

Appendix A. Summary of Field and Laboratory Data (September 1993 - September 1995)

Rio Grande International Study Center

Field/Laboratory Data																																			
Date	Time	Air		Water		Depth M	Flow f/s	pH	DO mg/L	Oxygen Sat %	Field		Battery (V)	Fecal col/100m	Total Hardness mg/L	Total Alkalinity mg/L	P. Alkalinity mg/L	BOD mg/L	COD mg/L	TSS mg/L	Lab		Calcium mg/L	Chloride mg/L	Magnesium mg/L	Nitrate mg/L	Phosphate mg/L	Sulfate total mg/L	Ammonia total mg/L	Nitrite total mg/L	Nitrogen total mg/L				
		Temp C	Temp C	Temp C	Temp C						TDS mg/L	Cond mS/cm									TDS mg/L	Turbidity N.T.U.										TDS mg/L			
9/18/1993	8:55	25.5	26	0.1	2.7	7.9	8.2	97.6	640	1040			90	282	140	8	1	17	59	654	34	79	98												
10/16/1993																																			
11/20/1993	8:00		17.3	0.6		7.9	11	118.8	680	1061	11.5		27		132	6	1		41	800	19.5	92	115												
12/18/1993	8:44	14.5	15.6	0.6	3.3	7.4	9.2	94.2	770	1190			48		130	7	2		40	631	18.6	93	100												
1/22/1994	7:30	11	12.5	0.7	3.3	7.8	9.1	93.4	711	1130	14.5		90	272	135	8	2		39	717	19.7	94	111	9											
2/26/1994	7:30	9.7	16.4	0.6	2.9	8.1	9.2	94.5	774	1207			180	292	134	9	3	9	43	785	10	88	111	18											
3/19/1994	7:45	18	19	0.5	2.9	8.1	8.5	92.2	718	1121	13.6		213	270	126	7	1	9	41	775	10	84	107	15											
4/23/1994	7:35	20.5	20.9	0.8	3.3	8.6	8.8	99.9	767	1196	12.5		0	280	131	9	2		90	790	38	88	112	15											
6/2/1994	10:40	31	28	0.9	3.3	7.6	7.5	95																											
6/25/1994	8:02	28	32.5	0.5	2.9	9.1	6.4	83	610	1240			94	272	175	7	2	12	62	631	35	92	118	25											
7/23/1994	11:40	34	32	0.3	2.2	8.3	6.9	90	640				63	312	154	10	1		72	546	62	76	99	24											
8/27/1994	10:05	29.5	28.5	0.3	2.2	8.2	7.3	95	860	1210					144										0.02	0.05									
9/17/1994	8:05	24	27	0.3	2.9	8.2	6.5	80	670				1802	248	110	10	2		576	688	381	69	68	19											
10/22/1994	12:20	28	27.2	0.3	2.7	8.2	8.2	104.6	820	1290	13.1		12	288	128	12	1		30	766	25	77	94	22											
11/19/1994	8:43	24	20.4	0.3	1.8		9	102	820	1280	12.5		25	294	130	11		4	25	790	20	83													
12/17/1994	8:20	13	17.3	0.5	1.4	8.3	10	102	740	1167	11.7		9		134			10	32	800	13	84													
1/21/1995	8:09	14	13.5	0.4	2	8.5	11	107	800	1250	9		6		124				12	748	11		125												
2/25/1995	8:15	19.5	18.8	0.3	2	8.2	9.2	98.9	832	1300	9.2		6		136				22	790	19		150		<5	<0.03	250	<0.10	<0.1			2			
3/25/1995	7:50	22.5	22.8	0.3	2.7	8	10	101	843	1315	9.4		9		134				111	824	97														
4/29/1995	9:27	24	22.8	0.3	2.8	8.1	8.2	94.3	793	1231	13.2		0		128				40	846	35		109		<2	0.03	249	<0.10	<0.1			<1			
5/20/1995	7:50	18.5	26.5	0.3	5.5	8.4	7.3	90.6	800	1250	12.1		24		123				17	848	16		125	206	<1	<0.03	286	<0.10	<0.1			<1			
6/17/1995	8:53	25	26.5	0.3	5.9	8.7	7.4	91.7	781	1220	116		44						40																
7/15/1995	7:45	25.5	29.1	0.3	1.6	8.1	7.1	92.1	798	1250	11.4		62																						
8/19/1995	8:05	26	28.6	0.3	2.5	9.1	6.8	88.7	818	1277	10.9		37																						
9/23/1995	8:15	18	20.5	0.3	3.3	8	8.4	93	795	1260	10.5		1937																						

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Appendix A. Continued

Date	Time	Air			Water			Depth (M)	Flow (f/s)	pH	DO (mg/l)	Oxygen Sat %	Field (mg/l)	Cond (mS/cm)	Battery (V)	Fecal Coliforms (col/100m)	Total Hardness (mg/l)	Total Alkalinity (mg/l)	P. Alkalinity (mg/L)	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (N.T.U.)	Calcium (mg/l)	Chloride (mg/l)	Magnesium (mg/l)	Nitrate (mg/L)	Phosphate (mg/L)	Sulfate (mg/L)	Ammonia (total) (mg/L)	Nitrite (total) (mg/L)	Nitrogen (total) (mg/L)			
		Temp C	Temp C	Temp C	Temp C	Temp C	Temp C																											Temp C	Temp C	Temp C
9/18/1993																																				
10/16/1993	17:45		28.4	0.1		8.5	7.7	97	684	1036	12.5																									
11/20/1993	15:45		18	0.4		7.7	8.6	98	698	1060	11.4				260		130	7	1		38	740	19.6	96	113											
12/18/1993	13:40	12	16.1	2.2	3.3	8.3	7.8	78	768	1201	10.6				3636		135	8	1		43	721	21	89	105											
1/22/1994	13:10	10.1	13	0.9	2.7	8.8	9	93.2	730	1145	14.3				3800	282	135	6	3		40	747	20.7	80	112	20										
2/26/1994	13:40	12.5	16.8	0.8	2.9	8.1	9.3	95.8	776	1211					1530	292	131	9	4	9	46	782	21	86	111	19										
3/19/1994		32	19.7	0.6	2.9	8.1	8.2	91.1	681	1065					2880	255	118	6	3	7	52	773	12	84	94	12										
4/23/1994	14:30	33	22.2	0.5	4	8.6	8.4	96.4	768	1200	12.5				2900	281	130	8	3		131	777	44	83	112	18										
6/2/1994	14:15	34.5	30	0.9	2.7	8.1	6.9	88																												
6/25/1994	11:40	35	33	0.2	2.9	9.7	8.6	111	580						255	264	125	4	2	12	63	789	46	93	118	23										
7/23/1994	15:25	37	30.5	0.3	2.2	8.2	7.6	97	610						305	298	165	9	2		65	621	69	74	97	17										
8/27/1994	16:00	37	31	0.3	2.5	8.2	6.4	83	820	1120							138										0.12	1.5								
9/17/1994	11:50	26	27	0.3	4	8	6.1	75	670						5200	234	104	8	3		736	670	423	65	64	18										
10/22/1994	15:10	37	28.2	0.3	2.2	8.1	7.6	98	827	1290	13.1				760	290	126	10	2		44	776	38	76	100	23										
11/19/1994	11:40	28	21.7	0.3	0.9	8.3	9	102	835	1305	11.4				1307	284	138	11		6	30	790	26	85		18										
12/17/1994	11:00	16.5	17.5	0.5	2.2	8.3	9	98	770	1200					7600		136			15	30	794	23	88												
1/21/1995	11:35	20.7	14.6	0.3	2.4	8.4	11	105	830	1290	10				5200		118				20	764	14		130											
2/25/1995	12:15	22	19.5	0.3	2.5	8	9.4	98.9	849	1325	10.4				*8559		136				26	802	19		145	<5	0.06	260	0.14	<0.1	<1					
3/25/1995	11:00	27.5	23.8	0.3	2	8	8.7	99.6	850	1323	9.1				1351		134				123	806	109													
4/29/1995	13:20	31	23.9	0.3	2.2	8.2	8.1	97.2	800	1250	12.5				0	125					54	848	44		100	<2	0.14	256	<0.10	<0.1	3					
5/20/1995	10:25	27	26.6	0.3	3.6	8.4	7.8	97	830	1290	11.9				22		124				11	866	11		112	185	<1	0.09	291	0.23	<0.1	<1				
6/17/1995	10:55	30	27.3	0.3	4.8	8.6	7.1	89.1	809	1262	11.8				>800						50															
7/15/1995	11:00	30	29	0.3	2.5	8	6.2	77.5	687	1070	11.4				38000																					
8/19/1995	13:22	35	30.1	0.3	2.5	8.1	6.3	83.5	816	1275	14.8				25600																					
9/23/1995	12:50	24.5	20.9	0.3	4	7.9	7.7	86.1	720	1015	10.4				727																					

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Appendix A. Continued

Date	Time	Air Temp C	Water Temp C	Depth (M)	Flow (f/s)	pH	DO (mg/l)	Oxygen Sat %	TDS (mg/l)	Cond (mS/cm)	Battery (V)	Fecal Coliforms (col/100m)	Total Hardness (mg/l)	Total Alkalinity (mg/l)	P. Alkalinity (mg/L)	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (N.T.U.)	Calcium (mg/l)	Chloride (mg/l)	Magnesium (mg/l)	Nitrate (mg/L)	Phosphate (mg/L)	Sulfate total (mg/L)	Ammonia total (mg/L)	Nitrite total (mg/L)	Nitrogen total (mg/L)	
9/18/1993	15:00	37	28.5	0.2	2.9	7.8	6.5	84	690	1080		5500	284	140	0	4	19	43	675	29	84	107								
10/16/1993	12:00	28	26.9	0.2	3.3	8.1	5.7	71.8	680	1064	12.5	9000	266	129	5	2	<5	60	608	51	88	98	12							
11/20/1993	13:10		18.3	0.3	2.7	7.4	7.8	84.4	701	1077	11.4	6000		132		1		38	764	20	96	112								
12/18/1993	14:55	12.5	16.3	0.4	3.4	8.1	7	71	758	1180	10.2	8636		130	8	1		43	738	17.3	87	110	21							
1/22/1993		11	13.4	0.6	2.9	8.5	8.7	82.4	744	1152	14	33000	280	130	7	2		36	763	11	78	117	19							
2/26/1994	14:45	14	17.3	0.5	2.9	7.8	8.1	85.1	796			7470	294	137	8	3	9	39	811	11	87	113	19							
3/19/1994		35	20.4	0.3	2.9	7.9	7.8	86.7	710	1100		14672	261	122	6	1	8	48	796	10	84	94	13							
4/23/1994	15:45	32	23		2.9							3000	283	129	7	3		241	780		89	112								
6/2/1994	12:58	36	30	0.9	2.3	8	6.8	87																						
6/25/1994	1:00	39	34	0.2	1.7	9.6	8.7	113	580			3555	269	176	6	3	15	68	836	45	94	120	25							
7/23/1994	16:35	39.5	30.5	0.3	1.5	8	7	90	620			1511	275	158	8	1		69	599	71	75	99	26							
8/27/1994	17:43	35	31.5	0.3	1.3	8.2	6.4	82	910	1240				122										0.23	0.61					
9/17/1994	12:55	26	27.5	0.3	4	7.8	4.9	61	670			17273	232	102	6	5		678	660	375	65	68	17							
10/22/1994	16:15	37	28.3	0.3	2.5	7.9	6.5	83.3	840	1319	13.1	1240	292	126	8	2		28	786	27	77	93	23							
11/19/1994	13:05	29	22.3	0.3	1	8.1	8	91.8	872	1367		1327	286	136	10		10	18	818	17	85		19							
12/17/1994	12:10	14	18.5	0.4	2.4	7.9	7	78	799	1210		7200		140			11	15	818	19	89									
1/21/1995	12:50	19.6	15.1	0.3	3	7.8	9	86.5	840	1310	10.9	88000		122				22	802	14		125								
2/25/1995	13:35	26.5	19.9	0.3	2.2	7.7	7.2	78.6	865	1356	10.4	*8874		134				21	826	16		155	<5	0.17	270	0.26	0.3	<1		
3/25/1995	12:00	30	24.4	0.3	3	7.8	6.7	80	853	1332	10.3	48000		134				127	824	110										
4/29/1995	14:20	35	24.3	0.2		8.1	7.5	89.7	815	1270	12.5	6306		126				55	846	43		100	<2	0.17	262	0.15	0.1	1		
5/20/1995	11:25	30	27.4	0.3	2	8.6	9	114.1	850	1320	11.9	286		13				16	860	13		125	206	<1	0.1	292	0.12	<0.1	<1	
6/17/1995	12:05	32	27.7	0.3	3.2	8.5	7	88.9	820	1288	11.9	265						40												
7/15/1995	12:10	31.5	30.2	0.3	1.6	7.8	5.4	7.12	780	1220	11.6	59000																		
8/19/1995	14:45	40.5	30.8	0.3	2	7.9	6.6	90	830	1295	14.9	247																		
9/23/1995	15:00	29	21.8	0.3	2.9	7.9	7.3	83.2	785	1250	10.6	1909																		

* Average of two samples