



The Edwards Aquifer Authority
and U.S. Geological Survey
Water Resources Program
Quarterly Report – 04/01/2000 to 07/31/2000



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TASK 1 - SURFACE WATER GAGING




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Background: This long-term continuous monitoring program collects baseline data. These data are needed to estimate the recharge to and in part discharge from the Edwards aquifer on an annual basis.

Objectives:

- (1) To collect surface-water data sufficient to satisfy needs for estimating the recharge to the Edwards aquifer
- (2) To collect surface-water data necessary to determine discharge from the major springs in the Edwards aquifer.

Tasks and Timeline:

Tasks	FY2000
Operate and maintain nine full-range streamflow stations	
Periodic measurements at two sites	
Table preparation	

Deliverables for FY2K:

Daily data on the Internet; quarterly reports; data tables by January 31, 2000; published in USGS annual report April 1, 2000

Progress in Past Quarter:

During the quarter nine full-range streamflow stations were operated and maintained. Periodic measurements were made at two stations. Daily data was provided on the Internet. Preliminary data for the quarter has been provided.

Plans for Next Quarter:

Continue to operate and maintain nine full-range streamflow stations were. Periodic measurements will be made at two stations. Daily data will be provided on the Internet.

STATION NUMBER 08169000 CONAL RIVER AT NEW BRAUNFELS, TX STREAM SOURCE AGENCY USGS
 LATITUDE 294221 LONGITUDE 0980720 DRAINAGE AREA 110.00 DATUM 582.80 STATE 48 COUNTY 091
 PROVISIONAL DATA FROM THE DCP SUBJECT TO REVISION
 DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	286	295	299	285	306	292	285	267	229	262	199	---
2	286	295	300	286	314	300	291	297	225	263	198	---
3	286	295	300	284	306	297	315	262	228	260	---	---
4	284	296	304	287	312	296	289	280	239	257	---	---
5	285	296	303	294	309	296	287	291	234	252	---	---
6	283	296	303	298	311	294	284	269	214	---	---	---
7	280	297	302	315	311	296	289	265	229	---	---	---
8	281	300	304	310	303	294	283	265	229	---	---	---
9	281	296	303	304	307	294	284	261	314	---	---	---
10	280	297	303	306	307	296	285	258	509	219	---	---
11	278	297	303	304	305	289	284	254	162	216	---	---
12	278	295	303	305	306	290	314	252	279	234	---	---
13	278	297	301	305	307	290	290	252	274	228	---	---
14	277	297	296	301	306	294	287	254	271	---	---	---
15	276	298	294	303	309	290	286	253	272	---	---	---
16	278	296	294	305	303	299	286	249	270	225	---	---
17	281	295	294	304	305	341	282	246	274	219	---	---
18	287	296	295	309	302	297	281	243	276	221	---	---
19	286	296	297	298	301	295	281	253	289	217	---	---
20	286	296	297	299	302	290	279	244	277	213	---	---
21	286	299	295	301	300	293	276	248	276	208	---	---
22	288	300	295	313	301	292	274	246	277	209	---	---
23	289	298	295	306	319	292	274	244	273	208	---	---
24	292	298	297	299	299	290	270	243	275	207	---	---
25	292	300	301	307	303	289	265	243	274	203	---	---
26	290	303	303	301	305	289	262	238	272	197	---	---
27	290	301	302	307	301	292	258	236	268	195	---	---
28	292	301	299	304	304	286	253	240	266	194	---	---
29	293	302	296	305	302	285	252	241	262	195	---	---
30	293	301	298	305	305	285	251	235	258	194	---	---
31	293	309	309	305	301	281	232	232	197	---	---	---
TOTAL	8835	8933	9257	9355	8864	9106	8397	7861	8215	---	---	---
MEAN	285	290	299	302	306	294	280	254	274	---	---	---
MAX	293	303	304	315	319	341	315	297	509	---	---	---
MIN	276	295	289	284	299	283	251	232	225	---	---	---
AC FT	17520	17720	18460	18560	17580	18060	16660	15590	16290	---	---	---

UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - TEXAS DISTRICT

08/03/2000

STATION NUMBER 08170500 SAN MARCOS RIVER AT SAN MARCOS, TX STREAM SOURCE AGENCY USGS
 LATITUDE 295320 LONGITUDE 0975602 DRAINAGE AREA 93 DATUM 557.67 STATE 48 COUNTY 209
 PROVISIONAL DATA FROM ICP SUBJECT TO REVISION
 DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	107	120	111	119	115	112	125	116	181	134	---
2	125	106	120	111	117	116	111	131	118	179	138	---
3	124	107	120	114	117	114	114	119	116	175	---	---
4	120	108	119	109	114	114	110	120	116	172	---	---
5	119	108	119	109	114	115	111	121	117	165	---	---
6	119	110	119	109	115	115	112	122	119	164	---	---
7	118	111	119	117	118	116	112	123	119	163	---	---
8	117	109	119	111	115	116	110	123	119	164	---	---
9	116	110	118	109	116	118	111	123	135	161	---	---
10	116	110	117	108	117	117	111	123	157	158	---	---
11	114	111	118	109	115	115	111	124	201	158	---	---
12	116	112	117	109	115	115	115	124	206	157	---	---
13	115	111	116	110	115	116	112	123	204	154	---	---
14	113	112	114	111	114	117	112	123	201	154	---	---
15	113	113	116	111	113	117	112	125	200	155	---	---
16	114	113	116	110	113	117	112	125	198	152	---	---
17	111	113	116	111	115	123	113	124	196	147	---	---
18	114	117	115	111	117	114	113	124	194	147	---	---
19	111	117	115	110	115	113	114	137	195	144	---	---
20	111	117	113	110	115	115	116	122	194	142	---	---
21	111	119	113	111	117	114	116	122	191	143	---	---
22	114	119	113	110	118	113	116	122	192	143	---	---
23	112	118	112	111	121	113	117	124	192	140	---	---
24	112	118	112	110	115	115	115	126	190	139	---	---
25	111	120	111	109	115	115	114	125	187	140	---	---
26	108	120	111	109	116	112	115	123	184	139	---	---
27	107	120	112	112	114	112	115	121	184	138	---	---
28	107	120	111	111	115	111	114	120	181	139	---	---
29	108	119	111	111	115	115	112	120	182	139	---	---
30	110	120	110	111	111	111	111	118	182	137	---	---
31	109	110	110	115	111	112	117	117	180	140	---	---
TOTAL	5542	4415	5572	4437	4455	5565	4491	4819	5090	4729	---	---
MEAN	114	114	115	111	116	115	113	123	170	153	---	---
MAX	125	120	120	117	121	124	117	137	206	181	---	---
MIN	107	106	110	108	113	112	110	117	116	137	---	---
AC-FT	7010	6770	7090	6020	6650	7070	6710	7570	10100	9380	---	---

UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - TEXAS DISTRICT

08/03/2000

STATION NUMBER 08178880 MEDINA RIVER AT BANDERA, TX STREAM SOURCE AGENCY USGS

LATITUDE 294325 LONGITUDE 0990411 DRAINAGE AREA 427.00 DATUM 1189.46 STATE 48 COUNTY 019

PROVISIONAL DATA

FROM DCP

SUBJECT TO REVISION

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	27	31	36	28	28	18	15	8.9	19	3.3	---
2	25	27	32	37	34	27	19	30	9.3	18	5.6	---
3	24	25	32	38	32	26	20	23	14	17	---	---
4	24	25	32	36	34	25	20	25	11	15	---	---
5	23	26	31	36	32	25	20	25	10	14	---	---
6	23	27	30	36	30	25	18	23	9.5	13	---	---
7	23	26	31	41	29	25	17	21	7.9	12	---	---
8	22	25	32	41	28	26	15	18	8.2	11	---	---
9	21	26	32	39	27	25	15	15	14	11	---	---
10	21	26	31	39	27	25	14	15	40	9.5	---	---
11	21	26	32	38	26	24	14	14	62	6.3	---	---
12	22	26	42	38	25	23	18	13	47	6.2	---	---
13	20	26	36	33	25	22	22	17	44	9.3	---	---
14	21	27	37	24	25	22	25	13	40	7.1	---	---
15	25	26	39	24	25	23	24	11	35	5.2	---	---
16	25	26	38	24	25	22	21	11	31	3.5	---	---
17	43	26	37	24	25	23	19	10	29	3.4	---	---
18	37	27	36	24	25	23	19	9.5	29	3.3	---	---
19	37	27	36	24	24	23	18	9.7	47	3.3	---	---
20	38	27	37	23	24	23	16	10	86	3.3	---	---
21	36	27	37	23	24	23	14	11	68	3.3	---	---
22	34	28	36	23	25	23	14	9.9	55	3.3	---	---
23	33	29	37	23	33	28	13	8.4	46	3.2	---	---
24	32	28	36	24	29	30	12	7.7	40	3.3	---	---
25	31	28	36	25	33	35	11	7.4	35	3.3	---	---
26	28	29	37	25	32	32	10	7.3	31	3.3	---	---
27	29	29	36	27	29	24	10	7.8	28	3.2	---	---
28	28	31	35	27	28	21	9.9	10	26	3.3	---	---
29	28	32	35	27	29	20	9.2	10	23	3.3	---	---
30	33	30	35	27	19	19	9.1	8.9	21	3.2	---	---
31	31	30	36	27	18	18	8.1	8.1	---	3.2	---	---
TOTAL	861	815	1080	933	812	758	484.2	424.7	955.8	226.3	---	---
MEAN	27.8	27.2	34.8	30.1	28.0	24.5	16.1	13.7	31.9	7.30	---	---
MAX	43	32	42	41	34	35	25	30	86	19	---	---
MIN	20	25	30	23	24	18	9.1	7.3	7.9	3.2	---	---
AC FT	1710	1620	2140	1850	1610	1500	960	842	1900	449	---	---

UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - TEXAS DISTRICT

08/03/2000

STATION NUMBER 08181850 CIBOLA CREEK AT 11-10 ABOVE HOMER, TX STREAM SOURCE AGENCY USGS
 LATITUDE 294852 LONGITUDE 0984512 DRAINAGE AREA 29.0 DATUM 1428.5 STATE 48 COUNTY 259
 PROVISIONAL DATA FROM DCP SUBJECT TO REVISION
 DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.31	.20	.18	.34	.30	.09	.61	.93	.76	.18	---
2	.27	.27	.19	.20	.49	.35	.10	1.1	.99	.82	.20	---
3	.49	.27	.17	.10	.22	.21	.24	.33	.61	.66	---	---
4	.47	.33	.11	.01	.20	.20	---	.20	.78	.59	---	---
5	.45	.38	.10	.01	.17	.20	.12	.17	1.1	.19	---	---
6	.35	.34	.06	.00	.16	.23	.17	.28	.89	.18	---	---
7	.24	.35	.11	.03	.22	.27	.11	.35	.90	.21	---	---
8	.23	.36	.13	.10	.20	.21	.09	.39	.69	.09	---	---
9	.21	.37	.09	.03	.22	.21	.05	.39	1.4	.19	---	---
10	.25	.44	.10	.00	.22	.21	.26	.53	5.0	.19	---	---
11	.32	.46	.13	.03	.24	.17	.14	.56	4.2	.50	---	---
12	.46	.40	.14	.08	.45	.12	.48	.59	2.2	.80	---	---
13	.43	.38	.10	.07	.48	.11	.31	.45	1.5	.86	---	---
14	.43	.38	.06	.03	.43	.15	.29	.58	1.7	.97	---	---
15	.44	.25	.01	.19	.72	.22	.27	.73	2.4	.82	---	---
16	.40	.17	.01	.25	.79	.25	.21	1.0	2.2	.47	---	---
17	.56	.19	.01	.25	.97	.56	.24	1.0	2.4	.54	---	---
18	.49	.24	.01	.20	.89	.15	.39	.95	2.9	.39	---	---
19	.42	.21	.02	.13	.67	.10	.54	1.0	2.5	.41	---	---
20	.46	.26	.01	.12	.67	.07	.37	1.1	2.2	.49	---	---
21	.45	.27	.00	.12	.69	.25	.33	.83	1.6	.72	---	---
22	.47	.34	.01	.18	1.2	.22	.39	.80	1.3	.78	---	---
23	.43	.30	.00	.18	1.1	.15	.28	.99	1.2	.93	---	---
24	.40	.31	.01	.14	.42	.10	.20	1.4	.88	.59	---	---
25	.48	.30	.02	.11	.32	.20	.29	1.7	.55	.58	---	---
26	.49	.29	.01	.11	.28	.18	.21	1.4	.71	.97	---	---
27	.15	.28	.07	.11	.20	.14	.14	1.1	.93	.89	---	---
28	.36	.31	.11	.11	.28	.12	.22	1.6	.68	1.1	---	---
29	.37	.26	.13	.09	.37	.18	.38	1.3	.84	1.1	---	---
30	.46	.21	.19	.11	---	.11	.25	.94	.79	.23	---	---
31	.10	---	.19	.16	---	.07	---	.88	---	.38	---	---
TOTAL	12.29	9.25	2.50	1.61	11.61	6.01	---	27.45	46.97	18.40	---	---
MEAN	.40	.31	.081	.12	.47	.19	---	.89	1.57	.59	---	---
MAX	.56	.46	.20	.31	1.2	.56	---	1.0	5.0	1.1	---	---
MIN	.21	.17	.00	.00	.16	.07	---	.17	.55	.09	---	---
AC FT	24	18	5.0	7.2	27	12	---	54	93	46	---	---

UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - TEXAS DISTRICT

08/03/2000

STATION NUMBER 08185000 CIBOLO CREEK AT SELMA, TX STREAM SOURCE AGENCY USGS

LATITUDE 293538 LONGITUDE 0981839 DRAINAGE AREA 274.00 DATUM 728.34 STATE 48 COUNTY 029

PROVISIONAL DATA

SUBJECT TO REVISION

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
10	.00	.00	.00	.00	.00	.00	.00	.00	6.9	.00	---	---
11	.00	.00	.00	.00	.00	.00	.00	.00	7.7	.00	---	---
12	.00	.00	.00	.00	.00	.00	.00	.00	2.7	.00	---	---
13	.00	.00	.00	.00	.00	.00	.00	.00	2.5	.00	---	---
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
23	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	---	---
24	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	---	---
25	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	---	---
26	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	---	---
27	.00	.00	.00	.00	.00	.00	.00	.00		.00	---	---
28	.00	.00	.00	.00	.00	.00	.00	.00		.00	---	---
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
31	.00		.00	.00		.00		.00		.00	---	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	---	---
MEAN	.000	.000	.000	.000	.000	.000	.000	.000		.000		
MAX	.00	.00	.00	.00	.00	.00	.00	.00		.00		
MIN	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	---	---
AT FT	.00	.00	.00	.00	.00	.00	.00	.00		.00	---	---

UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - TEXAS DISTRICT

08/03/2000

STATION NUMBER 08190500 WEST NUECES RIVER NR BRACKETTVILLE, TX STREAM SOURCE AGENCY USGS
 LATITUDE 292821 LONGITUDE 1001410 DRAINAGE AREA 694.00 DATUM 1326.79 STATE 48 COUNTY 271
 PROVISIONAL DATA FROM DCP SUBJECT TO REVISION
 DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	.58	.42	.33	.32	.19	.13	.22	.00	.14	.00	---
2	.65	.56	.39	.29	.84	.20	.15	.11	.00	.12	.00	---
3	.59	.59	.36	.25	.44	.17	.12	.02	.00	.10	---	---
4	.59	.59	.34	.32	.35	.15	.09	.01	.00	.09	---	---
5	.59	.59	.41	.25	.36	.15	.07	.02	.00	.07	---	---
6	.57	.59	.39	.18	.33	.19	.07	.00	.00	.06	---	---
7	.55	.59	.39	.15	.33	.20	.07	.00	.00	.05	---	---
8	.55	.52	.50	.15	.31	.31	.07	.00	.00	.04	---	---
9	.52	.52	.35	.20	.28	.19	.06	.00	.00	.01	---	---
10	.52	.52	.38	.35	.28	.19	.07	.00	.26	.00	---	---
11	.52	.52	.46	.53	.28	.17	.10	.00	.71	.00	---	---
12	.55	.52	.42	.59	.28	.15	.38	.00	2.8	.00	---	---
13	.57	.52	.41	.55	.26	.15	.19	.00	2.1	.00	---	---
14	.53	.52	.43	.52	.23	.19	.14	.00	1.4	.00	---	---
15	.53	.48	.42	.52	.26	.19	.12	.00	1.0	.00	---	---
16	.55	.45	.45	.39	.26	.18	.12	.00	.75	.00	---	---
17	.98	.41	.39	.34	.28	.14	.15	.00	.52	.00	---	---
18	.76	.39	.36	.28	.26	.18	.15	.00	.82	.00	---	---
19	.59	.39	.38	.28	.23	.17	.12	.00	.82	.00	---	---
20	.59	.39	.36	.37	.21	.18	.11	.00	1.6	.00	---	---
21	.59	.41	.33	.28	.20	.19	.09	.00	1.3	.00	---	---
22	.59	.45	.33	.33	.29	.20	.07	.00	.77	.00	---	---
23	.59	.42	.33	.36	.41	.21	.06	.00	.53	.00	---	---
24	.57	.44	.33	.36	.29	.20	.05	.00	.37	.00	---	---
25	.53	.41	.29	.32	.28	.20	.05	.00	.32	.00	---	---
26	.56	.39	.28	.40	.20	.19	.03	.00	.27	.00	---	---
27	.54	.39	.29	.37	.17	.19	.03	.01	.23	.00	---	---
28	.57	.39	.43	.28	.18	.21	.03	.03	.19	.00	---	---
29	.57	.39	.44	.28	.19	.15	.03	.00	.18	.00	---	---
30	.54	.41	.39	.28		.12	.02	.00	.15	.00	---	---
31	.50		.36	.28		.12		.00		.00	---	---
TOTAL	18.11	14.16	11.01	10.28	8.60	5.62	2.94	0.42	17.09	0.68		
MEAN	.58	.48	.38	.33	.30	.18	.098	.014	.57	.022	---	---
MAX	.98	.59	.50	.59	.84	.31	.38	.22	2.8	.14	---	---
MIN	.50	.39	.28	.15	.17	.12	.02	.00	.00	.00	---	---
AC FT	36	28	23	20	17	11	5.8	.8	34	1.3	---	---

UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - TEXAS DISTRICT

08/03/2000

STATION NUMBER 08192000 NUECES RIVER BELOW UVALDE, TX STREAM SOURCE AGENCY USGS

LATITUDE 290725 LONGITUDE 0995340 DRAINAGE AREA 1861 DATUM 796.12 STATE 48 COUNTY 463

PROVISIONAL DATA

SUBJECT TO REVISION

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	38	31	29	27	26	32	19	15	12	8.9	---
2	43	39	31	29	27	26	31	18	15	12	8.9	---
3	43	40	31	29	27	25	30	18	14	12	---	---
4	41	40	30	28	27	21	22	17	14	12	---	---
5	41	40	29	28	27	21	22	17	14	12	---	---
6	40	40	29	28	27	22	22	17	13	11	---	---
7	40	39	29	28	27	22	21	16	13	11	---	---
8	38	38	30	28	27	21	21	16	13	11	---	---
9	38	38	29	28	27	21	21	16	14	11	---	---
10	37	38	29	28	27	21	21	16	17	11	---	---
11	37	37	30	28	27	20	21	16	19	11	---	---
12	36	37	29	28	27	20	25	15	16	11	---	---
13	35	37	29	28	27	20	22	18	15	10	---	---
14	36	37	29	28	27	21	21	15	14	10	---	---
15	36	36	29	28	27	20	21	15	14	9.9	---	---
16	37	36	29	27	27	20	20	15	14	9.8	---	---
17	40	36	29	28	27	19	20	15	14	9.7	---	---
18	36	36	29	27	26	20	20	15	16	9.7	---	---
19	36	35	29	27	26	19	20	15	16	9.5	---	---
20	36	34	29	27	26	20	19	14	14	9.4	---	---
21	36	34	28	27	26	20	19	14	14	9.3	---	---
22	37	34	28	27	26	21	19	14	14	9.3	---	---
23	37	33	28	27	27	20	18	14	13	9.3	---	---
24	37	33	28	27	27	32	17	13	13	9.2	---	---
25	37	33	29	27	26	33	17	13	13	9.1	---	---
26	37	32	29	27	25	32	17	13	13	9.1	---	---
27	38	31	29	27	25	32	17	14	12	9.0	---	---
28	38	32	29	27	26	32	17	18	12	8.9	---	---
29	38	32	29	27	26	31	17	16	12	8.8	---	---
30	38	32	29	27	---	31	17	15	12	8.8	---	---
31	38	---	29	27	---	31	---	14	---	8.8	---	---
TOTAL	1101	1077	904	856	771	740	627	481	422	314.6	---	---
MEAN	38.1	35.9	29.2	27.6	26.6	23.9	20.9	15.5	14.1	10.1	---	---
MAX	44	40	31	29	27	33	32	19	19	12	---	---
MIN	35	31	28	27	25	19	17	13	12	8.8	---	---
ACFPT	2140	2140	1790	1700	1530	1470	1240	954	837	624	---	---

UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - TEXAS DISTRICT

08/03/2000

STATION NUMBER 08195000 FRIO RIVER AT CONCAN, TX STREAM SOURCE AGENCY USGS
 LATITUDE 292918 LONGITUDE 0994216 DRAINAGE AREA 389.00 DATUM 1203.71 STATE 48 COUNTY 463
 PROVISIONAL DATA FROM DCP SUBJECT TO REVISION
 DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	53	52	48	48	48	40	32	25	37	21	---
2	48	53	52	48	53	48	39	32	25	36	19	---
3	48	53	52	48	51	46	38	32	28	35	---	---
4	50	53	52	46	49	46	37	32	28	33	---	---
5	50	53	51	46	46	46	37	32	29	33	---	---
6	50	53	52	46	46	46	37	31	29	33	---	---
7	48	53	53	47	46	47	36	29	27	32	---	---
8	48	53	53	49	46	47	35	27	27	31	---	---
9	48	53	52	48	46	46	31	28	35	30	---	---
10	46	53	55	47	46	46	32	28	70	29	---	---
11	47	53	58	48	44	45	33	27	60	29	---	---
12	46	53	57	48	44	44	37	27	59	27	---	---
13	46	53	56	48	45	44	39	27	51	26	---	---
14	46	53	54	48	44	44	36	27	47	25	---	---
15	48	53	53	48	44	44	35	26	44	24	---	---
16	48	53	53	48	45	44	35	26	40	24	---	---
17	72	53	53	48	46	42	35	25	40	23	---	---
18	69	53	52	48	45	44	33	24	40	21	---	---
19	61	53	52	48	44	43	33	24	45	20	---	---
20	57	52	53	48	44	42	32	25	46	20	---	---
21	56	52	52	47	44	43	30	27	47	20	---	---
22	54	52	52	48	44	44	29	25	45	19	---	---
23	52	51	52	47	49	44	29	24	44	19	---	---
24	52	50	52	46	49	45	29	24	42	23	---	---
25	52	50	52	46	48	45	28	23	41	20	---	---
26	52	50	50	46	46	46	27	23	40	19	---	---
27	52	50	50	47	45	44	27	23	40	19	---	---
28	53	50	50	48	46	44	27	33	38	17	---	---
29	53	50	49	46	48	42	27	29	37	17	---	---
30	53	51	48	47	---	41	27	27	37	23	---	---
31	53	---	48	48	---	40	---	26	---	23	---	---
TOTAL	1606	1565	1620	1469	1341	1380	990	845	1206	787	---	---
MEAN	51.8	52.2	52.3	47.4	46.2	44.5	33.0	27.3	40.2	25.4	---	---
MAX	72	53	58	49	53	48	40	33	70	37	---	---
MIN	46	50	48	46	44	40	27	23	25	17	---	---
AC FT	1190	1100	1210	2910	2660	2740	1960	1680	2490	1560	---	---
CFSM	.13	.13	.13	.12	.12	.11	.08	.07	.10	.07	---	---
IN.	.15	.15	.15	.14	.13	.13	.09	.08	.12	.08	---	---

UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - TEXAS DISTRICT

08/03/2000

STATION NUMBER 08198500 SABINAL RIVER AT SABINAL, TX STREAM SOURCE AGENCY USGS

LATITUDE 291805 LONGITUDE 0992846 DRAINAGE AREA 241.00 DATUM 882.17 STATE 48 COUNTY 463

PROVISIONAL DATA

FROM THE DCP

SUBJECT TO REVISION

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.3	.95	1.0	.74	.80	.59	.48	.23	1.0	1.7	---
2	1.9	1.4	.96	.94	.90	.75	.65	.44	.23	.98	1.6	---
3	1.7	1.4	1.0	.85	.72	.77	.69	.42	.32	.94	---	---
4	1.5	1.3	1.1	.98	.65	.73	.68	.40	.33	.92	---	---
5	1.4	1.3	1.2	1.0	.65	.60	.59	.40	.33	.87	---	---
6	1.3	1.4	1.4	1.2	.70	.71	.52	.43	.28	.84	---	---
7	1.4	1.4	1.4	1.3	.68	.65	.50	.39	.25	.81	---	---
8	1.4	1.3	1.3	1.4	.61	.57	.45	.34	.29	.81	---	---
9	1.5	1.2	1.2	1.4	.59	.52	.49	.33	102	.80	---	---
10	1.4	1.1	1.3	1.2	.58	.52	.46	.34	107	.79	---	---
11	1.4	1.1	1.3	1.0	.66	.53	.48	.33	5.3	.75	---	---
12	1.5	1.1	1.3	1.0	.79	.55	.62	.33	4.1	.73	---	---
13	1.4	1.1	1.3	.95	.67	.62	.61	.53	2.5	.72	---	---
14	1.5	1.1	1.4	.87	.64	.65	.53	.39	2.5	.78	---	---
15	1.4	1.1	1.3	.73	.58	.70	.51	.43	2.5	.87	---	---
16	1.3	1.0	1.3	.66	.58	.72	.51	.46	2.4	.91	---	---
17	7.4	1.0	1.4	.55	.54	.67	.44	.40	2.2	.83	---	---
18	1.4	.99	1.2	.52	.52	.82	.40	.35	2.5	.85	---	---
19	1.3	1.1	1.3	.46	.58	.72	.39	.36	3.4	.81	---	---
20	1.3	1.2	1.2	.43	.52	.59	.33	.48	2.2	.82	---	---
21	1.4	1.3	1.2	.44	.46	.58	.32	.40	2.1	.82	---	---
22	1.3	1.2	1.3	.52	.51	.60	.29	.31	2.1	.81	---	---
23	1.3	1.3	1.3	.48	.87	.65	.28	.24	2.0	.80	---	---
24	1.3	1.3	1.0	.52	.61	.68	.25	.23	1.9	.96	---	---
25	1.2	1.3	.96	.49	.42	.65	.27	.26	1.9	1.1	---	---
26	1.1	1.2	1.2	.52	.46	.65	.28	.26	1.8	1.1	---	---
27	1.2	1.1	1.3	.55	.48	.63	.31	.34	1.8	1.0	---	---
28	1.2	1.0	1.3	.62	.53	.66	.30	.60	1.8	1.4	---	---
29	1.3	.99	1.2	.69	.82	.64	.28	.24	1.2	1.4	---	---
30	1.3	.93	1.2	.52	---	.57	.28	.22	1.1	1.5	---	---
31	1.3	---	1.1	.50	---	.58	---	.22	---	1.6	---	---
TOTAL	49.0	45.51	47.87	24.29	18.06	20.08	13.30	11.35	258.56	29.32	---	---
MEAN	1.58	1.48	1.52	.78	.62	.66	.44	.37	8.62	.95	---	---
MAX	7.4	1.4	1.4	1.4	.90	.82	.69	.60	107	1.6	---	---
MIN	1.1	.93	.95	.43	.42	.52	.25	.22	.23	.72	---	---
AC FT	97	70	75	48	36	40	26	23	513	58	---	---

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
SUMMARY OF DISCHARGE MEASUREMENT DATA

08204000

LEONA RIVER SPRING FLOW NR UVALDE, TX

DATE PROCESSED: 3-Aug-2000 14:53

NO.	DATE	MADE BY	WIDTH	AREA	MEAN	GAGE	DISCHARGE	SHIFT	PCT.	NO.	GHT.	TIME	RATED	CONTROL
	TIME				VEL.	HEIGHT	CFS	ADJ.	DIFF.	SECT.	CHG.			
533	1999/07/14 1534	JFW	26.0	22.4	1.88	2.02	38.9			27	0.00	1.0	G	CLEAR
		REMARKS: Flow at Cook's Slough (3.37 cfs) was subtracted from total flow measured (42.2 cfs).												
534	1999/08/30 1518	JFW	27.1	22.4	1.84	2.02	37.9			31	0.00	1.0	G	CLEAR
		REMARKS: Flow at Cook's Slough (3.29 cfs) was subtracted from total flow measured (41.2 cfs).												
535	1999/11/01 1651	JFW	35.0	26.5	1.44	2.01	38.2			37	0.00	1.0	G	
		REMARKS: Discharge reflects Leona-Cooks Slough; SC=692												
536	2000/01/03 1546	JFW	26.8	21.6	1.74	1.98	35.6			27	0.00	1.0	G	CLEAR
		REMARKS: Discharge reflect Leona minus Cooks Slough.												
537	2000/03/02 1343	JAT	23.9	19.8			26.5					0.0	G	
		REMARKS: Discharge reflects Leona minus Cooks Slough.												
538	2000/05/04 1326	JAT	23.0	16.0			15.2					0.0	F	
		REMARKS: Discharge reflects Leona minus Cooks Slough.												
539	2000/06/28 1546	JAT	23.5	14.2			13.1					0.0	F	
		REMARKS: Discharge reflects Leona minus Cooks Slough.												

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY - WATER RESOURCES DIVISION
SUMMARY OF DISCHARGE MEASUREMENT DATA

08168000

HUECO SPRINGS NEAR NEW BRAUNFELS, TX (PR)

2000 WATER YEAR

DATE PROCESSED: 3-Aug-2000 14:20

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*****
NO.   * DATE * MADE BY * WIDTH * AREA * MEAN * GAGE * DISCHARGE * SHIFT * PCT. * NO. * GHT. * TIME * RATED * CONTROL
      * TIME *          * VEL.  * HEIGHT * CFS   * ADJ. * DIFF. * SECT. * CHG. *
*****
387  1999/10/01  CSL/JOP   13.5   10.1   1.69           17.1           22           0.0    F    ALGAE
      1253      REMARKS: SPRING "A" = 17.1 CFS; SPRING "B" DRY.
388  2000/01/06   JOP     17.0   10.4   1.00           10.4           20           0.0    F    ALGAE
      1317      REMARKS: Spring "A" = 10.4 cfs; Spring "B" DRY, CONDUCTANCE = 593 ug.
389  2000/03/02   JOP     16.0   10.0   0.95           9.50           32           0.0    F    ALGAE
      0957      REMARKS: SPRING "A" = 9.50 CFS; SPRING "B" DRY, CONDUCTANCE = 521 US.
390  2000/04/24   JOP     16.0    9.31   0.68           6.36           28           0.0    F    ALGAE
      1030      REMARKS: SPRING "A" = 6.36 CFS; SPRING "B" DRY, CONDUCTANCE = 550 US.
391  2000/06/14  JOP/MW    58.0   47.7   1.79           85.5           41           0.0    F    ALGAE
      1436      REMARKS: SPRING "A" = 54.4 CFS; SPRING "B" = 31.1 CFS, CONDUCTANCE = 530 US.

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TASK 2 - COMPUTE RECHARGE AND SPRING DISCHARGE

Contacts: EAA - Bob Hall; USGS - David Brown

Background: Basic information on recharge to and discharge from an Edwards aquifer is needed by water planners and managers to make informed decisions concerning management of the aquifer. The annual compilation of estimates of ground-water recharge to and spring discharge from the Edwards aquifer is part of a continuing program of the USGS in cooperation with the EAA. The USGS in cooperation with the EAA (previously the Edwards Underground Water District) has been estimating annual recharge and discharge for more than 40 years.

Objective:

- (1) Estimate recharge to the Edwards aquifer from 9 basins in the drainage basins.
- (2) Estimate the discharge from the Edwards aquifer (springs).

Tasks and Timeline:

Tasks	FY2000											
Compile surface water, springflow, and rainfall												
Review and verify data sets												
Develop discharge data summary												
Data entry and recharge model run												

Deliverables for FY2K:

Table of recharge to and spring discharge from the Edwards aquifer by April 1, 2000.

Progress in Past Quarter:

Task complete.

Plans for Next Quarter:

No plans for next quarter.

TASK 3 - UVALDE COUNTY HYDROSTRATIGRAPHIC MAPPING

Contacts: EAA - Rob Esquilin; USGS - Ted Small

Background: Most recharge to the Edwards aquifer is west of Bexar County. Rivers and rainfall runoff in normally dry streambeds cross Edwards aquifer outcrops (the recharge zone) in the Balcones fault zone and lose much, if not all, of their flow to faults, fractures, sinkholes, and caves in the outcrop. After entering the aquifer, the water moves east to points of discharge in Bexar County. The lack of existing spatially distributed data on the hydrostratigraphic units of the Edwards aquifer diminishes the ability to effectively manage the resources of the Edwards aquifer recharge zone.

Objectives:

The objective of this study is to identify and map the hydrostratigraphic units of the Edwards aquifer, their equivalent facies, and associated structural and karst features of the Edwards aquifer cropping out in the recharge zone in Uvalde County.

Tasks and Timeline:

[illegible]

Deliverables for FY2K:

Quarterly reports, and progress report by October 1, 2000

Progress in Past Quarter:

Completed mapping of Concan quad. Began mapping of Reagan Wells quad.
Order mylors of all quads in Uvalde County to be used for digitizing.

Plans for Next Quarter:

Fieldwork will continue on Reagan Wells and Deep Creek. Start digitizing quads that are complete. Attempt to acquire landsat data to assist in mapping areas and ranches where field access was not attained.

TASK 4 - MONITOR SURFACE WATER RUNOFF IN COMAL AND HAYS COUNTIES




Contacts: EAA - Bob Hall; USGS - Buddy Miller

Background: This is a continuous monitoring program to collect baseline data. The Edwards aquifer recharge zone (EARZ) is experiencing rapid residential and commercial development. The quality of water of the aquifer may be affected by stormwater runoff from the developing areas infiltrating within the EARZ. Baseline data on the quality of stormwater runoff recharging the aquifer in the EARZ is unavailable. Without this information, the ability of land and water management and environmental regulatory agencies to effectively manage activities overlying the EARZ with the goal of maintaining adequate protecting aquifer water quality is diminished.

Objectives:

The objective of this effort is to characterize the urban storm-water quality from selected residential land use areas in Comal and Hays Counties.

Tasks and Timeline:

Tasks	FY2000
Operate and maintain two stormflow stations	
Collect two samples at the two sites	
Table preparation	

Deliverables for FY2K:

Quarterly reports; data tables by January 31, 2000; published in USGS annual report

Progress in Past Quarter:

The Comal County gage is installed. The Hays County representatives have requested the USGS to sign a Licensing Agreement this requires review by the Solicitor General. The process of USGS approval of the Licensing Agreement has begun.

Plans for Next Quarter:

Receive approval on Licensing Agreement from Solicitor General by early August. Install Hays County gage. Collect stormwater samples in September and October.