5	3.0	1015.3	221.7	6.3	20.6	8.9	1181.2	11.8	-55.5
6/25/2012	2336.3	1.0	0.0	0.1	44.5	3.0	908.9	220.7	6.3	20.6	8.9	1190.1	11.9	24.9
6/26/2012	2461.7	0.9	0.0	0.1	44.5	3.0	972.1	221.6	6.3	20.6	8.9	1196.0	12.0	80.7
6/27/2012	2493.3	3.7	0.0	0.1	44.5	3.0	1024.3	222.2	6.3	20.6	8.9	1253.6	12.5	5.2
6/28/2012	2345.0	2.6	0.0	0.1	44.5	3.0	921.2	222.1	6.3	20.6	8.9	1221.8	12.2	-9.2
6/29/2012	2228.1	4.7	0.0	0.1	44.5	3.0	785.4	220.1	6.3	20.6	8.9	1251.6	12.5	-15.9
6/30/2012	2271.9	2.8	0.0	0.1	44.5	3.0	759.8	219.6	6.3	20.6	8.9	1257.5	12.6	46.1
7/1/2012	2323.4	1.5	0.0	0.1	44.5	3.0	811.2	220.0	6.3	20.6	8.9	1213.9	12.1	88.0

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/2/2012	2353.0	4.9	0.0	0.1	44.5	3.0	892.5	220.2	6.3	18.0	8.9	1152.4	11.5	103.6
7/3/2012	2337.3	1.2	0.0	0.1	44.5	3.0	954.6	220.8	6.3	18.0	8.9	1114.7	11.1	59.3
7/4/2012	2286.5	2.1	0.0	0.1	44.5	3.0	955.7	220.8	6.3	18.0	8.9	1029.4	10.3	93.9
7/5/2012	2210.4	4.9	0.0	0.1	44.5	3.0	990.6	221.6	6.3	18.0	8.9	912.4	9.1	102.0
7/6/2012	2005.7	1.3	0.0	0.1	44.5	3.0	940.9	220.5	6.3	18.0	8.9	823.1	8.2	33.4
7/7/2012	1808.1	1.8	0.0	4.5	44.5	3.0	839.5	217.5	6.3	18.0	8.9	726.0	7.3	41.8
7/8/2012	1639.8	2.2	0.0	9.3	44.5	3.0	744.8	212.8	6.3	18.0	8.9	638.7	6.4	65.2
7/9/2012	1646.6	6.2	0.0	10.1	44.5	3.0	802.7	212.3	6.3	18.0	8.9	521.7	5.2	136.8
7/10/2012	1622.2	4.8	0.0	9.8	44.5	3.0	890.6	213.2	6.3	18.0	8.9	527.6	5.3	16.1
7/11/2012	1417.1	3.0	0.0	3.9	44.5	3.0	778.8	209.3	6.3	18.0	8.9	509.8	5.1	-62.8
7/12/2012	1234.8	1.8	0.0	10.1	44.5	3.0	587.2	201.8	6.3	18.0	8.9	511.7	5.1	-42.8
7/13/2012	1246.1	2.1	0.0	10.5	44.5	3.0	489.5	199.1	6.3	18.0	8.9	529.6	5.3	51.7
7/14/2012	1330.7	1.6	0.0	10.9	44.5	3.0	531.0	202.6	6.3	18.0	8.9	531.6	5.3	88.8
7/15/2012	1447.0	3.5	0.0	11.4	44.5	3.0	617.0	206.3	6.3	18.0	8.9	646.6	6.5	2.7
7/16/2012	1567.5	2.0	0.0	11.0	44.5	3.0	632.9	206.6	6.3	18.0	8.9	646.6	6.5	105.0
7/17/2012	1959.9	6.5	0.0	6.7	44.5	3.0	785.8	214.3	6.3	18.0	8.9	797.4	8.0	186.5
7/18/2012	2552.1	1.9	0.0	8.8	44.5	3.0	1289.9	223.8	6.3	18.0	8.9	1094.9	10.9	-35.0
7/19/2012	2806.5	2.7	0.0	10.3	44.5	3.0	1429.0	226.0	6.3	18.0	8.9	1207.9	12.1	-32.7
7/20/2012	2855.6	2.6	0.0	11.7	44.5	3.0	1388.7	226.2	6.3	18.0	8.9	1442.0	14.4	-176.9
7/21/2012	2791.9	5.0	0.0	12.3	44.5	3.0	1160.9	225.8	6.3	18.0	8.9	1475.7	14.8	-43.9
7/22/2012	2752.0	2.1	0.0	12.9	44.5	3.0	1037.9	225.9	6.3	18.0	8.9	1531.2	15.3	-18.7
7/23/2012	2751.8	4.7	0.0	13.5	44.5	3.0	984.0	225.7	6.3	18.0	8.9	1505.5	15.1	64.1
7/24/2012	2779.6	1.6	0.0	13.9	44.5	3.0	1030.9	225.7	6.3	18.0	8.9	1356.7	13.6	191.0
7/25/2012	2795.1	2.0	0.0	14.2	44.5	3.0	1192.1	225.6	6.3	18.0	8.9	1275.4	12.8	127.7
7/26/2012	2665.9	4.7	0.0	14.6	44.5	3.0	1203.8	225.5	6.3	18.0	8.9	1267.4	12.7	-2.1
7/27/2012	2470.7	2.0	0.0	14.8	44.5	3.0	1020.9	223.4	6.3	18.0	8.9	1231.7	12.3	20.9
7/28/2012	2413.4	3.3	0.0	15.2	44.5	3.0	953.7	221.8	6.3	18.0	8.9	1251.6	12.5	14.1
7/29/2012	2385.0	6.9	0.0	15.0	44.5	3.0	901.4	221.5	6.3	18.0	8.9	1261.5	12.6	31.9
7/30/2012	2403.8	2.9	0.0	15.1	44.5	3.0	892.8	222.2	6.3	18.0	8.9	1255.5	12.6	60.6
7/31/2012	2472.6	1.2	0.0	14.9	44.5	3.0	936.9	223.1	6.3	18.0	8.9	1247.6	12.5	90.3
8/1/2012	2599.2	6.9	0.0	13.8	44.5	3.0	1070.3	224.4	6.3	18.0	8.9	1309.3	13.1	25.3
8/2/2012	2571.5	6.6	0.0	14.3	44.5	3.0	1104.3	223.2	6.3	17.6	8.9	1278.5	12.8	-4.1
8/3/2012	2380.2	4.8	0.0	15.7	44.5	3.0	937.1	220.8	6.3	17.6	8.9	1304.6	13.0	-52.3
8/4/2012	2266.7	1.9	0.0	15.8	44.5	3.0	758.6	219.7	6.3	17.6	8.9	1318.2	13.2	-2.0
8/5/2012	2255.0	4.2	0.0	15.7	44.5	3.0	695.1	219.9	6.3	17.6	8.9	1355.4	13.6	14.9
8/6/2012	2266.1	3.7	0.0	15.8	44.5	3.0	648.2	219.3	6.3	17.6	8.9	1349.3	13.5	79.3
8/7/2012	2367.3	4.7	0.0	15.9	44.5	3.0	715.2	220.3	6.3	17.6	8.9	1294.4	12.9	168.5
8/8/2012	2522.6	1.4	0.0	16.1	44.5	3.0	931.1	222.1	6.3	17.6	8.9	1275.9	12.8	121.3
8/9/2012	2568.4	5.1	0.0	16.1	44.5	3.0	1071.4	223.2	6.3	17.6	8.9	1290.1	12.9	14.5
8/10/2012	2587.8	3.6	0.0	114.8	44.5	3.0	1029.4	223.8	6.3	17.6	8.9	1391.1	13.9	70.6
8/11/2012	2739.6	5.1	0.0	83.8	44.5	3.0	1040.6	224.7	6.3	17.6	8.9	1396.9	14.0	175.4
8/12/2012	2884.0	6.6	0.0	199.3	44.5	3.0	1221.9	224.9	6.3	17.6	8.9	1360.7	13.6	291.4
8/13/2012	2922.8	4.3	0.0	192.3	44.5	3.0	1311.5	223.1	6.3	17.6	8.9	1408.4	14.1	185.6
8/14/2012	2693.6	10.7	0.0	163.5	44.5	3.0	1185.5	222.9	6.3	17.6	8.9	1450.1	14.5	18.5
8/15/2012	2146.1	6.8	0.0	236.4	44.5	3.0	698.5	219.0	6.3	17.6	8.9	1131.2	11.3	352.7
8/16/2012	1806.0	2.6	0.0	18.1	44.5	3.0	613.8	215.1	6.3	17.6	8.9	402.1	4.0	610.3
8/17/2012	1706.1	4.5	0.0	18.5	44.5	3.0	1004.5	212.4	6.3	17.6	8.9	370.3	3.7	156.5
8/18/2012	1694.9	3.3	0.0	18.7	44.5	3.0	1090.3	210.6	6.3	17.6	8.9	380.3	3.8	50.2
8/19/2012	1695.4	3.4	0.0	18.4	44.5	3.0	1086.1	210.4	6.3	17.6	8.9	391.1	3.9	44.2
8/20/2012	1694.7	8.3	0.0	18.3	44.5	3.0	1077.0	211.1	6.3	17.6	8.9	397.4	4.0	50.4
8/21/2012	1687.6	1.8	0.0	18.4	44.5	3.0	1072.7	212.9	6.3	17.6	8.9	328.5	3.3	108.3

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
8/22/2012	1685.2	7.1	0.0	17.8	44.5	3.0	1120.8	216.1	6.3	17.6	8.9	279.8	2.8	107.9
8/23/2012	1657.8	4.9	0.0	17.1	44.5	3.0	1154.2	218.0	6.3	17.7	8.9	319.3	3.2	2.8
8/24/2012	1506.5	3.7	0.0	16.3	44.5	3.0	1047.4	212.3	6.3	17.6	8.9	319.9	3.2	-38.4
8/25/2012	1325.1	5.8	0.0	17.3	44.5	3.0	872.1	206.5	6.3	17.6	8.9	320.2	3.2	-36.0
8/26/2012	1294.9	2.8	0.0	17.3	44.5	3.0	757.7	202.6	6.3	17.6	8.9	292.0	2.9	77.3
8/27/2012	1296.3	5.8	0.0	17.1	44.5	3.0	780.0	203.1	6.3	17.6	8.9	289.8	2.9	61.0
8/28/2012	1290.8	2.8	0.0	16.8	44.5	3.0	779.3	201.9	6.3	17.6	8.9	358.0	3.6	-14.1
8/29/2012	1245.8	1.2	0.0	16.7	44.5	3.0	708.8	199.3	6.3	17.6	8.9	373.8	3.7	-3.5
8/30/2012	1208.6	4.9	0.0	16.4	44.5	3.0	636.9	197.5	6.3	17.6	8.9	401.8	4.0	8.4
8/31/2012	1213.1	3.8	0.0	16.1	44.5	3.0	592.6	197.3	6.3	17.6	8.9	407.0	4.1	50.7
9/1/2012	1222.7	0.9	0.0	15.7	44.5	3.0	597.0	198.3	6.3	17.6	8.9	400.6	4.0	58.0
9/2/2012	1232.3	4.8	0.0	15.6	44.5	3.0	610.4	199.0	6.3	15.0	8.9	396.1	4.0	64.4
9/3/2012	1227.9	2.8	0.0	15.7	44.5	3.0	627.3	197.7	6.3	15.0	8.9	393.9	3.9	44.7
9/4/2012	1101.4	4.8	0.0	15.7	44.5	3.0	589.7	193.7	6.3	15.0	8.9	333.8	3.3	21.9
9/5/2012	976.1	4.1	0.0	15.5	44.5	3.0	528.7	188.0	6.3	15.0	8.9	105.2	1.1	191.0
9/6/2012	939.0	5.3	0.0	14.2	44.5	3.0	625.0	183.8	6.3	15.0	8.9	5.5	0.1	161.4
9/7/2012	933.5	5.6	0.0	13.2	44.5	3.0	718.1	181.7	6.3	15.0	8.9	24.0	0.2	45.8
9/8/2012	925.5	2.0	0.0	14.1	44.5	3.0	690.4	179.8	6.3	15.0	8.9	246.9	2.5	-158.3
9/9/2012	914.7	2.1	0.0	14.2	44.5	3.0	498.0	177.4	6.3	15.0	8.9	410.8	4.1	-138.0
9/10/2012	902.3	2.4	0.0	13.8	44.5	3.0	308.3	174.4	6.3	15.0	8.9	631.5	6.3	-178.4
9/11/2012	887.2	3.2	0.0	12.8	44.5	3.0	104.4	173.4	6.3	15.0	8.9	675.5	6.8	-32.9
9/12/2012	872.7	5.8	0.0	10.5	44.5	3.0	68.0	173.7	6.3	15.0	8.9	295.7	3.0	368.8
9/13/2012	844.4	3.0	0.0	8.5	44.5	3.0	363.4	174.1	6.3	15.0	8.9	0.0	0.0	335.6
9/14/2012	618.3	3.3	0.0	9.7	44.5	3.0	582.2	164.5	6.3	15.0	8.9	0.0	0.0	-98.2
9/15/2012	6.1	2.1	0.0	11.0	44.5	3.0	11.1	6.1	6.3	6.1	8.9	0.0	0.0	28.3
9/16/2012	6.0	3.7	0.0	11.0	44.5	3.0	11.0	6.0	6.3	6.1	8.9	0.0	0.0	29.9
9/17/2012	6.1	1.6	0.0	10.5	44.5	3.0	10.9	6.1	6.3	6.1	8.9	0.0	0.0	27.3
9/18/2012	6.0	3.1	0.0	8.9	44.5	3.0	11.0	6.0	6.3	6.1	8.9	0.0	0.0	27.2
9/19/2012	6.1	3.0	0.0	4.6	44.5	3.0	11.7	6.1	6.3	6.1	8.9	0.0	0.0	22.1
9/20/2012	6.1	3.3	0.0	0.2	44.5	3.0	14.8	6.1	6.3	6.1	8.9	0.0	0.0	14.9
9/21/2012	6.1	0.5	0.0	0.0	44.5	3.0	16.5	6.1	6.3	6.1	8.9	0.0	0.0	10.3
9/22/2012	6.0	3.7	0.0	0.0	44.5	3.0	14.6	6.0	6.3	6.1	8.9	0.0	0.0	15.3
9/23/2012	6.1	3.8	0.0	0.2	44.5	3.0	12.7	6.1	6.3	6.1	8.9	0.0	0.0	17.5
9/24/2012	6.1	1.4	0.0	0.2	44.5	3.0	11.1	6.1	6.3	6.1	8.9	0.0	0.0	16.7
9/25/2012	6.1	3.7	0.0	0.2	44.5	3.0	10.8	6.1	6.3	6.1	8.9	0.0	0.0	19.3
9/26/2012	6.1	1.2	0.0	0.2	44.5	3.0	10.7	6.1	6.3	6.1	8.9	0.0	0.0	16.9
9/27/2012	6.1	0.3	0.0	0.2	44.5	3.0	10.8	6.1	6.3	6.1	8.9	0.0	0.0	16.0
9/28/2012	6.1	0.2	0.0	0.2	44.5	3.0	10.8	6.1	6.3	6.1	8.9	0.0	0.0	15.9
9/29/2012	6.0	1.6	0.0	0.2	44.5	3.0	10.8	6.0	6.3	6.1	8.9	0.0	0.0	17.2
9/30/2012	6.0	1.6	0.0	0.2	44.5	3.0	10.7	6.0	6.3	6.1	8.9	0.0	0.0	17.4
10/1/2012	6.1	2.6	0.0	0.2	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.3
10/2/2012	6.0	0.7	0.0	0.2	44.5	3.0	10.8	6.0	6.3	0.0	8.9	0.0	0.0	22.5
10/3/2012	6.0	1.9	0.0	0.2	44.5	3.0	10.8	6.0	6.3	0.0	8.9	0.0	0.0	23.7
10/4/2012	6.1	2.0	0.0	0.2	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	23.8
10/5/2012	6.0	1.8	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.6
10/6/2012	6.0	0.4	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	22.3
10/7/2012	6.1	0.5	0.0	0.2	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	22.3
10/8/2012	6.1	1.1	0.0	0.2	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	22.9
10/9/2012	6.0	1.2	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.1
10/10/2012	6.1	0.8	0.0	0.2	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	22.7
10/11/2012	6.0	2.7	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	24.5

Table G2-2: RGCP Channel Water Budget Equation Analysis Segment 2

2010-12 Study Period

(Units - Acre-Feet)

	Segment 2 - Leasburg Dam to Mesilla Dam (Middle Reach)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Leasburg Cable	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (La Mesa Drain)	Treated Effluent Return Flow	MODFLOW Groundwater Return Flow	Downstream Channel Outflow, below Mesilla Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (Del Rio, Eastside, & Westside)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
10/12/2012	6.1	0.6	0.0	0.2	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	22.4
10/13/2012	6.0	1.7	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.5
10/14/2012	6.0	1.2	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.0
10/15/2012	6.1	2.1	0.0	0.2	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	24.0
10/16/2012	6.1	0.5	0.0	0.2	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	22.4
10/17/2012	6.1	5.0	0.0	0.2	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	26.8
10/18/2012	6.0	1.4	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.3
10/19/2012	6.1	3.2	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.8
10/20/2012	6.0	3.8	0.0	0.0	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	25.4
10/21/2012	6.1	2.8	0.0	0.0	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.4
10/22/2012	6.0	2.6	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	24.5
10/23/2012	6.1	2.6	0.0	0.2	44.5	3.0	10.6	6.1	6.3	0.0	8.9	0.0	0.0	24.6
10/24/2012	6.1	2.8	0.0	0.2	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	24.6
10/25/2012	6.0	1.6	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	23.5
10/26/2012	6.0	2.8	0.0	0.2	44.5	3.0	10.7	6.0	6.3	0.0	8.9	0.0	0.0	24.6
10/27/2012	6.1	2.2	0.0	0.2	44.5	3.0	10.7	6.1	6.3	0.0	8.9	0.0	0.0	24.0
10/28/2012	6.1	3.2	0.0	0.2	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	25.0
10/29/2012	6.0	1.4	0.0	0.2	44.5	3.0	10.8	6.0	6.3	0.0	8.9	0.0	0.0	23.2
10/30/2012	6.0	1.2	0.0	0.3	44.5	3.0	10.6	6.0	6.3	0.0	8.9	0.0	0.0	23.1
10/31/2012	6.1	0.7	0.0	0.3	44.5	3.0	10.8	6.1	6.3	0.0	8.9	0.0	0.0	22.5
11/1/2012	6.1	1.8	0.0	51.4	44.5	6.5	10.8	6.1	0.1	0.0	1.4	0.0	0.0	91.9
11/2/2012	6.0	0.5	0.0	0.2	44.5	6.5	10.8	6.0	0.1	0.0	1.4	0.0	0.0	39.4
11/3/2012	6.1	1.9	0.0	0.1	44.5	6.5	10.8	6.1	0.1	0.0	1.4	0.0	0.0	40.8
11/4/2012	6.1	0.5	0.0	0.1	44.5	6.5	10.9	6.1	0.1	0.0	1.4	0.0	0.0	39.3
11/5/2012	6.0	2.4	0.0	0.2	44.5	6.5	11.0	6.0	0.1	0.0	1.4	0.0	0.0	41.2
11/6/2012	6.1	0.4	0.0	0.2	44.5	6.5	11.1	6.1	0.1	0.0	1.4	0.0	0.0	39.0
11/7/2012	6.1	1.5	0.0	0.2	44.5	6.5	11.1	6.1	0.1	0.0	1.4	0.0	0.0	40.0
11/8/2012	6.1	1.4	0.0	0.0	44.5	6.5	11.2	6.1	0.1	0.0	1.4	0.0	0.0	39.6
11/9/2012	6.0	0.8	0.0	0.0	44.5	6.5	11.3	6.0	0.1	0.0	1.4	0.0	0.0	39.0
11/10/2012	6.1	0.2	0.0	0.0	44.5	6.5	11.3	6.1	0.1	0.0	1.4	0.0	0.0	38.4
11/11/2012	6.2	1.2	0.0	0.0	44.5	6.5	11.4	6.2	0.1	0.0	1.4	0.0	0.0	39.3
11/12/2012	6.1	0.7	0.0	0.0	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	38.6
11/13/2012	6.1	1.1	0.0	0.0	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	38.9
11/14/2012	6.0	4.9	0.0	0.2	44.5	6.5	11.8	6.0	0.1	0.0	1.4	0.0	0.0	42.9
11/15/2012	6.0	0.9	0.0	0.3	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	38.9
11/16/2012	6.1	1.6	0.0	0.2	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	39.5
11/17/2012	6.1	0.2	0.0	0.2	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	38.2
11/18/2012	6.0	0.2	0.0	0.2	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	38.1
11/19/2012	6.1	0.7	0.0	0.3	44.5	6.5	11.7	6.1	0.1	0.0	1.4	0.0	0.0	38.8
11/20/2012	6.0	0.1	0.0	0.3	44.5	6.5	11.8	6.0	0.1	0.0	1.4	0.0	0.0	38.0
11/21/2012	6.1	0.1	0.0	0.2	44.5	6.5	11.8	6.1	0.1	0.0	1.4	0.0	0.0	38.0
11/22/2012	6.1	0.3	0.0	0.2	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.2
11/23/2012	6.1	0.3	0.0	0.3	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.2
11/24/2012	6.1	1.0	0.0	0.3	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.9
11/25/2012	6.0	0.1	0.0	0.3	44.5	6.5	11.9	6.0	0.1	0.0	1.4	0.0	0.0	38.0
11/26/2012	6.1	0.7	0.0	0.3	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.6
11/27/2012	6.1	2.2	0.0	0.3	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	40.1
11/28/2012	6.1	1.4	0.0	0.3	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.3
11/29/2012	6.1	1.1	0.0	0.3	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	39.0
11/30/2012	6.1	0.5	0.0	0.3	44.5	6.5	11.9	6.1	0.1	0.0	1.4	0.0	0.0	38.4

RGCP - Project Scale Water Budget - Segment 2 (Leasburg Dam to Mesilla Dam)

$$\Delta S_{ic} = (Q_{us} + P_c + Q_{cin} + Q_{irf} + Q_{gwrf}) - (Q_{cds} + Q_{cs} + Q_{fpr} + ET + Q_{da} + Q_{du})$$

- Sum of Inflow
- Sum of Outflow
- ΔS_{ic} - Change in Channel Storage

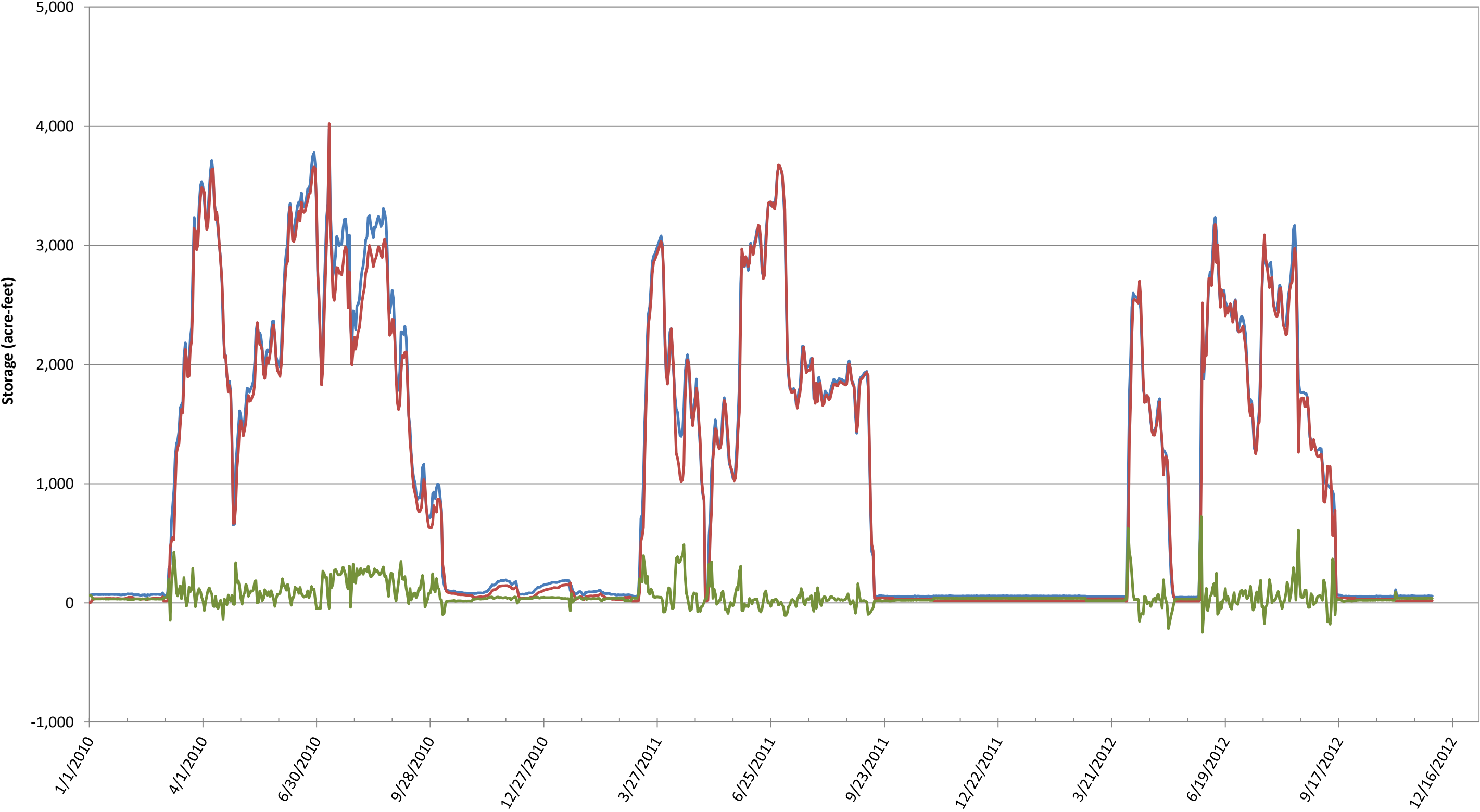


Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
1/1/2010	0.0	0.9	0.0	0.0	2.9	0.1	0.0	0.0	0.1	0.0	2.9	0.0	0.0	0.9
1/2/2010	0.0	0.8	0.0	0.0	2.9	0.1	0.0	0.0	0.1	0.0	2.9	0.0	0.0	0.7
1/3/2010	11.1	0.3	0.0	0.0	2.9	0.1	0.0	11.1	0.1	0.0	2.9	0.0	0.0	0.3
1/4/2010	28.2	0.8	0.0	0.0	2.9	0.1	20.9	28.2	0.1	0.0	2.9	0.0	0.0	-20.1
1/5/2010	28.9	0.3	0.0	0.0	2.9	0.1	23.6	28.9	0.1	0.0	2.9	0.0	0.0	-23.3
1/6/2010	28.7	1.0	0.0	0.0	2.9	0.1	24.1	28.7	0.1	0.0	2.9	0.0	0.0	-23.1
1/7/2010	28.8	1.2	0.0	0.0	2.9	0.1	24.0	28.8	0.1	0.0	2.9	0.0	0.0	-22.8
1/8/2010	28.8	0.8	0.0	0.0	2.9	0.1	24.0	28.8	0.1	0.0	2.9	0.0	0.0	-23.2
1/9/2010	28.5	0.7	0.0	0.0	2.9	0.1	23.9	28.5	0.1	0.0	2.9	0.0	0.0	-23.2
1/10/2010	28.6	0.6	0.0	0.0	2.9	0.1	23.7	28.6	0.1	0.0	2.9	0.0	0.0	-23.2
1/11/2010	28.6	1.3	0.0	0.0	2.9	0.1	23.7	28.6	0.1	0.0	2.9	0.0	0.0	-22.5
1/12/2010	28.8	0.4	0.0	0.0	2.9	0.1	23.8	28.8	0.1	0.0	2.9	0.0	0.0	-23.4
1/13/2010	29.2	1.4	0.0	0.0	2.9	0.1	24.0	29.2	0.1	0.0	2.9	0.0	0.0	-22.7
1/14/2010	29.4	0.2	0.0	0.0	2.9	0.1	24.3	29.4	0.1	0.0	2.9	0.0	0.0	-24.2
1/15/2010	29.5	0.7	0.0	0.0	2.9	0.1	24.5	29.5	0.1	0.0	2.9	0.0	0.0	-23.9
1/16/2010	29.3	0.1	0.0	0.0	2.9	0.1	24.6	29.3	0.1	0.0	2.9	0.0	0.0	-24.5
1/17/2010	29.4	0.3	0.0	0.0	2.9	0.1	24.4	29.4	0.1	0.0	2.9	0.0	0.0	-24.2
1/18/2010	29.4	1.0	0.0	0.0	2.9	0.1	24.5	29.4	0.1	0.0	2.9	0.0	0.0	-23.5
1/19/2010	29.2	0.7	0.0	0.0	2.9	0.1	24.5	29.2	0.1	0.0	2.9	0.0	0.0	-23.8
1/20/2010	29.2	0.9	0.0	0.0	2.9	0.1	24.5	29.2	0.1	0.0	2.9	0.0	0.0	-23.6
1/21/2010	29.1	0.6	0.0	0.0	2.9	0.1	24.5	29.1	0.1	0.0	2.9	0.0	0.0	-23.9
1/22/2010	29.1	0.8	0.0	0.0	2.9	0.1	24.5	29.1	0.1	0.0	2.9	0.0	0.0	-23.8
1/23/2010	29.5	0.1	0.0	0.0	2.9	0.1	24.5	29.5	0.1	0.0	2.9	0.0	0.0	-24.4
1/24/2010	29.4	0.8	0.0	0.0	2.9	0.1	24.8	29.4	0.1	0.0	2.9	0.0	0.0	-24.0
1/25/2010	28.6	0.7	0.0	0.0	2.9	0.1	24.5	28.6	0.1	0.0	2.9	0.0	0.0	-23.8
1/26/2010	27.5	0.3	0.0	0.0	2.9	0.1	23.7	27.5	0.1	0.0	2.9	0.0	0.0	-23.4
1/27/2010	27.1	0.6	0.0	0.0	2.9	0.1	22.9	27.1	0.1	0.0	2.9	0.0	0.0	-22.3
1/28/2010	27.5	0.4	0.0	0.0	2.9	0.1	22.6	27.5	0.1	0.0	2.9	0.0	0.0	-22.2
1/29/2010	28.2	0.2	0.0	0.0	2.9	0.1	23.1	28.2	0.1	0.0	2.9	0.0	0.0	-23.0
1/30/2010	27.3	0.4	0.0	0.0	2.9	0.1	23.4	27.3	0.1	0.0	2.9	0.0	0.0	-23.0
1/31/2010	29.4	0.7	0.0	0.0	2.9	0.1	22.6	29.4	0.1	0.0	2.9	0.0	0.0	-21.9
2/1/2010	32.8	0.4	0.0	0.0	2.9	0.1	25.9	32.8	0.1	0.0	2.9	0.0	0.0	-25.6
2/2/2010	33.1	0.2	0.0	0.0	2.9	0.1	27.8	33.1	0.1	0.0	2.9	0.0	0.0	-27.6
2/3/2010	33.3	0.6	0.0	0.0	2.9	0.1	27.9	33.3	0.1	0.0	2.9	0.0	0.0	-27.3
2/4/2010	33.7	0.7	0.0	0.0	2.9	0.1	28.3	33.7	0.1	0.0	2.9	0.0	0.0	-27.6
2/5/2010	33.5	1.0	0.0	0.0	2.9	0.1	28.6	33.5	0.1	0.0	2.9	0.0	0.0	-27.6
2/6/2010	25.6	0.6	0.0	0.0	2.9	0.1	27.4	25.6	0.1	0.0	2.9	0.0	0.0	-26.8
2/7/2010	27.3	0.7	0.0	0.0	2.9	0.1	21.8	27.3	0.1	0.0	2.9	0.0	0.0	-21.2
2/8/2010	27.6	0.6	0.0	0.0	2.9	0.1	22.9	27.6	0.1	0.0	2.9	0.0	0.0	-22.4
2/9/2010	27.6	0.9	0.0	0.0	2.9	0.1	22.9	27.6	0.1	0.0	2.9	0.0	0.0	-22.1
2/10/2010	26.6	0.2	0.0	0.0	2.9	0.1	22.9	26.6	0.1	0.0	2.9	0.0	0.0	-22.8
2/11/2010	24.1	0.3	0.0	0.0	2.9	0.1	21.2	24.1	0.1	0.0	2.9	0.0	0.0	-20.9
2/12/2010	24.4	2.0	0.0	0.0	2.9	0.1	19.8	24.4	0.1	0.0	2.9	0.0	0.0	-17.8
2/13/2010	25.1	0.5	0.0	0.0	2.9	0.1	20.1	25.1	0.1	0.0	2.9	0.0	0.0	-19.6
2/14/2010	26.9	1.0	0.0	0.0	2.9	0.1	21.0	26.9	0.1	0.0	2.9	0.0	0.0	-20.0
2/15/2010	24.8	0.4	0.0	0.0	2.9	0.1	22.5	24.8	0.1	0.0	2.9	0.0	0.0	-22.1

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
2/16/2010	20.9	0.6	0.0	0.0	2.9	0.1	18.5	20.9	0.1	0.0	2.9	0.0	0.0	-17.9
2/17/2010	27.5	0.8	0.0	0.0	2.9	0.1	18.9	27.5	0.1	0.0	2.9	0.0	0.0	-18.1
2/18/2010	26.8	0.2	0.0	14.0	2.9	0.1	30.0	26.8	0.1	0.0	2.9	0.0	0.0	-15.7
2/19/2010	27.6	0.4	0.0	14.4	2.9	0.1	35.5	27.6	0.1	0.0	2.9	0.0	0.0	-20.8
2/20/2010	30.1	0.5	0.0	14.2	2.9	0.1	36.9	30.1	0.1	0.0	2.9	0.0	0.0	-22.2
2/21/2010	30.9	1.4	0.0	13.8	2.9	0.1	38.5	30.9	0.1	0.0	2.9	0.0	0.0	-23.4
2/22/2010	30.8	0.6	0.0	13.6	2.9	0.1	38.9	30.8	0.1	0.0	2.9	0.0	0.0	-24.7
2/23/2010	30.9	0.1	0.0	13.8	2.9	0.1	38.8	30.9	0.1	0.0	2.9	0.0	0.0	-25.0
2/24/2010	30.7	1.7	0.0	13.5	2.9	0.1	38.6	30.7	0.1	0.0	2.9	0.0	0.0	-23.5
2/25/2010	30.4	0.3	0.0	13.7	2.9	0.1	38.5	30.4	0.1	0.0	2.9	0.0	0.0	-24.5
2/26/2010	30.6	0.3	0.0	13.2	2.9	0.1	38.1	30.6	0.1	0.0	2.9	0.0	0.0	-24.6
2/27/2010	30.7	0.0	0.0	13.3	2.9	0.1	38.1	30.7	0.1	0.0	2.9	0.0	0.0	-24.9
2/28/2010	30.8	0.1	0.0	13.7	2.9	0.1	38.4	30.8	0.1	0.0	2.9	0.0	0.0	-24.6
3/1/2010	0.0	1.0	11.4	13.1	2.9	0.0	27.5	9.6	11.8	2.2	8.4	0.0	0.0	-30.9
3/2/2010	0.0	0.7	42.6	12.7	2.9	0.0	58.2	13.0	11.8	2.7	8.4	0.0	0.0	-35.1
3/3/2010	0.0	0.8	50.1	12.8	2.9	0.0	65.8	12.5	11.8	2.7	8.4	0.0	0.0	-34.5
3/4/2010	0.0	0.5	50.6	12.6	2.9	0.0	66.1	12.1	11.8	2.7	8.4	0.0	0.0	-34.4
3/5/2010	0.0	0.1	51.3	12.9	2.9	0.0	67.1	12.0	11.8	2.7	8.4	0.0	0.0	-34.7
3/6/2010	315.7	0.1	0.0	13.0	2.9	0.0	67.8	95.2	11.8	6.0	8.4	0.0	0.0	142.7
3/7/2010	351.8	0.4	0.0	14.1	2.9	0.0	71.7	110.0	11.8	6.6	8.4	0.0	0.0	160.8
3/8/2010	354.5	0.3	0.0	17.0	2.9	0.0	226.6	105.4	11.8	6.6	8.4	0.0	0.0	16.0
3/9/2010	334.3	0.1	0.0	17.8	2.9	0.0	284.9	100.9	11.8	6.6	8.4	0.0	0.0	-57.5
3/10/2010	510.0	0.6	0.0	23.1	2.9	0.0	267.4	85.9	11.8	6.6	8.4	0.0	0.0	156.5
3/11/2010	751.1	0.7	0.0	26.5	2.9	0.0	617.3	88.2	11.8	6.6	8.4	0.0	0.0	49.0
3/12/2010	812.0	0.7	0.0	30.8	2.9	0.0	756.3	74.1	11.8	6.6	8.4	0.0	0.0	-10.8
3/13/2010	857.1	0.3	0.0	32.5	2.9	0.0	809.5	66.5	11.8	6.6	8.4	0.0	0.0	-9.9
3/14/2010	1029.0	0.3	0.0	46.4	2.9	0.0	929.2	62.1	11.8	6.6	8.4	0.0	0.0	60.6
3/15/2010	1161.4	0.6	0.0	54.0	2.9	0.0	1152.6	57.3	11.8	6.6	8.4	0.0	0.0	-17.7
3/16/2010	1136.8	0.0	0.0	57.0	2.9	0.0	1169.2	53.8	11.8	6.6	8.4	0.0	0.0	-53.0
3/17/2010	1389.4	0.0	0.0	82.0	2.9	0.0	1277.2	53.8	11.8	6.6	8.4	0.0	0.0	116.6
3/18/2010	1668.9	0.6	0.0	101.0	2.9	0.0	1678.1	54.8	11.8	6.6	8.4	0.0	0.0	13.7
3/19/2010	1598.3	0.2	6.5	98.9	2.9	0.0	1706.7	54.5	11.8	6.6	8.4	0.0	0.0	-81.0
3/20/2010	1441.7	0.5	8.9	75.4	2.9	0.0	1528.9	53.8	11.8	6.6	8.4	0.0	0.0	-80.0
3/21/2010	1449.9	0.0	0.0	75.2	2.9	0.0	1460.3	53.6	11.8	6.6	8.4	0.0	0.0	-12.6
3/22/2010	1543.3	0.2	0.0	90.9	2.9	0.0	1556.1	53.8	11.8	6.6	8.4	0.0	0.0	0.7
3/23/2010	1532.0	0.0	0.0	89.2	2.9	0.0	1600.8	53.7	11.8	6.6	8.4	0.0	0.0	-57.0
3/24/2010	1727.7	0.1	0.0	96.9	2.9	0.0	1690.5	53.9	11.8	6.6	8.4	0.0	0.0	56.5
3/25/2010	2069.5	0.0	0.0	116.7	2.9	0.0	2056.1	54.6	11.8	6.6	8.4	0.0	0.0	51.7
3/26/2010	1932.7	0.0	30.8	107.2	2.9	0.0	2073.6	54.3	11.8	6.6	8.4	0.0	0.0	-81.0
3/27/2010	1798.9	1.0	0.0	79.6	2.9	0.0	1868.9	53.8	11.8	6.6	8.4	0.0	0.0	-67.1
3/28/2010	1835.9	0.4	0.0	0.0	2.9	0.0	1791.6	53.6	11.8	6.6	8.4	0.0	0.0	-32.7
3/29/2010	2056.1	0.2	0.0	116.3	2.9	0.0	2040.5	54.1	11.8	6.6	8.4	0.0	0.0	54.2
3/30/2010	2247.6	0.0	0.0	118.3	2.9	0.0	2291.8	54.4	11.8	6.6	8.4	0.0	0.0	-4.1
3/31/2010	2234.8	0.1	0.0	118.6	2.9	0.0	2342.9	54.3	11.8	6.6	8.4	0.0	0.0	-67.6
4/1/2010	2095.9	0.1	13.4	111.0	2.9	0.0	2223.2	54.0	11.8	9.3	8.4	0.0	0.0	-83.3
4/2/2010	1930.2	0.5	13.4	92.2	2.9	0.0	2038.7	53.6	11.8	9.3	8.4	0.0	0.0	-82.5
4/3/2010	1782.5	0.4	6.0	80.6	2.9	0.0	1872.0	53.1	11.8	9.3	8.4	0.0	0.0	-82.1
4/4/2010	1763.2	0.5	0.0	79.8	2.9	0.0	1816.5	52.9	11.8	9.3	8.4	0.0	0.0	-52.5
4/5/2010	1817.9	0.7	0.0	87.5	2.9	0.0	1860.4	52.9	11.8	9.3	8.4	0.0	0.0	-33.7
4/6/2010	1937.3	0.8	0.0	91.5	2.9	0.0	1972.1	53.1	11.8	9.3	8.4	0.0	0.0	-22.1
4/7/2010	2036.5	0.1	0.0	107.4	2.9	0.0	2091.9	53.2	11.8	9.3	8.4	0.0	0.0	-27.5

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
4/8/2010	2085.7	0.0	0.0	109.9	2.9	0.0	2168.0	53.3	11.8	9.3	8.4	0.0	0.0	-52.2
4/9/2010	1945.5	0.0	32.1	107.8	2.9	0.0	2088.4	53.0	11.8	9.3	8.4	0.0	0.0	-82.4
4/10/2010	1673.6	0.0	56.3	79.4	2.9	0.0	1812.2	52.3	11.8	9.3	8.4	0.0	0.0	-81.7
4/11/2010	1627.0	0.6	0.0	69.2	2.9	0.0	1676.8	52.1	11.8	9.3	8.4	0.0	0.0	-58.7
4/12/2010	1689.5	0.7	0.0	76.0	2.9	0.0	1732.5	52.2	11.8	9.3	8.4	0.0	0.0	-45.0
4/13/2010	1674.7	0.1	4.1	72.4	2.9	0.0	1754.1	52.1	11.8	9.3	8.4	0.0	0.0	-81.4
4/14/2010	1698.3	0.1	5.4	75.3	2.9	0.0	1781.9	52.1	11.8	9.3	8.4	0.0	0.0	-81.4
4/15/2010	1636.8	0.9	29.3	83.4	2.9	0.0	1752.4	52.0	11.8	9.3	8.4	0.0	0.0	-80.6
4/16/2010	1476.4	0.2	63.4	72.6	2.9	0.0	1615.2	51.5	11.8	9.3	8.4	0.0	0.0	-80.7
4/17/2010	1121.1	0.1	117.9	74.4	2.9	0.0	1316.4	50.5	11.8	9.3	8.4	0.0	0.0	-79.8
4/18/2010	952.6	0.1	49.2	59.7	2.9	0.0	1064.4	49.0	11.8	9.3	8.4	0.0	0.0	-78.3
4/19/2010	933.1	0.1	0.0	33.4	2.9	0.0	952.7	48.4	11.8	9.3	8.4	0.0	0.0	-60.9
4/20/2010	837.9	0.0	58.8	41.2	2.9	0.0	940.8	47.8	11.8	9.3	8.4	0.0	0.0	-77.2
4/21/2010	765.9	0.0	4.1	39.6	2.9	0.0	812.5	46.3	11.8	9.3	8.4	0.0	0.0	-75.7
4/22/2010	794.4	0.6	0.0	36.2	2.9	0.0	804.4	46.4	11.8	9.3	8.4	0.0	0.0	-46.0
4/23/2010	778.9	0.5	16.2	35.7	2.9	0.0	833.8	46.5	11.8	9.3	8.4	0.0	0.0	-75.4
4/24/2010	453.0	0.4	0.0	34.3	2.9	0.0	427.5	46.5	11.8	5.9	8.4	0.0	0.0	-9.4
4/25/2010	0.0	0.3	3.2	33.9	2.9	0.0	39.9	6.0	11.8	3.7	8.4	0.0	0.0	-29.6
4/26/2010	0.0	0.2	63.5	37.4	2.9	0.0	103.7	7.3	11.8	4.0	8.4	0.0	0.0	-31.2
4/27/2010	0.0	0.5	65.0	34.7	2.9	0.0	102.5	6.4	11.8	4.0	8.4	0.0	0.0	-30.0
4/28/2010	269.0	0.0	0.0	35.0	2.9	0.0	95.9	45.5	11.8	8.5	8.4	0.0	0.0	136.8
4/29/2010	426.4	0.1	0.0	35.6	2.9	0.0	358.3	74.8	11.8	9.6	8.4	0.0	0.0	2.2
4/30/2010	508.1	0.3	0.0	37.8	2.9	0.0	464.5	76.5	11.8	9.6	8.4	0.0	0.0	-21.7
5/1/2010	618.0	0.0	0.0	42.1	2.9	0.0	578.6	85.2	11.8	11.9	8.4	0.0	0.0	-32.8
5/2/2010	580.8	1.1	2.4	39.3	2.9	0.0	625.5	82.4	11.8	11.9	8.4	0.0	0.0	-113.3
5/3/2010	537.3	0.9	0.0	38.8	2.9	0.0	573.3	75.5	11.8	11.9	8.4	0.0	0.0	-100.9
5/4/2010	576.2	0.2	0.0	40.0	2.9	0.0	560.6	74.6	11.8	11.9	8.4	0.0	0.0	-48.0
5/5/2010	677.1	0.3	0.0	42.5	2.9	0.0	630.3	79.0	11.8	11.9	8.4	0.0	0.0	-18.6
5/6/2010	761.2	0.3	0.0	46.0	2.9	0.0	740.5	80.7	11.8	11.9	8.4	0.0	0.0	-42.9
5/7/2010	734.1	0.7	1.6	46.2	2.9	0.0	784.8	70.4	11.8	11.9	8.4	0.0	0.0	-101.7
5/8/2010	691.6	0.0	14.0	43.4	2.9	0.0	751.9	49.9	11.8	11.9	8.4	0.0	0.0	-81.9
5/9/2010	709.6	0.0	0.0	40.6	2.9	0.0	744.6	33.4	11.8	11.9	8.4	0.0	0.0	-56.9
5/10/2010	754.5	0.0	9.2	40.4	2.9	0.0	807.0	26.5	11.8	11.9	8.4	0.0	0.0	-58.5
5/11/2010	762.8	0.4	26.2	40.9	2.9	0.0	832.7	23.2	11.8	11.9	8.4	0.0	0.0	-54.8
5/12/2010	827.5	0.0	0.0	41.1	2.9	0.0	860.2	21.6	11.8	11.9	8.4	0.0	0.0	-42.3
5/13/2010	1039.7	0.1	0.0	54.3	2.9	0.0	1022.6	21.8	11.8	11.9	8.4	0.0	0.0	20.6
5/14/2010	1124.4	0.6	6.3	65.2	2.9	0.0	1198.7	22.1	11.8	11.9	8.4	0.0	0.0	-53.5
5/15/2010	1134.8	0.7	36.4	62.4	2.9	0.0	1236.4	22.0	11.8	11.9	8.4	0.0	0.0	-53.3
5/16/2010	1210.3	1.1	0.0	68.3	2.9	0.0	1267.8	22.1	11.8	11.9	8.4	0.0	0.0	-39.3
5/17/2010	1229.5	0.3	32.1	71.4	2.9	0.0	1336.0	22.2	11.8	11.9	8.4	0.0	0.0	-54.0
5/18/2010	1153.3	0.3	65.4	69.3	2.9	0.0	1290.8	22.0	11.8	11.9	8.4	0.0	0.0	-53.7
5/19/2010	955.2	0.0	122.3	71.6	2.9	0.0	1152.0	21.4	11.8	11.9	8.4	0.0	0.0	-53.4
5/20/2010	805.7	0.3	75.5	46.7	2.9	0.0	930.8	20.6	11.8	11.9	8.4	0.0	0.0	-52.4
5/21/2010	773.0	1.0	22.5	49.5	2.9	0.0	847.8	20.1	11.8	11.9	8.4	0.0	0.0	-51.1
5/22/2010	911.6	0.1	0.0	47.5	2.9	0.0	913.0	20.7	11.8	11.9	8.4	0.0	0.0	-3.6
5/23/2010	1027.0	0.8	2.7	51.0	2.9	0.0	1083.6	21.3	11.8	11.9	8.4	0.0	0.0	-52.5
5/24/2010	1041.5	0.2	30.4	45.5	2.9	0.0	1120.3	21.3	11.8	11.9	8.4	0.0	0.0	-53.1
5/25/2010	1120.3	1.0	0.0	43.4	2.9	0.0	1163.9	21.5	11.8	11.9	8.4	0.0	0.0	-49.8
5/26/2010	1185.6	0.1	5.8	61.5	2.9	0.0	1255.8	21.7	11.8	11.9	8.4	0.0	0.0	-53.6
5/27/2010	1254.9	0.6	17.7	61.6	2.9	0.0	1337.1	21.8	11.8	11.9	8.4	0.0	0.0	-53.3
5/28/2010	1161.4	0.6	85.7	65.4	2.9	0.0	1315.4	21.7	11.8	11.9	8.4	0.0	0.0	-53.1

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/29/2010	1013.2	0.3	91.7	51.3	2.9	0.0	1159.1	21.2	11.8	11.9	8.4	0.0	0.0	-52.9
5/30/2010	948.6	0.0	54.3	49.8	2.9	0.0	1055.6	20.9	11.8	11.9	8.4	0.0	0.0	-52.9
5/31/2010	919.4	0.7	43.1	48.2	2.9	0.0	1013.6	20.7	11.8	11.9	8.4	0.0	0.0	-52.0
6/1/2010	859.9	0.4	66.8	46.0	2.9	0.0	975.6	20.5	11.8	14.1	8.4	0.0	0.0	-54.3
6/2/2010	883.7	0.3	3.5	40.2	2.9	0.0	930.3	20.3	11.8	14.1	8.4	0.0	0.0	-54.3
6/3/2010	1120.5	0.6	0.0	52.4	2.9	0.0	1096.3	21.1	11.8	14.1	8.4	0.0	0.0	24.8
6/4/2010	1234.9	0.3	0.0	64.1	2.9	0.0	1292.7	21.5	11.8	14.1	8.4	0.0	0.0	-46.2
6/5/2010	1406.1	0.2	0.0	62.4	2.9	0.0	1434.2	21.7	11.8	14.1	8.4	0.0	0.0	-18.6
6/6/2010	1613.6	0.7	0.0	103.6	2.9	0.0	1692.3	22.0	11.8	14.1	8.4	0.0	0.0	-27.7
6/7/2010	1699.8	1.6	12.3	109.2	2.9	0.0	1824.2	22.1	11.8	14.1	8.4	0.0	0.0	-54.7
6/8/2010	1910.4	0.7	0.0	107.8	2.9	0.0	1986.9	22.2	11.8	14.1	8.4	0.0	0.0	-21.6
6/9/2010	2041.8	0.2	6.4	143.3	2.9	0.0	2194.4	22.3	11.8	14.1	8.4	0.0	0.0	-56.3
6/10/2010	2003.5	2.2	60.0	130.9	2.9	0.0	2197.2	22.3	11.8	14.1	8.4	0.0	0.0	-54.3
6/11/2010	1838.4	0.4	81.4	138.6	2.9	0.0	2061.2	22.2	11.8	14.1	8.4	0.0	0.0	-56.0
6/12/2010	1773.2	0.6	40.1	116.8	2.9	0.0	1932.9	22.0	11.8	14.1	8.4	0.0	0.0	-55.6
6/13/2010	1916.9	0.1	0.0	130.2	2.9	0.0	2027.2	22.1	11.8	14.1	8.4	0.0	0.0	-33.4
6/14/2010	2003.3	1.2	10.7	136.9	2.9	0.0	2153.8	22.1	11.8	14.1	8.4	0.0	0.0	-55.1
6/15/2010	2071.5	2.0	19.5	138.2	2.9	0.0	2232.0	22.1	11.8	14.1	8.4	0.0	0.0	-54.3
6/16/2010	2133.8	1.2	27.7	141.1	2.9	0.0	2305.5	22.1	11.8	14.1	8.4	0.0	0.0	-55.1
6/17/2010	2032.8	1.6	61.2	148.2	2.9	0.0	2245.1	22.0	11.8	14.1	8.4	0.0	0.0	-54.6
6/18/2010	2043.1	2.9	31.7	143.5	2.9	0.0	2221.2	22.0	11.8	14.1	8.4	0.0	0.0	-53.3
6/19/2010	1919.2	0.9	76.5	132.7	2.9	0.0	2131.3	21.8	11.8	14.1	8.4	0.0	0.0	-55.2
6/20/2010	1856.3	1.0	54.7	122.7	2.9	0.0	2036.5	21.7	11.8	14.1	8.4	0.0	0.0	-55.0
6/21/2010	1852.5	0.4	40.2	121.9	2.9	0.0	2017.4	21.6	11.8	14.1	8.4	0.0	0.0	-55.4
6/22/2010	1847.6	0.3	36.6	119.2	2.9	0.0	2006.3	21.5	11.8	14.1	8.4	0.0	0.0	-55.5
6/23/2010	1874.1	1.0	29.9	117.7	2.9	0.0	2024.6	21.5	11.8	14.1	8.4	0.0	0.0	-54.8
6/24/2010	1882.9	1.1	46.8	117.2	2.9	0.0	2049.8	21.5	11.8	14.1	8.4	0.0	0.0	-54.6
6/25/2010	1886.7	0.6	27.6	122.3	2.9	0.0	2039.5	21.5	11.8	14.1	8.4	0.0	0.0	-55.1
6/26/2010	2039.8	0.6	0.0	135.1	2.9	0.0	2167.4	21.6	11.8	14.1	8.4	0.0	0.0	-44.9
6/27/2010	2179.1	2.4	15.1	155.0	2.9	0.0	2352.0	21.6	11.8	14.1	8.4	0.0	0.0	-53.4
6/28/2010	2213.6	1.7	40.6	153.0	2.9	0.0	2410.1	21.6	11.8	14.1	8.4	0.0	0.0	-54.1
6/29/2010	2213.6	3.0	90.9	164.4	2.9	0.0	2471.7	21.7	11.8	14.1	8.4	0.0	0.0	-52.9
6/30/2010	1797.2	1.8	195.9	139.5	2.9	0.0	2135.6	21.6	11.8	14.1	8.4	0.0	0.0	-54.0
7/1/2010	1461.6	1.0	150.3	95.1	2.9	0.0	1709.9	21.4	11.8	12.4	8.4	0.0	0.0	-53.0
7/2/2010	1421.0	3.1	59.8	89.2	2.9	0.0	1572.9	21.6	11.8	12.4	8.4	0.0	0.0	-51.0
7/3/2010	1278.7	0.8	133.3	90.7	2.9	0.0	1505.6	21.4	11.8	12.4	8.4	0.0	0.0	-53.1
7/4/2010	1160.2	1.3	105.9	67.9	2.9	0.0	1336.9	21.2	11.8	12.4	8.4	0.0	0.0	-52.4
7/5/2010	1295.4	3.2	0.0	65.6	2.9	0.0	1320.0	21.0	11.8	12.4	8.4	0.0	0.0	-6.5
7/6/2010	1640.0	0.8	0.0	94.1	2.9	0.0	1673.5	21.2	11.8	12.4	8.4	0.0	0.0	10.5
7/7/2010	1854.6	1.2	0.0	105.5	2.9	0.0	1946.0	21.2	11.8	12.4	8.4	0.0	0.0	-35.6
7/8/2010	2073.0	1.4	0.0	130.2	2.9	0.0	2201.8	21.3	11.8	12.4	8.4	0.0	0.0	-48.0
7/9/2010	1981.2	4.0	90.4	125.7	2.9	0.0	2200.1	21.3	11.8	12.4	8.4	0.0	0.0	-49.8
7/10/2010	2602.1	3.1	0.0	112.9	2.9	0.0	2254.4	21.6	11.8	12.4	8.4	0.0	0.0	412.5
7/11/2010	1729.7	1.9	0.0	130.0	2.9	0.0	1673.3	21.6	11.8	7.1	8.4	0.0	0.0	142.5
7/12/2010	1659.9	1.1	0.0	229.8	2.9	0.0	1818.5	21.6	11.8	7.1	8.4	0.0	0.0	26.4
7/13/2010	1459.8	1.3	0.0	105.6	2.9	0.0	1560.8	21.6	11.8	7.1	8.4	0.0	0.0	-40.0
7/14/2010	1525.9	1.0	0.0	129.1	2.9	0.0	1482.0	21.6	11.8	7.1	8.4	0.0	0.0	128.1
7/15/2010	1476.5	2.2	0.0	116.2	2.9	0.0	1511.6	21.6	11.8	7.1	8.4	0.0	0.0	37.3
7/16/2010	1423.4	1.3	0.0	117.9	2.9	0.0	1439.7	21.6	11.8	7.1	8.4	0.0	0.0	56.9
7/17/2010	1366.3	4.2	0.0	99.0	2.9	0.0	1402.8	21.6	11.8	7.1	8.4	0.0	0.0	20.7
7/18/2010	1417.4	1.2	0.0	108.1	2.9	0.0	1406.0	21.6	11.8	7.1	8.4	0.0	0.0	74.9

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/19/2010	1411.2	1.7	0.0	102.2	2.9	0.0	1409.1	21.6	11.8	7.1	8.4	0.0	0.0	60.0
7/20/2010	1416.4	1.6	0.0	103.1	2.9	0.0	1417.8	21.6	11.8	7.1	8.4	0.0	0.0	57.3
7/21/2010	1536.4	3.2	0.0	118.8	2.9	0.0	1485.5	21.6	11.8	7.1	8.4	0.0	0.0	127.0
7/22/2010	1455.1	1.3	0.0	119.3	2.9	0.0	1508.3	21.6	11.8	7.1	8.4	0.0	0.0	21.6
7/23/2010	1369.8	3.0	0.0	125.7	2.9	0.0	1431.0	21.6	11.8	7.1	8.4	0.0	0.0	21.6
7/24/2010	1464.8	1.0	0.0	186.2	2.9	0.0	1494.4	21.6	11.8	7.1	8.4	0.0	0.0	111.6
7/25/2010	1215.4	1.3	71.9	146.3	2.9	0.0	1436.5	21.6	11.8	7.1	8.4	0.0	0.0	-47.5
7/26/2010	1630.7	3.0	0.0	270.2	2.9	0.0	1436.9	21.6	11.8	7.1	8.4	0.0	0.0	421.1
7/27/2010	1490.6	1.3	69.7	272.9	2.9	0.0	1836.1	21.6	11.8	7.1	8.4	0.0	0.0	-47.6
7/28/2010	1159.4	2.1	0.0	119.6	2.9	0.0	1271.2	21.6	11.8	7.1	8.4	0.0	0.0	-36.0
7/29/2010	1229.8	4.4	0.0	132.9	2.9	0.0	1155.6	21.6	11.8	7.1	8.4	0.0	0.0	165.6
7/30/2010	1287.3	1.9	0.0	149.2	2.9	0.0	1361.6	21.6	11.8	7.1	8.4	0.0	0.0	30.8
7/31/2010	1130.3	0.8	0.0	120.0	2.9	0.0	1245.0	21.6	11.8	7.1	8.4	0.0	0.0	-39.9
8/1/2010	1188.5	4.4	0.0	120.9	2.9	0.0	1139.6	21.6	11.8	6.7	8.4	0.0	0.0	128.6
8/2/2010	1287.5	4.2	0.0	118.2	2.9	0.0	1299.1	21.6	11.8	6.7	8.4	0.0	0.0	65.3
8/3/2010	1270.9	3.1	0.0	102.8	2.9	0.0	1290.4	21.6	11.8	6.7	8.4	0.0	0.0	40.9
8/4/2010	1260.2	1.2	0.0	93.1	2.9	0.0	1247.1	21.6	11.8	6.7	8.4	0.0	0.0	61.9
8/5/2010	1306.1	2.7	0.0	101.7	2.9	0.0	1304.2	21.6	11.8	6.7	8.4	0.0	0.0	60.8
8/6/2010	1220.4	2.4	0.0	85.8	2.9	0.0	1254.4	21.6	11.8	6.7	8.4	0.0	0.0	8.6
8/7/2010	1277.4	3.0	0.0	83.7	2.9	0.0	1229.7	21.6	11.8	6.7	8.4	0.0	0.0	89.0
8/8/2010	1418.7	0.9	0.0	107.1	2.9	0.0	1361.7	21.6	11.8	6.7	8.4	0.0	0.0	119.4
8/9/2010	1447.2	3.2	0.0	107.5	2.9	0.0	1455.4	21.6	11.8	6.7	8.4	0.0	0.0	57.0
8/10/2010	1516.8	2.3	0.0	113.6	2.9	0.0	1475.6	21.6	11.8	6.7	8.4	0.0	0.0	111.6
8/11/2010	1576.3	3.2	0.0	129.5	2.9	0.0	1588.2	21.6	11.8	6.7	8.4	0.0	0.0	75.3
8/12/2010	1458.2	4.2	0.0	116.2	2.9	0.0	1529.8	21.6	11.8	6.7	8.4	0.0	0.0	3.2
8/13/2010	1387.7	2.8	0.0	117.7	2.9	0.0	1418.9	21.6	11.8	6.7	8.4	0.0	0.0	43.7
8/14/2010	1317.5	6.8	0.0	123.3	2.9	0.0	1377.0	21.6	11.8	6.7	8.4	0.0	0.0	25.1
8/15/2010	1489.0	4.3	0.0	112.1	2.9	0.0	1410.6	21.6	11.8	6.7	8.4	0.0	0.0	149.3
8/16/2010	1555.4	1.6	0.0	124.1	2.9	0.0	1557.5	21.6	11.8	6.7	8.4	0.0	0.0	78.1
8/17/2010	1542.6	2.9	0.0	122.3	2.9	0.0	1558.5	21.6	11.8	6.7	8.4	0.0	0.0	63.8
8/18/2010	1506.0	2.1	0.0	129.3	2.9	0.0	1542.9	21.6	11.8	6.7	8.4	0.0	0.0	49.0
8/19/2010	1504.3	2.2	0.0	137.1	2.9	0.0	1537.3	21.6	11.8	6.7	8.4	0.0	0.0	60.8
8/20/2010	1527.3	5.3	0.0	127.1	2.9	0.0	1543.8	21.6	11.8	6.7	8.4	0.0	0.0	70.3
8/21/2010	1542.1	1.1	0.0	117.7	2.9	0.0	1541.8	21.6	11.8	6.7	8.4	0.0	0.0	73.6
8/22/2010	1664.3	4.5	0.0	138.3	2.9	0.0	1628.1	21.6	11.8	6.7	8.4	0.0	0.0	133.4
8/23/2010	1713.9	3.2	0.0	138.3	2.9	0.0	1731.5	21.6	11.8	6.7	8.4	0.0	0.0	78.3
8/24/2010	1662.3	2.3	0.0	136.8	2.9	0.0	1695.7	21.6	11.8	6.7	8.4	0.0	0.0	60.3
8/25/2010	1628.6	3.7	0.0	250.6	2.9	0.0	1780.9	21.6	11.8	6.7	8.4	0.0	0.0	56.5
8/26/2010	1385.1	1.8	34.3	132.2	2.9	0.0	1554.5	21.6	11.8	6.7	8.4	0.0	0.0	-46.6
8/27/2010	1202.9	3.7	0.0	105.6	2.9	0.0	1251.7	21.6	11.8	6.7	8.4	0.0	0.0	15.0
8/28/2010	1170.2	1.8	0.0	97.5	2.9	0.0	1165.2	21.6	11.8	6.7	8.4	0.0	0.0	58.9
8/29/2010	1138.5	0.8	0.0	102.9	2.9	0.0	1156.4	21.6	11.8	6.7	8.4	0.0	0.0	40.2
8/30/2010	1127.9	3.1	0.0	88.7	2.9	0.0	1158.2	21.6	11.8	6.7	8.4	0.0	0.0	16.1
8/31/2010	908.7	2.4	45.2	84.6	2.9	0.0	1041.4	21.6	11.8	6.7	8.4	0.0	0.0	-46.0
9/1/2010	531.7	0.6	149.7	75.3	2.9	0.0	759.7	21.6	11.8	5.4	8.4	0.0	0.0	-46.5
9/2/2010	288.5	3.1	116.5	62.2	2.9	0.0	470.0	21.6	11.8	5.4	8.4	0.0	0.0	-44.0
9/3/2010	254.9	1.8	0.0	59.6	2.9	0.0	302.4	21.6	11.8	5.4	8.4	0.0	0.0	-30.4
9/4/2010	377.3	3.1	0.0	61.6	2.9	0.0	298.6	21.6	11.8	5.4	8.4	0.0	0.0	99.0
9/5/2010	734.3	2.6	0.0	66.4	2.9	0.0	436.2	21.6	11.8	5.4	8.4	0.0	0.0	323.0
9/6/2010	858.8	3.4	0.0	63.0	2.9	0.0	857.2	21.6	11.8	5.4	8.4	0.0	0.0	23.8
9/7/2010	775.1	3.6	0.0	57.9	2.9	0.0	814.9	21.6	11.8	5.4	8.4	0.0	0.0	-22.6

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
9/8/2010	727.9	1.3	0.0	57.3	2.9	0.0	724.5	21.6	11.8	5.4	8.4	0.0	0.0	17.8
9/9/2010	735.0	1.3	0.0	57.1	2.9	0.0	738.0	21.6	11.8	5.4	8.4	0.0	0.0	11.2
9/10/2010	719.4	1.6	0.0	56.1	2.9	0.0	745.3	21.6	11.8	5.4	8.4	0.0	0.0	-12.5
9/11/2010	817.0	2.0	0.0	58.9	2.9	0.0	778.0	21.6	11.8	5.4	8.4	0.0	0.0	55.6
9/12/2010	809.3	3.7	0.0	59.2	2.9	0.0	766.6	21.6	11.8	5.4	8.4	0.0	0.0	61.4
9/13/2010	855.2	1.9	0.0	66.7	2.9	0.0	845.3	21.6	11.8	5.4	8.4	0.0	0.0	34.3
9/14/2010	704.1	2.1	7.8	57.3	2.9	0.0	772.1	21.6	11.8	5.4	8.4	0.0	0.0	-45.0
9/15/2010	608.6	1.3	0.0	58.7	2.9	0.0	659.5	21.6	11.8	5.4	8.4	0.0	0.0	-35.1
9/16/2010	532.3	2.3	0.0	51.9	2.9	0.0	577.9	21.6	11.8	5.4	8.4	0.0	0.0	-35.6
9/17/2010	468.7	1.0	0.0	49.8	2.9	0.0	511.4	21.6	11.8	5.4	8.4	0.0	0.0	-36.1
9/18/2010	391.0	1.9	14.0	48.0	2.9	0.0	455.8	21.6	11.8	5.4	8.4	0.0	0.0	-45.2
9/19/2010	439.0	1.9	0.0	45.8	2.9	0.0	400.3	21.6	11.8	5.4	8.4	0.0	0.0	42.2
9/20/2010	475.2	2.1	0.0	44.8	2.9	0.0	450.7	21.6	11.8	5.4	8.4	0.0	0.0	27.2
9/21/2010	422.0	0.3	0.0	47.7	2.9	0.0	467.5	21.6	11.8	5.4	8.4	0.0	0.0	-41.7
9/22/2010	463.9	2.3	0.0	46.0	2.9	0.0	425.2	21.6	11.8	5.4	8.4	0.0	0.0	42.7
9/23/2010	590.1	2.4	0.0	46.9	2.9	0.0	500.1	21.6	11.8	5.4	8.4	0.0	0.0	95.1
9/24/2010	645.0	0.9	0.0	45.1	2.9	0.0	611.5	21.6	11.8	5.4	8.4	0.0	0.0	35.3
9/25/2010	495.0	2.3	34.1	43.7	2.9	0.0	575.7	21.6	11.8	5.4	8.4	0.0	0.0	-44.8
9/26/2010	390.1	0.8	32.3	42.2	2.9	0.0	467.5	21.6	11.8	5.4	8.4	0.0	0.0	-46.3
9/27/2010	341.9	0.2	0.0	41.5	2.9	0.0	377.6	21.6	11.8	5.4	8.4	0.0	0.0	-38.3
9/28/2010	335.5	0.1	0.0	41.1	2.9	0.0	348.9	21.6	11.8	5.4	8.4	0.0	0.0	-16.4
9/29/2010	327.7	1.0	0.0	41.7	2.9	0.0	343.0	21.6	11.8	5.4	8.4	0.0	0.0	-16.8
9/30/2010	345.2	1.0	0.0	42.1	2.9	0.0	335.3	21.6	11.8	5.4	8.4	0.0	0.0	8.8
10/1/2010	782.8	1.6	0.0	41.0	2.9	0.0	396.5	21.6	11.8	0.0	8.4	0.0	0.0	390.2
10/2/2010	753.1	0.4	0.0	40.3	2.9	0.0	756.8	21.6	11.8	0.0	8.4	0.0	0.0	-1.8
10/3/2010	728.4	1.2	0.0	39.4	2.9	0.0	712.7	21.6	11.8	0.0	8.4	0.0	0.0	17.5
10/4/2010	837.0	1.3	0.0	38.0	2.9	0.0	739.3	21.6	11.8	0.0	8.4	0.0	0.0	98.1
10/5/2010	837.7	1.1	0.0	39.0	2.9	0.0	806.9	21.6	11.8	0.0	8.4	0.0	0.0	32.0
10/6/2010	818.8	0.3	0.0	39.4	2.9	0.0	801.0	21.6	11.8	0.0	8.4	0.0	0.0	18.6
10/7/2010	722.1	0.3	0.0	36.9	2.9	0.0	737.3	21.6	11.8	0.0	8.4	0.0	0.0	-16.8
10/8/2010	224.9	0.7	23.4	35.4	2.9	0.0	286.6	62.3	11.8	0.0	8.4	0.0	0.0	-81.7
10/9/2010	151.3	0.8	21.0	34.3	2.9	0.0	209.5	56.0	11.8	0.0	8.4	0.0	0.0	-75.3
10/10/2010	101.4	0.5	16.4	33.4	2.9	0.0	154.0	51.5	11.8	0.0	8.4	0.0	0.0	-71.1
10/11/2010	71.2	1.7	3.9	31.6	2.9	0.0	109.6	47.9	11.8	0.0	8.4	0.0	0.0	-66.3
10/12/2010	64.6	0.4	0.0	29.7	2.9	0.0	89.6	46.7	11.8	0.0	8.4	0.0	0.0	-58.9
10/13/2010	61.1	1.1	0.0	27.8	2.9	0.0	83.4	46.2	11.8	0.0	8.4	0.0	0.0	-57.0
10/14/2010	58.1	0.7	0.0	35.1	2.9	0.0	83.7	46.1	11.8	0.0	8.4	0.0	0.0	-53.1
10/15/2010	56.5	1.3	0.0	62.3	2.9	0.0	100.8	47.0	11.8	0.0	8.4	0.0	0.0	-44.9
10/16/2010	56.3	0.3	0.0	94.6	2.9	0.0	130.4	48.3	11.8	0.0	8.4	0.0	0.0	-44.8
10/17/2010	56.5	3.2	0.0	102.8	2.9	0.0	145.7	48.8	11.8	0.0	8.4	0.0	0.0	-49.1
10/18/2010	54.0	0.9	0.0	122.9	2.9	0.0	161.3	49.3	11.8	0.0	8.4	0.0	0.0	-50.1
10/19/2010	49.4	2.0	0.0	141.7	2.9	0.0	176.3	49.4	11.8	0.0	8.4	0.0	0.0	-49.8
10/20/2010	46.5	2.4	0.0	156.6	2.9	0.0	188.0	46.5	11.8	0.0	8.4	0.0	0.0	-46.3
10/21/2010	45.6	1.8	0.0	167.8	2.9	0.0	198.0	45.6	11.8	0.0	8.4	0.0	0.0	-45.6
10/22/2010	45.1	1.7	0.0	172.9	2.9	0.0	203.9	45.1	11.8	0.0	8.4	0.0	0.0	-46.6
10/23/2010	44.9	1.7	0.0	178.0	2.9	0.0	208.6	44.9	11.8	0.0	8.4	0.0	0.0	-46.1
10/24/2010	44.1	1.8	0.0	188.3	2.9	0.0	216.6	44.1	11.8	0.0	8.4	0.0	0.0	-43.8
10/25/2010	42.2	1.0	0.0	196.3	2.9	0.0	223.9	42.2	11.8	0.0	8.4	0.0	0.0	-43.9
10/26/2010	41.7	1.8	0.0	200.9	2.9	0.0	228.1	41.7	11.8	0.0	8.4	0.0	0.0	-42.7
10/27/2010	40.6	1.4	0.0	210.5	2.9	0.0	235.5	40.6	11.8	0.0	8.4	0.0	0.0	-40.8
10/28/2010	39.9	2.0	0.0	218.2	2.9	0.0	242.6	39.9	11.8	0.0	8.4	0.0	0.0	-39.6

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
10/29/2010	39.0	0.9	0.0	230.5	2.9	0.0	252.7	39.0	11.8	0.0	8.4	0.0	0.0	-38.5
10/30/2010	38.9	0.7	0.0	243.0	2.9	0.0	264.1	38.9	11.8	0.0	8.4	0.0	0.0	-37.6
10/31/2010	38.4	0.4	0.0	251.7	2.9	0.0	273.1	38.4	11.8	0.0	8.4	0.0	0.0	-38.2
11/1/2010	38.1	1.2	0.0	279.3	2.9	0.1	294.7	38.1	0.1	0.0	2.9	0.0	0.0	-14.3
11/2/2010	37.5	0.3	0.0	290.9	2.9	0.1	309.9	37.5	0.1	0.0	2.9	0.0	0.0	-18.6
11/3/2010	36.6	1.2	0.0	292.0	2.9	0.1	313.0	36.6	0.1	0.0	2.9	0.0	0.0	-19.8
11/4/2010	36.7	0.3	0.0	309.3	2.9	0.1	325.0	36.7	0.1	0.0	2.9	0.0	0.0	-15.4
11/5/2010	38.5	1.5	0.0	316.4	2.9	0.1	335.6	38.5	0.1	0.0	2.9	0.0	0.0	-17.7
11/6/2010	40.5	0.3	0.0	317.9	2.9	0.1	340.0	40.5	0.1	0.0	2.9	0.0	0.0	-21.9
11/7/2010	41.7	1.0	0.0	320.0	2.9	0.1	344.0	41.7	0.1	0.0	2.9	0.0	0.0	-23.1
11/8/2010	40.1	0.9	0.0	333.2	2.9	0.1	353.7	40.1	0.1	0.0	2.9	0.0	0.0	-19.7
11/9/2010	39.8	0.5	0.0	351.1	2.9	0.1	369.1	39.8	0.1	0.0	2.9	0.0	0.0	-17.5
11/10/2010	42.3	0.1	0.0	360.5	2.9	0.1	380.1	42.3	0.1	0.0	2.9	0.0	0.0	-19.6
11/11/2010	48.2	0.8	0.0	367.9	2.9	0.1	392.9	48.2	0.1	0.0	2.9	0.0	0.0	-24.3
11/12/2010	49.1	0.5	0.0	374.1	2.9	0.1	402.4	49.1	0.1	0.0	2.9	0.0	0.0	-27.8
11/13/2010	53.5	0.7	0.0	379.7	2.9	0.1	408.9	53.5	0.1	0.0	2.9	0.0	0.0	-28.6
11/14/2010	62.6	3.2	0.0	387.0	2.9	0.1	422.5	58.0	0.1	0.0	2.9	0.0	0.0	-27.7
11/15/2010	74.4	0.6	0.0	392.0	2.9	0.1	436.4	59.1	0.1	0.0	2.9	0.0	0.0	-28.5
11/16/2010	91.0	1.0	0.0	386.2	2.9	0.1	447.6	60.5	0.1	0.0	2.9	0.0	0.0	-29.9
11/17/2010	100.7	0.1	0.0	382.2	2.9	0.1	457.9	61.5	0.1	0.0	2.9	0.0	0.0	-36.4
11/18/2010	100.4	0.1	0.0	376.8	2.9	0.1	455.9	61.5	0.1	0.0	2.9	0.0	0.0	-40.2
11/19/2010	103.1	0.5	0.0	379.5	2.9	0.1	456.7	61.8	0.1	0.0	2.9	0.0	0.0	-35.4
11/20/2010	111.5	0.0	0.0	386.7	2.9	0.1	468.0	62.8	0.1	0.0	2.9	0.0	0.0	-32.5
11/21/2010	122.3	0.1	0.0	383.9	2.9	0.1	476.8	63.7	0.1	0.0	2.9	0.0	0.0	-34.2
11/22/2010	128.9	0.2	0.0	383.4	2.9	0.1	485.0	64.5	0.1	0.0	2.9	0.0	0.0	-37.1
11/23/2010	130.2	0.2	0.0	385.8	2.9	0.1	489.1	64.8	0.1	0.0	2.9	0.0	0.0	-37.6
11/24/2010	134.0	0.6	0.0	389.3	2.9	0.1	495.9	65.3	0.1	0.0	2.9	0.0	0.0	-37.3
11/25/2010	133.2	0.0	0.0	385.3	2.9	0.1	494.4	65.3	0.1	0.0	2.9	0.0	0.0	-41.2
11/26/2010	133.4	0.4	0.0	386.2	2.9	0.1	493.8	65.5	0.1	0.0	2.9	0.0	0.0	-39.3
11/27/2010	135.3	1.4	0.0	386.3	2.9	0.1	495.0	65.7	0.1	0.0	2.9	0.0	0.0	-37.7
11/28/2010	134.6	0.9	0.0	386.9	2.9	0.1	497.6	65.8	0.1	0.0	2.9	0.0	0.0	-41.0
11/29/2010	128.6	0.7	0.0	386.6	2.9	0.1	492.9	65.5	0.1	0.0	2.9	0.0	0.0	-42.5
11/30/2010	127.5	0.3	0.0	380.6	2.9	0.1	485.3	65.4	0.1	0.0	2.9	0.0	0.0	-42.3
12/1/2010	120.9	0.9	0.0	381.3	2.9	0.1	483.4	65.2	0.1	0.0	2.9	0.0	0.0	-45.5
12/2/2010	107.0	0.1	0.0	359.3	2.9	0.1	454.3	63.5	0.1	0.0	2.9	0.0	0.0	-51.5
12/3/2010	106.0	1.3	0.0	349.4	2.9	0.1	434.9	63.1	0.1	0.0	2.9	0.0	0.0	-41.2
12/4/2010	111.9	0.6	0.0	367.1	2.9	0.1	447.8	63.9	0.1	0.0	2.9	0.0	0.0	-32.2
12/5/2010	120.7	1.5	0.0	366.4	2.9	0.1	459.3	64.9	0.1	0.0	2.9	0.0	0.0	-35.6
12/6/2010	106.3	0.6	0.0	365.3	2.9	0.1	464.0	64.7	0.1	0.0	2.9	0.0	0.0	-56.5
12/7/2010	51.0	0.6	73.5	136.3	2.9	0.1	263.7	55.0	0.1	0.0	2.9	0.0	0.0	-57.3
12/8/2010	26.1	1.2	51.2	9.9	2.9	0.1	90.2	47.3	0.1	0.0	2.9	0.0	0.0	-49.1
12/9/2010	26.2	1.1	0.0	10.0	2.9	0.1	30.8	26.2	0.1	0.0	2.9	0.0	0.0	-19.8
12/10/2010	26.8	1.0	0.0	9.9	2.9	0.1	30.6	26.8	0.1	0.0	2.9	0.0	0.0	-19.8
12/11/2010	27.7	1.1	0.0	9.8	2.9	0.1	31.5	27.7	0.1	0.0	2.9	0.0	0.0	-20.5
12/12/2010	26.5	0.4	0.0	9.6	2.9	0.1	31.6	26.5	0.1	0.0	2.9	0.0	0.0	-21.6
12/13/2010	27.3	1.0	0.0	9.8	2.9	0.1	30.7	27.3	0.1	0.0	2.9	0.0	0.0	-20.0
12/14/2010	29.3	1.2	0.0	10.3	2.9	0.1	32.4	29.3	0.1	0.0	2.9	0.0	0.0	-21.0
12/15/2010	30.6	2.0	0.0	13.7	2.9	0.1	35.4	30.6	0.1	0.0	2.9	0.0	0.0	-19.6
12/16/2010	35.6	0.3	0.0	15.8	2.9	0.1	40.7	35.6	0.1	0.0	2.9	0.0	0.0	-24.6
12/17/2010	36.4	1.0	0.0	13.9	2.9	0.1	44.1	36.4	0.1	0.0	2.9	0.0	0.0	-29.2
12/18/2010	34.9	1.4	0.0	13.5	2.9	0.1	43.0	34.9	0.1	0.0	2.9	0.0	0.0	-28.0

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
12/19/2010	38.7	0.7	0.0	17.5	2.9	0.1	44.4	38.7	0.1	0.0	2.9	0.0	0.0	-26.3
12/20/2010	51.1	1.2	0.0	17.4	2.9	0.1	50.8	49.1	0.1	0.0	2.9	0.0	0.0	-30.2
12/21/2010	64.2	0.1	0.0	16.4	2.9	0.1	62.6	50.8	0.1	0.0	2.9	0.0	0.0	-32.6
12/22/2010	69.8	1.4	0.0	16.3	2.9	0.1	72.9	51.7	0.1	0.0	2.9	0.0	0.0	-37.0
12/23/2010	77.7	0.6	0.0	17.2	2.9	0.1	77.9	52.4	0.1	0.0	2.9	0.0	0.0	-34.7
12/24/2010	79.9	0.8	0.0	17.4	2.9	0.1	85.1	53.0	0.1	0.0	2.9	0.0	0.0	-40.0
12/25/2010	82.9	0.8	0.0	18.0	2.9	0.1	86.8	53.2	0.1	0.0	2.9	0.0	0.0	-38.3
12/26/2010	88.7	1.8	0.0	19.0	2.9	0.1	91.5	53.9	0.1	0.0	2.9	0.0	0.0	-36.0
12/27/2010	93.5	1.3	0.0	20.1	2.9	0.1	97.5	54.5	0.1	0.0	2.9	0.0	0.0	-37.2
12/28/2010	98.4	0.6	0.0	20.9	2.9	0.1	103.2	55.1	0.1	0.0	2.9	0.0	0.0	-38.4
12/29/2010	100.7	1.6	0.0	20.0	2.9	0.1	106.7	55.4	0.1	0.0	2.9	0.0	0.0	-39.8
12/30/2010	102.4	1.3	0.0	21.4	2.9	0.1	109.1	55.6	0.1	0.0	2.9	0.0	0.0	-39.6
12/31/2010	104.5	0.2	0.0	22.9	2.9	0.1	111.7	56.0	0.1	0.0	2.9	0.0	0.0	-40.2
1/1/2011	107.2	0.9	0.0	24.0	2.9	0.1	115.5	56.4	0.1	0.0	2.9	0.0	0.0	-39.8
1/2/2011	109.6	0.8	0.0	25.1	2.9	0.1	118.5	56.7	0.1	0.0	2.9	0.0	0.0	-39.8
1/3/2011	113.8	0.3	0.0	25.8	2.9	0.1	122.2	57.1	0.1	0.0	2.9	0.0	0.0	-39.5
1/4/2011	116.8	0.8	0.0	26.2	2.9	0.1	126.8	57.6	0.1	0.0	2.9	0.0	0.0	-40.6
1/5/2011	116.7	0.3	0.0	26.0	2.9	0.1	128.3	57.7	0.1	0.0	2.9	0.0	0.0	-43.0
1/6/2011	116.0	1.0	0.0	26.3	2.9	0.1	128.0	57.7	0.1	0.0	2.9	0.0	0.0	-42.6
1/7/2011	115.0	1.2	0.0	29.1	2.9	0.1	128.9	57.7	0.1	0.0	2.9	0.0	0.0	-41.4
1/8/2011	116.1	0.8	0.0	29.6	2.9	0.1	130.1	57.9	0.1	0.0	2.9	0.0	0.0	-41.5
1/9/2011	119.3	0.7	0.0	27.8	2.9	0.1	130.5	58.1	0.1	0.0	2.9	0.0	0.0	-40.8
1/10/2011	124.6	0.6	0.0	26.3	2.9	0.1	132.5	58.6	0.1	0.0	2.9	0.0	0.0	-39.6
1/11/2011	126.9	1.3	0.0	26.0	2.9	0.1	136.6	58.9	0.1	0.0	2.9	0.0	0.0	-41.3
1/12/2011	128.1	0.4	0.0	27.2	2.9	0.1	138.5	59.2	0.1	0.0	2.9	0.0	0.0	-42.0
1/13/2011	128.8	1.4	0.0	29.4	2.9	0.1	141.0	59.4	0.1	0.0	2.9	0.0	0.0	-40.8
1/14/2011	130.2	0.2	0.0	30.1	2.9	0.1	143.3	59.6	0.1	0.0	2.9	0.0	0.0	-42.4
1/15/2011	130.3	0.7	0.0	30.5	2.9	0.1	144.6	59.7	0.1	0.0	2.9	0.0	0.0	-43.0
1/16/2011	129.6	0.1	0.0	29.8	2.9	0.1	143.9	59.7	0.1	0.0	2.9	0.0	0.0	-44.0
1/17/2011	95.1	0.3	25.3	0.0	2.9	0.1	123.3	57.6	0.1	0.0	2.9	0.0	0.0	-60.3
1/18/2011	43.4	1.0	0.0	28.6	2.9	0.1	74.1	43.4	0.1	0.0	2.9	0.0	0.0	-44.4
1/19/2011	72.8	0.7	0.0	27.2	2.9	0.1	78.6	54.7	0.1	0.0	2.9	0.0	0.0	-32.6
1/20/2011	45.0	0.9	6.8	25.7	2.9	0.1	80.3	52.1	0.1	0.0	2.9	0.0	0.0	-54.2
1/21/2011	37.4	0.6	0.0	27.5	2.9	0.1	61.6	37.4	0.1	0.0	2.9	0.0	0.0	-33.4
1/22/2011	25.5	0.8	0.0	29.8	2.9	0.1	56.3	25.5	0.1	0.0	2.9	0.0	0.0	-25.7
1/23/2011	30.5	0.1	0.0	34.5	2.9	0.1	50.9	30.5	0.1	0.0	2.9	0.0	0.0	-16.4
1/24/2011	36.7	0.8	0.0	37.0	2.9	0.1	59.6	36.7	0.1	0.0	2.9	0.0	0.0	-21.8
1/25/2011	44.1	0.7	0.0	38.9	2.9	0.1	68.1	44.1	0.1	0.0	2.9	0.0	0.0	-28.5
1/26/2011	42.8	0.3	0.0	43.7	2.9	0.1	77.1	42.8	0.1	0.0	2.9	0.0	0.0	-33.1
1/27/2011	32.0	0.6	1.1	33.8	2.9	0.1	69.8	32.0	0.1	0.0	2.9	0.0	0.0	-34.3
1/28/2011	20.9	0.4	0.0	36.7	2.9	0.1	56.6	20.9	0.1	0.0	2.9	0.0	0.0	-19.6
1/29/2011	20.9	0.2	0.0	37.1	2.9	0.1	50.7	20.9	0.1	0.0	2.9	0.0	0.0	-13.4
1/30/2011	38.5	0.4	0.0	41.0	2.9	0.1	54.0	38.5	0.1	0.0	2.9	0.0	0.0	-12.6
1/31/2011	39.5	0.7	0.0	44.3	2.9	0.1	75.1	39.5	0.1	0.0	2.9	0.0	0.0	-30.2
2/1/2011	41.5	0.4	0.0	45.2	2.9	0.1	75.1	41.5	0.1	0.0	2.9	0.0	0.0	-29.6
2/2/2011	43.1	0.2	0.0	29.4	2.9	0.1	68.6	43.1	0.1	0.0	2.9	0.0	0.0	-39.1
2/3/2011	42.8	0.6	0.0	30.4	2.9	0.1	64.2	42.8	0.1	0.0	2.9	0.0	0.0	-33.2
2/4/2011	42.1	0.7	0.0	32.1	2.9	0.1	64.8	42.1	0.1	0.0	2.9	0.0	0.0	-32.1
2/5/2011	43.3	1.0	0.0	39.3	2.9	0.1	69.7	43.3	0.1	0.0	2.9	0.0	0.0	-29.4
2/6/2011	44.2	0.6	0.0	47.8	2.9	0.1	78.4	44.2	0.1	0.0	2.9	0.0	0.0	-30.0
2/7/2011	45.1	0.7	0.0	43.7	2.9	0.1	80.2	45.1	0.1	0.0	2.9	0.0	0.0	-35.8

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
2/8/2011	47.4	0.6	0.0	43.2	2.9	0.1	79.0	47.4	0.1	0.0	2.9	0.0	0.0	-35.3
2/9/2011	50.9	0.9	0.0	40.5	2.9	0.1	80.1	50.9	0.1	0.0	2.9	0.0	0.0	-38.7
2/10/2011	49.3	0.2	0.0	37.9	2.9	0.1	80.4	49.3	0.1	0.0	2.9	0.0	0.0	-42.3
2/11/2011	47.7	0.3	0.0	37.3	2.9	0.1	76.8	47.7	0.1	0.0	2.9	0.0	0.0	-39.2
2/12/2011	32.9	2.0	0.0	36.7	2.9	0.1	72.2	32.9	0.1	0.0	2.9	0.0	0.0	-33.5
2/13/2011	38.4	0.5	0.0	37.9	2.9	0.1	61.5	38.4	0.1	0.0	2.9	0.0	0.0	-23.2
2/14/2011	32.0	1.0	0.0	41.1	2.9	0.1	69.5	32.0	0.1	0.0	2.9	0.0	0.0	-27.5
2/15/2011	29.0	0.4	0.0	41.9	2.9	0.1	63.6	29.0	0.1	0.0	2.9	0.0	0.0	-21.4
2/16/2011	29.9	0.6	0.0	41.4	2.9	0.1	62.5	29.9	0.1	0.0	2.9	0.0	0.0	-20.5
2/17/2011	30.7	0.8	0.0	41.6	2.9	0.1	63.4	30.7	0.1	0.0	2.9	0.0	0.0	-21.0
2/18/2011	28.2	0.2	0.0	42.1	2.9	0.1	64.2	28.2	0.1	0.0	2.9	0.0	0.0	-21.9
2/19/2011	23.4	0.4	0.0	42.9	2.9	0.1	60.7	23.4	0.1	0.0	2.9	0.0	0.0	-17.4
2/20/2011	23.6	0.5	0.0	42.1	2.9	0.1	58.1	23.6	0.1	0.0	2.9	0.0	0.0	-15.5
2/21/2011	23.9	1.4	0.0	46.6	2.9	0.1	60.6	23.9	0.1	0.0	2.9	0.0	0.0	-12.6
2/22/2011	22.3	0.6	0.0	47.5	2.9	0.1	62.8	22.3	0.1	0.0	2.9	0.0	0.0	-14.7
2/23/2011	19.9	0.1	0.0	71.3	2.9	0.1	75.3	19.9	0.1	0.0	2.9	0.0	0.0	-3.9
2/24/2011	19.3	1.7	0.0	76.5	2.9	0.1	85.2	19.3	0.1	0.0	2.9	0.0	0.0	-7.0
2/25/2011	20.3	0.3	0.0	73.6	2.9	0.1	85.4	20.3	0.1	0.0	2.9	0.0	0.0	-11.5
2/26/2011	20.5	0.3	0.0	69.5	2.9	0.1	82.7	20.5	0.1	0.0	2.9	0.0	0.0	-12.9
2/27/2011	20.5	0.0	0.0	71.7	2.9	0.1	82.7	20.5	0.1	0.0	2.9	0.0	0.0	-11.0
2/28/2011	21.1	0.1	0.0	67.8	2.9	0.1	81.2	21.1	0.1	0.0	2.9	0.0	0.0	-13.3
3/1/2011	21.9	1.0	0.0	66.3	2.9	0.0	79.5	21.9	11.8	2.7	8.4	0.0	0.0	-32.1
3/2/2011	21.9	0.7	0.0	64.9	2.9	0.0	78.7	21.9	11.8	2.7	8.4	0.0	0.0	-33.0
3/3/2011	22.2	0.8	0.0	60.9	2.9	0.0	75.6	22.2	11.8	2.7	8.4	0.0	0.0	-33.9
3/4/2011	23.2	0.5	0.0	56.8	2.9	0.0	72.3	23.2	11.8	2.7	8.4	0.0	0.0	-34.9
3/5/2011	24.1	0.1	0.0	54.3	2.9	0.0	70.5	24.1	11.8	2.7	8.4	0.0	0.0	-36.0
3/6/2011	23.1	0.1	0.0	51.3	2.9	0.0	68.0	23.1	11.8	2.7	8.4	0.0	0.0	-36.5
3/7/2011	0.0	0.4	0.0	69.7	2.9	0.0	28.9	18.1	11.8	2.6	8.4	0.0	0.0	3.2
3/8/2011	0.0	0.3	0.0	73.4	2.9	0.0	58.9	22.0	11.8	2.8	8.4	0.0	0.0	-27.2
3/9/2011	0.0	0.1	0.0	65.4	2.9	0.0	59.0	20.5	11.8	2.8	8.4	0.0	0.0	-34.1
3/10/2011	0.0	0.6	0.0	61.7	2.9	0.0	55.2	17.8	11.8	2.8	8.4	0.0	0.0	-30.8
3/11/2011	0.0	0.7	4.4	54.1	2.9	0.0	61.4	6.9	11.8	2.8	8.4	0.0	0.0	-29.1
3/12/2011	0.0	0.7	18.4	44.4	2.9	0.0	65.6	2.8	11.8	2.8	8.4	0.0	0.0	-25.0
3/13/2011	0.0	0.3	30.2	33.3	2.9	0.0	66.3	2.0	11.8	2.7	8.4	0.0	0.0	-24.6
3/14/2011	297.3	0.3	0.0	26.6	2.9	0.0	65.1	98.1	11.8	6.0	8.4	0.0	0.0	137.8
3/15/2011	335.8	0.6	0.0	14.7	2.9	0.0	161.9	120.5	11.8	6.6	8.4	0.0	0.0	44.8
3/16/2011	393.9	0.0	0.0	18.0	2.9	0.0	241.2	117.8	11.8	6.6	8.4	0.0	0.0	29.0
3/17/2011	910.7	0.0	0.0	29.2	2.9	0.0	421.4	175.3	11.8	6.6	8.4	0.0	0.0	319.4
3/18/2011	1323.4	0.6	0.0	43.6	2.9	0.0	1083.9	165.4	11.8	6.6	8.4	0.0	0.0	94.4
3/19/2011	1742.0	0.2	0.0	68.7	2.9	0.0	1505.8	115.7	11.8	6.6	8.4	0.0	0.0	165.5
3/20/2011	2125.0	0.5	0.0	115.0	2.9	0.0	2081.9	63.6	11.8	6.6	8.4	0.0	0.0	71.3
3/21/2011	2241.0	0.0	0.0	120.2	2.9	0.0	2304.8	39.5	11.8	6.6	8.4	0.0	0.0	-6.9
3/22/2011	2393.9	0.2	0.0	120.0	2.9	0.0	2424.8	34.9	11.8	6.6	8.4	0.0	0.0	30.6
3/23/2011	2627.7	0.0	0.0	123.0	2.9	0.0	2654.3	34.2	11.8	6.6	8.4	0.0	0.0	38.5
3/24/2011	2753.4	0.1	0.0	118.6	2.9	0.0	2821.8	34.2	11.8	6.6	8.4	0.0	0.0	-7.8
3/25/2011	2791.6	0.0	0.0	126.0	2.9	0.0	2879.0	34.1	11.8	6.6	8.4	0.0	0.0	-19.4
3/26/2011	2825.5	0.0	0.0	131.2	2.9	0.0	2916.4	34.1	11.8	6.6	8.4	0.0	0.0	-17.6
3/27/2011	2859.8	1.0	0.0	164.1	2.9	0.0	2978.3	34.1	11.8	6.6	8.4	0.0	0.0	-11.3
3/28/2011	2893.0	0.4	0.0	169.1	2.9	0.0	3021.3	34.1	11.8	6.6	8.4	0.0	0.0	-16.7
3/29/2011	2924.2	0.2	0.0	166.2	2.9	0.0	3050.9	34.1	11.8	6.6	8.4	0.0	0.0	-18.3
3/30/2011	2955.5	0.0	0.0	136.5	2.9	0.0	3060.5	34.1	11.8	6.6	8.4	0.0	0.0	-26.4

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3														
2010-12 Study Period														
(Units - Acre-Feet)														
	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
3/31/2011	2906.0	0.1	23.1	148.2	2.9	0.0	3080.2	33.9	11.8	6.6	8.4	0.0	0.0	-60.5
4/1/2011	2272.2	0.1	161.3	147.7	2.9	0.0	2584.1	33.2	11.8	9.3	8.4	0.0	0.0	-62.5
4/2/2011	1694.1	0.5	137.4	98.2	2.9	0.0	1932.6	32.5	11.8	9.3	8.4	0.0	0.0	-61.4
4/3/2011	1396.6	0.4	32.2	81.7	2.9	0.0	1513.4	31.8	11.8	9.3	8.4	0.0	0.0	-60.8
4/4/2011	1390.1	0.5	0.0	85.8	2.9	0.0	1420.7	31.5	11.8	9.3	8.4	0.0	0.0	-2.4
4/5/2011	1552.6	0.7	0.0	88.8	2.9	0.0	1544.4	31.7	11.8	9.3	8.4	0.0	0.0	39.5
4/6/2011	1754.4	0.8	0.0	106.0	2.9	0.0	1767.5	32.1	11.8	9.3	8.4	0.0	0.0	35.0
4/7/2011	1811.8	0.1	0.0	107.3	2.9	0.0	1885.2	32.2	11.8	9.3	8.4	0.0	0.0	-24.7
4/8/2011	1668.6	0.0	33.5	104.9	2.9	0.0	1809.9	32.0	11.8	9.3	8.4	0.0	0.0	-61.4
4/9/2011	1486.7	0.0	21.9	89.1	2.9	0.0	1600.5	31.9	11.8	9.3	8.4	0.0	0.0	-61.3
4/10/2011	1312.8	0.0	28.0	93.7	2.9	0.0	1437.3	31.5	11.8	9.3	8.4	0.0	0.0	-60.9
4/11/2011	1177.8	0.6	4.5	101.0	2.9	0.0	1286.2	31.1	11.8	9.3	8.4	0.0	0.0	-59.9
4/12/2011	1137.5	0.7	0.0	100.6	2.9	0.0	1211.3	30.9	11.8	9.3	8.4	0.0	0.0	-29.9
4/13/2011	1083.1	0.1	1.6	101.9	2.9	0.0	1189.5	30.6	11.8	9.3	8.4	0.0	0.0	-59.9
4/14/2011	985.4	0.1	4.4	96.4	2.9	0.0	1089.1	30.2	11.8	9.3	8.4	0.0	0.0	-59.5
4/15/2011	942.0	0.9	0.0	94.9	2.9	0.0	1015.0	29.9	11.8	9.3	8.4	0.0	0.0	-33.6
4/16/2011	955.9	0.2	0.0	93.4	2.9	0.0	1014.5	29.9	11.8	9.3	8.4	0.0	0.0	-21.5
4/17/2011	1077.0	0.1	0.0	94.4	2.9	0.0	1065.1	30.0	11.8	9.3	8.4	0.0	0.0	49.9
4/18/2011	1382.1	0.1	0.0	101.3	2.9	0.0	1331.1	30.9	11.8	9.3	8.4	0.0	0.0	95.0
4/19/2011	1576.7	0.1	0.0	102.3	2.9	0.0	1609.9	31.4	11.8	9.3	8.4	0.0	0.0	11.3
4/20/2011	1658.4	0.0	0.0	106.5	2.9	0.0	1706.4	31.5	11.8	9.3	8.4	0.0	0.0	0.5
4/21/2011	1625.3	0.0	0.0	110.1	2.9	0.0	1724.7	31.6	11.8	9.3	8.4	0.0	0.0	-47.4
4/22/2011	1460.2	0.6	29.0	100.3	2.9	0.0	1592.3	31.5	11.8	9.3	8.4	0.0	0.0	-60.3
4/23/2011	1232.7	0.5	47.0	83.5	2.9	0.0	1366.1	31.0	11.8	9.3	8.4	0.0	0.0	-59.9
4/24/2011	1121.7	0.4	0.0	77.4	2.9	0.0	1179.5	30.4	11.8	9.3	8.4	0.0	0.0	-37.0
4/25/2011	1197.2	0.3	0.0	81.9	2.9	0.0	1196.1	30.4	11.8	9.3	8.4	0.0	0.0	26.3
4/26/2011	1280.5	0.2	0.0	84.7	2.9	0.0	1313.6	30.7	11.8	9.3	8.4	0.0	0.0	-5.4
4/27/2011	1436.6	0.5	0.0	82.9	2.9	0.0	1410.4	31.0	11.8	9.3	8.4	0.0	0.0	52.0
4/28/2011	1291.0	0.0	68.3	91.1	2.9	0.0	1453.3	30.9	11.8	9.3	8.4	0.0	0.0	-60.3
4/29/2011	1076.1	0.1	10.7	85.2	2.9	0.0	1174.9	30.2	11.8	9.3	8.4	0.0	0.0	-59.5
4/30/2011	964.9	0.3	7.4	67.3	2.9	0.0	1042.5	29.6	11.8	9.3	8.4	0.0	0.0	-58.8
5/1/2011	976.5	0.0	0.0	58.6	2.9	0.0	986.4	29.6	11.8	11.6	8.4	0.0	0.0	-9.7
5/2/2011	863.3	1.1	19.6	54.6	2.9	0.0	940.4	29.1	11.8	11.6	8.4	0.0	0.0	-59.7
5/3/2011	785.5	0.9	0.0	53.4	2.9	0.0	829.7	28.3	11.8	11.6	8.4	0.0	0.0	-47.1
5/4/2011	0.0	0.2	0.0	54.0	2.9	0.0	20.7	8.5	11.8	3.7	8.4	0.0	0.0	4.0
5/5/2011	0.0	0.3	0.0	56.2	2.9	0.0	48.5	10.9	11.8	4.9	8.4	0.0	0.0	-25.0
5/6/2011	0.0	0.3	0.0	46.6	2.9	0.0	49.2	9.6	11.8	4.8	8.4	0.0	0.0	-34.0
5/7/2011	52.5	0.7	0.0	38.2	2.9	0.0	49.6	8.9	11.8	4.8	8.4	0.0	0.0	11.0
5/8/2011	355.8	0.0	0.0	30.7	2.9	0.0	56.9	70.5	11.8	10.9	8.4	0.0	0.0	231.0
5/9/2011	492.8	0.0	0.0	24.4	2.9	0.0	282.3	109.6	11.8	11.6	8.4	0.0	0.0	96.4
5/10/2011	901.1	0.0	0.0	21.1	2.9	0.0	598.4	150.2	11.8	11.6	8.4	0.0	0.0	144.7
5/11/2011	1029.7	0.4	0.0	19.5	2.9	0.0	828.7	156.3	11.8	11.6	8.4	0.0	0.0	35.9
5/12/2011	1230.2	0.0	0.0	29.8	2.9	0.0	1042.7	158.6	11.8	11.6	8.4	0.0	0.0	29.9
5/13/2011	1267.3	0.1	0.0	36.8	2.9	0.0	1170.2	142.8	11.8	11.6	8.4	0.0	0.0	-37.6
5/14/2011	1199.1	0.6	0.0	28.4	2.9	0.0	1125.2	104.8	11.8	11.6	8.4	0.0	0.0	-30.6
5/15/2011	1179.0	0.7	0.0	22.3	2.9	0.0	1112.5	75.7	11.8	11.6	8.4	0.0	0.0	-15.1
5/16/2011	1193.0	1.1	0.0	21.3	2.9	0.0	1156.1	66.8	11.8	11.6	8.4	0.0	0.0	-36.3
5/17/2011	1248.5	0.3	0.0	18.9	2.9	0.0	1188.7	65.1	11.8	11.6	8.4	0.0	0.0	-15.1
5/18/2011	1423.7	0.3	0.0	21.0	2.9	0.0	1329.7	65.6	11.8	11.6	8.4	0.0	0.0	20.8
5/19/2011	1587.3	0.0	0.0	30.3	2.9	0.0	1531.3	66.2	11.8	11.6	8.4	0.0	0.0	-8.8
5/20/2011	1552.3	0.3	0.0	34.6	2.9	0.0	1583.5	65.9	11.8	11.6	8.4	0.0	0.0	-91.0

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/21/2011	1424.7	1.0	0.0	24.4	2.9	0.0	1447.6	65.1	11.8	11.6	8.4	0.0	0.0	-91.5
5/22/2011	1274.8	0.1	18.8	26.6	2.9	0.0	1323.1	64.2	11.8	11.6	8.4	0.0	0.0	-95.8
5/23/2011	1109.5	0.8	6.9	34.1	2.9	0.0	1153.3	62.8	11.8	11.6	8.4	0.0	0.0	-93.7
5/24/2011	1034.2	0.2	0.0	29.7	2.9	0.0	1041.1	61.7	11.8	11.6	8.4	0.0	0.0	-67.6
5/25/2011	1015.7	1.0	0.0	29.6	2.9	0.0	1015.1	61.3	11.8	11.6	8.4	0.0	0.0	-59.0
5/26/2011	967.2	0.1	0.0	27.6	2.9	0.0	974.9	60.6	11.8	11.6	8.4	0.0	0.0	-69.4
5/27/2011	923.2	0.6	0.0	23.8	2.9	0.0	920.9	59.7	11.8	11.6	8.4	0.0	0.0	-61.9
5/28/2011	944.9	0.6	0.0	22.2	2.9	0.0	905.0	59.5	11.8	11.6	8.4	0.0	0.0	-25.6
5/29/2011	1102.2	0.3	0.0	28.4	2.9	0.0	1009.2	60.8	11.8	11.6	8.4	0.0	0.0	32.0
5/30/2011	1334.3	0.0	0.0	33.8	2.9	0.0	1242.3	62.6	11.8	11.6	8.4	0.0	0.0	34.3
5/31/2011	1490.6	0.7	0.0	33.2	2.9	0.0	1455.5	63.4	11.8	11.6	8.4	0.0	0.0	-23.3
6/1/2011	1938.2	0.4	0.0	51.2	2.9	0.0	1751.3	64.1	11.8	13.7	8.4	0.0	0.0	143.5
6/2/2011	1997.5	0.3	0.0	75.3	2.9	0.0	2060.1	64.1	11.8	13.7	8.4	0.0	0.0	-82.1
6/3/2011	1870.2	0.6	0.0	65.1	2.9	0.0	1937.8	63.4	11.8	13.7	8.4	0.0	0.0	-96.2
6/4/2011	1803.0	0.3	0.0	52.7	2.9	0.0	1828.8	63.1	11.8	13.7	8.4	0.0	0.0	-66.9
6/5/2011	1771.2	0.2	0.0	56.1	2.9	0.0	1787.0	62.9	11.8	13.7	8.4	0.0	0.0	-53.4
6/6/2011	1762.6	0.7	0.0	49.7	2.9	0.0	1781.2	62.7	11.8	13.7	8.4	0.0	0.0	-61.8
6/7/2011	1726.9	1.6	0.0	58.7	2.9	0.0	1756.1	62.6	11.8	13.7	8.4	0.0	0.0	-62.4
6/8/2011	1785.7	0.7	0.0	62.4	2.9	0.0	1781.5	62.6	11.8	13.7	8.4	0.0	0.0	-26.1
6/9/2011	1906.2	0.2	0.0	78.6	2.9	0.0	1908.1	62.8	11.8	13.7	8.4	0.0	0.0	-16.9
6/10/2011	1876.9	2.2	0.0	72.0	2.9	0.0	1934.0	62.7	11.8	13.7	8.4	0.0	0.0	-76.5
6/11/2011	1829.8	0.4	0.0	53.1	2.9	0.0	1852.1	62.3	11.8	13.7	8.4	0.0	0.0	-62.1
6/12/2011	1889.7	0.6	0.0	59.8	2.9	0.0	1882.4	62.4	11.8	13.7	8.4	0.0	0.0	-25.6
6/13/2011	1921.7	0.1	0.0	65.0	2.9	0.0	1934.8	62.4	11.8	13.7	8.4	0.0	0.0	-41.4
6/14/2011	2008.8	1.2	0.0	65.1	2.9	0.0	2007.0	62.5	11.8	13.7	8.4	0.0	0.0	-25.4
6/15/2011	2010.9	2.0	0.0	73.9	2.9	0.0	2048.9	62.5	11.8	13.7	8.4	0.0	0.0	-55.5
6/16/2011	1970.6	1.2	0.0	72.7	2.9	0.0	2014.4	62.3	11.8	13.7	8.4	0.0	0.0	-63.1
6/17/2011	1919.8	1.6	0.0	70.9	2.9	0.0	1977.0	62.2	11.8	13.7	8.4	0.0	0.0	-77.9
6/18/2011	1727.5	2.9	16.7	62.0	2.9	0.0	1809.1	61.4	11.8	13.7	8.4	0.0	0.0	-92.3
6/19/2011	1702.6	0.9	0.0	54.5	2.9	0.0	1710.5	61.1	11.8	13.7	8.4	0.0	0.0	-44.7
6/20/2011	1747.0	1.0	0.0	59.5	2.9	0.0	1742.1	61.1	11.8	13.7	8.4	0.0	0.0	-26.8
6/21/2011	1951.2	0.4	0.0	63.5	2.9	0.0	1902.6	61.7	11.8	13.7	8.4	0.0	0.0	19.9
6/22/2011	2051.8	0.3	0.0	90.4	2.9	0.0	2081.0	62.2	11.8	13.7	8.4	0.0	0.0	-31.6
6/23/2011	2091.5	1.0	0.0	80.1	2.9	0.0	2126.2	62.3	11.8	13.7	8.4	0.0	0.0	-46.9
6/24/2011	2081.4	1.1	0.0	78.2	2.9	0.0	2126.8	62.1	11.8	13.7	8.4	0.0	0.0	-59.1
6/25/2011	2062.4	0.6	0.0	63.2	2.9	0.0	2093.6	61.9	11.8	13.7	8.4	0.0	0.0	-60.2
6/26/2011	2111.5	0.6	0.0	76.8	2.9	0.0	2132.0	62.1	11.8	13.7	8.4	0.0	0.0	-36.2
6/27/2011	2175.3	2.4	0.0	85.6	2.9	0.0	2207.6	62.2	11.8	13.7	8.4	0.0	0.0	-37.5
6/28/2011	2196.8	1.7	0.0	85.8	2.9	0.0	2243.9	62.5	11.8	13.7	8.4	0.0	0.0	-53.1
6/29/2011	2215.1	3.0	0.0	81.1	2.9	0.0	2246.8	62.8	11.8	13.7	8.4	0.0	0.0	-41.3
6/30/2011	2328.8	1.8	0.0	86.1	2.9	0.0	2346.7	63.0	11.8	13.7	8.4	0.0	0.0	-23.9
7/1/2011	2332.9	1.0	0.0	88.3	2.9	0.0	2392.1	62.9	11.8	12.0	8.4	0.0	0.0	-62.2
7/2/2011	2287.3	3.1	0.0	89.2	2.9	0.0	2356.5	62.9	11.8	12.0	8.4	0.0	0.0	-69.1
7/3/2011	2240.1	0.8	0.0	85.2	2.9	0.0	2302.9	62.6	11.8	12.0	8.4	0.0	0.0	-68.7
7/4/2011	2203.7	1.3	0.0	85.2	2.9	0.0	2281.0	62.5	11.8	12.0	8.4	0.0	0.0	-82.5
7/5/2011	2033.6	3.2	23.5	80.1	2.9	0.0	2140.1	61.8	11.8	12.0	8.4	0.0	0.0	-90.8
7/6/2011	1919.1	0.8	2.4	68.3	2.9	0.0	1992.6	60.6	11.8	12.0	8.4	0.0	0.0	-91.9
7/7/2011	1763.1	1.2	28.3	71.5	2.9	0.0	1865.8	61.7	11.8	12.0	8.4	0.0	0.0	-92.6
7/8/2011	1554.3	1.4	48.0	84.8	2.9	0.0	1690.0	61.4	11.8	12.0	8.4	0.0	0.0	-92.1
7/9/2011	1332.9	4.0	21.1	75.5	2.9	0.0	1432.3	60.4	11.8	12.0	8.4	0.0	0.0	-88.5
7/10/2011	1223.5	3.1	6.6	57.3	2.9	0.0	1290.2	59.8	11.8	12.0	8.4	0.0	0.0	-88.8

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3														
2010-12 Study Period														
(Units - Acre-Feet)														
	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/11/2011	1215.7	1.9	0.0	53.0	2.9	0.0	1224.0	59.7	11.8	12.0	8.4	0.0	0.0	-42.4
7/12/2011	1278.1	1.1	0.0	59.5	2.9	0.0	1284.6	60.1	11.8	12.0	8.4	0.0	0.0	-35.3
7/13/2011	1300.1	1.3	0.0	65.3	2.9	0.0	1325.6	60.1	11.8	12.0	8.4	0.0	0.0	-48.2
7/14/2011	1315.2	1.0	0.0	67.5	2.9	0.0	1344.5	59.9	11.8	12.0	8.4	0.0	0.0	-49.9
7/15/2011	1233.2	2.2	14.0	61.7	2.9	0.0	1311.8	59.6	11.8	12.0	8.4	0.0	0.0	-89.5
7/16/2011	1168.3	1.3	0.0	45.3	2.9	0.0	1189.8	59.3	11.8	12.0	8.4	0.0	0.0	-63.5
7/17/2011	1268.4	4.2	0.0	49.8	2.9	0.0	1229.6	59.7	11.8	12.0	8.4	0.0	0.0	3.9
7/18/2011	1387.6	1.2	0.0	59.4	2.9	0.0	1384.4	60.7	11.8	12.0	8.4	0.0	0.0	-26.2
7/19/2011	1541.9	1.7	0.0	67.8	2.9	0.0	1521.3	61.2	11.8	12.0	8.4	0.0	0.0	-0.3
7/20/2011	1724.8	1.6	0.0	86.7	2.9	0.0	1734.0	61.5	11.8	12.0	8.4	0.0	0.0	-11.5
7/21/2011	1744.5	3.2	0.0	80.0	2.9	0.0	1825.1	61.6	11.8	12.0	8.4	0.0	0.0	-88.3
7/22/2011	1641.6	1.3	25.9	84.5	2.9	0.0	1754.9	61.2	11.8	12.0	8.4	0.0	0.0	-92.0
7/23/2011	1523.3	3.0	27.7	69.3	2.9	0.0	1623.3	60.8	11.8	12.0	8.4	0.0	0.0	-89.9
7/24/2011	1453.6	1.0	0.0	69.6	2.9	0.0	1514.3	60.3	11.8	12.0	8.4	0.0	0.0	-79.7
7/25/2011	1442.3	1.3	0.0	66.3	2.9	0.0	1496.3	60.3	11.8	12.0	8.4	0.0	0.0	-75.9
7/26/2011	1435.0	3.0	0.0	65.2	2.9	0.0	1481.7	60.5	11.8	12.0	8.4	0.0	0.0	-68.1
7/27/2011	1482.2	1.3	0.0	68.6	2.9	0.0	1508.4	60.5	11.8	12.0	8.4	0.0	0.0	-46.0
7/28/2011	1527.4	2.1	0.0	68.4	2.9	0.0	1566.3	60.6	11.8	12.0	8.4	0.0	0.0	-58.3
7/29/2011	1295.1	4.4	104.2	66.0	2.9	0.0	1468.1	60.1	11.8	12.0	8.4	0.0	0.0	-87.8
7/30/2011	1095.3	1.9	10.6	34.4	2.9	0.0	1143.2	58.5	11.8	12.0	8.4	0.0	0.0	-88.8
7/31/2011	1138.0	0.8	0.0	32.2	2.9	0.0	1097.8	58.5	11.8	12.0	8.4	0.0	0.0	-14.5
8/1/2011	1584.8	4.4	0.0	31.2	2.9	0.0	1452.2	60.4	11.8	11.7	8.4	0.0	0.0	78.9
8/2/2011	1726.1	4.2	0.0	33.3	2.9	0.0	1708.6	60.9	11.8	11.7	8.4	0.0	0.0	-34.9
8/3/2011	1738.4	3.1	0.0	52.8	2.9	0.0	1779.7	61.0	11.8	11.7	8.4	0.0	0.0	-75.4
8/4/2011	1628.7	1.2	19.4	51.4	2.9	0.0	1702.4	60.8	11.8	11.7	8.4	0.0	0.0	-91.4
8/5/2011	1551.5	2.7	0.0	48.6	2.9	0.0	1590.1	60.5	11.8	11.7	8.4	0.0	0.0	-76.8
8/6/2011	1566.0	2.4	0.0	56.3	2.9	0.0	1587.1	60.5	11.8	11.7	8.4	0.0	0.0	-51.8
8/7/2011	1622.6	3.0	0.0	55.3	2.9	0.0	1633.0	60.6	11.8	11.7	8.4	0.0	0.0	-41.6
8/8/2011	1641.1	0.9	0.0	54.9	2.9	0.0	1675.4	60.7	11.8	11.7	8.4	0.0	0.0	-68.2
8/9/2011	1621.0	3.2	0.0	50.6	2.9	0.0	1654.8	60.6	11.8	11.7	8.4	0.0	0.0	-69.5
8/10/2011	1600.5	2.3	0.0	49.3	2.9	0.0	1632.6	60.6	11.8	11.7	8.4	0.0	0.0	-70.0
8/11/2011	1610.9	3.2	0.0	45.1	2.9	0.0	1623.9	60.7	11.8	11.7	8.4	0.0	0.0	-54.3
8/12/2011	1658.1	4.2	0.0	44.9	2.9	0.0	1662.6	60.8	11.8	11.7	8.4	0.0	0.0	-45.1
8/13/2011	1699.9	2.8	0.0	49.6	2.9	0.0	1714.3	60.9	11.8	11.7	8.4	0.0	0.0	-51.9
8/14/2011	1731.1	6.8	0.0	55.4	2.9	0.0	1751.0	60.9	11.8	11.7	8.4	0.0	0.0	-47.5
8/15/2011	1732.5	4.3	0.0	62.2	2.9	0.0	1773.0	61.0	11.8	11.7	8.4	0.0	0.0	-63.9
8/16/2011	1715.3	1.6	0.0	60.9	2.9	0.0	1756.8	61.1	11.8	11.7	8.4	0.0	0.0	-68.9
8/17/2011	1717.3	2.9	0.0	50.6	2.9	0.0	1741.1	61.0	11.8	11.7	8.4	0.0	0.0	-60.3
8/18/2011	1742.3	2.1	0.0	58.4	2.9	0.0	1762.9	60.9	11.8	11.7	8.4	0.0	0.0	-50.0
8/19/2011	1750.2	2.2	0.0	51.1	2.9	0.0	1778.0	60.8	11.8	11.7	8.4	0.0	0.0	-64.3
8/20/2011	1744.0	5.3	0.0	59.4	2.9	0.0	1776.1	60.7	11.8	11.7	8.4	0.0	0.0	-57.0
8/21/2011	1737.3	1.1	0.0	48.2	2.9	0.0	1763.8	60.5	11.8	11.7	8.4	0.0	0.0	-66.6
8/22/2011	1729.8	4.5	0.0	53.4	2.9	0.0	1758.4	60.3	11.8	11.7	8.4	0.0	0.0	-59.9
8/23/2011	1723.6	3.2	0.0	54.9	2.9	0.0	1753.4	60.2	11.8	11.7	8.4	0.0	0.0	-60.9
8/24/2011	1730.4	2.3	0.0	52.0	2.9	0.0	1752.2	60.1	11.8	11.7	8.4	0.0	0.0	-56.6
8/25/2011	1816.6	3.7	0.0	53.4	2.9	0.0	1810.1	60.2	11.8	11.7	8.4	0.0	0.0	-25.5
8/26/2011	1901.3	1.8	0.0	66.8	2.9	0.0	1923.6	60.8	11.8	11.7	8.4	0.0	0.0	-43.5
8/27/2011	1856.7	3.7	0.0	67.5	2.9	0.0	1924.6	61.0	11.8	11.7	8.4	0.0	0.0	-86.6
8/28/2011	1764.9	1.8	0.0	55.7	2.9	0.0	1823.3	60.7	11.8	11.7	8.4	0.0	0.0	-90.5
8/29/2011	1724.0	0.8	0.0	53.4	2.9	0.0	1756.2	60.2	11.8	11.7	8.4	0.0	0.0	-67.1
8/30/2011	1712.0	3.1	0.0	52.0	2.9	0.0	1742.2	60.0	11.8	11.7	8.4	0.0	0.0	-64.1

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
8/31/2011	1553.6	2.4	46.4	49.9	2.9	0.0	1652.8	60.8	11.8	11.7	8.4	0.0	0.0	-90.2
9/1/2011	1340.1	0.6	30.5	33.3	2.9	0.0	1406.8	59.0	11.8	10.0	8.4	0.0	0.0	-88.6
9/2/2011	1409.6	3.1	0.0	52.6	2.9	0.0	1338.3	57.9	11.8	10.0	8.4	0.0	0.0	41.9
9/3/2011	1684.9	1.8	0.0	80.0	2.9	0.0	1647.7	58.9	11.8	10.0	8.4	0.0	0.0	32.8
9/4/2011	1773.4	3.1	0.0	85.5	2.9	0.0	1808.7	59.5	11.8	10.0	8.4	0.0	0.0	-33.5
9/5/2011	1780.7	2.6	0.0	82.5	2.9	0.0	1823.3	59.5	11.8	10.0	8.4	0.0	0.0	-44.2
9/6/2011	1791.7	3.4	0.0	104.8	2.9	0.0	1845.7	59.5	11.8	10.0	8.4	0.0	0.0	-32.6
9/7/2011	1807.4	3.6	0.0	81.9	2.9	0.0	1848.4	59.8	11.8	10.0	8.4	0.0	0.0	-42.5
9/8/2011	1822.3	1.3	0.0	78.7	2.9	0.0	1856.9	59.8	11.8	10.0	8.4	0.0	0.0	-41.7
9/9/2011	1832.9	1.3	0.0	81.0	2.9	0.0	1870.6	59.8	11.8	10.0	8.4	0.0	0.0	-42.3
9/10/2011	1808.7	1.6	0.0	84.8	2.9	0.0	1870.3	60.7	11.8	10.0	8.4	0.0	0.0	-63.2
9/11/2011	1315.6	2.0	188.0	83.3	2.9	0.0	1589.7	59.6	11.8	10.0	8.4	0.0	0.0	-87.7
9/12/2011	748.2	3.7	174.4	22.9	2.9	0.0	948.4	55.5	11.8	10.0	8.4	0.0	0.0	-81.9
9/13/2011	424.5	1.9	125.4	3.6	2.9	0.0	556.4	43.3	11.8	10.0	8.4	0.0	0.0	-71.5
9/14/2011	388.0	2.1	0.0	0.0	2.9	0.0	362.5	25.3	11.8	10.0	8.4	0.0	0.0	-24.9
9/15/2011	11.1	1.3	0.0	0.9	2.9	0.0	9.0	11.1	11.8	5.4	8.4	0.0	0.0	-29.5
9/16/2011	11.0	2.3	0.0	0.8	2.9	0.0	6.5	11.0	11.8	5.4	8.4	0.0	0.0	-26.1
9/17/2011	10.9	1.0	0.0	0.6	2.9	0.0	6.3	10.9	11.8	5.4	8.4	0.0	0.0	-27.3
9/18/2011	11.0	1.9	0.0	0.6	2.9	0.0	6.2	11.0	11.8	5.4	8.4	0.0	0.0	-26.3
9/19/2011	11.7	1.9	0.0	0.6	2.9	0.0	6.3	11.7	11.8	5.4	8.4	0.0	0.0	-26.4
9/20/2011	14.8	2.1	0.0	0.6	2.9	0.0	7.4	14.8	11.8	5.4	8.4	0.0	0.0	-27.3
9/21/2011	16.5	0.3	0.0	0.6	2.9	0.0	10.3	16.5	11.8	5.4	8.4	0.0	0.0	-32.0
9/22/2011	14.6	2.3	0.0	0.6	2.9	0.0	10.9	14.6	11.8	5.4	8.4	0.0	0.0	-30.6
9/23/2011	12.7	2.4	0.0	0.6	2.9	0.0	9.2	12.7	11.8	5.4	8.4	0.0	0.0	-28.8
9/24/2011	11.1	0.9	0.0	0.6	2.9	0.0	7.4	11.1	11.8	5.4	8.4	0.0	0.0	-28.5
9/25/2011	10.8	2.3	0.0	0.6	2.9	0.0	6.3	10.8	11.8	5.4	8.4	0.0	0.0	-25.9
9/26/2011	10.7	0.8	0.0	0.6	2.9	0.0	6.1	10.7	11.8	5.4	8.4	0.0	0.0	-27.3
9/27/2011	10.8	0.2	0.0	0.6	2.9	0.0	6.1	10.8	11.8	5.4	8.4	0.0	0.0	-27.9
9/28/2011	10.8	0.1	0.0	0.6	2.9	0.0	6.2	10.8	11.8	5.4	8.4	0.0	0.0	-28.0
9/29/2011	10.8	1.0	0.0	0.6	2.9	0.0	6.2	10.8	11.8	5.4	8.4	0.0	0.0	-27.2
9/30/2011	10.7	1.0	0.0	0.6	2.9	0.0	6.1	10.7	11.8	5.4	8.4	0.0	0.0	-27.1
10/1/2011	10.8	1.6	0.0	0.6	2.9	0.0	6.2	10.8	11.8	0.0	8.4	0.0	0.0	-21.2
10/2/2011	10.8	0.4	0.0	0.6	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-22.3
10/3/2011	10.8	1.2	0.0	0.6	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-21.5
10/4/2011	10.7	1.3	0.0	0.6	2.9	0.0	6.2	10.7	11.8	0.0	8.4	0.0	0.0	-21.6
10/5/2011	10.7	1.1	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.6
10/6/2011	10.7	0.3	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-22.4
10/7/2011	10.8	0.3	0.0	0.7	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-22.3
10/8/2011	10.7	0.7	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-22.0
10/9/2011	10.7	0.8	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.9
10/10/2011	10.7	0.5	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-22.1
10/11/2011	10.7	1.7	0.0	0.7	2.9	0.0	6.0	10.7	11.8	0.0	8.4	0.0	0.0	-20.8
10/12/2011	10.7	0.4	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-22.2
10/13/2011	10.7	1.1	0.0	0.7	2.9	0.0	6.2	10.7	11.8	0.0	8.4	0.0	0.0	-21.6
10/14/2011	10.7	0.7	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.9
10/15/2011	10.7	1.3	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.3
10/16/2011	10.7	0.3	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-22.3
10/17/2011	10.8	3.2	0.0	0.7	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-19.5
10/18/2011	10.7	0.9	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.7
10/19/2011	10.8	2.0	0.0	0.7	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-20.6
10/20/2011	10.7	2.4	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-20.2

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
10/21/2011	10.8	1.8	0.0	0.7	2.9	0.0	6.0	10.8	11.8	0.0	8.4	0.0	0.0	-20.7
10/22/2011	10.7	1.7	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.0
10/23/2011	10.6	1.7	0.0	0.7	2.9	0.0	6.1	10.6	11.8	0.0	8.4	0.0	0.0	-21.0
10/24/2011	10.8	1.8	0.0	0.7	2.9	0.0	6.2	10.8	11.8	0.0	8.4	0.0	0.0	-20.9
10/25/2011	10.7	1.0	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.6
10/26/2011	10.7	1.8	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-20.9
10/27/2011	10.7	1.4	0.0	0.7	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.2
10/28/2011	10.8	2.0	0.0	0.8	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-20.5
10/29/2011	10.8	0.9	0.0	0.8	2.9	0.0	6.3	10.8	11.8	0.0	8.4	0.0	0.0	-21.9
10/30/2011	10.6	0.7	0.0	0.8	2.9	0.0	6.2	10.6	11.8	0.0	8.4	0.0	0.0	-21.9
10/31/2011	10.8	0.4	0.0	0.8	2.9	0.0	6.2	10.8	11.8	0.0	8.4	0.0	0.0	-22.2
11/1/2011	10.8	1.2	0.0	0.8	2.9	0.1	6.3	10.8	0.1	0.0	2.9	0.0	0.0	-4.4
11/2/2011	10.8	0.3	0.0	0.8	2.9	0.1	6.3	10.8	0.1	0.0	2.9	0.0	0.0	-5.2
11/3/2011	10.8	1.2	0.0	0.8	2.9	0.1	6.3	10.8	0.1	0.0	2.9	0.0	0.0	-4.4
11/4/2011	10.9	0.3	0.0	0.8	2.9	0.1	6.5	10.9	0.1	0.0	2.9	0.0	0.0	-5.4
11/5/2011	11.0	1.5	0.0	0.8	2.9	0.1	6.6	11.0	0.1	0.0	2.9	0.0	0.0	-4.3
11/6/2011	11.1	0.3	0.0	0.8	2.9	0.1	6.7	11.1	0.1	0.0	2.9	0.0	0.0	-5.6
11/7/2011	11.1	1.0	0.0	0.8	2.9	0.1	6.8	11.1	0.1	0.0	2.9	0.0	0.0	-5.0
11/8/2011	11.2	0.9	0.0	0.9	2.9	0.1	6.8	11.2	0.1	0.0	2.9	0.0	0.0	-5.1
11/9/2011	11.3	0.5	0.0	0.9	2.9	0.1	7.0	11.3	0.1	0.0	2.9	0.0	0.0	-5.6
11/10/2011	11.3	0.1	0.0	0.9	2.9	0.1	7.1	11.3	0.1	0.0	2.9	0.0	0.0	-6.1
11/11/2011	11.4	0.8	0.0	0.9	2.9	0.1	7.1	11.4	0.1	0.0	2.9	0.0	0.0	-5.5
11/12/2011	11.7	0.5	0.0	0.8	2.9	0.1	7.2	11.7	0.1	0.0	2.9	0.0	0.0	-5.9
11/13/2011	11.7	0.7	0.0	0.8	2.9	0.1	7.4	11.7	0.1	0.0	2.9	0.0	0.0	-5.9
11/14/2011	11.8	3.2	0.0	0.8	2.9	0.1	7.5	11.8	0.1	0.0	2.9	0.0	0.0	-3.6
11/15/2011	11.9	0.6	0.0	0.8	2.9	0.1	7.5	11.9	0.1	0.0	2.9	0.0	0.0	-6.1
11/16/2011	11.8	1.0	0.0	0.9	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-5.8
11/17/2011	11.7	0.1	0.0	0.9	2.9	0.1	7.7	11.7	0.1	0.0	2.9	0.0	0.0	-6.8
11/18/2011	11.9	0.1	0.0	0.9	2.9	0.1	7.6	11.9	0.1	0.0	2.9	0.0	0.0	-6.6
11/19/2011	11.7	0.5	0.0	0.9	2.9	0.1	7.5	11.7	0.1	0.0	2.9	0.0	0.0	-6.2
11/20/2011	11.8	0.0	0.0	0.9	2.9	0.1	7.5	11.8	0.1	0.0	2.9	0.0	0.0	-6.7
11/21/2011	11.8	0.1	0.0	0.9	2.9	0.1	7.6	11.8	0.1	0.0	2.9	0.0	0.0	-6.7
11/22/2011	11.9	0.2	0.0	0.9	2.9	0.1	7.6	11.9	0.1	0.0	2.9	0.0	0.0	-6.6
11/23/2011	11.9	0.2	0.0	0.9	2.9	0.1	7.6	11.9	0.1	0.0	2.9	0.0	0.0	-6.5
11/24/2011	11.9	0.6	0.0	0.9	2.9	0.1	7.7	11.9	0.1	0.0	2.9	0.0	0.0	-6.2
11/25/2011	11.9	0.0	0.0	0.9	2.9	0.1	7.7	11.9	0.1	0.0	2.9	0.0	0.0	-6.8
11/26/2011	11.9	0.4	0.0	0.9	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.4
11/27/2011	11.9	1.4	0.0	1.0	2.9	0.1	7.7	11.9	0.1	0.0	2.9	0.0	0.0	-5.3
11/28/2011	11.9	0.9	0.0	1.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.0
11/29/2011	11.9	0.7	0.0	1.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.2
11/30/2011	11.9	0.3	0.0	1.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.6
12/1/2011	11.9	0.9	0.0	1.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.0
12/2/2011	11.9	0.1	0.0	1.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.8
12/3/2011	11.9	1.3	0.0	1.0	2.9	0.1	7.7	11.9	0.1	0.0	2.9	0.0	0.0	-5.5
12/4/2011	11.9	0.6	0.0	1.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.2
12/5/2011	11.8	1.5	0.0	1.0	2.9	0.1	7.9	11.8	0.1	0.0	2.9	0.0	0.0	-5.4
12/6/2011	11.9	0.6	0.0	0.0	2.9	0.1	7.3	11.9	0.1	0.0	2.9	0.0	0.0	-6.7
12/7/2011	11.9	0.6	0.0	1.2	2.9	0.1	7.6	11.9	0.1	0.0	2.9	0.0	0.0	-5.8
12/8/2011	11.9	1.2	0.0	1.2	2.9	0.1	8.0	11.9	0.1	0.0	2.9	0.0	0.0	-5.7
12/9/2011	12.0	1.1	0.0	1.1	2.9	0.1	8.0	12.0	0.1	0.0	2.9	0.0	0.0	-5.9
12/10/2011	12.0	1.0	0.0	1.1	2.9	0.1	7.8	12.0	0.1	0.0	2.9	0.0	0.0	-5.8

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
12/11/2011	11.9	1.1	0.0	1.0	2.9	0.1	7.9	11.9	0.1	0.0	2.9	0.0	0.0	-5.7
12/12/2011	12.0	0.4	0.0	1.0	2.9	0.1	7.9	12.0	0.1	0.0	2.9	0.0	0.0	-6.5
12/13/2011	11.9	1.0	0.0	1.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-5.8
12/14/2011	12.0	1.2	0.0	1.0	2.9	0.1	7.9	12.0	0.1	0.0	2.9	0.0	0.0	-5.8
12/15/2011	11.9	2.0	0.0	1.0	2.9	0.1	7.9	11.9	0.1	0.0	2.9	0.0	0.0	-4.9
12/16/2011	12.0	0.3	0.0	1.0	2.9	0.1	7.9	12.0	0.1	0.0	2.9	0.0	0.0	-6.6
12/17/2011	11.9	1.0	0.0	1.0	2.9	0.1	7.9	11.9	0.1	0.0	2.9	0.0	0.0	-5.9
12/18/2011	11.9	1.4	0.0	1.0	2.9	0.1	7.9	11.9	0.1	0.0	2.9	0.0	0.0	-5.5
12/19/2011	12.0	0.7	0.0	1.0	2.9	0.1	7.8	12.0	0.1	0.0	2.9	0.0	0.0	-6.2
12/20/2011	11.9	1.2	0.0	1.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-5.7
12/21/2011	12.0	0.1	0.0	1.0	2.9	0.1	7.8	12.0	0.1	0.0	2.9	0.0	0.0	-6.6
12/22/2011	12.0	1.4	0.0	1.0	2.9	0.1	7.8	12.0	0.1	0.0	2.9	0.0	0.0	-5.4
12/23/2011	11.9	0.6	0.0	1.1	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.2
12/24/2011	12.0	0.8	0.0	1.1	2.9	0.1	7.8	12.0	0.1	0.0	2.9	0.0	0.0	-6.0
12/25/2011	11.9	0.8	0.0	1.1	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.0
12/26/2011	12.0	1.8	0.0	1.1	2.9	0.1	7.9	12.0	0.1	0.0	2.9	0.0	0.0	-5.1
12/27/2011	11.9	1.3	0.0	1.1	2.9	0.1	8.0	11.9	0.1	0.0	2.9	0.0	0.0	-5.7
12/28/2011	12.2	0.6	0.0	1.1	2.9	0.1	8.0	12.2	0.1	0.0	2.9	0.0	0.0	-6.3
12/29/2011	12.6	1.6	0.0	1.1	2.9	0.1	8.2	12.6	0.1	0.0	2.9	0.0	0.0	-5.6
12/30/2011	12.5	1.3	0.0	1.1	2.9	0.1	8.4	12.5	0.1	0.0	2.9	0.0	0.0	-6.1
12/31/2011	12.0	0.2	0.0	1.0	2.9	0.1	8.4	12.0	0.1	0.0	2.9	0.0	0.0	-7.2
1/1/2012	12.0	0.9	0.0	1.0	2.9	0.1	8.0	12.0	0.1	0.0	2.9	0.0	0.0	-6.0
1/2/2012	11.8	0.8	0.0	1.1	2.9	0.1	7.9	11.8	0.1	0.0	2.9	0.0	0.0	-6.1
1/3/2012	11.9	0.3	0.0	1.1	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.4
1/4/2012	12.0	0.8	0.0	1.0	2.9	0.1	8.0	12.0	0.1	0.0	2.9	0.0	0.0	-6.1
1/5/2012	11.8	0.3	0.0	1.0	2.9	0.1	8.0	11.8	0.1	0.0	2.9	0.0	0.0	-6.6
1/6/2012	11.8	1.0	0.0	1.1	2.9	0.1	7.8	11.8	0.1	0.0	2.9	0.0	0.0	-5.7
1/7/2012	11.7	1.2	0.0	1.0	2.9	0.1	7.7	11.7	0.1	0.0	2.9	0.0	0.0	-5.5
1/8/2012	11.8	0.8	0.0	1.0	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-6.0
1/9/2012	11.8	0.7	0.0	1.0	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-6.0
1/10/2012	11.8	0.6	0.0	1.0	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-6.2
1/11/2012	11.8	1.3	0.0	1.0	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-5.4
1/12/2012	11.8	0.4	0.0	1.0	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-6.3
1/13/2012	11.8	1.4	0.0	1.1	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-5.3
1/14/2012	12.0	0.2	0.0	1.1	2.9	0.1	7.8	12.0	0.1	0.0	2.9	0.0	0.0	-6.6
1/15/2012	12.4	0.7	0.0	1.0	2.9	0.1	8.0	12.4	0.1	0.0	2.9	0.0	0.0	-6.3
1/16/2012	11.8	0.1	0.0	1.0	2.9	0.1	8.1	11.8	0.1	0.0	2.9	0.0	0.0	-7.0
1/17/2012	11.7	0.3	0.0	1.0	2.9	0.1	7.6	11.7	0.1	0.0	2.9	0.0	0.0	-6.4
1/18/2012	11.8	1.0	0.0	1.0	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-5.6
1/19/2012	11.7	0.7	0.0	1.0	2.9	0.1	7.5	11.7	0.1	0.0	2.9	0.0	0.0	-5.8
1/20/2012	11.7	0.9	0.0	1.0	2.9	0.1	7.6	11.7	0.1	0.0	2.9	0.0	0.0	-5.7
1/21/2012	11.7	0.6	0.0	1.0	2.9	0.1	7.5	11.7	0.1	0.0	2.9	0.0	0.0	-5.9
1/22/2012	11.7	0.8	0.0	0.9	2.9	0.1	7.5	11.7	0.1	0.0	2.9	0.0	0.0	-5.8
1/23/2012	11.6	0.1	0.0	1.0	2.9	0.1	7.5	11.6	0.1	0.0	2.9	0.0	0.0	-6.5
1/24/2012	11.7	0.8	0.0	1.0	2.9	0.1	7.5	11.7	0.1	0.0	2.9	0.0	0.0	-5.8
1/25/2012	11.6	0.7	0.0	1.0	2.9	0.1	7.5	11.6	0.1	0.0	2.9	0.0	0.0	-5.8
1/26/2012	11.6	0.3	0.0	1.0	2.9	0.1	7.5	11.6	0.1	0.0	2.9	0.0	0.0	-6.2
1/27/2012	11.7	0.6	0.0	1.0	2.9	0.1	7.5	11.7	0.1	0.0	2.9	0.0	0.0	-6.0
1/28/2012	11.6	0.4	0.0	0.9	2.9	0.1	7.4	11.6	0.1	0.0	2.9	0.0	0.0	-6.1
1/29/2012	11.6	0.2	0.0	1.0	2.9	0.1	7.5	11.6	0.1	0.0	2.9	0.0	0.0	-6.3
1/30/2012	11.6	0.4	0.0	1.0	2.9	0.1	7.4	11.6	0.1	0.0	2.9	0.0	0.0	-6.0

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
1/31/2012	11.6	0.7	0.0	1.0	2.9	0.1	7.5	11.6	0.1	0.0	2.9	0.0	0.0	-5.8
2/1/2012	11.6	0.4	0.0	1.0	2.9	0.1	7.4	11.6	0.1	0.0	2.9	0.0	0.0	-6.1
2/2/2012	11.6	0.2	0.0	1.0	2.9	0.1	7.3	11.6	0.1	0.0	2.9	0.0	0.0	-6.2
2/3/2012	11.5	0.6	0.0	1.0	2.9	0.1	7.5	11.5	0.1	0.0	2.9	0.0	0.0	-5.9
2/4/2012	11.5	0.7	0.0	1.0	2.9	0.1	7.4	11.5	0.1	0.0	2.9	0.0	0.0	-5.7
2/5/2012	11.5	1.0	0.0	1.0	2.9	0.1	7.3	11.5	0.1	0.0	2.9	0.0	0.0	-5.4
2/6/2012	11.5	0.6	0.0	1.0	2.9	0.1	7.3	11.5	0.1	0.0	2.9	0.0	0.0	-5.7
2/7/2012	11.5	0.7	0.0	1.0	2.9	0.1	7.3	11.5	0.1	0.0	2.9	0.0	0.0	-5.6
2/8/2012	11.5	0.6	0.0	1.0	2.9	0.1	7.3	11.5	0.1	0.0	2.9	0.0	0.0	-5.8
2/9/2012	11.4	0.9	0.0	1.0	2.9	0.1	7.3	11.4	0.1	0.0	2.9	0.0	0.0	-5.5
2/10/2012	11.4	0.2	0.0	1.0	2.9	0.1	7.3	11.4	0.1	0.0	2.9	0.0	0.0	-6.1
2/11/2012	11.4	0.3	0.0	1.0	2.9	0.1	7.2	11.4	0.1	0.0	2.9	0.0	0.0	-6.0
2/12/2012	11.4	2.0	0.0	1.0	2.9	0.1	7.2	11.4	0.1	0.0	2.9	0.0	0.0	-4.3
2/13/2012	11.4	0.5	0.0	1.0	2.9	0.1	7.2	11.4	0.1	0.0	2.9	0.0	0.0	-5.8
2/14/2012	11.3	1.0	0.0	1.0	2.9	0.1	7.1	11.3	0.1	0.0	2.9	0.0	0.0	-5.2
2/15/2012	11.3	0.4	0.0	1.0	2.9	0.1	7.2	11.3	0.1	0.0	2.9	0.0	0.0	-5.9
2/16/2012	11.2	0.6	0.0	1.0	2.9	0.1	7.3	11.2	0.1	0.0	2.9	0.0	0.0	-5.7
2/17/2012	11.3	0.8	0.0	1.0	2.9	0.1	7.1	11.3	0.1	0.0	2.9	0.0	0.0	-5.4
2/18/2012	11.3	0.2	0.0	1.0	2.9	0.1	7.1	11.3	0.1	0.0	2.9	0.0	0.0	-5.9
2/19/2012	11.2	0.4	0.0	1.0	2.9	0.1	7.0	11.2	0.1	0.0	2.9	0.0	0.0	-5.6
2/20/2012	11.2	0.5	0.0	1.0	2.9	0.1	7.0	11.2	0.1	0.0	2.9	0.0	0.0	-5.5
2/21/2012	11.1	1.4	0.0	1.0	2.9	0.1	6.8	11.1	0.1	0.0	2.9	0.0	0.0	-4.5
2/22/2012	11.0	0.6	0.0	0.9	2.9	0.1	6.9	11.0	0.1	0.0	2.9	0.0	0.0	-5.4
2/23/2012	11.0	0.1	0.0	0.9	2.9	0.1	6.7	11.0	0.1	0.0	2.9	0.0	0.0	-5.7
2/24/2012	11.0	1.7	0.0	0.9	2.9	0.1	6.8	11.0	0.1	0.0	2.9	0.0	0.0	-4.2
2/25/2012	11.0	0.3	0.0	0.9	2.9	0.1	6.8	11.0	0.1	0.0	2.9	0.0	0.0	-5.6
2/26/2012	11.0	0.3	0.0	0.9	2.9	0.1	6.8	11.0	0.1	0.0	2.9	0.0	0.0	-5.6
2/27/2012	10.9	0.0	0.0	0.9	2.9	0.1	6.7	10.9	0.1	0.0	2.9	0.0	0.0	-5.8
2/28/2012	10.8	0.1	0.0	0.9	2.9	0.1	6.5	10.8	0.1	0.0	2.9	0.0	0.0	-5.5
2/29/2012	10.8	0.0	0.0	0.9	2.9	0.1	6.5	10.8	0.1	0.0	2.9	0.0	0.0	-5.6
3/1/2012	10.8	1.0	0.0	0.9	2.9	0.0	6.5	10.8	11.8	2.7	8.4	0.0	0.0	-24.5
3/2/2012	10.8	0.7	0.0	0.9	2.9	0.0	6.5	10.8	11.8	2.7	8.4	0.0	0.0	-24.8
3/3/2012	10.8	0.8	0.0	0.9	2.9	0.0	6.4	10.8	11.8	2.7	8.4	0.0	0.0	-24.6
3/4/2012	10.8	0.5	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-24.8
3/5/2012	10.8	0.1	0.0	0.9	2.9	0.0	6.4	10.8	11.8	2.7	8.4	0.0	0.0	-25.3
3/6/2012	10.8	0.1	0.0	0.9	2.9	0.0	6.4	10.8	11.8	2.7	8.4	0.0	0.0	-25.3
3/7/2012	10.7	0.4	0.0	0.9	2.9	0.0	6.4	10.7	11.8	2.7	8.4	0.0	0.0	-25.0
3/8/2012	10.8	0.3	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.1
3/9/2012	10.8	0.1	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.2
3/10/2012	10.8	0.6	0.0	1.0	2.9	0.0	6.4	10.8	11.8	2.7	8.4	0.0	0.0	-24.8
3/11/2012	10.8	0.7	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-24.5
3/12/2012	10.8	0.7	0.0	0.9	2.9	0.0	6.4	10.8	11.8	2.7	8.4	0.0	0.0	-24.7
3/13/2012	10.8	0.3	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.1
3/14/2012	10.8	0.3	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.2
3/15/2012	10.8	0.6	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-24.8
3/16/2012	10.7	0.0	0.0	0.9	2.9	0.0	6.2	10.7	11.8	2.7	8.4	0.0	0.0	-25.3
3/17/2012	10.8	0.0	0.0	0.8	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.3
3/18/2012	10.8	0.6	0.0	0.8	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-24.8
3/19/2012	10.8	0.2	0.0	0.9	2.9	0.0	6.2	10.8	11.8	2.7	8.4	0.0	0.0	-25.1
3/20/2012	10.8	0.5	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-24.8
3/21/2012	10.8	0.0	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.4

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
3/22/2012	10.8	0.2	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.1
3/23/2012	10.8	0.0	0.0	0.9	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.4
3/24/2012	10.9	0.1	0.0	0.8	2.9	0.0	6.3	10.9	11.8	2.7	8.4	0.0	0.0	-25.3
3/25/2012	10.8	0.0	0.0	0.8	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.4
3/26/2012	10.8	0.0	0.0	0.8	2.9	0.0	6.2	10.8	11.8	2.7	8.4	0.0	0.0	-25.3
3/27/2012	10.8	1.0	0.0	0.8	2.9	0.0	6.2	10.8	11.8	2.7	8.4	0.0	0.0	-24.3
3/28/2012	10.7	0.4	0.0	0.8	2.9	0.0	6.2	10.7	11.8	2.7	8.4	0.0	0.0	-24.8
3/29/2012	10.8	0.2	0.0	0.8	2.9	0.0	6.2	10.8	11.8	2.7	8.4	0.0	0.0	-25.1
3/30/2012	10.8	0.0	0.0	0.8	2.9	0.0	6.2	10.8	11.8	2.7	8.4	0.0	0.0	-25.3
3/31/2012	10.8	0.1	0.0	0.8	2.9	0.0	6.3	10.8	11.8	2.7	8.4	0.0	0.0	-25.3
4/1/2012	0.0	0.1	0.0	0.8	2.9	0.0	0.0	0.6	11.8	0.1	8.4	0.0	0.0	-17.0
4/2/2012	0.0	0.5	0.0	0.8	2.9	0.0	0.0	0.9	11.8	0.1	8.4	0.0	0.0	-16.9
4/3/2012	0.0	0.4	0.0	0.9	2.9	0.0	0.0	0.9	11.8	0.1	8.4	0.0	0.0	-17.0
4/4/2012	262.8	0.5	0.0	0.8	2.9	0.0	0.0	136.0	11.8	1.9	8.4	0.0	0.0	109.0
4/5/2012	783.3	0.7	0.0	4.4	2.9	0.0	11.3	546.1	11.8	8.6	8.4	0.0	0.0	205.1
4/6/2012	1593.2	0.8	0.0	61.8	2.9	0.0	250.3	941.2	11.8	9.3	8.4	0.0	0.0	437.7
4/7/2012	2117.8	0.1	0.0	85.5	2.9	0.0	1003.4	955.2	11.8	9.3	8.4	0.0	0.0	218.4
4/8/2012	2248.2	0.0	0.0	90.5	2.9	0.0	1634.7	632.5	11.8	9.3	8.4	0.0	0.0	45.1
4/9/2012	2265.9	0.0	0.0	101.5	2.9	0.0	1947.1	384.3	11.8	9.3	8.4	0.0	0.0	9.5
4/10/2012	2262.5	0.0	0.0	111.7	2.9	0.0	2029.9	325.1	11.8	9.3	8.4	0.0	0.0	-7.4
4/11/2012	2248.4	0.6	0.0	110.7	2.9	0.0	2038.6	313.8	11.8	9.3	8.4	0.0	0.0	-19.1
4/12/2012	2220.8	0.7	0.0	108.1	2.9	0.0	2031.8	311.0	11.8	9.3	8.4	0.0	0.0	-39.7
4/13/2012	2042.4	0.1	0.0	97.7	2.9	0.0	1893.7	308.8	11.8	9.3	8.4	0.0	0.0	-88.8
4/14/2012	1727.3	0.1	0.0	99.5	2.9	0.0	1627.2	305.3	11.8	9.3	8.4	0.0	0.0	-132.2
4/15/2012	1400.1	0.9	0.0	50.7	2.9	0.0	1299.4	300.0	11.8	9.3	8.4	0.0	0.0	-174.3
4/16/2012	1227.5	0.2	0.0	42.5	2.9	0.0	1014.1	292.8	11.8	9.3	8.4	0.0	0.0	-63.2
4/17/2012	1243.8	0.1	0.0	50.7	2.9	0.0	977.6	292.1	11.8	9.3	8.4	0.0	0.0	-1.6
4/18/2012	1252.8	0.1	0.0	51.0	2.9	0.0	1001.7	292.4	11.8	9.3	8.4	0.0	0.0	-16.8
4/19/2012	1217.0	0.1	0.0	48.7	2.9	0.0	983.1	291.1	11.8	9.3	8.4	0.0	0.0	-34.9
4/20/2012	1162.9	0.0	0.0	48.3	2.9	0.0	938.4	289.4	11.8	9.3	8.4	0.0	0.0	-43.1
4/21/2012	1065.4	0.0	0.0	42.2	2.9	0.0	867.3	285.7	11.8	9.3	8.4	0.0	0.0	-71.9
4/22/2012	964.0	0.6	0.0	33.3	2.9	0.0	752.9	278.7	11.8	9.3	8.4	0.0	0.0	-60.2
4/23/2012	930.7	0.5	0.0	29.6	2.9	0.0	690.7	274.5	11.8	9.3	8.4	0.0	0.0	-30.9
4/24/2012	932.6	0.4	0.0	29.5	2.9	0.0	678.3	273.5	11.8	9.3	8.4	0.0	0.0	-15.8
4/25/2012	941.4	0.3	0.0	27.1	2.9	0.0	686.1	272.7	11.8	9.3	8.4	0.0	0.0	-16.6
4/26/2012	966.4	0.2	0.0	25.8	2.9	0.0	690.1	274.0	11.8	9.3	8.4	0.0	0.0	1.8
4/27/2012	1049.6	0.5	0.0	34.6	2.9	0.0	751.9	280.0	11.8	9.3	8.4	0.0	0.0	26.3
4/28/2012	1128.4	0.0	0.0	36.6	2.9	0.0	836.4	283.8	11.8	9.3	8.4	0.0	0.0	18.3
4/29/2012	1046.3	0.1	0.0	29.3	2.9	0.0	853.9	282.4	11.8	9.3	8.4	0.0	0.0	-87.2
4/30/2012	926.8	0.3	0.0	33.7	2.9	0.0	719.8	273.3	11.8	9.3	8.4	0.0	0.0	-58.9
5/1/2012	839.8	0.0	0.0	30.2	2.9	0.0	619.9	263.4	11.8	9.3	8.4	0.0	0.0	-39.7
5/2/2012	972.7	1.1	0.0	28.0	2.9	0.0	654.3	271.1	11.8	11.6	8.4	0.0	0.0	47.6
5/3/2012	991.2	0.9	0.0	27.4	2.9	0.0	739.6	276.5	11.8	11.6	8.4	0.0	0.0	-25.6
5/4/2012	969.0	0.2	0.0	27.3	2.9	0.0	718.3	274.9	11.8	11.6	8.4	0.0	0.0	-25.5
5/5/2012	822.8	0.3	0.0	27.5	2.9	0.0	677.5	267.7	11.8	11.6	8.4	0.0	0.0	-123.5
5/6/2012	485.7	0.3	0.0	6.0	2.9	0.0	462.2	215.5	11.8	11.6	8.4	0.0	0.0	-214.6
5/7/2012	231.1	0.7	5.8	0.3	2.9	0.0	240.0	130.7	11.8	11.6	8.4	0.0	0.0	-161.7
5/8/2012	93.4	0.0	0.0	0.8	2.9	0.0	89.7	70.9	11.8	11.6	8.4	0.0	0.0	-95.2
5/9/2012	16.2	0.0	0.0	0.9	2.9	0.0	18.7	38.2	11.8	11.6	8.4	0.0	0.0	-68.7
5/10/2012	0.0	0.0	0.0	0.9	2.9	0.0	0.0	5.6	11.8	5.7	8.4	0.0	0.0	-27.7
5/11/2012	0.0	0.4	0.0	0.8	2.9	0.0	0.0	1.1	11.8	0.7	8.4	0.0	0.0	-17.8

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Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/12/2012	0.0	0.0	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.5
5/13/2012	0.0	0.1	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.3	8.4	0.0	0.0	-17.3
5/14/2012	0.0	0.6	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-16.9
5/15/2012	0.0	0.7	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-16.8
5/16/2012	0.0	1.1	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-16.4
5/17/2012	0.0	0.3	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.3
5/18/2012	0.0	0.3	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.2
5/19/2012	0.0	0.0	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.5
5/20/2012	0.0	0.3	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.3
5/21/2012	0.0	1.0	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-16.6
5/22/2012	0.0	0.1	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.4
5/23/2012	0.0	0.8	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-16.7
5/24/2012	0.0	0.2	0.0	0.7	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.4
5/25/2012	0.0	1.0	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.3	8.4	0.0	0.0	-16.4
5/26/2012	0.0	0.1	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.4
5/27/2012	0.0	0.6	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.0
5/28/2012	0.0	0.6	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-16.9
5/29/2012	0.0	0.3	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.4	8.4	0.0	0.0	-17.3
5/30/2012	0.0	0.0	0.0	0.8	2.9	0.0	0.0	0.7	11.8	0.3	8.4	0.0	0.0	-17.5
5/31/2012	794.9	0.7	0.0	0.8	2.9	0.0	0.0	71.4	11.8	3.0	8.4	0.0	0.0	704.7
6/1/2012	1336.0	0.4	0.0	0.8	2.9	0.0	1125.2	291.9	11.8	11.6	8.4	0.0	0.0	-108.7
6/2/2012	695.9	0.3	0.0	0.8	2.9	0.0	689.3	254.0	11.8	13.7	8.4	0.0	0.0	-277.3
6/3/2012	745.7	0.6	0.0	0.8	2.9	0.0	401.9	227.7	11.8	13.7	8.4	0.0	0.0	86.6
6/4/2012	795.5	0.3	0.0	0.8	2.9	0.0	529.4	252.1	11.8	13.7	8.4	0.0	0.0	-15.9
6/5/2012	967.9	0.2	0.0	0.8	2.9	0.0	591.4	264.2	11.8	13.7	8.4	0.0	0.0	82.3
6/6/2012	1069.8	0.7	0.0	1.2	2.9	0.0	745.2	277.0	11.8	13.7	8.4	0.0	0.0	18.6
6/7/2012	1063.6	1.6	0.0	14.5	2.9	0.0	781.7	278.9	11.8	13.7	8.4	0.0	0.0	-11.8
6/8/2012	1028.7	0.7	0.0	20.3	2.9	0.0	770.7	276.4	11.8	13.7	8.4	0.0	0.0	-28.3
6/9/2012	1180.7	0.2	0.0	11.1	2.9	0.0	813.7	279.2	11.8	13.7	8.4	0.0	0.0	68.2
6/10/2012	1437.4	2.2	0.0	38.4	2.9	0.0	1047.6	287.9	11.8	13.7	8.4	0.0	0.0	111.6
6/11/2012	1632.5	0.4	0.0	60.7	2.9	0.0	1313.3	294.1	11.8	13.7	8.4	0.0	0.0	55.3
6/12/2012	1614.2	0.6	0.0	69.1	2.9	0.0	1371.4	295.6	11.8	13.7	8.4	0.0	0.0	-14.0
6/13/2012	1663.8	0.1	0.0	74.9	2.9	0.0	1425.9	299.1	11.8	13.7	8.4	0.0	0.0	-17.0
6/14/2012	1399.3	1.2	0.0	74.0	2.9	0.0	1268.4	296.4	11.8	13.7	8.4	0.0	0.0	-121.2
6/15/2012	1136.7	2.0	0.0	47.9	2.9	0.0	1000.1	288.7	11.8	13.7	8.4	0.0	0.0	-133.1
6/16/2012	1158.0	1.2	0.0	34.4	2.9	0.0	874.2	286.1	11.8	13.7	8.4	0.0	0.0	2.4
6/17/2012	1112.4	1.6	0.0	42.5	2.9	0.0	879.7	284.9	11.8	13.7	8.4	0.0	0.0	-39.0
6/18/2012	1168.3	2.9	0.0	32.8	2.9	0.0	878.3	286.8	11.8	13.7	8.4	0.0	0.0	8.0
6/19/2012	1116.6	0.9	0.0	31.7	2.9	0.0	880.0	285.8	11.8	13.7	8.4	0.0	0.0	-47.6
6/20/2012	1165.3	1.0	0.0	30.3	2.9	0.0	873.2	286.6	11.8	13.7	8.4	0.0	0.0	5.7
6/21/2012	1147.1	0.4	0.0	34.1	2.9	0.0	886.6	286.6	11.8	13.7	8.4	0.0	0.0	-22.4
6/22/2012	1154.5	0.3	0.0	29.8	2.9	0.0	887.5	286.7	11.8	13.7	8.4	0.0	0.0	-20.6
6/23/2012	1124.5	1.0	0.0	32.5	2.9	0.0	870.8	285.8	11.8	13.7	8.4	0.0	0.0	-29.6
6/24/2012	1015.3	1.1	0.0	28.3	2.9	0.0	809.7	281.4	11.8	13.7	8.4	0.0	0.0	-77.4
6/25/2012	908.9	0.6	0.0	29.3	2.9	0.0	690.8	273.0	11.8	13.7	8.4	0.0	0.0	-55.9
6/26/2012	972.1	0.6	0.0	27.4	2.9	0.0	662.9	272.8	11.8	13.7	8.4	0.0	0.0	33.4
6/27/2012	1024.3	2.4	0.0	31.6	2.9	0.0	751.8	279.0	11.8	13.7	8.4	0.0	0.0	-3.5
6/28/2012	921.2	1.7	0.0	29.8	2.9	0.0	728.7	272.6	11.8	13.7	8.4	0.0	0.0	-79.6
6/29/2012	785.4	3.0	0.0	15.7	2.9	0.0	607.7	257.6	11.8	13.7	8.4	0.0	0.0	-92.1
6/30/2012	759.8	1.8	0.0	8.5	2.9	0.0	514.6	245.1	11.8	13.7	8.4	0.0	0.0	-20.5
7/1/2012	811.2	1.0	0.0	17.6	2.9	0.0	527.5	251.0	11.8	13.7	8.4	0.0	0.0	20.3

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/2/2012	892.5	3.1	0.0	20.1	2.9	0.0	590.9	261.9	11.8	12.0	8.4	0.0	0.0	33.7
7/3/2012	954.6	0.8	0.0	25.1	2.9	0.0	670.4	268.9	11.8	12.0	8.4	0.0	0.0	11.9
7/4/2012	955.7	1.3	0.0	32.9	2.9	0.0	700.6	270.7	11.8	12.0	8.4	0.0	0.0	-10.5
7/5/2012	990.6	3.2	0.0	36.4	2.9	0.0	717.4	273.1	11.8	12.0	8.4	0.0	0.0	10.4
7/6/2012	940.9	0.8	0.0	44.2	2.9	0.0	732.5	272.7	11.8	12.0	8.4	0.0	0.0	-48.5
7/7/2012	839.5	1.2	0.0	34.3	2.9	0.0	650.5	263.7	11.8	12.0	8.4	0.0	0.0	-68.5
7/8/2012	744.8	1.4	0.0	67.6	2.9	0.0	570.3	251.4	11.8	12.0	8.4	0.0	0.0	-37.2
7/9/2012	802.7	4.0	0.0	53.5	2.9	0.0	549.6	252.6	11.8	12.0	8.4	0.0	0.0	28.8
7/10/2012	890.6	3.1	0.0	39.0	2.9	0.0	647.1	266.2	11.8	12.0	8.4	0.0	0.0	-9.9
7/11/2012	778.8	1.9	0.0	33.6	2.9	0.0	642.8	260.7	11.8	12.0	8.4	0.0	0.0	-118.4
7/12/2012	587.2	1.1	0.0	13.1	2.9	0.0	487.4	228.5	11.8	12.0	8.4	0.0	0.0	-143.8
7/13/2012	489.5	1.3	0.0	7.4	2.9	0.0	346.5	192.6	11.8	12.0	8.4	0.0	0.0	-70.1
7/14/2012	531.0	1.0	0.0	6.5	2.9	0.0	315.0	194.7	11.8	12.0	8.4	0.0	0.0	-0.4
7/15/2012	617.0	2.2	0.0	3.1	2.9	0.0	360.3	211.4	11.8	12.0	8.4	0.0	0.0	21.4
7/16/2012	632.9	1.3	0.0	6.6	2.9	0.0	415.8	221.1	11.8	12.0	8.4	0.0	0.0	-25.4
7/17/2012	785.8	4.2	0.0	10.2	2.9	0.0	436.1	234.5	11.8	12.0	8.4	0.0	0.0	100.3
7/18/2012	1289.9	1.2	0.0	36.5	2.9	0.0	785.2	277.6	11.8	12.0	8.4	0.0	0.0	235.5
7/19/2012	1429.0	1.7	0.0	55.6	2.9	0.0	1159.7	289.7	11.8	12.0	8.4	0.0	0.0	7.6
7/20/2012	1388.7	1.6	0.0	43.7	2.9	0.0	1183.5	289.4	11.8	12.0	8.4	0.0	0.0	-68.1
7/21/2012	1160.9	3.2	0.0	36.5	2.9	0.0	1016.9	284.1	11.8	12.0	8.4	0.0	0.0	-129.7
7/22/2012	1037.9	1.3	0.0	34.9	2.9	0.0	833.6	277.3	11.8	12.0	8.4	0.0	0.0	-66.0
7/23/2012	984.0	3.0	0.0	35.9	2.9	0.0	763.8	272.5	11.8	12.0	8.4	0.0	0.0	-42.6
7/24/2012	1030.9	1.0	0.0	41.3	2.9	0.0	758.7	273.5	11.8	12.0	8.4	0.0	0.0	11.7
7/25/2012	1192.1	1.3	0.0	63.2	2.9	0.0	887.4	281.7	11.8	12.0	8.4	0.0	0.0	58.2
7/26/2012	1203.8	3.0	0.0	62.1	2.9	0.0	1000.6	286.1	11.8	12.0	8.4	0.0	0.0	-47.0
7/27/2012	1020.9	1.3	0.0	56.2	2.9	0.0	886.9	280.8	11.8	12.0	8.4	0.0	0.0	-118.6
7/28/2012	953.7	2.1	0.0	48.8	2.9	0.0	753.4	274.7	11.8	12.0	8.4	0.0	0.0	-52.8
7/29/2012	901.4	4.4	0.0	46.3	2.9	0.0	708.8	270.9	11.8	12.0	8.4	0.0	0.0	-56.9
7/30/2012	892.8	1.9	0.0	38.1	2.9	0.0	671.0	267.6	11.8	12.0	8.4	0.0	0.0	-35.1
7/31/2012	936.9	0.8	0.0	32.6	2.9	0.0	684.3	268.0	11.8	12.0	8.4	0.0	0.0	-11.3
8/1/2012	1070.3	4.4	0.0	38.1	2.9	0.0	768.5	272.1	11.8	12.0	8.4	0.0	0.0	42.9
8/2/2012	1104.3	4.2	0.0	50.1	2.9	0.0	880.1	272.2	11.8	11.7	8.4	0.0	0.0	-22.6
8/3/2012	937.1	3.1	0.0	35.5	2.9	0.0	810.6	266.5	11.8	11.7	8.4	0.0	0.0	-130.4
8/4/2012	758.6	1.2	0.0	18.0	2.9	0.0	623.2	256.1	11.8	11.7	8.4	0.0	0.0	-130.4
8/5/2012	695.1	2.7	0.0	14.8	2.9	0.0	504.2	241.1	11.8	11.7	8.4	0.0	0.0	-61.7
8/6/2012	648.2	2.4	0.0	12.9	2.9	0.0	465.3	228.2	11.8	11.7	8.4	0.0	0.0	-58.9
8/7/2012	715.2	3.0	0.0	13.0	2.9	0.0	447.5	227.9	11.8	11.7	8.4	0.0	0.0	26.9
8/8/2012	931.1	0.9	0.0	28.5	2.9	0.0	572.2	254.3	11.8	11.7	8.4	0.0	0.0	105.1
8/9/2012	1071.4	3.2	0.0	38.6	2.9	0.0	792.8	270.8	11.8	11.7	8.4	0.0	0.0	20.7
8/10/2012	1029.4	2.3	0.0	26.2	2.9	0.0	838.7	270.9	11.8	11.7	8.4	0.0	0.0	-80.6
8/11/2012	1040.6	3.2	0.0	19.3	2.9	0.0	851.5	270.7	11.8	11.7	8.4	0.0	0.0	-88.0
8/12/2012	1221.9	4.2	0.0	43.4	2.9	0.0	976.9	278.4	11.8	11.7	8.4	0.0	0.0	-14.7
8/13/2012	1311.5	2.8	0.0	43.0	2.9	0.0	1219.2	283.5	11.8	11.7	8.4	0.0	0.0	-174.4
8/14/2012	1185.5	6.8	0.0	41.5	2.9	0.0	1215.9	281.7	11.8	11.7	8.4	0.0	0.0	-292.7
8/15/2012	698.5	4.3	122.3	38.7	2.9	0.0	862.3	266.4	11.8	11.7	8.4	0.0	0.0	-293.9
8/16/2012	613.8	1.6	0.0	61.8	2.9	0.0	597.2	232.5	11.8	11.7	8.4	0.0	0.0	-181.4
8/17/2012	1004.5	2.9	0.0	68.0	2.9	0.0	630.6	264.9	11.8	11.7	8.4	0.0	0.0	150.9
8/18/2012	1090.3	2.1	0.0	61.3	2.9	0.0	877.2	283.4	11.8	11.7	8.4	0.0	0.0	-35.8
8/19/2012	1086.1	2.2	0.0	58.3	2.9	0.0	876.2	283.4	11.8	11.7	8.4	0.0	0.0	-42.0
8/20/2012	1077.0	5.3	0.0	61.7	2.9	0.0	863.8	282.6	11.8	11.7	8.4	0.0	0.0	-31.3
8/21/2012	1072.7	1.1	0.0	62.4	2.9	0.0	856.3	282.1	11.8	11.7	8.4	0.0	0.0	-31.1

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3														
2010-12 Study Period														
(Units - Acre-Feet)														
	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
8/22/2012	1120.8	4.5	0.0	65.1	2.9	0.0	882.9	283.1	11.8	11.7	8.4	0.0	0.0	-4.5
8/23/2012	1154.2	3.2	0.0	58.2	2.9	0.0	936.2	280.8	11.8	11.7	8.4	0.0	0.0	-30.3
8/24/2012	1047.4	2.3	0.0	64.9	2.9	0.0	901.1	274.4	11.8	11.7	8.4	0.0	0.0	-89.8
8/25/2012	872.1	3.7	0.0	49.6	2.9	0.0	753.5	264.7	11.8	11.7	8.4	0.0	0.0	-121.8
8/26/2012	757.7	1.8	0.0	32.4	2.9	0.0	598.9	249.0	11.8	11.7	8.4	0.0	0.0	-84.9
8/27/2012	780.0	3.7	0.0	34.6	2.9	0.0	563.4	245.8	11.8	11.7	8.4	0.0	0.0	-19.8
8/28/2012	779.3	1.8	0.0	29.3	2.9	0.0	576.9	247.1	11.8	11.7	8.4	0.0	0.0	-42.5
8/29/2012	708.8	0.8	0.0	28.2	2.9	0.0	547.1	244.6	11.8	11.7	8.4	0.0	0.0	-82.9
8/30/2012	636.9	3.1	0.0	20.9	2.9	0.0	477.5	229.0	11.8	11.7	8.4	0.0	0.0	-74.6
8/31/2012	592.6	2.4	0.0	17.2	2.9	0.0	425.1	214.7	11.8	11.7	8.4	0.0	0.0	-56.4
9/1/2012	597.0	0.6	0.0	17.2	2.9	0.0	403.8	210.5	11.8	11.7	8.4	0.0	0.0	-28.4
9/2/2012	610.4	3.1	0.0	16.6	2.9	0.0	412.2	211.3	11.8	10.0	8.4	0.0	0.0	-20.7
9/3/2012	627.3	1.8	0.0	16.7	2.9	0.0	420.8	223.9	11.8	10.0	8.4	0.0	0.0	-26.2
9/4/2012	589.7	3.1	0.0	17.1	2.9	0.0	423.2	222.7	11.8	10.0	8.4	0.0	0.0	-63.2
9/5/2012	528.7	2.6	0.0	20.6	2.9	0.0	368.5	205.4	11.8	10.0	8.4	0.0	0.0	-49.3
9/6/2012	625.0	3.4	0.0	24.8	2.9	0.0	364.8	216.6	11.8	10.0	8.4	0.0	0.0	44.6
9/7/2012	718.1	3.6	0.0	23.6	2.9	0.0	461.0	240.9	11.8	10.0	8.4	0.0	0.0	16.2
9/8/2012	690.4	1.3	0.0	33.4	2.9	0.0	505.5	245.5	11.8	10.0	8.4	0.0	0.0	-53.1
9/9/2012	498.0	1.3	0.0	43.5	2.9	0.0	438.6	214.2	11.8	10.0	8.4	0.0	0.0	-137.3
9/10/2012	308.3	1.6	0.0	28.2	2.9	0.0	301.8	159.5	11.8	10.0	8.4	0.0	0.0	-150.4
9/11/2012	104.4	2.0	39.2	24.3	2.9	0.0	170.8	88.6	11.8	10.0	8.4	0.0	0.0	-116.7
9/12/2012	68.0	3.7	0.0	20.3	2.9	0.0	50.8	49.7	11.8	10.0	8.4	0.0	0.0	-35.7
9/13/2012	363.4	1.9	0.0	17.1	2.9	0.0	66.9	111.2	11.8	10.0	8.4	0.0	0.0	177.1
9/14/2012	582.2	2.1	0.0	16.4	2.9	0.0	297.1	199.4	11.8	10.0	8.4	0.0	0.0	76.9
9/15/2012	11.1	1.3	0.0	8.2	2.9	0.0	9.0	11.1	11.8	5.4	8.4	0.0	0.0	-22.1
9/16/2012	11.0	2.3	0.0	2.3	2.9	0.0	6.5	11.0	11.8	5.4	8.4	0.0	0.0	-24.5
9/17/2012	10.9	1.0	0.0	0.7	2.9	0.0	6.3	10.9	11.8	5.4	8.4	0.0	0.0	-27.3
9/18/2012	11.0	1.9	0.0	0.6	2.9	0.0	6.2	11.0	11.8	5.4	8.4	0.0	0.0	-26.3
9/19/2012	11.7	1.9	0.0	1.1	2.9	0.0	6.3	11.7	11.8	5.4	8.4	0.0	0.0	-25.9
9/20/2012	14.8	2.1	0.0	1.1	2.9	0.0	7.4	14.8	11.8	5.4	8.4	0.0	0.0	-26.8
9/21/2012	16.5	0.3	0.0	1.2	2.9	0.0	10.3	16.5	11.8	5.4	8.4	0.0	0.0	-31.5
9/22/2012	14.6	2.3	0.0	1.1	2.9	0.0	10.9	14.6	11.8	5.4	8.4	0.0	0.0	-30.1
9/23/2012	12.7	2.4	0.0	1.1	2.9	0.0	9.2	12.7	11.8	5.4	8.4	0.0	0.0	-28.3
9/24/2012	11.1	0.9	0.0	1.1	2.9	0.0	7.4	11.1	11.8	5.4	8.4	0.0	0.0	-28.1
9/25/2012	10.8	2.3	0.0	1.1	2.9	0.0	6.3	10.8	11.8	5.4	8.4	0.0	0.0	-25.4
9/26/2012	10.7	0.8	0.0	1.0	2.9	0.0	6.1	10.7	11.8	5.4	8.4	0.0	0.0	-26.9
9/27/2012	10.8	0.2	0.0	0.9	2.9	0.0	6.1	10.8	11.8	5.4	8.4	0.0	0.0	-27.6
9/28/2012	10.8	0.1	0.0	0.9	2.9	0.0	6.2	10.8	11.8	5.4	8.4	0.0	0.0	-27.7
9/29/2012	10.8	1.0	0.0	0.9	2.9	0.0	6.2	10.8	11.8	5.4	8.4	0.0	0.0	-26.9
9/30/2012	10.7	1.0	0.0	1.0	2.9	0.0	6.1	10.7	11.8	5.4	8.4	0.0	0.0	-26.7
10/1/2012	10.8	1.6	0.0	0.9	2.9	0.0	6.2	10.8	11.8	0.0	8.4	0.0	0.0	-20.8
10/2/2012	10.8	0.4	0.0	1.0	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-21.9
10/3/2012	10.8	1.2	0.0	1.1	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-21.0
10/4/2012	10.7	1.3	0.0	1.1	2.9	0.0	6.2	10.7	11.8	0.0	8.4	0.0	0.0	-21.1
10/5/2012	10.7	1.1	0.0	1.1	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.1
10/6/2012	10.7	0.3	0.0	1.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-22.0
10/7/2012	10.8	0.3	0.0	1.1	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-22.0
10/8/2012	10.7	0.7	0.0	1.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.7
10/9/2012	10.7	0.8	0.0	1.1	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.5
10/10/2012	10.7	0.5	0.0	1.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.8
10/11/2012	10.7	1.7	0.0	1.0	2.9	0.0	6.0	10.7	11.8	0.0	8.4	0.0	0.0	-20.5

Table G2-3: RGCP Channel Water Budget Equation Analysis Segment 3

2010-12 Study Period

(Units - Acre-Feet)

	Segment 3 - Mesilla Dam to Anthony Metering Station (Lower Reach A)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Mesilla Dam	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Del Rio Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, below Anthony Station	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
10/12/2012	10.7	0.4	0.0	1.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-22.0
10/13/2012	10.7	1.1	0.0	1.0	2.9	0.0	6.2	10.7	11.8	0.0	8.4	0.0	0.0	-21.3
10/14/2012	10.7	0.7	0.0	1.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.6
10/15/2012	10.7	1.3	0.0	1.1	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.0
10/16/2012	10.7	0.3	0.0	1.1	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.9
10/17/2012	10.8	3.2	0.0	1.1	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-19.1
10/18/2012	10.7	0.9	0.0	1.1	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.3
10/19/2012	10.8	2.0	0.0	0.0	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-21.3
10/20/2012	10.7	2.4	0.0	0.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-20.9
10/21/2012	10.8	1.8	0.0	0.0	2.9	0.0	6.0	10.8	11.8	0.0	8.4	0.0	0.0	-21.5
10/22/2012	10.7	1.7	0.0	1.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-20.7
10/23/2012	10.6	1.7	0.0	1.1	2.9	0.0	6.1	10.6	11.8	0.0	8.4	0.0	0.0	-20.6
10/24/2012	10.8	1.8	0.0	1.1	2.9	0.0	6.2	10.8	11.8	0.0	8.4	0.0	0.0	-20.5
10/25/2012	10.7	1.0	0.0	1.1	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-21.3
10/26/2012	10.7	1.8	0.0	1.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-20.6
10/27/2012	10.7	1.4	0.0	1.0	2.9	0.0	6.1	10.7	11.8	0.0	8.4	0.0	0.0	-20.9
10/28/2012	10.8	2.0	0.0	1.1	2.9	0.0	6.1	10.8	11.8	0.0	8.4	0.0	0.0	-20.3
10/29/2012	10.8	0.9	0.0	1.1	2.9	0.0	6.3	10.8	11.8	0.0	8.4	0.0	0.0	-21.6
10/30/2012	10.6	0.7	0.0	1.1	2.9	0.0	6.2	10.6	11.8	0.0	8.4	0.0	0.0	-21.6
10/31/2012	10.8	0.4	0.0	1.1	2.9	0.0	6.2	10.8	11.8	0.0	8.4	0.0	0.0	-21.9
11/1/2012	10.8	1.2	0.0	0.0	2.9	0.1	6.3	10.8	0.1	0.0	2.9	0.0	0.0	-5.1
11/2/2012	10.8	0.3	0.0	0.0	2.9	0.1	6.3	10.8	0.1	0.0	2.9	0.0	0.0	-6.0
11/3/2012	10.8	1.2	0.0	0.0	2.9	0.1	6.3	10.8	0.1	0.0	2.9	0.0	0.0	-5.2
11/4/2012	10.9	0.3	0.0	0.0	2.9	0.1	6.5	10.9	0.1	0.0	2.9	0.0	0.0	-6.2
11/5/2012	11.0	1.5	0.0	0.0	2.9	0.1	6.6	11.0	0.1	0.0	2.9	0.0	0.0	-5.1
11/6/2012	11.1	0.3	0.0	0.0	2.9	0.1	6.7	11.1	0.1	0.0	2.9	0.0	0.0	-6.5
11/7/2012	11.1	1.0	0.0	0.0	2.9	0.1	6.8	11.1	0.1	0.0	2.9	0.0	0.0	-5.9
11/8/2012	11.2	0.9	0.0	0.0	2.9	0.1	6.8	11.2	0.1	0.0	2.9	0.0	0.0	-6.0
11/9/2012	11.3	0.5	0.0	0.0	2.9	0.1	7.0	11.3	0.1	0.0	2.9	0.0	0.0	-6.5
11/10/2012	11.3	0.1	0.0	0.0	2.9	0.1	7.1	11.3	0.1	0.0	2.9	0.0	0.0	-7.0
11/11/2012	11.4	0.8	0.0	0.0	2.9	0.1	7.1	11.4	0.1	0.0	2.9	0.0	0.0	-6.4
11/12/2012	11.7	0.5	0.0	0.0	2.9	0.1	7.2	11.7	0.1	0.0	2.9	0.0	0.0	-6.8
11/13/2012	11.7	0.7	0.0	0.0	2.9	0.1	7.4	11.7	0.1	0.0	2.9	0.0	0.0	-6.7
11/14/2012	11.8	3.2	0.0	0.0	2.9	0.1	7.5	11.8	0.1	0.0	2.9	0.0	0.0	-4.4
11/15/2012	11.9	0.6	0.0	0.0	2.9	0.1	7.5	11.9	0.1	0.0	2.9	0.0	0.0	-7.0
11/16/2012	11.8	1.0	0.0	0.0	2.9	0.1	7.7	11.8	0.1	0.0	2.9	0.0	0.0	-6.7
11/17/2012	11.7	0.1	0.0	0.0	2.9	0.1	7.7	11.7	0.1	0.0	2.9	0.0	0.0	-7.6
11/18/2012	11.9	0.1	0.0	0.0	2.9	0.1	7.6	11.9	0.1	0.0	2.9	0.0	0.0	-7.5
11/19/2012	11.7	0.5	0.0	0.0	2.9	0.1	7.5	11.7	0.1	0.0	2.9	0.0	0.0	-7.1
11/20/2012	11.8	0.0	0.0	0.0	2.9	0.1	7.5	11.8	0.1	0.0	2.9	0.0	0.0	-7.5
11/21/2012	11.8	0.1	0.0	0.0	2.9	0.1	7.6	11.8	0.1	0.0	2.9	0.0	0.0	-7.5
11/22/2012	11.9	0.2	0.0	0.0	2.9	0.1	7.6	11.9	0.1	0.0	2.9	0.0	0.0	-7.5
11/23/2012	11.9	0.2	0.0	0.0	2.9	0.1	7.6	11.9	0.1	0.0	2.9	0.0	0.0	-7.4
11/24/2012	11.9	0.6	0.0	0.0	2.9	0.1	7.7	11.9	0.1	0.0	2.9	0.0	0.0	-7.1
11/25/2012	11.9	0.0	0.0	0.0	2.9	0.1	7.7	11.9	0.1	0.0	2.9	0.0	0.0	-7.7
11/26/2012	11.9	0.4	0.0	0.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-7.4
11/27/2012	11.9	1.4	0.0	0.0	2.9	0.1	7.7	11.9	0.1	0.0	2.9	0.0	0.0	-6.3
11/28/2012	11.9	0.9	0.0	0.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-6.9
11/29/2012	11.9	0.7	0.0	0.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-7.1
11/30/2012	11.9	0.3	0.0	0.0	2.9	0.1	7.8	11.9	0.1	0.0	2.9	0.0	0.0	-7.5

RGCP - Project Scale Water Budget - Segment 3 (Mesilla Dam to Anthony Metering Station)

$$\Delta Sic = (Qus + Pc + Qcin + Qirf + Qgwrf) - (Qcds + Qcs + Qfpr + ET + Qda + Qdu)$$

- Sum of Inflow
- Sum of Outflow
- ΔSic - Change in Channel Storage

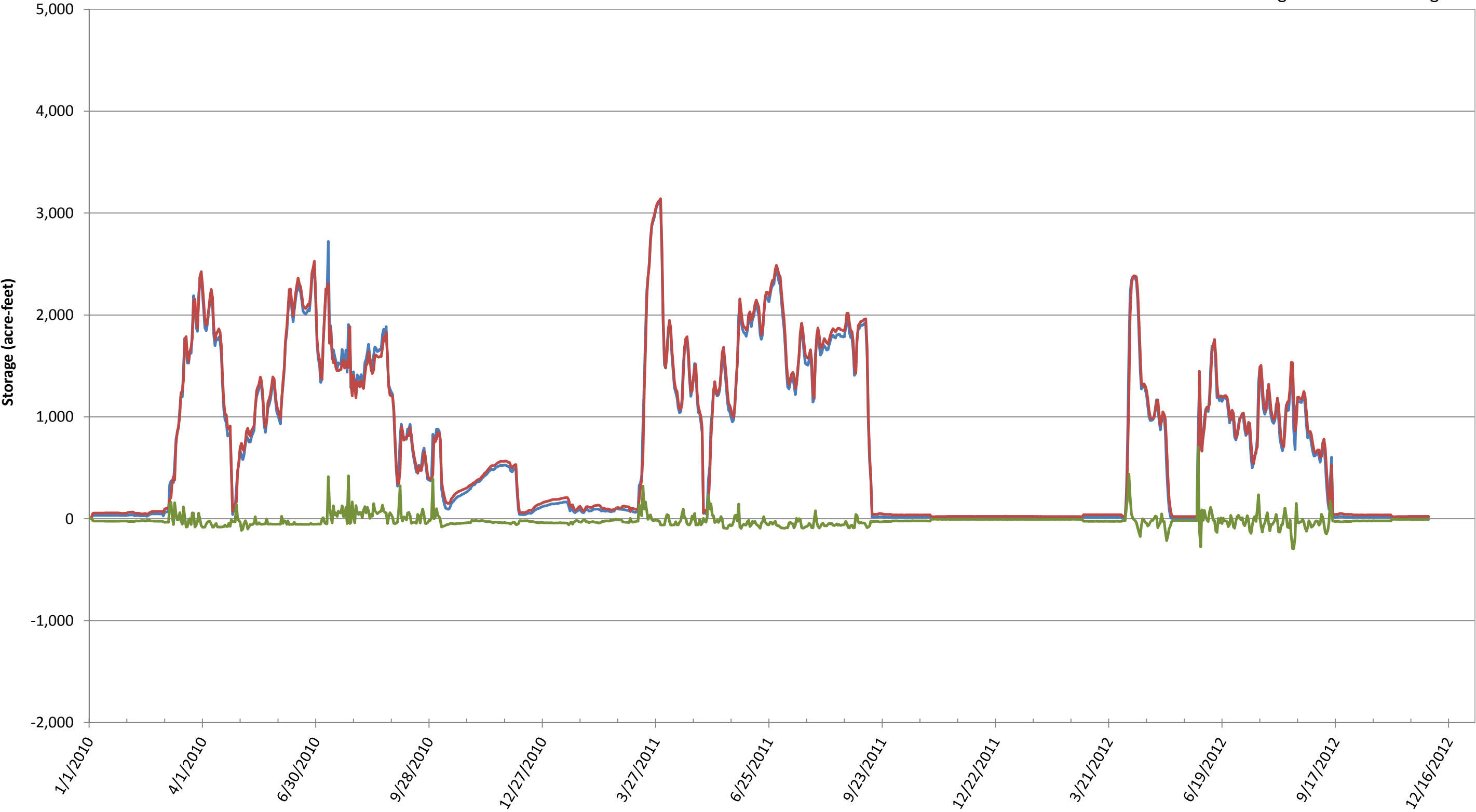


Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
1/1/2010	0.0	0.3	0.0	173.0	33.0	0.8	0.0	0.0	0.1	0.0	2.5	0.0	0.0	204.5
1/2/2010	0.0	0.9	0.0	179.7	33.0	0.8	0.0	0.0	0.1	0.0	2.5	0.0	0.0	211.7
1/3/2010	0.0	0.5	0.0	178.4	33.0	0.8	10.0	0.0	0.1	0.0	2.5	0.0	0.0	200.1
1/4/2010	20.9	0.6	0.0	180.7	33.0	0.8	137.0	20.9	0.1	0.0	2.5	0.0	0.0	75.5
1/5/2010	23.6	0.3	0.0	180.8	33.0	0.8	207.0	23.6	0.1	0.0	2.5	0.0	0.0	5.3
1/6/2010	24.1	0.9	0.0	183.3	33.0	0.8	208.1	24.1	0.1	0.0	2.5	0.0	0.0	7.2
1/7/2010	24.0	0.5	0.0	183.5	33.0	0.8	209.3	24.0	0.1	0.0	2.5	0.0	0.0	5.9
1/8/2010	24.0	0.8	0.0	183.8	33.0	0.8	209.5	24.0	0.1	0.0	2.5	0.0	0.0	6.3
1/9/2010	23.9	0.4	0.0	185.6	33.0	0.8	210.6	23.9	0.1	0.0	2.5	0.0	0.0	6.7
1/10/2010	23.7	0.6	0.0	185.8	33.0	0.8	211.3	23.7	0.1	0.0	2.5	0.0	0.0	6.4
1/11/2010	23.7	0.9	0.0	180.6	33.0	0.8	208.1	23.7	0.1	0.0	2.5	0.0	0.0	4.5
1/12/2010	23.8	0.9	0.0	177.1	33.0	0.8	204.4	23.8	0.1	0.0	2.5	0.0	0.0	4.8
1/13/2010	24.0	0.8	0.0	180.1	33.0	0.8	205.3	24.0	0.1	0.0	2.5	0.0	0.0	6.7
1/14/2010	24.3	0.5	0.0	184.1	33.0	0.8	209.0	24.3	0.1	0.0	2.5	0.0	0.0	6.8
1/15/2010	24.5	0.4	0.0	183.2	33.0	0.8	209.8	24.5	0.1	0.0	2.5	0.0	0.0	5.0
1/16/2010	24.6	0.3	0.0	182.4	33.0	0.8	209.2	24.6	0.1	0.0	2.5	0.0	0.0	4.7
1/17/2010	24.4	1.4	0.0	183.5	33.0	0.8	209.7	24.4	0.1	0.0	2.5	0.0	0.0	6.5
1/18/2010	24.5	1.6	0.0	182.3	33.0	0.8	209.2	24.5	0.1	0.0	2.5	0.0	0.0	5.8
1/19/2010	24.5	0.9	0.0	165.7	33.0	0.8	197.7	24.5	0.1	0.0	2.5	0.0	0.0	0.1
1/20/2010	24.5	0.8	0.0	179.9	33.0	0.8	202.2	24.5	0.1	0.0	2.5	0.0	0.0	9.6
1/21/2010	24.5	0.8	0.0	185.7	33.0	0.8	210.3	24.5	0.1	0.0	2.5	0.0	0.0	7.3
1/22/2010	24.5	0.5	0.0	187.4	33.0	0.8	213.0	24.5	0.1	0.0	2.5	0.0	0.0	6.1
1/23/2010	24.5	0.7	0.0	198.3	33.0	0.8	220.4	24.5	0.1	0.0	2.5	0.0	0.0	9.7
1/24/2010	24.8	0.8	0.0	188.9	33.0	0.8	217.8	24.8	0.1	0.0	2.5	0.0	0.0	3.1
1/25/2010	24.5	0.9	0.0	188.0	33.0	0.8	214.8	24.5	0.1	0.0	2.5	0.0	0.0	5.2
1/26/2010	23.7	0.9	0.0	186.3	33.0	0.8	212.9	23.7	0.1	0.0	2.5	0.0	0.0	5.4
1/27/2010	22.9	0.3	0.0	187.4	33.0	0.8	212.5	22.9	0.1	0.0	2.5	0.0	0.0	6.4
1/28/2010	22.6	0.5	0.0	194.5	33.0	0.8	216.7	22.6	0.1	0.0	2.5	0.0	0.0	9.6
1/29/2010	23.1	0.2	0.0	195.9	33.0	0.8	219.7	23.1	0.1	0.0	2.5	0.0	0.0	7.5
1/30/2010	23.4	0.5	23.5	29.6	33.0	0.8	109.6	50.7	0.1	0.0	2.5	0.0	0.0	-51.9
1/31/2010	22.6	1.0	0.0	28.6	33.0	0.8	60.5	22.6	0.1	0.0	2.5	0.0	0.0	0.3
2/1/2010	25.9	0.3	0.0	28.3	33.0	0.8	58.9	25.9	0.1	0.0	2.5	0.0	0.0	0.9
2/2/2010	27.8	1.3	0.0	27.9	33.0	0.8	62.4	27.8	0.1	0.0	2.5	0.0	0.0	-2.1
2/3/2010	27.9	1.3	0.0	29.1	33.0	0.8	63.9	27.9	0.1	0.0	2.5	0.0	0.0	-2.4
2/4/2010	28.3	1.5	0.0	32.3	33.0	0.8	66.7	28.3	0.1	0.0	2.5	0.0	0.0	-1.7
2/5/2010	28.6	1.9	0.0	33.1	33.0	0.8	68.3	28.6	0.1	0.0	2.5	0.0	0.0	-2.1
2/6/2010	27.4	0.3	0.0	33.1	33.0	0.8	69.0	27.4	0.1	0.0	2.5	0.0	0.0	-4.5
2/7/2010	21.8	0.5	0.0	34.0	33.0	0.8	67.6	21.8	0.1	0.0	2.5	0.0	0.0	-1.9
2/8/2010	22.9	1.3	0.0	196.4	33.0	0.8	173.2	22.9	0.1	0.0	2.5	0.0	0.0	55.7
2/9/2010	22.9	0.5	0.0	175.8	33.0	0.8	207.1	22.9	0.1	0.0	2.5	0.0	0.0	0.3
2/10/2010	22.9	1.3	0.0	174.0	33.0	0.8	199.9	22.9	0.1	0.0	2.5	0.0	0.0	6.6
2/11/2010	21.2	1.0	0.0	178.5	33.0	0.8	201.7	21.2	0.1	0.0	2.5	0.0	0.0	9.0
2/12/2010	19.8	1.1	0.0	175.0	33.0	0.8	199.1	19.8	0.1	0.0	2.5	0.0	0.0	8.2
2/13/2010	20.1	1.0	0.0	180.1	33.0	0.8	200.9	20.1	0.1	0.0	2.5	0.0	0.0	11.4
2/14/2010	21.0	0.9	0.0	182.4	33.0	0.8	204.2	21.0	0.1	0.0	2.5	0.0	0.0	10.3
2/15/2010	22.5	0.9	32.7	0.0	33.0	0.8	88.2	49.2	0.1	0.0	2.5	0.0	0.0	-50.1

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
2/16/2010	18.5	1.0	0.0	186.6	33.0	0.8	153.2	18.5	0.1	0.0	2.5	0.0	0.0	65.5
2/17/2010	18.9	0.4	0.0	186.9	33.0	0.8	206.7	18.9	0.1	0.0	2.5	0.0	0.0	11.7
2/18/2010	30.0	0.5	0.0	180.7	33.0	0.8	205.2	30.0	0.1	0.0	2.5	0.0	0.0	7.3
2/19/2010	35.5	0.3	0.0	150.8	33.0	0.8	193.7	35.5	0.1	0.0	2.5	0.0	0.0	-11.5
2/20/2010	36.9	1.8	0.0	175.5	33.0	0.8	204.2	36.9	0.1	0.0	2.5	0.0	0.0	4.3
2/21/2010	38.5	0.7	0.0	179.0	33.0	0.8	215.9	38.5	0.1	0.0	2.5	0.0	0.0	-5.0
2/22/2010	38.9	0.5	0.0	183.9	33.0	0.8	221.4	38.9	0.1	0.0	2.5	0.0	0.0	-5.7
2/23/2010	38.8	0.5	0.0	185.1	33.0	0.8	224.7	38.8	0.1	0.0	2.5	0.0	0.0	-7.9
2/24/2010	38.6	0.6	0.0	188.8	33.0	0.8	226.8	38.6	0.1	0.0	2.5	0.0	0.0	-6.2
2/25/2010	38.5	0.6	0.0	195.3	33.0	0.8	232.0	38.5	0.1	0.0	2.5	0.0	0.0	-4.9
2/26/2010	38.1	0.3	0.0	197.5	33.0	0.8	235.3	38.1	0.1	0.0	2.5	0.0	0.0	-6.3
2/27/2010	38.1	0.3	0.0	199.7	33.0	0.8	237.0	38.1	0.1	0.0	2.5	0.0	0.0	-5.8
2/28/2010	38.4	0.9	0.0	205.5	33.0	0.8	241.6	38.4	0.1	0.0	2.5	0.0	0.0	-4.0
3/1/2010	27.5	1.0	0.0	204.3	33.0	0.0	0.0	47.5	6.4	3.5	7.2	0.0	0.0	201.1
3/2/2010	58.2	0.6	0.0	203.5	33.0	0.0	86.6	111.1	6.4	6.1	7.2	0.0	0.0	77.9
3/3/2010	65.8	0.4	0.0	203.6	33.0	0.0	95.7	104.6	6.4	6.1	7.2	0.0	0.0	82.8
3/4/2010	66.1	0.1	0.0	201.9	33.0	0.0	101.7	98.9	6.4	6.1	7.2	0.0	0.0	80.8
3/5/2010	67.1	0.5	0.0	200.8	33.0	0.0	138.4	65.5	6.4	6.1	7.2	0.0	0.0	77.8
3/6/2010	67.8	0.8	0.0	199.8	33.0	0.0	175.0	32.2	6.4	6.1	7.2	0.0	0.0	74.4
3/7/2010	71.7	0.3	0.0	200.8	33.0	0.0	208.5	22.1	6.4	6.1	7.2	0.0	0.0	55.4
3/8/2010	226.6	0.4	0.0	201.8	33.0	0.0	274.5	23.6	6.4	6.2	7.2	0.0	0.0	143.8
3/9/2010	284.9	0.3	0.0	200.9	33.0	0.0	435.3	27.9	6.4	5.8	7.2	0.0	0.0	36.5
3/10/2010	267.4	1.3	0.0	203.2	33.0	0.0	440.7	27.2	6.4	5.8	7.2	0.0	0.0	17.6
3/11/2010	617.3	0.9	0.0	183.1	33.0	0.0	517.6	36.0	6.4	5.8	7.2	0.0	0.0	261.3
3/12/2010	756.3	1.2	0.0	185.0	33.0	0.0	816.2	44.7	6.4	6.1	7.2	0.0	0.0	94.9
3/13/2010	809.5	0.1	0.0	192.1	33.0	0.0	899.0	45.8	6.4	6.1	7.2	0.0	0.0	70.2
3/14/2010	929.2	0.7	0.0	197.8	33.0	0.0	974.8	47.0	6.4	6.1	7.2	0.0	0.0	119.2
3/15/2010	1152.6	0.7	0.0	199.5	33.0	0.0	1201.2	49.1	6.4	6.1	7.2	0.0	0.0	115.8
3/16/2010	1169.2	0.1	0.0	197.4	33.0	0.0	1285.8	49.3	6.4	6.1	7.2	0.0	0.0	44.9
3/17/2010	1277.2	0.5	0.0	195.2	33.0	0.0	1296.6	49.3	6.4	6.1	7.2	0.0	0.0	140.3
3/18/2010	1678.1	0.4	0.0	198.5	33.0	0.0	1697.1	51.1	6.4	6.1	7.2	0.0	0.0	142.1
3/19/2010	1706.7	0.5	0.0	198.0	33.0	0.0	1843.3	51.2	6.4	6.1	7.2	0.0	0.0	24.0
3/20/2010	1528.9	0.8	0.0	181.5	33.0	0.0	1678.1	50.2	6.4	6.1	7.2	0.0	0.0	-3.9
3/21/2010	1460.3	0.1	0.0	175.2	33.0	0.0	1542.9	49.9	6.4	6.1	7.2	0.0	0.0	56.1
3/22/2010	1556.1	0.3	0.0	175.0	33.0	0.0	1611.5	50.2	6.4	6.1	7.2	0.0	0.0	83.1
3/23/2010	1600.8	0.1	0.0	166.1	33.0	0.0	1687.9	50.1	6.4	6.1	7.2	0.0	0.0	42.3
3/24/2010	1690.5	0.3	0.0	144.1	33.0	0.0	1684.4	50.0	6.4	6.1	7.2	0.0	0.0	113.8
3/25/2010	2056.1	0.2	0.0	158.2	33.0	0.0	2007.2	51.2	6.4	6.1	7.2	0.0	0.0	169.4
3/26/2010	2073.6	0.6	0.0	165.4	33.0	0.0	2212.1	51.4	6.4	6.1	7.2	0.0	0.0	-10.7
3/27/2010	1868.9	0.5	0.0	176.9	33.0	0.0	1994.9	50.6	6.4	6.1	7.2	0.0	0.0	14.0
3/28/2010	1791.6	0.2	50.7	0.0	33.0	0.0	1875.3	50.4	6.4	6.1	7.2	0.0	0.0	-69.9
3/29/2010	2040.5	0.2	0.0	191.2	33.0	0.0	2042.7	50.9	6.4	6.1	7.2	0.0	0.0	151.5
3/30/2010	2291.8	0.3	0.0	205.7	33.0	0.0	2344.2	51.6	6.4	6.1	7.2	0.0	0.0	115.3
3/31/2010	2342.9	0.1	0.0	178.3	33.0	0.0	2440.6	51.6	6.4	6.1	7.2	0.0	0.0	42.4
4/1/2010	2223.2	0.2	0.0	169.2	33.0	0.0	2336.9	51.3	6.4	8.7	7.2	0.0	0.0	15.1
4/2/2010	2038.7	0.2	0.0	196.8	33.0	0.0	2179.7	50.9	6.4	8.7	7.2	0.0	0.0	15.8
4/3/2010	1872.0	0.1	0.0	203.0	33.0	0.0	2019.1	50.4	6.4	8.7	7.2	0.0	0.0	16.3
4/4/2010	1816.5	0.3	0.0	244.7	33.0	0.0	1945.4	50.2	6.4	8.7	7.2	0.0	0.0	76.6
4/5/2010	1860.4	0.9	0.0	232.1	33.0	0.0	1971.6	50.3	6.4	8.7	7.2	0.0	0.0	82.2
4/6/2010	1972.1	0.6	0.0	225.8	33.0	0.0	2058.8	50.3	6.4	8.7	7.2	0.0	0.0	100.1
4/7/2010	2091.9	0.3	0.0	218.1	33.0	0.0	2181.2	50.6	6.4	8.7	7.2	0.0	0.0	89.1

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
4/8/2010	2168.0	0.0	0.0	218.5	33.0	0.0	2269.9	50.7	6.4	8.7	7.2	0.0	0.0	76.5
4/9/2010	2088.4	0.0	0.0	200.0	33.0	0.0	2238.2	50.4	6.4	8.7	7.2	0.0	0.0	10.5
4/10/2010	1812.2	0.4	0.0	209.5	33.0	0.0	2012.0	49.7	6.4	8.7	7.2	0.0	0.0	-28.9
4/11/2010	1676.8	1.0	0.0	228.1	33.0	0.0	1806.1	49.2	6.4	8.7	7.2	0.0	0.0	61.3
4/12/2010	1732.5	0.3	0.0	209.2	33.0	0.0	1819.3	49.4	6.4	8.7	7.2	0.0	0.0	84.0
4/13/2010	1754.1	0.2	0.0	225.3	33.0	0.0	1875.1	49.4	6.4	8.7	7.2	0.0	0.0	65.9
4/14/2010	1781.9	0.7	0.0	241.4	33.0	0.0	1885.5	49.3	6.4	8.7	7.2	0.0	0.0	99.8
4/15/2010	1752.4	0.2	0.0	243.8	33.0	0.0	1897.7	49.3	6.4	8.7	7.2	0.0	0.0	60.2
4/16/2010	1615.2	0.1	0.0	223.8	33.0	0.0	1783.8	48.6	6.4	8.7	7.2	0.0	0.0	17.4
4/17/2010	1316.4	0.2	0.0	206.4	33.0	0.0	1548.8	47.5	6.4	8.7	7.2	0.0	0.0	-62.7
4/18/2010	1064.4	0.1	0.0	219.4	33.0	0.0	1236.0	45.6	6.4	8.4	7.2	0.0	0.0	13.1
4/19/2010	952.7	0.2	0.0	198.5	33.0	0.0	1091.9	45.3	6.4	8.7	7.2	0.0	0.0	24.9
4/20/2010	940.8	0.2	0.0	113.9	33.0	0.0	1020.2	44.5	6.4	8.7	7.2	0.0	0.0	0.9
4/21/2010	812.5	0.6	0.0	58.8	33.0	0.0	853.7	41.3	6.4	8.4	7.2	0.0	0.0	-12.1
4/22/2010	804.4	0.5	0.0	46.9	33.0	0.0	776.1	40.0	6.4	8.2	7.2	0.0	0.0	46.9
4/23/2010	833.8	1.1	0.0	47.0	33.0	0.0	795.4	41.1	6.4	8.6	7.2	0.0	0.0	56.2
4/24/2010	427.5	1.3	0.0	74.9	33.0	0.0	431.6	41.1	6.4	5.6	7.2	0.0	0.0	44.8
4/25/2010	39.9	0.1	0.0	60.7	33.0	0.0	5.0	9.0	6.4	2.4	7.2	0.0	0.0	103.8
4/26/2010	103.7	0.2	0.0	104.0	33.0	0.0	113.0	38.7	6.4	8.1	7.2	0.0	0.0	67.4
4/27/2010	102.5	0.1	0.0	78.1	33.0	0.0	146.1	40.5	6.4	8.3	7.2	0.0	0.0	5.2
4/28/2010	95.9	0.4	0.0	59.4	33.0	0.0	153.1	33.7	6.4	8.3	7.2	0.0	0.0	-20.0
4/29/2010	358.3	0.2	0.0	50.1	33.0	0.0	141.3	57.0	6.4	8.3	7.2	0.0	0.0	221.3
4/30/2010	464.5	0.2	0.0	49.0	33.0	0.0	91.5	85.4	6.4	8.3	7.2	0.0	0.0	347.8
5/1/2010	578.6	0.6	0.0	44.3	33.0	0.0	263.9	95.1	6.4	10.4	7.2	0.0	0.0	273.5
5/2/2010	625.5	0.5	0.0	44.3	33.0	0.0	469.0	104.7	6.4	10.4	7.2	0.0	0.0	105.5
5/3/2010	573.3	0.2	0.0	67.0	33.0	0.0	497.4	95.0	6.4	10.4	7.2	0.0	0.0	56.9
5/4/2010	560.6	0.4	0.0	93.5	33.0	0.0	601.9	72.3	6.4	10.4	7.2	0.0	0.0	-10.7
5/5/2010	630.3	0.3	0.0	132.4	33.0	0.0	747.8	60.3	6.4	10.4	7.2	0.0	0.0	-36.1
5/6/2010	740.5	0.9	0.0	71.0	33.0	0.0	822.4	56.7	6.4	10.4	7.2	0.0	0.0	-57.7
5/7/2010	784.8	0.1	0.0	110.8	33.0	0.0	893.4	56.6	6.4	10.4	7.2	0.0	0.0	-45.3
5/8/2010	751.9	0.5	0.0	92.2	33.0	0.0	833.8	55.0	6.4	10.4	7.2	0.0	0.0	-35.2
5/9/2010	744.6	0.6	0.0	85.4	33.0	0.0	774.2	53.8	6.4	10.4	7.2	0.0	0.0	11.5
5/10/2010	807.0	0.4	0.0	72.3	33.0	0.0	776.8	54.5	6.4	10.4	7.2	0.0	0.0	57.3
5/11/2010	832.7	0.2	0.0	58.2	33.0	0.0	777.3	55.0	6.4	10.4	7.2	0.0	0.0	67.8
5/12/2010	860.2	0.1	0.0	60.3	33.0	0.0	793.5	55.4	6.4	10.4	7.2	0.0	0.0	80.6
5/13/2010	1022.6	0.2	0.0	54.0	33.0	0.0	913.2	61.3	6.4	11.1	7.2	0.0	0.0	110.6
5/14/2010	1198.7	0.8	0.0	54.5	33.0	0.0	1154.8	64.6	6.4	11.1	7.2	0.0	0.0	42.9
5/15/2010	1236.4	0.8	0.0	57.8	33.0	0.0	1216.5	63.9	6.4	11.1	7.2	0.0	0.0	23.0
5/16/2010	1267.8	0.7	0.0	67.7	33.0	0.0	1263.2	62.2	6.4	11.1	7.2	0.0	0.0	19.1
5/17/2010	1336.0	1.5	0.0	58.0	33.0	0.0	1309.3	62.6	6.4	11.1	7.2	0.0	0.0	31.9
5/18/2010	1290.8	1.0	0.0	59.5	33.0	0.0	1265.0	61.1	6.4	11.1	7.2	0.0	0.0	33.5
5/19/2010	1152.0	0.5	0.0	50.7	33.0	0.0	1187.6	59.1	6.4	10.8	7.2	0.0	0.0	-34.9
5/20/2010	930.8	1.2	0.0	62.7	33.0	0.0	1022.9	56.6	6.4	10.4	7.2	0.0	0.0	-75.9
5/21/2010	847.8	0.4	0.2	58.0	33.0	0.0	939.0	54.6	6.4	10.4	7.2	0.0	0.0	-78.2
5/22/2010	913.0	1.5	0.0	65.7	33.0	0.0	964.7	54.9	6.4	10.4	7.2	0.0	0.0	-30.4
5/23/2010	1083.6	1.1	0.0	83.6	33.0	0.0	1079.1	57.2	6.4	10.4	7.2	0.0	0.0	40.9
5/24/2010	1120.3	0.4	0.0	80.8	33.0	0.0	1120.9	57.7	6.4	10.4	7.2	0.0	0.0	31.9
5/25/2010	1163.9	0.1	0.0	68.5	33.0	0.0	1125.1	57.9	6.4	10.4	7.2	0.0	0.0	58.5
5/26/2010	1255.8	0.5	0.0	65.2	33.0	0.0	1218.9	60.8	6.4	11.1	7.2	0.0	0.0	50.1
5/27/2010	1337.1	1.3	0.0	76.4	33.0	0.0	1316.9	61.4	6.4	11.1	7.2	0.0	0.0	44.9
5/28/2010	1315.4	0.2	0.0	61.5	33.0	0.0	1308.7	60.9	6.4	11.1	7.2	0.0	0.0	15.7

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4														
2010-12 Study Period														
(Units - Acre-Feet)														
	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
5/29/2010	1159.1	0.4	0.0	63.3	33.0	0.0	1162.3	58.1	6.4	11.0	7.2	0.0	0.0	10.7
5/30/2010	1055.6	0.5	0.0	70.5	33.0	0.0	1031.8	56.7	6.4	10.5	7.2	0.0	0.0	47.0
5/31/2010	1013.6	0.5	0.0	69.1	33.0	0.0	1000.7	56.2	6.4	10.4	7.2	0.0	0.0	35.3
6/1/2010	975.6	1.2	0.0	62.3	33.0	0.0	961.6	55.7	6.4	12.4	7.2	0.0	0.0	28.8
6/2/2010	930.3	1.3	0.0	78.6	33.0	0.0	925.3	54.9	6.4	12.4	7.2	0.0	0.0	36.9
6/3/2010	1096.3	0.6	0.0	64.5	33.0	0.0	1008.8	56.1	6.4	12.3	7.2	0.0	0.0	103.6
6/4/2010	1292.7	0.5	0.0	63.4	33.0	0.0	1324.2	60.0	6.4	13.2	7.2	0.0	0.0	-21.4
6/5/2010	1434.2	0.4	0.0	61.2	33.0	0.0	1481.0	61.1	6.4	13.2	7.2	0.0	0.0	-40.1
6/6/2010	1692.3	0.3	0.0	70.9	33.0	0.0	1712.6	62.5	6.4	13.2	7.2	0.0	0.0	-5.4
6/7/2010	1824.2	0.8	0.0	74.9	33.0	0.0	1899.2	62.9	6.4	13.2	7.2	0.0	0.0	-56.1
6/8/2010	1986.9	0.9	0.0	65.5	33.0	0.0	2003.2	62.9	6.4	13.2	7.2	0.0	0.0	-6.6
6/9/2010	2194.4	0.6	0.0	66.5	33.0	0.0	2195.2	63.8	6.4	13.2	7.2	0.0	0.0	8.7
6/10/2010	2197.2	1.7	0.0	62.8	33.0	0.0	2232.8	63.8	6.4	13.2	7.2	0.0	0.0	-28.7
6/11/2010	2061.2	0.7	0.0	68.0	33.0	0.0	2132.6	63.3	6.4	13.2	7.2	0.0	0.0	-59.8
6/12/2010	1932.9	0.9	0.0	71.2	33.0	0.0	2023.7	62.9	6.4	13.2	7.2	0.0	0.0	-75.4
6/13/2010	2027.2	1.1	0.0	67.7	33.0	0.0	2045.9	63.0	6.4	13.2	7.2	0.0	0.0	-6.6
6/14/2010	2153.8	1.0	0.0	58.5	33.0	0.0	2120.2	63.5	6.4	13.2	7.2	0.0	0.0	35.9
6/15/2010	2232.0	1.1	0.0	61.7	33.0	0.0	2181.1	63.8	6.4	13.2	7.2	0.0	0.0	56.1
6/16/2010	2305.5	1.6	0.0	59.5	33.0	0.0	2330.6	63.8	6.4	13.2	7.2	0.0	0.0	-21.7
6/17/2010	2245.1	1.8	26.9	70.7	33.0	0.0	2375.6	63.8	6.4	13.2	7.2	0.0	0.0	-88.9
6/18/2010	2221.2	1.1	0.0	55.0	33.0	0.0	2300.9	63.4	6.4	13.2	7.2	0.0	0.0	-80.8
6/19/2010	2131.3	0.9	14.9	60.6	33.0	0.0	2239.8	63.2	6.4	13.2	7.2	0.0	0.0	-89.1
6/20/2010	2036.5	1.8	0.0	67.9	33.0	0.0	2069.1	62.9	6.4	13.2	7.2	0.0	0.0	-19.7
6/21/2010	2017.4	0.8	0.0	74.7	33.0	0.0	2027.8	63.0	6.4	13.2	7.2	0.0	0.0	8.3
6/22/2010	2006.3	0.5	0.0	69.8	33.0	0.0	2029.1	63.2	6.4	13.2	7.2	0.0	0.0	-9.5
6/23/2010	2024.6	1.1	0.0	62.8	33.0	0.0	2046.5	63.3	6.4	13.2	7.2	0.0	0.0	-15.1
6/24/2010	2049.8	0.8	0.0	61.7	33.0	0.0	2093.5	63.6	6.4	13.2	7.2	0.0	0.0	-38.5
6/25/2010	2039.5	1.5	0.0	53.1	33.0	0.0	2121.5	63.6	6.4	13.2	7.2	0.0	0.0	-84.7
6/26/2010	2167.4	1.4	0.0	55.7	33.0	0.0	2220.1	63.9	6.4	13.2	7.2	0.0	0.0	-53.4
6/27/2010	2352.0	2.7	0.0	64.8	33.0	0.0	2426.6	64.3	6.4	13.2	7.2	0.0	0.0	-65.2
6/28/2010	2410.1	4.2	13.9	62.5	33.0	0.0	2519.5	64.4	6.4	13.2	7.2	0.0	0.0	-87.0
6/29/2010	2471.7	3.8	0.0	93.8	33.0	0.0	2578.2	63.7	6.4	13.2	7.2	0.0	0.0	-66.4
6/30/2010	2135.6	1.8	101.9	78.9	33.0	0.0	2349.3	61.6	6.4	13.2	7.2	0.0	0.0	-86.6
7/1/2010	1709.9	3.8	5.3	83.8	33.0	0.0	1831.9	59.5	6.4	11.6	7.2	0.0	0.0	-80.9
7/2/2010	1572.9	2.0	0.0	97.1	33.0	0.0	1527.5	60.0	6.4	11.6	7.2	0.0	0.0	92.3
7/3/2010	1505.6	1.5	0.0	76.5	33.0	0.0	1466.0	60.4	6.4	11.6	7.2	0.0	0.0	65.0
7/4/2010	1336.9	4.4	0.0	88.5	33.0	0.0	1295.2	57.6	6.4	11.5	7.2	0.0	0.0	85.0
7/5/2010	1320.0	2.8	0.0	87.2	33.0	0.0	1190.3	56.9	6.4	11.0	7.2	0.0	0.0	171.2
7/6/2010	1673.5	3.8	0.0	69.2	33.0	0.0	1419.5	60.9	6.4	11.6	7.2	0.0	0.0	273.9
7/7/2010	1946.0	2.2	0.0	65.9	33.0	0.0	1769.6	62.3	6.4	11.6	7.2	0.0	0.0	190.1
7/8/2010	2201.8	3.6	0.0	63.9	33.0	0.0	2042.5	62.8	6.4	11.6	7.2	0.0	0.0	171.7
7/9/2010	2200.1	2.6	0.0	61.0	33.0	0.0	2204.2	62.6	6.4	11.6	7.2	0.0	0.0	4.7
7/10/2010	2254.4	2.4	0.0	79.7	33.0	0.0	2077.0	64.4	6.4	11.6	7.2	0.0	0.0	202.9
7/11/2010	1673.3	2.1	0.0	70.0	33.0	0.0	1546.5	64.4	6.4	6.8	7.2	0.0	0.0	147.1
7/12/2010	1818.5	2.4	0.0	118.5	33.0	0.0	1775.1	64.4	6.4	6.8	7.2	0.0	0.0	112.5
7/13/2010	1560.8	2.8	0.0	97.6	33.0	0.0	1643.4	64.4	6.4	6.8	7.2	0.0	0.0	-34.0
7/14/2010	1482.0	3.3	0.0	73.4	33.0	0.0	1389.6	64.4	6.4	6.8	7.2	0.0	0.0	117.4
7/15/2010	1511.6	3.3	0.0	68.5	33.0	0.0	1469.1	64.4	6.4	6.8	7.2	0.0	0.0	62.5
7/16/2010	1439.7	1.9	0.0	65.4	33.0	0.0	1401.5	64.4	6.4	6.8	7.2	0.0	0.0	53.9
7/17/2010	1402.8	2.7	0.0	74.8	33.0	0.0	1383.0	64.4	6.4	6.8	7.2	0.0	0.0	45.6
7/18/2010	1406.0	2.2	0.0	69.7	33.0	0.0	1315.3	64.4	6.4	6.8	7.2	0.0	0.0	110.7

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/19/2010	1409.1	1.8	0.0	73.2	33.0	0.0	1358.3	64.4	6.4	6.8	7.2	0.0	0.0	74.1
7/20/2010	1417.8	2.9	0.0	78.2	33.0	0.0	1362.2	64.4	6.4	6.8	7.2	0.0	0.0	84.9
7/21/2010	1485.5	2.5	0.0	97.0	33.0	0.0	1389.8	64.4	6.4	6.8	7.2	0.0	0.0	143.4
7/22/2010	1508.3	2.8	0.0	81.6	33.0	0.0	1489.7	64.4	6.4	6.8	7.2	0.0	0.0	51.3
7/23/2010	1431.0	3.0	0.0	88.5	33.0	0.0	1417.2	64.4	6.4	6.8	7.2	0.0	0.0	53.5
7/24/2010	1494.4	3.1	0.0	107.5	33.0	0.0	1401.3	64.4	6.4	6.8	7.2	0.0	0.0	152.0
7/25/2010	1436.5	1.4	0.0	108.5	33.0	0.0	1515.7	64.4	6.4	6.8	7.2	0.0	0.0	-21.1
7/26/2010	1436.9	4.6	0.0	101.8	33.0	0.0	1242.7	64.4	6.4	6.8	7.2	0.0	0.0	248.8
7/27/2010	1836.1	3.2	0.0	97.5	33.0	0.0	1884.6	64.4	6.4	6.8	7.2	0.0	0.0	0.4
7/28/2010	1271.2	3.4	51.3	101.3	33.0	0.0	1456.7	64.4	6.4	6.8	7.2	0.0	0.0	-81.3
7/29/2010	1155.6	3.2	0.0	99.3	33.0	0.0	1158.1	64.4	6.4	6.8	7.2	0.0	0.0	48.2
7/30/2010	1361.6	2.8	0.0	92.3	33.0	0.0	1280.4	64.4	6.4	6.8	7.2	0.0	0.0	124.5
7/31/2010	1245.0	2.1	0.0	93.1	33.0	0.0	1286.6	64.4	6.4	6.8	7.2	0.0	0.0	1.8
8/1/2010	1139.6	4.1	0.0	79.3	33.0	0.0	1115.5	64.4	6.4	6.4	7.2	0.0	0.0	56.1
8/2/2010	1299.1	3.3	0.0	84.8	33.0	0.0	1204.5	64.4	6.4	6.4	7.2	0.0	0.0	131.3
8/3/2010	1290.4	1.8	0.0	94.5	33.0	0.0	1269.4	64.4	6.4	6.4	7.2	0.0	0.0	66.0
8/4/2010	1247.1	3.2	0.0	82.4	33.0	0.0	1229.9	64.4	6.4	6.4	7.2	0.0	0.0	51.4
8/5/2010	1304.2	2.3	0.0	95.2	33.0	0.0	1240.8	64.4	6.4	6.4	7.2	0.0	0.0	109.5
8/6/2010	1254.4	2.8	0.0	82.8	33.0	0.0	1260.5	64.4	6.4	6.4	7.2	0.0	0.0	28.2
8/7/2010	1229.7	3.1	0.0	88.5	33.0	0.0	1181.4	64.4	6.4	6.4	7.2	0.0	0.0	88.4
8/8/2010	1361.7	2.6	0.0	84.6	33.0	0.0	1250.5	64.4	6.4	6.4	7.2	0.0	0.0	147.0
8/9/2010	1455.4	2.0	0.0	89.9	33.0	0.0	1398.9	64.4	6.4	6.4	7.2	0.0	0.0	97.0
8/10/2010	1475.6	3.4	0.0	109.2	33.0	0.0	1422.0	64.4	6.4	6.4	7.2	0.0	0.0	114.8
8/11/2010	1588.2	3.2	0.0	107.9	33.0	0.0	1524.7	64.4	6.4	6.4	7.2	0.0	0.0	123.3
8/12/2010	1529.8	5.4	0.0	100.5	33.0	0.0	1544.6	64.4	6.4	6.4	7.2	0.0	0.0	39.6
8/13/2010	1418.9	3.9	0.0	92.8	33.0	0.0	1411.1	64.4	6.4	6.4	7.2	0.0	0.0	53.2
8/14/2010	1377.0	3.7	0.0	95.8	33.0	0.0	1368.0	64.4	6.4	6.4	7.2	0.0	0.0	57.2
8/15/2010	1410.6	2.1	0.0	94.4	33.0	0.0	1309.0	64.4	6.4	6.4	7.2	0.0	0.0	146.8
8/16/2010	1557.5	3.4	0.0	109.1	33.0	0.0	1495.9	64.4	6.4	6.4	7.2	0.0	0.0	122.8
8/17/2010	1558.5	3.1	0.0	103.9	33.0	0.0	1529.4	64.4	6.4	6.4	7.2	0.0	0.0	84.7
8/18/2010	1542.9	2.7	0.0	97.6	33.0	0.0	1514.4	64.4	6.4	6.4	7.2	0.0	0.0	77.4
8/19/2010	1537.3	5.0	0.0	100.4	33.0	0.0	1497.3	64.4	6.4	6.4	7.2	0.0	0.0	94.0
8/20/2010	1543.8	1.9	0.0	100.8	33.0	0.0	1500.0	64.4	6.4	6.4	7.2	0.0	0.0	95.2
8/21/2010	1541.8	1.5	0.0	114.9	33.0	0.0	1514.7	64.4	6.4	6.4	7.2	0.0	0.0	92.1
8/22/2010	1628.1	1.8	0.0	98.9	33.0	0.0	1530.2	64.4	6.4	6.4	7.2	0.0	0.0	147.2
8/23/2010	1731.5	3.8	0.0	151.6	33.0	0.0	1709.7	64.4	6.4	6.4	7.2	0.0	0.0	125.8
8/24/2010	1695.7	2.3	0.0	143.6	33.0	0.0	1728.4	64.4	6.4	6.4	7.2	0.0	0.0	61.9
8/25/2010	1780.9	1.0	0.0	191.6	33.0	0.0	1772.3	64.4	6.4	6.4	7.2	0.0	0.0	149.8
8/26/2010	1554.5	2.5	0.0	130.7	33.0	0.0	1683.4	64.4	6.4	6.4	7.2	0.0	0.0	-47.1
8/27/2010	1251.7	0.9	0.0	97.8	33.0	0.0	1338.9	64.4	6.4	6.4	7.2	0.0	0.0	-39.8
8/28/2010	1165.2	1.2	0.0	96.9	33.0	0.0	1177.6	64.4	6.4	6.4	7.2	0.0	0.0	34.4
8/29/2010	1156.4	2.2	0.0	93.4	33.0	0.0	1154.9	64.4	6.4	6.4	7.2	0.0	0.0	45.8
8/30/2010	1158.2	1.3	0.0	101.3	33.0	0.0	1138.8	64.4	6.4	6.4	7.2	0.0	0.0	70.6
8/31/2010	1041.4	3.0	0.0	101.4	33.0	0.0	1107.1	64.4	6.4	6.4	7.2	0.0	0.0	-12.7
9/1/2010	759.7	2.2	35.1	101.3	33.0	0.0	929.1	64.4	6.4	5.1	7.2	0.0	0.0	-80.9
9/2/2010	470.0	3.4	84.1	105.4	33.0	0.0	692.5	64.4	6.4	5.1	7.2	0.0	0.0	-79.7
9/3/2010	302.4	2.1	39.5	119.9	33.0	0.0	494.8	64.4	6.4	5.1	7.2	0.0	0.0	-81.0
9/4/2010	298.6	2.5	0.0	116.8	33.0	0.0	371.2	64.4	6.4	5.1	7.2	0.0	0.0	-3.4
9/5/2010	436.2	5.3	0.0	118.8	33.0	0.0	384.8	64.4	6.4	5.1	7.2	0.0	0.0	125.3
9/6/2010	857.2	3.6	0.0	110.6	33.0	0.0	583.0	64.4	6.4	5.1	7.2	0.0	0.0	338.2
9/7/2010	814.9	3.0	0.0	100.8	33.0	0.0	855.7	64.4	6.4	5.1	7.2	0.0	0.0	12.8

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4														
2010-12 Study Period														
(Units - Acre-Feet)														
	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
9/8/2010	724.5	2.5	0.0	97.0	33.0	0.0	788.2	64.4	6.4	5.1	7.2	0.0	0.0	-14.4
9/9/2010	738.0	0.8	0.0	97.7	33.0	0.0	734.3	64.4	6.4	5.1	7.2	0.0	0.0	52.0
9/10/2010	745.3	3.6	0.0	101.0	33.0	0.0	744.6	64.4	6.4	5.1	7.2	0.0	0.0	55.2
9/11/2010	778.0	4.9	0.0	93.0	33.0	0.0	734.6	64.4	6.4	5.1	7.2	0.0	0.0	91.2
9/12/2010	766.6	3.0	0.0	91.3	33.0	0.0	801.8	64.4	6.4	5.1	7.2	0.0	0.0	8.9
9/13/2010	845.3	1.9	0.0	92.1	33.0	0.0	781.9	64.4	6.4	5.1	7.2	0.0	0.0	107.2
9/14/2010	772.1	2.2	0.0	89.2	33.0	0.0	845.2	64.4	6.4	5.1	7.2	0.0	0.0	-31.8
9/15/2010	659.5	1.9	0.0	87.1	33.0	0.0	728.9	64.4	6.4	5.1	7.2	0.0	0.0	-30.5
9/16/2010	577.9	2.0	0.0	83.3	33.0	0.0	647.1	64.4	6.4	5.1	7.2	0.0	0.0	-34.1
9/17/2010	511.4	1.6	0.0	81.2	33.0	0.0	574.7	64.4	6.4	5.1	7.2	0.0	0.0	-30.6
9/18/2010	455.8	2.0	0.0	79.1	33.0	0.0	518.7	64.4	6.4	5.1	7.2	0.0	0.0	-32.0
9/19/2010	400.3	2.2	0.0	77.2	33.0	0.0	466.9	64.4	6.4	5.1	7.2	0.0	0.0	-37.4
9/20/2010	450.7	3.4	0.0	76.4	33.0	0.0	427.6	64.4	6.4	5.1	7.2	0.0	0.0	52.8
9/21/2010	467.5	1.9	0.0	79.3	33.0	0.0	476.0	64.4	6.4	5.1	7.2	0.0	0.0	22.5
9/22/2010	425.2	3.9	0.0	79.0	33.0	0.0	480.1	64.4	6.4	5.1	7.2	0.0	0.0	-22.1
9/23/2010	500.1	3.9	0.0	76.5	33.0	0.0	448.9	64.4	6.4	5.1	7.2	0.0	0.0	81.5
9/24/2010	611.5	2.4	0.0	61.8	33.0	0.0	539.2	64.4	6.4	5.1	7.2	0.0	0.0	86.3
9/25/2010	575.7	3.2	0.0	51.1	33.0	0.0	608.9	64.4	6.4	5.1	7.2	0.0	0.0	-29.0
9/26/2010	467.5	0.5	0.0	54.6	33.0	0.0	531.1	64.4	6.4	5.1	7.2	0.0	0.0	-58.6
9/27/2010	377.6	2.5	0.0	71.7	33.0	0.0	465.1	64.4	6.4	5.1	7.2	0.0	0.0	-63.4
9/28/2010	348.9	0.9	0.0	49.6	33.0	0.0	375.5	64.4	6.4	5.1	7.2	0.0	0.0	-26.2
9/29/2010	343.0	0.2	0.0	57.4	33.0	0.0	357.0	64.4	6.4	5.1	7.2	0.0	0.0	-6.6
9/30/2010	335.3	3.0	0.0	71.3	33.0	0.0	363.9	64.4	6.4	5.1	7.2	0.0	0.0	-4.4
10/1/2010	396.5	1.2	0.0	66.5	33.0	0.0	357.7	64.4	6.4	0.0	7.2	0.0	0.0	61.4
10/2/2010	756.8	1.2	0.0	77.5	33.0	0.0	531.8	64.4	6.4	0.0	7.2	0.0	0.0	258.7
10/3/2010	712.7	1.9	0.0	79.1	33.0	0.0	734.8	64.4	6.4	0.0	7.2	0.0	0.0	13.9
10/4/2010	739.3	2.0	0.0	74.7	33.0	0.0	700.8	64.4	6.4	0.0	7.2	0.0	0.0	70.2
10/5/2010	806.9	1.1	0.0	68.4	33.0	0.0	766.6	64.4	6.4	0.0	7.2	0.0	0.0	64.9
10/6/2010	801.0	0.2	0.0	41.0	33.0	0.0	764.1	64.4	6.4	0.0	7.2	0.0	0.0	33.2
10/7/2010	737.3	0.5	0.0	40.0	33.0	0.0	746.5	64.4	6.4	0.0	7.2	0.0	0.0	-13.7
10/8/2010	286.6	0.5	0.0	36.5	33.0	0.0	351.2	79.3	6.4	0.0	7.2	0.0	0.0	-87.5
10/9/2010	209.5	0.7	9.6	33.9	33.0	0.0	286.0	72.0	6.4	0.0	7.2	0.0	0.0	-84.9
10/10/2010	154.0	0.8	0.0	32.3	33.0	0.0	216.0	65.3	6.4	0.0	7.2	0.0	0.0	-74.8
10/11/2010	109.6	1.3	0.0	31.3	33.0	0.0	170.8	60.7	6.4	0.0	7.2	0.0	0.0	-69.9
10/12/2010	89.6	0.5	0.0	29.6	33.0	0.0	133.9	57.6	6.4	0.0	7.2	0.0	0.0	-52.4
10/13/2010	83.4	1.6	0.0	28.7	33.0	0.0	118.1	56.4	6.4	0.0	7.2	0.0	0.0	-41.5
10/14/2010	83.7	0.9	0.0	27.0	33.0	0.0	111.9	56.0	6.4	0.0	7.2	0.0	0.0	-36.9
10/15/2010	100.8	0.9	0.0	26.1	33.0	0.0	112.3	56.8	6.4	0.0	7.2	0.0	0.0	-21.9
10/16/2010	130.4	1.1	0.0	25.6	33.0	0.0	130.1	59.5	6.4	0.0	7.2	0.0	0.0	-13.1
10/17/2010	145.7	1.4	0.0	24.9	33.0	0.0	156.9	62.0	6.4	0.0	7.2	0.0	0.0	-27.6
10/18/2010	161.3	1.2	0.0	35.6	33.0	0.0	174.5	63.6	6.4	0.0	7.2	0.0	0.0	-20.7
10/19/2010	176.3	0.8	0.0	45.8	33.0	0.0	200.1	65.7	6.4	0.0	7.2	0.0	0.0	-23.5
10/20/2010	188.0	1.0	0.0	46.6	33.0	0.0	216.7	67.0	6.4	0.0	7.2	0.0	0.0	-28.6
10/21/2010	198.0	1.4	0.0	44.4	33.0	0.0	225.5	67.9	6.4	0.0	7.2	0.0	0.0	-30.2
10/22/2010	203.9	2.0	0.0	44.0	33.0	0.0	233.4	68.6	6.4	0.0	7.2	0.0	0.0	-32.8
10/23/2010	208.6	1.9	0.0	43.0	33.0	0.0	236.9	69.1	6.4	0.0	7.2	0.0	0.0	-33.1
10/24/2010	216.6	1.1	0.0	42.0	33.0	0.0	240.4	69.6	6.4	0.0	7.2	0.0	0.0	-31.0
10/25/2010	223.9	1.5	0.0	41.0	33.0	0.0	247.5	70.4	6.4	0.0	7.2	0.0	0.0	-32.2
10/26/2010	228.1	1.1	0.0	39.9	33.0	0.0	252.2	70.9	6.4	0.0	7.2	0.0	0.0	-34.5
10/27/2010	235.5	1.4	0.0	38.8	33.0	0.0	254.6	71.4	6.4	0.0	7.2	0.0	0.0	-31.0
10/28/2010	242.6	1.6	0.0	37.4	33.0	0.0	260.8	72.1	6.4	0.0	7.2	0.0	0.0	-31.9

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
10/29/2010	252.7	1.2	0.0	36.4	33.0	0.0	266.5	72.9	6.4	0.0	7.2	0.0	0.0	-29.7
10/30/2010	264.1	0.9	0.0	37.1	33.0	0.0	276.0	73.9	6.4	0.0	7.2	0.0	0.0	-28.5
10/31/2010	273.1	0.8	0.0	36.0	33.0	0.0	285.8	74.9	6.4	0.0	7.2	0.0	0.0	-31.4
11/1/2010	294.7	0.2	0.0	34.2	33.0	0.8	292.5	76.3	0.1	0.0	2.5	0.0	0.0	-8.5
11/2/2010	309.9	0.7	0.0	34.7	33.0	0.8	314.4	78.3	0.1	0.0	2.5	0.0	0.0	-16.4
11/3/2010	313.0	1.0	0.0	31.9	33.0	0.8	323.8	79.0	0.1	0.0	2.5	0.0	0.0	-25.7
11/4/2010	325.0	0.5	0.0	35.9	33.0	0.8	327.0	79.6	0.1	0.0	2.5	0.0	0.0	-14.0
11/5/2010	335.6	0.1	0.0	33.7	33.0	0.8	340.4	80.8	0.1	0.0	2.5	0.0	0.0	-20.7
11/6/2010	340.0	0.8	0.0	33.2	33.0	0.8	347.2	81.4	0.1	0.0	2.5	0.0	0.0	-23.4
11/7/2010	344.0	0.8	0.0	32.7	33.0	0.8	350.0	81.7	0.1	0.0	2.5	0.0	0.0	-23.1
11/8/2010	353.7	0.9	0.0	32.0	33.0	0.8	353.4	82.3	0.1	0.0	2.5	0.0	0.0	-18.0
11/9/2010	369.1	0.2	0.0	32.1	33.0	0.8	364.1	83.5	0.1	0.0	2.5	0.0	0.0	-15.1
11/10/2010	380.1	0.4	0.0	29.4	33.0	0.8	377.0	84.7	0.1	0.0	2.5	0.0	0.0	-20.6
11/11/2010	392.9	0.8	0.0	30.3	33.0	0.8	385.8	85.6	0.1	0.0	2.5	0.0	0.0	-16.1
11/12/2010	402.4	0.9	0.0	29.6	33.0	0.8	398.3	86.6	0.1	0.0	2.5	0.0	0.0	-20.8
11/13/2010	408.9	1.8	0.0	28.6	33.0	0.8	404.1	87.1	0.1	0.0	2.5	0.0	0.0	-20.7
11/14/2010	422.5	1.7	0.0	28.5	33.0	0.8	411.2	87.9	0.1	0.0	2.5	0.0	0.0	-15.3
11/15/2010	436.4	1.5	0.0	27.7	33.0	0.8	424.3	89.1	0.1	0.0	2.5	0.0	0.0	-16.6
11/16/2010	447.6	0.6	0.0	23.4	33.0	0.8	434.7	89.9	0.1	0.0	2.5	0.0	0.0	-21.8
11/17/2010	457.9	0.3	0.0	34.5	33.0	0.8	451.0	90.9	0.1	0.0	2.5	0.0	0.0	-18.0
11/18/2010	455.9	0.5	0.0	22.4	33.0	0.8	451.3	90.8	0.1	0.0	2.5	0.0	0.0	-32.1
11/19/2010	456.7	0.1	0.0	23.1	33.0	0.8	445.0	90.6	0.1	0.0	2.5	0.0	0.0	-24.5
11/20/2010	468.0	0.3	0.0	22.6	33.0	0.8	448.8	91.2	0.1	0.0	2.5	0.0	0.0	-17.9
11/21/2010	476.8	0.5	0.0	21.8	33.0	0.8	459.8	92.0	0.1	0.0	2.5	0.0	0.0	-21.5
11/22/2010	485.0	0.7	0.0	21.4	33.0	0.8	466.8	92.6	0.1	0.0	2.5	0.0	0.0	-21.1
11/23/2010	489.1	0.3	0.0	21.1	33.0	0.8	473.3	93.1	0.1	0.0	2.5	0.0	0.0	-24.7
11/24/2010	495.9	1.0	0.0	20.8	33.0	0.8	476.2	93.5	0.1	0.0	2.5	0.0	0.0	-20.8
11/25/2010	494.4	0.4	0.0	19.7	33.0	0.8	481.1	93.6	0.1	0.0	2.5	0.0	0.0	-28.9
11/26/2010	493.8	1.2	0.0	18.8	33.0	0.8	476.6	93.4	0.1	0.0	2.5	0.0	0.0	-25.0
11/27/2010	495.0	0.9	0.0	19.4	33.0	0.8	477.7	93.5	0.1	0.0	2.5	0.0	0.0	-24.7
11/28/2010	497.6	0.7	0.0	19.9	33.0	0.8	479.6	93.7	0.1	0.0	2.5	0.0	0.0	-23.9
11/29/2010	492.9	0.7	0.0	20.6	33.0	0.8	481.4	93.6	0.1	0.0	2.5	0.0	0.0	-29.6
11/30/2010	485.3	0.9	0.0	19.7	33.0	0.8	473.9	93.0	0.1	0.0	2.5	0.0	0.0	-29.7
12/1/2010	483.4	1.4	0.0	17.5	33.0	0.8	466.8	92.6	0.1	0.0	2.5	0.0	0.0	-25.9
12/2/2010	454.3	1.0	0.0	17.9	33.0	0.8	460.9	91.3	0.1	0.0	2.5	0.0	0.0	-47.8
12/3/2010	434.9	1.3	0.0	18.1	33.0	0.8	430.0	89.0	0.1	0.0	2.5	0.0	0.0	-33.6
12/4/2010	447.8	1.0	0.0	17.6	33.0	0.8	421.1	89.2	0.1	0.0	2.5	0.0	0.0	-12.6
12/5/2010	459.3	0.8	0.0	17.4	33.0	0.8	438.4	90.4	0.1	0.0	2.5	0.0	0.0	-20.2
12/6/2010	464.0	0.1	0.0	16.8	33.0	0.8	445.5	90.9	0.1	0.0	2.5	0.0	0.0	-24.4
12/7/2010	263.7	1.4	105.0	17.1	33.0	0.8	418.8	81.8	0.1	0.0	2.5	0.0	0.0	-82.3
12/8/2010	90.2	1.4	75.8	17.0	33.0	0.8	215.9	61.4	0.1	0.0	2.5	0.0	0.0	-61.9
12/9/2010	30.8	1.6	11.8	17.0	33.0	0.8	92.6	50.6	0.1	0.0	2.5	0.0	0.0	-50.8
12/10/2010	30.6	1.0	0.0	17.0	33.0	0.8	55.8	49.5	0.1	0.0	2.5	0.0	0.0	-25.6
12/11/2010	31.5	1.0	0.0	16.7	33.0	0.8	55.6	49.6	0.1	0.0	2.5	0.0	0.0	-24.9
12/12/2010	31.6	0.2	0.0	16.7	33.0	0.8	56.4	49.6	0.1	0.0	2.5	0.0	0.0	-26.4
12/13/2010	30.7	2.2	0.0	15.9	33.0	0.8	55.5	49.5	0.1	0.0	2.5	0.0	0.0	-25.0
12/14/2010	32.4	1.5	0.0	16.4	33.0	0.8	55.0	49.5	0.1	0.0	2.5	0.0	0.0	-23.1
12/15/2010	35.4	0.2	0.0	19.0	33.0	0.8	57.3	50.0	0.1	0.0	2.5	0.0	0.0	-21.6
12/16/2010	40.7	0.4	0.0	18.9	33.0	0.8	60.8	50.6	0.1	0.0	2.5	0.0	0.0	-20.2
12/17/2010	44.1	0.7	0.0	18.3	33.0	0.8	66.6	51.3	0.1	0.0	2.5	0.0	0.0	-23.7
12/18/2010	43.0	1.5	0.0	17.7	33.0	0.8	68.3	51.3	0.1	0.0	2.5	0.0	0.0	-26.3

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4														
2010-12 Study Period														
(Units - Acre-Feet)														
	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
12/19/2010	44.4	0.5	0.0	17.8	33.0	0.8	66.8	51.2	0.1	0.0	2.5	0.0	0.0	-24.1
12/20/2010	50.8	0.5	0.0	17.5	33.0	0.8	69.0	51.7	0.1	0.0	2.5	0.0	0.0	-20.7
12/21/2010	62.6	1.5	0.0	17.3	33.0	0.8	74.8	52.7	0.1	0.0	2.5	0.0	0.0	-15.0
12/22/2010	72.9	1.1	0.0	17.1	33.0	0.8	85.6	54.0	0.1	0.0	2.5	0.0	0.0	-17.4
12/23/2010	77.9	1.7	0.0	16.1	33.0	0.8	93.4	54.6	0.1	0.0	2.5	0.0	0.0	-21.1
12/24/2010	85.1	0.6	0.0	15.5	33.0	0.8	97.5	55.3	0.1	0.0	2.5	0.0	0.0	-20.4
12/25/2010	86.8	1.6	0.0	14.4	33.0	0.8	102.2	55.7	0.1	0.0	2.5	0.0	0.0	-23.9
12/26/2010	91.5	1.5	0.0	13.4	33.0	0.8	102.7	55.9	0.1	0.0	2.5	0.0	0.0	-20.9
12/27/2010	97.5	0.2	0.0	13.6	33.0	0.8	107.7	56.6	0.1	0.0	2.5	0.0	0.0	-21.7
12/28/2010	103.2	0.7	0.0	15.1	33.0	0.8	113.4	57.2	0.1	0.0	2.5	0.0	0.0	-20.4
12/29/2010	106.7	1.4	0.0	13.1	33.0	0.8	118.0	57.7	0.1	0.0	2.5	0.0	0.0	-23.3
12/30/2010	109.1	0.7	0.0	12.4	33.0	0.8	119.4	57.8	0.1	0.0	2.5	0.0	0.0	-24.0
12/31/2010	111.7	0.9	0.0	12.7	33.0	0.8	121.7	58.1	0.1	0.0	2.5	0.0	0.0	-23.3
1/1/2011	115.5	0.3	0.0	12.8	33.0	0.8	124.2	58.5	0.1	0.0	2.5	0.0	0.0	-22.9
1/2/2011	118.5	0.9	0.0	12.0	33.0	0.8	127.4	58.8	0.1	0.0	2.5	0.0	0.0	-23.7
1/3/2011	122.2	0.5	0.0	13.0	33.0	0.8	130.2	59.2	0.1	0.0	2.5	0.0	0.0	-22.4
1/4/2011	126.8	0.6	0.0	12.5	33.0	0.8	133.9	59.6	0.1	0.0	2.5	0.0	0.0	-22.5
1/5/2011	128.3	0.3	0.0	12.2	33.0	0.8	137.5	59.9	0.1	0.0	2.5	0.0	0.0	-25.4
1/6/2011	128.0	0.9	0.0	11.8	33.0	0.8	138.2	59.9	0.1	0.0	2.5	0.0	0.0	-26.2
1/7/2011	128.9	0.5	0.0	11.5	33.0	0.8	137.4	59.9	0.1	0.0	2.5	0.0	0.0	-25.1
1/8/2011	130.1	0.8	0.0	11.9	33.0	0.8	138.5	60.0	0.1	0.0	2.5	0.0	0.0	-24.6
1/9/2011	130.5	0.4	0.0	12.1	33.0	0.8	139.6	60.1	0.1	0.0	2.5	0.0	0.0	-25.4
1/10/2011	132.5	0.6	0.0	13.5	33.0	0.8	141.0	60.3	0.1	0.0	2.5	0.0	0.0	-23.6
1/11/2011	136.6	0.9	0.0	11.9	33.0	0.8	142.7	60.6	0.1	0.0	2.5	0.0	0.0	-22.7
1/12/2011	138.5	0.9	0.0	11.3	33.0	0.8	145.3	60.9	0.1	0.0	2.5	0.0	0.0	-24.3
1/13/2011	141.0	0.8	0.0	14.8	33.0	0.8	149.2	61.2	0.1	0.0	2.5	0.0	0.0	-22.7
1/14/2011	143.3	0.5	0.0	16.9	33.0	0.8	154.0	61.5	0.1	0.0	2.5	0.0	0.0	-23.5
1/15/2011	144.6	0.4	0.0	16.1	33.0	0.8	156.0	61.7	0.1	0.0	2.5	0.0	0.0	-25.3
1/16/2011	143.9	0.3	0.0	16.0	33.0	0.8	156.6	61.7	0.1	0.0	2.5	0.0	0.0	-26.8
1/17/2011	123.3	1.4	0.0	5.5	33.0	0.8	151.3	60.1	0.1	0.0	2.5	0.0	0.0	-50.1
1/18/2011	74.1	1.6	7.2	11.8	33.0	0.8	126.0	56.6	0.1	0.0	2.5	0.0	0.0	-56.7
1/19/2011	78.6	0.9	0.0	11.0	33.0	0.8	82.1	52.7	0.1	0.0	2.5	0.0	0.0	-13.1
1/20/2011	80.3	0.8	0.0	10.7	33.0	0.8	99.4	55.6	0.1	0.0	2.5	0.0	0.0	-32.0
1/21/2011	61.6	0.8	0.0	10.6	33.0	0.8	89.4	53.0	0.1	0.0	2.5	0.0	0.0	-38.4
1/22/2011	56.3	0.5	0.0	10.2	33.0	0.8	76.2	52.2	0.1	0.0	2.5	0.0	0.0	-30.3
1/23/2011	50.9	0.7	0.0	10.2	33.0	0.8	70.7	51.5	0.1	0.0	2.5	0.0	0.0	-29.3
1/24/2011	59.6	0.8	0.0	9.2	33.0	0.8	67.7	51.9	0.1	0.0	2.5	0.0	0.0	-18.9
1/25/2011	68.1	0.9	0.0	8.3	33.0	0.8	74.2	52.8	0.1	0.0	2.5	0.0	0.0	-18.6
1/26/2011	77.1	0.9	0.0	8.1	33.0	0.8	82.1	53.8	0.1	0.0	2.5	0.0	0.0	-18.6
1/27/2011	69.8	0.3	0.0	9.3	33.0	0.8	90.1	54.0	0.1	0.0	2.5	0.0	0.0	-33.5
1/28/2011	56.6	0.5	0.0	10.4	33.0	0.8	81.7	52.5	0.1	0.0	2.5	0.0	0.0	-35.6
1/29/2011	50.7	0.2	0.0	10.7	33.0	0.8	71.6	51.6	0.1	0.0	2.5	0.0	0.0	-30.5
1/30/2011	54.0	0.5	0.0	10.3	33.0	0.8	67.3	51.5	0.1	0.0	2.5	0.0	0.0	-22.8
1/31/2011	75.1	1.0	0.0	10.4	33.0	0.8	71.6	53.0	0.1	0.0	2.5	0.0	0.0	-6.8
2/1/2011	75.1	0.3	0.0	10.1	33.0	0.8	89.5	54.0	0.1	0.0	2.5	0.0	0.0	-26.8
2/2/2011	68.6	1.3	0.0	9.3	33.0	0.8	88.7	53.7	0.1	0.0	2.5	0.0	0.0	-32.0
2/3/2011	64.2	1.3	0.0	9.6	33.0	0.8	80.5	52.8	0.1	0.0	2.5	0.0	0.0	-27.1
2/4/2011	64.8	1.5	0.0	10.8	33.0	0.8	79.1	52.9	0.1	0.0	2.5	0.0	0.0	-23.7
2/5/2011	69.7	1.9	0.0	10.0	33.0	0.8	80.3	53.1	0.1	0.0	2.5	0.0	0.0	-20.7
2/6/2011	78.4	0.3	0.0	10.2	33.0	0.8	85.1	53.9	0.1	0.0	2.5	0.0	0.0	-18.9
2/7/2011	80.2	0.5	0.0	10.4	33.0	0.8	93.1	54.6	0.1	0.0	2.5	0.0	0.0	-25.4

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
2/8/2011	79.0	1.3	0.0	9.5	33.0	0.8	93.4	54.4	0.1	0.0	2.5	0.0	0.0	-26.8
2/9/2011	80.1	0.5	0.0	8.6	33.0	0.8	91.3	54.3	0.1	0.0	2.5	0.0	0.0	-25.2
2/10/2011	80.4	1.3	0.0	8.4	33.0	0.8	92.0	54.4	0.1	0.0	2.5	0.0	0.0	-25.1
2/11/2011	76.8	1.0	0.0	8.3	33.0	0.8	91.8	54.2	0.1	0.0	2.5	0.0	0.0	-28.7
2/12/2011	72.2	1.1	0.0	8.2	33.0	0.8	88.5	53.9	0.1	0.0	2.5	0.0	0.0	-29.7
2/13/2011	61.5	1.0	0.0	8.3	33.0	0.8	82.8	52.7	0.1	0.0	2.5	0.0	0.0	-33.5
2/14/2011	69.5	0.9	0.0	8.3	33.0	0.8	75.7	52.9	0.1	0.0	2.5	0.0	0.0	-18.7
2/15/2011	63.6	0.9	0.0	8.2	33.0	0.8	81.9	53.0	0.1	0.0	2.5	0.0	0.0	-31.0
2/16/2011	62.5	1.0	0.0	8.7	33.0	0.8	76.8	52.5	0.1	0.0	2.5	0.0	0.0	-26.0
2/17/2011	63.4	0.4	0.0	8.5	33.0	0.8	76.2	52.5	0.1	0.0	2.5	0.0	0.0	-25.3
2/18/2011	64.2	0.5	0.0	7.7	33.0	0.8	76.5	52.6	0.1	0.0	2.5	0.0	0.0	-25.6
2/19/2011	60.7	0.3	0.0	7.5	33.0	0.8	76.6	52.5	0.1	0.0	2.5	0.0	0.0	-29.5
2/20/2011	58.1	1.8	0.0	7.2	33.0	0.8	72.4	52.0	0.1	0.0	2.5	0.0	0.0	-26.2
2/21/2011	60.6	0.7	0.0	7.0	33.0	0.8	70.7	52.1	0.1	0.0	2.5	0.0	0.0	-23.2
2/22/2011	62.8	0.5	0.0	11.6	33.0	0.8	74.5	52.7	0.1	0.0	2.5	0.0	0.0	-21.1
2/23/2011	75.3	0.5	0.0	14.8	33.0	0.8	79.8	53.6	0.1	0.0	2.5	0.0	0.0	-11.6
2/24/2011	85.2	0.6	0.0	9.7	33.0	0.8	92.6	55.2	0.1	0.0	2.5	0.0	0.0	-21.1
2/25/2011	85.4	0.6	0.0	9.0	33.0	0.8	97.4	55.4	0.1	0.0	2.5	0.0	0.0	-26.6
2/26/2011	82.7	0.3	0.0	9.0	33.0	0.8	96.5	55.2	0.1	0.0	2.5	0.0	0.0	-28.5
2/27/2011	82.7	0.3	0.0	9.1	33.0	0.8	94.0	55.0	0.1	0.0	2.5	0.0	0.0	-25.7
2/28/2011	81.2	0.9	0.0	8.8	33.0	0.8	94.2	55.0	0.1	0.0	2.5	0.0	0.0	-27.1
3/1/2011	79.5	1.0	0.0	8.4	33.0	0.0	92.2	54.7	6.4	2.6	7.2	0.0	0.0	-41.1
3/2/2011	78.7	0.6	0.0	8.1	33.0	0.0	90.6	54.6	6.4	2.6	7.2	0.0	0.0	-41.0
3/3/2011	75.6	0.4	0.0	8.0	33.0	0.0	89.4	54.4	6.4	2.6	7.2	0.0	0.0	-43.0
3/4/2011	72.3	0.1	0.0	8.5	33.0	0.0	86.8	54.1	6.4	2.6	7.2	0.0	0.0	-43.2
3/5/2011	70.5	0.5	0.0	7.6	33.0	0.0	83.8	53.7	6.4	2.6	7.2	0.0	0.0	-42.1
3/6/2011	68.0	0.8	0.0	7.3	33.0	0.0	81.7	53.5	6.4	2.6	7.2	0.0	0.0	-42.3
3/7/2011	28.9	0.3	0.0	8.2	33.0	0.0	19.4	7.8	6.4	0.6	7.2	0.0	0.0	28.9
3/8/2011	58.9	0.4	0.0	7.8	33.0	0.0	0.5	46.3	6.4	4.3	7.2	0.0	0.0	35.4
3/9/2011	59.0	0.3	27.4	7.8	33.0	0.0	127.2	71.5	6.4	6.1	7.2	0.0	0.0	-90.9
3/10/2011	55.2	1.3	38.5	8.2	33.0	0.0	134.9	65.7	6.4	6.1	7.2	0.0	0.0	-84.1
3/11/2011	61.4	0.9	40.9	8.3	33.0	0.0	143.6	57.2	6.4	6.1	7.2	0.0	0.0	-76.0
3/12/2011	65.6	1.2	62.8	8.4	33.0	0.0	169.8	34.6	6.4	6.1	7.2	0.0	0.0	-53.1
3/13/2011	66.3	0.1	82.1	8.4	33.0	0.0	189.9	17.4	6.4	6.1	7.2	0.0	0.0	-37.0
3/14/2011	65.1	0.7	88.4	8.6	33.0	0.0	195.1	12.8	6.4	6.1	7.2	0.0	0.0	-31.9
3/15/2011	161.9	0.7	0.0	8.5	33.0	0.0	195.7	12.3	6.4	6.1	7.2	0.0	0.0	-23.6
3/16/2011	241.2	0.1	0.0	8.4	33.0	0.0	190.9	17.0	6.4	6.1	7.2	0.0	0.0	55.2
3/17/2011	421.4	0.5	0.0	8.2	33.0	0.0	186.3	21.5	6.4	6.1	7.2	0.0	0.0	235.6
3/18/2011	1083.9	0.4	0.0	8.4	33.0	0.0	167.1	40.8	6.4	5.9	7.2	0.0	0.0	898.3
3/19/2011	1505.8	0.5	0.0	8.8	33.0	0.0	748.9	48.8	6.4	5.9	7.2	0.0	0.0	731.0
3/20/2011	2081.9	0.8	0.0	8.5	33.0	0.0	1865.1	54.2	6.4	6.1	7.2	0.0	0.0	185.1
3/21/2011	2304.8	0.1	0.0	8.1	33.0	0.0	2189.6	54.8	6.4	6.1	7.2	0.0	0.0	81.9
3/22/2011	2424.8	0.3	0.0	7.8	33.0	0.0	2293.5	54.6	6.4	6.1	7.2	0.0	0.0	98.1
3/23/2011	2654.3	0.1	0.0	7.3	33.0	0.0	2503.7	54.4	6.4	6.1	7.2	0.0	0.0	116.9
3/24/2011	2821.8	0.3	0.0	7.3	33.0	0.0	2710.1	54.4	6.4	6.1	7.2	0.0	0.0	78.3
3/25/2011	2879.0	0.2	0.0	6.9	33.0	0.0	2784.6	54.3	6.4	6.1	7.2	0.0	0.0	60.4
3/26/2011	2916.4	0.6	0.0	6.5	33.0	0.0	2819.3	54.2	6.4	6.1	7.2	0.0	0.0	63.3
3/27/2011	2978.3	0.5	0.0	6.7	33.0	0.0	2878.7	54.1	6.4	6.1	7.2	0.0	0.0	66.0
3/28/2011	3021.3	0.2	0.0	10.4	33.0	0.0	2930.9	54.0	6.4	6.1	7.2	0.0	0.0	60.3
3/29/2011	3050.9	0.2	0.0	11.6	33.0	0.0	2965.3	53.9	6.4	6.1	7.2	0.0	0.0	56.7
3/30/2011	3060.5	0.3	0.0	10.5	33.0	0.0	2976.6	53.8	6.4	6.1	7.2	0.0	0.0	54.1

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
3/31/2011	3080.2	0.1	0.0	11.3	33.0	0.0	3006.1	53.8	6.4	6.1	7.2	0.0	0.0	44.9
4/1/2011	2584.1	0.2	62.2	11.5	33.0	0.0	2690.8	52.9	6.4	8.7	7.2	0.0	0.0	-75.0
4/2/2011	1932.6	0.2	37.0	9.9	33.0	0.0	2012.5	50.9	6.4	8.7	7.2	0.0	0.0	-73.0
4/3/2011	1513.4	0.1	0.0	8.9	33.0	0.0	1521.0	49.3	6.4	8.7	7.2	0.0	0.0	-37.3
4/4/2011	1420.7	0.3	0.0	8.0	33.0	0.0	1340.7	48.8	6.4	8.7	7.2	0.0	0.0	50.2
4/5/2011	1544.4	0.9	0.0	8.0	33.0	0.0	1409.1	49.4	6.4	8.7	7.2	0.0	0.0	105.5
4/6/2011	1767.5	0.6	0.0	7.6	33.0	0.0	1620.1	50.1	6.4	8.7	7.2	0.0	0.0	116.2
4/7/2011	1885.2	0.3	0.0	7.7	33.0	0.0	1790.0	50.4	6.4	8.7	7.2	0.0	0.0	63.5
4/8/2011	1809.9	0.0	0.0	8.3	33.0	0.0	1774.6	50.1	6.4	8.7	7.2	0.0	0.0	4.2
4/9/2011	1600.5	0.0	0.0	9.6	33.0	0.0	1577.0	49.4	6.4	8.7	7.2	0.0	0.0	-5.5
4/10/2011	1437.3	0.4	0.0	8.7	33.0	0.0	1411.4	48.7	6.4	8.7	7.2	0.0	0.0	-3.0
4/11/2011	1286.2	1.0	0.0	8.1	33.0	0.0	1251.4	47.6	6.4	8.7	7.2	0.0	0.0	7.0
4/12/2011	1211.3	0.3	0.0	7.9	33.0	0.0	1151.6	46.6	6.4	8.6	7.2	0.0	0.0	32.2
4/13/2011	1189.5	0.2	0.0	8.9	33.0	0.0	1129.7	46.6	6.4	8.7	7.2	0.0	0.0	33.0
4/14/2011	1089.1	0.7	0.0	9.0	33.0	0.0	1056.0	45.3	6.4	8.6	7.2	0.0	0.0	8.2
4/15/2011	1015.0	0.2	0.0	8.7	33.0	0.0	964.5	44.5	6.4	8.6	7.2	0.0	0.0	25.6
4/16/2011	1014.5	0.1	0.0	7.8	33.0	0.0	937.5	44.7	6.4	8.7	7.2	0.0	0.0	50.9
4/17/2011	1065.1	0.2	0.0	7.4	33.0	0.0	953.5	45.1	6.4	8.7	7.2	0.0	0.0	84.7
4/18/2011	1331.1	0.1	0.0	7.3	33.0	0.0	1139.5	47.1	6.4	8.7	7.2	0.0	0.0	162.5
4/19/2011	1609.9	0.2	0.0	5.5	33.0	0.0	1469.5	48.7	6.4	8.7	7.2	0.0	0.0	108.1
4/20/2011	1706.4	0.2	0.0	2.0	33.0	0.0	1601.0	49.0	6.4	8.7	7.2	0.0	0.0	69.4
4/21/2011	1724.7	0.6	0.0	1.9	33.0	0.0	1656.8	49.0	6.4	8.7	7.2	0.0	0.0	32.0
4/22/2011	1592.3	0.5	0.0	1.9	33.0	0.0	1566.8	48.7	6.4	8.7	7.2	0.0	0.0	-10.1
4/23/2011	1366.1	1.1	0.0	3.9	33.0	0.0	1365.1	47.7	6.4	8.7	7.2	0.0	0.0	-31.0
4/24/2011	1179.5	1.3	0.0	6.7	33.0	0.0	1148.3	46.3	6.4	8.7	7.2	0.0	0.0	3.6
4/25/2011	1196.1	0.1	0.0	4.0	33.0	0.0	1096.8	46.2	6.4	8.7	7.2	0.0	0.0	67.8
4/26/2011	1313.6	0.2	0.0	5.3	33.0	0.0	1205.5	47.1	6.4	8.7	7.2	0.0	0.0	77.2
4/27/2011	1410.4	0.1	0.0	4.2	33.0	0.0	1276.9	47.6	6.4	8.7	7.2	0.0	0.0	100.9
4/28/2011	1453.3	0.4	0.0	2.8	33.0	0.0	1426.1	48.0	6.4	8.7	7.2	0.0	0.0	-7.0
4/29/2011	1174.9	0.2	0.0	1.8	33.0	0.0	1179.4	46.5	6.4	8.7	7.2	0.0	0.0	-38.2
4/30/2011	1042.5	0.2	0.0	2.1	33.0	0.0	1021.4	44.4	6.4	8.6	7.2	0.0	0.0	-10.3
5/1/2011	986.4	0.6	0.0	2.3	33.0	0.0	907.8	43.2	6.4	10.7	7.2	0.0	0.0	46.9
5/2/2011	940.4	0.5	0.0	2.4	33.0	0.0	917.6	42.9	6.4	10.7	7.2	0.0	0.0	-8.5
5/3/2011	829.7	0.2	0.0	1.9	33.0	0.0	803.0	40.2	6.4	10.3	7.2	0.0	0.0	-2.3
5/4/2011	20.7	0.4	0.0	1.9	33.0	0.0	23.9	1.4	6.4	0.4	7.2	0.0	0.0	16.8
5/5/2011	48.5	0.3	0.0	1.9	33.0	0.0	29.4	14.8	6.4	5.4	7.2	0.0	0.0	20.5
5/6/2011	49.2	0.9	79.4	1.9	33.0	0.0	163.5	21.9	6.4	9.2	7.2	0.0	0.0	-43.8
5/7/2011	49.6	0.1	83.3	2.4	33.0	0.0	168.3	21.1	6.4	10.0	7.2	0.0	0.0	-44.6
5/8/2011	56.9	0.5	77.8	2.1	33.0	0.0	169.8	19.2	6.4	10.0	7.2	0.0	0.0	-42.3
5/9/2011	282.3	0.6	0.0	1.9	33.0	0.0	159.8	38.1	6.4	9.9	7.2	0.0	0.0	96.4
5/10/2011	598.4	0.4	0.0	1.9	33.0	0.0	122.7	77.6	6.4	10.0	7.2	0.0	0.0	409.9
5/11/2011	828.7	0.2	0.0	1.9	33.0	0.0	87.7	119.2	6.4	10.0	7.2	0.0	0.0	633.2
5/12/2011	1042.7	0.1	0.0	1.8	33.0	0.0	622.2	132.3	6.4	10.1	7.2	0.0	0.0	299.4
5/13/2011	1170.2	0.2	0.0	1.9	33.0	0.0	888.7	145.2	6.4	10.8	7.2	0.0	0.0	146.9
5/14/2011	1125.2	0.8	0.0	1.9	33.0	0.0	899.2	138.8	6.4	10.8	7.2	0.0	0.0	98.4
5/15/2011	1112.5	0.8	0.0	1.8	33.0	0.0	901.1	119.8	6.4	10.8	7.2	0.0	0.0	102.8
5/16/2011	1156.1	0.7	0.0	1.8	33.0	0.0	957.0	104.4	6.4	10.8	7.2	0.0	0.0	105.9
5/17/2011	1188.7	1.5	0.0	1.8	33.0	0.0	992.2	100.2	6.4	10.8	7.2	0.0	0.0	108.3
5/18/2011	1329.7	1.0	0.0	1.8	33.0	0.0	1085.8	100.9	6.4	10.8	7.2	0.0	0.0	154.3
5/19/2011	1531.3	0.5	0.0	1.8	33.0	0.0	1291.7	102.3	6.4	10.8	7.2	0.0	0.0	148.3
5/20/2011	1583.5	1.2	0.0	2.9	33.0	0.0	1412.7	102.2	6.4	10.8	7.2	0.0	0.0	81.3

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4														
2010-12 Study Period														
(Units - Acre-Feet)														
	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
5/21/2011	1447.6	0.4	0.0	1.8	33.0	0.0	1311.7	100.2	6.4	10.8	7.2	0.0	0.0	46.6
5/22/2011	1323.1	1.5	0.0	1.9	33.0	0.0	1195.4	98.1	6.4	10.8	7.2	0.0	0.0	41.5
5/23/2011	1153.3	1.1	0.0	1.9	33.0	0.0	1044.0	94.3	6.4	10.8	7.2	0.0	0.0	26.7
5/24/2011	1041.1	0.4	0.0	2.0	33.0	0.0	911.6	89.5	6.4	10.6	7.2	0.0	0.0	51.2
5/25/2011	1015.1	0.1	0.0	1.9	33.0	0.0	858.7	88.9	6.4	10.7	7.2	0.0	0.0	78.2
5/26/2011	974.9	0.5	0.0	1.9	33.0	0.0	836.3	87.8	6.4	10.8	7.2	0.0	0.0	61.8
5/27/2011	920.9	1.3	0.0	1.9	33.0	0.0	789.8	84.7	6.4	10.5	7.2	0.0	0.0	58.4
5/28/2011	905.0	0.2	0.0	1.9	33.0	0.0	752.1	82.9	6.4	10.3	7.2	0.0	0.0	81.2
5/29/2011	1009.2	0.4	0.0	1.9	33.0	0.0	785.7	86.3	6.4	10.7	7.2	0.0	0.0	148.2
5/30/2011	1242.3	0.5	0.0	1.9	33.0	0.0	982.1	92.9	6.4	10.8	7.2	0.0	0.0	178.2
5/31/2011	1455.5	0.5	0.0	1.8	33.0	0.0	1222.6	96.4	6.4	10.8	7.2	0.0	0.0	147.4
6/1/2011	1751.3	1.2	0.0	1.8	33.0	0.0	1412.6	97.6	6.4	12.7	7.2	0.0	0.0	250.8
6/2/2011	2060.1	1.3	0.0	1.8	33.0	0.0	1890.2	98.9	6.4	12.7	7.2	0.0	0.0	80.7
6/3/2011	1937.8	0.6	0.0	1.8	33.0	0.0	1795.2	97.0	6.4	12.7	7.2	0.0	0.0	54.7
6/4/2011	1828.8	0.5	0.0	1.9	33.0	0.0	1666.2	95.8	6.4	12.7	7.2	0.0	0.0	75.9
6/5/2011	1787.0	0.4	0.0	10.0	33.0	0.0	1622.6	95.6	6.4	12.7	7.2	0.0	0.0	86.0
6/6/2011	1781.2	0.3	0.0	13.2	33.0	0.0	1608.6	95.3	6.4	12.7	7.2	0.0	0.0	97.5
6/7/2011	1756.1	0.8	0.0	5.8	33.0	0.0	1591.0	94.8	6.4	12.7	7.2	0.0	0.0	83.4
6/8/2011	1781.5	0.9	0.0	10.5	33.0	0.0	1582.9	93.9	6.4	12.7	7.2	0.0	0.0	122.7
6/9/2011	1908.1	0.6	0.0	5.6	33.0	0.0	1689.0	94.8	6.4	12.7	7.2	0.0	0.0	137.1
6/10/2011	1934.0	1.7	0.0	5.6	33.0	0.0	1773.2	95.1	6.4	12.7	7.2	0.0	0.0	79.6
6/11/2011	1852.1	0.7	0.0	1.8	33.0	0.0	1693.2	94.0	6.4	12.7	7.2	0.0	0.0	74.1
6/12/2011	1882.4	0.9	0.0	2.2	33.0	0.0	1681.1	93.9	6.4	12.7	7.2	0.0	0.0	117.2
6/13/2011	1934.8	1.1	0.0	1.4	33.0	0.0	1751.9	94.4	6.4	12.7	7.2	0.0	0.0	97.8
6/14/2011	2007.0	1.0	0.0	1.0	33.0	0.0	1798.0	94.6	6.4	12.7	7.2	0.0	0.0	123.2
6/15/2011	2048.9	1.1	0.0	1.5	33.0	0.0	1872.1	95.0	6.4	12.7	7.2	0.0	0.0	91.0
6/16/2011	2014.4	1.6	0.0	1.5	33.0	0.0	1849.2	94.5	6.4	12.7	7.2	0.0	0.0	80.5
6/17/2011	1977.0	1.8	0.0	2.5	33.0	0.0	1811.1	94.4	6.4	12.7	7.2	0.0	0.0	82.5
6/18/2011	1809.1	1.1	0.0	1.8	33.0	0.0	1699.6	92.9	6.4	12.7	7.2	0.0	0.0	26.2
6/19/2011	1710.5	0.9	0.0	1.8	33.0	0.0	1537.1	89.5	6.4	12.5	7.2	0.0	0.0	93.5
6/20/2011	1742.1	1.8	0.0	1.9	33.0	0.0	1555.5	91.2	6.4	12.7	7.2	0.0	0.0	105.7
6/21/2011	1902.6	0.8	0.0	1.8	33.0	0.0	1655.9	93.3	6.4	12.7	7.2	0.0	0.0	162.6
6/22/2011	2081.0	0.5	0.0	1.8	33.0	0.0	1876.1	95.0	6.4	12.7	7.2	0.0	0.0	118.9
6/23/2011	2126.2	1.1	0.0	2.3	33.0	0.0	1939.9	95.0	6.4	12.7	7.2	0.0	0.0	101.5
6/24/2011	2126.8	0.8	0.0	3.9	33.0	0.0	1957.2	94.5	6.4	12.7	7.2	0.0	0.0	86.5
6/25/2011	2093.6	1.5	0.0	7.0	33.0	0.0	1929.0	94.0	6.4	12.7	7.2	0.0	0.0	85.8
6/26/2011	2132.0	1.4	0.0	5.7	33.0	0.0	1935.4	94.1	6.4	12.7	7.2	0.0	0.0	116.3
6/27/2011	2207.6	2.7	0.0	3.3	33.0	0.0	2009.4	94.8	6.4	12.7	7.2	0.0	0.0	116.1
6/28/2011	2243.9	4.2	0.0	4.8	33.0	0.0	2062.7	95.1	6.4	12.7	7.2	0.0	0.0	101.8
6/29/2011	2246.8	3.8	0.0	5.2	33.0	0.0	2069.1	94.9	6.4	12.7	7.2	0.0	0.0	98.5
6/30/2011	2346.7	1.8	0.0	1.6	33.0	0.0	2130.0	95.1	6.4	12.7	7.2	0.0	0.0	131.6
7/1/2011	2392.1	3.8	0.0	2.3	33.0	0.0	2220.0	95.4	6.4	11.2	7.2	0.0	0.0	91.1
7/2/2011	2356.5	2.0	0.0	1.3	33.0	0.0	2195.1	94.7	6.4	11.2	7.2	0.0	0.0	78.2
7/3/2011	2302.9	1.5	0.0	1.9	33.0	0.0	2141.3	94.3	6.4	11.2	7.2	0.0	0.0	78.9
7/4/2011	2281.0	4.4	0.0	18.5	33.0	0.0	2118.1	94.1	6.4	11.2	7.2	0.0	0.0	99.9
7/5/2011	2140.1	2.8	0.0	17.7	33.0	0.0	2031.4	93.7	6.4	11.2	7.2	0.0	0.0	43.8
7/6/2011	1992.6	3.8	0.0	4.0	33.0	0.0	1852.4	92.2	6.4	11.2	7.2	0.0	0.0	64.0
7/7/2011	1865.8	2.2	0.0	6.9	33.0	0.0	1738.6	92.2	6.4	11.2	7.2	0.0	0.0	52.4
7/8/2011	1690.0	3.6	0.0	5.3	33.0	0.0	1570.6	92.9	6.4	11.2	7.2	0.0	0.0	43.6
7/9/2011	1432.3	2.6	0.0	4.0	33.0	0.0	1346.7	91.0	6.4	11.2	7.2	0.0	0.0	9.5
7/10/2011	1290.2	2.4	0.0	2.2	33.0	0.0	1171.5	88.6	6.4	10.8	7.2	0.0	0.0	43.3

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
7/11/2011	1224.0	2.1	0.0	1.9	33.0	0.0	1070.8	87.6	6.4	10.6	7.2	0.0	0.0	78.4
7/12/2011	1284.6	2.4	0.0	1.8	33.0	0.0	1095.0	90.0	6.4	11.2	7.2	0.0	0.0	112.0
7/13/2011	1325.6	2.8	0.0	1.8	33.0	0.0	1153.8	89.9	6.4	11.2	7.2	0.0	0.0	94.7
7/14/2011	1344.5	3.3	0.0	1.4	33.0	0.0	1175.2	89.3	6.4	10.7	7.2	0.0	0.0	93.4
7/15/2011	1311.8	3.3	0.0	5.3	33.0	0.0	1178.3	89.0	6.4	10.6	7.2	0.0	0.0	61.9
7/16/2011	1189.8	1.9	0.0	4.8	33.0	0.0	1065.1	87.8	6.4	10.5	7.2	0.0	0.0	52.5
7/17/2011	1229.6	2.7	0.0	3.7	33.0	0.0	1033.3	89.0	6.4	11.1	7.2	0.0	0.0	122.0
7/18/2011	1384.4	2.2	0.0	2.4	33.0	0.0	1172.2	92.1	6.4	11.2	7.2	0.0	0.0	133.0
7/19/2011	1521.3	1.8	0.0	10.4	33.0	0.0	1301.4	92.2	6.4	11.2	7.2	0.0	0.0	148.1
7/20/2011	1734.0	2.9	0.0	20.8	33.0	0.0	1516.9	93.0	6.4	11.2	7.2	0.0	0.0	156.0
7/21/2011	1825.1	2.5	0.0	16.5	33.0	0.0	1665.2	94.6	6.4	11.2	7.2	0.0	0.0	92.5
7/22/2011	1754.9	2.8	0.0	20.5	33.0	0.0	1623.5	94.5	6.4	11.2	7.2	0.0	0.0	68.4
7/23/2011	1623.3	3.0	0.0	18.0	33.0	0.0	1503.5	93.3	6.4	11.2	7.2	0.0	0.0	55.7
7/24/2011	1514.3	3.1	0.0	12.4	33.0	0.0	1383.9	92.3	6.4	11.2	7.2	0.0	0.0	61.9
7/25/2011	1496.3	1.4	0.0	12.6	33.0	0.0	1343.6	92.8	6.4	11.2	7.2	0.0	0.0	82.1
7/26/2011	1481.7	4.6	0.0	14.4	33.0	0.0	1330.3	92.5	6.4	11.2	7.2	0.0	0.0	86.1
7/27/2011	1508.4	3.2	0.0	13.3	33.0	0.0	1337.8	91.8	6.4	11.2	7.2	0.0	0.0	103.5
7/28/2011	1566.3	3.4	0.0	13.6	33.0	0.0	1394.6	93.5	6.4	11.2	7.2	0.0	0.0	103.4
7/29/2011	1468.1	3.2	0.0	14.3	33.0	0.0	1386.5	92.8	6.4	11.2	7.2	0.0	0.0	14.6
7/30/2011	1143.2	2.8	0.0	14.9	33.0	0.0	1083.1	87.9	6.4	11.1	7.2	0.0	0.0	-1.8
7/31/2011	1097.8	2.1	0.0	14.4	33.0	0.0	963.9	86.5	6.4	10.6	7.2	0.0	0.0	72.7
8/1/2011	1452.2	4.1	0.0	13.9	33.0	0.0	1107.3	91.2	6.4	11.0	7.2	0.0	0.0	280.1
8/2/2011	1708.6	3.3	0.0	17.5	33.0	0.0	1524.1	95.4	6.4	11.0	7.2	0.0	0.0	118.3
8/3/2011	1779.7	1.8	0.0	25.0	33.0	0.0	1623.3	95.8	6.4	11.0	7.2	0.0	0.0	95.7
8/4/2011	1702.4	3.2	0.0	15.9	33.0	0.0	1581.6	95.2	6.4	11.0	7.2	0.0	0.0	53.1
8/5/2011	1590.1	2.3	0.0	13.5	33.0	0.0	1455.5	94.6	6.4	11.0	7.2	0.0	0.0	64.2
8/6/2011	1587.1	2.8	0.0	13.3	33.0	0.0	1422.3	94.7	6.4	11.0	7.2	0.0	0.0	94.5
8/7/2011	1633.0	3.1	0.0	13.2	33.0	0.0	1457.1	95.0	6.4	11.0	7.2	0.0	0.0	105.6
8/8/2011	1675.4	2.6	0.0	13.1	33.0	0.0	1512.0	95.2	6.4	11.0	7.2	0.0	0.0	92.3
8/9/2011	1654.8	2.0	0.0	14.3	33.0	0.0	1503.3	95.0	6.4	11.0	7.2	0.0	0.0	81.1
8/10/2011	1632.6	3.4	0.0	12.3	33.0	0.0	1480.2	94.9	6.4	11.0	7.2	0.0	0.0	81.6
8/11/2011	1623.9	3.2	0.0	12.5	33.0	0.0	1462.2	94.9	6.4	11.0	7.2	0.0	0.0	90.9
8/12/2011	1662.6	5.4	0.0	13.7	33.0	0.0	1490.4	94.7	6.4	11.0	7.2	0.0	0.0	104.9
8/13/2011	1714.3	3.9	0.0	14.1	33.0	0.0	1546.3	94.2	6.4	11.0	7.2	0.0	0.0	100.2
8/14/2011	1751.0	3.7	0.0	14.2	33.0	0.0	1585.7	93.7	6.4	11.0	7.2	0.0	0.0	97.9
8/15/2011	1773.0	2.1	0.0	14.6	33.0	0.0	1616.3	93.9	6.4	11.0	7.2	0.0	0.0	87.9
8/16/2011	1756.8	3.4	0.0	15.3	33.0	0.0	1606.0	93.8	6.4	11.0	7.2	0.0	0.0	84.1
8/17/2011	1741.1	3.1	0.0	13.6	33.0	0.0	1584.2	94.2	6.4	11.0	7.2	0.0	0.0	87.9
8/18/2011	1762.9	2.7	0.0	14.4	33.0	0.0	1597.1	94.7	6.4	11.0	7.2	0.0	0.0	96.7
8/19/2011	1778.0	5.0	0.0	15.5	33.0	0.0	1622.6	94.4	6.4	11.0	7.2	0.0	0.0	89.9
8/20/2011	1776.1	1.9	0.0	16.6	33.0	0.0	1624.6	93.9	6.4	11.0	7.2	0.0	0.0	84.5
8/21/2011	1763.8	1.5	0.0	16.0	33.0	0.0	1615.9	93.3	6.4	11.0	7.2	0.0	0.0	80.4
8/22/2011	1758.4	1.8	0.0	16.4	33.0	0.0	1606.3	93.5	6.4	11.0	7.2	0.0	0.0	85.2
8/23/2011	1753.4	3.8	0.0	16.9	33.0	0.0	1601.5	93.8	6.4	11.0	7.2	0.0	0.0	87.3
8/24/2011	1752.2	2.3	0.0	16.8	33.0	0.0	1598.1	93.5	6.4	11.0	7.2	0.0	0.0	88.0
8/25/2011	1810.1	1.0	0.0	24.3	33.0	0.0	1630.8	93.4	6.4	11.0	7.2	0.0	0.0	119.5
8/26/2011	1923.6	2.5	0.0	16.3	33.0	0.0	1743.9	94.6	6.4	11.0	7.2	0.0	0.0	112.2
8/27/2011	1924.6	0.9	0.0	17.6	33.0	0.0	1788.5	94.7	6.4	11.0	7.2	0.0	0.0	68.3
8/28/2011	1823.3	1.2	0.0	16.4	33.0	0.0	1700.8	93.4	6.4	11.0	7.2	0.0	0.0	55.1
8/29/2011	1756.2	2.2	0.0	16.7	33.0	0.0	1615.8	93.0	6.4	11.0	7.2	0.0	0.0	74.7
8/30/2011	1742.2	1.3	0.0	17.0	33.0	0.0	1593.3	93.3	6.4	11.0	7.2	0.0	0.0	82.4

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
8/31/2011	1652.8	3.0	0.0	20.1	33.0	0.0	1553.9	93.4	6.4	11.0	7.2	0.0	0.0	36.9
9/1/2011	1406.8	2.2	0.0	18.0	33.0	0.0	1331.9	92.9	6.4	9.3	7.2	0.0	0.0	12.3
9/2/2011	1338.3	3.4	0.0	17.5	33.0	0.0	1168.7	91.7	6.4	9.3	7.2	0.0	0.0	108.8
9/3/2011	1647.7	2.1	0.0	17.2	33.0	0.0	1402.9	93.1	6.4	9.3	7.2	0.0	0.0	181.1
9/4/2011	1808.7	2.5	0.0	17.1	33.0	0.0	1637.7	93.4	6.4	9.3	7.2	0.0	0.0	107.2
9/5/2011	1823.3	5.3	0.0	16.8	33.0	0.0	1672.6	93.1	6.4	9.3	7.2	0.0	0.0	89.8
9/6/2011	1845.7	3.6	0.0	16.7	33.0	0.0	1689.6	93.5	6.4	9.3	7.2	0.0	0.0	93.0
9/7/2011	1848.4	3.0	0.0	16.8	33.0	0.0	1700.2	93.3	6.4	9.3	7.2	0.0	0.0	84.6
9/8/2011	1856.9	2.5	0.0	16.8	33.0	0.0	1704.6	93.3	6.4	9.3	7.2	0.0	0.0	88.4
9/9/2011	1870.6	0.8	0.0	16.6	33.0	0.0	1716.1	94.2	6.4	9.3	7.2	0.0	0.0	87.7
9/10/2011	1870.3	3.6	0.0	16.7	33.0	0.0	1724.1	93.9	6.4	9.3	7.2	0.0	0.0	82.7
9/11/2011	1589.7	4.9	0.0	16.5	33.0	0.0	1597.2	93.0	6.4	9.3	7.2	0.0	0.0	-69.0
9/12/2011	948.4	3.0	34.0	16.2	33.0	0.0	1031.6	83.8	6.4	9.3	7.2	0.0	0.0	-103.8
9/13/2011	556.4	1.9	17.8	16.2	33.0	0.0	623.4	66.4	6.4	8.7	7.2	0.0	0.0	-86.8
9/14/2011	362.5	2.2	0.0	0.0	33.0	0.0	375.2	43.8	6.4	8.7	7.2	0.0	0.0	-43.6
9/15/2011	9.0	1.9	6.1	17.4	33.0	0.0	65.5	9.0	6.4	5.1	7.2	0.0	0.0	-25.9
9/16/2011	6.5	2.0	0.0	19.3	33.0	0.0	37.2	6.5	6.4	5.1	7.2	0.0	0.0	-1.7
9/17/2011	6.3	1.6	0.0	16.7	33.0	0.0	34.8	6.3	6.4	5.1	7.2	0.0	0.0	-2.3
9/18/2011	6.2	2.0	0.0	16.6	33.0	0.0	33.7	6.2	6.4	5.1	7.2	0.0	0.0	-0.8
9/19/2011	6.3	2.2	0.0	17.0	33.0	0.0	33.9	6.3	6.4	5.1	7.2	0.0	0.0	-0.5
9/20/2011	7.4	3.4	0.0	17.3	33.0	0.0	34.2	7.4	6.4	5.1	7.2	0.0	0.0	0.7
9/21/2011	10.3	1.9	0.0	16.8	33.0	0.0	35.3	10.3	6.4	5.1	7.2	0.0	0.0	-2.5
9/22/2011	10.9	3.9	0.0	16.5	33.0	0.0	37.7	10.9	6.4	5.1	7.2	0.0	0.0	-3.1
9/23/2011	9.2	3.9	0.0	16.8	33.0	0.0	37.8	9.2	6.4	5.1	7.2	0.0	0.0	-2.9
9/24/2011	7.4	2.4	0.0	16.8	33.0	0.0	36.2	7.4	6.4	5.1	7.2	0.0	0.0	-2.8
9/25/2011	6.3	3.2	0.0	17.2	33.0	0.0	34.8	6.3	6.4	5.1	7.2	0.0	0.0	-0.1
9/26/2011	6.1	0.5	0.0	17.5	33.0	0.0	34.4	6.1	6.4	5.1	7.2	0.0	0.0	-2.1
9/27/2011	6.1	2.5	0.0	17.4	33.0	0.0	34.2	6.1	6.4	5.1	7.2	0.0	0.0	-0.1
9/28/2011	6.2	0.9	0.0	17.2	33.0	0.0	34.2	6.2	6.4	5.1	7.2	0.0	0.0	-1.8
9/29/2011	6.2	0.2	0.0	17.1	33.0	0.0	34.0	6.2	6.4	5.1	7.2	0.0	0.0	-2.5
9/30/2011	6.1	3.0	0.0	17.2	33.0	0.0	34.0	6.1	6.4	5.1	7.2	0.0	0.0	0.5
10/1/2011	6.2	1.2	0.0	17.1	33.0	0.0	34.1	6.2	6.4	0.0	7.2	0.0	0.0	3.6
10/2/2011	6.1	1.2	0.0	17.1	33.0	0.0	33.9	6.1	6.4	0.0	7.2	0.0	0.0	3.8
10/3/2011	6.1	1.9	0.0	17.6	33.0	0.0	34.3	6.1	6.4	0.0	7.2	0.0	0.0	4.5
10/4/2011	6.2	2.0	0.0	17.4	33.0	0.0	34.3	6.2	6.4	0.0	7.2	0.0	0.0	4.5
10/5/2011	6.1	1.1	0.0	16.7	33.0	0.0	33.8	6.1	6.4	0.0	7.2	0.0	0.0	3.5
10/6/2011	6.1	0.2	0.0	16.6	33.0	0.0	33.5	6.1	6.4	0.0	7.2	0.0	0.0	2.8
10/7/2011	6.1	0.5	0.0	16.7	33.0	0.0	33.6	6.1	6.4	0.0	7.2	0.0	0.0	3.0
10/8/2011	6.1	0.5	0.0	16.6	33.0	0.0	33.5	6.1	6.4	0.0	7.2	0.0	0.0	3.0
10/9/2011	6.1	0.7	0.0	16.8	33.0	0.0	33.6	6.1	6.4	0.0	7.2	0.0	0.0	3.3
10/10/2011	6.1	0.8	0.0	16.7	33.0	0.0	33.6	6.1	6.4	0.0	7.2	0.0	0.0	3.3
10/11/2011	6.0	1.3	0.0	16.7	33.0	0.0	33.6	6.0	6.4	0.0	7.2	0.0	0.0	3.8
10/12/2011	6.1	0.5	0.0	16.8	33.0	0.0	33.7	6.1	6.4	0.0	7.2	0.0	0.0	3.0
10/13/2011	6.2	1.6	0.0	16.7	33.0	0.0	33.6	6.2	6.4	0.0	7.2	0.0	0.0	4.1
10/14/2011	6.1	0.9	0.0	16.7	33.0	0.0	33.7	6.1	6.4	0.0	7.2	0.0	0.0	3.4
10/15/2011	6.1	0.9	0.0	16.7	33.0	0.0	33.6	6.1	6.4	0.0	7.2	0.0	0.0	3.4
10/16/2011	6.1	1.1	0.0	17.2	33.0	0.0	34.0	6.1	6.4	0.0	7.2	0.0	0.0	3.7
10/17/2011	6.1	1.4	0.0	17.4	33.0	0.0	34.2	6.1	6.4	0.0	7.2	0.0	0.0	4.0
10/18/2011	6.1	1.2	0.0	17.6	33.0	0.0	34.3	6.1	6.4	0.0	7.2	0.0	0.0	3.9
10/19/2011	6.1	0.8	0.0	17.7	33.0	0.0	34.5	6.1	6.4	0.0	7.2	0.0	0.0	3.3
10/20/2011	6.1	1.0	0.0	17.7	33.0	0.0	34.6	6.1	6.4	0.0	7.2	0.0	0.0	3.6

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
10/21/2011	6.0	1.4	0.0	17.8	33.0	0.0	34.6	6.0	6.4	0.0	7.2	0.0	0.0	4.0
10/22/2011	6.1	2.0	0.0	17.9	33.0	0.0	34.8	6.1	6.4	0.0	7.2	0.0	0.0	4.5
10/23/2011	6.1	1.9	0.0	19.7	33.0	0.0	35.9	6.1	6.4	0.0	7.2	0.0	0.0	5.0
10/24/2011	6.2	1.1	0.0	19.7	33.0	0.0	36.5	6.2	6.4	0.0	7.2	0.0	0.0	3.7
10/25/2011	6.1	1.5	0.0	20.2	33.0	0.0	36.8	6.1	6.4	0.0	7.2	0.0	0.0	4.3
10/26/2011	6.1	1.1	0.0	18.2	33.0	0.0	35.6	6.1	6.4	0.0	7.2	0.0	0.0	3.1
10/27/2011	6.1	1.4	0.0	17.9	33.0	0.0	34.8	6.1	6.4	0.0	7.2	0.0	0.0	3.8
10/28/2011	6.1	1.6	0.0	18.0	33.0	0.0	34.8	6.1	6.4	0.0	7.2	0.0	0.0	4.2
10/29/2011	6.3	1.2	0.0	17.6	33.0	0.0	34.6	6.3	6.4	0.0	7.2	0.0	0.0	3.6
10/30/2011	6.2	0.9	0.0	17.5	33.0	0.0	34.5	6.2	6.4	0.0	7.2	0.0	0.0	3.3
10/31/2011	6.2	0.8	0.0	17.6	33.0	0.0	34.6	6.2	6.4	0.0	7.2	0.0	0.0	3.2
11/1/2011	6.3	0.2	0.0	17.5	33.0	0.8	34.5	6.3	0.1	0.0	2.5	0.0	0.0	14.4
11/2/2011	6.3	0.7	0.0	17.5	33.0	0.8	34.6	6.3	0.1	0.0	2.5	0.0	0.0	14.9
11/3/2011	6.3	1.0	0.0	17.7	33.0	0.8	34.7	6.3	0.1	0.0	2.5	0.0	0.0	15.2
11/4/2011	6.5	0.5	0.0	18.6	33.0	0.8	35.5	6.5	0.1	0.0	2.5	0.0	0.0	14.8
11/5/2011	6.6	0.1	0.0	19.6	33.0	0.8	36.4	6.6	0.1	0.0	2.5	0.0	0.0	14.4
11/6/2011	6.7	0.8	0.0	18.7	33.0	0.8	36.2	6.7	0.1	0.0	2.5	0.0	0.0	14.4
11/7/2011	6.8	0.8	0.0	18.8	33.0	0.8	36.2	6.8	0.1	0.0	2.5	0.0	0.0	14.6
11/8/2011	6.8	0.9	0.0	18.9	33.0	0.8	36.2	6.8	0.1	0.0	2.5	0.0	0.0	14.8
11/9/2011	7.0	0.2	0.0	19.1	33.0	0.8	36.5	7.0	0.1	0.0	2.5	0.0	0.0	14.0
11/10/2011	7.1	0.4	0.0	18.7	33.0	0.8	36.4	7.1	0.1	0.0	2.5	0.0	0.0	13.8
11/11/2011	7.1	0.8	0.0	19.1	33.0	0.8	36.6	7.1	0.1	0.0	2.5	0.0	0.0	14.5
11/12/2011	7.2	0.9	0.0	19.2	33.0	0.8	37.0	7.2	0.1	0.0	2.5	0.0	0.0	14.3
11/13/2011	7.4	1.8	0.0	19.3	33.0	0.8	37.0	7.4	0.1	0.0	2.5	0.0	0.0	15.2
11/14/2011	7.5	1.7	0.0	19.2	33.0	0.8	37.2	7.5	0.1	0.0	2.5	0.0	0.0	14.8
11/15/2011	7.5	1.5	0.0	19.2	33.0	0.8	37.3	7.5	0.1	0.0	2.5	0.0	0.0	14.6
11/16/2011	7.7	0.6	0.0	19.2	33.0	0.8	37.3	7.7	0.1	0.0	2.5	0.0	0.0	13.7
11/17/2011	7.7	0.3	0.0	19.2	33.0	0.8	37.3	7.7	0.1	0.0	2.5	0.0	0.0	13.3
11/18/2011	7.6	0.5	0.0	19.4	33.0	0.8	37.5	7.6	0.1	0.0	2.5	0.0	0.0	13.6
11/19/2011	7.5	0.1	0.0	19.2	33.0	0.8	37.4	7.5	0.1	0.0	2.5	0.0	0.0	13.0
11/20/2011	7.5	0.3	0.0	19.4	33.0	0.8	37.4	7.5	0.1	0.0	2.5	0.0	0.0	13.4
11/21/2011	7.6	0.5	0.0	19.7	33.0	0.8	37.7	7.6	0.1	0.0	2.5	0.0	0.0	13.7
11/22/2011	7.6	0.7	0.0	19.7	33.0	0.8	37.8	7.6	0.1	0.0	2.5	0.0	0.0	13.7
11/23/2011	7.6	0.3	0.0	20.2	33.0	0.8	38.2	7.6	0.1	0.0	2.5	0.0	0.0	13.5
11/24/2011	7.7	1.0	0.0	20.0	33.0	0.8	38.3	7.7	0.1	0.0	2.5	0.0	0.0	13.9
11/25/2011	7.7	0.4	0.0	20.0	33.0	0.8	38.3	7.7	0.1	0.0	2.5	0.0	0.0	13.3
11/26/2011	7.8	1.2	0.0	19.5	33.0	0.8	37.8	7.8	0.1	0.0	2.5	0.0	0.0	14.1
11/27/2011	7.7	0.9	0.0	19.3	33.0	0.8	37.6	7.7	0.1	0.0	2.5	0.0	0.0	13.7
11/28/2011	7.8	0.7	0.0	18.8	33.0	0.8	37.2	7.8	0.1	0.0	2.5	0.0	0.0	13.4
11/29/2011	7.8	0.7	0.0	18.6	33.0	0.8	37.0	7.8	0.1	0.0	2.5	0.0	0.0	13.5
11/30/2011	7.8	0.9	0.0	18.7	33.0	0.8	36.9	7.8	0.1	0.0	2.5	0.0	0.0	13.9
12/1/2011	7.8	1.4	0.0	18.8	33.0	0.8	37.0	7.8	0.1	0.0	2.5	0.0	0.0	14.3
12/2/2011	7.8	1.0	0.0	19.2	33.0	0.8	37.3	7.8	0.1	0.0	2.5	0.0	0.0	14.1
12/3/2011	7.7	1.3	0.0	19.4	33.0	0.8	37.6	7.7	0.1	0.0	2.5	0.0	0.0	14.3
12/4/2011	7.8	1.0	0.0	19.6	33.0	0.8	37.8	7.8	0.1	0.0	2.5	0.0	0.0	13.9
12/5/2011	7.9	0.8	0.0	19.4	33.0	0.8	37.8	7.9	0.1	0.0	2.5	0.0	0.0	13.6
12/6/2011	7.3	0.1	0.0	0.0	33.0	0.8	24.8	7.3	0.1	0.0	2.5	0.0	0.0	6.5
12/7/2011	7.6	1.4	0.0	19.1	33.0	0.8	31.1	7.6	0.1	0.0	2.5	0.0	0.0	20.5
12/8/2011	8.0	1.4	0.0	19.3	33.0	0.8	37.4	8.0	0.1	0.0	2.5	0.0	0.0	14.4
12/9/2011	8.0	1.6	0.0	19.4	33.0	0.8	37.8	8.0	0.1	0.0	2.5	0.0	0.0	14.4
12/10/2011	7.8	1.0	0.0	19.7	33.0	0.8	38.1	7.8	0.1	0.0	2.5	0.0	0.0	13.8

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
12/11/2011	7.9	1.0	0.0	20.1	33.0	0.8	38.3	7.9	0.1	0.0	2.5	0.0	0.0	13.9
12/12/2011	7.9	0.2	0.0	17.6	33.0	0.8	36.7	7.9	0.1	0.0	2.5	0.0	0.0	12.2
12/13/2011	7.8	2.2	0.0	15.3	33.0	0.8	34.5	7.8	0.1	0.0	2.5	0.0	0.0	14.2
12/14/2011	7.9	1.5	0.0	8.9	33.0	0.8	29.6	7.9	0.1	0.0	2.5	0.0	0.0	12.0
12/15/2011	7.9	0.2	0.0	8.6	33.0	0.8	27.4	7.9	0.1	0.0	2.5	0.0	0.0	12.5
12/16/2011	7.9	0.4	0.0	14.0	33.0	0.8	31.0	7.9	0.1	0.0	2.5	0.0	0.0	14.6
12/17/2011	7.9	0.7	0.0	19.4	33.0	0.8	36.2	7.9	0.1	0.0	2.5	0.0	0.0	15.0
12/18/2011	7.9	1.5	0.0	19.7	33.0	0.8	37.9	7.9	0.1	0.0	2.5	0.0	0.0	14.4
12/19/2011	7.8	0.5	0.0	20.5	33.0	0.8	38.6	7.8	0.1	0.0	2.5	0.0	0.0	13.6
12/20/2011	7.8	0.5	0.0	19.8	33.0	0.8	38.3	7.8	0.1	0.0	2.5	0.0	0.0	13.1
12/21/2011	7.8	1.5	0.0	19.9	33.0	0.8	38.2	7.8	0.1	0.0	2.5	0.0	0.0	14.4
12/22/2011	7.8	1.1	0.0	19.7	33.0	0.8	38.1	7.8	0.1	0.0	2.5	0.0	0.0	13.9
12/23/2011	7.8	1.7	0.0	19.9	33.0	0.8	38.1	7.8	0.1	0.0	2.5	0.0	0.0	14.6
12/24/2011	7.8	0.6	0.0	20.0	33.0	0.8	38.3	7.8	0.1	0.0	2.5	0.0	0.0	13.5
12/25/2011	7.8	1.6	0.0	19.9	33.0	0.8	38.4	7.8	0.1	0.0	2.5	0.0	0.0	14.3
12/26/2011	7.9	1.5	0.0	20.0	33.0	0.8	38.3	7.9	0.1	0.0	2.5	0.0	0.0	14.3
12/27/2011	8.0	0.2	0.0	20.1	33.0	0.8	38.4	8.0	0.1	0.0	2.5	0.0	0.0	13.1
12/28/2011	8.0	0.7	0.0	20.2	33.0	0.8	38.6	8.0	0.1	0.0	2.5	0.0	0.0	13.4
12/29/2011	8.2	1.4	0.0	20.1	33.0	0.8	38.6	8.2	0.1	0.0	2.5	0.0	0.0	14.0
12/30/2011	8.4	0.7	0.0	20.0	33.0	0.8	38.7	8.4	0.1	0.0	2.5	0.0	0.0	13.1
12/31/2011	8.4	0.9	0.0	19.1	33.0	0.8	38.3	8.4	0.1	0.0	2.5	0.0	0.0	12.9
1/1/2012	8.0	0.3	0.0	19.7	33.0	0.8	38.1	8.0	0.1	0.0	2.5	0.0	0.0	13.0
1/2/2012	7.9	0.9	0.0	19.6	33.0	0.8	38.0	7.9	0.1	0.0	2.5	0.0	0.0	13.7
1/3/2012	7.8	0.5	0.0	19.8	33.0	0.8	38.1	7.8	0.1	0.0	2.5	0.0	0.0	13.4
1/4/2012	8.0	0.6	0.0	20.0	33.0	0.8	38.2	8.0	0.1	0.0	2.5	0.0	0.0	13.5
1/5/2012	8.0	0.3	0.0	19.8	33.0	0.8	38.2	8.0	0.1	0.0	2.5	0.0	0.0	13.1
1/6/2012	7.8	0.9	0.0	19.9	33.0	0.8	38.2	7.8	0.1	0.0	2.5	0.0	0.0	13.8
1/7/2012	7.7	0.5	0.0	19.9	33.0	0.8	38.1	7.7	0.1	0.0	2.5	0.0	0.0	13.5
1/8/2012	7.7	0.8	0.0	19.8	33.0	0.8	38.0	7.7	0.1	0.0	2.5	0.0	0.0	13.8
1/9/2012	7.7	0.4	0.0	19.6	33.0	0.8	37.9	7.7	0.1	0.0	2.5	0.0	0.0	13.3
1/10/2012	7.7	0.6	0.0	19.3	33.0	0.8	37.6	7.7	0.1	0.0	2.5	0.0	0.0	13.5
1/11/2012	7.7	0.9	0.0	19.3	33.0	0.8	37.6	7.7	0.1	0.0	2.5	0.0	0.0	13.8
1/12/2012	7.7	0.9	0.0	19.5	33.0	0.8	37.8	7.7	0.1	0.0	2.5	0.0	0.0	13.8
1/13/2012	7.7	0.8	0.0	18.9	33.0	0.8	37.3	7.7	0.1	0.0	2.5	0.0	0.0	13.6
1/14/2012	7.8	0.5	0.0	18.4	33.0	0.8	36.9	7.8	0.1	0.0	2.5	0.0	0.0	13.3
1/15/2012	8.0	0.4	0.0	18.4	33.0	0.8	36.8	8.0	0.1	0.0	2.5	0.0	0.0	13.2
1/16/2012	8.1	0.3	0.0	18.2	33.0	0.8	36.8	8.1	0.1	0.0	2.5	0.0	0.0	12.8
1/17/2012	7.6	1.4	0.0	18.1	33.0	0.8	36.7	7.6	0.1	0.0	2.5	0.0	0.0	13.9
1/18/2012	7.7	1.6	0.0	18.5	33.0	0.8	36.5	7.7	0.1	0.0	2.5	0.0	0.0	14.8
1/19/2012	7.5	0.9	0.0	18.7	33.0	0.8	36.8	7.5	0.1	0.0	2.5	0.0	0.0	14.1
1/20/2012	7.6	0.8	0.0	18.6	33.0	0.8	36.7	7.6	0.1	0.0	2.5	0.0	0.0	13.8
1/21/2012	7.5	0.8	0.0	19.0	33.0	0.8	37.0	7.5	0.1	0.0	2.5	0.0	0.0	13.9
1/22/2012	7.5	0.5	0.0	19.0	33.0	0.8	37.0	7.5	0.1	0.0	2.5	0.0	0.0	13.6
1/23/2012	7.5	0.7	0.0	18.8	33.0	0.8	36.9	7.5	0.1	0.0	2.5	0.0	0.0	13.8
1/24/2012	7.5	0.8	0.0	19.2	33.0	0.8	37.1	7.5	0.1	0.0	2.5	0.0	0.0	14.0
1/25/2012	7.5	0.9	0.0	18.7	33.0	0.8	37.0	7.5	0.1	0.0	2.5	0.0	0.0	13.7
1/26/2012	7.5	0.9	0.0	19.0	33.0	0.8	37.0	7.5	0.1	0.0	2.5	0.0	0.0	14.1
1/27/2012	7.5	0.3	0.0	19.1	33.0	0.8	37.1	7.5	0.1	0.0	2.5	0.0	0.0	13.5
1/28/2012	7.4	0.5	0.0	18.7	33.0	0.8	36.8	7.4	0.1	0.0	2.5	0.0	0.0	13.6
1/29/2012	7.5	0.2	0.0	18.6	33.0	0.8	36.7	7.5	0.1	0.0	2.5	0.0	0.0	13.2
1/30/2012	7.4	0.5	0.0	18.5	33.0	0.8	36.5	7.4	0.1	0.0	2.5	0.0	0.0	13.7

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
1/31/2012	7.5	1.0	0.0	19.0	33.0	0.8	36.8	7.5	0.1	0.0	2.5	0.0	0.0	14.4
2/1/2012	7.4	0.3	0.0	18.1	33.0	0.8	36.4	7.4	0.1	0.0	2.5	0.0	0.0	13.2
2/2/2012	7.3	1.3	0.0	18.1	33.0	0.8	36.1	7.3	0.1	0.0	2.5	0.0	0.0	14.5
2/3/2012	7.5	1.3	0.0	18.3	33.0	0.8	36.2	7.5	0.1	0.0	2.5	0.0	0.0	14.5
2/4/2012	7.4	1.5	0.0	18.3	33.0	0.8	36.3	7.4	0.1	0.0	2.5	0.0	0.0	14.7
2/5/2012	7.3	1.9	0.0	18.6	33.0	0.8	36.4	7.3	0.1	0.0	2.5	0.0	0.0	15.2
2/6/2012	7.3	0.3	0.0	18.5	33.0	0.8	36.4	7.3	0.1	0.0	2.5	0.0	0.0	13.5
2/7/2012	7.3	0.5	0.0	18.1	33.0	0.8	36.1	7.3	0.1	0.0	2.5	0.0	0.0	13.6
2/8/2012	7.3	1.3	0.0	18.1	33.0	0.8	36.1	7.3	0.1	0.0	2.5	0.0	0.0	14.4
2/9/2012	7.3	0.5	0.0	18.2	33.0	0.8	36.0	7.3	0.1	0.0	2.5	0.0	0.0	13.9
2/10/2012	7.3	1.3	0.0	18.2	33.0	0.8	36.0	7.3	0.1	0.0	2.5	0.0	0.0	14.6
2/11/2012	7.2	1.0	0.0	18.2	33.0	0.8	36.1	7.2	0.1	0.0	2.5	0.0	0.0	14.3
2/12/2012	7.2	1.1	0.0	18.3	33.0	0.8	36.1	7.2	0.1	0.0	2.5	0.0	0.0	14.5
2/13/2012	7.2	1.0	0.0	18.2	33.0	0.8	36.0	7.2	0.1	0.0	2.5	0.0	0.0	14.3
2/14/2012	7.1	0.9	0.0	18.4	33.0	0.8	36.1	7.1	0.1	0.0	2.5	0.0	0.0	14.4
2/15/2012	7.2	0.9	0.0	18.4	33.0	0.8	36.1	7.2	0.1	0.0	2.5	0.0	0.0	14.3
2/16/2012	7.3	1.0	0.0	18.4	33.0	0.8	36.2	7.3	0.1	0.0	2.5	0.0	0.0	14.4
2/17/2012	7.1	0.4	0.0	18.6	33.0	0.8	36.2	7.1	0.1	0.0	2.5	0.0	0.0	14.0
2/18/2012	7.1	0.5	0.0	18.3	33.0	0.8	36.1	7.1	0.1	0.0	2.5	0.0	0.0	13.9
2/19/2012	7.0	0.3	0.0	18.0	33.0	0.8	35.7	7.0	0.1	0.0	2.5	0.0	0.0	13.7
2/20/2012	7.0	1.8	0.0	18.1	33.0	0.8	35.7	7.0	0.1	0.0	2.5	0.0	0.0	15.3
2/21/2012	6.8	0.7	0.0	18.2	33.0	0.8	35.8	6.8	0.1	0.0	2.5	0.0	0.0	14.3
2/22/2012	6.9	0.5	0.0	18.1	33.0	0.8	35.6	6.9	0.1	0.0	2.5	0.0	0.0	14.2
2/23/2012	6.7	0.5	0.0	18.1	33.0	0.8	35.5	6.7	0.1	0.0	2.5	0.0	0.0	14.2
2/24/2012	6.8	0.6	0.0	17.7	33.0	0.8	35.3	6.8	0.1	0.0	2.5	0.0	0.0	14.2
2/25/2012	6.8	0.6	0.0	17.4	33.0	0.8	34.9	6.8	0.1	0.0	2.5	0.0	0.0	14.3
2/26/2012	6.8	0.3	0.0	17.3	33.0	0.8	34.7	6.8	0.1	0.0	2.5	0.0	0.0	14.0
2/27/2012	6.7	0.3	0.0	17.3	33.0	0.8	34.7	6.7	0.1	0.0	2.5	0.0	0.0	14.1
2/28/2012	6.5	0.9	0.0	17.3	33.0	0.8	34.7	6.5	0.1	0.0	2.5	0.0	0.0	14.7
2/29/2012	6.5	0.0	0.0	17.1	33.0	0.8	34.5	6.5	0.1	0.0	2.5	0.0	0.0	13.8
3/1/2012	6.5	1.0	0.0	17.2	33.0	0.0	34.4	6.5	6.4	2.6	7.2	0.0	0.0	0.6
3/2/2012	6.5	0.6	0.0	17.3	33.0	0.0	34.4	6.5	6.4	2.6	7.2	0.0	0.0	0.3
3/3/2012	6.4	0.4	0.0	17.0	33.0	0.0	34.3	6.4	6.4	2.6	7.2	0.0	0.0	-0.1
3/4/2012	6.3	0.1	0.0	16.9	33.0	0.0	34.0	6.3	6.4	2.6	7.2	0.0	0.0	-0.2
3/5/2012	6.4	0.5	0.0	17.2	33.0	0.0	34.3	6.4	6.4	2.6	7.2	0.0	0.0	0.3
3/6/2012	6.4	0.8	0.0	17.3	33.0	0.0	34.5	6.4	6.4	2.6	7.2	0.0	0.0	0.5
3/7/2012	6.4	0.3	0.0	17.5	33.0	0.0	34.5	6.4	6.4	2.6	7.2	0.0	0.0	0.0
3/8/2012	6.3	0.4	0.0	17.4	33.0	0.0	34.5	6.3	6.4	2.6	7.2	0.0	0.0	0.2
3/9/2012	6.3	0.3	0.0	17.3	33.0	0.0	34.4	6.3	6.4	2.6	7.2	0.0	0.0	0.0
3/10/2012	6.4	1.3	0.0	17.6	33.0	0.0	34.7	6.4	6.4	2.6	7.2	0.0	0.0	1.0
3/11/2012	6.3	0.9	0.0	17.4	33.0	0.0	34.6	6.3	6.4	2.6	7.2	0.0	0.0	0.6
3/12/2012	6.4	1.2	0.0	17.4	33.0	0.0	34.5	6.4	6.4	2.6	7.2	0.0	0.0	0.9
3/13/2012	6.3	0.1	0.0	17.4	33.0	0.0	34.6	6.3	6.4	2.6	7.2	0.0	0.0	-0.3
3/14/2012	6.3	0.7	0.0	17.3	33.0	0.0	34.4	6.3	6.4	2.6	7.2	0.0	0.0	0.4
3/15/2012	6.3	0.7	0.0	17.3	33.0	0.0	34.3	6.3	6.4	2.6	7.2	0.0	0.0	0.5
3/16/2012	6.2	0.1	0.0	17.1	33.0	0.0	34.3	6.2	6.4	2.6	7.2	0.0	0.0	-0.3
3/17/2012	6.3	0.5	0.0	17.4	33.0	0.0	34.5	6.3	6.4	2.6	7.2	0.0	0.0	0.3
3/18/2012	6.3	0.4	0.0	17.9	33.0	0.0	34.7	6.3	6.4	2.6	7.2	0.0	0.0	0.4
3/19/2012	6.2	0.5	0.0	18.2	33.0	0.0	35.0	6.2	6.4	2.6	7.2	0.0	0.0	0.5
3/20/2012	6.3	0.8	0.0	18.0	33.0	0.0	35.0	6.3	6.4	2.6	7.2	0.0	0.0	0.6
3/21/2012	6.3	0.1	0.0	17.7	33.0	0.0	34.8	6.3	6.4	2.6	7.2	0.0	0.0	-0.2

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
3/22/2012	6.3	0.3	0.0	17.5	33.0	0.0	34.7	6.3	6.4	2.6	7.2	0.0	0.0	0.0
3/23/2012	6.3	0.1	0.0	17.4	33.0	0.0	34.5	6.3	6.4	2.6	7.2	0.0	0.0	-0.1
3/24/2012	6.3	0.3	0.0	17.5	33.0	0.0	34.6	6.3	6.4	2.6	7.2	0.0	0.0	0.0
3/25/2012	6.3	0.2	0.0	17.8	33.0	0.0	34.7	6.3	6.4	2.6	7.2	0.0	0.0	0.0
3/26/2012	6.2	0.6	0.0	17.7	33.0	0.0	34.7	6.2	6.4	2.6	7.2	0.0	0.0	0.4
3/27/2012	6.2	0.5	0.0	17.7	33.0	0.0	34.7	6.2	6.4	2.6	7.2	0.0	0.0	0.4
3/28/2012	6.2	0.2	0.0	17.7	33.0	0.0	34.7	6.2	6.4	2.6	7.2	0.0	0.0	0.0
3/29/2012	6.2	0.2	0.0	17.6	33.0	0.0	34.7	6.2	6.4	2.6	7.2	0.0	0.0	-0.1
3/30/2012	6.2	0.3	0.0	17.5	33.0	0.0	34.5	6.2	6.4	2.6	7.2	0.0	0.0	0.1
3/31/2012	6.3	0.1	0.0	17.6	33.0	0.0	34.5	6.3	6.4	2.6	7.2	0.0	0.0	0.0
4/1/2012	0.0	0.2	0.0	17.8	33.0	0.0	27.8	10.4	6.4	0.4	7.2	0.0	0.0	-1.1
4/2/2012	0.0	0.2	0.0	18.5	33.0	0.0	27.8	16.4	6.4	0.9	7.2	0.0	0.0	-6.9
4/3/2012	0.0	0.1	0.0	18.5	33.0	0.0	27.8	15.8	6.4	1.3	7.2	0.0	0.0	-6.9
4/4/2012	0.0	0.3	0.0	18.9	33.0	0.0	27.8	15.9	6.4	1.7	7.2	0.0	0.0	-6.8
4/5/2012	11.3	0.9	0.0	19.5	33.0	0.0	27.8	21.1	6.4	2.2	7.2	0.0	0.0	0.0
4/6/2012	250.3	0.6	0.0	19.6	33.0	0.0	27.8	148.8	6.4	5.5	7.2	0.0	0.0	107.8
4/7/2012	1003.4	0.3	0.0	19.9	33.0	0.0	118.8	606.2	6.4	8.1	7.2	0.0	0.0	309.8
4/8/2012	1634.7	0.0	0.0	20.2	33.0	0.0	648.7	681.0	6.4	8.1	7.2	0.0	0.0	336.4
4/9/2012	1947.1	0.0	0.0	18.7	33.0	0.0	1555.8	319.8	6.4	8.7	7.2	0.0	0.0	100.9
4/10/2012	2029.9	0.4	0.0	16.2	33.0	0.0	1914.7	132.3	6.4	8.7	7.2	0.0	0.0	10.2
4/11/2012	2038.6	1.0	0.0	16.3	33.0	0.0	2005.5	67.2	6.4	8.7	7.2	0.0	0.0	-6.1
4/12/2012	2031.8	0.3	0.0	16.1	33.0	0.0	2017.4	53.4	6.4	8.7	7.2	0.0	0.0	-11.8
4/13/2012	1893.7	0.2	0.0	16.3	33.0	0.0	1933.8	50.8	6.4	8.7	7.2	0.0	0.0	-63.7
4/14/2012	1627.2	0.7	33.5	16.5	33.0	0.0	1710.2	49.4	6.4	8.7	7.2	0.0	0.0	-71.1
4/15/2012	1299.4	0.2	37.2	15.9	33.0	0.0	1385.4	48.2	6.4	8.7	7.2	0.0	0.0	-70.3
4/16/2012	1014.1	0.1	26.4	15.9	33.0	0.0	1089.4	46.2	6.4	8.7	7.2	0.0	0.0	-68.5
4/17/2012	977.6	0.2	0.0	16.2	33.0	0.0	963.0	45.3	6.4	8.7	7.2	0.0	0.0	-3.6
4/18/2012	1001.7	0.1	0.0	16.4	33.0	0.0	982.6	45.6	6.4	8.7	7.2	0.0	0.0	0.6
4/19/2012	983.1	0.2	0.0	16.7	33.0	0.0	988.0	45.5	6.4	8.7	7.2	0.0	0.0	-22.8
4/20/2012	938.4	0.2	0.0	16.9	33.0	0.0	951.0	44.7	6.4	8.7	7.2	0.0	0.0	-29.5
4/21/2012	867.3	0.6	0.0	16.7	33.0	0.0	895.2	43.6	6.4	8.7	7.2	0.0	0.0	-43.5
4/22/2012	752.9	0.5	1.1	17.3	33.0	0.0	804.3	41.1	6.4	8.7	7.2	0.0	0.0	-62.9
4/23/2012	690.7	1.1	0.0	18.9	33.0	0.0	715.2	38.7	6.4	8.7	7.2	0.0	0.0	-32.5
4/24/2012	678.3	1.3	0.0	21.3	33.0	0.0	681.9	38.0	6.4	8.7	7.2	0.0	0.0	-8.3
4/25/2012	686.1	0.1	0.0	17.6	33.0	0.0	679.6	38.3	6.4	8.7	7.2	0.0	0.0	-3.3
4/26/2012	690.1	0.2	0.0	17.9	33.0	0.0	686.9	38.6	6.4	8.7	7.2	0.0	0.0	-6.7
4/27/2012	751.9	0.1	0.0	21.3	33.0	0.0	710.9	40.0	6.4	8.7	7.2	0.0	0.0	33.0
4/28/2012	836.4	0.4	0.0	24.1	33.0	0.0	793.1	41.8	6.4	8.7	7.2	0.0	0.0	36.6
4/29/2012	853.9	0.2	0.0	19.5	33.0	0.0	868.5	43.2	6.4	8.7	7.2	0.0	0.0	-27.3
4/30/2012	719.8	0.2	7.2	19.3	33.0	0.0	779.3	40.3	6.4	8.7	7.2	0.0	0.0	-62.4
5/1/2012	619.9	0.6	6.7	18.4	33.0	0.0	677.9	37.0	6.4	8.7	7.2	0.0	0.0	-58.7
5/2/2012	654.3	0.5	0.0	18.5	33.0	0.0	601.5	35.9	6.4	10.8	7.2	0.0	0.0	44.4
5/3/2012	739.6	0.2	0.0	18.9	33.0	0.0	712.8	39.8	6.4	10.8	7.2	0.0	0.0	14.6
5/4/2012	718.3	0.4	0.0	18.9	33.0	0.0	726.1	39.5	6.4	10.8	7.2	0.0	0.0	-19.4
5/5/2012	677.5	0.3	0.0	18.4	33.0	0.0	705.9	38.7	6.4	10.8	7.2	0.0	0.0	-39.8
5/6/2012	462.2	0.9	88.3	17.8	33.0	0.0	601.3	32.4	6.4	10.8	7.2	0.0	0.0	-55.9
5/7/2012	240.0	0.1	90.0	17.5	33.0	0.0	380.6	21.0	6.4	10.8	7.2	0.0	0.0	-45.3
5/8/2012	89.7	0.5	53.4	17.8	33.0	0.0	193.8	11.5	6.4	10.8	7.2	0.0	0.0	-35.4
5/9/2012	18.7	0.6	19.5	18.6	33.0	0.0	89.8	7.6	6.4	10.8	7.2	0.0	0.0	-31.4
5/10/2012	0.0	0.4	0.0	18.6	33.0	0.0	48.5	4.6	6.4	10.3	7.2	0.0	0.0	-25.0
5/11/2012	0.0	0.2	0.0	18.2	33.0	0.0	39.1	2.9	6.4	5.8	7.2	0.0	0.0	-10.1

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
5/12/2012	0.0	0.1	0.0	18.1	33.0	0.0	38.7	2.7	6.4	4.6	7.2	0.0	0.0	-8.4
5/13/2012	0.0	0.2	0.0	18.0	33.0	0.0	38.6	2.7	6.4	4.5	7.2	0.0	0.0	-8.3
5/14/2012	0.0	0.8	0.0	18.0	33.0	0.0	38.6	2.7	6.4	4.4	7.2	0.0	0.0	-7.6
5/15/2012	0.0	0.8	0.0	17.5	33.0	0.0	38.4	2.7	6.4	4.4	7.2	0.0	0.0	-7.7
5/16/2012	0.0	0.7	0.0	17.0	33.0	0.0	37.9	2.6	6.4	4.4	7.2	0.0	0.0	-7.8
5/17/2012	0.0	1.5	0.0	16.9	33.0	0.0	37.6	2.6	6.4	4.4	7.2	0.0	0.0	-6.8
5/18/2012	0.0	1.0	0.0	16.7	33.0	0.0	37.6	2.6	6.4	4.4	7.2	0.0	0.0	-7.5
5/19/2012	0.0	0.5	0.0	16.7	33.0	0.0	37.5	2.6	6.4	4.3	7.2	0.0	0.0	-7.8
5/20/2012	0.0	1.2	0.0	16.7	33.0	0.0	37.5	2.6	6.4	4.3	7.2	0.0	0.0	-7.1
5/21/2012	0.0	0.4	0.0	16.6	33.0	0.0	37.4	2.5	6.4	4.3	7.2	0.0	0.0	-7.8
5/22/2012	0.0	1.5	0.0	16.6	33.0	0.0	37.5	2.6	6.4	4.3	7.2	0.0	0.0	-6.9
5/23/2012	0.0	1.1	0.0	16.8	33.0	0.0	37.6	2.6	6.4	4.3	7.2	0.0	0.0	-7.2
5/24/2012	0.0	0.4	0.0	17.1	33.0	0.0	37.8	2.6	6.4	4.3	7.2	0.0	0.0	-7.9
5/25/2012	0.0	0.1	0.0	16.8	33.0	0.0	37.8	2.6	6.4	4.3	7.2	0.0	0.0	-8.4
5/26/2012	0.0	0.5	0.0	17.0	33.0	0.0	37.8	2.6	6.4	4.3	7.2	0.0	0.0	-7.8
5/27/2012	0.0	1.3	0.0	17.4	33.0	0.0	38.1	2.6	6.4	4.3	7.2	0.0	0.0	-6.9
5/28/2012	0.0	0.2	0.0	17.8	33.0	0.0	38.5	2.6	6.4	4.3	7.2	0.0	0.0	-8.0
5/29/2012	0.0	0.4	0.0	17.0	33.0	0.0	38.2	2.6	6.4	4.3	7.2	0.0	0.0	-8.3
5/30/2012	0.0	0.5	0.0	16.9	33.0	0.0	37.8	2.6	6.4	4.3	7.2	0.0	0.0	-7.9
5/31/2012	0.0	0.5	0.0	16.7	33.0	0.0	37.6	2.6	6.4	4.3	7.2	0.0	0.0	-7.9
6/1/2012	1125.2	1.2	0.0	16.6	33.0	0.0	510.2	32.8	6.4	10.2	7.2	0.0	0.0	609.2
6/2/2012	689.3	1.3	198.7	16.4	33.0	0.0	937.4	41.0	6.4	12.7	7.2	0.0	0.0	-66.0
6/3/2012	401.9	0.6	52.1	16.5	33.0	0.0	503.4	27.3	6.4	12.7	7.2	0.0	0.0	-53.0
6/4/2012	529.4	0.5	0.0	16.9	33.0	0.0	463.0	30.6	6.4	12.7	7.2	0.0	0.0	59.9
6/5/2012	591.4	0.4	0.0	16.6	33.0	0.0	528.8	33.1	6.4	12.7	7.2	0.0	0.0	53.3
6/6/2012	745.2	0.3	0.0	16.6	33.0	0.0	673.6	39.0	6.4	12.7	7.2	0.0	0.0	56.1
6/7/2012	781.7	0.8	0.0	19.3	33.0	0.0	772.3	40.9	6.4	12.7	7.2	0.0	0.0	-4.8
6/8/2012	770.7	0.9	0.0	20.7	33.0	0.0	772.0	40.4	6.4	12.7	7.2	0.0	0.0	-13.4
6/9/2012	813.7	0.6	0.0	19.1	33.0	0.0	757.9	40.3	6.4	12.7	7.2	0.0	0.0	41.9
6/10/2012	1047.6	1.7	0.0	17.1	33.0	0.0	927.4	44.4	6.4	12.7	7.2	0.0	0.0	101.2
6/11/2012	1313.3	0.7	0.0	19.0	33.0	0.0	1209.8	46.8	6.4	12.7	7.2	0.0	0.0	83.0
6/12/2012	1371.4	0.9	0.0	16.8	33.0	0.0	1366.1	47.1	6.4	12.7	7.2	0.0	0.0	-17.4
6/13/2012	1425.9	1.1	0.0	17.0	33.0	0.0	1374.1	47.2	6.4	12.7	7.2	0.0	0.0	29.4
6/14/2012	1268.4	1.0	33.7	17.6	33.0	0.0	1352.6	46.9	6.4	12.7	7.2	0.0	0.0	-72.2
6/15/2012	1000.1	1.1	36.0	17.8	33.0	0.0	1087.0	44.7	6.4	12.6	7.2	0.0	0.0	-69.8
6/16/2012	874.2	1.6	0.0	18.0	33.0	0.0	874.6	42.3	6.4	12.0	7.2	0.0	0.0	-15.8
6/17/2012	879.7	1.8	0.0	18.4	33.0	0.0	896.0	42.8	6.4	12.0	7.2	0.0	0.0	-31.7
6/18/2012	878.3	1.1	0.0	20.4	33.0	0.0	846.1	42.0	6.4	12.0	7.2	0.0	0.0	19.1
6/19/2012	880.0	0.9	0.0	18.1	33.0	0.0	898.1	42.7	6.4	11.9	7.2	0.0	0.0	-34.2
6/20/2012	873.2	1.8	0.0	16.8	33.0	0.0	839.6	42.0	6.4	12.7	7.2	0.0	0.0	16.8
6/21/2012	886.6	0.8	0.0	16.8	33.0	0.0	886.1	42.9	6.4	12.7	7.2	0.0	0.0	-18.2
6/22/2012	887.5	0.5	0.0	16.8	33.0	0.0	868.2	42.5	6.4	12.7	7.2	0.0	0.0	0.8
6/23/2012	870.8	1.1	0.0	16.7	33.0	0.0	873.7	42.6	6.4	12.7	7.2	0.0	0.0	-21.0
6/24/2012	809.7	0.8	0.0	16.7	33.0	0.0	840.2	41.6	6.4	12.7	7.2	0.0	0.0	-47.8
6/25/2012	690.8	1.5	2.8	16.6	33.0	0.0	743.2	38.6	6.4	12.7	7.2	0.0	0.0	-63.4
6/26/2012	662.9	1.4	0.0	16.4	33.0	0.0	651.3	36.4	6.4	12.5	7.2	0.0	0.0	-0.1
6/27/2012	751.8	2.7	0.0	16.7	33.0	0.0	704.8	38.7	6.4	12.3	7.2	0.0	0.0	34.7
6/28/2012	728.7	4.2	0.0	17.6	33.0	0.0	750.9	39.0	6.4	12.7	7.2	0.0	0.0	-32.7
6/29/2012	607.7	3.8	9.1	16.8	33.0	0.0	666.5	35.5	6.4	12.1	7.2	0.0	0.0	-57.4
6/30/2012	514.6	1.8	0.0	16.4	33.0	0.0	559.0	31.4	6.4	12.0	7.2	0.0	0.0	-50.2
7/1/2012	527.5	3.8	0.0	16.3	33.0	0.0	512.5	30.7	6.4	12.0	7.2	0.0	0.0	11.8

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
7/2/2012	590.9	2.0	0.0	16.0	33.0	0.0	549.3	32.9	6.4	10.6	7.2	0.0	0.0	35.4
7/3/2012	670.4	1.5	0.0	15.7	33.0	0.0	628.1	35.9	6.4	10.5	7.2	0.0	0.0	32.5
7/4/2012	700.6	4.4	0.0	15.9	33.0	0.0	689.7	37.3	6.4	10.5	7.2	0.0	0.0	2.8
7/5/2012	717.4	2.8	0.0	16.5	33.0	0.0	695.7	37.6	6.4	10.5	7.2	0.0	0.0	12.4
7/6/2012	732.5	3.8	0.0	16.9	33.0	0.0	732.8	39.2	6.4	10.5	7.2	0.0	0.0	-9.9
7/7/2012	650.5	2.2	0.0	17.1	33.0	0.0	694.1	37.5	6.4	10.5	7.2	0.0	0.0	-52.8
7/8/2012	570.3	3.6	0.0	17.3	33.0	0.0	615.7	34.7	6.4	10.5	7.2	0.0	0.0	-50.3
7/9/2012	549.6	2.6	0.0	17.9	33.0	0.0	546.3	32.6	6.4	10.5	7.2	0.0	0.0	0.2
7/10/2012	647.1	2.4	0.0	17.4	33.0	0.0	592.0	35.7	6.4	10.5	7.2	0.0	0.0	48.0
7/11/2012	642.8	2.1	0.0	17.5	33.0	0.0	666.4	36.4	6.4	10.5	7.2	0.0	0.0	-31.4
7/12/2012	487.4	2.4	42.0	17.5	33.0	0.0	579.9	31.5	6.4	10.5	7.2	0.0	0.0	-53.2
7/13/2012	346.5	2.8	40.7	17.5	33.0	0.0	437.7	24.8	6.4	10.5	7.2	0.0	0.0	-46.1
7/14/2012	315.0	3.3	0.0	17.5	33.0	0.0	330.7	21.5	6.4	10.5	7.2	0.0	0.0	-7.5
7/15/2012	360.3	3.3	0.0	17.4	33.0	0.0	340.3	23.0	6.4	10.5	7.2	0.0	0.0	26.6
7/16/2012	415.8	1.9	0.0	17.4	33.0	0.0	400.9	25.7	6.4	10.5	7.2	0.0	0.0	17.5
7/17/2012	436.1	2.7	0.0	16.4	33.0	0.0	423.5	25.8	6.4	10.5	7.2	0.0	0.0	14.9
7/18/2012	785.2	2.2	0.0	15.7	33.0	0.0	515.0	34.1	6.4	10.5	7.2	0.0	0.0	262.9
7/19/2012	1159.7	1.8	0.0	15.6	33.0	0.0	1067.7	44.7	6.4	11.2	7.2	0.0	0.0	72.9
7/20/2012	1183.5	2.9	0.0	15.4	33.0	0.0	1170.4	44.7	6.4	11.2	7.2	0.0	0.0	-5.1
7/21/2012	1016.9	2.5	32.4	16.8	33.0	0.0	1099.1	43.5	6.4	11.2	7.2	0.0	0.0	-65.8
7/22/2012	833.6	2.8	3.7	17.5	33.0	0.0	887.8	40.7	6.4	11.2	7.2	0.0	0.0	-62.7
7/23/2012	763.8	3.0	0.0	17.1	33.0	0.0	789.8	38.6	6.4	11.0	7.2	0.0	0.0	-36.0
7/24/2012	758.7	3.1	0.0	17.3	33.0	0.0	745.1	38.0	6.4	10.6	7.2	0.0	0.0	4.8
7/25/2012	887.4	1.4	0.0	17.1	33.0	0.0	799.3	40.3	6.4	10.6	7.2	0.0	0.0	75.1
7/26/2012	1000.6	4.6	0.0	17.2	33.0	0.0	967.5	43.6	6.4	10.5	7.2	0.0	0.0	20.1
7/27/2012	886.9	3.2	17.3	17.0	33.0	0.0	954.2	43.1	6.4	10.6	7.2	0.0	0.0	-64.1
7/28/2012	753.4	3.4	0.0	17.3	33.0	0.0	790.3	39.9	6.4	10.5	7.2	0.0	0.0	-47.2
7/29/2012	708.8	3.2	0.0	16.8	33.0	0.0	731.5	38.4	6.4	10.5	7.2	0.0	0.0	-32.2
7/30/2012	671.0	2.8	0.0	17.9	33.0	0.0	681.0	36.8	6.4	10.5	7.2	0.0	0.0	-17.2
7/31/2012	684.3	2.1	0.0	17.3	33.0	0.0	671.0	36.5	6.4	10.5	7.2	0.0	0.0	5.2
8/1/2012	768.5	4.1	0.0	17.4	33.0	0.0	707.7	37.8	6.4	10.5	7.2	0.0	0.0	53.3
8/2/2012	880.1	3.3	0.0	17.3	33.0	0.0	835.5	40.7	6.4	10.3	7.2	0.0	0.0	33.7
8/3/2012	810.6	1.8	2.1	17.7	33.0	0.0	863.4	40.6	6.4	10.3	7.2	0.0	0.0	-62.8
8/4/2012	623.2	3.2	42.2	20.7	33.0	0.0	719.1	35.9	6.4	10.3	7.2	0.0	0.0	-56.6
8/5/2012	504.2	2.3	7.4	19.5	33.0	0.0	564.1	30.8	6.4	10.3	7.2	0.0	0.0	-52.4
8/6/2012	465.3	2.8	0.0	19.7	33.0	0.0	495.2	28.5	6.4	10.3	7.2	0.0	0.0	-26.8
8/7/2012	447.5	3.1	0.0	18.9	33.0	0.0	457.8	26.7	6.4	10.3	7.2	0.0	0.0	-6.1
8/8/2012	572.2	2.6	0.0	18.7	33.0	0.0	482.1	29.9	6.4	10.3	7.2	0.0	0.0	90.6
8/9/2012	792.8	2.0	0.0	18.2	33.0	0.0	685.5	37.7	6.4	10.3	7.2	0.0	0.0	98.9
8/10/2012	838.7	3.4	0.0	18.7	33.0	0.0	834.6	40.2	6.4	10.3	7.2	0.0	0.0	-5.0
8/11/2012	851.5	3.2	0.0	19.3	33.0	0.0	834.2	40.1	6.4	10.9	7.2	0.0	0.0	8.1
8/12/2012	976.9	5.4	0.0	22.9	33.0	0.0	893.7	41.8	6.4	11.0	7.2	0.0	0.0	78.0
8/13/2012	1219.2	3.9	0.0	18.7	33.0	0.0	1130.2	44.7	6.4	11.0	7.2	0.0	0.0	75.3
8/14/2012	1215.9	3.7	0.0	18.7	33.0	0.0	1237.2	46.4	6.4	11.0	7.2	0.0	0.0	-36.9
8/15/2012	862.3	2.1	124.9	18.5	33.0	0.0	1038.7	44.4	6.4	11.0	7.2	0.0	0.0	-66.9
8/16/2012	597.2	3.4	28.0	19.5	33.0	0.0	677.7	36.2	6.4	11.0	7.2	0.0	0.0	-57.4
8/17/2012	630.6	3.1	0.0	18.8	33.0	0.0	551.1	33.4	6.4	10.6	7.2	0.0	0.0	76.9
8/18/2012	877.2	2.7	0.0	21.8	33.0	0.0	791.0	42.0	6.4	10.4	7.2	0.0	0.0	77.8
8/19/2012	876.2	5.0	0.0	21.1	33.0	0.0	875.6	42.7	6.4	10.3	7.2	0.0	0.0	-7.0
8/20/2012	863.8	1.9	0.0	22.0	33.0	0.0	866.4	42.4	6.4	10.3	7.2	0.0	0.0	-12.0
8/21/2012	856.3	1.5	0.0	21.5	33.0	0.0	856.7	42.2	6.4	10.3	7.2	0.0	0.0	-10.5

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
Date	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo-transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
8/22/2012	882.9	1.8	0.0	20.0	33.0	0.0	857.4	42.4	6.4	10.3	7.2	0.0	0.0	13.9
8/23/2012	936.2	3.8	0.0	19.4	33.0	0.0	909.7	42.8	6.4	10.3	7.2	0.0	0.0	16.0
8/24/2012	901.1	2.3	0.0	19.6	33.0	0.0	933.2	42.0	6.4	10.3	7.2	0.0	0.0	-43.2
8/25/2012	753.5	1.0	18.0	19.9	33.0	0.0	824.4	39.3	6.4	10.3	7.2	0.0	0.0	-62.2
8/26/2012	598.9	2.5	29.4	19.6	33.0	0.0	680.9	34.7	6.4	10.3	7.2	0.0	0.0	-56.1
8/27/2012	563.4	0.9	0.0	19.8	33.0	0.0	571.3	32.1	6.4	10.3	7.2	0.0	0.0	-10.2
8/28/2012	576.9	1.2	0.0	19.6	33.0	0.0	575.3	32.4	6.4	10.3	7.2	0.0	0.0	-1.0
8/29/2012	547.1	2.2	0.0	19.5	33.0	0.0	577.3	31.9	6.4	10.3	7.2	0.0	0.0	-31.2
8/30/2012	477.5	1.3	0.0	19.3	33.0	0.0	524.8	29.1	6.4	10.3	7.2	0.0	0.0	-46.8
8/31/2012	425.1	3.0	0.0	19.6	33.0	0.0	466.8	26.5	6.4	10.3	7.2	0.0	0.0	-36.6
9/1/2012	403.8	2.2	0.0	22.1	33.0	0.0	424.3	24.9	6.4	10.3	7.2	0.0	0.0	-12.0
9/2/2012	412.2	3.4	0.0	23.7	33.0	0.0	422.8	25.1	6.4	8.6	7.2	0.0	0.0	2.2
9/3/2012	420.8	2.1	0.0	22.1	33.0	0.0	432.9	25.5	6.4	8.6	7.2	0.0	0.0	-2.6
9/4/2012	423.2	2.5	0.0	22.8	33.0	0.0	438.1	25.9	6.4	8.6	7.2	0.0	0.0	-4.8
9/5/2012	368.5	5.3	0.8	25.1	33.0	0.0	427.4	24.3	6.4	8.6	7.2	0.0	0.0	-41.2
9/6/2012	364.8	3.6	0.0	23.3	33.0	0.0	369.7	22.9	6.4	8.6	7.2	0.0	0.0	9.9
9/7/2012	461.0	3.0	0.0	22.5	33.0	0.0	419.2	26.5	6.4	8.6	7.2	0.0	0.0	51.5
9/8/2012	505.5	2.5	0.0	25.5	33.0	0.0	503.0	29.9	6.4	8.6	7.2	0.0	0.0	11.5
9/9/2012	438.6	0.8	13.9	21.6	33.0	0.0	507.1	28.5	6.4	8.6	7.2	0.0	0.0	-49.9
9/10/2012	301.8	3.6	40.6	21.1	33.0	0.0	396.5	22.3	6.4	8.6	7.2	0.0	0.0	-40.9
9/11/2012	170.8	4.9	54.7	20.7	33.0	0.0	279.2	15.9	6.4	8.6	7.2	0.0	0.0	-33.2
9/12/2012	50.8	3.0	44.5	20.6	33.0	0.0	148.9	9.2	6.4	8.6	7.2	0.0	0.0	-28.5
9/13/2012	66.9	1.9	0.0	20.4	33.0	0.0	69.8	7.5	6.4	8.6	7.2	0.0	0.0	22.7
9/14/2012	297.1	2.2	0.0	20.3	33.0	0.0	163.1	15.8	6.4	8.6	7.2	0.0	0.0	151.5
9/15/2012	9.0	1.9	3.0	20.5	33.0	0.0	65.5	9.0	6.4	5.1	7.2	0.0	0.0	-25.9
9/16/2012	6.5	2.0	0.0	21.1	33.0	0.0	37.2	6.5	6.4	5.1	7.2	0.0	0.0	0.1
9/17/2012	6.3	1.6	0.0	20.7	33.0	0.0	34.8	6.3	6.4	5.1	7.2	0.0	0.0	1.8
9/18/2012	6.2	2.0	0.0	20.6	33.0	0.0	33.7	6.2	6.4	5.1	7.2	0.0	0.0	3.2
9/19/2012	6.3	2.2	0.0	20.3	33.0	0.0	33.9	6.3	6.4	5.1	7.2	0.0	0.0	2.8
9/20/2012	7.4	3.4	0.0	19.8	33.0	0.0	34.2	7.4	6.4	5.1	7.2	0.0	0.0	3.2
9/21/2012	10.3	1.9	0.0	20.3	33.0	0.0	35.3	10.3	6.4	5.1	7.2	0.0	0.0	1.1
9/22/2012	10.9	3.9	0.0	19.9	33.0	0.0	37.7	10.9	6.4	5.1	7.2	0.0	0.0	0.3
9/23/2012	9.2	3.9	0.0	19.8	33.0	0.0	37.8	9.2	6.4	5.1	7.2	0.0	0.0	0.1
9/24/2012	7.4	2.4	0.0	20.1	33.0	0.0	36.2	7.4	6.4	5.1	7.2	0.0	0.0	0.4
9/25/2012	6.3	3.2	0.0	19.6	33.0	0.0	34.8	6.3	6.4	5.1	7.2	0.0	0.0	2.3
9/26/2012	6.1	0.5	0.0	19.5	33.0	0.0	34.4	6.1	6.4	5.1	7.2	0.0	0.0	-0.1
9/27/2012	6.1	2.5	0.0	19.6	33.0	0.0	34.2	6.1	6.4	5.1	7.2	0.0	0.0	2.1
9/28/2012	6.2	0.9	0.0	19.6	33.0	0.0	34.2	6.2	6.4	5.1	7.2	0.0	0.0	0.6
9/29/2012	6.2	0.2	0.0	19.7	33.0	0.0	34.0	6.2	6.4	5.1	7.2	0.0	0.0	0.1
9/30/2012	6.1	3.0	0.0	19.8	33.0	0.0	34.0	6.1	6.4	5.1	7.2	0.0	0.0	3.1
10/1/2012	6.2	1.2	0.0	19.2	33.0	0.0	34.1	6.2	6.4	0.0	7.2	0.0	0.0	5.7
10/2/2012	6.1	1.2	0.0	19.0	33.0	0.0	33.9	6.1	6.4	0.0	7.2	0.0	0.0	5.7
10/3/2012	6.1	1.9	0.0	19.0	33.0	0.0	34.3	6.1	6.4	0.0	7.2	0.0	0.0	5.9
10/4/2012	6.2	2.0	0.0	18.8	33.0	0.0	34.3	6.2	6.4	0.0	7.2	0.0	0.0	5.9
10/5/2012	6.1	1.1	0.0	18.9	33.0	0.0	33.8	6.1	6.4	0.0	7.2	0.0	0.0	5.7
10/6/2012	6.1	0.2	0.0	18.7	33.0	0.0	33.5	6.1	6.4	0.0	7.2	0.0	0.0	4.9
10/7/2012	6.1	0.5	0.0	18.7	33.0	0.0	33.6	6.1	6.4	0.0	7.2	0.0	0.0	5.0
10/8/2012	6.1	0.5	0.0	18.6	33.0	0.0	33.5	6.1	6.4	0.0	7.2	0.0	0.0	5.0
10/9/2012	6.1	0.7	0.0	18.7	33.0	0.0	33.6	6.1	6.4	0.0	7.2	0.0	0.0	5.1
10/10/2012	6.1	0.8	0.0	19.0	33.0	0.0	33.6	6.1	6.4	0.0	7.2	0.0	0.0	5.6
10/11/2012	6.0	1.3	0.0	18.7	33.0	0.0	33.6	6.0	6.4	0.0	7.2	0.0	0.0	5.7

Table G2-4: RGCP Channel Water Budget Equation Analysis Segment 4

2010-12 Study Period

(Units - Acre-Feet)

	Segment 4 - Anthony Metering Station to American Dam (Lower Reach B)													
	Qcus	Pc	Qcin	Qirf	Qeff	Qgwrf	Qcds	Qcs	Qfpr	ET	ET	Qda	Qdu	Δsic
	Upstream Channel Inflow, below Anthony Station	Precipitation Flows in River Channel	In-channel Stormwater/ Ungaged Return Inflow	Irrigation Return Flow (Nemexas Drain, East Drain, and West Drain)	Treated Effluent Return Flow	Groundwater Return Flow	Downstream Channel Outflow, above American Dam	Channel Seepage	MODFLOW Floodplain Recharge	Open Water Channel Evaporation	MODFLOW Riparian Evapo- transpiration	Diversions Authorized (None)	Diversions Unauthorized (1% of Authorized)	In-channel Change in Storage
Date														
10/12/2012	6.1	0.5	0.0	19.0	33.0	0.0	33.7	6.1	6.4	0.0	7.2	0.0	0.0	5.3
10/13/2012	6.2	1.6	0.0	18.9	33.0	0.0	33.6	6.2	6.4	0.0	7.2	0.0	0.0	6.2
10/14/2012	6.1	0.9	0.0	18.7	33.0	0.0	33.7	6.1	6.4	0.0	7.2	0.0	0.0	5.3
10/15/2012	6.1	0.9	0.0	18.7	33.0	0.0	33.6	6.1	6.4	0.0	7.2	0.0	0.0	5.4
10/16/2012	6.1	1.1	0.0	18.8	33.0	0.0	34.0	6.1	6.4	0.0	7.2	0.0	0.0	5.3
10/17/2012	6.1	1.4	0.0	18.9	33.0	0.0	34.2	6.1	6.4	0.0	7.2	0.0	0.0	5.5
10/18/2012	6.1	1.2	0.0	18.9	33.0	0.0	34.3	6.1	6.4	0.0	7.2	0.0	0.0	5.2
10/19/2012	6.1	0.8	0.0	0.0	33.0	0.0	34.5	6.1	6.4	0.0	7.2	0.0	0.0	-14.3
10/20/2012	6.1	1.0	0.0	0.0	33.0	0.0	34.6	6.1	6.4	0.0	7.2	0.0	0.0	-14.2
10/21/2012	6.0	1.4	0.0	0.0	33.0	0.0	34.6	6.0	6.4	0.0	7.2	0.0	0.0	-13.8
10/22/2012	6.1	2.0	0.0	18.8	33.0	0.0	34.8	6.1	6.4	0.0	7.2	0.0	0.0	5.3
10/23/2012	6.1	1.9	0.0	18.4	33.0	0.0	35.9	6.1	6.4	0.0	7.2	0.0	0.0	3.7
10/24/2012	6.2	1.1	0.0	19.0	33.0	0.0	36.5	6.2	6.4	0.0	7.2	0.0	0.0	3.1
10/25/2012	6.1	1.5	0.0	18.7	33.0	0.0	36.8	6.1	6.4	0.0	7.2	0.0	0.0	2.8
10/26/2012	6.1	1.1	0.0	18.8	33.0	0.0	35.6	6.1	6.4	0.0	7.2	0.0	0.0	3.7
10/27/2012	6.1	1.4	0.0	18.7	33.0	0.0	34.8	6.1	6.4	0.0	7.2	0.0	0.0	4.6
10/28/2012	6.1	1.6	0.0	18.7	33.0	0.0	34.8	6.1	6.4	0.0	7.2	0.0	0.0	4.8
10/29/2012	6.3	1.2	0.0	18.6	33.0	0.0	34.6	6.3	6.4	0.0	7.2	0.0	0.0	4.6
10/30/2012	6.2	0.9	0.0	18.7	33.0	0.0	34.5	6.2	6.4	0.0	7.2	0.0	0.0	4.5
10/31/2012	6.2	0.8	0.0	18.6	33.0	0.0	34.6	6.2	6.4	0.0	7.2	0.0	0.0	4.2
11/1/2012	6.3	0.2	0.0	28.4	33.0	0.8	34.5	6.3	0.1	0.0	2.5	0.0	0.0	25.3
11/2/2012	6.3	0.7	0.0	28.6	33.0	0.8	34.6	6.3	0.1	0.0	2.5	0.0	0.0	25.9
11/3/2012	6.3	1.0	0.0	28.7	33.0	0.8	34.7	6.3	0.1	0.0	2.5	0.0	0.0	26.3
11/4/2012	6.5	0.5	0.0	28.5	33.0	0.8	35.5	6.5	0.1	0.0	2.5	0.0	0.0	24.7
11/5/2012	6.6	0.1	0.0	28.3	33.0	0.8	36.4	6.6	0.1	0.0	2.5	0.0	0.0	23.1
11/6/2012	6.7	0.8	0.0	28.2	33.0	0.8	36.2	6.7	0.1	0.0	2.5	0.0	0.0	23.9
11/7/2012	6.8	0.8	0.0	27.9	33.0	0.8	36.2	6.8	0.1	0.0	2.5	0.0	0.0	23.7
11/8/2012	6.8	0.9	0.0	27.2	33.0	0.8	36.2	6.8	0.1	0.0	2.5	0.0	0.0	23.1
11/9/2012	7.0	0.2	0.0	26.9	33.0	0.8	36.5	7.0	0.1	0.0	2.5	0.0	0.0	21.8
11/10/2012	7.1	0.4	0.0	27.1	33.0	0.8	36.4	7.1	0.1	0.0	2.5	0.0	0.0	22.2
11/11/2012	7.1	0.8	0.0	26.9	33.0	0.8	36.6	7.1	0.1	0.0	2.5	0.0	0.0	22.4
11/12/2012	7.2	0.9	0.0	25.8	33.0	0.8	37.0	7.2	0.1	0.0	2.5	0.0	0.0	20.8
11/13/2012	7.4	1.8	0.0	25.9	33.0	0.8	37.0	7.4	0.1	0.0	2.5	0.0	0.0	21.8
11/14/2012	7.5	1.7	0.0	25.9	33.0	0.8	37.2	7.5	0.1	0.0	2.5	0.0	0.0	21.6
11/15/2012	7.5	1.5	0.0	26.3	33.0	0.8	37.3	7.5	0.1	0.0	2.5	0.0	0.0	21.7
11/16/2012	7.7	0.6	0.0	26.9	33.0	0.8	37.3	7.7	0.1	0.0	2.5	0.0	0.0	21.3
11/17/2012	7.7	0.3	0.0	26.9	33.0	0.8	37.3	7.7	0.1	0.0	2.5	0.0	0.0	21.0
11/18/2012	7.6	0.5	0.0	27.5	33.0	0.8	37.5	7.6	0.1	0.0	2.5	0.0	0.0	21.7
11/19/2012	7.5	0.1	0.0	27.6	33.0	0.8	37.4	7.5	0.1	0.0	2.5	0.0	0.0	21.4
11/20/2012	7.5	0.3	0.0	25.7	33.0	0.8	37.4	7.5	0.1	0.0	2.5	0.0	0.0	19.7
11/21/2012	7.6	0.5	0.0	26.8	33.0	0.8	37.7	7.6	0.1	0.0	2.5	0.0	0.0	20.8
11/22/2012	7.6	0.7	0.0	26.8	33.0	0.8	37.8	7.6	0.1	0.0	2.5	0.0	0.0	20.8
11/23/2012	7.6	0.3	0.0	25.3	33.0	0.8	38.2	7.6	0.1	0.0	2.5	0.0	0.0	18.6
11/24/2012	7.7	1.0	0.0	24.8	33.0	0.8	38.3	7.7	0.1	0.0	2.5	0.0	0.0	18.7
11/25/2012	7.7	0.4	0.0	24.0	33.0	0.8	38.3	7.7	0.1	0.0	2.5	0.0	0.0	17.4
11/26/2012	7.8	1.2	0.0	24.4	33.0	0.8	37.8	7.8	0.1	0.0	2.5	0.0	0.0	18.9
11/27/2012	7.7	0.9	0.0	23.5	33.0	0.8	37.6	7.7	0.1	0.0	2.5	0.0	0.0	18.0
11/28/2012	7.8	0.7	0.0	30.0	33.0	0.8	37.2	7.8	0.1	0.0	2.5	0.0	0.0	24.6
11/29/2012	7.8	0.7	0.0	37.6	33.0	0.8	37.0	7.8	0.1	0.0	2.5	0.0	0.0	32.5
11/30/2012	7.8	0.9	0.0	34.6	33.0	0.8	36.9	7.8	0.1	0.0	2.5	0.0	0.0	29.8

RGCP - Project Scale Water Budget - Segment 4 (Anthony Metering Station to American Dam)

$$\Delta Sic = (Qus + Pc + Qcin + Qirf + Qgwrf) - (Qcds + Qcs + Qfpr + ET + Qda + Qdu)$$

- Sum of Inflow
- Sum of Outflow
- ΔSic - Change in Channel Storage

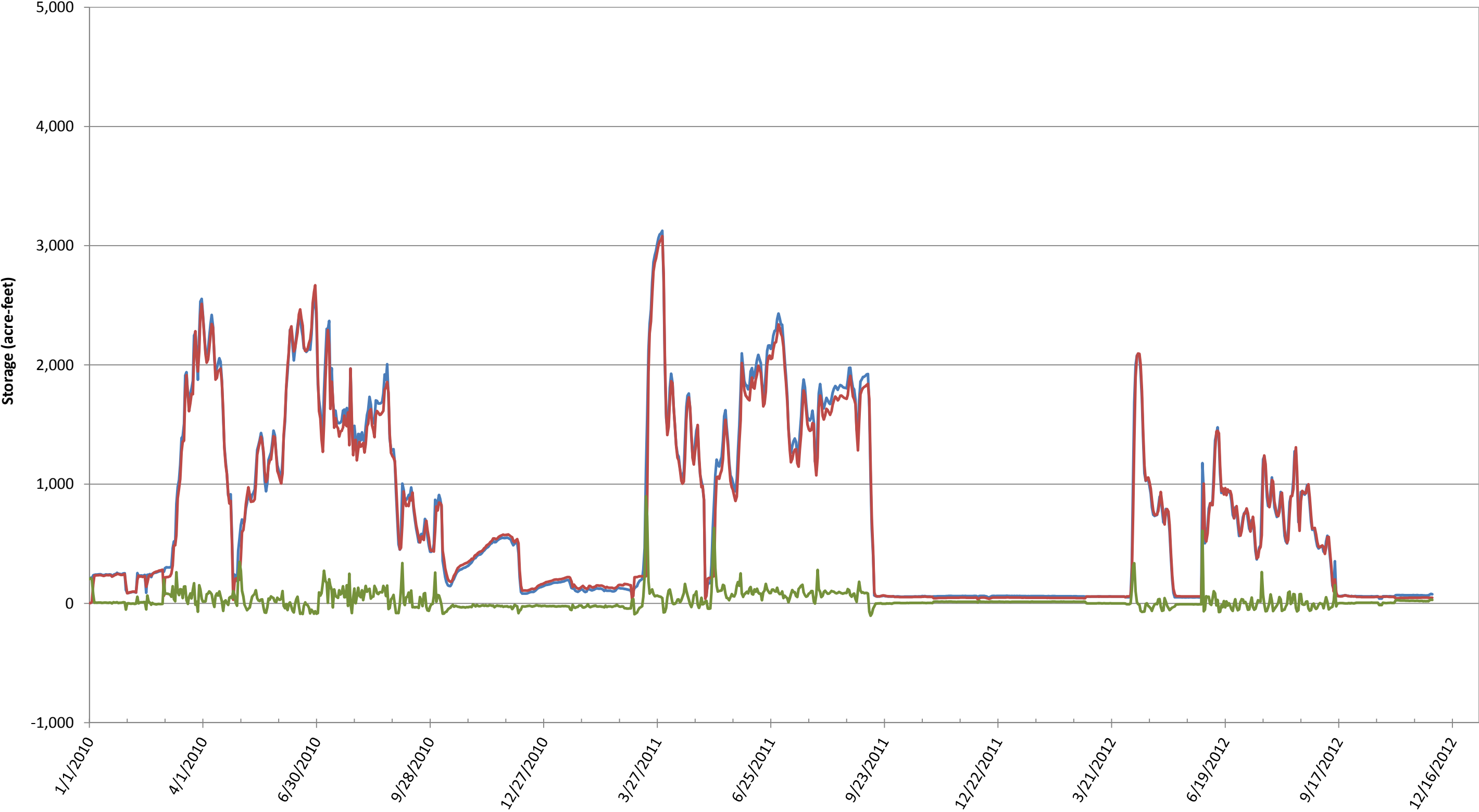


Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwr	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwr	Qgwr	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RRF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Groundwater Return Flow = Groundwater RRF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage	
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
1/1/2010	1.7	3.7	301.1	59.1	184.4	243.5	0.0	1.7	3.7	5.5	18.4	131.8	0.0	150.2	394.5	87.8	5.5	301.1	243.5	0.0	-451.3
1/2/2010	1.8	4.6	251.5	59.1	191.2	250.3	0.0	4.9	3.7	8.6	18.4	131.8	0.0	150.2	349.5	87.8	8.6	251.5	250.3	0.0	-405.4
1/3/2010	2.1	2.9	252.1	59.1	190.1	249.2	10.0	18.4	3.7	22.2	18.4	131.8	0.0	150.2	324.0	87.8	22.2	252.1	249.2	0.0	-391.2
1/4/2010	2.2	4.1	246.0	59.1	192.3	251.4	137.0	57.8	3.7	61.6	18.4	131.8	0.0	150.2	155.0	87.8	61.6	246.0	251.4	0.0	-348.0
1/5/2010	2.2	2.7	257.0	59.1	192.5	251.6	207.0	61.2	3.7	64.9	18.4	131.8	0.0	150.2	91.4	87.8	64.9	257.0	251.6	0.0	-355.8
1/6/2010	2.2	5.5	256.8	59.1	195.0	254.1	208.1	61.6	3.7	65.3	18.4	131.8	0.0	150.2	95.1	87.8	65.3	256.8	254.1	0.0	-357.8
1/7/2010	2.1	5.2	259.8	59.1	195.1	254.2	209.3	61.5	3.7	65.2	18.4	131.8	0.0	150.2	96.7	87.8	65.2	259.8	254.2	0.0	-361.0
1/8/2010	2.0	5.4	261.9	59.1	195.1	254.2	209.5	61.3	3.7	65.0	18.4	131.8	0.0	150.2	98.9	87.8	65.0	261.9	254.2	0.0	-363.3
1/9/2010	1.9	3.9	265.2	59.1	197.0	256.1	210.6	60.8	3.7	64.5	18.4	131.8	0.0	150.2	101.9	87.8	64.5	265.2	256.1	0.0	-369.0
1/10/2010	1.9	3.1	265.3	59.1	197.3	256.4	211.3	60.9	3.7	64.6	18.4	131.8	0.0	150.2	100.8	87.8	64.6	265.3	256.4	0.0	-369.3
1/11/2010	2.1	5.9	266.2	59.1	192.0	251.2	208.1	61.0	3.7	64.7	18.4	131.8	0.0	150.2	102.4	87.8	64.7	266.2	251.2	0.0	-364.8
1/12/2010	2.2	4.6	266.2	59.1	189.1	248.2	204.4	61.4	3.7	65.1	18.4	131.8	0.0	150.2	101.7	87.8	65.1	266.2	248.2	0.0	-361.5
1/13/2010	2.2	5.6	266.2	59.1	192.4	251.6	205.3	61.8	3.7	65.6	18.4	131.8	0.0	150.2	104.5	87.8	65.6	266.2	251.6	0.0	-364.4
1/14/2010	2.1	3.1	266.5	59.1	196.6	255.7	209.0	62.3	3.7	66.0	18.4	131.8	0.0	150.2	102.2	87.8	66.0	266.5	255.7	0.0	-368.3
1/15/2010	1.9	3.3	267.2	59.1	195.5	254.7	209.8	62.4	3.7	66.1	18.4	131.8	0.0	150.2	101.1	87.8	66.1	267.2	254.7	0.0	-367.9
1/16/2010	2.0	1.1	244.3	59.1	194.7	253.8	209.2	62.4	3.7	66.2	18.4	131.8	0.0	150.2	75.6	87.8	66.2	244.3	253.8	0.0	-344.1
1/17/2010	1.9	4.4	244.6	59.1	195.9	255.0	209.7	62.2	3.7	66.0	18.4	131.8	0.0	150.2	80.1	87.8	66.0	244.6	255.0	0.0	-345.8
1/18/2010	1.9	6.9	244.5	59.1	194.4	253.5	209.2	62.3	3.7	66.0	18.4	131.8	0.0	150.2	81.5	87.8	66.0	244.5	253.5	0.0	-344.2
1/19/2010	1.9	3.7	244.6	59.1	178.0	237.1	197.7	62.0	3.7	65.7	18.4	131.8	0.0	150.2	73.6	87.8	65.7	244.6	237.1	0.0	-328.1
1/20/2010	1.9	4.2	247.1	59.1	192.1	251.3	202.2	62.0	3.7	65.8	18.4	131.8	0.0	150.2	86.3	87.8	65.8	247.1	251.3	0.0	-344.7
1/21/2010	2.1	4.5	247.4	59.1	197.8	257.0	210.3	62.2	3.7	65.9	18.4	131.8	0.0	150.2	84.6	87.8	65.9	247.4	257.0	0.0	-350.6
1/22/2010	2.1	3.7	251.6	59.1	200.1	259.2	213.0	62.2	3.7	65.9	18.4	131.8	0.0	150.2	87.5	87.8	65.9	251.6	259.2	0.0	-357.0
1/23/2010	2.1	1.3	252.2	59.1	211.0	270.1	220.4	62.7	3.7	66.4	18.4	131.8	0.0	150.2	88.8	87.8	66.4	252.2	270.1	0.0	-368.1
1/24/2010	2.1	3.7	252.2	59.1	200.9	260.0	217.8	62.6	3.7	66.3	18.4	131.8	0.0	150.2	83.7	87.8	66.3	252.2	260.0	0.0	-358.0
1/25/2010	2.1	4.8	252.2	59.1	198.7	257.8	214.8	61.5	3.7	65.2	18.4	131.8	0.0	150.2	86.7	87.8	65.2	252.2	257.8	0.0	-356.9
1/26/2010	1.8	3.1	246.3	59.1	196.2	255.3	212.9	59.4	3.7	63.1	18.4	131.8	0.0	150.2	80.3	87.8	63.1	246.3	255.3	0.0	-350.7
1/27/2010	91.4	3.5	247.0	59.1	197.6	256.7	212.5	72.3	3.7	76.1	18.4	131.8	0.0	150.2	159.9	87.8	76.1	247.0	256.7	0.0	-339.8
1/28/2010	176.3	4.2	249.4	59.1	205.9	265.0	216.7	74.0	3.7	77.8	18.4	131.8	0.0	150.2	250.4	87.8	77.8	249.4	265.0	0.0	-348.9
1/29/2010	175.9	2.7	249.3	59.1	206.6	265.7	219.7	76.4	3.7	80.1	18.4	131.8	0.0	150.2	243.7	87.8	80.1	249.3	265.7	0.0	-347.1
1/30/2010	177.0	3.6	249.3	59.1	39.8	98.9	109.6	107.7	3.7	111.5	18.4	131.8	0.0	150.2	157.5	87.8	111.5	249.3	98.9	0.0	-148.9
1/31/2010	177.6	5.7	242.1	59.1	38.8	98.0	60.5	84.8	3.7	88.6	18.4	131.8	0.0	150.2	224.1	87.8	88.6	242.1	98.0	0.0	-163.7
2/1/2010	178.1	2.6	241.6	59.1	38.6	97.7	58.9	91.6	3.7	95.4	18.4	131.8	0.0	150.2	215.5	87.8	95.4	241.6	97.7	0.0	-156.1
2/2/2010	178.8	3.3	243.1	59.1	38.1	97.3	62.4	94.0	3.7	97.7	18.4	131.8	0.0	150.2	212.2	87.8	97.7	243.1	97.3	0.0	-154.8
2/3/2010	104.7	4.0	243.0	59.1	39.7	98.8	63.9	93.2	3.7	96.9	18.4	131.8	0.0	150.2	139.5	87.8	96.9	243.0	98.8	0.0	-157.0
2/4/2010																					

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
3/12/2010	1517.1	4.3	303.5	31.8	227.6	259.4	816.2	447.4	354.0	801.4	58.1	307.5	70.7	436.3	30.5	40.6	801.4	303.5	259.4	0.0	279.1
3/13/2010	1769.7	1.4	303.5	31.8	236.6	268.5	899.0	425.1	354.0	779.1	58.1	307.5	70.7	436.3	228.5	40.6	779.1	303.5	268.5	0.0	247.8
3/14/2010	1767.8	2.2	303.6	31.8	256.5	288.3	974.8	414.3	354.0	768.3	58.1	307.5	70.7	436.3	182.5	40.6	768.3	303.6	288.3	0.0	217.0
3/15/2010	1881.6	2.8	303.6	31.8	265.7	297.5	1201.2	396.3	354.0	750.3	58.1	307.5	70.7	436.3	97.8	40.6	750.3	303.6	297.5	0.0	189.8
3/16/2010	2498.5	0.5	303.6	31.8	266.6	298.4	1285.8	381.7	354.0	735.7	58.1	307.5	70.7	436.3	643.3	40.6	735.7	303.6	298.4	0.0	174.3
3/17/2010	2628.1	1.3	306.1	31.8	289.7	321.6	1296.6	383.5	354.0	737.5	58.1	307.5	70.7	436.3	786.5	40.6	737.5	306.1	321.6	0.0	150.5
3/18/2010	2420.3	3.1	314.1	31.8	312.6	344.5	1697.1	384.3	354.0	738.3	58.1	307.5	70.7	436.3	210.2	40.6	738.3	314.1	344.5	0.0	120.3
3/19/2010	2251.8	1.8	314.3	31.8	309.2	341.0	1843.3	378.8	354.0	732.8	58.1	307.5	70.7	436.3	-103.6	40.6	732.8	314.3	341.0	0.0	118.2
3/20/2010	2375.5	3.3	314.3	31.8	267.7	299.5	1678.1	373.8	354.0	727.8	58.1	307.5	70.7	436.3	150.4	40.6	727.8	314.3	299.5	0.0	154.6
3/21/2010	2610.9	0.8	314.2	31.8	260.4	292.2	1542.9	374.1	354.0	728.1	58.1	307.5	70.7	436.3	510.8	40.6	728.1	314.2	292.2	0.0	162.3
3/22/2010	2605.3	3.0	314.2	31.8	276.8	308.6	1611.5	375.5	354.0	729.5	58.1	307.5	70.7	436.3	453.8	40.6	729.5	314.2	308.6	0.0	147.3
3/23/2010	3023.8	0.7	314.3	31.8	266.8	298.6	1687.9	376.1	354.0	730.1	58.1	307.5	70.7	436.3	783.1	40.6	730.1	314.3	298.6	0.0	157.8
3/24/2010	3724.5	0.8	315.2	31.8	252.4	284.2	1684.4	381.5	354.0	735.5	58.1	307.5	70.7	436.3	1468.4	40.6	735.5	315.2	284.2	0.0	176.8
3/25/2010	3554.5	1.0	315.3	31.8	286.0	317.8	2007.2	385.7	354.0	739.7	58.1	307.5	70.7	436.3	1005.3	40.6	739.7	315.3	317.8	0.0	147.2
3/26/2010	3374.1	3.0	315.9	31.8	283.7	315.5	2212.1	382.7	354.0	736.7	58.1	307.5	70.7	436.3	623.3	40.6	736.7	315.9	315.5	0.0	146.0
3/27/2010	3377.6	4.4	323.2	31.8	267.5	299.3	1994.9	379.6	354.0	733.6	58.1	307.5	70.7	436.3	839.6	40.6	733.6	323.2	299.3	0.0	151.8
3/28/2010	3616.6	1.4	323.4	31.8	0.0	31.8	1875.3	379.5	354.0	733.5	58.1	307.5	70.7	436.3	928.1	40.6	733.5	323.4	31.8	0.0	418.9
3/29/2010	3855.6	1.5	323.8	31.8	320.5	352.4	2042.7	381.4	354.0	735.4	58.1	307.5	70.7	436.3	1318.8	40.6	735.4	323.8	352.4	0.0	99.8
3/30/2010	3924.6	0.6	324.3	31.8	337.2	369.0	2344.2	382.5	354.0	736.5	58.1	307.5	70.7	436.3	1101.4	40.6	736.5	324.3	369.0	0.0	83.9
3/31/2010	3964.3	0.3	326.1	31.8	310.4	342.2	2440.6	381.5	354.0	735.5	58.1	307.5	70.7	436.3	1020.6	40.6	735.5	326.1	342.2	0.0	107.8
4/1/2010	3937.4	0.5	390.4	31.8	293.8	325.6	2336.9	379.6	354.0	733.6	58.1	307.5	99.9	465.5	1117.9	40.6	733.6	390.4	325.6	0.0	58.2
4/2/2010	3743.1	2.2	403.3	31.8	302.8	334.6	2179.7	376.8	354.0	730.8	58.1	307.5	99.9	465.5	1107.3	40.6	730.8	403.3	334.6	0.0	33.5
4/3/2010	3612.5	1.7	411.1	31.8	298.3	330.1	2019.1	373.7	354.0	727.7	58.1	307.5	99.9	465.5	1143.1	40.6	727.7	411.1	330.1	0.0	27.1
4/4/2010	3617.5	2.4	416.3	31.8	344.6	376.4	1945.4	372.3	354.0	726.3	58.1	307.5	99.9	465.5	1275.4	40.6	726.3	416.3	376.4	0.0	-25.8
4/5/2010	3839.9	3.9	415.2	31.8	337.2	369.0	1971.6	372.6	354.0	726.6	58.1	307.5	99.9	465.5	1464.3	40.6	726.6	415.2	369.0	0.0	-16.9
4/6/2010	4038.4	3.3	423.6	31.8	345.6	377.5	2058.8	373.4	354.0	727.4	58.1	307.5	99.9	465.5	1591.0	40.6	727.4	423.6	377.5	0.0	-33.0
4/7/2010	4272.1	2.0	424.6	31.8	345.7	377.5	2181.2	374.3	354.0	728.3	58.1	307.5	99.9	465.5	1701.2	40.6	728.3	424.6	377.5	0.0	-33.2
4/8/2010	4297.7	0.7	425.8	31.8	348.6	380.4	2269.9	374.4	354.0	728.4	58.1	307.5	99.9	465.5	1640.8	40.6	728.4	425.8	380.4	0.0	-37.1
4/9/2010	3875.9	0.1	431.4	31.8	329.9	361.7	2238.2	371.7	354.0	725.7	58.1	307.5	99.9	465.5	1239.7	40.6	725.7	431.4	361.7	0.0	-26.8
4/10/2010	3644.8	0.6	456.3	31.8	314.2	346.0	2012.0	368.0	354.0	722.0	58.1	307.5	99.9	465.5	1248.3	40.6	722.0	456.3	346.0	0.0	-39.7
4/11/2010	3651.1	3.9	460.6	31.8	323.5																

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwr	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwr	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
5/26/2010	3266.6	1.4	497.4	31.8	182.8	214.6	1218.9	156.8	354.0	510.8	58.1	307.5	128.4	494.0	1756.3	40.6	510.8	497.4	214.6	0.0	-160.5
5/27/2010	3096.4	5.7	497.4	31.8	188.5	220.3	1316.9	157.0	354.0	511.0	58.1	307.5	128.4	494.0	1497.9	40.6	511.0	497.4	220.3	0.0	-166.1
5/28/2010	2825.2	3.6	497.9	31.8	175.9	207.7	1308.7	155.5	354.0	509.5	58.1	307.5	128.4	494.0	1222.2	40.6	509.5	497.9	207.7	0.0	-155.5
5/29/2010	2703.9	1.9	498.9	31.8	163.3	195.2	1162.3	151.4	354.0	505.4	58.1	307.5	128.2	493.8	1238.3	40.6	505.4	498.9	195.2	0.0	-148.0
5/30/2010	2703.7	1.6	498.9	31.8	171.1	202.9	1031.8	149.3	354.0	503.3	58.1	307.5	127.3	492.9	1379.1	40.6	503.3	498.9	202.9	0.0	-157.9
5/31/2010	2798.7	3.2	499.0	31.8	167.3	199.1	1000.7	148.3	354.0	502.3	58.1	307.5	127.1	492.7	1504.3	40.6	502.3	499.0	199.1	0.0	-155.2
6/1/2010	2978.1	3.5	514.8	31.8	158.7	190.5	961.6	147.6	354.0	501.6	58.1	307.5	150.5	516.1	1707.7	40.6	501.6	514.8	190.5	0.0	-163.1
6/2/2010	3378.2	3.3	525.9	31.8	170.4	202.2	925.3	147.5	354.0	501.5	58.1	307.5	150.5	516.1	2166.6	40.6	501.5	525.9	202.2	0.0	-185.9
6/3/2010	3606.7	4.7	531.4	31.8	165.6	197.5	1008.8	151.0	354.0	505.0	58.1	307.5	150.3	515.9	2310.6	40.6	505.0	531.4	197.5	0.0	-183.2
6/4/2010	3722.1	3.3	521.4	31.8	177.8	209.7	1324.2	156.1	354.0	510.1	58.1	307.5	151.9	517.5	2104.6	40.6	510.1	521.4	209.7	0.0	-180.3
6/5/2010	3809.8	0.9	521.4	31.8	174.5	206.3	1481.0	158.0	354.0	512.0	58.1	307.5	151.9	517.5	2027.8	40.6	512.0	521.4	206.3	0.0	-175.1
6/6/2010	3797.9	2.9	521.4	31.8	225.9	257.8	1712.6	159.9	354.0	513.9	58.1	307.5	151.9	517.5	1836.0	40.6	513.9	521.4	257.8	0.0	-224.7
6/7/2010	4099.1	8.5	522.7	31.8	241.0	272.8	1899.2	160.6	354.0	514.6	58.1	307.5	151.9	517.5	1971.7	40.6	514.6	522.7	272.8	0.0	-240.2
6/8/2010	4281.2	3.4	523.1	31.8	231.9	263.7	2003.2	161.3	354.0	515.3	58.1	307.5	151.9	517.5	2035.3	40.6	515.3	523.1	263.7	0.0	-230.9
6/9/2010	4271.3	2.1	523.0	31.8	263.7	295.5	2195.2	162.2	354.0	516.2	58.1	307.5	151.9	517.5	1863.0	40.6	516.2	523.0	295.5	0.0	-261.7
6/10/2010	4147.2	8.1	523.0	31.8	242.3	274.1	2232.8	161.6	354.0	515.6	58.1	307.5	151.9	517.5	1686.4	40.6	515.6	523.0	274.1	0.0	-240.9
6/11/2010	4035.7	4.0	523.2	31.8	262.6	294.4	2132.6	160.6	354.0	514.6	58.1	307.5	151.9	517.5	1692.6	40.6	514.6	523.2	294.4	0.0	-262.3
6/12/2010	4032.2	4.1	518.6	31.8	244.7	276.5	2023.7	159.9	354.0	513.9	58.1	307.5	151.9	517.5	1776.2	40.6	513.9	518.6	276.5	0.0	-240.6
6/13/2010	4033.2	2.3	518.6	31.8	254.1	285.9	2045.9	160.2	354.0	514.2	58.1	307.5	151.9	517.5	1762.4	40.6	514.2	518.6	285.9	0.0	-249.7
6/14/2010	4193.6	5.1	518.6	31.8	251.2	283.0	2120.2	161.1	354.0	515.1	58.1	307.5	151.9	517.5	1847.5	40.6	515.1	518.6	283.0	0.0	-245.8
6/15/2010	4387.5	6.9	542.1	31.8	257.7	289.5	2181.1	161.6	354.0	515.6	58.1	307.5	151.9	517.5	2011.8	40.6	515.6	542.1	289.5	0.0	-275.4
6/16/2010	4244.3	6.2	542.1	31.8	257.6	289.4	2330.6	161.7	354.0	515.7	58.1	307.5	151.9	517.5	1718.0	40.6	515.7	542.1	289.4	0.0	-275.1
6/17/2010	4456.7	8.2	549.6	31.8	273.7	305.5	2375.6	161.7	354.0	515.7	58.1	307.5	151.9	517.5	1911.2	40.6	515.7	549.6	305.5	0.0	-298.8
6/18/2010	4242.0	13.5	549.5	31.8	253.1	284.9	2300.9	161.2	354.0	515.2	58.1	307.5	151.9	517.5	1756.3	40.6	515.2	549.5	284.9	0.0	-278.6
6/19/2010	4146.3	3.9	549.5	31.8	247.6	279.4	2239.8	160.3	354.0	514.3	58.1	307.5	151.9	517.5	1707.4	40.6	514.3	549.5	279.4	0.0	-274.0
6/20/2010	4153.5	8.6	549.5	31.8	245.3	277.2	2069.1	159.8	354.0	513.8	58.1	307.5	151.9	517.5	1888.4	40.6	513.8	549.5	277.2	0.0	-272.2
6/21/2010	4344.8	3.6	549.5	31.8	254.1	285.9	2027.8	159.7	354.0	513.7	58.1	307.5	151.9	517.5	2124.8	40.6	513.7	549.5	285.9	0.0	-281.1
6/22/2010	4517.5	3.9	546.8	31.8	245.5	277.3	2029.1	159.9	354.0	513.9	58.1	307.5	151.9	517.5	2285.0	40.6	513.9	546.8	277.3	0.0	-269.6
6/23/2010	4519.9	6.8	547.1	31.8	238.7	270.5	2046.5	160.1	354.0	514.1	58.1	307.5	151.9	517.5	2266.2	40.6	514.1	547.1	270.5	0.0	-262.9
6/24/2010	4512.1	6.7	547.1	31.8	240.2	272.1	2093.5	160.7	354.0	514.7	58.1	307.5	151.9	517.5	2212.3	40.6	514.7	547.1	272.1	0.0	-263.9
6/25/2010	4682.4	5.1	545.7	31.8	235.9	267.8	2121.5	160.9	354.0	514.9	58.1	307.5	151.9	517.5	2347.1	40.6	514.9	545.7	267.8	0.0	-258.0
6/26/2010	4801.6	6.0	545.6	31.8	252.0	283.9	2220.1	161.5	354.0	515.5	58.1	307.5	151.9	517.5	2383.9	40.6	515.5	545.6	283.9	0.0	-273.3
6/27/2010	4793.3	12.7	543.																		

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
8/9/2010	4185.3	18.1	455.6	31.8	274.8	306.6	1398.9	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2626.1	40.6	510.9	455.6	306.6	0.0	-210.7
8/10/2010	4315.0	16.6	452.0	31.8	315.4	347.2	1422.0	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2768.2	40.6	510.9	452.0	347.2	0.0	-247.7
8/11/2010	4219.7	20.3	455.5	31.8	317.5	349.3	1524.7	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2579.6	40.6	510.9	455.5	349.3	0.0	-253.3
8/12/2010	4204.8	24.7	456.5	31.8	288.4	320.2	1544.6	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2520.9	40.6	510.9	456.5	320.2	0.0	-225.2
8/13/2010	4083.3	21.2	457.9	31.8	277.7	309.6	1411.1	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2520.3	40.6	510.9	457.9	309.6	0.0	-215.9
8/14/2010	3964.0	28.8	467.7	31.8	286.5	318.4	1368.0	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2470.2	40.6	510.9	467.7	318.4	0.0	-234.5
8/15/2010	3952.3	20.8	467.7	31.8	277.2	309.1	1309.0	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2500.2	40.6	510.9	467.7	309.1	0.0	-225.2
8/16/2010	4044.2	17.1	467.7	31.8	298.9	330.7	1495.9	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2423.2	40.6	510.9	467.7	330.7	0.0	-246.9
8/17/2010	4132.1	13.8	467.7	31.8	289.5	321.3	1529.4	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2464.8	40.6	510.9	467.7	321.3	0.0	-237.5
8/18/2010	4120.7	16.4	468.0	31.8	293.0	324.9	1514.4	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2474.9	40.6	510.9	468.0	324.9	0.0	-241.3
8/19/2010	3928.1	16.5	467.9	31.8	310.0	341.8	1497.3	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2316.4	40.6	510.9	467.9	341.8	0.0	-258.2
8/20/2010	4022.6	22.4	467.9	31.8	303.8	335.6	1500.0	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2407.9	40.6	510.9	467.9	335.6	0.0	-252.0
8/21/2010	4179.1	16.2	467.9	31.8	305.9	337.8	1514.7	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2545.6	40.6	510.9	467.9	337.8	0.0	-254.1
8/22/2010	4163.5	19.0	467.9	31.8	310.9	342.7	1530.2	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2522.2	40.6	510.9	467.9	342.7	0.0	-259.0
8/23/2010	3924.5	27.0	467.9	31.8	364.5	396.3	1709.7	156.9	354.0	510.9	58.1	307.5	64.1	429.7	2165.3	40.6	510.9	467.9	396.3	0.0	-312.6
8/24/2010	3410.1	18.3	467.8	31.8	355.5	387.3	1728.4	156.9	354.0	510.9	58.1	307.5	64.1	429.7	1614.4	40.6	510.9	467.8	387.3	0.0	-303.5
8/25/2010	3019.2	15.7	467.8	31.8	536.2	568.1	1772.3	156.9	354.0	510.9	58.1	307.5	64.1	429.7	1357.8	40.6	510.9	467.8	568.1	0.0	-484.3
8/26/2010	3012.5	12.5	467.8	31.8	338.6	370.4	1683.4	156.9	354.0	510.9	58.1	307.5	64.1	429.7	1239.2	40.6	510.9	467.8	370.4	0.0	-286.6
8/27/2010	3150.7	15.1	467.7	31.8	277.4	309.3	1338.9	156.9	354.0	510.9	58.1	307.5	64.1	429.7	1663.2	40.6	510.9	467.7	309.3	0.0	-225.4
8/28/2010	3192.7	8.0	467.6	31.8	264.0	295.8	1177.6	156.9	354.0	510.9	58.1	307.5	64.1	429.7	1845.9	40.6	510.9	467.6	295.8	0.0	-211.9
8/29/2010	3059.6	10.9	467.4	31.8	277.4	309.3	1154.9	156.9	354.0	510.9	58.1	307.5	64.1	429.7	1751.6	40.6	510.9	467.4	309.3	0.0	-225.2
8/30/2010	2870.3	16.6	467.4	31.8	280.8	312.6	1138.8	156.9	354.0	510.9	58.1	307.5	64.1	429.7	1587.5	40.6	510.9	467.4	312.6	0.0	-228.5
8/31/2010	2539.3	14.3	467.4	31.8	266.9	298.7	1107.1	156.9	354.0	510.9	58.1	307.5	64.1	429.7	1272.0	40.6	510.9	467.4	298.7	0.0	-214.6
9/1/2010	2503.1	8.9	459.4	31.8	252.3	284.2	929.1	156.9	354.0	510.9	58.1	307.5	51.6	417.2	1398.4	40.6	510.9	459.4	284.2	0.0	-192.1
9/2/2010	2566.5	16.9	458.4	31.8	240.3	272.1	692.5	156.9	354.0	510.9	58.1	307.5	51.6	417.2	1693.2	40.6	510.9	458.4	272.1	0.0	-179.0
9/3/2010	2824.4	10.6	458.1	31.8	252.0	283.9	494.8	156.9	354.0	510.9	58.1	307.5	51.6	417.2	2154.0	40.6	510.9	458.1	283.9	0.0	-190.4
9/4/2010	3250.4	14.7	457.8	31.8	252.3	284.1	371.2	156.9	354.0	510.9	58.1	307.5	51.6	417.2	2707.7	40.6	510.9	457.8	284.1	0.0	-190.3
9/5/2010	3221.8	20.1	457.8	31.8	265.8	297.6	384.8	156.9	354.0	510.9	58.1	307.5	51.6	417.2	2684.3	40.6	510.9	457.8	297.6	0.0	-203.8
9/6/2010	3192.5	16.9	456.2	31.8	251.7	283.6	583.0	156.9	354.0	510.9	58.1	307.5	51.6	417.2	2438.0	40.6	510.9	456.2	283.6	0.0	-188.2
9/7/2010	3288.2	18.1	456.3	31.8	230.8	262.7	855.7	156.9	354.0	510.9	58.1	307.5	51.6	417.2	2241.3	40.6	510.9	456.3	262.7	0.0	-167.4
9/8/2010	3224.4	8.6	457.0	31.8	227.0	258.8	788.2	156.9	354.0	510.9	58.1	307.5	51.6	417.2	2232.5	40.6	510.9	457.0	258.8	0.0	-164.3
9/9/2010	2599.2	8.5	457.2	31.8	229.4	261.2	734.3	156.9	354.0	510.9	58.1	307.5	51.6	417.2	1663.6	40.6</					

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Q _{us}	P	Q _p			Q _{gwr}	Q _{ds}			Q _{gwr}				ET	ΔS _{sw}	Q _{gwus}	Q _{gwr}	Q _p	Q _{gwr}	ΔS _{gw}	
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Q _{cs})	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
10/23/2010	158.7	12.4	319.8	31.8	248.2	280.0	236.9	142.7	354.0	496.7	58.1	307.5	0.0	365.6	-328.3	40.6	496.7	319.8	280.0	0.0	-62.4
10/24/2010	158.7	8.3	319.6	31.8	254.8	286.6	240.4	142.7	354.0	496.7	58.1	307.5	0.0	365.6	-329.4	40.6	496.7	319.6	286.6	0.0	-69.0
10/25/2010	158.7	6.5	319.7	31.8	261.1	292.9	247.5	141.5	354.0	495.5	58.1	307.5	0.0	365.6	-330.8	40.6	495.5	319.7	292.9	0.0	-76.5
10/26/2010	154.3	8.2	320.6	31.8	263.9	295.7	252.2	141.4	354.0	495.5	58.1	307.5	0.0	365.6	-334.4	40.6	495.5	320.6	295.7	0.0	-80.3
10/27/2010	154.5	9.9	320.4	31.8	271.5	303.3	254.6	140.8	354.0	494.8	58.1	307.5	0.0	365.6	-326.8	40.6	494.8	320.4	303.3	0.0	-88.3
10/28/2010	154.6	10.5	319.3	31.8	277.3	309.1	260.8	139.9	354.0	493.9	58.1	307.5	0.0	365.6	-326.9	40.6	493.9	319.3	309.1	0.0	-93.8
10/29/2010	154.6	5.0	318.8	31.8	288.5	320.3	266.5	139.7	354.0	493.7	58.1	307.5	0.0	365.6	-327.1	40.6	493.7	318.8	320.3	0.0	-104.8
10/30/2010	154.6	5.5	318.8	31.8	301.1	333.0	276.0	140.5	354.0	494.5	58.1	307.5	0.0	365.6	-324.3	40.6	494.5	318.8	333.0	0.0	-116.6
10/31/2010	154.7	6.4	313.0	31.8	308.3	340.1	285.8	141.2	354.0	495.2	58.1	307.5	0.0	365.6	-332.4	40.6	495.2	313.0	340.1	0.0	-117.2
11/1/2010	154.8	5.7	308.7	59.1	333.8	392.9	292.5	142.3	3.7	146.0	18.4	131.8	0.0	150.2	273.4	87.8	146.0	308.7	392.9	0.0	-467.7
11/2/2010	154.9	4.0	296.7	59.1	344.6	403.7	314.4	143.8	3.7	147.5	18.4	131.8	0.0	150.2	247.2	87.8	147.5	296.7	403.7	0.0	-465.1
11/3/2010	155.0	7.2	293.0	59.1	342.4	401.5	323.8	143.5	3.7	147.2	18.4	131.8	0.0	150.2	235.6	87.8	147.2	293.0	401.5	0.0	-459.4
11/4/2010	155.0	3.6	291.9	59.1	365.6	424.7	327.0	144.4	3.7	148.1	18.4	131.8	0.0	150.2	250.0	87.8	148.1	291.9	424.7	0.0	-480.7
11/5/2010	155.1	4.7	292.1	59.1	372.5	431.6	340.4	147.4	3.7	151.1	18.4	131.8	0.0	150.2	242.0	87.8	151.1	292.1	431.6	0.0	-484.8
11/6/2010	155.2	1.8	292.0	59.1	376.0	435.1	347.2	150.0	3.7	153.7	18.4	131.8	0.0	150.2	233.1	87.8	153.7	292.0	435.1	0.0	-485.6
11/7/2010	155.2	4.4	292.0	59.1	375.5	434.6	350.0	151.3	3.7	155.1	18.4	131.8	0.0	150.2	231.1	87.8	155.1	292.0	434.6	0.0	-483.7
11/8/2010	155.3	5.2	292.0	59.1	387.6	446.7	353.4	150.4	3.7	154.2	18.4	131.8	0.0	150.2	241.5	87.8	154.2	292.0	446.7	0.0	-496.7
11/9/2010	155.3	2.0	290.0	59.1	405.9	465.0	364.1	151.2	3.7	154.9	18.4	131.8	0.0	150.2	243.1	87.8	154.9	290.0	465.0	0.0	-512.3
11/10/2010	155.5	1.6	289.9	59.1	421.7	480.8	377.0	155.0	3.7	158.8	18.4	131.8	0.0	150.2	241.9	87.8	158.8	289.9	480.8	0.0	-524.2
11/11/2010	155.5	3.8	298.6	59.1	430.7	489.9	385.8	161.7	3.7	165.4	18.4	131.8	0.0	150.2	246.4	87.8	165.4	298.6	489.9	0.0	-535.2
11/12/2010	155.6	5.9	290.9	59.1	437.9	497.1	398.3	163.8	3.7	167.5	18.4	131.8	0.0	150.2	233.4	87.8	167.5	290.9	497.1	0.0	-532.6
11/13/2010	155.6	4.9	284.1	59.1	452.6	511.7	404.1	168.5	3.7	172.2	18.4	131.8	0.0	150.2	229.8	87.8	172.2	284.1	511.7	0.0	-535.7
11/14/2010	155.7	12.3	284.1	59.1	469.8	528.9	411.2	174.0	3.7	177.7	18.4	131.8	0.0	150.2	241.9	87.8	177.7	284.1	528.9	0.0	-547.4
11/15/2010	156.7	4.4	284.1	59.1	492.6	551.7	424.3	176.1	3.7	179.9	18.4	131.8	0.0	150.2	242.5	87.8	179.9	284.1	551.7	0.0	-568.0
11/16/2010	157.4	5.3	284.1	59.1	499.6	558.7	434.7	178.4	3.7	182.2	18.4	131.8	0.0	150.2	238.4	87.8	182.2	284.1	558.7	0.0	-572.7
11/17/2010	157.3	2.2	283.6	59.1	506.0	565.1	451.0	180.6	3.7	184.3	18.4	131.8	0.0	150.2	222.7	87.8	184.3	283.6	565.1	0.0	-576.5
11/18/2010	157.4	2.0	286.8	59.1	488.8	548.0	451.3	180.7	3.7	184.4	18.4	131.8	0.0	150.2	208.3	87.8	184.4	286.8	548.0	0.0	-562.5
11/19/2010	157.6	2.1	286.8	59.1	500.4	559.5	445.0	180.7	3.7	184.4	18.4	131.8	0.0	150.2	226.5	87.8	184.4	286.8	559.5	0.0	-574.1
11/20/2010	157.5	0.7	286.2	59.1	519.6	578.8	448.8	182.2	3.7	185.9	18.4	131.8	0.0	150.2	238.3	87.8	185.9	286.2	578.8	0.0	-591.2
11/21/2010	157.9	0.9	286.2	59.1	526.8	585.9	459.8	184.2	3.7	187.9	18.4	131.8	0.0	150.2	233.1	87.8	187.9	286.2	585.9	0.0	-596.3
11/22/2010	158.0	2.3	286.2	59.1	525.5	584.6	466.8	185.5	3.7	189.2	18.4	131.8	0.0</								

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwr	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwr	ΔSgw	
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
1/6/2011	175.4	5.5	383.6	59.1	146.5	205.6	138.2	147.1	3.7	150.8	18.4	131.8	0.0	150.2	330.9	87.8	150.8	383.6	205.6	0.0	-350.6
1/7/2011	215.4	5.2	394.2	59.1	149.7	208.8	137.4	148.0	3.7	151.8	18.4	131.8	0.0	150.2	384.3	87.8	151.8	394.2	208.8	0.0	-363.4
1/8/2011	215.4	5.4	407.6	59.1	152.3	211.4	138.5	152.1	3.7	155.8	18.4	131.8	0.0	150.2	395.4	87.8	155.8	407.6	211.4	0.0	-375.4
1/9/2011	215.5	3.9	409.9	59.1	151.0	210.1	139.6	159.2	3.7	162.9	18.4	131.8	0.0	150.2	386.7	87.8	162.9	409.9	210.1	0.0	-369.3
1/10/2011	216.8	3.1	413.8	59.1	151.7	210.8	141.0	160.9	3.7	164.6	18.4	131.8	0.0	150.2	388.6	87.8	164.6	413.8	210.8	0.0	-372.1
1/11/2011	218.9	5.9	432.2	59.1	151.6	210.7	142.7	161.7	3.7	165.5	18.4	131.8	0.0	150.2	409.3	87.8	165.5	432.2	210.7	0.0	-389.6
1/12/2011	217.1	4.6	455.8	59.1	152.4	211.5	145.3	162.3	3.7	166.1	18.4	131.8	0.0	150.2	427.5	87.8	166.1	455.8	211.5	0.0	-413.4
1/13/2011	214.0	5.6	456.5	59.1	159.7	218.8	149.2	163.1	3.7	166.8	18.4	131.8	0.0	150.2	428.8	87.8	166.8	456.5	218.8	0.0	-420.7
1/14/2011	214.4	3.1	458.6	59.1	163.2	222.3	154.0	163.4	3.7	167.2	18.4	131.8	0.0	150.2	427.1	87.8	167.2	458.6	222.3	0.0	-425.8
1/15/2011	214.5	3.3	460.9	59.1	162.2	221.3	156.0	163.3	3.7	167.0	18.4	131.8	0.0	150.2	426.9	87.8	167.0	460.9	221.3	0.0	-427.4
1/16/2011	214.8	1.1	471.5	59.1	161.5	220.6	156.6	163.1	3.7	166.8	18.4	131.8	0.0	150.2	434.4	87.8	166.8	471.5	220.6	0.0	-437.4
1/17/2011	214.8	4.4	473.1	59.1	5.5	64.6	151.3	211.0	3.7	214.7	18.4	131.8	0.0	150.2	240.8	87.8	214.7	473.1	64.6	0.0	-235.2
1/18/2011	214.8	6.9	481.6	59.1	109.8	168.9	126.0	141.8	3.7	145.5	18.4	131.8	0.0	150.2	450.6	87.8	145.5	481.6	168.9	0.0	-417.1
1/19/2011	120.1	3.7	485.6	59.1	65.9	125.0	82.1	147.9	3.7	151.7	18.4	131.8	0.0	150.2	350.5	87.8	151.7	485.6	125.0	0.0	-371.1
1/20/2011	84.1	4.2	494.2	59.1	53.3	112.4	99.4	144.2	3.7	147.9	18.4	131.8	0.0	150.2	297.5	87.8	147.9	494.2	112.4	0.0	-370.9
1/21/2011	0.0	4.5	521.2	59.1	51.5	110.6	89.4	95.8	3.7	99.5	18.4	131.8	0.0	150.2	297.1	87.8	99.5	521.2	110.6	0.0	-444.4
1/22/2011	0.0	3.7	523.1	59.1	59.5	118.7	76.2	83.6	3.7	87.3	18.4	131.8	0.0	150.2	331.8	87.8	87.3	523.1	118.7	0.0	-466.6
1/23/2011	0.0	1.3	523.1	59.1	69.3	128.5	70.7	88.2	3.7	91.9	18.4	131.8	0.0	150.2	340.1	87.8	91.9	523.1	128.5	0.0	-471.8
1/24/2011	0.0	3.7	523.4	59.1	81.1	140.2	67.7	95.0	3.7	98.7	18.4	131.8	0.0	150.2	350.8	87.8	98.7	523.4	140.2	0.0	-477.1
1/25/2011	0.0	4.8	524.4	59.1	84.5	143.6	74.2	103.3	3.7	107.0	18.4	131.8	0.0	150.2	341.3	87.8	107.0	524.4	143.6	0.0	-473.1
1/26/2011	43.4	3.1	525.3	59.1	79.0	138.1	82.1	119.7	3.7	123.4	18.4	131.8	0.0	150.2	354.2	87.8	123.4	525.3	138.1	0.0	-452.1
1/27/2011	273.7	3.5	528.2	59.1	53.9	113.0	90.1	111.9	3.7	115.6	18.4	131.8	0.0	150.2	562.4	87.8	115.6	528.2	113.0	0.0	-437.7
1/28/2011	183.4	4.2	523.8	59.1	56.0	115.1	81.7	102.0	3.7	105.7	18.4	131.8	0.0	150.2	488.9	87.8	105.7	523.8	115.1	0.0	-445.3
1/29/2011	183.4	2.7	526.8	59.1	61.9	121.0	71.6	118.3	3.7	122.0	18.4	131.8	0.0	150.2	490.3	87.8	122.0	526.8	121.0	0.0	-438.0
1/30/2011	183.5	3.6	526.7	59.1	69.7	128.8	67.3	127.9	3.7	131.6	18.4	131.8	0.0	150.2	493.5	87.8	131.6	526.7	128.8	0.0	-436.0
1/31/2011	183.6	5.7	526.7	59.1	79.5	138.7	71.6	127.8	3.7	131.5	18.4	131.8	0.0	150.2	501.5	87.8	131.5	526.7	138.7	0.0	-446.0
2/1/2011	183.7	2.6	527.5	59.1	82.8	141.9	89.5	130.9	3.7	134.6	18.4	131.8	0.0	150.2	481.4	87.8	134.6	527.5	141.9	0.0	-446.9
2/2/2011	183.8	3.3	528.0	59.1	65.9	125.0	88.7	132.1	3.7	135.9	18.4	131.8	0.0	150.2	465.3	87.8	135.9	528.0	125.0	0.0	-429.2
2/3/2011	183.5	4.0	527.8	59.1	65.8	125.0	80.5	130.9	3.7	134.6	18.4	131.8	0.0	150.2	474.9	87.8	134.6	527.8	125.0	0.0	-430.2
2/4/2011	183.1	4.7	527.7	59.1	70.0	129.1	79.1	130.4	3.7	134.1	18.4	131.8	0.0	150.2	481.2	87.8	134.1	527.7	129.1	0.0	-434.9
2/5/2011	183.1	6.0	527.8	59.1	77.5	136.7	80.3	131.7	3.7	135.4	18.4	131.8	0.0	150.2	487.7	87.8	135.4	527.8	136.7	0.0	-441.2
2/6/2011	183.1	2.7	528.5	59.1	87.3	14															

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
3/22/2011	2926.4	3.0	603.6	31.8	131.6	163.4	2293.5	332.3	354.0	686.3	58.1	307.5	70.7	436.3	280.2	40.6	686.3	603.6	163.4	0.0	-40.0
3/23/2011	2975.3	0.7	604.0	31.8	133.9	165.7	2503.7	297.8	354.0	651.8	58.1	307.5	70.7	436.3	153.9	40.6	651.8	604.0	165.7	0.0	-77.3
3/24/2011	2978.2	0.8	604.0	31.8	129.2	161.1	2710.1	265.1	354.0	619.1	58.1	307.5	70.7	436.3	-21.5	40.6	619.1	604.0	161.1	0.0	-105.4
3/25/2011	3008.7	1.0	604.0	31.8	136.5	168.3	2784.6	245.6	354.0	599.6	58.1	307.5	70.7	436.3	-38.5	40.6	599.6	604.0	168.3	0.0	-132.1
3/26/2011	3014.9	3.0	604.1	31.8	141.5	173.3	2819.3	238.2	354.0	592.2	58.1	307.5	70.7	436.3	-52.6	40.6	592.2	604.1	173.3	0.0	-144.6
3/27/2011	3054.5	4.4	604.3	31.8	174.9	206.7	2878.7	235.1	354.0	589.1	58.1	307.5	70.7	436.3	-34.3	40.6	589.1	604.3	206.7	0.0	-181.2
3/28/2011	3094.2	1.4	604.4	31.8	183.6	215.4	2930.9	233.6	354.0	587.6	58.1	307.5	70.7	436.3	-39.4	40.6	587.6	604.4	215.4	0.0	-191.6
3/29/2011	3133.9	1.5	602.4	31.8	182.1	213.9	2965.3	232.5	354.0	586.5	58.1	307.5	70.7	436.3	-36.4	40.6	586.5	602.4	213.9	0.0	-189.2
3/30/2011	3160.7	0.6	603.0	31.8	151.5	183.3	2976.6	231.7	354.0	585.7	58.1	307.5	70.7	436.3	-51.1	40.6	585.7	603.0	183.3	0.0	-160.0
3/31/2011	2765.4	0.3	603.8	31.8	164.1	195.9	3006.1	228.9	354.0	582.9	58.1	307.5	70.7	436.3	-459.9	40.6	582.9	603.8	195.9	0.0	-176.1
4/1/2011	2158.1	0.5	635.2	31.8	164.0	195.8	2690.8	222.1	354.0	576.1	58.1	307.5	99.9	465.5	-742.8	40.6	576.1	635.2	195.8	0.0	-214.3
4/2/2011	1919.3	2.2	756.2	31.8	112.8	144.6	2012.5	214.6	354.0	568.6	58.1	307.5	99.9	465.5	-224.2	40.6	568.6	756.2	144.6	0.0	-291.6
4/3/2011	1931.9	1.7	761.8	31.8	94.8	126.6	1521.0	210.1	354.0	564.1	58.1	307.5	99.9	465.5	271.3	40.6	564.1	761.8	126.6	0.0	-283.6
4/4/2011	2105.2	2.4	765.5	31.8	97.9	129.7	1340.7	209.5	354.0	563.5	58.1	307.5	99.9	465.5	633.1	40.6	563.5	765.5	129.7	0.0	-291.1
4/5/2011	2319.7	3.9	770.9	31.8	101.3	133.1	1409.1	211.9	354.0	565.9	58.1	307.5	99.9	465.5	787.1	40.6	565.9	770.9	133.1	0.0	-297.5
4/6/2011	2414.8	3.3	782.9	31.8	117.7	149.6	1620.1	214.2	354.0	568.2	58.1	307.5	99.9	465.5	696.8	40.6	568.2	782.9	149.6	0.0	-323.7
4/7/2011	2152.0	2.0	813.2	31.8	119.0	150.9	1790.0	213.2	354.0	567.2	58.1	307.5	99.9	465.5	295.3	40.6	567.2	813.2	150.9	0.0	-356.3
4/8/2011	1981.2	0.7	823.6	31.8	116.5	148.3	1774.6	210.3	354.0	564.3	58.1	307.5	99.9	465.5	149.4	40.6	564.3	823.6	148.3	0.0	-366.9
4/9/2011	1770.2	0.1	856.0	31.8	100.9	132.7	1577.0	207.2	354.0	561.2	58.1	307.5	99.9	465.5	155.3	40.6	561.2	856.0	132.7	0.0	-386.9
4/10/2011	1659.5	0.6	860.6	31.8	104.8	136.7	1411.4	203.7	354.0	557.7	58.1	307.5	99.9	465.5	222.8	40.6	557.7	860.6	136.7	0.0	-398.9
4/11/2011	1665.1	3.9	870.6	31.8	111.9	143.7	1251.4	200.8	354.0	554.8	58.1	307.5	99.9	465.5	411.6	40.6	554.8	870.6	143.7	0.0	-418.9
4/12/2011	1534.6	3.8	872.4	31.8	111.4	143.3	1151.6	198.5	354.0	552.5	58.1	307.5	99.7	465.3	384.6	40.6	552.5	872.4	143.3	0.0	-422.5
4/13/2011	1435.0	0.7	878.1	31.8	113.5	145.3	1129.7	196.7	354.0	550.7	58.1	307.5	99.9	465.5	313.1	40.6	550.7	878.1	145.3	0.0	-432.1
4/14/2011	1442.7	1.2	878.4	31.8	108.1	139.9	1056.0	193.7	354.0	547.7	58.1	307.5	99.7	465.3	393.2	40.6	547.7	878.4	139.9	0.0	-430.0
4/15/2011	1445.5	3.5	941.5	31.8	106.4	138.2	964.5	192.1	354.0	546.1	58.1	307.5	99.7	465.3	552.7	40.6	546.1	941.5	138.2	0.0	-493.0
4/16/2011	1671.9	1.0	945.3	31.8	104.3	136.1	937.5	193.3	354.0	547.3	58.1	307.5	99.9	465.5	804.0	40.6	547.3	945.3	136.1	0.0	-493.5
4/17/2011	1992.8	3.1	945.4	31.8	105.0	136.8	953.5	196.9	354.0	550.9	58.1	307.5	99.9	465.5	1108.2	40.6	550.9	945.4	136.8	0.0	-490.7
4/18/2011	2076.4	0.7	945.4	31.8	112.0	143.8	1139.5	202.4	354.0	556.4	58.1	307.5	99.9	465.5	1004.8	40.6	556.4	945.4	143.8	0.0	-492.1
4/19/2011	2153.1	0.8	946.1	31.8	111.7	143.5	1469.5	205.2	354.0	559.2	58.1	307.5	99.9	465.5	749.3	40.6	559.2	946.1	143.5	0.0	-489.8
4/20/2011	2068.6	1.2	952.4	31.8	112.3	144.2	1601.0	205.6	354.0	559.6	58.1	307.5	99.9	465.5	540.3	40.6	559.6	952.4	144.2	0.0	-496.3
4/21/2011	1																				

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwr	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwr	Qgws	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
6/5/2011	3209.1	0.9	969.4	31.8	68.1	99.9	1622.6	319.5	354.0	673.5	58.1	307.5	147.2	512.8	1470.5	40.6	673.5	969.4	99.9	0.0	-355.1
6/6/2011	3201.1	2.9	955.8	31.8	65.4	97.3	1608.6	318.4	354.0	672.4	58.1	307.5	147.2	512.8	1463.3	40.6	672.4	955.8	97.3	0.0	-340.0
6/7/2011	3346.9	8.5	973.2	31.8	67.5	99.4	1591.0	317.1	354.0	671.1	58.1	307.5	147.2	512.8	1653.1	40.6	671.1	973.2	99.4	0.0	-360.8
6/8/2011	3513.2	3.4	973.2	31.8	76.0	107.9	1582.9	316.8	354.0	670.8	58.1	307.5	147.2	512.8	1831.0	40.6	670.8	973.2	107.9	0.0	-369.6
6/9/2011	3385.5	2.1	973.3	31.8	87.2	119.0	1689.0	317.9	354.0	671.9	58.1	307.5	147.2	512.8	1606.0	40.6	671.9	973.3	119.0	0.0	-379.7
6/10/2011	3300.7	8.1	975.7	31.8	81.0	112.8	1773.2	317.4	354.0	671.4	58.1	307.5	147.2	512.8	1439.8	40.6	671.4	975.7	112.8	0.0	-376.5
6/11/2011	3368.3	4.0	976.6	31.8	58.4	90.2	1693.2	315.7	354.0	669.7	58.1	307.5	147.2	512.8	1563.4	40.6	669.7	976.6	90.2	0.0	-356.5
6/12/2011	3364.9	4.1	982.1	31.8	65.9	97.8	1681.1	315.7	354.0	669.7	58.1	307.5	147.2	512.8	1585.1	40.6	669.7	982.1	97.8	0.0	-369.5
6/13/2011	3514.2	2.3	982.1	31.8	70.5	102.3	1751.9	316.4	354.0	670.4	58.1	307.5	147.2	512.8	1665.9	40.6	670.4	982.1	102.3	0.0	-373.4
6/14/2011	3617.5	5.1	984.7	31.8	70.2	102.1	1798.0	316.7	354.0	670.7	58.1	307.5	147.2	512.8	1727.9	40.6	670.7	984.7	102.1	0.0	-375.4
6/15/2011	3611.6	6.9	986.1	31.8	79.6	111.4	1872.1	316.8	354.0	670.8	58.1	307.5	147.2	512.8	1660.2	40.6	670.8	986.1	111.4	0.0	-386.1
6/16/2011	3499.4	6.2	987.6	31.8	78.5	110.3	1849.2	315.4	354.0	669.4	58.1	307.5	147.2	512.8	1572.1	40.6	669.4	987.6	110.3	0.0	-387.9
6/17/2011	3247.9	8.2	992.4	31.8	77.8	109.6	1811.1	313.9	354.0	667.9	58.1	307.5	147.2	512.8	1366.4	40.6	667.9	992.4	109.6	0.0	-393.5
6/18/2011	3128.5	13.5	993.3	31.8	68.3	100.1	1699.6	309.9	354.0	663.9	58.1	307.5	147.2	512.8	1359.2	40.6	663.9	993.3	100.1	0.0	-388.9
6/19/2011	3126.1	3.9	993.3	31.8	60.5	92.3	1537.1	305.9	354.0	659.9	58.1	307.5	146.9	512.5	1506.2	40.6	659.9	993.3	92.3	0.0	-385.1
6/20/2011	3478.0	8.6	993.3	31.8	66.2	98.0	1555.5	308.4	354.0	662.4	58.1	307.5	147.2	512.8	1847.3	40.6	662.4	993.3	98.0	0.0	-388.3
6/21/2011	3656.5	3.6	993.7	31.8	70.3	102.1	1655.9	312.6	354.0	666.6	58.1	307.5	147.2	512.8	1920.5	40.6	666.6	993.7	102.1	0.0	-388.5
6/22/2011	3801.1	3.9	1020.8	31.8	98.1	129.9	1876.1	315.6	354.0	669.6	58.1	307.5	147.2	512.8	1897.3	40.6	669.6	1020.8	129.9	0.0	-440.5
6/23/2011	3815.2	6.8	1021.0	31.8	89.1	120.9	1939.9	315.8	354.0	669.8	58.1	307.5	147.2	512.8	1841.4	40.6	669.8	1021.0	120.9	0.0	-431.4
6/24/2011	3695.3	6.7	1021.0	31.8	89.0	120.8	1957.2	315.0	354.0	669.0	58.1	307.5	147.2	512.8	1704.7	40.6	669.0	1021.0	120.8	0.0	-432.1
6/25/2011	3692.0	5.1	1021.1	31.8	77.6	109.4	1929.0	313.9	354.0	667.9	58.1	307.5	147.2	512.8	1717.8	40.6	667.9	1021.1	109.4	0.0	-421.9
6/26/2011	3688.3	6.0	1021.2	31.8	89.9	121.8	1935.4	314.1	354.0	668.1	58.1	307.5	147.2	512.8	1720.8	40.6	668.1	1021.2	121.8	0.0	-434.2
6/27/2011	3683.9	12.7	1021.2	31.8	96.3	128.1	2009.4	314.7	354.0	668.7	58.1	307.5	147.2	512.8	1654.9	40.6	668.7	1021.2	128.1	0.0	-439.9
6/28/2011	3760.6	12.2	1021.1	31.8	97.9	129.7	2062.7	315.3	354.0	669.3	58.1	307.5	147.2	512.8	1678.8	40.6	669.3	1021.1	129.7	0.0	-440.8
6/29/2011	4055.0	20.1	1012.8	31.8	93.9	125.7	2069.1	316.1	354.0	670.1	58.1	307.5	147.2	512.8	1961.6	40.6	670.1	1012.8	125.7	0.0	-427.8
6/30/2011	4226.5	9.6	1030.0	31.8	95.6	127.4	2130.0	316.9	354.0	670.9	58.1	307.5	147.2	512.8	2079.7	40.6	670.9	1030.0	127.4	0.0	-445.9
7/1/2011	4215.4	11.8	1037.9	31.8	99.0	130.8	2220.0	317.3	354.0	671.3	58.1	307.5	129.1	494.7	2009.9	40.6	671.3	1037.9	130.8	0.0	-456.8
7/2/2011	4205.2	16.7	1087.9	31.8	99.1	130.9	2195.1	316.4	354.0	670.4	58.1	307.5	129.1	494.7	2080.5	40.6	670.4	1087.9	130.9	0.0	-507.8
7/3/2011	4196.7	7.7	1087.8	31.8	96.0	127.8	2141.3	315.2	354.0	669.2	58.1	307.5	129.1	494.7	2114.9	40.6	669.2	1087.8	127.8	0.0	-505.8
7/4/2011	3857.8	12.7	1084.8	31.8	113.5	145.3	2118.1	314.0	354.0	668.0	58.1	307.5	129.1	494.7	1819.8	40.6	668.0	1084.8	145.3	0.0	-521.4
7/5/2011	3529.1	20.2	1086.0	31.8	108.3	140.1	2031.4	311.6	354.0	665.6	58.1	307.5	129.1	494.7	1583.8	40.6	665.6	1086.0	140.1	0.0	-519.9
7/6/2011	2690.5	11.0	1078.7	31.8	82.7	114.5	1852.4	306.6	354.0	660.6	58.1	307.5	129.1	494.7	887.0	40.6	660.6	1078.7	114.5	0.0	-491.9
7/7/2011	2070.1	13.1	1079.8	31																	

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping	MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date																					
8/19/2011	1905.4	16.5	1085.0	31.8	82.5	114.3	1622.6	299.4	354.0	653.4	58.1	307.5	126.4	492.0	353.3	40.6	653.4	1085.0	114.3	0.0	-505.2
8/20/2011	1898.8	22.4	1082.6	31.8	91.8	123.6	1624.6	298.2	354.0	652.2	58.1	307.5	126.4	492.0	358.7	40.6	652.2	1082.6	123.6	0.0	-513.4
8/21/2011	1890.9	16.2	1083.1	31.8	80.0	111.9	1615.9	297.0	354.0	651.0	58.1	307.5	126.4	492.0	343.2	40.6	651.0	1083.1	111.9	0.0	-503.4
8/22/2011	1883.6	19.0	1081.6	31.8	86.2	118.0	1606.3	296.4	354.0	650.4	58.1	307.5	126.4	492.0	353.6	40.6	650.4	1081.6	118.0	0.0	-508.6
8/23/2011	1895.6	27.0	1081.2	31.8	87.6	119.4	1601.5	296.3	354.0	650.3	58.1	307.5	126.4	492.0	379.5	40.6	650.3	1081.2	119.4	0.0	-509.7
8/24/2011	2028.1	18.3	1081.3	31.8	84.6	116.4	1598.1	295.9	354.0	649.9	58.1	307.5	126.4	492.0	504.1	40.6	649.9	1081.3	116.4	0.0	-507.1
8/25/2011	2089.0	15.7	1081.7	31.8	93.5	125.4	1630.8	296.4	354.0	650.4	58.1	307.5	126.4	492.0	538.4	40.6	650.4	1081.7	125.4	0.0	-516.0
8/26/2011	1985.3	12.5	1084.9	31.8	99.0	130.8	1743.9	298.8	354.0	652.8	58.1	307.5	126.4	492.0	324.7	40.6	652.8	1084.9	130.8	0.0	-522.2
8/27/2011	1893.5	15.1	1084.3	31.8	101.0	132.8	1788.5	298.9	354.0	652.9	58.1	307.5	126.4	492.0	192.3	40.6	652.9	1084.3	132.8	0.0	-523.5
8/28/2011	1884.6	8.0	1084.1	31.8	88.0	119.8	1700.8	297.0	354.0	651.0	58.1	307.5	126.4	492.0	252.7	40.6	651.0	1084.1	119.8	0.0	-512.2
8/29/2011	1875.6	10.9	1084.3	31.8	86.0	117.8	1615.8	296.0	354.0	650.0	58.1	307.5	126.5	492.1	330.6	40.6	650.0	1084.3	117.8	0.0	-511.5
8/30/2011	1584.5	16.6	1084.3	31.8	84.9	116.7	1593.3	295.0	354.0	649.0	58.1	307.5	126.4	492.0	67.8	40.6	649.0	1084.3	116.7	0.0	-511.4
8/31/2011	1396.4	14.3	1099.8	31.8	85.8	117.7	1553.9	293.2	354.0	647.2	58.1	307.5	126.4	492.0	-64.9	40.6	647.2	1099.8	117.7	0.0	-529.6
9/1/2011	1727.7	8.9	1103.3	31.8	58.9	90.7	1331.9	289.2	354.0	643.2	58.1	307.5	107.3	472.9	482.6	40.6	643.2	1103.3	90.7	0.0	-510.2
9/2/2011	1922.8	16.9	1099.8	31.8	70.1	101.9	1168.7	288.5	354.0	642.5	58.1	307.5	107.3	472.9	857.3	40.6	642.5	1099.8	101.9	0.0	-518.6
9/3/2011	1933.2	10.6	1096.6	31.8	97.2	129.1	1402.9	292.9	354.0	646.9	58.1	307.5	107.3	472.9	646.7	40.6	646.9	1096.6	129.1	0.0	-538.2
9/4/2011	1938.4	14.7	1096.6	31.8	102.6	134.5	1637.7	294.1	354.0	648.1	58.1	307.5	107.3	472.9	425.5	40.6	648.1	1096.6	134.5	0.0	-542.3
9/5/2011	1954.5	20.1	1096.6	31.8	99.4	131.2	1672.6	294.1	354.0	648.1	58.1	307.5	107.3	472.9	408.8	40.6	648.1	1096.6	131.2	0.0	-539.1
9/6/2011	1970.1	16.9	1096.6	31.8	121.4	153.3	1689.6	294.7	354.0	648.7	58.1	307.5	107.3	472.9	425.7	40.6	648.7	1096.6	153.3	0.0	-560.6
9/7/2011	1983.7	18.1	1093.1	31.8	98.7	130.5	1700.2	295.2	354.0	649.2	58.1	307.5	107.3	472.9	403.0	40.6	649.2	1093.1	130.5	0.0	-533.8
9/8/2011	1993.1	8.6	1075.6	31.8	95.5	127.3	1704.6	295.0	354.0	649.0	58.1	307.5	107.3	472.9	378.0	40.6	649.0	1075.6	127.3	0.0	-513.3
9/9/2011	1969.0	8.5	1075.0	31.8	97.6	129.5	1716.1	296.2	354.0	650.2	58.1	307.5	107.3	472.9	342.7	40.6	650.2	1075.0	129.5	0.0	-513.6
9/10/2011	804.4	12.8	1085.0	31.8	101.5	133.3	1724.1	291.4	354.0	645.4	58.1	307.5	107.3	472.9	-806.9	40.6	645.4	1085.0	133.3	0.0	-532.3
9/11/2011	0.0	14.8	1087.0	31.8	99.7	131.5	1597.2	274.6	354.0	628.6	58.1	307.5	107.3	472.9	-1465.4	40.6	628.6	1087.0	131.5	0.0	-549.3
9/12/2011	0.0	23.5	1087.2	31.8	39.1	70.9	1031.6	231.8	354.0	585.8	58.1	307.5	107.1	472.7	-908.6	40.6	585.8	1087.2	70.9	0.0	-531.7
9/13/2011	0.0	15.8	1086.0	31.8	19.8	51.6	623.4	163.9	354.0	517.9	58.1	307.5	103.2	468.8	-456.7	40.6	517.9	1086.0	51.6	0.0	-579.0
9/14/2011	0.0	14.6	1085.8	31.8	0.0	31.8	375.2	95.6	354.0	449.6	58.1	307.5	103.3	468.9	-161.6	40.6	449.6	1085.8	31.8	0.0	-627.3
9/15/2011	0.0	12.8	1085.8	31.8	18.2	50.0	65.5	26.2	354.0	380.2	58.1	307.5	51.6	417.2	285.7	40.6	380.2	1085.8	50.0	0.0	-714.9
9/16/2011	0.0	10.8	1083.9	31.8	20.1	51.9	37.2	23.6	354.0	377.6	58.1	307.5	51.6	417.2	314.6	40.6	377.6	1083.9	51.9	0.0	-717.6
9/17/2011	0.0	7.6	1084.7	31.8	17.3	49.1	34.8	23.4	354.0	377.4	58.1	307.5	51.6	417.2	312.0	40.6	377.4	1084.7	49.1	0.0	-715.8
9/18/2011	0.0	10.1	1084.7	31.8	17.2	49.1	33.7	23.3	354.0	377.3	58.1	307.5	51.6	417.2	315.6	40.6	377.3	1084.7	49.1	0.0	-715.8
9/19/2011	0.0	14.1	1084.8	31.8	21.1	52.9	33.9	24.1	354.0	378.1	58.1	307.5	51.6	417.2	322.5	40.6	378.1	1084.8	52.9	0.0	-718.9
9/20/2011	0.0	10.5	1084.8	31.8	24.5	56.4	34.2	28.3	354.0	382.3	58.1	307.5	51.6	417.2	317.9	40.6	382.3	1084.8	56.4	0.0	-718.3
9/21/2011	0.0	8.1	1084.5	31.8	22.4	54.2	35.3	32.9	354.0	386.9	58.1	307.5	51.6	417.2	307.5	40.6	386.9	1084.5	54.2	0.0	-711.2
9/22/2011	0.0	15.7	1084.4	31.8	19.4	51.2	37.7	31.6	354.0	385.6	58.1	307.5	51.6	417.2	310.8	40.6	385.6	1084.4	51.2	0.0	-709.4
9/23/2011	0.0	17.4	1084.4	31.8	17.7	49.5	37.8	28.1	354.0	382.1	58.1	307.5	51.6	417.2	314.3	40.6	382.1	1084.4	49.5	0.0	-711.3
9/24/2011	0.0	12.6	1084.3	31.8	17.5	49.3	36.2	24.5	354.0	378.6	58.1	307.5	51.6	417.2	314.2	40.6	378.6	1084.3	49.3	0.0	-714.4
9/25/2011	0.0	18.9	1084.4	31.8	17.8	49.7	34.8	23.2	354.0	377.2	58.1	307.5	51.6	417.2	323.7	40.6	377.2	1084.4	49.7	0.0	-716.2
9/26/2011	0.0	7.4	1084.2	31.8	18.1	50.0	34.4	22.9	354.0	377.0	58.1	307.5	51.6	417.2	313.1	40.6	377.0	1084.2	50.0	0.0	-716.6
9/27/2011	0.0	5.9	1082.6	31.8	18.0	49.9	34.2	23.0	354.0	377.1	58.1	307.5	51.6	417.2	309.9	40.6	377.1	1082.6	49.9	0.0	-714.8
9/28/2011	0.0	3.7	1078.7	31.8	17.8	49.7	34.2	23.0	354.0	377.0	58.1	307.5	51.6	417.2	303.8	40.6	377.0	1078.7	49.7	0.0	-710.8
9/29/2011	0.0	9.5	1071.9	31.8	17.7	49.6	34.0	23.0	354.0	377.0	58.1	307.5	51.6	417.2	302.7	40.6	377.0	1071.9	49.6	0.0	-703.8
9/30/2011	0.0	9.4	1071.5	31.8	17.9	49.7	34.0	22.8	354.0	376.9	58.1	307.5	51.6	417.2	302.6	40.6	376.9	1071.5	49.7	0.0	-703.8
10/1/2011	0.0	7.7	1018.4	31.8	17.8	49.6	34.1	23.1	354.0	377.1	58.1	307.5	0.0	365.6	299.0	40.6	377.1	1018.4	49.6	0.0	-650.3
10/2/2011	0.0	6.1	764.2	31.8	17.8	49.6	33.9	22.9	354.0	376.9	58.1	307.5	0.0	365.6	43.4	40.6	376.9	764.2	49.6	0.0	-396.2
10/3/2011	0.0	7.8	743.9	31.8	18.3	50.1	34.3	22.9	354.0	377.0	58.1	307.5	0.0	365.6	24.9	40.6	377.0	743.9	50.1	0.0	-376.4
10/4/2011	0.0	8.9	723.8	31.8	18.1	50.0	34.3	23.0	354.0	377.0	58.1	307.5	0.0	365.6	5.8	40.6	377.0	723.8	50.0	0.0	-356.1
10/5/2011	0.0	8.2	696.3	31.8	17.4	49.2	33.8	22.8	354.0	376.8	58.1	307.5	0.0	365.6	-22.4	40.6	376.8	696.3	49.2	0.0	-328.1
10/6/2011	0.0	4.1	656.0	31.8	17.3	49.2	33.5	22.8	354.0	376.8	58.1	307.5	0.0	365.6	-66.6	40.6	376.8	656.0	49.2	0.0	-287.7
10/7/2011	0.0	6.5	624.5	31.8	17.4	49.2	33.6	23.0	354.0	377.0	58.1	307.5	0.0	365.6	-96.0	40.6	377.0	624.5	49.2	0.0	-256.0
10/8/2011	0.0	4.3	618.1	31.8	17.3	49.1	33.5	22.9	354.0	376.9	58.1	307.5	0.0	365.6	-104.5	40.6	376.9	618.1	49.1	0.0	-249.7

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
11/2/2011	0.0	4.0	395.1	59.1	18.4	77.5	34.6	23.1	3.7	26.8	18.4	131.8	0.0	150.2	265.1	87.8	26.8	395.1	77.5	0.0	-357.9
11/3/2011	0.0	7.2	392.9	59.1	18.5	77.6	34.7	23.2	3.7	26.9	18.4	131.8	0.0	150.2	266.0	87.8	26.9	392.9	77.6	0.0	-355.8
11/4/2011	0.0	3.6	390.9	59.1	19.5	78.6	35.5	23.4	3.7	27.2	18.4	131.8	0.0	150.2	260.3	87.8	27.2	390.9	78.6	0.0	-354.5
11/5/2011	0.0	4.7	390.6	59.1	20.5	79.6	36.4	23.6	3.7	27.3	18.4	131.8	0.0	150.2	261.0	87.8	27.3	390.6	79.6	0.0	-355.0
11/6/2011	0.0	1.8	390.4	59.1	19.6	78.7	36.2	23.9	3.7	27.6	18.4	131.8	0.0	150.2	257.0	87.8	27.6	390.4	78.7	0.0	-353.7
11/7/2011	0.0	4.4	389.1	59.1	19.7	78.8	36.2	24.0	3.7	27.7	18.4	131.8	0.0	150.2	258.3	87.8	27.7	389.1	78.8	0.0	-352.3
11/8/2011	0.0	5.2	389.0	59.1	19.8	78.9	36.2	24.1	3.7	27.9	18.4	131.8	0.0	150.2	258.9	87.8	27.9	389.0	78.9	0.0	-352.2
11/9/2011	0.0	2.0	388.9	59.1	20.0	79.1	36.5	24.3	3.7	28.0	18.4	131.8	0.0	150.2	255.4	87.8	28.0	388.9	79.1	0.0	-352.2
11/10/2011	0.0	1.6	374.7	59.1	19.7	78.8	36.4	24.5	3.7	28.3	18.4	131.8	0.0	150.2	240.3	87.8	28.3	374.7	78.8	0.0	-337.4
11/11/2011	0.0	3.8	373.5	59.1	20.0	79.1	36.6	24.7	3.7	28.4	18.4	131.8	0.0	150.2	241.3	87.8	28.4	373.5	79.1	0.0	-336.4
11/12/2011	0.0	5.9	373.5	59.1	20.1	79.2	37.0	24.9	3.7	28.7	18.4	131.8	0.0	150.2	242.8	87.8	28.7	373.5	79.2	0.0	-336.2
11/13/2011	0.0	4.9	373.5	59.1	20.1	79.3	37.0	25.2	3.7	28.9	18.4	131.8	0.0	150.2	241.6	87.8	28.9	373.5	79.3	0.0	-336.1
11/14/2011	0.0	12.3	373.5	59.1	20.1	79.2	37.2	25.3	3.7	29.1	18.4	131.8	0.0	150.2	248.5	87.8	29.1	373.5	79.2	0.0	-335.8
11/15/2011	0.0	4.4	373.5	59.1	20.1	79.3	37.3	25.4	3.7	29.1	18.4	131.8	0.0	150.2	240.6	87.8	29.1	373.5	79.3	0.0	-335.8
11/16/2011	0.0	5.3	381.7	59.1	20.1	79.2	37.3	25.6	3.7	29.3	18.4	131.8	0.0	150.2	249.4	87.8	29.3	381.7	79.2	0.0	-343.8
11/17/2011	0.0	2.2	381.7	59.1	20.1	79.3	37.3	25.6	3.7	29.3	18.4	131.8	0.0	150.2	246.3	87.8	29.3	381.7	79.3	0.0	-343.8
11/18/2011	0.0	2.0	383.6	59.1	20.3	79.5	37.5	25.4	3.7	29.2	18.4	131.8	0.0	150.2	248.2	87.8	29.2	383.6	79.5	0.0	-346.1
11/19/2011	0.0	2.1	383.6	59.1	20.1	79.3	37.4	25.3	3.7	29.1	18.4	131.8	0.0	150.2	248.3	87.8	29.1	383.6	79.3	0.0	-346.0
11/20/2011	0.0	0.7	383.6	59.1	20.3	79.4	37.4	25.4	3.7	29.1	18.4	131.8	0.0	150.2	247.1	87.8	29.1	383.6	79.4	0.0	-346.1
11/21/2011	0.0	0.9	383.6	59.1	20.6	79.7	37.7	25.5	3.7	29.2	18.4	131.8	0.0	150.2	247.2	87.8	29.2	383.6	79.7	0.0	-346.3
11/22/2011	0.0	2.3	383.4	59.1	20.7	79.8	37.8	25.6	3.7	29.3	18.4	131.8	0.0	150.2	248.3	87.8	29.3	383.4	79.8	0.0	-346.1
11/23/2011	0.0	1.9	383.4	59.1	21.2	80.3	38.2	25.6	3.7	29.4	18.4	131.8	0.0	150.2	247.9	87.8	29.4	383.4	80.3	0.0	-346.5
11/24/2011	0.0	5.7	383.4	59.1	21.0	80.1	38.3	25.7	3.7	29.4	18.4	131.8	0.0	150.2	251.3	87.8	29.4	383.4	80.1	0.0	-346.3
11/25/2011	0.0	3.0	383.4	59.1	20.9	80.0	38.3	25.5	3.7	29.2	18.4	131.8	0.0	150.2	248.8	87.8	29.2	383.4	80.0	0.0	-346.4
11/26/2011	0.0	3.7	383.4	59.1	20.6	79.7	37.8	25.7	3.7	29.4	18.4	131.8	0.0	150.2	249.4	87.8	29.4	383.4	79.7	0.0	-345.8
11/27/2011	0.0	5.7	383.6	59.1	20.3	79.4	37.6	25.7	3.7	29.5	18.4	131.8	0.0	150.2	251.5	87.8	29.5	383.6	79.4	0.0	-345.7
11/28/2011	0.0	5.3	383.6	59.1	19.8	79.0	37.2	25.8	3.7	29.6	18.4	131.8	0.0	150.2	250.9	87.8	29.6	383.6	79.0	0.0	-345.1
11/29/2011	0.0	4.5	386.2	59.1	19.7	78.8	37.0	25.8	3.7	29.6	18.4	131.8	0.0	150.2	252.8	87.8	29.6	386.2	78.8	0.0	-347.6
11/30/2011	0.0	2.8	382.1	59.1	19.7	78.9	36.9	25.9	3.7	29.6	18.4	131.8	0.0	150.2	247.1	87.8	29.6	382.1	78.9	0.0	-343.5
12/1/2011	0.0	5.6	381.6	59.1	19.8	78.9	37.0	25.7	3.7	29.5	18.4	131.8	0.0	150.2	249.4	87.8	29.5	381.6	78.9	0.0	-343.2
12/2/2011	0.0	3.6	373.8	59.1	20.3	79.4	37.3	25.8	3.7	29.5	18.4	131.8	0.0	150.2	239.9	87.8	29.5	373.8	79.4	0.0	-335.9
12/3/2011	0.0	5.5	371.1	59.1	20.5	79.6	37.6	25.8	3.7	29.5	18.4	131.8	0.0	150.2	238.9	87.8	29.5	371.1	79.6	0.0	-333.4
12/4/2011	0.0	4.7	371.1	59.1	20.6	79.8	37.8	25.7	3.7	29.5	18.4	131.8	0.0	150.2	238.2	87.8	29.5	371.1	79.8	0.0	-333.6
12/5/2011	0.0	7.0	371.1	59.1	20.5	79.7	37.8	25.8	3.7	29.6	18.4	131.8	0.0	150.2	240.2	87.8	29.6	371.1	79.7	0.0	-333.4
12/6/2011	0.0	3.8	369.2	59.1	0.0	59.1	24.8	25.2	3.7	29.0	18.4	131.8	0.0	150.2	228.2	87.8	29.0	369.2	59.1	0.0</	

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage	
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
1/16/2012	0.0	1.1	411.2	59.1	19.3	78.4	36.8	26.0	3.7	29.7	18.4	131.8	0.0	150.2	273.9	87.8	29.7	411.2	78.4	0.0	-372.0
1/17/2012	0.0	4.4	420.7	59.1	19.2	78.3	36.7	25.5	3.7	29.2	18.4	131.8	0.0	150.2	287.2	87.8	29.2	420.7	78.3	0.0	-381.9
1/18/2012	0.0	6.9	423.1	59.1	19.6	78.7	36.5	25.5	3.7	29.3	18.4	131.8	0.0	150.2	292.8	87.8	29.3	423.1	78.7	0.0	-384.7
1/19/2012	0.0	3.7	423.2	59.1	19.8	78.9	36.8	25.4	3.7	29.2	18.4	131.8	0.0	150.2	289.7	87.8	29.2	423.2	78.9	0.0	-385.1
1/20/2012	0.0	4.2	430.3	59.1	19.7	78.8	36.7	25.3	3.7	29.0	18.4	131.8	0.0	150.2	297.3	87.8	29.0	430.3	78.8	0.0	-392.2
1/21/2012	0.0	4.5	428.9	59.1	20.1	79.2	37.0	25.4	3.7	29.1	18.4	131.8	0.0	150.2	296.3	87.8	29.1	428.9	79.2	0.0	-391.1
1/22/2012	0.0	3.7	428.9	59.1	20.0	79.1	37.0	25.3	3.7	29.0	18.4	131.8	0.0	150.2	295.5	87.8	29.0	428.9	79.1	0.0	-391.2
1/23/2012	0.0	1.3	428.9	59.1	19.9	79.1	36.9	25.2	3.7	29.0	18.4	131.8	0.0	150.2	293.3	87.8	29.0	428.9	79.1	0.0	-391.1
1/24/2012	0.0	3.7	428.8	59.1	20.3	79.4	37.1	25.4	3.7	29.1	18.4	131.8	0.0	150.2	295.6	87.8	29.1	428.8	79.4	0.0	-391.3
1/25/2012	0.0	4.8	430.1	59.1	19.8	78.9	37.0	25.1	3.7	28.9	18.4	131.8	0.0	150.2	297.8	87.8	28.9	430.1	78.9	0.0	-392.3
1/26/2012	0.0	3.1	430.2	59.1	20.1	79.3	37.0	25.2	3.7	28.9	18.4	131.8	0.0	150.2	296.4	87.8	28.9	430.2	79.3	0.0	-392.6
1/27/2012	0.0	3.5	430.4	59.1	20.2	79.3	37.1	25.3	3.7	29.0	18.4	131.8	0.0	150.2	296.9	87.8	29.0	430.4	79.3	0.0	-392.9
1/28/2012	0.0	4.2	427.6	59.1	19.8	78.9	36.8	25.2	3.7	28.9	18.4	131.8	0.0	150.2	294.9	87.8	28.9	427.6	78.9	0.0	-389.8
1/29/2012	0.0	2.7	428.7	59.1	19.7	78.8	36.7	25.2	3.7	28.9	18.4	131.8	0.0	150.2	294.6	87.8	28.9	428.7	78.8	0.0	-390.8
1/30/2012	0.0	3.6	428.7	59.1	19.6	78.8	36.5	25.1	3.7	28.8	18.4	131.8	0.0	150.2	295.5	87.8	28.8	428.7	78.8	0.0	-390.8
1/31/2012	0.0	5.7	428.8	59.1	20.1	79.2	36.8	25.3	3.7	29.0	18.4	131.8	0.0	150.2	297.7	87.8	29.0	428.8	79.2	0.0	-391.2
2/1/2012	0.0	2.6	442.6	59.1	19.2	78.3	36.4	25.2	3.7	28.9	18.4	131.8	0.0	150.2	308.1	87.8	28.9	442.6	78.3	0.0	-404.2
2/2/2012	0.0	3.3	452.3	59.1	19.2	78.3	36.1	25.1	3.7	28.8	18.4	131.8	0.0	150.2	318.8	87.8	28.8	452.3	78.3	0.0	-413.9
2/3/2012	0.0	4.0	471.0	59.1	19.4	78.5	36.2	25.1	3.7	28.8	18.4	131.8	0.0	150.2	338.4	87.8	28.8	471.0	78.5	0.0	-432.9
2/4/2012	0.0	4.7	471.9	59.1	19.4	78.6	36.3	25.2	3.7	28.9	18.4	131.8	0.0	150.2	339.7	87.8	28.9	471.9	78.6	0.0	-433.7
2/5/2012	0.0	6.0	453.9	59.1	19.7	78.8	36.4	25.0	3.7	28.7	18.4	131.8	0.0	150.2	323.4	87.8	28.7	453.9	78.8	0.0	-416.2
2/6/2012	0.0	2.7	455.5	59.1	19.6	78.7	36.4	24.9	3.7	28.6	18.4	131.8	0.0	150.2	321.7	87.8	28.6	455.5	78.7	0.0	-417.7
2/7/2012	0.0	2.8	462.3	59.1	19.2	78.3	36.1	24.7	3.7	28.4	18.4	131.8	0.0	150.2	328.7	87.8	28.4	462.3	78.3	0.0	-424.4
2/8/2012	0.0	4.6	462.2	59.1	19.2	78.3	36.1	24.8	3.7	28.6	18.4	131.8	0.0	150.2	330.3	87.8	28.6	462.2	78.3	0.0	-424.1
2/9/2012	0.0	5.0	462.2	59.1	19.3	78.4	36.0	24.7	3.7	28.5	18.4	131.8	0.0	150.2	331.1	87.8	28.5	462.2	78.4	0.0	-424.4
2/10/2012	0.0	3.2	475.0	59.1	19.3	78.4	36.0	24.7	3.7	28.4	18.4	131.8	0.0	150.2	342.1	87.8	28.4	475.0	78.4	0.0	-437.2
2/11/2012	0.0	3.1	474.9	59.1	19.3	78.4	36.1	24.7	3.7	28.4	18.4	131.8	0.0	150.2	341.7	87.8	28.4	474.9	78.4	0.0	-437.1
2/12/2012	0.0	8.4	474.9	59.1	19.4	78.5	36.1	24.7	3.7	28.4	18.4	131.8	0.0	150.2	347.0	87.8	28.4	474.9	78.5	0.0	-437.1
2/13/2012	0.0	3.6	474.5	59.1	19.3	78.4	36.0	24.7	3.7	28.4	18.4	131.8	0.0	150.2	341.8	87.8	28.4	474.5	78.4	0.0	-436.6
2/14/2012	0.0	5.3	474.2	59.1	19.5	78.6	36.1	24.6	3.7	28.3	18.4	131.8	0.0	150.2	343.5	87.8	28.3	474.2	78.6	0.0	-436.6
2/15/2012	0.0	2.7	474.9	59.1	19.5	78.6	36.1	24.6	3.7	28.3	18.4	131.8	0.0	150.2	341.5	87.8	28.3	474.9	78.6	0.0	-437.3
2/16/2012	0.0	3.4	475.0	59.1	19.4	78.6	36.2	24.6	3.7	28.3	18.4	131.8	0.0	150.2	342.3	87.8	28.3	475.0	78.6	0.0	-437.4
2/17/2012	0.0	5.4	475.1	59.1	19.7	78.8	36.2	24.5	3.7	28.3	18.4	131.8	0.0	150.2	344.6	87.8	28.3	475.1	78.8	0.0	-437.8
2/18/2012	0.0	1.9	475.1	59.1	19.4	78.5	36.1	24.5	3.7	28.3	18.4	131.8	0.0	150.2	341.0	87.8	28.3	475.1	78.5	0.0	-437.5
2/19/2012	0.0	2.2	475.1	59.1	19.1	78.3	35.7	24.2	3.7	27.9	18.4	131.8	0.0	150.2	341.8	87.8	27.9	475.1	78.3	0.0	-437.6
2/20/2012	0.0	4.1																			

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Q _{us}	P	Q _p			Q _{gwr}	Q _{ds}			Q _{gwr}				ET	ΔS _{sw}	Q _{gwus}	Q _{gwr}	Q _p	Q _{gwr}	Q _{gwr}	ΔS _{gw}
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Q _{cs})	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage	
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
3/31/2012	0.0	0.3	517.8	31.8	18.5	50.3	34.5	23.1	354.0	377.1	58.1	307.5	25.8	391.4	-234.5	40.6	377.1	517.8	50.3	0.0	-150.4
4/1/2012	868.8	0.5	598.8	31.8	18.7	50.6	27.8	114.7	354.0	468.7	58.1	307.5	5.3	370.9	651.3	40.6	468.7	598.8	50.6	0.0	-140.1
4/2/2012	2320.7	2.2	704.1	31.8	19.5	51.3	27.8	450.9	354.0	804.9	58.1	307.5	25.4	391.0	1854.6	40.6	804.9	704.1	51.3	0.0	90.1
4/3/2012	2320.7	1.7	747.3	31.8	19.5	51.3	27.8	1004.3	354.0	1358.3	58.1	307.5	49.5	415.1	1319.7	40.6	1358.3	747.3	51.3	0.0	600.4
4/4/2012	2538.8	2.4	742.3	31.8	19.8	51.7	27.8	1779.0	354.0	2133.0	58.1	307.5	73.6	439.2	735.2	40.6	2133.0	742.3	51.7	0.0	1379.7
4/5/2012	2895.9	3.9	750.9	31.8	23.9	55.8	27.8	1956.9	354.0	2310.9	58.1	307.5	86.8	452.4	915.4	40.6	2310.9	750.9	55.8	0.0	1544.9
4/6/2012	2856.2	3.3	785.4	31.8	81.5	113.3	27.8	2080.4	354.0	2434.4	58.1	307.5	94.1	459.7	836.3	40.6	2434.4	785.4	113.3	0.0	1576.4
4/7/2012	2757.0	2.0	781.9	31.8	105.6	137.4	118.8	2192.4	354.0	2546.4	58.1	307.5	98.8	464.4	548.7	40.6	2546.4	781.9	137.4	0.0	1667.7
4/8/2012	2757.0	0.7	786.4	31.8	110.8	142.6	648.7	1794.0	354.0	2148.0	58.1	307.5	98.8	464.4	425.6	40.6	2148.0	786.4	142.6	0.0	1259.6
4/9/2012	2737.2	0.1	795.0	31.8	120.3	152.1	1555.8	1152.1	354.0	1506.1	58.1	307.5	99.9	465.5	157.0	40.6	1506.1	795.0	152.1	0.0	599.6
4/10/2012	2717.4	0.6	845.0	31.8	128.0	159.8	1914.7	896.6	354.0	1250.6	58.1	307.5	99.9	465.5	91.9	40.6	1250.6	845.0	159.8	0.0	286.5
4/11/2012	2717.4	3.9	856.3	31.8	127.1	159.0	2005.5	816.1	354.0	1170.1	58.1	307.5	99.9	465.5	95.4	40.6	1170.1	856.3	159.0	0.0	195.4
4/12/2012	2717.4	3.8	832.7	31.8	124.4	156.2	2017.4	796.6	354.0	1150.6	58.1	307.5	99.9	465.5	76.6	40.6	1150.6	832.7	156.2	0.0	202.3
4/13/2012	2320.7	0.7	823.4	31.8	114.1	146.0	1933.8	785.5	354.0	1139.5	58.1	307.5	99.9	465.5	-248.2	40.6	1139.5	823.4	146.0	0.0	210.8
4/14/2012	1904.1	1.2	824.1	31.8	116.0	147.9	1710.2	768.7	354.0	1122.7	58.1	307.5	99.9	465.5	-421.1	40.6	1122.7	824.1	147.9	0.0	191.4
4/15/2012	1884.3	3.5	824.2	31.8	66.8	98.6	1385.4	751.4	354.0	1105.4	58.1	307.5	99.9	465.5	-145.8	40.6	1105.4	824.2	98.6	0.0	223.2
4/16/2012	1884.3	1.0	823.8	31.8	58.5	90.3	1089.4	737.7	354.0	1091.7	58.1	307.5	99.9	465.5	152.8	40.6	1091.7	823.8	90.3	0.0	218.3
4/17/2012	1884.3	3.1	829.2	31.8	67.0	98.8	963.0	734.6	354.0	1088.6	58.1	307.5	99.9	465.5	298.4	40.6	1088.6	829.2	98.8	0.0	201.2
4/18/2012	1884.3	0.7	830.6	31.8	67.5	99.3	982.6	733.9	354.0	1087.9	58.1	307.5	99.9	465.5	278.9	40.6	1087.9	830.6	99.3	0.0	198.6
4/19/2012	1810.9	0.8	837.4	31.8	65.5	97.4	988.0	730.5	354.0	1084.5	58.1	307.5	99.9	465.5	208.5	40.6	1084.5	837.4	97.4	0.0	190.4
4/20/2012	1640.3	1.2	838.3	31.8	65.3	97.1	951.0	723.4	354.0	1077.4	58.1	307.5	99.9	465.5	83.0	40.6	1077.4	838.3	97.1	0.0	182.6
4/21/2012	1578.8	0.8	854.9	31.8	59.0	90.8	895.2	712.3	354.0	1066.3	58.1	307.5	99.9	465.5	98.4	40.6	1066.3	854.9	90.8	0.0	161.2
4/22/2012	1578.8	2.5	854.9	31.8	50.7	82.5	804.3	698.3	354.0	1052.3	58.1	307.5	99.9	465.5	196.7	40.6	1052.3	854.9	82.5	0.0	155.5
4/23/2012	1586.8	4.9	854.9	31.8	48.6	80.4	715.2	690.2	354.0	1044.2	58.1	307.5	99.9	465.5	302.1	40.6	1044.2	854.9	80.4	0.0	149.5
4/24/2012	1604.6	3.4	855.1	31.8	50.9	82.7	681.9	688.2	354.0	1042.2	58.1	307.5	99.9	465.5	356.2	40.6	1042.2	855.1	82.7	0.0	145.1
4/25/2012	1729.6	0.9	858.1	31.8	44.8	76.7	679.6	688.8	354.0	1042.8	58.1	307.5	99.9	465.5	477.4	40.6	1042.8	858.1	76.7	0.0	148.7
4/26/2012	1828.8	2.7	856.6	31.8	43.7	75.6	686.9	694.6	354.0	1048.6	58.1	307.5	99.9	465.5	562.6	40.6	1048.6	856.6	75.6	0.0	157.1
4/27/2012	2009.3	2.7	848.4	31.8	56.0	87.8	710.9	706.2	354.0	1060.2	58.1	307.5	99.9	465.5	711.6	40.6	1060.2	848.4	87.8	0.0	164.6
4/28/2012	1826.8	1.3	848.2	31.8	60.8	92.6	793.1	710.4	354.0	1064.4	58.1	307.5	99.9	465.5	445.8	40.6	1064.4	848.2	92.6	0.0	164.2
4/29/2012	1602.6	1.6	848.4	31.8	48.9	80.7	868.5	702.7	354.0	1056.7	58.1	307.5	99.9	465.5	142.7	40.6	1056.7	848.4	80.7	0.0	168.2
4/30/2012	1600.7	2.3	848.6	31.8	53.1	84.9	779.3	681.3	354.0	1035.3	58.1	307.5	99.9	465.5	256.4	40.6	1035.3	848.6	84.9	0.0	142.4
5/1/2012	1612.6	1.2	855.0	31.8	48.7	80.5	677.9	663.6	354.0	1017.6	58.1	307.5	99.9	465.5	388.2	40.6	1017.6	855.0	80.5	0.0	122.8
5/2/2012	1646.3	4.6	855.5	31.8	46.5	78.4	601.5	670.2	354.0	1024.2	58.1	307.5	124.4	490.0	469.0	40.6	1024.2	85			

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
6/14/2012	3391.7	5.1	911.5	31.8	91.7	123.5	1352.6	748.4	354.0	1102.4	58.1	307.5	147.2	512.8	1464.0	40.6	1102.4	911.5	123.5	0.0	108.0
6/15/2012	3369.9	6.9	891.8	31.8	65.9	97.7	1087.0	736.1	354.0	1090.1	58.1	307.5	147.0	512.6	1676.6	40.6	1090.1	891.8	97.7	0.0	141.2
6/16/2012	3459.2	6.2	892.5	31.8	52.5	84.3	874.6	732.3	354.0	1086.3	58.1	307.5	145.9	511.5	1969.7	40.6	1086.3	892.5	84.3	0.0	150.1
6/17/2012	3465.1	8.2	892.5	31.8	61.0	92.8	896.0	731.6	354.0	1085.6	58.1	307.5	145.9	511.5	1965.5	40.6	1085.6	892.5	92.8	0.0	140.9
6/18/2012	3292.6	13.5	892.6	31.8	53.3	85.2	846.1	731.4	354.0	1085.4	58.1	307.5	145.9	511.5	1840.8	40.6	1085.4	892.6	85.2	0.0	148.3
6/19/2012	3272.7	3.9	892.7	31.8	49.9	81.8	898.1	729.5	354.0	1083.5	58.1	307.5	145.8	511.4	1758.1	40.6	1083.5	892.7	81.8	0.0	149.7
6/20/2012	3312.4	8.6	889.7	31.8	47.2	79.0	839.6	728.5	354.0	1082.5	58.1	307.5	147.2	512.8	1854.8	40.6	1082.5	889.7	79.0	0.0	154.4
6/21/2012	3362.0	3.6	888.6	31.8	51.0	82.9	886.1	729.1	354.0	1083.1	58.1	307.5	147.2	512.8	1855.0	40.6	1083.1	888.6	82.9	0.0	152.3
6/22/2012	3371.9	3.9	888.6	31.8	46.7	78.5	868.2	728.4	354.0	1082.4	58.1	307.5	147.2	512.8	1879.6	40.6	1082.4	888.6	78.5	0.0	155.9
6/23/2012	3350.1	6.8	888.5	31.8	49.4	81.2	873.7	727.1	354.0	1081.1	58.1	307.5	147.2	512.8	1859.0	40.6	1081.1	888.5	81.2	0.0	152.1
6/24/2012	3354.0	6.7	888.5	31.8	45.1	77.0	840.2	720.6	354.0	1074.6	58.1	307.5	147.2	512.8	1898.6	40.6	1074.6	888.5	77.0	0.0	149.8
6/25/2012	3437.4	5.1	888.5	31.8	46.1	77.9	743.2	708.3	354.0	1062.3	58.1	307.5	147.2	512.8	2090.5	40.6	1062.3	888.5	77.9	0.0	136.6
6/26/2012	3504.8	6.0	887.9	31.8	43.9	75.8	651.3	707.5	354.0	1061.5	58.1	307.5	146.9	512.5	2249.2	40.6	1061.5	887.9	75.8	0.0	138.4
6/27/2012	3340.2	12.7	879.9	31.8	48.4	80.2	704.8	715.6	354.0	1069.6	58.1	307.5	146.5	512.1	2026.4	40.6	1069.6	879.9	80.2	0.0	150.1
6/28/2012	3159.7	12.2	880.2	31.8	47.6	79.4	750.9	707.7	354.0	1061.7	58.1	307.5	147.2	512.8	1806.0	40.6	1061.7	880.2	79.4	0.0	142.8
6/29/2012	3221.2	20.1	877.0	31.8	32.6	64.4	666.5	686.4	354.0	1040.4	58.1	307.5	146.1	511.7	1964.0	40.6	1040.4	877.0	64.4	0.0	139.6
6/30/2012	3276.7	9.6	874.4	31.8	25.1	56.9	559.0	669.8	354.0	1023.8	58.1	307.5	145.9	511.5	2123.2	40.6	1023.8	874.4	56.9	0.0	133.2
7/1/2012	3290.6	11.8	849.4	31.8	34.0	65.9	512.5	675.8	354.0	1029.8	58.1	307.5	145.9	511.5	2163.8	40.6	1029.8	849.4	65.9	0.0	155.2
7/2/2012	3296.5	16.7	800.0	31.8	36.2	68.0	549.3	688.7	354.0	1042.7	58.1	307.5	128.0	493.6	2095.6	40.6	1042.7	800.0	68.0	0.0	215.3
7/3/2012	3106.1	7.7	782.5	31.8	40.9	72.7	628.1	698.4	354.0	1052.4	58.1	307.5	127.8	493.4	1795.2	40.6	1052.4	782.5	72.7	0.0	237.8
7/4/2012	2989.1	12.7	780.3	31.8	49.0	80.8	689.7	700.3	354.0	1054.3	58.1	307.5	127.8	493.4	1625.4	40.6	1054.3	780.3	80.8	0.0	233.9
7/5/2012	2802.6	20.2	779.0	31.8	53.0	84.9	695.7	702.2	354.0	1056.2	58.1	307.5	127.8	493.4	1441.4	40.6	1056.2	779.0	84.9	0.0	233.0
7/6/2012	2651.9	11.0	781.5	31.8	61.3	93.1	732.8	700.7	354.0	1054.7	58.1	307.5	127.8	493.4	1256.6	40.6	1054.7	781.5	93.1	0.0	220.7
7/7/2012	2441.7	13.1	766.3	31.8	56.0	87.8	694.1	685.9	354.0	1039.9	58.1	307.5	127.8	493.4	1081.3	40.6	1039.9	766.3	87.8	0.0	226.5
7/8/2012	2217.5	13.6	766.1	31.8	94.2	126.0	615.7	664.8	354.0	1018.8	58.1	307.5	127.8	493.4	995.4	40.6	1018.8	766.1	126.0	0.0	167.3
7/9/2012	2231.4	18.6	764.3	31.8	81.6	113.4	546.3	663.2	354.0	1017.2	58.1	307.5	127.8	493.4	1070.8	40.6	1017.2	764.3	113.4	0.0	180.2
7/10/2012	1933.9	14.9	766.2	31.8	66.1	97.9	592.0	680.2	354.0	1034.2	58.1	307.5	127.8	493.4	693.3	40.6	1034.2	766.2	97.9	0.0	210.7
7/11/2012	1691.9	12.0	758.4	31.8	55.0	86.8	666.4	666.4	354.0	1020.4	58.1	307.5	127.8	493.4	368.9	40.6	1020.4	758.4	86.8	0.0	215.8
7/12/2012	1763.3	10.6	757.9	31.8	40.6	72.5	579.9	620.6	354.0	974.6	58.1	307.5	127.8	493.4	556.3	40.6	974.6	757.9	72.5	0.0	184.9
7/13/2012	1892.2	12.9	758.0	31.8	35.4	67.2	437.7	577.8	354.0	931.8	58.1	307.5	127.8	493.4	867.5	40.6	931.8	758.0	67.2	0.0	147.2
7/14/2012	2001.3	10.4	750.6	31.8	34.9	66.7	330.7	582.0	354.0	936.0	58.1	307.5	127.8	493.4	1068.9	40.6	936.0	750.6	66.7	0.0	159.3
7/15/2012	2086.6	22.7	750.6	31.8	31.9	63.7	340.3	604.3	354.0	958.3	58.1	307.5	127.8	493.4	1131.6	40.6	958.3	750.6	63.7	0.0	184.7
7/16/2012	2804.6	8.5	746.8	31.8	35.0	66.8	400.9	617.6	354.0	971.6	58.1	307.5	127.8	493.4	1760.8	40.6	971.6	746.8			

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

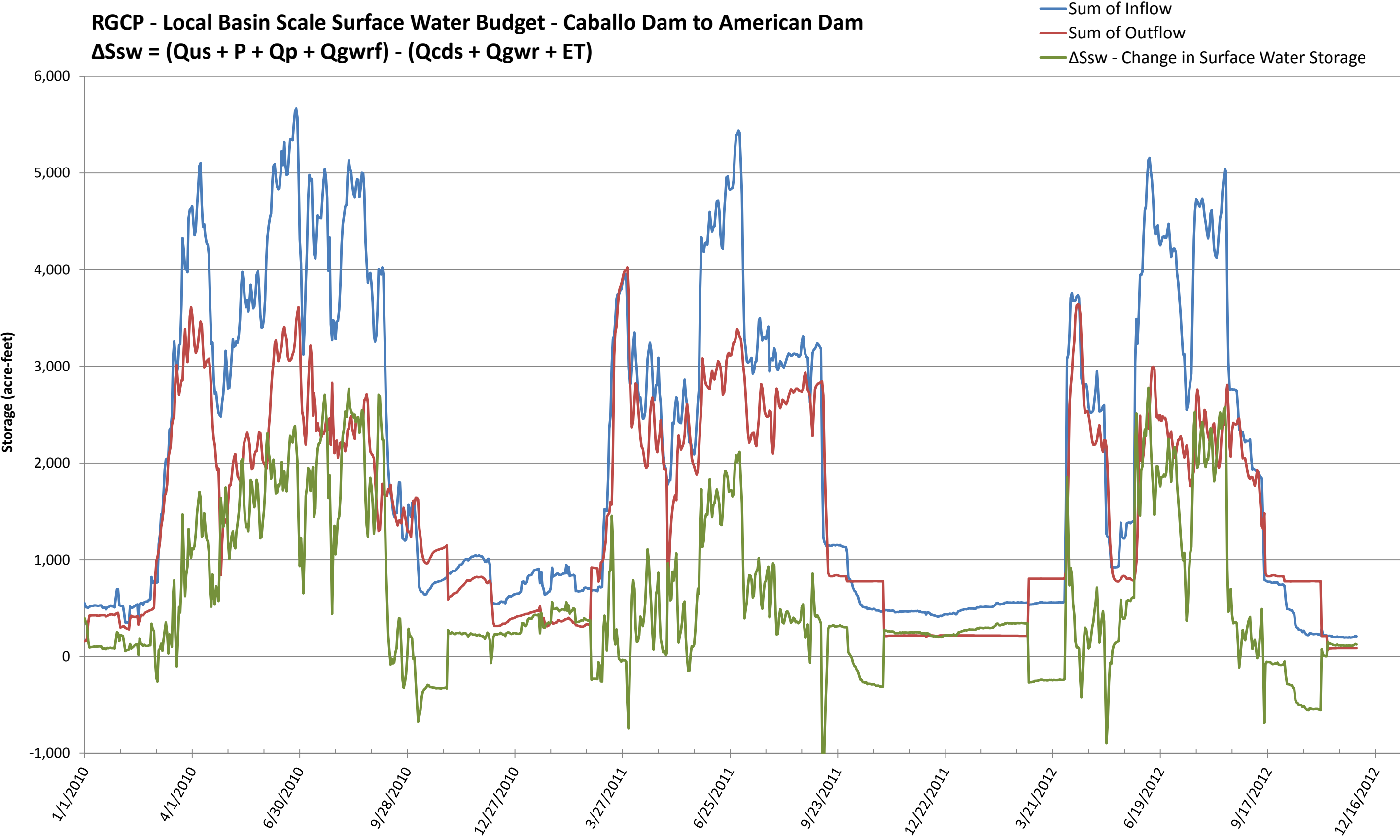
Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
Date	River Below Caballo Dam	Precipitation Flows in River Channel	Pumping																		
8/28/2012	1418.2	8.0	727.1	31.8	65.7	97.5	575.3	632.9	354.0	986.9	58.1	307.5	125.1	490.7	197.8	40.6	986.9	727.1	97.5	0.0	203.0
8/29/2012	1378.5	10.9	728.1	31.8	64.4	96.2	577.3	626.1	354.0	980.1	58.1	307.5	125.1	490.7	165.6	40.6	980.1	728.1	96.2	0.0	196.4
8/30/2012	1394.4	16.6	729.4	31.8	56.6	88.4	524.8	605.0	354.0	959.0	58.1	307.5	125.1	490.7	254.3	40.6	959.0	729.4	88.4	0.0	181.8
8/31/2012	1402.3	14.3	723.8	31.8	52.9	84.7	466.8	587.8	354.0	941.8	58.1	307.5	125.1	490.7	325.8	40.6	941.8	723.8	84.7	0.0	173.9
9/1/2012	1410.2	8.9	721.1	31.8	55.0	86.8	424.3	583.0	354.0	937.0	58.1	307.5	125.1	490.7	375.1	40.6	937.0	721.1	86.8	0.0	169.7
9/2/2012	1418.2	16.9	719.8	31.8	55.9	87.7	422.8	585.2	354.0	939.2	58.1	307.5	106.1	471.7	408.9	40.6	939.2	719.8	87.7	0.0	172.4
9/3/2012	1243.6	10.6	718.6	31.8	54.5	86.3	432.9	595.6	354.0	949.6	58.1	307.5	106.1	471.7	204.9	40.6	949.6	718.6	86.3	0.0	185.3
9/4/2012	1108.8	14.7	718.6	31.8	55.6	87.4	438.1	587.7	354.0	941.7	58.1	307.5	106.1	471.7	78.0	40.6	941.7	718.6	87.4	0.0	176.4
9/5/2012	1108.8	20.1	721.1	31.8	61.1	93.0	427.4	562.2	354.0	916.2	58.1	307.5	106.1	471.7	127.6	40.6	916.2	721.1	93.0	0.0	142.8
9/6/2012	1100.8	16.9	721.2	31.8	62.3	94.1	369.7	567.9	354.0	921.9	58.1	307.5	106.1	471.7	169.7	40.6	921.9	721.2	94.1	0.0	147.3
9/7/2012	1092.9	18.1	717.2	31.8	59.3	91.1	419.2	593.7	354.0	947.7	58.1	307.5	106.1	471.7	80.7	40.6	947.7	717.2	91.1	0.0	180.1
9/8/2012	1079.0	8.6	718.1	31.8	73.1	105.0	503.0	598.9	354.0	952.9	58.1	307.5	106.1	471.7	-16.9	40.6	952.9	718.1	105.0	0.0	170.4
9/9/2012	1065.1	8.5	718.0	31.8	79.2	111.0	507.1	562.7	354.0	916.7	58.1	307.5	106.1	471.7	7.3	40.6	916.7	718.0	111.0	0.0	128.3
9/10/2012	1049.3	12.8	718.5	31.8	63.1	95.0	396.5	497.9	354.0	851.9	58.1	307.5	106.1	471.7	155.5	40.6	851.9	718.5	95.0	0.0	79.1
9/11/2012	1035.4	14.8	715.6	31.8	57.8	89.7	279.2	419.3	354.0	773.3	58.1	307.5	106.1	471.7	331.1	40.6	773.3	715.6	89.7	0.0	8.7
9/12/2012	1015.5	23.5	715.5	31.8	51.4	83.2	148.9	373.3	354.0	727.3	58.1	307.5	106.1	471.7	489.9	40.6	727.3	715.5	83.2	0.0	-30.8
9/13/2012	533.6	15.8	700.9	31.8	46.0	77.8	69.8	427.3	354.0	781.3	58.1	307.5	106.1	471.7	5.3	40.6	781.3	700.9	77.8	0.0	43.2
9/14/2012	0.0	14.6	700.8	31.8	46.4	78.2	163.1	492.3	354.0	846.3	58.1	307.5	106.1	471.7	-687.5	40.6	846.3	700.8	78.2	0.0	107.9
9/15/2012	0.0	12.8	700.4	31.8	39.7	71.5	65.5	26.2	354.0	380.2	58.1	307.5	51.6	417.2	-78.2	40.6	380.2	700.4	71.5	0.0	-351.1
9/16/2012	0.0	10.8	700.4	31.8	34.4	66.2	37.2	23.6	354.0	377.6	58.1	307.5	51.6	417.2	-54.6	40.6	377.6	700.4	66.2	0.0	-348.4
9/17/2012	0.0	7.6	700.4	31.8	31.9	63.7	34.8	23.4	354.0	377.4	58.1	307.5	51.6	417.2	-57.7	40.6	377.4	700.4	63.7	0.0	-346.0
9/18/2012	0.0	10.1	699.6	31.8	30.2	62.0	33.7	23.3	354.0	377.3	58.1	307.5	51.6	417.2	-56.6	40.6	377.3	699.6	62.0	0.0	-343.6
9/19/2012	0.0	14.1	699.8	31.8	26.0	57.8	33.9	24.1	354.0	378.1	58.1	307.5	51.6	417.2	-57.6	40.6	378.1	699.8	57.8	0.0	-338.8
9/20/2012	0.0	10.5	698.8	31.8	21.0	52.8	34.2	28.3	354.0	382.3	58.1	307.5	51.6	417.2	-71.7	40.6	382.3	698.8	52.8	0.0	-328.7
9/21/2012	0.0	8.1	698.9	31.8	21.5	53.3	35.3	32.9	354.0	386.9	58.1	307.5	51.6	417.2	-79.1	40.6	386.9	698.9	53.3	0.0	-324.7
9/22/2012	0.0	15.7	694.5	31.8	21.1	52.9	37.7	31.6	354.0	385.6	58.1	307.5	51.6	417.2	-77.5	40.6	385.6	694.5	52.9	0.0	-321.1
9/23/2012	0.0	17.4	694.3	31.8	21.0	52.9	37.8	28.1	354.0	382.1	58.1	307.5	51.6	417.2	-72.5	40.6	382.1	694.3	52.9	0.0	-324.5
9/24/2012	0.0	12.6	694.3	31.8	21.3	53.1	36.2	24.5	354.0	378.6	58.1	307.5	51.6	417.2	-72.0	40.6	378.6	694.3	53.1	0.0	-328.3
9/25/2012	0.0	18.9	694.1	31.8	20.9	52.7	34.8	23.2	354.0	377.2	58.1	307.5	51.6	417.2	-63.6	40.6	377.2	694.1	52.7	0.0	-329.0
9/26/2012	0.0	7.4	682.5	31.8	20.7	52.5	34.4	22.9	354.0	377.0	58.1	307.5	51.6	417.2	-86.2	40.6	377.0	682.5	52.5	0.0	-317.4
9/27/2012	0.0	5.9	682.4	31.8	20.7	52.5	34.2	23.0	354.0	377.1	58.1	307.5	51.6	417.2	-87.6	40.6	377.1	682.4	52.5	0.0	-317.3
9/28/2012	0.0	3.7	683.3	31.8	20.7	52.5	34.2	23.0	354.0	377.0	58.1	307.5	51.6	417.2	-88.9	40.6	377.0	683.3	52.5	0.0	-318.2
9/29/2012	0.0	9.5	682.1	31.8	20.8	52.6	34.0	23.0	354.0	377.0	58.1	307.5	51.6	417.2	-84.1	40.6	377.0	682.1	52.6	0.0	-317.1
9/30/2012	0.0	9.4	678.9	31.8	21.0	52.9	34.0	22.8	354.0	376.9	58.1	307.5	51.6	417.2	-86.9	40.6	376.3				

Table G2-5: Local Basin Scale Water Budget Equation (Units = Acre-Feet)

Caballo Reservoir to American Dam																					
	Surface Water Budget															Groundwater Budget					
	Qus	P	Qp			Qgwrf	Qds			Qgwr				ET	ΔSsw	Qgwus	Qgwr	Qp	Qgwrf	Qgwds	ΔSgw
				MODFLOW Groundwater Return Flow to Rio Grande	MODFLOW Irrigation/ Drainage Return Flow	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Channel Outflow, River downstream of American Dam	Channel Seepage (Qcs)	MODFLOW Floodplain/ Irrigation Based Recharge	Groundwater Recharge = Seepage + Irrigation Based Recharge	Riparian Evapo- transpiration	Crop Evapo- transpiration	Open Water Evaporation	Total ET = Riparian + Crop + Open Water Evaporation	Changes in Surface Water Storage	Upstream Groundwater Inflow	Groundwater Recharge = Seepage + Irrigation Based Recharge	Pumping	Groundwater Return Flow = Groundwater RF + Irrigation RRF	Downstream Groundwater Outflow	Change in Vadose Zone and Groundwater Storage
11/11/2012	0.0	3.8	109.4	59.1	26.9	86.1	36.6	24.7	3.7	28.4	18.4			18.4	-15.8	87.8	28.4	109.4	86.1	0.0	-79.2
11/12/2012	0.0	5.9	109.4	59.1	25.8	84.9	37.0	24.9	3.7	28.7	18.4			18.4	-15.6	87.8	28.7	109.4	84.9	0.0	-77.9
11/13/2012	0.0	4.9	107.9	59.1	25.9	85.0	37.0	25.2	3.7	28.9	18.4			18.4	-18.2	87.8	28.9	107.9	85.0	0.0	-76.2
11/14/2012	0.0	12.3	107.9	59.1	26.2	85.3	37.2	25.3	3.7	29.1	18.4			18.4	-11.0	87.8	29.1	107.9	85.3	0.0	-76.3
11/15/2012	0.0	4.4	107.9	59.1	26.6	85.7	37.3	25.4	3.7	29.1	18.4			18.4	-18.5	87.8	29.1	107.9	85.7	0.0	-76.6
11/16/2012	0.0	5.3	108.8	59.1	27.1	86.2	37.3	25.6	3.7	29.3	18.4			18.4	-16.5	87.8	29.3	108.8	86.2	0.0	-77.8
11/17/2012	0.0	2.2	108.8	59.1	27.2	86.3	37.3	25.6	3.7	29.3	18.4			18.4	-19.5	87.8	29.3	108.8	86.3	0.0	-77.9
11/18/2012	0.0	2.0	108.8	59.1	27.7	86.8	37.5	25.4	3.7	29.2	18.4			18.4	-19.3	87.8	29.2	108.8	86.8	0.0	-78.6
11/19/2012	0.0	2.1	109.1	59.1	27.8	87.0	37.4	25.3	3.7	29.1	18.4			18.4	-18.5	87.8	29.1	109.1	87.0	0.0	-79.2
11/20/2012	0.0	0.7	109.1	59.1	26.0	85.1	37.4	25.4	3.7	29.1	18.4			18.4	-21.8	87.8	29.1	109.1	85.1	0.0	-77.3
11/21/2012	0.0	0.9	109.1	59.1	27.0	86.1	37.7	25.5	3.7	29.2	18.4			18.4	-21.0	87.8	29.2	109.1	86.1	0.0	-78.1
11/22/2012	0.0	2.3	108.6	59.1	27.1	86.2	37.8	25.6	3.7	29.3	18.4			18.4	-20.2	87.8	29.3	108.6	86.2	0.0	-77.6
11/23/2012	0.0	1.9	108.6	59.1	25.5	84.6	38.2	25.6	3.7	29.4	18.4			18.4	-22.5	87.8	29.4	108.6	84.6	0.0	-76.0
11/24/2012	0.0	5.7	108.6	59.1	25.1	84.2	38.3	25.7	3.7	29.4	18.4			18.4	-19.3	87.8	29.4	108.6	84.2	0.0	-75.6
11/25/2012	0.0	3.0	108.6	59.1	24.3	83.5	38.3	25.5	3.7	29.2	18.4			18.4	-22.6	87.8	29.2	108.6	83.5	0.0	-75.0
11/26/2012	0.0	3.7	108.6	59.1	24.7	83.8	37.8	25.7	3.7	29.4	18.4			18.4	-21.3	87.8	29.4	108.6	83.8	0.0	-75.1
11/27/2012	0.0	5.7	108.6	59.1	23.8	83.0	37.6	25.7	3.7	29.5	18.4			18.4	-20.0	87.8	29.5	108.6	83.0	0.0	-74.2
11/28/2012	0.0	5.3	108.6	59.1	30.3	89.4	37.2	25.8	3.7	29.6	18.4			18.4	-13.6	87.8	29.6	108.6	89.4	0.0	-80.6
11/29/2012	0.0	4.5	111.2	59.1	37.9	97.1	37.0	25.8	3.7	29.6	18.4			18.4	-4.0	87.8	29.6	111.2	97.1	0.0	-90.8
11/30/2012	0.0	2.8	111.1	59.1	34.9	94.0	36.9	25.9	3.7	29.6	18.4			18.4	-8.8	87.8	29.6	111.1	94.0	0.0	-87.6

RGCP - Local Basin Scale Surface Water Budget - Caballo Dam to American Dam

$\Delta S_{sw} = (Q_{us} + P + Q_p + Q_{gwrf}) - (Q_{cds} + Q_{gwr} + ET)$



RGCP - Local Basin Scale Ground Water Budget - Caballo Dam to American Dam

$\Delta S_{gw} = (Q_{gwus} + Q_{gwr}) - (Q_p + Q_{gwr}f + Q_{gwds})$

- Sum of Inflow
- Sum of Outflow
- ΔS_{gw} - Change in Ground Water Storage

