TRANS-TEXAS WATER PROGRAM

SOUTHEAST AREA

Memorandum Report

Operation Studies and Opinions of Cost for Allens Creek Reservoir

Volume II - Appendices

April 1997

Sabine River Authority of Texas
Lower Neches Valley Authority
San Jacinto River Authority
City of Houston
Brazos River Authority
Texas Water Development Board

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ontents, (continued)

APPENDIX A

LIST OF REFERENCES

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(1) URS/Forrest and Cotton: *Allens Creek Dam and Reservoir on Allens Creek, Brazos River Basin, Austin County, Texas*, prepared for Houston Lighting and Power Company, January 1974.

(2) Freese and Nichols, Inc.: *Status of Environmental Issues for Allens Creek Reservoir*, prepared for the Trans-Texas Water Program, July 1995.

(3) URS/Forrest and Cotton: *Allens Creek Dam and Reservoir on Allens Creek, Brazos River Basin, Austin County, Texas*, prepared for Houston Lighting and Power Company, July 1977.

(4) Freese and Nichols, Inc.: *Yield Analysis and Cost Estimate for Allens Creek Reservoir*, prepared for the Brazos River Authority, February 1989.

(5) Freese and Nichols, Inc.: *Supplemental Study of Allens Creek Reservoir*, prepared for the Sabine River Authority of Texas, May 1994.

APPENDIX B

ALLENS CREEK RESERVOIR INFLOW DATA

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ALLENS CREEK RESERVOIR INFLOW DATA

The Allens Creek runoff data from 1947 through 1976 were taken from the URS/Forrest and Cotton studies of 1974 and 1979 (1 & 3). Monthly inflows for the years from 1940 through 1946 were derived by means of a double mass curve correlation with the gaged flows on Yegua Creek near Somerville. Monthly values for 1977 through 1989 were based on a double mass curve correlation with the gaging station on Mill Creek near Bellville. Figures B-1 and B-2 show the double mass curves. For the Yegua Creek flows, the factor indicated to approximate the Allens Creek runoff was 0.1571, and for Mill Creek the factor 0.1279 was used. Table B-1 lists the monthly runoff values for the Allens Creek watershed.

Allens Cr. & Mill Cr.:11/1973-9/1976

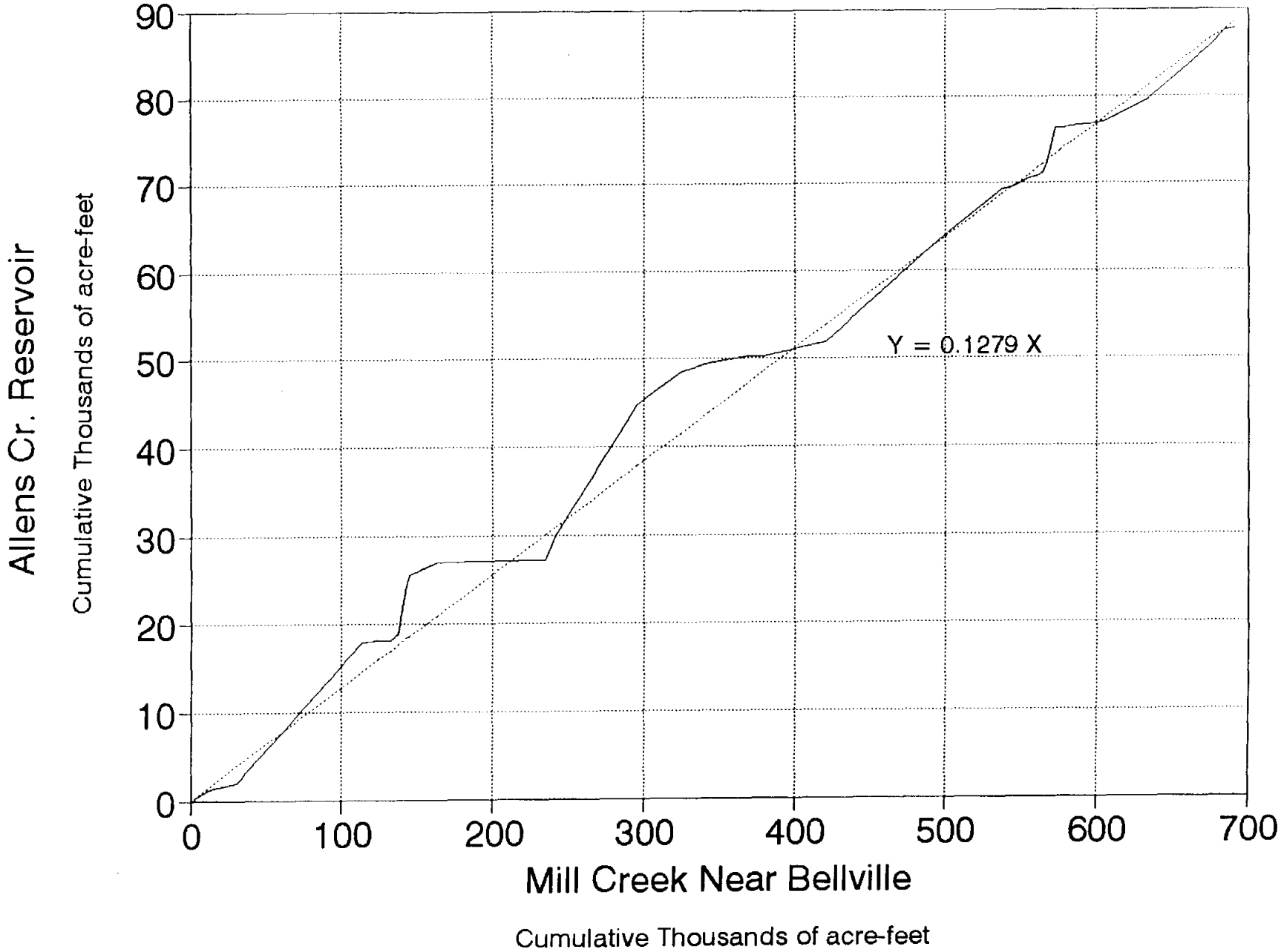

Figure B-2

Allens Cr. & Yegua Cr.:1/1947-12/1966

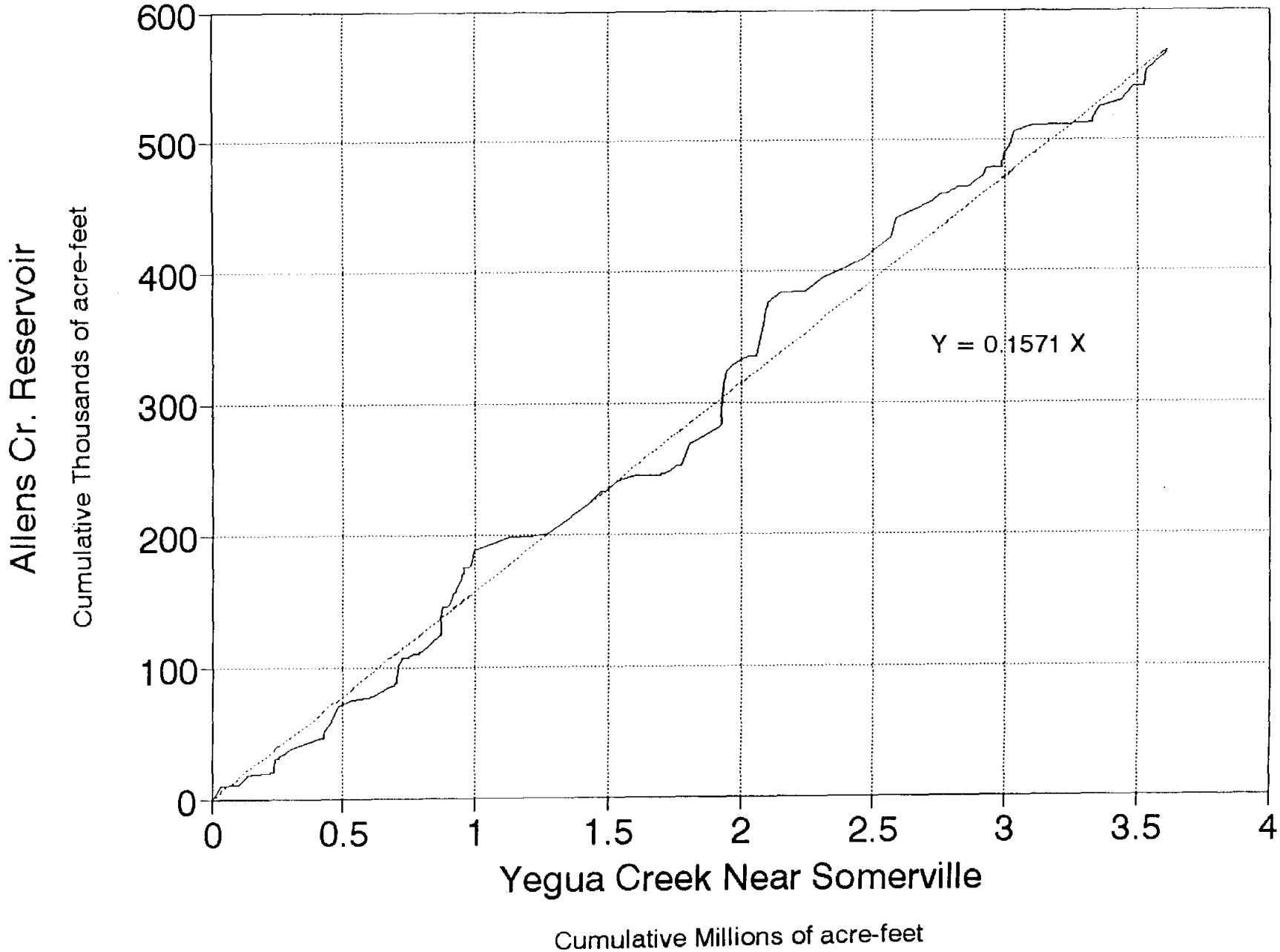

Figure B-1

Table B-1

ALLENS CREEK RESERVOIR INFLOW
units: acre-feet

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OUT	NOV	DEC	TOTAL
1940	6	597	4	328	2,168	9,031	32,496	12	45	129	13,315	20,866	78,997
1941	3,838	3,925	10,003	4,326	9,546	15,001	24,488	199	33	178	1,363	221	73,121
1942	136	137	124	8,314	377	306	516	13	496	67	451	497	11,434
1943	1,562	181	1,369	257	1,058	605	15	1	111	112	8	113	5,392
1944	6,453	5,991	5,161	500	5,876	647	97	394	1,677	2	8,256	10,465	45,519
1945	12,861	3,549	1,945	10,441	933	3,397	297	6,714	1,293	3,773	253	811	46,267
1946	5,845	4,928	13,612	1,276	4,121	2,239	70	0	515	664	9,568	1,332	44,170
1947	9,388	150	1,512	128	5,968	226	309	2,313	536	145	579	5,278	26,532
1948	984	1,478	1,083	362	613	70	28	19	35	68	407	15	5,162
1949	846	2,903	2,741	7,514	438	102	1,358	725	1,687	9,764	90	8,481	36,649
1950	1,924	4,973	320	795	941	6,864	692	113	615	165	12	32	17,446
1951	81	40	1,151	146	52	73	23	66	1,336	178	84	114	3,344
1952	25	801	159	10,227	5,058	600	295	90	57	34	1,392	2,343	21,081
1953	154	925	70	22	12,377	12	41	12,267	8,670	150	2,274	7,360	44,322
1954	1,114	30	0	0	726	6	77	94	17	19	1	0	2,084
1955	1,239	8,967	0	80	3,039	120	1,453	412	888	29	0	0	16,227
1956	1,626	998	0	103	448	278	1	10	50	0	0	15	3,529
1957	0	12	10,999	10,365	1,075	1,378	28	21	1,916	20,098	10,942	81	56,915
1958	7,295	4,426	70	55	187	196	156	149	3,590	1,814	94	232	18,264
1959	152	17,063	198	11,743	2,178	119	729	6,864	179	21,515	9,855	5,527	76,122
1960	2,329	2,584	99	1,249	123	38,289	404	3,708	112	6,974	1,297	9,179	66,347
1961	5,224	7,112	76	620	164	18,249	14,114	106	13,797	68	3,349	1,406	64,285
1962	14	3	3	382	961	962	514	69	2,178	74	376	7,718	13,254
1963	5,541	1,557	32	29	28	914	780	69	45	26	113	2,040	11,174
1964	1,001	3,901	5,472	108	128	419	127	130	1,530	1,220	1,406	3,556	18,998

Table B-1, Continued

ALLENS CREEK RESERVOIR INFLOW
units: acre-feet

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OUT	NOV	DEC	TOTAL
1965	4,700	4,714	33	90	1,475	972	267	204	174	1,764	8,421	4,879	27,693
1966	3,308	7,250	321	11,261	11,481	652	379	743	2,522	125	10	32	38,084
1967	794	278	73	509	1,489	164	652	4,893	2,826	2,233	34	2,605	16,550
1968	6,051	1,447	1,099	987	8,670	16,457	1,225	284	1,737	1,177	786	1,640	41,560
1969	1,709	10,971	4,921	1,067	12,846	145	66	245	318	881	258	2,191	35,618
1970	981	2,316	4,576	815	3,666	772	167	201	3,570	14,886	150	12	32,112
1971	17	182	12	318	194	175	247	7,043	20,454	2,054	45	4,218	34,959
1972	2,936	5,030	7,869	815	11,315	1,502	579	945	17,751	864	6,216	196	56,018
1973	5,209	7,376	3,239	17,903	819	23,444	1,481	777	7,649	16,841	1,392	663	86,793
1974	15,753	172	58	700	5,664	620	593	1,301	287	2,839	14,774	3,528	46,289
1975	1,108	679	74	1,709	11,467	5,761	406	1,011	145	460	1,331	3,749	27,900
1976	81	66	72	502	2,674	5,995	1,833	58	145	6,230	1,684	11,575	30,915
1977	1,871	8,277	1,040	10,656	902	1,184	125	70	125	90	156	188	24,684
1978	1,269	1,806	479	252	137	193	39	27	4,380	109	2,639	1,204	12,534
1979	9,335	5,280	1,705	9,866	15,181	9,855	417	229	2,446	271	310	942	55,837
1980	4,628	1,578	883	649	4,393	234	54	42	53	295	185	211	13,205
1981	408	267	299	1,174	2,526	7,364	625	152	242	289	8,962	380	22,688
1982	372	457	464	1,089	8,274	208	145	43	23	53	529	1,113	12,770
1983	1,160	3,602	9,452	652	7,671	239	154	497	185	130	206	935	24,883
1984	443	559	1,232	246	1,144	195	52	49	25	860	201	1,467	6,473
1985	2,398	4,721	3,371	863	490	238	203	25	38	302	6,058	1,406	20,113
1986	582	1,142	549	267	1,281	9,615	113	63	641	670	1,695	8,065	24,683
1987	1,538	3,013	2,001	297	2,637	15,392	344	104	395	91	563	1,227	27,602
1988	491	476	4,156	404	2,606	540	113	43	17	25	42	75	8,988
1989	1,953	363	1,554	299	684	249	124	1,517	120	76	116	104	7,159
AVG	2,775	2,985	2,115	2,655	3,565	4,045	1,790	1,102	2,154	2,418	2,445	2,806	30,855

APPENDIX C

TRANS-TEXAS BYPASS REQUIREMENTS

FOR ALLENS CREEK RESERVOIR

APPENDIX C

TRANS-TEXAS BYPASS REQUIREMENTS FOR ALLENS CREEK RESERVOIR

The Trans-Texas Water Program describes operation study criteria that are used to evaluate the effect of new reservoirs on instream flows. Under normal conditions, new reservoirs are allowed to impound flows above the mean (arithmetic average) monthly flow from April to June and August to October, and the median (50th percentile) flow for the other months of the year. If the flow is less than these criteria, then it must be passed through the reservoir. Under drought conditions, flows above the median daily flow for the historical drought of record may be impounded. The reservoir is considered to be in drought conditions if the content is below 60 percent of the conservation capacity. In order to derive a range of possible values, the operation studies are repeated with the drought operation criteria coming into effect at 40 percent and 80 percent of capacity.

The operation criteria used in the Allens Creek Reservoir studies are summarized in Table C-1. Flow rates were derived from the USGS stream gauge on Yegua Creek, the closest gauge with conditions similar to Allens Creek and an adequate period of record. The mean and average Allens Creek flows were derived using a coefficient from a double mass curve relating Allens Creek flow to Yegua Creek flow. Daily values were converted into monthly values for the operation studies. The time periods used to derive the flow data were October 1938 to December 1966 for normal conditions and January 1954 to February 1957 for the drought of record.

Table C-1

Allens Creek Bypass Requirements

	Normal Conditions			Drought Conditions		
	Flow Criteria (monthly)	Monthly Flow		Flow Criteria (daily)	Monthly Flow	
		cfs	acre-feet per month		cfs	acre-feet per month
January	Median	5.3	326	Median	0.0	0
February	Median	9.1	510	Median	1.9	106
March	Median	6.6	406	Median	0.5	31
April	Mean	46.5	2,766	Median	0.9	54
May	Mean	70.7	4,346	Median	0.9	55
June	Mean	51.4	3,058	Median	0.3	18
July	Median	0.3	18	Median	0.0	0
August	Mean	14.4	885	Median	0.0	0
September	Mean	24.6	1,463	Median	0.0	0
October	Mean	27.3	1,678	Median	0.0	0
November	Median	1.3	77	Median	0.0	0
December	Median	3.5	215	Median	0.0	0
Annual Total			15,748			264

APPENDIX D

TRANS-TEXAS WATER PROGRAM CRITERIA FOR INSTREAM FLOWS, FRESHWATER INFLOWS TO BAYS AND ESTUARIES, AND NEW RESERVOIRS

APPENDIX D

TRANS-TEXAS WATER PROGRAM CRITERIA FOR INSTREAM FLOWS, FRESHWATER INFLOWS TO BAYS AND ESTUARIES, AND NEW RESERVOIRS

Instream Flows

A relatively rapid assessment of instream flow needs to maintain downstream fish and wildlife habitats affected by the Trans-Texas Water Program can be performed by using the TPWD-modified Tennant's Method (Lyons 1979), which is based on a fixed percentage of median (50th percentile) monthly flows. At any point in a river basin intercepted by the Trans-Texas Water Program, streamflows must be passed downstream in an amount up to 60 percent of the median monthly flows from March through September, and 40 percent of the median monthly flows from October through February. Streamflows above these monthly flow limits are to be considered available for other beneficial uses and interbasin transfer. Water stored in existing reservoirs will not be allocated to instream uses and released downstream to make up for normal flows below the specified limits.

Freshwater Inflows to Bays and Estuaries

For preliminary planning purposes, the freshwater inflow needs of the bays and estuaries can be conservatively estimated as a function of selected central tendency values. The typical bimodal distribution of monthly rainfall runoff during

the historical period is enhanced by requiring the pass through of normal inflows up to the mean (arithmetic average) monthly flow in May-June and September-October, while the minimum maintenance needs are satisfied with inflows up to the median (50th percentile) monthly flow in the remaining months of the year. Water stored in existing reservoirs will not be allocated to bay and estuary uses and released downstream to make up for normal flows below the specified limits.

New Reservoirs

Existing reservoirs that could potentially contribute to the Trans-Texas Water Program will be evaluated as to the effects on downstream flows and freshwater inflows to bays and estuaries under their existing state and federal permits which authorize their current operations, while any new reservoirs involved in the Program's future water storage and distribution system will be considered to operate such that they pass through impounded streamflows up to the mean (arithmetic average) monthly flow in April-June and August-October, and median (50th percentile) streamflows in the remaining months of the year, as long as reservoir capacity is above 60%. When reservoir capacity is below 60%, the water management operations will recognize drought contingency by passing through up to the median daily flow of the stream observed during the historical drought of record. The analysis will be repeated at 40% and 80% capacity thresholds to demonstrate a range of feasible solutions for operating any new reservoirs.

APPENDIX E

UNAPPROPRIATED FLOW IN THE BRAZOS RIVER

BELOW THE MOUTH OF ALLENS CREEK

APPENDIX E

UNAPPROPRIATED FLOW IN THE BRAZOS RIVER BELOW THE MOUTH OF ALLENS CREEK

In 1987, the Texas Water Commission performed studies that calculated the water available from the Brazos River below the mouth of Allens Creek. These calculations were for the hydrologic years of 1947 through 1976 and considered the water rights in force at that time. To allow Allens Creek Reservoir operation calculations to be made from 1940 through 1989, the Texas Water Commission data was extended by assuming the unappropriated flow in the Brazos is equal to a constant, plus a coefficient times the Brazos River flow at Richmond. The data from the Texas Water Commission was analyzed on a monthly basis and combined as deemed appropriate from observation. The resulting analyses were used to extend the data with the complete data set shown in Table E-1.

Table E-1

Unappropriated Brazos River Water Available Downstream from the Mouth of Allens Creek

-Values in Acre-Feet-

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1940	1,642	84,151	742	57,519	109,322	195,980	427,819	57,455	37,594	16,022	1,058,516	2,489,922	4,536,684
1941	889,000	1,020,278	1,199,075	448,755	1,108,505	700,542	335,106	67,993	140,209	392,684	483,517	90,544	6,876,208
1942	81,819	47,580	36,978	915,156	857,173	421,012	88,555	5,940	410,336	361,406	285,992	158,930	3,670,877
1943	240,212	97,854	174,211	114,332	71,486	51,075	25,192	9,527	13,584	28,018	11,296	38,655	875,438
1944	493,581	708,617	846,067	123,823	1,243,150	331,075	19,270	0	113,332	25,107	228,247	581,709	4,713,978
1945	997,211	687,259	964,264	1,102,202	314,317	167,982	123,491	127,550	171,092	231,988	70,047	348,299	5,305,703
1946	507,184	646,695	985,885	202,366	697,323	266,734	46,657	0	73,098	147,858	778,065	406,698	4,758,561
1947	869,732	234,230	709,016	311,413	436,135	127,920	0	233,603	76,293	8,639	49,990	103,226	3,160,197
1948	34,996	82,078	250,665	50,935	62,126	0	7,806	0	0	4,021	3,171	0	495,798
1949	0	95,955	246,942	443,145	497,401	92,137	57,613	0	0	84,677	149,334	226,569	1,893,773
1950	211,436	549,045	117,406	319,655	213,498	473,935	0	0	32,845	58,989	14,265	7,049	1,998,123
1951	0	11,940	4,606	17,088	0	0	0	0	0	8,893	0	4,900	47,427
1952	5,567	22,809	37,150	170,824	55,039	94,446	0	0	0	0	0	106,762	492,597
1953	188,725	84,967	102,784	0	1,068,468	8,188	0	0	66,037	71,751	160,804	441,660	2,193,384
1954	115,882	31,558	0	0	0	0	0	0	0	0	5,381	3,511	156,332
1955	8,822	168,079	6,811	151,325	0	0	0	0	0	107,632	29,712	2,186	474,567
1956	936	34,385	0	0	0	0	0	0	0	0	0	5,488	40,809
1957	0	0	98,094	30,323	4,404,772	1,239,748	337,234	63,389	25,096	1,377,417	882,858	395,386	8,854,317
1958	475,552	813,971	676,693	251,383	1,208,808	105,403	123,869	0	185,572	180,564	72,986	41,274	4,136,075
1959	27,025	241,975	72,016	767,467	411,711	154,531	53,505	22,828	0	936,236	358,273	575,070	3,620,637
1960	939,322	600,743	304,636	110,414	330,707	308,421	150,013	11,281	9,758	200,174	877,570	1,436,028	5,279,067
1961	2,145,096	1,877,002	632,973	200,683	46,974	663,254	627,245	109,209	604,892	229,036	274,205	325,616	7,736,185
1962	180,903	149,724	69,506	2,884	57,447	84,270	90,669	0	61,418	137,979	52,237	287,259	1,174,296
1963	144,685	141,149	43,342	83,270	0	0	0	0	0	0	23,164	33,471	469,081
1964	20,395	68,518	109,229	0	23,325	0	0	0	13,536	51,241	154,599	67,652	508,495
1965	320,501	794,188	277,867	239,478	2,911,414	768,286	17,977	5,795	30,031	68,611	287,365	398,991	6,120,504

Table E-1, Continued

Unappropriated Brazos River Water Available Downstream from the Mouth of Allens Creek

-Values in Acre-Feet-

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1966	161,791	347,042	287,011	675,599	1,768,408	134,161	0	65,621	240,971	194,238	27,205	19,749	3,921,796
1967	36,054	18,558	7,743	21,445	49,758	0	0	0	26,201	24,174	167,418	59,705	411,056
1968	999,719	521,288	848,347	679,302	2,188,864	1,541,228	722,985	30,816	192,841	86,689	134,492	435,877	8,382,448
1969	99,627	477,121	746,945	1,230,913	1,010,341	84,541	0	0	34,235	76,929	59,460	142,850	3,962,962
1970	170,974	228,129	1,479,961	539,893	522,619	148,681	0	0	69,932	287,659	75,155	23,262	3,546,265
1971	18,227	12,436	12,252	0	0	0	0	18,211	23,077	216,455	174,200	649,722	1,124,580
1972	340,798	183,801	87,716	3,933	342,498	21,751	0	0	0	13,494	234,577	104,017	1,332,585
1973	319,508	422,305	707,800	1,101,678	755,372	1,228,275	192,923	31,178	81,412	1,305,849	432,935	355,778	6,935,013
1974	715,573	334,381	134,877	30,653	179,251	0	0	0	1,095,240	623,355	1,689,900	673,601	5,476,831
1975	475,881	1,252,533	382,256	538,946	1,532,952	877,802	332,667	117,117	80,231	54,580	52,150	52,465	5,749,580
1976	41,770	63,525	72,955	546,883	986,131	489,318	539,818	34,972	68,983	263,200	266,831	1,038,985	4,413,371
1977	321,262	818,245	347,222	836,893	522,182	148,098	15,087	3,410	35,687	12,960	13,108	15,771	3,089,925
1978	95,964	152,052	113,842	0	978	19,270	0	8,677	74,115	3,012	82,199	77,064	627,173
1979	464,589	416,931	571,015	474,014	705,265	682,698	158,296	110,120	134,813	42,121	42,509	112,411	3,914,781
1980	313,845	252,999	92,899	116,007	403,531	55,866	6,570	0	18,021	9,215	8,024	29,260	1,306,236
1981	43,648	50,212	61,135	11,857	67,307	582,653	218,565	18,966	112,937	438,936	675,610	80,280	2,362,107
1982	59,736	53,335	99,054	115,205	523,902	265,870	246,518	10,101	13,450	15,507	74,987	119,582	1,597,248
1983	149,512	466,005	515,986	109,532	335,759	104,644	10,732	51,068	56,420	7,568	9,306	54,358	1,870,888
1984	17,835	16,837	110,375	4,834	26,158	4,599	207	0	4,721	318,120	315,076	369,858	1,188,621
1985	398,788	344,683	568,322	126,588	181,888	63,727	10,961	0	14,079	85,631	428,244	842,349	3,065,259
1986	182,110	607,950	133,155	21,591	270,841	381,405	103,532	33,809	153,471	286,304	363,426	942,443	3,480,038
1987	604,962	413,654	924,854	216,819	109,658	862,398	304,388	90,878	49,582	23,728	71,567	140,202	3,812,690
1988	132,262	65,599	147,281	21,254	3,931	29,475	11,513	0	900	0	0	19,133	431,349
1989	58,330	113,153	95,415	94,061	395,102	466,229	97,619	72,549	21,278	16,312	10,223	17,165	1,457,437
Avg.	302,460	338,550	330,307	272,647	580,236	288,953	110,088	28,241	93,346	182,700	234,404	299,055	3,060,987

APPENDIX F

BRAZOS RIVER DIVERSIONS

APPENDIX F

BRAZOS RIVER DIVERSIONS

The monthly amounts of Brazos River water that could be diverted into Allens Creek Reservoir were derived by analysis of daily flows, taking into account Trans-Texas instream flow requirements and downstream water rights. This appendix describes this analysis and gives a summary of the monthly amounts that could be diverted with various diversion pump capacities.

Table F-1 is an example of the daily analysis of Brazos River water that could be diverted to the Allens Creek impoundment with various pumping capacities. This example is taken for the month of July, 1940. Columns A through P of this table were calculated as follows:

A: The modification factor to historical flows to account for upstream development in the Brazos River basin. It is computed on a monthly basis by determining reductions to historical flows due to upstream reservoir development, new upstream water rights, full use of historically existing rights, and other factors. The factor is the ratio of reduced flow to historical flow.

B: Historical flow in the Brazos River at Richmond is from the USGS mean-daily flow records.

C: Contract releases are estimated daily flows at Richmond gage resulting from contract releases from upstream reservoirs.

D: Adjusted historical flows in the Brazos River at Richmond gage are computed as Column B minus Column C.

E: Flow with modification factor is the flow upstream from the mouth of Allens Creek, estimated based on the modification factor. This daily flow is computed as Column D times Column A.

F: Downstream water rights are the downstream rights in cfs, based on typical use patters. It represents flow with historical hydrology and 1988 conditions of basin development.

G: Daily inflows to Allens Creek Reservoir are from Attachment B, with the monthly total divided by number of days in the month.

H: Brazos River flows available for diversion to Allens Creek are computed by subtracting the daily downstream water rights (Column F) from the upstream flows of Column E.

I: Flows to be diverted on high flow days are computed as Column F minus Column E. They represent shortages in downstream water rights.

J: Inflows to Allens Creek Reservoir are assumed to pass through when the prior downstream rights equal or exceed the Brazos Flow. Thus, Allens Creek inflow released is equal to the minimum of either Column G or Column I. Columns K, L and M are not used.

N: This is the additional upstream water rights granted since 1988 at the mouth of Allens Creek.

O: Column O is the desired flow in the Brazos River, based on the Trans-Texas Water Program criteria. These monthly flows are as follows:

Month	Desired Flow (cfs)
January	1,360
February	1,708
March	2,472
April	2,454
May	4,614
June	3,576
July	1,380
August	846
September	930
October	664
November	760
December	1,020

P: Final estimate of Brazos River water available for diversion to Allens Creek Reservoir is computed as Column E minus N minus the maximum of (O or F).

The daily amount of Brazos River water that could diverted to Allens Creek Reservoir is then limited to the diversion pump capacities at the Brazos River. These amounts, shown in Table F-1 for pumping capacities ranging from 200 cfs to 3,500 cfs, are computed as the minimum of the available water in Column P and the pumping capacities.

Table F-2 is a summary of the monthly amounts of Brazos River water that could be diverted to Allens Creek Reservoir with various diversion pump capacities, for the study period from January 1940 through December 1989.

Table F-1

Daily Analysis of Available Brazos River Water for Diversion to Allens Creek Reservoir

1940 July

D/S Right = 108,686 ac-ft Inflow to Allens Cr. = 32,496 ac-ft

Day	A Mod. Factor	B Historical Flow in the Brazos at Richmond (cfs)	C Contract Releases (cfs)	D Adj. Hist. Flow @ Richmond B - C (cfs)	E Flow with Modification Factor A x D (cfs)	F D/S Water Rights (cfs)	G Inflow to Allens Creek (cfs)	H Brazos Flow Available to Allens Cr. E - F (cfs)	I To Be Diverted on High Flow Days F - E (cfs)	J Allens Creek Inflow Released (cfs)	N U/S Adjust. (cfs)	O Desired Flow (cfs)	P = E - N - max(O,F) (cfs)	Diversions Rate = Minimum of (P) and the respective Pumping Rate 200 (cfs)	Diversions Rate 400 (cfs)	Diversions Rate 600 (cfs)	Diversions Rate 1,015 (cfs)	Diversions Rate 1,600 (cfs)	Diversions Rate 1,800 (cfs)	Diversions Rate 2,500 (cfs)	Diversions Rate 3,000 (cfs)	Diversions Rate 3,500 (cfs)
1	0.3831	41,800	0	41,800	16,014	1,767.6	528.5	14,246.4	0.0	0.0	23.5	1,380.0	14,223	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
2	0.3831	61,000	0	61,000	23,369	1,767.6	528.5	21,601.4	0.0	0.0	23.5	1,380.0	21,578	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
3	0.3831	74,000	0	74,000	28,349	1,767.6	528.5	26,581.4	0.0	0.0	23.5	1,380.0	26,558	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
4	0.3831	81,200	0	81,200	31,108	1,767.6	528.5	29,340.4	0.0	0.0	23.5	1,380.0	29,317	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
5	0.3831	80,000	0	80,000	30,648	1,767.6	528.5	28,880.4	0.0	0.0	23.5	1,380.0	28,857	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
6	0.3831	70,200	0	70,200	26,894	1,767.6	528.5	25,126.4	0.0	0.0	23.5	1,380.0	25,103	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
7	0.3831	54,500	0	54,500	20,879	1,767.6	528.5	19,111.4	0.0	0.0	23.5	1,380.0	19,088	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
8	0.3831	34,600	0	34,600	13,255	1,767.6	528.5	11,487.4	0.0	0.0	23.5	1,380.0	11,464	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
9	0.3831	20,500	0	20,500	7,854	1,767.6	528.5	6,086.4	0.0	0.0	23.5	1,380.0	6,063	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
10	0.3831	14,000	0	14,000	5,363	1,767.6	528.5	3,595.4	0.0	0.0	23.5	1,380.0	3,572	200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
11	0.3831	11,200	0	11,200	4,291	1,767.6	528.5	2,523.4	0.0	0.0	23.5	1,380.0	2,500	200	400	600	1,015	1,600	1,800	2,500	2,500	2,500
12	0.3831	9,400	0	9,400	3,601	1,767.6	528.5	1,833.4	0.0	0.0	23.5	1,380.0	1,810	200	400	600	1,015	1,600	1,800	1,810	1,810	1,810
13	0.3831	8,900	0	8,900	3,410	1,767.6	528.5	1,642.4	0.0	0.0	23.5	1,380.0	1,619	200	400	600	1,015	1,600	1,619	1,619	1,619	1,619
14	0.3831	8,400	0	8,400	3,218	1,767.6	528.5	1,450.4	0.0	0.0	23.5	1,380.0	1,427	200	400	600	1,015	1,427	1,427	1,427	1,427	1,427
15	0.3831	9,110	0	9,110	3,490	1,767.6	528.5	1,722.4	0.0	0.0	23.5	1,380.0	1,699	200	400	600	1,015	1,600	1,699	1,699	1,699	1,699
16	0.3831	12,200	0	12,200	4,674	1,767.6	528.5	2,906.4	0.0	0.0	23.5	1,380.0	2,883	200	400	600	1,015	1,600	1,800	2,500	2,883	2,883
17	0.3831	9,700	0	9,700	3,716	1,767.6	528.5	1,948.4	0.0	0.0	23.5	1,380.0	1,925	200	400	600	1,015	1,600	1,800	1,925	1,925	1,925
18	0.3831	7,840	0	7,840	3,004	1,767.6	528.5	1,236.4	0.0	0.0	23.5	1,380.0	1,213	200	400	600	1,015	1,213	1,213	1,213	1,213	1,213
19	0.3831	6,940	0	6,940	2,659	1,767.6	528.5	891.4	0.0	0.0	23.5	1,380.0	868	200	400	600	868	868	868	868	868	868
20	0.3831	6,400	0	6,400	2,452	1,767.6	528.5	684.4	0.0	0.0	23.5	1,380.0	661	200	400	600	661	661	661	661	661	661
21	0.3831	5,180	0	5,180	1,984	1,767.6	528.5	216.4	0.0	0.0	23.5	1,380.0	193	193	193	193	193	193	193	193	193	193
22	0.3831	4,540	0	4,540	1,739	1,767.6	528.5	0.0	28.6	28.6	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
23	0.3831	3,980	0	3,980	1,525	1,767.6	528.5	0.0	242.6	242.6	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
24	0.3831	3,980	0	3,980	1,525	1,767.6	528.5	0.0	242.6	242.6	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
25	0.3831	4,090	0	4,090	1,567	1,767.6	528.5	0.0	200.6	200.6	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
26	0.3831	3,660	0	3,660	1,402	1,767.6	528.5	0.0	365.6	365.6	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
27	0.3831	3,060	0	3,060	1,172	1,767.6	528.5	0.0	595.6	528.5	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
28	0.3831	2,580	0	2,580	988	1,767.6	528.5	0.0	779.6	528.5	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
29	0.3831	2,260	0	2,260	866	1,767.6	528.5	0.0	901.6	528.5	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
30	0.3831	2,040	0	2,040	782	1,767.6	528.5	0.0	985.6	528.5	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
31	0.3831	1,840	0	1,840	705	1,767.6	528.5	0.0	1,062.6	528.5	23.5	1,380.0	0	0	0	0	0	0	0	0	0	0
Total (ac-ft)		1,307,325	0	1,307,325	500,840	108,687	32,497	402,873	10,721	7,384	1,445	84,954	401,895	8,317	16,251	24,185	39,654	59,429	65,216	82,145	92,822	102,739

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Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
1940	Jan	0	0	0	0	0	0	0	0	0
	Feb	6,538	12,715	17,997	25,544	30,317	30,938	31,117	31,117	31,117
	Mar	0	0	0	0	0	0	0	0	0
	Apr	1,984	3,967	5,553	8,846	13,487	15,074	18,940	20,924	22,907
	May	3,570	6,668	9,322	13,685	18,071	19,261	23,427	25,770	27,753
	Jun	6,564	12,911	19,198	30,916	43,476	46,864	57,972	64,990	70,941
	Jul	8,317	16,251	24,185	39,654	59,429	65,216	82,145	92,822	102,739
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	4,684	7,278	9,341	10,746	10,746	10,746	10,746	10,746	10,746
	Nov	9,764	18,748	26,948	41,082	58,734	63,808	77,735	87,653	97,504
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
1941	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,845	166,614	194,278
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Apr	11,901	23,802	35,637	59,080	89,050	98,968	131,546	152,120	169,351
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Jun	11,901	23,802	35,703	60,398	95,208	107,109	148,763	177,956	205,952
	Jul	11,675	22,973	33,522	52,533	73,367	80,020	101,143	114,952	127,018
	Aug	6,825	12,064	15,948	21,910	28,872	31,252	39,583	45,533	50,515
	Sep	11,901	23,802	35,703	59,997	88,566	96,277	115,344	123,472	127,839
	Oct	12,298	24,595	36,137	56,589	84,437	93,958	127,281	150,310	172,665
	Nov	11,901	23,802	35,703	60,398	95,208	106,993	140,007	157,333	172,651
	Dec	12,298	24,439	35,161	53,070	59,646	60,189	60,406	60,406	60,406
1942	Jan	10,053	16,699	20,498	25,778	27,938	27,938	27,938	27,938	27,938
	Feb	0	0	0	0	0	0	0	0	0
	Mar	0	0	0	0	0	0	0	0	0
	Apr	8,727	17,455	26,182	44,292	69,819	78,547	109,093	130,911	152,730
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Jun	11,136	21,847	32,558	54,205	82,274	90,970	118,384	135,315	151,487
	Jul	5,742	11,133	16,290	25,935	36,441	39,208	46,920	51,478	55,445
	Aug	0	0	0	0	0	0	0	0	0
	Sep	11,901	23,108	32,997	51,730	75,225	82,567	103,895	116,979	128,880
	Oct	12,298	24,203	34,730	53,785	73,718	79,112	96,431	108,332	120,233
	Nov	11,901	23,802	35,703	60,398	95,208	107,109	144,505	164,245	182,185
	Dec	12,298	24,595	36,893	58,629	72,149	74,809	83,139	89,090	94,485
1943	Jan	12,298	24,595	36,893	61,321	88,716	97,370	124,123	139,621	153,235
	Feb	11,108	21,360	26,914	30,452	30,452	30,452	30,452	30,452	30,452
	Mar	2,380	4,760	7,141	12,080	19,042	21,305	28,247	33,206	38,165
	Apr	7,056	12,899	17,897	24,153	29,602	31,038	34,484	36,467	38,451
	May	1,984	3,568	4,348	4,533	4,533	4,533	4,533	4,533	4,533
	Jun	2,363	4,346	6,330	9,653	13,057	13,850	15,410	16,295	16,295
	Jul	1,190	2,380	3,570	6,040	8,446	9,239	12,016	13,999	15,983
	Aug	1,587	2,903	3,953	5,589	6,749	7,146	8,534	9,364	9,364
	Sep	0	0	0	0	0	0	0	0	0
	Oct	6,795	10,704	12,760	15,633	18,453	19,130	19,283	19,283	19,283
	Nov	2,145	3,796	4,778	5,651	5,651	5,651	5,651	5,651	5,651
	Dec	3,315	6,094	7,778	11,071	15,399	16,379	19,156	21,021	21,556
1944	Jan	12,298	24,595	36,893	62,161	96,972	108,873	149,466	176,410	202,734
	Feb	11,504	23,009	34,513	58,384	92,034	103,539	143,804	172,565	201,325
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Apr	7,343	14,483	21,242	31,089	41,052	43,829	52,051	55,504	56,720

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	May	11,572	23,077	34,581	58,161	89,442	99,757	134,650	157,330	179,006
	Jun	7,433	14,411	21,155	34,695	52,574	58,525	78,231	91,606	104,263
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	8,139	15,461	22,368	35,734	51,654	56,653	73,289	83,662	91,682
	Oct	8,616	12,583	14,601	16,114	16,239	16,239	16,239	16,239	16,239
	Nov	6,811	11,406	15,770	24,623	36,227	40,194	54,078	63,996	73,913
	Dec	12,298	24,595	36,893	62,411	94,574	104,669	138,497	161,381	183,327
1945	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,845	166,614	194,383
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Apr	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,231	205,328
	May	8,855	16,392	23,745	37,609	55,193	59,893	74,477	83,403	91,805
	Jun	5,554	10,955	16,112	26,711	40,334	44,456	56,952	64,724	70,772
	Jul	9,088	17,025	23,673	34,463	47,413	51,380	64,643	72,240	78,327
	Aug	1,587	3,174	4,760	8,053	12,694	14,281	19,835	23,802	27,769
	Sep	7,492	14,236	20,677	33,495	50,302	55,728	72,839	82,431	89,070
	Oct	12,298	24,217	36,118	59,780	89,188	98,708	129,820	146,683	159,618
	Nov	11,901	23,429	32,333	44,017	51,089	52,218	54,386	54,386	54,386
	Dec	11,893	23,398	34,902	58,773	90,490	100,408	133,370	154,436	173,985
1946	Jan	12,298	24,595	36,585	58,890	90,091	100,243	132,291	153,358	174,185
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,827	161,924	182,837
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	214,917
	Apr	10,036	19,628	28,412	43,636	61,674	67,599	85,125	94,816	101,307
	May	9,521	18,792	27,916	45,260	67,780	74,920	98,087	113,606	128,483
	Jun	7,141	13,925	20,668	34,288	52,633	58,584	78,723	91,178	102,298
	Jul	2,810	5,472	7,852	12,593	17,757	18,947	23,113	25,850	27,833
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	12,298	24,595	36,893	62,411	97,099	106,669	125,381	132,460	135,121
	Nov	11,901	23,802	35,703	60,398	95,208	106,787	145,070	171,847	198,625
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	151,350	176,163	195,370
1947	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,721	183,423	212,184
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	126,196	135,114	142,150
	Mar	12,298	24,595	36,893	62,193	90,029	97,963	125,732	145,288	163,975
	Apr	11,901	23,802	35,703	60,398	94,652	105,232	137,096	156,163	173,586
	May	5,951	11,901	17,852	30,199	47,380	52,934	71,578	84,471	97,363
	Jun	3,458	6,517	9,293	15,056	22,573	24,954	33,284	38,278	42,086
	Jul	0	0	0	0	0	0	0	0	0
	Aug	2,484	4,865	7,245	12,184	19,146	21,526	28,969	33,928	38,887
	Sep	7,636	11,196	13,973	19,107	25,375	27,359	33,760	37,727	41,694
	Oct	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778	1,778
	Nov	8,973	14,990	18,561	23,248	27,762	28,846	31,623	33,314	33,989
	Dec	10,206	19,386	27,874	41,519	52,844	55,764	63,357	67,436	69,400
1948	Jan	408	408	408	408	408	408	408	408	408
	Feb	4,688	8,475	11,286	14,720	15,829	15,829	15,829	15,829	15,829
	Mar	7,068	13,812	20,232	32,725	48,180	52,940	67,775	76,892	85,408
	Apr	2,380	4,457	6,440	9,949	13,442	14,236	16,569	17,560	18,234
	May	1,190	2,380	3,327	4,973	7,294	8,087	10,864	12,356	13,348
	Jun	0	0	0	0	0	0	0	0	0
	Jul	2,924	4,791	6,110	7,291	7,291	7,291	7,291	7,291	7,291
	Aug	0	0	0	0	0	0	0	0	0

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Table F–2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre–Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic–Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Sep	0	0	0	0	0	0	0	0	0
	Oct	651	651	651	651	651	651	651	651	651
	Nov	0	0	0	0	0	0	0	0	0
	Dec	0	0	0	0	0	0	0	0	0
1949	Jan	0	0	0	0	0	0	0	0	0
	Feb	2,035	3,636	5,001	7,470	10,951	12,142	16,307	19,247	21,230
	Mar	7,141	14,006	20,750	34,597	52,857	58,501	76,896	89,211	99,559
	Apr	7,141	14,281	21,063	34,968	53,481	59,432	78,026	89,909	100,819
	May	7,934	15,868	23,802	40,265	62,721	70,258	94,022	108,916	122,800
	Jun	3,676	6,841	9,221	13,635	18,261	19,239	22,016	24,000	24,349
	Jul	5,196	9,956	14,334	22,293	29,379	31,363	37,188	40,598	43,573
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	5,304	9,089	12,659	19,328	27,450	30,227	39,946	46,888	53,173
	Nov	11,837	21,829	29,822	42,533	56,592	60,956	75,131	84,111	92,719
	Dec	10,554	20,869	30,933	51,512	78,486	86,438	110,069	124,035	136,363
1950	Jan	12,298	24,595	36,636	58,296	83,028	90,280	113,104	124,968	133,856
	Feb	9,124	18,248	27,263	45,373	70,900	79,628	110,174	131,992	153,811
	Mar	4,364	8,347	12,314	19,367	25,327	26,517	30,615	32,598	34,295
	Apr	5,157	10,314	15,471	26,172	41,257	46,414	64,464	76,688	88,589
	May	5,951	11,529	16,686	26,146	37,215	40,129	45,364	47,348	48,317
	Jun	6,744	13,488	20,201	32,548	48,918	54,472	72,744	85,033	96,934
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	6,347	12,343	17,276	23,604	25,691	25,691	25,691	25,691	25,691
	Oct	10,469	18,562	25,823	38,310	46,894	48,046	49,975	49,975	49,975
	Nov	1,635	1,635	1,635	1,635	1,635	1,635	1,635	1,635	1,635
	Dec	346	346	346	346	346	346	346	346	346
1951	Jan	0	0	0	0	0	0	0	0	0
	Feb	0	0	0	0	0	0	0	0	0
	Mar	0	0	0	0	0	0	0	0	0
	Apr	1,190	2,124	2,918	4,564	5,860	5,860	5,860	5,860	5,860
	May	0	0	0	0	0	0	0	0	0
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	2,060	3,251	3,907	4,354	4,354	4,354	4,354	4,354	4,354
	Nov	0	0	0	0	0	0	0	0	0
	Dec	0	0	0	0	0	0	0	0	0
1952	Jan	0	0	0	0	0	0	0	0	0
	Feb	0	0	0	0	0	0	0	0	0
	Mar	0	0	0	0	0	0	0	0	0
	Apr	5,634	11,003	16,120	25,998	38,143	41,713	52,862	60,133	66,993
	May	1,190	2,380	3,570	6,040	9,521	10,711	14,876	16,811	17,803
	Jun	3,567	6,344	9,121	14,372	20,718	22,304	27,858	31,738	34,714
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	0	0	0	0	0	0	0	0	0
	Nov	0	0	0	0	0	0	0	0	0
	Dec	8,331	16,281	23,237	35,907	51,848	56,552	67,242	71,332	73,752

[brt94138.hma.daily]tablef2.wk1

Table F–2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre–Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic–Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
1953	Jan	6,937	13,681	20,121	32,921	47,447	51,077	63,030	70,964	78,482
	Feb	4,834	9,279	13,175	19,104	25,686	27,669	33,511	35,495	35,775
	Mar	5,255	10,412	15,434	24,762	31,909	33,099	36,426	38,243	39,235
	Apr	0	0	0	0	0	0	0	0	0
	May	10,711	21,309	31,624	53,026	82,184	92,101	124,221	146,425	167,474
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	5,818	11,228	16,329	26,206	38,647	42,487	51,405	53,758	54,463
	Oct	1,984	3,967	5,951	10,066	15,868	17,541	23,095	27,062	31,029
	Nov	11,901	23,035	31,989	47,551	65,735	71,289	87,169	97,086	106,688
	Dec	11,772	23,277	34,781	58,050	90,539	101,647	140,524	168,293	195,528
1954	Jan	12,298	24,168	32,595	40,663	47,674	49,657	55,811	59,016	60,731
	Feb	0	0	0	0	0	0	0	0	0
	Mar	0	0	0	0	0	0	0	0	0
	Apr	0	0	0	0	0	0	0	0	0
	May	0	0	0	0	0	0	0	0	0
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	0	0	0	0	0	0	0	0	0
	Nov	1,255	2,365	2,762	3,102	3,102	3,102	3,102	3,102	3,102
	Dec	278	278	278	278	278	278	278	278	278
1955	Jan	0	0	0	0	0	0	0	0	0
	Feb	5,203	9,999	14,748	23,696	35,008	38,578	50,083	57,553	63,583
	Mar	0	0	0	0	0	0	0	0	0
	Apr	5,157	10,314	15,315	25,193	38,177	41,979	54,014	61,868	68,810
	May	0	0	0	0	0	0	0	0	0
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	9,599	19,006	27,859	43,460	63,653	70,397	90,852	100,148	100,222
	Nov	6,634	10,252	12,642	15,217	15,535	15,535	15,535	15,535	15,535
	Dec	0	0	0	0	0	0	0	0	0
1956	Jan	0	0	0	0	0	0	0	0	0
	Feb	1,587	3,174	4,366	5,374	5,374	5,374	5,374	5,374	5,374
	Mar	0	0	0	0	0	0	0	0	0
	Apr	0	0	0	0	0	0	0	0	0
	May	0	0	0	0	0	0	0	0	0
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	0	0	0	0	0	0	0	0	0
	Nov	0	0	0	0	0	0	0	0	0
	Dec	193	193	193	193	193	193	193	193	193
1957	Jan	0	0	0	0	0	0	0	0	0
	Feb	0	0	0	0	0	0	0	0	0
	Mar	5,511	10,386	14,710	22,051	29,304	31,018	35,386	36,546	36,546

[brt94138.hma.daily]tablef2.wk1

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Apr	1,861	3,448	5,034	8,089	11,265	12,059	12,565	12,565	12,565
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Jun	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	Jul	12,298	24,595	36,893	62,411	93,314	100,906	123,067	136,356	148,874
	Aug	5,036	9,510	13,874	22,231	33,796	37,366	49,862	56,016	59,851
	Sep	1,984	3,680	5,267	8,560	13,201	14,788	18,927	20,544	21,536
	Oct	12,298	24,056	33,708	52,213	77,196	85,527	113,774	133,328	151,154
	Nov	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	152,773	180,267	204,205
1958	Jan	12,298	24,595	36,893	62,411	98,382	110,679	152,685	180,598	206,383
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	136,787	158,588	176,621
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	214,591
	Apr	10,706	20,278	27,977	39,464	47,139	48,359	51,135	53,119	55,102
	May	12,298	24,595	36,893	61,638	95,753	107,257	145,356	170,176	194,970
	Jun	4,364	8,046	11,616	17,692	23,965	25,949	31,660	34,477	36,322
	Jul	8,245	15,191	21,795	34,117	47,205	50,638	61,226	68,168	75,110
	Aug	0	0	0	0	0	0	0	0	0
	Sep	11,901	23,566	33,683	45,661	57,312	60,882	72,358	80,292	88,226
	Oct	12,298	24,595	36,893	61,487	87,623	94,309	112,978	123,008	131,934
	Nov	11,901	23,802	34,952	50,194	56,993	57,390	57,472	57,472	57,472
	Dec	8,307	11,852	12,229	12,229	12,229	12,229	12,229	12,229	12,229
1959	Jan	0	0	0	0	0	0	0	0	0
	Feb	8,102	14,870	21,132	32,664	48,909	54,459	72,394	83,889	94,798
	Mar	1,984	3,743	5,295	7,709	9,616	9,670	9,670	9,670	9,670
	Apr	8,727	17,455	26,182	44,292	69,819	78,547	107,930	128,756	149,460
	May	7,263	14,007	20,702	33,853	51,258	57,209	77,740	91,625	105,509
	Jun	6,502	12,644	18,594	30,406	45,026	49,144	61,276	68,219	72,675
	Jul	6,706	12,757	18,567	29,403	41,958	45,263	52,074	52,167	52,167
	Aug	3,596	6,551	9,251	13,870	18,035	19,225	20,186	20,186	20,186
	Sep	0	0	0	0	0	0	0	0	0
	Oct	12,298	24,050	35,028	56,982	87,151	97,465	132,324	157,118	181,912
	Nov	11,901	23,802	35,703	60,398	95,208	106,784	143,440	168,234	192,703
	Dec	12,298	24,595	36,893	62,411	98,382	110,553	140,924	156,904	172,772
1960	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Feb	11,504	23,009	34,513	58,384	92,034	103,539	143,804	172,565	201,325
	Mar	12,298	24,595	36,893	60,169	88,847	97,574	126,418	143,052	158,332
	Apr	4,685	8,332	11,505	17,793	22,626	23,419	25,101	26,093	27,085
	May	5,554	11,108	16,661	27,843	42,928	47,831	61,804	71,240	80,166
	Jun	1,984	3,967	5,951	10,066	15,868	17,852	24,794	29,753	34,711
	Jul	11,504	22,705	32,784	49,506	67,450	72,256	88,591	98,169	107,095
	Aug	3,966	6,620	7,810	8,992	9,207	9,207	9,207	9,207	9,207
	Sep	2,116	3,645	4,650	4,710	4,710	4,710	4,710	4,710	4,710
	Oct	8,300	15,023	20,707	32,231	47,733	52,890	70,851	81,958	91,894
	Nov	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,443	205,922
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
1961	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,845	166,614	194,383
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Apr	10,461	19,170	27,320	43,345	64,176	70,381	89,794	102,520	111,648
	May	397	578	578	578	578	578	578	578	578
	Jun	5,898	11,452	17,005	27,945	42,940	47,701	64,362	76,263	88,164
	Jul	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Aug	10,002	19,404	27,370	41,685	59,263	64,817	83,865	96,060	102,376
	Sep	11,901	23,802	35,366	52,776	74,822	82,360	107,793	124,577	140,257
	Oct	12,298	24,595	36,893	62,411	93,155	102,675	134,294	155,325	173,904
	Nov	11,901	23,802	35,703	60,398	95,208	106,721	140,108	158,216	173,128
	Dec	12,298	24,595	36,893	62,411	98,382	110,620	148,169	172,439	193,372
1962	Jan	12,298	24,595	36,893	60,757	80,296	83,491	92,380	97,817	101,986
	Feb	11,108	22,215	31,513	45,153	58,932	62,413	72,032	75,318	77,758
	Mar	625	1,022	1,038	1,038	1,038	1,038	1,038	1,038	1,038
	Apr	0	0	0	0	0	0	0	0	0
	May	793	1,583	1,980	2,803	3,641	3,641	3,641	3,641	3,641
	Jun	3,174	5,728	7,135	9,604	13,085	14,275	17,098	18,156	19,148
	Jul	5,376	9,740	14,016	22,113	31,747	34,920	44,732	51,675	57,665
	Aug	0	0	0	0	0	0	0	0	0
	Sep	6,730	12,150	16,910	25,730	35,763	38,786	47,152	51,424	52,625
	Oct	12,298	24,595	36,893	58,767	81,207	86,869	104,011	110,521	114,113
	Nov	7,043	11,489	15,260	19,476	22,115	22,908	25,685	27,669	29,532
	Dec	12,298	24,595	36,893	61,249	86,382	93,856	117,706	133,007	147,796
1963	Jan	12,145	23,013	31,826	45,183	54,847	57,717	65,538	69,505	73,472
	Feb	3,967	7,934	11,901	19,972	30,415	33,985	45,343	52,688	59,631
	Mar	463	859	1,211	1,211	1,211	1,211	1,211	1,211	1,211
	Apr	3,627	7,197	10,767	17,592	25,964	28,741	37,084	42,179	46,727
	May	0	0	0	0	0	0	0	0	0
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	0	0	0	0	0	0	0	0	0
	Nov	5,383	7,329	8,120	8,774	8,774	8,774	8,774	8,774	8,774
	Dec	4,408	8,155	10,964	11,949	11,949	11,949	11,949	11,949	11,949
1964	Jan	1,530	2,429	2,674	2,674	2,674	2,674	2,674	2,674	2,674
	Feb	3,989	7,256	9,409	12,900	16,078	16,475	17,239	17,239	17,239
	Mar	4,826	9,208	12,899	19,282	25,172	26,167	28,549	29,282	29,282
	Apr	0	0	0	0	0	0	0	0	0
	May	0	0	0	0	0	0	0	0	0
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	2,035	3,621	4,916	7,385	9,449	9,846	10,462	10,462	10,462
	Oct	10,526	19,813	28,746	36,353	39,954	40,836	41,505	41,505	41,505
	Nov	11,901	23,802	35,703	59,380	89,837	98,284	114,879	123,058	128,293
	Dec	10,481	18,641	23,167	29,580	34,082	34,233	34,233	34,233	34,233
1965	Jan	7,357	11,993	15,697	23,105	33,548	37,118	49,614	58,540	67,419
	Feb	11,108	22,215	33,323	56,371	88,197	98,301	131,539	154,349	176,229
	Mar	9,978	19,499	29,019	48,186	74,874	83,850	111,099	123,181	132,176
	Apr	8,054	15,674	23,211	38,851	59,892	66,998	88,928	103,525	116,528
	May	7,934	15,868	23,802	40,265	62,407	69,945	96,325	115,169	134,012
	Jun	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	Jul	3,423	6,156	8,536	13,036	17,221	17,369	17,369	17,369	17,369
	Aug	4,696	4,831	4,831	4,831	4,831	4,831	4,831	4,831	4,831
	Sep	4,344	6,777	8,394	11,687	15,341	16,531	20,128	21,561	22,553
	Oct	12,298	24,491	34,963	47,097	54,028	55,324	57,752	57,784	57,784
	Nov	11,901	23,696	34,548	56,773	87,292	97,606	132,355	150,416	166,236

[brt94138.hma.daily]tablef2.wk1

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Dec	12,298	24,595	36,893	62,411	98,267	109,920	148,902	172,866	194,776
1966	Jan	12,298	24,595	36,893	59,755	79,242	82,561	92,280	98,961	102,763
	Feb	11,108	22,215	33,323	56,276	85,730	95,250	127,011	148,046	165,093
	Mar	11,148	21,741	31,865	49,985	66,968	71,820	87,696	97,735	106,293
	Apr	7,111	13,331	18,661	27,181	37,362	40,536	50,580	56,901	62,851
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,013
	Jun	7,844	14,458	19,553	27,359	34,063	35,650	40,058	42,404	43,439
	Jul	0	0	0	0	0	0	0	0	0
	Aug	6,263	12,213	18,164	29,800	43,345	46,941	55,618	58,434	60,417
	Sep	8,439	16,408	24,342	40,802	62,848	70,386	95,385	111,156	125,172
	Oct	12,298	24,595	36,821	60,092	87,637	95,968	120,999	133,488	141,702
	Nov	9,122	11,779	11,782	11,782	11,782	11,782	11,782	11,782	11,782
	Dec	161	161	161	161	161	161	161	161	161
1967	Jan	423	423	423	423	423	423	423	423	423
	Feb	0	0	0	0	0	0	0	0	0
	Mar	0	0	0	0	0	0	0	0	0
	Apr	1,222	2,274	3,067	4,485	4,763	4,763	4,763	4,763	4,763
	May	1,190	2,380	3,570	5,277	7,235	7,632	9,020	10,012	11,004
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	6,262	10,718	12,951	15,067	15,067	15,067	15,067	15,067	15,067
	Oct	4,744	7,814	9,895	12,315	14,573	14,969	15,627	15,627	15,627
	Nov	11,099	21,237	30,043	44,554	59,765	64,423	78,393	87,316	94,441
	Dec	5,723	11,138	15,359	21,743	27,977	29,564	34,337	36,995	38,978
1968	Jan	12,298	24,595	36,893	61,323	90,201	99,325	131,259	153,302	175,121
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,845	166,614	194,383
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Apr	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Jun	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	Jul	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,110	213,331
	Aug	6,231	11,367	15,029	21,109	27,025	28,266	29,981	29,981	29,981
	Sep	11,784	22,557	33,201	54,214	78,502	85,458	105,387	116,744	126,132
	Oct	12,298	24,595	35,817	50,924	63,406	66,235	72,538	75,148	76,178
	Nov	11,901	23,740	34,386	49,464	61,405	65,000	75,943	81,650	86,609
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	153,521	180,382	203,945
1969	Jan	11,680	21,871	31,052	39,609	43,881	44,121	44,121	44,121	44,121
	Feb	5,689	11,243	16,796	28,321	44,565	50,119	69,558	83,442	96,837
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Apr	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,141	213,462
	Jun	3,967	7,736	11,306	18,640	24,599	24,847	24,847	24,847	24,847
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	7,268	13,453	17,715	22,900	25,087	25,087	25,087	25,087	25,087
	Oct	12,298	24,595	36,848	52,930	62,046	63,236	65,717	66,709	66,994
	Nov	10,547	19,133	25,550	33,202	39,571	40,761	43,625	43,801	43,801
	Dec	10,428	19,204	26,531	39,691	56,681	62,224	76,861	83,258	88,695
1970	Jan	11,693	22,865	33,215	53,442	77,895	84,299	100,095	105,867	110,164
	Feb	10,120	19,978	29,499	49,006	71,777	78,917	101,191	111,738	118,667

[brt94138.hma.daily]tablef2.wk1

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Apr	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,579	181,538	203,596
	Jun	5,912	11,465	17,019	27,800	41,071	45,038	55,514	59,881	62,369
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	9,092	15,651	20,949	29,935	38,598	40,978	47,823	50,836	53,812
	Oct	12,298	24,595	36,893	62,177	91,982	101,503	127,375	140,615	152,516
	Nov	11,688	19,071	23,965	32,221	41,081	43,825	51,256	55,223	58,217
	Dec	1,327	1,978	1,978	1,978	1,978	1,978	1,978	1,978	1,978
1971	Jan	507	507	507	507	507	507	507	507	507
	Feb	0	0	0	0	0	0	0	0	0
	Mar	0	0	0	0	0	0	0	0	0
	Apr	0	0	0	0	0	0	0	0	0
	May	0	0	0	0	0	0	0	0	0
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	3,881	6,527	8,430	11,122	13,871	14,664	14,831	14,831	14,831
	Sep	3,044	4,484	5,620	7,096	7,642	7,642	7,642	7,642	7,642
	Oct	10,863	20,409	28,648	42,775	59,020	64,574	82,490	93,120	101,708
	Nov	11,901	23,802	35,703	60,398	95,208	106,399	132,789	140,101	145,540
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	214,280
1972	Jan	12,298	24,595	36,893	62,411	96,735	107,133	140,235	162,698	184,511
	Feb	9,651	18,103	25,855	40,888	58,694	64,401	83,578	96,046	103,164
	Mar	1,379	2,569	3,759	6,229	9,710	10,511	13,288	14,382	15,373
	Apr	0	0	0	0	0	0	0	0	0
	May	5,951	11,901	17,590	28,544	43,628	48,126	62,257	72,175	82,092
	Jun	793	1,587	2,319	2,938	2,938	2,938	2,938	2,938	2,938
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	1,984	3,967	5,890	9,182	11,319	11,697	11,697	11,697	11,697
	Nov	11,901	23,802	35,703	60,398	95,208	107,109	143,954	159,171	172,064
	Dec	12,195	23,781	34,443	50,639	59,833	62,213	68,918	71,685	73,631
1973	Jan	10,690	21,004	31,319	52,662	79,573	88,261	117,418	136,771	153,701
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,845	166,614	194,383
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	152,010	179,132	204,917
	Apr	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,164
	May	11,287	21,998	32,420	53,460	82,353	91,315	121,811	142,638	162,494
	Jun	11,901	23,802	35,703	60,398	95,208	106,806	145,683	172,873	199,650
	Jul	12,298	24,595	36,750	60,575	89,200	98,324	128,322	146,820	161,479
	Aug	6,500	11,625	15,989	23,490	29,923	29,986	29,986	29,986	29,986
	Sep	9,825	17,876	24,722	37,807	49,694	52,800	60,206	61,969	62,741
	Oct	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Nov	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	207,008
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	152,379	178,377	201,871
1974	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,226	181,059	205,704
	Feb	11,108	22,215	33,323	55,985	80,072	87,213	109,914	123,563	136,036
	Mar	6,790	12,219	16,342	23,080	29,357	30,426	31,398	31,398	31,398
	Apr	0	0	0	0	0	0	0	0	0
	May	4,879	8,881	12,848	21,036	29,901	32,320	40,651	46,601	51,412
	Jun	0	0	0	0	0	0	0	0	0

[brt94138.hma.daily]table2.wk1

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	11,901	23,802	35,703	60,398	95,208	107,109	148,763	177,939	205,497
	Oct	12,298	24,595	36,893	62,411	98,382	110,679	153,721	183,800	212,639
	Nov	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
1975	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,307	181,349	207,914
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,845	166,614	194,383
	Mar	12,298	24,595	36,893	62,171	94,799	104,930	137,569	160,060	181,879
	Apr	11,901	23,802	35,703	60,398	93,085	103,796	137,181	159,314	178,813
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Jun	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,515	208,268
	Jul	12,298	24,595	36,893	62,411	98,318	109,506	141,305	162,465	182,706
	Aug	12,134	22,596	32,136	47,892	65,759	71,316	90,754	100,271	107,626
	Sep	11,901	23,731	34,916	54,280	67,360	68,061	68,141	68,141	68,141
	Oct	11,597	19,132	22,145	26,260	32,029	33,616	39,170	42,675	45,056
	Nov	8,905	15,122	20,095	28,857	34,466	34,863	35,409	35,409	35,409
	Dec	5,120	9,521	13,705	20,166	24,485	24,791	24,791	24,791	24,791
1976	Jan	3,065	4,805	5,070	5,070	5,070	5,070	5,070	5,070	5,070
	Feb	4,147	6,192	7,444	8,486	8,683	8,683	8,683	8,683	8,683
	Mar	2,494	3,867	3,867	3,867	3,867	3,867	3,867	3,867	3,867
	Apr	8,331	16,661	24,661	40,746	61,789	68,533	91,374	107,242	122,723
	May	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	213,733
	Jun	10,204	20,011	28,828	46,114	68,850	76,387	102,203	120,055	137,906
	Jul	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Aug	4,562	8,532	12,499	19,984	28,266	30,532	34,200	34,383	34,383
	Sep	11,901	22,997	31,295	43,736	50,328	51,915	55,876	56,885	56,885
	Oct	12,298	24,595	36,893	62,411	97,064	107,775	143,141	165,757	184,199
	Nov	11,901	23,802	35,703	60,398	95,148	106,276	142,313	165,297	183,047
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	214,306
1977	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,264	212,458
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,845	166,614	193,092
	Mar	12,298	24,595	36,620	58,803	88,657	98,574	130,389	151,738	172,013
	Apr	11,901	23,802	35,703	60,087	91,806	102,121	136,736	160,101	182,911
	May	12,298	24,595	36,893	62,411	97,745	108,467	142,248	164,067	183,236
	Jun	7,537	14,940	21,720	34,368	49,995	53,689	58,838	58,838	58,838
	Jul	4,145	7,163	9,313	12,409	14,464	14,533	14,533	14,533	14,533
	Aug	1,801	2,594	3,019	3,019	3,019	3,019	3,019	3,019	3,019
	Sep	9,413	16,059	19,981	23,558	23,829	23,829	23,829	23,829	23,829
	Oct	5,394	6,226	6,226	6,226	6,226	6,226	6,226	6,226	6,226
	Nov	2,339	2,402	2,402	2,402	2,402	2,402	2,402	2,402	2,402
	Dec	1,928	3,515	4,935	7,177	8,504	8,504	8,504	8,504	8,504
1978	Jan	5,185	9,730	14,090	22,110	30,953	33,730	41,796	45,882	49,457
	Feb	7,821	15,297	22,438	35,480	50,329	55,089	68,968	77,322	81,751
	Mar	4,117	7,687	10,942	15,688	20,784	22,371	27,465	30,440	33,415
	Apr	0	0	0	0	0	0	0	0	0
	May	0	0	0	0	0	0	0	0	0
	Jun	915	1,708	2,133	2,956	4,117	4,513	4,549	4,549	4,549
	Jul	0	0	0	0	0	0	0	0	0
	Aug	2,576	4,956	6,836	8,344	8,344	8,344	8,344	8,344	8,344
	Sep	5,591	10,464	14,602	21,129	28,121	30,443	36,245	40,112	43,087
	Oct	441	441	441	441	441	441	441	441	441

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Nov	3,752	7,322	10,892	17,811	25,933	28,060	33,636	37,603	41,570
	Dec	8,193	13,663	18,310	27,353	37,535	40,663	46,151	47,071	47,071
1979	Jan	12,298	24,595	36,893	62,411	96,540	107,448	142,729	166,353	188,557
	Feb	11,108	22,215	33,323	56,342	85,262	94,782	128,105	149,314	164,963
	Mar	9,521	18,572	27,300	45,021	67,879	75,385	100,172	116,690	131,801
	Apr	11,901	23,802	35,703	60,254	93,077	103,788	137,118	157,988	177,499
	May	11,108	22,111	32,822	55,047	86,376	97,087	133,564	159,263	184,057
	Jun	11,128	21,665	31,583	51,537	76,513	84,447	109,881	126,441	142,309
	Jul	12,206	22,721	30,978	44,193	56,422	60,389	72,586	79,952	86,186
	Aug	11,865	20,205	26,556	36,418	47,507	50,787	61,564	68,263	73,877
	Sep	11,546	21,873	30,433	44,900	58,497	62,030	71,241	76,454	81,332
	Oct	11,731	21,002	25,197	29,909	32,644	32,786	32,786	32,786	32,786
	Nov	8,650	14,125	18,647	25,314	27,553	27,553	27,553	27,553	27,553
	Dec	10,273	19,009	26,743	41,823	57,211	61,484	71,301	76,260	80,755
1980	Jan	11,125	20,637	29,490	46,233	67,854	74,995	98,862	114,876	129,083
	Feb	11,122	21,843	32,373	53,292	79,934	88,607	115,315	132,564	146,841
	Mar	1,190	2,380	3,570	6,040	9,365	10,158	12,935	14,918	16,902
	Apr	4,809	9,459	13,554	21,098	29,062	31,118	37,016	40,432	43,407
	May	6,744	13,488	19,976	33,147	51,712	58,060	79,426	93,782	107,270
	Jun	2,309	4,293	5,906	9,147	12,628	13,579	16,164	17,155	17,622
	Jul	4,782	5,631	5,631	5,631	5,631	5,631	5,631	5,631	5,631
	Aug	0	0	0	0	0	0	0	0	0
	Sep	5,715	7,681	8,168	8,168	8,168	8,168	8,168	8,168	8,168
	Oct	2,197	3,484	4,659	5,963	6,158	6,158	6,158	6,158	6,158
	Nov	2,303	2,983	2,983	2,983	2,983	2,983	2,983	2,983	2,983
	Dec	3,061	4,790	5,623	5,796	5,796	5,796	5,796	5,796	5,796
1981	Jan	3,287	5,793	6,764	7,778	7,778	7,778	7,778	7,778	7,778
	Feb	1,914	3,252	3,805	3,919	3,919	3,919	3,919	3,919	3,919
	Mar	2,380	4,198	5,551	8,020	10,689	11,086	11,860	11,860	11,860
	Apr	696	696	696	696	696	696	696	696	696
	May	793	1,587	2,380	4,027	5,541	5,745	5,745	5,745	5,745
	Jun	9,521	19,042	28,562	48,318	76,166	85,687	119,010	142,162	164,330
	Jul	10,122	19,942	29,463	48,196	73,589	81,920	110,825	130,455	149,287
	Aug	3,588	6,610	9,387	13,231	14,391	14,788	16,176	17,168	18,160
	Sep	10,953	21,522	31,794	52,212	77,191	83,628	98,250	99,511	100,503
	Oct	11,336	20,941	29,507	46,082	65,614	71,961	94,177	110,045	125,888
	Nov	11,901	23,802	35,703	60,398	95,208	107,109	147,970	175,183	198,946
	Dec	12,098	22,231	30,193	42,869	48,669	49,272	49,980	49,980	49,980
1982	Jan	6,326	10,898	14,480	16,049	16,049	16,049	16,049	16,049	16,049
	Feb	1,195	1,647	1,647	1,647	1,647	1,647	1,647	1,647	1,647
	Mar	1,984	3,967	5,951	9,470	14,111	15,698	21,127	23,363	25,346
	Apr	4,764	9,476	13,840	22,389	32,408	35,581	46,234	52,693	58,643
	May	7,141	14,281	21,422	36,239	57,125	64,265	89,258	107,109	124,961
	Jun	6,855	13,207	19,095	30,619	46,531	51,688	69,738	82,631	94,687
	Jul	10,699	21,013	31,287	50,781	76,147	83,160	103,711	117,595	130,962
	Aug	2,872	4,880	6,864	9,743	9,743	9,743	9,743	9,743	9,743
	Sep	3,330	5,559	6,899	7,331	7,331	7,331	7,331	7,331	7,331
	Oct	5,355	7,095	8,026	8,429	8,429	8,429	8,429	8,429	8,429
	Nov	11,294	19,196	24,636	33,858	44,050	47,223	54,254	57,081	58,919
	Dec	10,913	21,418	30,860	47,105	60,094	63,375	73,069	78,214	83,147
1983	Jan	10,278	19,462	27,988	44,242	59,929	64,440	77,432	82,967	86,934

[brt94138.hma.daily]tablef2.wk1

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Feb	11,108	22,215	33,323	55,856	87,185	97,896	131,927	154,569	175,414
	Mar	12,298	24,595	36,893	62,411	98,225	110,079	148,919	175,637	199,175
	Apr	4,760	9,234	13,598	21,449	30,999	33,776	41,963	45,808	48,783
	May	4,364	8,727	13,091	22,146	34,910	39,273	54,546	65,456	76,048
	Jun	4,390	8,458	12,150	19,448	26,562	28,545	34,909	38,876	41,997
	Jul	2,075	3,804	5,391	8,429	10,432	10,432	10,432	10,432	10,432
	Aug	7,537	15,075	22,227	32,878	42,410	44,660	49,587	49,951	49,951
	Sep	6,596	12,910	18,861	29,942	40,899	43,279	47,739	48,813	49,101
	Oct	2,455	3,463	3,859	3,950	3,950	3,950	3,950	3,950	3,950
	Nov	1,654	2,844	3,654	4,477	4,589	4,589	4,589	4,589	4,589
	Dec	5,098	9,581	12,718	16,598	20,633	21,426	24,203	26,187	28,170
1984	Jan	0	0	0	0	0	0	0	0	0
	Feb	0	0	0	0	0	0	0	0	0
	Mar	3,249	6,207	8,598	13,412	19,214	21,197	27,176	31,143	34,317
	Apr	0	0	0	0	0	0	0	0	0
	May	397	793	1,190	2,013	3,168	3,168	3,168	3,168	3,168
	Jun	0	0	0	0	0	0	0	0	0
	Jul	0	0	0	0	0	0	0	0	0
	Aug	0	0	0	0	0	0	0	0	0
	Sep	1,221	1,228	1,228	1,228	1,228	1,228	1,228	1,228	1,228
	Oct	7,141	14,281	21,208	34,993	52,847	58,797	78,114	88,793	97,718
	Nov	11,901	23,802	35,325	54,834	78,839	86,376	109,408	122,849	134,965
	Dec	12,298	24,595	36,893	62,411	97,015	108,302	138,459	154,403	170,271
1985	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,099	182,851	211,536
	Feb	11,108	22,215	32,960	53,317	75,955	81,763	99,674	110,841	121,168
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,196	181,331	206,491
	Apr	7,209	13,095	17,855	26,193	35,140	37,313	43,268	46,507	48,924
	May	4,364	8,727	13,091	21,043	29,240	31,620	36,343	37,974	38,966
	Jun	3,174	5,878	7,275	8,772	8,973	8,973	8,973	8,973	8,973
	Jul	3,219	5,996	8,483	10,461	10,461	10,461	10,461	10,461	10,461
	Aug	0	0	0	0	0	0	0	0	0
	Sep	3,386	3,953	3,953	3,953	3,953	3,953	3,953	3,953	3,953
	Oct	8,730	15,536	21,763	32,632	43,749	47,319	57,819	62,660	65,765
	Nov	11,901	23,802	35,703	60,398	95,116	106,620	140,496	159,130	173,675
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
1986	Jan	12,298	24,595	36,893	62,411	96,124	104,561	122,562	125,561	127,180
	Feb	11,108	22,215	33,323	56,010	84,272	93,396	125,330	148,141	170,951
	Mar	5,112	9,872	14,316	22,060	29,652	32,032	36,632	37,285	37,285
	Apr	134	134	134	134	134	134	134	134	134
	May	8,727	17,455	25,923	39,357	54,527	58,580	72,459	79,996	85,632
	Jun	9,918	19,478	28,999	48,039	72,943	80,877	106,325	122,205	137,125
	Jul	12,298	24,595	36,893	62,186	86,626	91,072	100,364	101,898	101,991
	Aug	6,771	12,833	17,863	25,499	32,650	32,994	32,994	32,994	32,994
	Sep	10,514	19,543	28,270	46,319	70,686	79,017	104,767	121,069	133,593
	Oct	12,298	24,595	36,805	59,374	86,610	94,824	122,593	141,806	160,345
	Nov	11,901	23,802	35,703	60,398	95,208	107,109	148,763	177,407	203,345
	Dec	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
1987	Jan	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Feb	11,108	22,215	33,323	56,371	88,861	99,968	138,845	166,614	194,383
	Mar	12,298	24,595	36,893	62,411	98,382	110,679	153,721	184,466	215,210
	Apr	11,704	22,708	33,135	53,889	81,150	89,878	113,937	124,088	131,919
	May	453	850	1,246	2,069	2,504	2,504	2,504	2,504	2,504

[brt94138.hma.daily]tablef2.wk1

Table F-2

Brazos River Water Available for Diversion to Allens Creek Reservoir

(Acre-Feet per Month)

Year	Month	Diversion Pumping Capacities in Cubic-Feet per Second								
		200	400	600	1,015	1,600	1,800	2,500	3,000	3,500
	Jun	11,901	23,802	35,703	60,398	95,208	107,109	148,763	178,055	206,816
	Jul	12,298	24,595	36,893	62,411	98,382	110,679	153,620	181,660	207,911
	Aug	12,298	24,176	34,976	55,190	72,870	77,078	86,896	88,609	89,443
	Sep	11,901	22,596	29,376	35,284	37,138	37,242	37,242	37,242	37,242
	Oct	7,697	11,731	13,532	15,345	15,423	15,423	15,423	15,423	15,423
	Nov	7,433	13,417	18,342	25,147	31,456	33,348	38,901	42,564	44,753
	Dec	10,271	19,437	27,939	40,587	54,079	58,443	73,716	83,618	91,470
1988	Jan	11,999	22,585	31,667	46,923	61,932	64,835	70,150	72,560	74,544
	Feb	3,489	6,066	7,806	9,976	11,595	11,595	11,595	11,595	11,595
	Mar	3,938	6,611	8,991	12,559	16,040	17,230	21,395	23,401	25,384
	Apr	0	0	0	0	0	0	0	0	0
	May	0	0	0	0	0	0	0	0	0
	Jun	1,190	1,935	2,331	3,155	3,155	3,155	3,155	3,155	3,155
	Jul	3,457	6,130	7,717	10,239	11,004	11,004	11,004	11,004	11,004
	Aug	0	0	0	0	0	0	0	0	0
	Sep	0	0	0	0	0	0	0	0	0
	Oct	0	0	0	0	0	0	0	0	0
	Nov	0	0	0	0	0	0	0	0	0
	Dec	2,221	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
1989	Jan	2,380	4,760	6,968	11,084	16,091	17,678	21,913	24,888	27,863
	Feb	6,473	11,525	15,921	24,052	33,335	36,155	44,738	48,705	52,290
	Mar	1,266	2,456	3,646	6,116	8,613	9,407	12,183	14,167	16,150
	Apr	3,570	7,141	10,690	17,275	25,843	28,620	36,893	41,851	46,810
	May	5,951	11,901	17,852	28,944	44,029	48,974	65,636	77,537	89,438
	Jun	11,901	23,802	35,703	60,398	95,208	107,109	148,763	176,964	202,749
	Jul	6,706	12,775	18,600	29,714	44,118	48,152	61,032	68,986	75,335
	Aug	7,749	14,959	21,475	32,846	44,123	47,297	54,692	58,298	61,273
	Sep	7,182	12,404	12,590	12,590	12,590	12,590	12,590	12,590	12,590
	Oct	5,874	8,922	10,194	10,960	10,960	10,960	10,960	10,960	10,960
	Nov	1,157	1,157	1,157	1,157	1,157	1,157	1,157	1,157	1,157
	Dec	1,587	3,174	4,542	6,490	7,270	7,270	7,270	7,270	7,270

APPENDIX G

NET EVAPORATION DATA FOR ALLENS CREEK RESERVOIR

APPENDIX G

NET EVAPORATION DATA FOR ALLENS CREEK RESERVOIR

Net evaporation data are summarized in Table G-1. The data from 1947 to 1975 were taken from the URS/Forrest and Cotton reports on the Allens Creek site published in 1974 and 1977. The data from 1940 to 1946 and 1976 to 1989 were derived for the current study.

Both the URS/Forrest and Cotton data and the current data were calculated using the same method. From 1947 to 1966, evaporation data were taken from Texas Water Development Board Report 64, and data for the period from 1940 through 1945 and 1966 through 1989, were taken from the Texas Water Development Board Water Oriented Data Bank. Net evaporation at the reservoir site was computed by taking a weighted average of evaporation in TWDB evaporation quadrangles H-11, H-12, G-11 and G-12, with weighing factors dependent on the distance between the center of each evaporation quadrangle and the center of the reservoir.

Table G-1

Net Reservoir Evaporation for Allens Creek Reservoir
Values in Feet

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1940	0.06	-0.07	0.19	0.06	0.17	-0.06	0.29	0.47	0.4	0.1	-0.46	-0.2	0.95
1941	0.04	-0.06	-0.14	-0.2	0	-0.1	0.13	0.42	-0.07	-0.18	0.13	0.09	0.06
1942	0.14	0.01	0.12	-0.2	0.21	0.17	-0.12	0.19	0.18	0.24	0.11	0.02	1.07
1943	-0.04	0.11	0.03	0.23	0.06	0.3	0	0.47	0.16	0.29	-0.04	-0.12	1.45
1944	-0.38	0	-0.2	0.17	-0.3	0.36	0.48	0.22	0.18	0.36	-0.17	-0.18	0.54
1945	-0.03	-0.05	-0.05	-0.07	0.22	0.14	0.3	-0.19	0.33	0.05	0.23	-0.11	0.77
1946	-0.1	0.01	-0.07	0.07	-0.2	0.01	0.32	0.3	-0.03	0.08	-0.36	0.06	0.09
1947	-0.16	0.14	-0.03	0.11	-0.09	0.3	0.43	0.08	0.45	0.31	0	-0.14	1.4
1948	-0.05	-0.15	0.08	0.08	0.07	0.41	0.38	0.41	0.33	0.37	0.09	0.16	2.18
1949	-0.21	-0.24	-0.04	-0.19	0.28	0.22	0.14	0.39	0.24	-0.47	0.34	-0.24	0.22

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1950	0.01	-0.21	0.19	-0.16	0.13	0.02	0.34	0.56	0.2	0.41	0.33	0.19	2.01
1951	0.04	0.03	0.01	0.23	0.11	0.21	0.53	0.65	-0.07	0.38	0.24	0.15	2.51
1952	0.1	-0.15	0.12	-0.14	-0.07	0.41	0.24	0.6	0.43	0.62	-0.18	-0.03	1.95
1953	0.17	-0.07	0.16	0.09	-0.25	0.39	0.41	-0.03	0.41	0.18	0.11	-0.09	1.48
1954	0.02	0.27	0.23	0.02	0.14	0.49	0.47	0.58	0.56	0.2	0.21	0.21	3.4
1955	0.03	-0.2	0.26	0.11	0.09	0.35	0.34	0.25	0.24	0.57	0.37	0.16	2.57
1956	0.04	0.01	0.18	0.1	0.2	0.35	0.75	0.67	0.67	0.38	0.28	0.04	3.67
1957	0.14	0.01	-0.19	-0.3	0.14	0.03	0.44	0.47	0.13	-0.06	-0.1	0.15	0.86
1958	-0.11	-0.05	0.12	0.06	0.15	0.31	0.35	0.38	-0.32	0.1	0.11	0.09	1.19
1959	0.15	-0.22	0.21	-0.2	-0.04	0.35	0.21	0.12	0.28	0.05	0.21	-0.04	1.08
1960	0.02	-0.05	0.13	0.06	0.31	-0.14	0.28	0.05	0.41	-0.09	-0.04	-0.17	0.77
1961	-0.07	-0.13	0.14	0.14	0.27	-0.17	0.05	0.36	-0.16	0.38	-0.05	0.11	0.87
1962	0.04	0.1	0.2	-0.07	0.26	-0.02	0.54	0.56	0.11	0.24	0.07	-0.14	1.89
1963	0.04	-0.02	0.24	0.17	0.29	0.12	0.38	0.5	0.33	0.4	0.02	0.01	2.48
1964	-0.03	-0.03	0.05	0.16	0.21	0.34	0.41	0.41	-0.05	0.32	0.08	-0.03	1.84

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1965	0.03	-0.12	0.16	0.19	-0.1	0.31	0.51	0.4	0.28	0.2	-0.17	-0.24	1.45
1966	-0.03	-0.02	0.14	0	-0.04	0.24	0.41	0.3	0.23	0.35	0.23	0.1	1.91
1967	0.05	0.07	0.15	0.1	0.08	0.47	0.47	0.4	0.08	0.15	0.15	0.03	2.2
1968	-0.05	0.03	0.06	0.03	-0.01	-0.02	0.32	0.52	0.14	0.22	0.14	0.07	1.45
1969	0.09	-0.14	0.09	0.04	0.08	0.46	0.66	0.43	0.32	0.32	0.24	0.06	2.65
1970	-0.01	0	0.01	0.03	-0.03	0.39	0.42	0.47	0.03	0.01	0.31	0.11	1.74
1971	0.23	0.12	0.29	0.24	0.22	0.4	0.54	0.22	0.12	0.16	0.19	-0.03	2.7
1972	0.02	0.1	0.17	0.21	0.05	0.27	0.24	0.32	0.21	0.17	0.01	0.03	1.8
1973	-0.06	-0.04	0.02	-0.03	0.25	-0.01	0.34	0.27	0.08	0.04	0.21	0.09	1.16
1974	-0.09	0.2	0.12	0.23	0.15	0.38	0.45	0.16	0.1	0.14	0	0.01	1.85
1975	0.04	0.05	0.09	0.06	0.04	0.2	0.31	0.23	0.32	0.21	0.2	0.08	1.83
1976	0.13	0.21	0.08	0.04	0.15	0.21	0.16	0.43	0.17	0.07	0.01	-0.08	1.58
1977	-0.04	0.04	0.11	0.08	0.24	0.29	0.46	0.36	0.26	0.32	0.04	0.16	2.32
1978	-0.1	-0.06	0.24	0.25	0.32	0.26	0.44	0.49	0.08	0.4	-0.04	0.02	2.3
1979	-0.08	-0.08	0.07	-0.01	0.1	0.25	0.12	0.3	0.08	0.34	0.16	-0.01	1.24

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1980	-0.06	0.04	0.05	0.26	0.12	0.56	0.6	0.55	0.21	0.27	0.1	0.13	2.83
1981	0.02	0.04	0.13	0.15	0.12	0.07	0.29	0.33	0.28	0.08	0.07	0.12	1.7
1982	0.07	-0.01	0.08	0.08	0.07	0.37	0.56	0.52	0.45	0.18	-0.01	0.04	2.4
1983	0	-0.05	0.05	0.33	0.18	0.24	0.26	0.24	0.16	0.22	0.1	0.04	1.77
1984	0.02	0.08	0.15	0.39	0.25	0.35	0.39	0.4	0.34	-0.04	0.13	0.04	2.5
1985	0.08	0.09	0.09	0.16	0.27	0.3	0.41	0.63	0.32	0.17	0.12	0.15	2.79
1986	0.13	0.11	0.25	0.21	0.13	0.12	0.64	0.35	0.16	0.08	-0.04	-0.1	2.04
1987	0.06	-0.07	0.22	0.42	0.08	0.11	0.3	0.52	0.29	0.43	0.01	-0.03	2.34
1988	0.13	0.1	0.08	0.19	0.33	0.36	0.37	0.49	0.42	0.4	0.29	0.05	3.21
1989	-0.12	0.08	0.06	0.21	0.15	0.1	0.35	0.34	0.43	0.29	0.15	0.14	2.18
Avg.	0.01	0	0.1	0.08	0.11	0.23	0.36	0.37	0.22	0.21	0.08	0.02	1.79

APPENDIX H

ALLENS CREEK RESERVOIR QUALITY ROUTING STUDIES

BASED ON 50 YEARS OF HISTORICAL HYDROLOGIC CONDITIONS

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

MAXIMUM CAPACITY = 142892. ACRE-FEET.
STARTING CONTENT = 142892. ACRE-FEET.
CONSTANT DEMAND = 70000. ACRE-FEET PER YEAR.

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1940											
1	495.	3017.	6.	0.	60.	0.	6.	0.	139380.	117.6	120.
2	-577.	2793.	597.	5641.	103.	0.	510.	0.	142892.	118.0	119.
3	1566.	4053.	4.	0.	60.	0.	4.	0.	137273.	117.3	121.
4	494.	6734.	328.	12847.	100.	0.	328.	0.	142892.	118.0	119.
5	1403.	9107.	2168.	10510.	82.	0.	2168.	0.	142892.	118.0	117.
6	-495.	10787.	9031.	4319.	44.	0.	3058.	0.	142892.	118.0	110.
7	2393.	10738.	32496.	0.	18.	0.	17.	19348.	142892.	118.0	98.
8	3867.	8834.	12.	0.	60.	0.	12.	0.	130191.	116.5	101.
9	3276.	4382.	45.	0.	60.	0.	45.	0.	122533.	115.5	104.
10	819.	3227.	129.	10750.	146.	0.	129.	0.	129237.	116.3	108.
11	-3784.	3017.	13315.	0.	27.	0.	77.	350.	142892.	118.0	98.
12	-1650.	3311.	20866.	0.	23.	0.	216.	18989.	142892.	118.0	91.
	7807.	70000.	78997.	44067.		0.	6570.	38687.			
1941											
1	330.	3017.	3838.	0.	40.	0.	326.	165.	142892.	118.0	90.
2	-495.	2793.	3925.	0.	39.	0.	510.	1117.	142892.	118.0	88.
3	-1155.	4053.	10003.	0.	30.	0.	406.	6699.	142892.	118.0	85.
4	-1650.	6734.	4326.	3523.	47.	0.	2765.	0.	142892.	118.0	82.
5	0.	9107.	9546.	3907.	32.	0.	4346.	0.	142892.	118.0	77.
6	-825.	10787.	15001.	0.	26.	0.	3058.	1981.	142892.	118.0	72.
7	1073.	10738.	24488.	0.	21.	0.	17.	12660.	142892.	118.0	66.
8	3465.	8834.	199.	12299.	91.	0.	199.	0.	142892.	118.0	70.
9	-578.	4382.	33.	3804.	89.	0.	33.	0.	142892.	118.0	70.
10	-1485.	3227.	178.	1742.	133.	0.	178.	0.	142892.	118.0	70.
11	1073.	3017.	1363.	2804.	122.	0.	77.	0.	142892.	118.0	73.
12	743.	3311.	221.	4049.	96.	0.	216.	0.	142892.	118.0	74.
	496.	70000.	73121.	32128.		0.	12131.	22622.			
1942											
1	1155.	3017.	136.	4172.	159.	0.	136.	0.	142892.	118.0	77.
2	82.	2793.	137.	0.	60.	0.	137.	0.	140017.	117.7	77.
3	988.	4053.	124.	0.	60.	0.	124.	0.	134976.	117.0	77.
4	-1647.	6734.	8314.	7454.	45.	0.	2765.	0.	142892.	118.0	73.
5	1733.	9107.	377.	10840.	51.	0.	377.	0.	142892.	118.0	72.
6	1403.	10787.	306.	12190.	69.	0.	306.	0.	142892.	118.0	73.
7	-990.	10738.	516.	9249.	81.	0.	17.	0.	142892.	118.0	73.
8	1564.	8834.	13.	0.	60.	0.	13.	0.	132494.	116.7	73.
9	1482.	4382.	496.	16262.	52.	0.	496.	0.	142892.	118.0	72.
10	1980.	3227.	67.	5207.	129.	0.	67.	0.	142892.	118.0	75.
11	908.	3017.	451.	3551.	95.	0.	77.	0.	142892.	118.0	76.
12	165.	3311.	497.	3195.	86.	0.	216.	0.	142892.	118.0	76.
	8823.	70000.	11434.	72120.		0.	4731.	0.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1943											
1	-330.	3017.	1562.	1451.	72.	0.	326.	0.	142892.	118.0	76.
2	908.	2793.	181.	3701.	201.	0.	181.	0.	142892.	118.0	80.
3	248.	4053.	1369.	3338.	152.	0.	406.	0.	142892.	118.0	82.
4	1898.	6734.	257.	8632.	124.	0.	257.	0.	142892.	118.0	86.
5	494.	9107.	1058.	4530.	159.	0.	1058.	0.	137821.	117.4	89.
6	2469.	10787.	605.	13060.	58.	0.	605.	0.	137625.	117.4	88.
7	0.	10738.	15.	8450.	125.	0.	15.	0.	135337.	117.1	90.
8	3859.	8834.	1.	6750.	204.	0.	1.	0.	129394.	116.4	98.
9	1310.	4382.	111.	0.	60.	0.	111.	0.	123702.	115.7	99.
10	2379.	3227.	112.	18450.	74.	0.	112.	0.	136546.	117.2	98.
11	-329.	3017.	8.	5650.	128.	0.	8.	0.	139508.	117.6	98.
12	-989.	3311.	113.	5706.	85.	0.	113.	0.	142892.	118.0	97.
	11917.	70000.	5392.	79718.		0.	3193.	0.			
1944											
1	-3135.	3017.	6453.	0.	35.	0.	326.	6245.	142892.	118.0	94.
2	0.	2793.	5991.	0.	35.	0.	510.	2688.	142892.	118.0	92.
3	-1650.	4053.	5161.	0.	37.	0.	406.	2352.	142892.	118.0	89.
4	1403.	6734.	500.	8137.	52.	0.	500.	0.	142892.	118.0	88.
5	-2475.	9107.	5876.	5102.	29.	0.	4346.	0.	142892.	118.0	82.
6	2970.	10787.	647.	13757.	25.	0.	647.	0.	142892.	118.0	78.
7	3947.	10738.	97.	0.	60.	0.	17.	0.	128287.	116.2	81.
8	1799.	8834.	394.	0.	60.	0.	394.	0.	117654.	114.9	82.
9	1477.	4382.	1677.	30883.	105.	0.	1463.	0.	142892.	118.0	88.
10	2970.	3227.	2.	6197.	189.	0.	2.	0.	142892.	118.0	94.
11	-1403.	3017.	8256.	0.	32.	0.	77.	6565.	142892.	118.0	91.
12	-1485.	3311.	10465.	0.	30.	0.	216.	8423.	142892.	118.0	87.
	4418.	70000.	45519.	64076.		0.	8904.	26273.			
1945											
1	-248.	3017.	12861.	0.	28.	0.	326.	9766.	142892.	118.0	84.
2	-413.	2793.	3549.	0.	40.	0.	510.	659.	142892.	118.0	83.
3	-413.	4053.	1945.	2101.	48.	0.	406.	0.	142892.	118.0	81.
4	-578.	6734.	10441.	0.	29.	0.	2765.	1520.	142892.	118.0	78.
5	1815.	9107.	933.	10922.	61.	0.	933.	0.	142892.	118.0	77.
6	1155.	10787.	3397.	11603.	54.	0.	3058.	0.	142892.	118.0	76.
7	2475.	10738.	297.	12933.	93.	0.	17.	0.	142892.	118.0	79.
8	-1568.	8834.	6714.	1437.	38.	0.	885.	0.	142892.	118.0	75.
9	2723.	4382.	1293.	7105.	55.	0.	1293.	0.	142892.	118.0	76.
10	413.	3227.	3773.	1546.	48.	0.	1679.	0.	142892.	118.0	75.
11	1898.	3017.	253.	4739.	85.	0.	77.	0.	142892.	118.0	76.
12	-908.	3311.	811.	1808.	75.	0.	216.	0.	142892.	118.0	76.
	6351.	70000.	46267.	54194.		0.	12165.	11945.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1946											
1	-825.	3017.	5845.	0.	36.	0.	326.	3327.	142892.	118.0	74.
2	83.	2793.	4928.	0.	37.	0.	510.	1542.	142892.	118.0	73.
3	-578.	4053.	13612.	0.	27.	0.	406.	9731.	142892.	118.0	70.
4	578.	6734.	1276.	7312.	52.	0.	1276.	0.	142892.	118.0	69.
5	-1650.	9107.	4121.	7457.	33.	0.	4121.	0.	142892.	118.0	66.
6	83.	10787.	2239.	10870.	38.	0.	2239.	0.	142892.	118.0	63.
7	2640.	10738.	70.	13325.	89.	0.	17.	0.	142892.	118.0	67.
8	2469.	8834.	0.	0.	0.	0.	0.	0.	131589.	116.6	68.
9	-246.	4382.	515.	0.	60.	0.	515.	0.	127453.	116.1	68.
10	658.	3227.	664.	19324.	260.	0.	664.	0.	142892.	118.0	95.
11	-2970.	3017.	9568.	0.	30.	0.	77.	9444.	142892.	118.0	91.
12	495.	3311.	1332.	2690.	79.	0.	216.	0.	142892.	118.0	91.
	737.	70000.	44170.	60978.		0.	10367.	24044.			
1947											
1	-1320.	3017.	9388.	0.	31.	0.	326.	7365.	142892.	118.0	87.
2	1155.	2793.	150.	3948.	105.	0.	150.	0.	142892.	118.0	89.
3	-248.	4053.	1512.	2699.	55.	0.	406.	0.	142892.	118.0	87.
4	908.	6734.	128.	7642.	72.	0.	128.	0.	142892.	118.0	87.
5	-743.	9107.	5968.	6742.	86.	0.	4346.	0.	142892.	118.0	87.
6	2475.	10787.	226.	13262.	232.	0.	226.	0.	142892.	118.0	101.
7	3536.	10738.	309.	0.	60.	0.	309.	0.	128618.	116.3	104.
8	657.	8834.	2313.	19150.	58.	0.	885.	0.	139705.	117.6	98.
9	3710.	4382.	536.	11279.	104.	0.	536.	0.	142892.	118.0	101.
10	2555.	3227.	145.	1780.	206.	0.	145.	0.	138890.	117.5	104.
11	0.	3017.	579.	6517.	145.	0.	77.	0.	142892.	118.0	106.
12	-1155.	3311.	5278.	0.	37.	0.	216.	2906.	142892.	118.0	103.
	11530.	70000.	26532.	73019.		0.	7750.	10271.			
1948											
1	-412.	3017.	984.	410.	74.	0.	326.	0.	141355.	117.8	103.
2	-1237.	2793.	1478.	2125.	106.	0.	510.	0.	142892.	118.0	102.
3	660.	4053.	1083.	4036.	61.	0.	406.	0.	142892.	118.0	101.
4	660.	6734.	362.	7394.	172.	0.	362.	0.	142892.	118.0	105.
5	577.	9107.	613.	7290.	84.	0.	613.	0.	140498.	117.7	104.
6	3368.	10787.	70.	0.	60.	0.	70.	0.	126343.	116.0	107.
7	3107.	10738.	28.	7290.	111.	0.	17.	0.	119799.	115.2	110.
8	3335.	8834.	19.	0.	60.	0.	19.	0.	107630.	113.7	113.
9	2672.	4382.	35.	0.	60.	0.	35.	0.	100576.	112.8	116.
10	2987.	3227.	68.	650.	277.	0.	68.	0.	95012.	112.1	121.
11	725.	3017.	407.	0.	60.	0.	77.	0.	91600.	111.7	122.
12	1286.	3311.	15.	0.	60.	0.	15.	0.	87003.	111.1	123.
	17728.	70000.	5162.	29195.		0.	2518.	0.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

NUMBER OF MONTHS OF DATA = 600

	QUALITY
AVERAGES	100.
STD.DEV. SAMPLE	36.

RANK	% TIME < =	QUALITY (MG/L)
1	.17	49.
2	.33	50.
3	.50	50.
4	.67	50.
5	.83	50.
6	1.00	50.
7	1.17	51.
8	1.33	51.
9	1.50	51.
10	1.67	51.
11	1.83	52.
12	2.00	52.
13	2.17	53.
14	2.33	53.
15	2.50	53.
16	2.67	54.
17	2.83	54.
18	3.00	55.
19	3.17	55.
20	3.33	55.
21	3.50	56.
22	3.67	56.
23	3.83	56.
24	4.00	58.
25	4.17	59.
26	4.33	59.
27	4.50	59.
28	4.67	60.
29	4.83	61.
30	5.00	62.
31	5.17	63.
32	5.33	63.
33	5.50	63.
34	5.67	64.
35	5.83	64.
36	6.00	64.
37	6.17	65.
38	6.33	65.
39	6.50	65.
40	6.67	65.
41	6.83	65.
42	7.00	66.
43	7.17	66.
44	7.33	67.
45	7.50	67.
46	7.67	67.
47	7.83	67.
48	8.00	67.
49	8.17	67.
50	8.33	67.
51	8.50	68.
52	8.67	68.
53	8.83	68.
54	9.00	69.
55	9.17	69.
56	9.33	69.
57	9.50	70.
58	9.67	70.
59	9.83	70.
60	10.00	70.
61	10.17	70.
62	10.33	71.
63	10.50	71.
64	10.67	71.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
65	10.83	71.
66	11.00	71.
67	11.17	71.
68	11.33	72.
69	11.50	72.
70	11.67	72.
71	11.83	72.
72	12.00	72.
73	12.17	72.
74	12.33	72.
75	12.50	73.
76	12.67	73.
77	12.83	73.
78	13.00	73.
79	13.17	73.
80	13.33	73.
81	13.50	73.
82	13.67	73.
83	13.83	73.
84	14.00	73.
85	14.17	73.
86	14.33	73.
87	14.50	73.
88	14.67	73.
89	14.83	73.
90	15.00	73.
91	15.17	73.
92	15.33	73.
93	15.50	73.
94	15.67	74.
95	15.83	74.
96	16.00	74.
97	16.17	74.
98	16.33	74.
99	16.50	74.
100	16.67	75.
101	16.83	75.
102	17.00	75.
103	17.17	75.
104	17.33	75.
105	17.50	75.
106	17.67	75.
107	17.83	76.
108	18.00	76.
109	18.17	76.
110	18.33	76.
111	18.50	76.
112	18.67	76.
113	18.83	76.
114	19.00	76.
115	19.17	76.
116	19.33	76.
117	19.50	76.
118	19.67	76.
119	19.83	76.
120	20.00	76.
121	20.17	76.
122	20.33	77.
123	20.50	77.
124	20.67	77.
125	20.83	77.
126	21.00	77.
127	21.17	77.
128	21.33	77.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
129	21.50	77.
130	21.67	77.
131	21.83	77.
132	22.00	77.
133	22.17	77.
134	22.33	77.
135	22.50	77.
136	22.67	78.
137	22.83	78.
138	23.00	78.
139	23.17	78.
140	23.33	78.
141	23.50	78.
142	23.67	78.
143	23.83	78.
144	24.00	79.
145	24.17	79.
146	24.33	79.
147	24.50	79.
148	24.67	79.
149	24.83	79.
150	25.00	79.
151	25.17	79.
152	25.33	79.
153	25.50	80.
154	25.67	80.
155	25.83	80.
156	26.00	80.
157	26.17	80.
158	26.33	80.
159	26.50	80.
160	26.67	80.
161	26.83	80.
162	27.00	80.
163	27.17	80.
164	27.33	80.
165	27.50	81.
166	27.67	81.
167	27.83	81.
168	28.00	81.
169	28.17	81.
170	28.33	81.
171	28.50	81.
172	28.67	81.
173	28.83	82.
174	29.00	82.
175	29.17	82.
176	29.33	82.
177	29.50	82.
178	29.67	82.
179	29.83	82.
180	30.00	82.
181	30.17	82.
182	30.33	82.
183	30.50	82.
184	30.67	82.
185	30.83	83.
186	31.00	83.
187	31.17	83.
188	31.33	83.
189	31.50	83.
190	31.67	83.
191	31.83	83.
192	32.00	83.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
193	32.17	83.
194	32.33	83.
195	32.50	83.
196	32.67	83.
197	32.83	84.
198	33.00	84.
199	33.17	84.
200	33.33	84.
201	33.50	84.
202	33.67	84.
203	33.83	84.
204	34.00	84.
205	34.17	84.
206	34.33	84.
207	34.50	84.
208	34.67	85.
209	34.83	85.
210	35.00	85.
211	35.17	85.
212	35.33	85.
213	35.50	85.
214	35.67	85.
215	35.83	85.
216	36.00	85.
217	36.17	85.
218	36.33	85.
219	36.50	85.
220	36.67	85.
221	36.83	86.
222	37.00	86.
223	37.17	86.
224	37.33	86.
225	37.50	86.
226	37.67	86.
227	37.83	86.
228	38.00	86.
229	38.17	87.
230	38.33	87.
231	38.50	87.
232	38.67	87.
233	38.83	87.
234	39.00	87.
235	39.17	87.
236	39.33	87.
237	39.50	87.
238	39.67	87.
239	39.83	87.
240	40.00	88.
241	40.17	88.
242	40.33	88.
243	40.50	88.
244	40.67	88.
245	40.83	88.
246	41.00	88.
247	41.17	88.
248	41.33	88.
249	41.50	88.
250	41.67	88.
251	41.83	88.
252	42.00	88.
253	42.17	88.
254	42.33	88.
255	42.50	88.
256	42.67	88.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
257	42.83	88.
258	43.00	89.
259	43.17	89.
260	43.33	89.
261	43.50	89.
262	43.67	89.
263	43.83	89.
264	44.00	89.
265	44.17	89.
266	44.33	89.
267	44.50	90.
268	44.67	90.
269	44.83	90.
270	45.00	90.
271	45.17	90.
272	45.33	90.
273	45.50	90.
274	45.67	90.
275	45.83	90.
276	46.00	90.
277	46.17	90.
278	46.33	91.
279	46.50	91.
280	46.67	91.
281	46.83	91.
282	47.00	91.
283	47.17	91.
284	47.33	91.
285	47.50	91.
286	47.67	91.
287	47.83	91.
288	48.00	91.
289	48.17	91.
290	48.33	91.
291	48.50	92.
292	48.67	92.
293	48.83	92.
294	49.00	92.
295	49.17	92.
296	49.33	92.
297	49.50	92.
298	49.67	93.
299	49.83	93.
300	50.00	94.
301	50.17	94.
302	50.33	94.
303	50.50	94.
304	50.67	94.
305	50.83	94.
306	51.00	94.
307	51.17	95.
308	51.33	95.
309	51.50	95.
310	51.67	95.
311	51.83	96.
312	52.00	96.
313	52.17	96.
314	52.33	97.
315	52.50	97.
316	52.67	97.
317	52.83	97.
318	53.00	97.
319	53.17	97.
320	53.33	97.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
321	53.50	98.
322	53.67	98.
323	53.83	98.
324	54.00	98.
325	54.17	98.
326	54.33	98.
327	54.50	98.
328	54.67	98.
329	54.83	98.
330	55.00	98.
331	55.17	98.
332	55.33	98.
333	55.50	98.
334	55.67	98.
335	55.83	99.
336	56.00	99.
337	56.17	99.
338	56.33	99.
339	56.50	99.
340	56.67	99.
341	56.83	99.
342	57.00	99.
343	57.17	99.
344	57.33	100.
345	57.50	100.
346	57.67	100.
347	57.83	100.
348	58.00	100.
349	58.17	100.
350	58.33	100.
351	58.50	101.
352	58.67	101.
353	58.83	101.
354	59.00	101.
355	59.17	101.
356	59.33	101.
357	59.50	101.
358	59.67	101.
359	59.83	101.
360	60.00	101.
361	60.17	102.
362	60.33	102.
363	60.50	102.
364	60.67	102.
365	60.83	102.
366	61.00	102.
367	61.17	102.
368	61.33	103.
369	61.50	103.
370	61.67	103.
371	61.83	103.
372	62.00	103.
373	62.17	103.
374	62.33	103.
375	62.50	103.
376	62.67	103.
377	62.83	103.
378	63.00	103.
379	63.17	103.
380	63.33	104.
381	63.50	104.
382	63.67	104.
383	63.83	104.
384	64.00	104.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
385	64.17	104.
386	64.33	104.
387	64.50	104.
388	64.67	104.
389	64.83	104.
390	65.00	105.
391	65.17	105.
392	65.33	105.
393	65.50	106.
394	65.67	106.
395	65.83	106.
396	66.00	106.
397	66.17	106.
398	66.33	106.
399	66.50	106.
400	66.67	106.
401	66.83	107.
402	67.00	107.
403	67.17	107.
404	67.33	107.
405	67.50	107.
406	67.67	107.
407	67.83	107.
408	68.00	108.
409	68.17	108.
410	68.33	109.
411	68.50	109.
412	68.67	109.
413	68.83	110.
414	69.00	110.
415	69.17	110.
416	69.33	110.
417	69.50	110.
418	69.67	110.
419	69.83	110.
420	70.00	111.
421	70.17	111.
422	70.33	111.
423	70.50	111.
424	70.67	111.
425	70.83	111.
426	71.00	111.
427	71.17	111.
428	71.33	112.
429	71.50	112.
430	71.67	112.
431	71.83	112.
432	72.00	112.
433	72.17	112.
434	72.33	112.
435	72.50	112.
436	72.67	112.
437	72.83	112.
438	73.00	112.
439	73.17	113.
440	73.33	113.
441	73.50	113.
442	73.67	113.
443	73.83	113.
444	74.00	113.
445	74.17	113.
446	74.33	113.
447	74.50	113.
448	74.67	113.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
449	74.83	113.
450	75.00	113.
451	75.17	113.
452	75.33	114.
453	75.50	114.
454	75.67	114.
455	75.83	114.
456	76.00	114.
457	76.17	114.
458	76.33	114.
459	76.50	114.
460	76.67	114.
461	76.83	115.
462	77.00	115.
463	77.17	115.
464	77.33	115.
465	77.50	115.
466	77.67	115.
467	77.83	115.
468	78.00	115.
469	78.17	115.
470	78.33	116.
471	78.50	116.
472	78.67	116.
473	78.83	116.
474	79.00	116.
475	79.17	116.
476	79.33	116.
477	79.50	116.
478	79.67	116.
479	79.83	116.
480	80.00	117.
481	80.17	117.
482	80.33	117.
483	80.50	118.
484	80.67	118.
485	80.83	118.
486	81.00	118.
487	81.17	118.
488	81.33	118.
489	81.50	119.
490	81.67	119.
491	81.83	119.
492	82.00	119.
493	82.17	119.
494	82.33	120.
495	82.50	120.
496	82.67	120.
497	82.83	120.
498	83.00	120.
499	83.17	120.
500	83.33	121.
501	83.50	121.
502	83.67	121.
503	83.83	121.
504	84.00	121.
505	84.17	121.
506	84.33	121.
507	84.50	121.
508	84.67	122.
509	84.83	122.
510	85.00	122.
511	85.17	122.
512	85.33	122.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
513	85.50	122.
514	85.67	123.
515	85.83	123.
516	86.00	123.
517	86.17	123.
518	86.33	123.
519	86.50	123.
520	86.67	124.
521	86.83	124.
522	87.00	124.
523	87.17	124.
524	87.33	124.
525	87.50	125.
526	87.67	125.
527	87.83	125.
528	88.00	126.
529	88.17	126.
530	88.33	126.
531	88.50	126.
532	88.67	127.
533	88.83	128.
534	89.00	128.
535	89.17	128.
536	89.33	129.
537	89.50	129.
538	89.67	129.
539	89.83	129.
540	90.00	130.
541	90.17	130.
542	90.33	130.
543	90.50	130.
544	90.67	130.
545	90.83	130.
546	91.00	130.
547	91.17	131.
548	91.33	131.
549	91.50	132.
550	91.67	132.
551	91.83	133.
552	92.00	134.
553	92.17	134.
554	92.33	134.
555	92.50	135.
556	92.67	135.
557	92.83	135.
558	93.00	135.
559	93.17	136.
560	93.33	136.
561	93.50	137.
562	93.67	138.
563	93.83	138.
564	94.00	138.
565	94.17	139.
566	94.33	140.
567	94.50	140.
568	94.67	140.
569	94.83	142.
570	95.00	142.
571	95.17	144.
572	95.33	144.
573	95.50	145.
574	95.67	147.
575	95.83	149.
576	96.00	152.

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
577	96.17	159.
578	96.33	164.
579	96.50	164.
580	96.67	167.
581	96.83	167.
582	97.00	169.
583	97.17	181.
584	97.33	203.
585	97.50	212.
586	97.67	214.
587	97.83	216.
588	98.00	216.
589	98.17	216.
590	98.33	218.
591	98.50	218.
592	98.67	225.
593	98.83	243.
594	99.00	264.
595	99.17	292.
596	99.33	312.
597	99.50	323.
598	99.67	329.
599	99.83	333.
600	100.00	334.

NOTE: Standard deviation of sample is NOT an unbiased estimator.

(see pp. 376-382 of Benjamin & Cornell.) - Tom Gooch.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

MAXIMUM CAPACITY = 142892. ACRE-FEET.
STARTING CONTENT = 142892. ACRE-FEET.
CONSTANT DEMAND = 70000. ACRE-FEET PER YEAR.

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1940											
1	495.	3017.	6.	0.	300.	0.	6.	0.	139380.	117.6	482.
2	-577.	2793.	597.	5641.	433.	0.	510.	0.	142892.	118.0	478.
3	1566.	4053.	4.	0.	300.	0.	4.	0.	137273.	117.3	483.
4	494.	6734.	328.	12847.	426.	0.	328.	0.	142892.	118.0	479.
5	1403.	9107.	2168.	10510.	379.	0.	2168.	0.	142892.	118.0	475.
6	-495.	10787.	9031.	4319.	262.	0.	3058.	0.	142892.	118.0	455.
7	2393.	10738.	32496.	0.	160.	0.	17.	19348.	142892.	118.0	418.
8	3867.	8834.	12.	0.	300.	0.	12.	0.	130191.	116.5	430.
9	3276.	4382.	45.	0.	300.	0.	45.	0.	122533.	115.5	441.
10	819.	3227.	129.	10750.	551.	0.	129.	0.	129237.	116.3	453.
11	-3784.	3017.	13315.	0.	203.	0.	77.	350.	142892.	118.0	418.
12	-1650.	3311.	20866.	0.	182.	0.	216.	18989.	142892.	118.0	396.
	7807.	70000.	78997.	44067.		0.	6570.	38687.			
1941											
1	330.	3017.	3838.	0.	267.	0.	326.	165.	142892.	118.0	393.
2	-495.	2793.	3925.	0.	260.	0.	510.	1117.	142892.	118.0	389.
3	-1155.	4053.	10003.	0.	219.	0.	406.	6699.	142892.	118.0	378.
4	-1650.	6734.	4326.	3523.	281.	0.	2765.	0.	142892.	118.0	369.
5	0.	9107.	9546.	3907.	228.	0.	4346.	0.	142892.	118.0	356.
6	-825.	10787.	15001.	0.	197.	0.	3058.	1981.	142892.	118.0	339.
7	1073.	10738.	24488.	0.	174.	0.	17.	12660.	142892.	118.0	322.
8	3465.	8834.	199.	12299.	402.	0.	199.	0.	142892.	118.0	336.
9	-578.	4382.	33.	3804.	396.	0.	33.	0.	142892.	118.0	336.
10	-1485.	3227.	178.	1742.	524.	0.	178.	0.	142892.	118.0	336.
11	1073.	3017.	1363.	2804.	540.	0.	77.	0.	142892.	118.0	344.
12	743.	3311.	221.	4049.	495.	0.	216.	0.	142892.	118.0	350.
	496.	70000.	73121.	32128.		0.	12131.	22622.			
1942											
1	1155.	3017.	136.	4172.	657.	0.	136.	0.	142892.	118.0	362.
2	82.	2793.	137.	0.	300.	0.	137.	0.	140017.	117.7	362.
3	988.	4053.	124.	0.	300.	0.	124.	0.	134976.	117.0	365.
4	-1647.	6734.	8314.	7454.	263.	0.	2765.	0.	142892.	118.0	350.
5	1733.	9107.	377.	10840.	287.	0.	377.	0.	142892.	118.0	349.
6	1403.	10787.	306.	12190.	345.	0.	306.	0.	142892.	118.0	352.
7	-990.	10738.	516.	9249.	403.	0.	17.	0.	142892.	118.0	353.
8	1564.	8834.	13.	0.	300.	0.	13.	0.	132494.	116.7	357.
9	1482.	4382.	496.	16262.	281.	0.	496.	0.	142892.	118.0	352.
10	1980.	3227.	67.	5207.	474.	0.	67.	0.	142892.	118.0	361.
11	908.	3017.	451.	3551.	435.	0.	77.	0.	142892.	118.0	366.
12	165.	3311.	497.	3195.	452.	0.	216.	0.	142892.	118.0	368.
	8823.	70000.	11434.	72120.		0.	4731.	0.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1943											
1	-330.	3017.	1562.	1451.	337.	0.	326.	0.	142892.	118.0	367.
2	908.	2793.	181.	3701.	714.	0.	181.	0.	142892.	118.0	378.
3	248.	4053.	1369.	3338.	545.	0.	406.	0.	142892.	118.0	384.
4	1898.	6734.	257.	8632.	521.	0.	257.	0.	142892.	118.0	398.
5	494.	9107.	1058.	4530.	446.	0.	1058.	0.	137821.	117.4	401.
6	2469.	10787.	605.	13060.	221.	0.	605.	0.	137625.	117.4	391.
7	0.	10738.	15.	8450.	426.	0.	15.	0.	135337.	117.1	393.
8	3859.	8834.	1.	6750.	997.	0.	1.	0.	129394.	116.4	435.
9	1310.	4382.	111.	0.	300.	0.	111.	0.	123702.	115.7	439.
10	2379.	3227.	112.	18450.	389.	0.	112.	0.	136546.	117.2	440.
11	-329.	3017.	8.	5650.	502.	0.	8.	0.	139508.	117.6	441.
12	-989.	3311.	113.	5706.	386.	0.	113.	0.	142892.	118.0	436.
	11917.	70000.	5392.	79718.		0.	3193.	0.			
1944											
1	-3135.	3017.	6453.	0.	241.	0.	326.	6245.	142892.	118.0	422.
2	0.	2793.	5991.	0.	241.	0.	510.	2688.	142892.	118.0	416.
3	-1650.	4053.	5161.	0.	252.	0.	406.	2352.	142892.	118.0	407.
4	1403.	6734.	500.	8137.	325.	0.	500.	0.	142892.	118.0	406.
5	-2475.	9107.	5876.	5102.	221.	0.	4346.	0.	142892.	118.0	386.
6	2970.	10787.	647.	13757.	234.	0.	647.	0.	142892.	118.0	379.
7	3947.	10738.	97.	0.	300.	0.	17.	0.	128287.	116.2	390.
8	1799.	8834.	394.	0.	300.	0.	394.	0.	117654.	114.9	396.
9	1477.	4382.	1677.	30883.	410.	0.	1463.	0.	142892.	118.0	403.
10	2970.	3227.	2.	6197.	623.	0.	2.	0.	142892.	118.0	421.
11	-1403.	3017.	8256.	0.	227.	0.	77.	6565.	142892.	118.0	410.
12	-1485.	3311.	10465.	0.	216.	0.	216.	8423.	142892.	118.0	397.
	4418.	70000.	45519.	64076.		0.	8904.	26273.			
1945											
1	-248.	3017.	12861.	0.	206.	0.	326.	9766.	142892.	118.0	386.
2	-413.	2793.	3549.	0.	265.	0.	510.	659.	142892.	118.0	383.
3	-413.	4053.	1945.	2101.	298.	0.	406.	0.	142892.	118.0	379.
4	-578.	6734.	10441.	0.	215.	0.	2765.	1520.	142892.	118.0	367.
5	1815.	9107.	933.	10922.	338.	0.	933.	0.	142892.	118.0	369.
6	1155.	10787.	3397.	11603.	300.	0.	3058.	0.	142892.	118.0	365.
7	2475.	10738.	297.	12933.	394.	0.	17.	0.	142892.	118.0	374.
8	-1568.	8834.	6714.	1437.	239.	0.	885.	0.	142892.	118.0	362.
9	2723.	4382.	1293.	7105.	281.	0.	1293.	0.	142892.	118.0	364.
10	413.	3227.	3773.	1546.	289.	0.	1679.	0.	142892.	118.0	363.
11	1898.	3017.	253.	4739.	421.	0.	77.	0.	142892.	118.0	369.
12	-908.	3311.	811.	1808.	332.	0.	216.	0.	142892.	118.0	366.
	6351.	70000.	46267.	54194.		0.	12165.	11945.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1946											
1	-825.	3017.	5845.	0.	246.	0.	326.	3327.	142892.	118.0	361.
2	83.	2793.	4928.	0.	249.	0.	510.	1542.	142892.	118.0	358.
3	-578.	4053.	13612.	0.	203.	0.	406.	9731.	142892.	118.0	347.
4	578.	6734.	1276.	7312.	320.	0.	1276.	0.	142892.	118.0	347.
5	-1650.	9107.	4121.	7457.	242.	0.	4121.	0.	142892.	118.0	335.
6	83.	10787.	2239.	10870.	248.	0.	2239.	0.	142892.	118.0	328.
7	2640.	10738.	70.	13325.	437.	0.	17.	0.	142892.	118.0	343.
8	2469.	8834.	0.	0.	0.	0.	0.	0.	131589.	116.6	350.
9	-246.	4382.	515.	0.	300.	0.	515.	0.	127453.	116.1	349.
10	658.	3227.	664.	19324.	780.	0.	664.	0.	142892.	118.0	410.
11	-2970.	3017.	9568.	0.	219.	0.	77.	9444.	142892.	118.0	395.
12	495.	3311.	1332.	2690.	382.	0.	216.	0.	142892.	118.0	396.
	737.	70000.	44170.	60978.		0.	10367.	24044.			
1947											
1	-1320.	3017.	9388.	0.	222.	0.	326.	7365.	142892.	118.0	386.
2	1155.	2793.	150.	3948.	490.	0.	150.	0.	142892.	118.0	392.
3	-248.	4053.	1512.	2699.	315.	0.	406.	0.	142892.	118.0	389.
4	908.	6734.	128.	7642.	393.	0.	128.	0.	142892.	118.0	392.
5	-743.	9107.	5968.	6742.	381.	0.	4346.	0.	142892.	118.0	389.
6	2475.	10787.	226.	13262.	764.	0.	226.	0.	142892.	118.0	429.
7	3536.	10738.	309.	0.	300.	0.	309.	0.	128618.	116.3	440.
8	657.	8834.	2313.	19150.	260.	0.	885.	0.	139705.	117.6	416.
9	3710.	4382.	536.	11279.	419.	0.	536.	0.	142892.	118.0	427.
10	2555.	3227.	145.	1780.	769.	0.	145.	0.	138890.	117.5	439.
11	0.	3017.	579.	6517.	571.	0.	77.	0.	142892.	118.0	445.
12	-1155.	3311.	5278.	0.	251.	0.	216.	2906.	142892.	118.0	437.
	11530.	70000.	26532.	73019.		0.	7750.	10271.			
1948											
1	-412.	3017.	984.	410.	363.	0.	326.	0.	141355.	117.8	435.
2	-1237.	2793.	1478.	2125.	428.	0.	510.	0.	142892.	118.0	431.
3	660.	4053.	1083.	4036.	327.	0.	406.	0.	142892.	118.0	429.
4	660.	6734.	362.	7394.	481.	0.	362.	0.	142892.	118.0	434.
5	577.	9107.	613.	7290.	389.	0.	613.	0.	140498.	117.7	433.
6	3368.	10787.	70.	0.	300.	0.	70.	0.	126343.	116.0	444.
7	3107.	10738.	28.	7290.	446.	0.	17.	0.	119799.	115.2	455.
8	3335.	8834.	19.	0.	300.	0.	19.	0.	107630.	113.7	469.
9	2672.	4382.	35.	0.	300.	0.	35.	0.	100576.	112.8	481.
10	2987.	3227.	68.	650.	925.	0.	68.	0.	95012.	112.1	499.
11	725.	3017.	407.	0.	300.	0.	77.	0.	91600.	111.7	502.
12	1286.	3311.	15.	0.	300.	0.	15.	0.	87003.	111.1	509.
	17728.	70000.	5162.	29195.		0.	2518.	0.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1949											
1	-1685.	3017.	846.	0.	300.	0.	846.	0.	85671.	111.0	498.
2	-1932.	2793.	2903.	10950.	416.	0.	106.	0.	98557.	112.6	477.
3	-327.	4053.	2741.	45726.	251.	0.	406.	0.	142892.	118.0	400.
4	-1568.	6734.	7514.	417.	231.	0.	2765.	0.	142892.	118.0	387.
5	2310.	9107.	438.	11417.	243.	0.	438.	0.	142892.	118.0	381.
6	1815.	10787.	102.	12602.	799.	0.	102.	0.	142892.	118.0	422.
7	1155.	10738.	1358.	10552.	600.	0.	17.	0.	142892.	118.0	439.
8	3209.	8834.	725.	0.	300.	0.	725.	0.	130849.	116.5	449.
9	1967.	4382.	1687.	0.	300.	0.	1687.	0.	124500.	115.8	454.
10	-3862.	3227.	9764.	9672.	381.	0.	1679.	0.	142892.	118.0	432.
11	2805.	3017.	90.	5809.	402.	0.	77.	0.	142892.	118.0	439.
12	-1980.	3311.	8481.	0.	227.	0.	216.	6934.	142892.	118.0	426.
	1907.	70000.	36649.	107145.		0.	9064.	6934.			
1950											
1	83.	3017.	1924.	1502.	316.	0.	326.	0.	142892.	118.0	424.
2	-1733.	2793.	4973.	0.	249.	0.	510.	3403.	142892.	118.0	415.
3	1568.	4053.	320.	5621.	332.	0.	320.	0.	142892.	118.0	416.
4	-1320.	6734.	795.	5414.	256.	0.	795.	0.	142892.	118.0	405.
5	1073.	9107.	941.	10180.	289.	0.	941.	0.	142892.	118.0	400.
6	165.	10787.	6864.	7146.	268.	0.	3058.	0.	142892.	118.0	388.
7	2797.	10738.	692.	0.	300.	0.	692.	0.	129357.	116.4	395.
8	4577.	8834.	113.	0.	300.	0.	113.	0.	115946.	114.7	410.
9	1637.	4382.	615.	25690.	523.	0.	615.	0.	135617.	117.1	436.
10	3377.	3227.	165.	13879.	899.	0.	165.	0.	142892.	118.0	492.
11	2720.	3017.	12.	1640.	892.	0.	12.	0.	138795.	117.5	506.
12	1563.	3311.	32.	350.	793.	0.	32.	0.	134271.	117.0	512.
	16507.	70000.	17446.	71422.		0.	7579.	3403.			
1951											
1	328.	3017.	81.	0.	300.	0.	81.	0.	130926.	116.5	514.
2	246.	2793.	40.	0.	300.	0.	40.	0.	127887.	116.2	514.
3	82.	4053.	1151.	0.	300.	0.	406.	0.	124497.	115.8	513.
4	1880.	6734.	146.	5860.	363.	0.	146.	0.	121743.	115.4	513.
5	896.	9107.	52.	0.	300.	0.	52.	0.	111740.	114.2	517.
6	1702.	10787.	73.	0.	300.	0.	73.	0.	99251.	112.7	525.
7	4266.	10738.	23.	0.	300.	0.	23.	0.	84247.	110.8	550.
8	5183.	8834.	66.	0.	300.	0.	66.	0.	70230.	109.0	588.
9	-553.	4382.	1336.	0.	300.	0.	1336.	0.	66401.	108.5	578.
10	2994.	3227.	178.	4350.	808.	0.	0.	0.	64708.	108.3	620.
11	1884.	3017.	84.	0.	300.	0.	84.	0.	59807.	107.7	639.
12	1169.	3311.	114.	0.	300.	0.	0.	0.	55441.	107.1	651.
	20077.	70000.	3344.	10210.		0.	2307.	0.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1952											
1	774.	3017.	25.	0.	300.	0.	0.	0.	51675.	106.7	660.
2	-1156.	2793.	801.	0.	300.	0.	106.	0.	50733.	106.5	640.
3	921.	4053.	159.	0.	300.	0.	31.	0.	45887.	105.9	651.
4	-1105.	6734.	10227.	38140.	247.	0.	54.	0.	88571.	111.3	431.
5	-563.	9107.	5058.	9520.	237.	0.	4346.	0.	90259.	111.5	399.
6	3304.	10787.	600.	20720.	211.	0.	600.	0.	96888.	112.4	373.
7	1930.	10738.	295.	0.	300.	0.	295.	0.	84220.	110.8	381.
8	4786.	8834.	90.	0.	300.	0.	90.	0.	70600.	109.1	405.
9	3392.	4382.	57.	0.	300.	0.	57.	0.	62826.	108.1	426.
10	4841.	3227.	34.	0.	300.	0.	34.	0.	54758.	107.1	462.
11	-1394.	3017.	1392.	0.	300.	0.	1392.	0.	53135.	106.8	446.
12	-240.	3311.	2343.	51850.	247.	0.	0.	0.	104257.	113.3	343.
	15490.	70000.	21081.	120230.		0.	7005.	0.			
1953											
1	1390.	3017.	154.	43042.	182.	0.	154.	0.	142892.	118.0	299.
2	-578.	2793.	925.	1800.	280.	0.	510.	0.	142892.	118.0	297.
3	1320.	4053.	70.	5373.	268.	0.	70.	0.	142892.	118.0	299.
4	741.	6734.	22.	0.	300.	0.	22.	0.	135417.	117.1	300.
5	-2059.	9107.	12377.	6492.	196.	0.	4346.	0.	142892.	118.0	283.
6	3208.	10787.	12.	0.	300.	0.	12.	0.	128897.	116.3	290.
7	3350.	10738.	41.	0.	300.	0.	41.	0.	114809.	114.6	298.
8	-244.	8834.	12267.	0.	208.	0.	12267.	0.	106219.	113.5	288.
9	3355.	4382.	8670.	37203.	261.	0.	1463.	0.	142892.	118.0	286.
10	1485.	3227.	150.	4712.	237.	0.	150.	0.	142892.	118.0	287.
11	908.	3017.	2274.	1728.	253.	0.	77.	0.	142892.	118.0	288.
12	-743.	3311.	7360.	0.	234.	0.	216.	4576.	142892.	118.0	285.
	12133.	70000.	44322.	100350.		0.	19328.	4576.			
1954											
1	165.	3017.	1114.	2394.	290.	0.	326.	0.	142892.	118.0	285.
2	2225.	2793.	30.	0.	300.	0.	30.	0.	137874.	117.4	290.
3	1891.	4053.	0.	0.	0.	0.	0.	0.	131930.	116.7	294.
4	164.	6734.	0.	0.	0.	0.	0.	0.	125032.	115.8	294.
5	1143.	9107.	726.	0.	300.	0.	726.	0.	114782.	114.6	297.
6	3974.	10787.	6.	0.	300.	0.	6.	0.	100021.	112.7	308.
7	3785.	10738.	77.	0.	300.	0.	77.	0.	85498.	110.9	321.
8	4631.	8834.	94.	0.	300.	0.	94.	0.	72033.	109.3	340.
9	4422.	4382.	17.	0.	300.	0.	17.	0.	63229.	108.1	363.
10	1567.	3227.	19.	0.	300.	0.	19.	0.	58435.	107.5	373.
11	1637.	3017.	1.	3100.	658.	0.	0.	0.	56882.	107.3	398.
12	1628.	3311.	0.	280.	486.	0.	0.	0.	52223.	106.7	411.
	27232.	70000.	2084.	5774.		0.	1295.	0.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1949											
1	-1685.	3017.	846.	0.	56.	0.	846.	0.	85671.	111.0	120.
2	-1932.	2793.	2903.	10950.	108.	0.	106.	0.	98557.	112.6	116.
3	-327.	4053.	2741.	45726.	41.	0.	406.	0.	142892.	118.0	91.
4	-1568.	6734.	7514.	417.	33.	0.	2765.	0.	142892.	118.0	87.
5	2310.	9107.	438.	11417.	33.	0.	438.	0.	142892.	118.0	84.
6	1815.	10787.	102.	12602.	236.	0.	102.	0.	142892.	118.0	98.
7	1155.	10738.	1358.	10552.	167.	0.	17.	0.	142892.	118.0	104.
8	3209.	8834.	725.	0.	58.	0.	725.	0.	130849.	116.5	106.
9	1967.	4382.	1687.	0.	49.	0.	1687.	0.	124500.	115.8	107.
10	-3862.	3227.	9764.	9672.	95.	0.	1679.	0.	142892.	118.0	103.
11	2805.	3017.	90.	5809.	108.	0.	77.	0.	142892.	118.0	105.
12	-1980.	3311.	8481.	0.	32.	0.	216.	6934.	142892.	118.0	101.
	1907.	70000.	36649.	107145.		0.	9064.	6934.			
1950											
1	83.	3017.	1924.	1502.	59.	0.	326.	0.	142892.	118.0	100.
2	-1733.	2793.	4973.	0.	36.	0.	510.	3403.	142892.	118.0	98.
3	1568.	4053.	320.	5621.	64.	0.	320.	0.	142892.	118.0	97.
4	-1320.	6734.	795.	5414.	44.	0.	795.	0.	142892.	118.0	94.
5	1073.	9107.	941.	10180.	55.	0.	941.	0.	142892.	118.0	92.
6	165.	10787.	6864.	7146.	47.	0.	3058.	0.	142892.	118.0	88.
7	2797.	10738.	692.	0.	58.	0.	692.	0.	129357.	116.4	89.
8	4577.	8834.	113.	0.	60.	0.	113.	0.	115946.	114.7	93.
9	1637.	4382.	615.	25690.	146.	0.	615.	0.	135617.	117.1	104.
10	3377.	3227.	165.	13879.	282.	0.	165.	0.	142892.	118.0	124.
11	2720.	3017.	12.	1640.	250.	0.	12.	0.	138795.	117.5	128.
12	1563.	3311.	32.	350.	220.	0.	32.	0.	134271.	117.0	129.
	16507.	70000.	17446.	71422.		0.	7579.	3403.			
1951											
1	328.	3017.	81.	0.	60.	0.	81.	0.	130926.	116.5	130.
2	246.	2793.	40.	0.	60.	0.	40.	0.	127887.	116.2	130.
3	82.	4053.	1151.	0.	53.	0.	406.	0.	124497.	115.8	129.
4	1880.	6734.	146.	5860.	75.	0.	146.	0.	121743.	115.4	129.
5	896.	9107.	52.	0.	60.	0.	52.	0.	111740.	114.2	129.
6	1702.	10787.	73.	0.	60.	0.	73.	0.	99251.	112.7	132.
7	4266.	10738.	23.	0.	60.	0.	23.	0.	84247.	110.8	138.
8	5183.	8834.	66.	0.	60.	0.	66.	0.	70230.	109.0	147.
9	-553.	4382.	1336.	0.	51.	0.	1336.	0.	66401.	108.5	144.
10	2994.	3227.	178.	4350.	266.	0.	0.	0.	64708.	108.3	159.
11	1884.	3017.	84.	0.	60.	0.	84.	0.	59807.	107.7	164.
12	1169.	3311.	114.	0.	60.	0.	0.	0.	55441.	107.1	167.
	20077.	70000.	3344.	10210.		0.	2307.	0.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1952											
1	774.	3017.	25.	0.	60.	0.	0.	0.	51675.	106.7	169.
2	-1156.	2793.	801.	0.	56.	0.	106.	0.	50733.	106.5	164.
3	921.	4053.	159.	0.	60.	0.	31.	0.	45887.	105.9	167.
4	-1105.	6734.	10227.	38140.	41.	0.	54.	0.	88571.	111.3	99.
5	-563.	9107.	5058.	9520.	31.	0.	4346.	0.	90259.	111.5	88.
6	3304.	10787.	600.	20720.	22.	0.	600.	0.	96888.	112.4	77.
7	1930.	10738.	295.	0.	60.	0.	295.	0.	84220.	110.8	79.
8	4786.	8834.	90.	0.	60.	0.	90.	0.	70600.	109.1	84.
9	3392.	4382.	57.	0.	60.	0.	57.	0.	62826.	108.1	88.
10	4841.	3227.	34.	0.	60.	0.	34.	0.	54758.	107.1	95.
11	-1394.	3017.	1392.	0.	51.	0.	1392.	0.	53135.	106.8	92.
12	-240.	3311.	2343.	51850.	43.	0.	0.	0.	104257.	113.3	67.
	15490.	70000.	21081.	120230.		0.	7005.	0.			
1953											
1	1390.	3017.	154.	43042.	27.	0.	154.	0.	142892.	118.0	56.
2	-578.	2793.	925.	1800.	48.	0.	510.	0.	142892.	118.0	55.
3	1320.	4053.	70.	5373.	40.	0.	70.	0.	142892.	118.0	55.
4	741.	6734.	22.	0.	60.	0.	22.	0.	135417.	117.1	55.
5	-2059.	9107.	12377.	6492.	24.	0.	4346.	0.	142892.	118.0	51.
6	3208.	10787.	12.	0.	60.	0.	12.	0.	128897.	116.3	52.
7	3350.	10738.	41.	0.	60.	0.	41.	0.	114809.	114.6	53.
8	-244.	8834.	12267.	0.	28.	0.	12267.	0.	106219.	113.5	51.
9	3355.	4382.	8670.	37203.	46.	0.	1463.	0.	142892.	118.0	50.
10	1485.	3227.	150.	4712.	35.	0.	150.	0.	142892.	118.0	50.
11	908.	3017.	2274.	1728.	40.	0.	77.	0.	142892.	118.0	50.
12	-743.	3311.	7360.	0.	33.	0.	216.	4576.	142892.	118.0	49.
	12133.	70000.	44322.	100350.		0.	19328.	4576.			
1954											
1	165.	3017.	1114.	2394.	53.	0.	326.	0.	142892.	118.0	50.
2	2225.	2793.	30.	0.	60.	0.	30.	0.	137874.	117.4	50.
3	1891.	4053.	0.	0.	0.	0.	0.	0.	131930.	116.7	51.
4	164.	6734.	0.	0.	0.	0.	0.	0.	125032.	115.8	51.
5	1143.	9107.	726.	0.	58.	0.	726.	0.	114782.	114.6	52.
6	3974.	10787.	6.	0.	60.	0.	6.	0.	100021.	112.7	54.
7	3785.	10738.	77.	0.	60.	0.	77.	0.	85498.	110.9	56.
8	4631.	8834.	94.	0.	60.	0.	94.	0.	72033.	109.3	59.
9	4422.	4382.	17.	0.	60.	0.	17.	0.	63229.	108.1	63.
10	1567.	3227.	19.	0.	60.	0.	19.	0.	58435.	107.5	65.
11	1637.	3017.	1.	3100.	192.	0.	0.	0.	56882.	107.3	73.
12	1628.	3311.	0.	280.	137.	0.	0.	0.	52223.	106.7	76.
	27232.	70000.	2084.	5774.		0.	1295.	0.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1955											
1	231.	3017.	1239.	0.	52.	0.	0.	0.	50214.	106.5	76.
2	-1586.	2793.	8967.	35010.	45.	0.	106.	0.	92878.	111.9	60.
3	2090.	4053.	0.	0.	0.	0.	0.	0.	86735.	111.1	62.
4	890.	6734.	80.	38180.	32.	0.	80.	0.	117291.	114.9	53.
5	732.	9107.	3039.	0.	43.	0.	3039.	0.	107452.	113.7	53.
6	2830.	10787.	120.	0.	60.	0.	120.	0.	93835.	112.0	54.
7	2729.	10738.	1453.	0.	50.	0.	1453.	0.	80368.	110.3	56.
8	1989.	8834.	412.	0.	60.	0.	412.	0.	69545.	108.9	57.
9	1893.	4382.	888.	0.	55.	0.	888.	0.	63270.	108.2	59.
10	4586.	3227.	29.	63650.	327.	0.	0.	0.	119136.	115.1	203.
11	3026.	3017.	0.	15540.	272.	0.	0.	0.	128633.	116.3	216.
12	1310.	3311.	0.	0.	0.	0.	0.	0.	124012.	115.7	218.
	20720.	70000.	16227.	152380.		0.	6098.	0.			
1956											
1	327.	3017.	1626.	0.	49.	0.	1626.	0.	120668.	115.3	216.
2	82.	2793.	998.	5370.	125.	0.	510.	0.	123651.	115.7	212.
3	1470.	4053.	0.	0.	0.	0.	0.	0.	118128.	115.0	214.
4	814.	6734.	103.	0.	60.	0.	103.	0.	110580.	114.1	216.
5	1620.	9107.	448.	0.	60.	0.	448.	0.	99853.	112.7	218.
6	2819.	10787.	278.	0.	60.	0.	278.	0.	86247.	111.0	225.
7	5985.	10738.	1.	0.	60.	0.	1.	0.	69524.	108.9	242.
8	5262.	8834.	10.	0.	60.	0.	10.	0.	55428.	107.1	264.
9	5161.	4382.	50.	0.	60.	0.	50.	0.	45885.	105.9	292.
10	2840.	3227.	0.	0.	0.	0.	0.	0.	39818.	105.1	312.
11	2019.	3017.	0.	0.	0.	0.	0.	0.	34782.	104.4	329.
12	281.	3311.	15.	1150.	75.	0.	0.	0.	32355.	104.1	323.
	28680.	70000.	3529.	6520.		0.	3026.	0.			
1957											
1	949.	3017.	0.	0.	0.	0.	0.	0.	28389.	103.4	333.
2	64.	2793.	12.	0.	60.	0.	12.	0.	25532.	103.0	334.
3	-1434.	4053.	10999.	29300.	99.	0.	31.	0.	63181.	108.1	181.
4	-2379.	6734.	10365.	11270.	35.	0.	54.	0.	80407.	110.3	138.
5	1138.	9107.	1075.	71710.	62.	0.	55.	0.	142892.	118.0	102.
6	248.	10787.	1378.	11035.	60.	0.	1378.	0.	142892.	118.0	98.
7	3630.	10738.	28.	14357.	65.	0.	17.	0.	142892.	118.0	98.
8	3878.	8834.	21.	12712.	66.	0.	21.	0.	142892.	118.0	97.
9	1073.	4382.	1916.	5002.	93.	0.	1463.	0.	142892.	118.0	98.
10	-495.	3227.	20098.	0.	23.	0.	1679.	15687.	142892.	118.0	91.
11	-825.	3017.	10942.	0.	29.	0.	77.	8673.	142892.	118.0	88.
12	1238.	3311.	81.	4549.	81.	0.	81.	0.	142892.	118.0	89.
	7085.	70000.	56915.	159935.		0.	4868.	24360.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1958											
1	-908.	3017.	7295.	0.	34.	0.	326.	4860.	142892.	118.0	86.
2	-413.	2793.	4426.	0.	38.	0.	510.	1536.	142892.	118.0	85.
3	990.	4053.	70.	5043.	52.	0.	70.	0.	142892.	118.0	84.
4	495.	6734.	55.	7229.	83.	0.	55.	0.	142892.	118.0	84.
5	1238.	9107.	187.	10345.	55.	0.	187.	0.	142892.	118.0	83.
6	2558.	10787.	196.	13345.	64.	0.	196.	0.	142892.	118.0	83.
7	2888.	10738.	156.	13487.	104.	0.	17.	0.	142892.	118.0	86.
8	3127.	8834.	149.	0.	60.	0.	149.	0.	130931.	116.5	88.
9	-2633.	4382.	3590.	11583.	58.	0.	1463.	0.	142892.	118.0	84.
10	825.	3227.	1814.	3917.	69.	0.	1679.	0.	142892.	118.0	83.
11	908.	3017.	94.	3908.	103.	0.	77.	0.	142892.	118.0	84.
12	743.	3311.	232.	4038.	166.	0.	216.	0.	142892.	118.0	87.
	9818.	70000.	18264.	72895.		0.	4945.	6396.			
1959											
1	1236.	3017.	152.	0.	60.	0.	152.	0.	138639.	117.5	88.
2	-1813.	2793.	17063.	0.	24.	0.	510.	11320.	142892.	118.0	82.
3	1733.	4053.	198.	5786.	162.	0.	198.	0.	142892.	118.0	86.
4	-1650.	6734.	11743.	0.	28.	0.	2765.	3894.	142892.	118.0	81.
5	-330.	9107.	2178.	8777.	48.	0.	2178.	0.	142892.	118.0	79.
6	2888.	10787.	119.	13675.	52.	0.	119.	0.	142892.	118.0	78.
7	1733.	10738.	729.	11759.	89.	0.	17.	0.	142892.	118.0	80.
8	990.	8834.	6864.	3845.	76.	0.	885.	0.	142892.	118.0	80.
9	2307.	4382.	179.	0.	60.	0.	179.	0.	136203.	117.2	81.
10	412.	3227.	21515.	0.	22.	0.	1679.	9508.	142892.	118.0	75.
11	1733.	3017.	9855.	0.	30.	0.	77.	5028.	142892.	118.0	73.
12	-330.	3311.	5527.	0.	36.	0.	216.	2330.	142892.	118.0	72.
	8909.	70000.	76122.	43842.		0.	8975.	32080.			
1960											
1	165.	3017.	2329.	1179.	52.	0.	326.	0.	142892.	118.0	72.
2	-413.	2793.	2584.	306.	45.	0.	510.	0.	142892.	118.0	71.
3	1073.	4053.	99.	5126.	73.	0.	99.	0.	142892.	118.0	72.
4	495.	6734.	1249.	7229.	83.	0.	1249.	0.	142892.	118.0	73.
5	2558.	9107.	123.	11665.	61.	0.	123.	0.	142892.	118.0	73.
6	-1155.	10787.	38289.	0.	16.	0.	3058.	25599.	142892.	118.0	63.
7	2310.	10738.	404.	12661.	67.	0.	17.	0.	142892.	118.0	64.
8	413.	8834.	3708.	6424.	102.	0.	885.	0.	142892.	118.0	67.
9	3380.	4382.	112.	4710.	135.	0.	112.	0.	139840.	117.6	71.
10	-742.	3227.	6974.	242.	35.	0.	1679.	0.	142892.	118.0	69.
11	-330.	3017.	1297.	1467.	59.	0.	77.	0.	142892.	118.0	68.
12	-1403.	3311.	9179.	0.	31.	0.	216.	7055.	142892.	118.0	66.
	6351.	70000.	66347.	51009.		0.	8351.	32654.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1961											
1	-578.	3017.	5224.	0.	37.	0.	326.	2459.	142892.	118.0	65.
2	-1073.	2793.	7112.	0.	33.	0.	510.	4882.	142892.	118.0	64.
3	1155.	4053.	76.	5208.	54.	0.	76.	0.	142892.	118.0	64.
4	1155.	6734.	620.	7889.	79.	0.	620.	0.	142892.	118.0	65.
5	2222.	9107.	164.	580.	94.	0.	164.	0.	132143.	116.7	67.
6	-1399.	10787.	18249.	4946.	36.	0.	3058.	0.	142892.	118.0	61.
7	413.	10738.	14114.	0.	27.	0.	17.	2946.	142892.	118.0	59.
8	2970.	8834.	106.	11804.	226.	0.	106.	0.	142892.	118.0	73.
9	-1320.	4382.	13797.	0.	26.	0.	1463.	9272.	142892.	118.0	70.
10	3135.	3227.	68.	6362.	177.	0.	68.	0.	142892.	118.0	76.
11	-413.	3017.	3349.	0.	41.	0.	77.	668.	142892.	118.0	75.
12	908.	3311.	1406.	3029.	92.	0.	216.	0.	142892.	118.0	76.
	7175.	70000.	64285.	39818.		0.	6701.	20227.			
1962											
1	330.	3017.	14.	3347.	122.	0.	14.	0.	142892.	118.0	77.
2	825.	2793.	3.	3618.	101.	0.	3.	0.	142892.	118.0	78.
3	1648.	4053.	3.	1040.	155.	0.	3.	0.	138231.	117.4	80.
4	-576.	6734.	382.	0.	60.	0.	382.	0.	132073.	116.7	79.
5	2131.	9107.	961.	3640.	103.	0.	961.	0.	124475.	115.8	81.
6	-164.	10787.	962.	13090.	114.	0.	962.	0.	126942.	116.1	85.
7	4439.	10738.	514.	30630.	111.	0.	17.	0.	142892.	118.0	93.
8	4606.	8834.	69.	0.	60.	0.	69.	0.	129452.	116.4	96.
9	905.	4382.	2178.	18012.	212.	0.	1463.	0.	142892.	118.0	113.
10	1980.	3227.	74.	5207.	209.	0.	74.	0.	142892.	118.0	118.
11	578.	3017.	376.	3296.	154.	0.	77.	0.	142892.	118.0	119.
12	-1155.	3311.	7718.	0.	33.	0.	216.	5346.	142892.	118.0	115.
	15547.	70000.	13254.	81880.		0.	4241.	5346.			
1963											
1	330.	3017.	5541.	0.	36.	0.	326.	1868.	142892.	118.0	113.
2	-165.	2793.	1557.	1581.	65.	0.	510.	0.	142892.	118.0	112.
3	1978.	4053.	32.	1210.	123.	0.	32.	0.	138071.	117.4	113.
4	1401.	6734.	29.	12956.	75.	0.	29.	0.	142892.	118.0	111.
5	2386.	9107.	28.	0.	60.	0.	28.	0.	131399.	116.6	113.
6	982.	10787.	914.	0.	55.	0.	914.	0.	119630.	115.2	114.
7	3090.	10738.	780.	0.	57.	0.	780.	0.	105802.	113.5	116.
8	4040.	8834.	69.	0.	60.	0.	69.	0.	92928.	111.9	121.
9	2652.	4382.	45.	0.	60.	0.	45.	0.	85894.	111.0	125.
10	3202.	3227.	26.	0.	60.	0.	26.	0.	79465.	110.2	130.
11	160.	3017.	113.	8770.	185.	0.	0.	0.	85171.	110.9	136.
12	80.	3311.	2040.	11950.	132.	0.	0.	0.	95770.	112.2	135.
	20136.	70000.	11174.	36467.		0.	2759.	1868.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1964											
1	-242.	3017.	1001.	2670.	114.	0.	326.	0.	96340.	112.3	134.
2	-243.	2793.	3901.	16080.	90.	0.	510.	0.	113261.	114.4	126.
3	409.	4053.	5472.	25170.	60.	0.	406.	0.	139035.	117.5	112.
4	1315.	6734.	108.	0.	60.	0.	108.	0.	130986.	116.6	113.
5	1719.	9107.	128.	0.	60.	0.	128.	0.	120160.	115.2	115.
6	2766.	10787.	419.	0.	60.	0.	419.	0.	106607.	113.6	117.
7	3313.	10738.	127.	0.	60.	0.	127.	0.	92556.	111.8	121.
8	3289.	8834.	130.	0.	60.	0.	130.	0.	80433.	110.3	126.
9	-401.	4382.	1530.	9450.	34.	0.	0.	0.	87432.	111.2	114.
10	2592.	3227.	1220.	39950.	45.	0.	1220.	0.	121563.	115.4	93.
11	657.	3017.	1406.	23674.	42.	0.	77.	0.	142892.	118.0	85.
12	-248.	3311.	3556.	0.	41.	0.	216.	277.	142892.	118.0	84.
	14926.	70000.	18998.	116994.		0.	3667.	277.			
1965											
1	248.	3017.	4700.	0.	38.	0.	326.	1109.	142892.	118.0	83.
2	-990.	2793.	4714.	0.	37.	0.	510.	2401.	142892.	118.0	81.
3	1320.	4053.	33.	5373.	67.	0.	33.	0.	142892.	118.0	81.
4	1568.	6734.	90.	8302.	48.	0.	90.	0.	142892.	118.0	80.
5	-825.	9107.	1475.	8282.	39.	0.	1475.	0.	142892.	118.0	77.
6	2558.	10787.	972.	13345.	33.	0.	972.	0.	142892.	118.0	74.
7	4208.	10738.	267.	14696.	45.	0.	17.	0.	142892.	118.0	73.
8	3295.	8834.	204.	4830.	60.	0.	204.	0.	135593.	117.1	74.
9	2306.	4382.	174.	13987.	88.	0.	174.	0.	142892.	118.0	77.
10	1650.	3227.	1764.	4792.	74.	0.	1679.	0.	142892.	118.0	78.
11	-1403.	3017.	8421.	0.	32.	0.	77.	6730.	142892.	118.0	75.
12	-1980.	3311.	4879.	0.	38.	0.	216.	3332.	142892.	118.0	73.
	11955.	70000.	27693.	73607.		0.	5773.	13572.			
1966											
1	-248.	3017.	3308.	0.	42.	0.	326.	213.	142892.	118.0	73.
2	-165.	2793.	7250.	0.	33.	0.	510.	4112.	142892.	118.0	71.
3	1155.	4053.	321.	5208.	60.	0.	321.	0.	142892.	118.0	71.
4	0.	6734.	11261.	0.	29.	0.	2765.	1762.	142892.	118.0	68.
5	-330.	9107.	11481.	1642.	33.	0.	4346.	0.	142892.	118.0	65.
6	1980.	10787.	652.	12767.	58.	0.	652.	0.	142892.	118.0	65.
7	3372.	10738.	379.	0.	60.	0.	379.	0.	128782.	116.3	67.
8	2467.	8834.	743.	25411.	62.	0.	743.	0.	142892.	118.0	67.
9	1898.	4382.	2522.	5221.	129.	0.	1463.	0.	142892.	118.0	71.
10	2888.	3227.	125.	6115.	151.	0.	125.	0.	142892.	118.0	76.
11	1898.	3017.	10.	4915.	179.	0.	10.	0.	142892.	118.0	81.
12	824.	3311.	32.	160.	165.	0.	32.	0.	138917.	117.5	81.
	15739.	70000.	38084.	61439.		0.	11672.	6087.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1967											
1	412.	3017.	794.	420.	101.	0.	326.	0.	136376.	117.2	82.
2	575.	2793.	278.	0.	60.	0.	278.	0.	133008.	116.8	82.
3	1231.	4053.	73.	0.	60.	0.	73.	0.	127724.	116.2	83.
4	819.	6734.	509.	4760.	92.	0.	509.	0.	124931.	115.8	84.
5	654.	9107.	1489.	7240.	78.	0.	1489.	0.	122410.	115.5	84.
6	3826.	10787.	164.	0.	60.	0.	164.	0.	107797.	113.7	86.
7	3800.	10738.	652.	0.	59.	0.	652.	0.	93259.	111.9	90.
8	3211.	8834.	4893.	0.	38.	0.	4893.	0.	81214.	110.4	90.
9	642.	4382.	2826.	15070.	160.	0.	0.	0.	94086.	112.0	104.
10	1212.	3227.	2233.	14570.	131.	0.	1679.	0.	104771.	113.3	109.
11	1227.	3017.	34.	42365.	57.	0.	34.	0.	142892.	118.0	95.
12	248.	3311.	2605.	1170.	63.	0.	216.	0.	142892.	118.0	94.
	17857.	70000.	16550.	85595.		0.	10313.	0.			
1968											
1	-413.	3017.	6051.	0.	35.	0.	326.	3121.	142892.	118.0	92.
2	248.	2793.	1447.	2104.	89.	0.	510.	0.	142892.	118.0	92.
3	495.	4053.	1099.	3855.	85.	0.	406.	0.	142892.	118.0	92.
4	248.	6734.	987.	6982.	74.	0.	987.	0.	142892.	118.0	91.
5	-83.	9107.	8670.	4700.	42.	0.	4346.	0.	142892.	118.0	87.
6	-165.	10787.	16457.	0.	25.	0.	3058.	2777.	142892.	118.0	81.
7	2640.	10738.	1225.	12170.	37.	0.	17.	0.	142892.	118.0	78.
8	4290.	8834.	284.	13124.	70.	0.	284.	0.	142892.	118.0	80.
9	1155.	4382.	1737.	5263.	42.	0.	1463.	0.	142892.	118.0	78.
10	1815.	3227.	1177.	5042.	74.	0.	1177.	0.	142892.	118.0	79.
11	1155.	3017.	786.	3463.	82.	0.	77.	0.	142892.	118.0	80.
12	578.	3311.	1640.	2465.	43.	0.	216.	0.	142892.	118.0	79.
	11963.	70000.	41560.	59168.		0.	12867.	5898.			
1969											
1	743.	3017.	1709.	2377.	75.	0.	326.	0.	142892.	118.0	79.
2	-1155.	2793.	10971.	0.	28.	0.	510.	8823.	142892.	118.0	77.
3	743.	4053.	4921.	281.	37.	0.	406.	0.	142892.	118.0	76.
4	330.	6734.	1067.	7064.	34.	0.	1067.	0.	142892.	118.0	73.
5	660.	9107.	12846.	1267.	33.	0.	4346.	0.	142892.	118.0	70.
6	3795.	10787.	145.	14582.	197.	0.	145.	0.	142892.	118.0	84.
7	5426.	10738.	66.	0.	60.	0.	66.	0.	126728.	116.0	88.
8	3511.	8834.	245.	0.	60.	0.	245.	0.	114383.	114.5	90.
9	2617.	4382.	318.	25090.	167.	0.	318.	0.	132474.	116.7	106.
10	2634.	3227.	881.	16279.	218.	0.	881.	0.	142892.	118.0	122.
11	1980.	3017.	258.	4816.	144.	0.	77.	0.	142892.	118.0	124.
12	495.	3311.	2191.	1831.	54.	0.	216.	0.	142892.	118.0	123.
	21779.	70000.	35618.	73587.		0.	8603.	8823.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1970											
1	-83.	3017.	981.	2279.	102.	0.	326.	0.	142892.	118.0	122.
2	0.	2793.	2316.	987.	57.	0.	510.	0.	142892.	118.0	121.
3	83.	4053.	4576.	0.	38.	0.	406.	34.	142892.	118.0	118.
4	248.	6734.	815.	6982.	81.	0.	815.	0.	142892.	118.0	116.
5	-248.	9107.	3666.	8859.	73.	0.	3666.	0.	142892.	118.0	112.
6	3218.	10787.	772.	14005.	63.	0.	772.	0.	142892.	118.0	110.
7	3454.	10738.	167.	0.	60.	0.	167.	0.	128700.	116.3	113.
8	3841.	8834.	201.	0.	60.	0.	201.	0.	116025.	114.7	116.
9	246.	4382.	3570.	29388.	61.	0.	1463.	0.	142892.	118.0	104.
10	83.	3227.	14886.	0.	26.	0.	1679.	9897.	142892.	118.0	99.
11	2558.	3017.	150.	5502.	36.	0.	77.	0.	142892.	118.0	98.
12	907.	3311.	12.	1980.	99.	0.	12.	0.	140654.	117.7	99.
	14307.	70000.	32112.	69982.		0.	10094.	9931.			
1971											
1	1894.	3017.	17.	510.	137.	0.	17.	0.	136253.	117.2	100.
2	986.	2793.	182.	0.	60.	0.	182.	0.	132474.	116.7	101.
3	2378.	4053.	12.	0.	60.	0.	12.	0.	126043.	115.9	103.
4	1961.	6734.	318.	0.	60.	0.	318.	0.	117348.	114.9	104.
5	1788.	9107.	194.	0.	60.	0.	194.	0.	106453.	113.5	106.
6	3232.	10787.	175.	0.	60.	0.	175.	0.	92434.	111.8	109.
7	4328.	10738.	247.	0.	60.	0.	247.	0.	77368.	109.9	115.
8	1761.	8834.	7043.	13870.	39.	0.	0.	0.	87686.	111.2	100.
9	969.	4382.	20454.	7640.	46.	0.	1463.	0.	108966.	113.9	87.
10	1310.	3227.	2054.	38088.	127.	0.	1679.	0.	142892.	118.0	99.
11	1568.	3017.	45.	4585.	170.	0.	45.	0.	142892.	118.0	102.
12	-248.	3311.	4218.	0.	39.	0.	216.	939.	142892.	118.0	101.
	21927.	70000.	34959.	64693.		0.	4548.	939.			
1972											
1	165.	3017.	2936.	572.	60.	0.	326.	0.	142892.	118.0	100.
2	825.	2793.	5030.	0.	37.	0.	510.	902.	142892.	118.0	98.
3	1403.	4053.	7869.	0.	33.	0.	406.	2007.	142892.	118.0	96.
4	1729.	6734.	815.	0.	56.	0.	815.	0.	134429.	117.0	97.
5	-412.	9107.	11315.	11013.	31.	0.	4346.	0.	142892.	118.0	88.
6	2223.	10787.	1502.	2940.	82.	0.	1502.	0.	132822.	116.8	89.
7	1966.	10738.	579.	0.	60.	0.	579.	0.	120118.	115.2	90.
8	2604.	8834.	945.	0.	55.	0.	945.	0.	108680.	113.8	92.
9	1702.	4382.	17751.	0.	24.	0.	17751.	0.	102596.	113.1	83.
10	1378.	3227.	864.	11320.	153.	0.	864.	0.	109311.	113.9	91.
11	82.	3017.	6216.	30541.	62.	0.	77.	0.	142892.	118.0	84.
12	248.	3311.	196.	3559.	193.	0.	196.	0.	142892.	118.0	87.
	14737.	70000.	56018.	59945.		0.	28317.	2909.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1973											
1	-495.	3017.	5209.	0.	37.	0.	326.	2361.	142892.	118.0	85.
2	-330.	2793.	7376.	0.	32.	0.	510.	4403.	142892.	118.0	83.
3	165.	4053.	3239.	1385.	44.	0.	406.	0.	142892.	118.0	82.
4	-248.	6734.	17903.	0.	24.	0.	2765.	8652.	142892.	118.0	77.
5	2063.	9107.	819.	11170.	144.	0.	819.	0.	142892.	118.0	83.
6	-83.	10787.	23444.	0.	21.	0.	3058.	9682.	142892.	118.0	75.
7	2805.	10738.	1481.	12079.	166.	0.	17.	0.	142892.	118.0	85.
8	2228.	8834.	777.	11062.	228.	0.	777.	0.	142892.	118.0	98.
9	660.	4382.	7649.	0.	33.	0.	1463.	1144.	142892.	118.0	95.
10	330.	3227.	16841.	0.	25.	0.	1679.	11605.	142892.	118.0	90.
11	1733.	3017.	1392.	3435.	54.	0.	77.	0.	142892.	118.0	90.
12	743.	3311.	663.	3607.	63.	0.	216.	0.	142892.	118.0	90.
	9571.	70000.	86793.	42738.		0.	12113.	37847.			
1974											
1	-743.	3017.	15753.	0.	25.	0.	326.	13153.	142892.	118.0	85.
2	1650.	2793.	172.	4443.	45.	0.	172.	0.	142892.	118.0	85.
3	990.	4053.	58.	5043.	159.	0.	58.	0.	142892.	118.0	88.
4	1894.	6734.	700.	0.	58.	0.	700.	0.	134264.	116.9	89.
5	1235.	9107.	5664.	17652.	66.	0.	4346.	0.	142892.	118.0	86.
6	3125.	10787.	620.	0.	59.	0.	620.	0.	128980.	116.3	88.
7	3676.	10738.	593.	0.	60.	0.	593.	0.	114566.	114.5	91.
8	1299.	8834.	1301.	0.	52.	0.	1301.	0.	104433.	113.3	91.
9	818.	4382.	287.	43659.	41.	0.	287.	0.	142892.	118.0	77.
10	1155.	3227.	2839.	3222.	53.	0.	1679.	0.	142892.	118.0	76.
11	0.	3017.	14774.	0.	26.	0.	77.	11680.	142892.	118.0	73.
12	83.	3311.	3528.	82.	42.	0.	216.	0.	142892.	118.0	72.
	15182.	70000.	46289.	74101.		0.	10375.	24833.			
1975											
1	330.	3017.	1108.	2565.	78.	0.	326.	0.	142892.	118.0	73.
2	413.	2793.	679.	3037.	80.	0.	510.	0.	142892.	118.0	73.
3	743.	4053.	74.	4796.	129.	0.	74.	0.	142892.	118.0	75.
4	495.	6734.	1709.	7229.	98.	0.	1709.	0.	142892.	118.0	77.
5	330.	9107.	11467.	2316.	29.	0.	4346.	0.	142892.	118.0	73.
6	1650.	10787.	5761.	9734.	70.	0.	3058.	0.	142892.	118.0	73.
7	2558.	10738.	406.	12907.	59.	0.	17.	0.	142892.	118.0	73.
8	1898.	8834.	1011.	10606.	105.	0.	885.	0.	142892.	118.0	77.
9	2640.	4382.	145.	7022.	158.	0.	145.	0.	142892.	118.0	82.
10	1733.	3227.	460.	4960.	124.	0.	460.	0.	142892.	118.0	85.
11	1650.	3017.	1331.	3413.	93.	0.	77.	0.	142892.	118.0	86.
12	660.	3311.	3749.	438.	54.	0.	216.	0.	142892.	118.0	85.
	15100.	70000.	27900.	69023.		0.	11823.	0.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on dail. analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1976											
1	1073.	3017.	81.	4090.	207.	0.	81.	0.	142892.	118.0	90.
2	1733.	2793.	66.	4526.	208.	0.	66.	0.	142892.	118.0	94.
3	660.	4053.	72.	3870.	168.	0.	72.	0.	142049.	117.9	97.
4	330.	6734.	502.	7907.	51.	0.	502.	0.	142892.	118.0	94.
5	1238.	9107.	2674.	10345.	32.	0.	2674.	0.	142892.	118.0	90.
6	1733.	10787.	5995.	9583.	39.	0.	3058.	0.	142892.	118.0	86.
7	1320.	10738.	1833.	10242.	44.	0.	17.	0.	142892.	118.0	83.
8	3548.	8834.	58.	12382.	120.	0.	58.	0.	142892.	118.0	88.
9	1403.	4382.	145.	5785.	138.	0.	145.	0.	142892.	118.0	91.
10	578.	3227.	6230.	0.	35.	0.	1679.	746.	142892.	118.0	89.
11	83.	3017.	1684.	1493.	55.	0.	77.	0.	142892.	118.0	88.
12	-660.	3311.	11575.	0.	29.	0.	216.	8708.	142892.	118.0	85.
	13039.	70000.	30915.	70223.		0.	8645.	9454.			
1977											
1	-330.	3017.	1871.	1142.	71.	0.	326.	0.	142892.	118.0	84.
2	330.	2793.	8277.	0.	31.	0.	510.	4644.	142892.	118.0	82.
3	908.	4053.	1040.	4327.	79.	0.	406.	0.	142892.	118.0	83.
4	660.	6734.	10656.	0.	29.	0.	2765.	497.	142892.	118.0	79.
5	1980.	9107.	902.	11087.	64.	0.	902.	0.	142892.	118.0	79.
6	2393.	10787.	1184.	13180.	68.	0.	1184.	0.	142892.	118.0	79.
7	3795.	10738.	125.	14425.	119.	0.	17.	0.	142892.	118.0	85.
8	2964.	8834.	70.	3020.	158.	0.	70.	0.	134114.	116.9	89.
9	2141.	4382.	125.	15301.	159.	0.	125.	0.	142892.	118.0	98.
10	2640.	3227.	90.	5867.	158.	0.	90.	0.	142892.	118.0	102.
11	330.	3017.	156.	2400.	145.	0.	77.	0.	142024.	117.9	103.
12	1320.	3311.	188.	5499.	91.	0.	188.	0.	142892.	118.0	103.
	19131.	70000.	24684.	76248.		0.	6660.	5141.			
1978											
1	-825.	3017.	1269.	1249.	47.	0.	326.	0.	142892.	118.0	102.
2	-495.	2793.	1806.	1002.	45.	0.	510.	0.	142892.	118.0	100.
3	1980.	4053.	479.	5960.	46.	0.	406.	0.	142892.	118.0	99.
4	2058.	6734.	252.	0.	60.	0.	252.	0.	134100.	116.9	101.
5	2623.	9107.	137.	0.	60.	0.	137.	0.	122370.	115.5	103.
6	2120.	10787.	193.	4120.	67.	0.	193.	0.	113583.	114.4	103.
7	3567.	10738.	39.	0.	60.	0.	39.	0.	99278.	112.7	107.
8	3955.	8834.	27.	8340.	210.	0.	27.	0.	94829.	112.1	120.
9	649.	4382.	4380.	28120.	152.	0.	1463.	0.	120835.	115.3	129.
10	3261.	3227.	109.	440.	292.	0.	109.	0.	114787.	114.6	133.
11	-328.	3017.	2639.	25930.	167.	0.	77.	0.	140590.	117.7	140.
12	165.	3311.	1204.	4790.	106.	0.	216.	0.	142892.	118.0	139.
	18730.	70000.	12534.	79951.		0.	3755.	0.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1979											
1	-660.	3017.	9335.	0.	31.	0.	326.	6652.	142892.	118.0	134.
2	-660.	2793.	5280.	0.	36.	0.	510.	2637.	142892.	118.0	130.
3	578.	4053.	1705.	3332.	50.	0.	406.	0.	142892.	118.0	128.
4	-83.	6734.	9866.	0.	30.	0.	2765.	450.	142892.	118.0	122.
5	825.	9107.	15181.	0.	26.	0.	4346.	903.	142892.	118.0	113.
6	2063.	10787.	9855.	6053.	38.	0.	3058.	0.	142892.	118.0	106.
7	990.	10738.	417.	11328.	62.	0.	17.	0.	142892.	118.0	104.
8	2475.	8834.	229.	11309.	49.	0.	229.	0.	142892.	118.0	101.
9	660.	4382.	2446.	4059.	55.	0.	1463.	0.	142892.	118.0	100.
10	2805.	3227.	271.	6032.	127.	0.	271.	0.	142892.	118.0	103.
11	1320.	3017.	310.	4104.	96.	0.	77.	0.	142892.	118.0	103.
12	-83.	3311.	942.	2502.	81.	0.	216.	0.	142892.	118.0	103.
	10230.	70000.	55837.	48719.		0.	13684.	10642.			
1980											
1	-495.	3017.	4628.	0.	38.	0.	326.	1780.	142892.	118.0	101.
2	330.	2793.	1578.	2055.	47.	0.	510.	0.	142892.	118.0	100.
3	413.	4053.	883.	3989.	70.	0.	406.	0.	142892.	118.0	99.
4	2145.	6734.	649.	8879.	46.	0.	649.	0.	142892.	118.0	97.
5	990.	9107.	4393.	10050.	33.	0.	4346.	0.	142892.	118.0	91.
6	4617.	10787.	234.	12630.	49.	0.	234.	0.	140118.	117.7	91.
7	4933.	10738.	54.	5630.	119.	0.	17.	0.	130114.	116.4	95.
8	4497.	8834.	42.	0.	60.	0.	42.	0.	116783.	114.8	99.
9	1712.	4382.	53.	8170.	169.	0.	53.	0.	118859.	115.1	105.
10	2203.	3227.	295.	6160.	117.	0.	295.	0.	119589.	115.2	107.
11	816.	3017.	185.	2980.	201.	0.	77.	0.	118844.	115.1	111.
12	1061.	3311.	211.	5800.	205.	0.	211.	0.	120272.	115.2	116.
	23222.	70000.	13205.	66343.		0.	7166.	1780.			
1981											
1	163.	3017.	408.	7780.	269.	0.	326.	0.	124954.	115.8	126.
2	327.	2793.	267.	3920.	275.	0.	267.	0.	125754.	115.9	131.
3	1066.	4053.	299.	10690.	157.	0.	299.	0.	131325.	116.6	135.
4	1229.	6734.	1174.	700.	85.	0.	1174.	0.	124062.	115.7	135.
5	980.	9107.	2526.	5540.	67.	0.	2526.	0.	119515.	115.1	132.
6	575.	10787.	7364.	30433.	48.	0.	3058.	0.	142892.	118.0	111.
7	2393.	10738.	625.	12523.	70.	0.	17.	0.	142892.	118.0	109.
8	2723.	8834.	152.	11557.	149.	0.	152.	0.	142892.	118.0	115.
9	2310.	4382.	242.	6692.	89.	0.	242.	0.	142892.	118.0	115.
10	660.	3227.	289.	3887.	200.	0.	289.	0.	142892.	118.0	118.
11	578.	3017.	8962.	0.	31.	0.	77.	5290.	142892.	118.0	115.
12	990.	3311.	380.	4137.	188.	0.	216.	0.	142892.	118.0	118.
	13994.	70000.	22688.	97859.		0.	8643.	5290.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1982											
1	578.	3017.	372.	3549.	169.	0.	326.	0.	142892.	118.0	120.
2	-82.	2793.	457.	1650.	177.	0.	457.	0.	141831.	117.9	121.
3	660.	4053.	464.	5716.	125.	0.	406.	0.	142892.	118.0	121.
4	660.	6734.	1089.	7394.	50.	0.	1089.	0.	142892.	118.0	118.
5	578.	9107.	8274.	5757.	51.	0.	4346.	0.	142892.	118.0	112.
6	3053.	10787.	208.	13840.	178.	0.	208.	0.	142892.	118.0	121.
7	4620.	10738.	145.	15230.	179.	0.	17.	0.	142892.	118.0	130.
8	4287.	8834.	43.	9740.	170.	0.	43.	0.	139511.	117.6	137.
9	3706.	4382.	23.	7330.	160.	0.	23.	0.	138753.	117.5	142.
10	1484.	3227.	53.	8430.	149.	0.	53.	0.	142472.	117.9	144.
11	-82.	3017.	529.	2903.	81.	0.	77.	0.	142892.	118.0	142.
12	330.	3311.	1113.	2744.	56.	0.	216.	0.	142892.	118.0	140.
	19792.	70000.	12770.	84283.		0.	7261.	0.			
1983											
1	0.	3017.	1160.	2183.	65.	0.	326.	0.	142892.	118.0	138.
2	-413.	2793.	3602.	0.	40.	0.	510.	712.	142892.	118.0	136.
3	413.	4053.	9452.	0.	31.	0.	406.	4580.	142892.	118.0	131.
4	2723.	6734.	652.	9457.	58.	0.	652.	0.	142892.	118.0	128.
5	1485.	9107.	7671.	7267.	33.	0.	4346.	0.	142892.	118.0	120.
6	1980.	10787.	239.	12767.	48.	0.	239.	0.	142892.	118.0	115.
7	2144.	10738.	154.	10430.	95.	0.	17.	0.	140577.	117.7	116.
8	1979.	8834.	497.	13128.	73.	0.	497.	0.	142892.	118.0	113.
9	1320.	4382.	185.	5702.	53.	0.	185.	0.	142892.	118.0	112.
10	1815.	3227.	130.	3950.	82.	0.	130.	0.	141800.	117.9	112.
11	825.	3017.	206.	4590.	75.	0.	77.	0.	142677.	118.0	112.
12	330.	3311.	935.	3137.	58.	0.	216.	0.	142892.	118.0	111.
	14601.	70000.	24883.	72611.		0.	7601.	5292.			
1984											
1	165.	3017.	443.	0.	60.	0.	326.	0.	139827.	117.6	111.
2	659.	2793.	559.	0.	60.	0.	510.	0.	136424.	117.2	111.
3	1236.	4053.	1232.	10931.	57.	0.	406.	0.	142892.	118.0	107.
4	3210.	6734.	246.	0.	60.	0.	246.	0.	132948.	116.8	110.
5	2050.	9107.	1144.	3170.	117.	0.	1144.	0.	124961.	115.8	112.
6	2854.	10787.	195.	0.	60.	0.	195.	0.	111320.	114.1	114.
7	3158.	10738.	52.	0.	60.	0.	52.	0.	97424.	112.4	118.
8	3219.	8834.	49.	0.	60.	0.	49.	0.	85371.	110.9	122.
9	2721.	4382.	25.	1230.	178.	0.	0.	0.	79523.	110.2	127.
10	-324.	3227.	860.	52850.	30.	0.	0.	0.	130330.	116.5	87.
11	1070.	3017.	201.	16525.	28.	0.	77.	0.	142892.	118.0	81.
12	330.	3311.	1467.	2390.	42.	0.	216.	0.	142892.	118.0	80.
	20348.	70000.	6473.	87096.		0.	3221.	0.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1985											
1	660.	3017.	2398.	1605.	50.	0.	326.	0.	142892.	118.0	80.
2	743.	2793.	4721.	0.	37.	0.	510.	675.	142892.	118.0	79.
3	743.	4053.	3371.	1831.	41.	0.	406.	0.	142892.	118.0	78.
4	1320.	6734.	863.	8054.	105.	0.	863.	0.	142892.	118.0	80.
5	2228.	9107.	490.	11335.	165.	0.	490.	0.	142892.	118.0	88.
6	2473.	10787.	238.	8970.	196.	0.	238.	0.	138602.	117.5	97.
7	3373.	10738.	203.	10460.	188.	0.	17.	0.	135137.	117.1	106.
8	5164.	8834.	25.	0.	60.	0.	25.	0.	121139.	115.3	110.
9	2611.	4382.	38.	3950.	318.	0.	38.	0.	118096.	115.0	120.
10	1395.	3227.	302.	29418.	99.	0.	302.	0.	142892.	118.0	116.
11	990.	3017.	6058.	0.	35.	0.	77.	1974.	142892.	118.0	114.
12	1238.	3311.	1406.	3359.	45.	0.	216.	0.	142892.	118.0	113.
	22938.	70000.	20113.	78982.		0.	3508.	2649.			
1986											
1	1073.	3017.	582.	3834.	95.	0.	326.	0.	142892.	118.0	113.
2	908.	2793.	1142.	3069.	53.	0.	510.	0.	142892.	118.0	112.
3	2063.	4053.	549.	5973.	106.	0.	406.	0.	142892.	118.0	114.
4	1729.	6734.	267.	130.	93.	0.	267.	0.	134559.	117.0	115.
5	1071.	9107.	1281.	18511.	56.	0.	1281.	0.	142892.	118.0	108.
6	990.	10787.	9615.	5220.	46.	0.	3058.	0.	142892.	118.0	102.
7	5280.	10738.	113.	15922.	110.	0.	17.	0.	142892.	118.0	107.
8	2888.	8834.	63.	11722.	130.	0.	63.	0.	142892.	118.0	111.
9	1320.	4382.	641.	5702.	159.	0.	641.	0.	142892.	118.0	114.
10	660.	3227.	670.	3887.	205.	0.	670.	0.	142892.	118.0	117.
11	-330.	3017.	1695.	1069.	84.	0.	77.	0.	142892.	118.0	116.
12	-825.	3311.	8065.	0.	32.	0.	216.	5363.	142892.	118.0	113.
	16827.	70000.	24683.	75039.		0.	7532.	5363.			
1987											
1	495.	3017.	1538.	2300.	73.	0.	326.	0.	142892.	118.0	112.
2	-578.	2793.	3013.	0.	42.	0.	510.	288.	142892.	118.0	110.
3	1815.	4053.	2001.	4273.	110.	0.	406.	0.	142892.	118.0	112.
4	3465.	6734.	297.	10199.	235.	0.	297.	0.	142892.	118.0	123.
5	659.	9107.	2637.	2500.	116.	0.	2637.	0.	135626.	117.1	123.
6	906.	10787.	15392.	6625.	51.	0.	3058.	0.	142892.	118.0	113.
7	2475.	10738.	344.	12886.	98.	0.	17.	0.	142892.	118.0	114.
8	4290.	8834.	104.	13124.	94.	0.	104.	0.	142892.	118.0	115.
9	2393.	4382.	395.	6775.	154.	0.	395.	0.	142892.	118.0	119.
10	3548.	3227.	91.	6775.	149.	0.	91.	0.	142892.	118.0	124.
11	83.	3017.	563.	2614.	118.	0.	77.	0.	142892.	118.0	124.
12	-248.	3311.	1227.	2052.	88.	0.	216.	0.	142892.	118.0	122.
	19303.	70000.	27602.	70123.		0.	8134.	288.			

ALLENS CREEK RESERVOIR - Chloride with TTP bypass requirements 60% drought con
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1988											
1	1073.	3017.	491.	3925.	113.	0.	326.	0.	142892.	118.0	123.
2	825.	2793.	476.	3618.	148.	0.	476.	0.	142892.	118.0	125.
3	660.	4053.	4156.	963.	47.	0.	406.	0.	142892.	118.0	122.
4	1565.	6734.	404.	0.	60.	0.	404.	0.	134593.	117.0	124.
5	2705.	9107.	2606.	0.	44.	0.	2606.	0.	122781.	115.5	125.
6	2935.	10787.	540.	3160.	69.	0.	540.	0.	112219.	114.3	126.
7	3006.	10738.	113.	11000.	129.	0.	17.	0.	109571.	113.9	130.
8	3966.	8834.	43.	0.	60.	0.	43.	0.	96771.	112.3	135.
9	3383.	4382.	17.	0.	60.	0.	17.	0.	89006.	111.4	140.
10	3208.	3227.	25.	0.	60.	0.	25.	0.	82571.	110.6	145.
11	2317.	3017.	42.	0.	60.	0.	42.	0.	77237.	109.9	149.
12	398.	3311.	75.	2400.	225.	0.	0.	0.	76003.	109.8	152.
	26041.	70000.	8988.	25066.		0.	4902.	0.			
1989											
1	-961.	3017.	1953.	16090.	68.	0.	0.	0.	91990.	111.8	134.
2	649.	2793.	363.	33340.	51.	0.	363.	0.	121888.	115.4	112.
3	491.	4053.	1554.	8610.	61.	0.	406.	0.	127102.	116.1	109.
4	1726.	6734.	299.	24250.	59.	0.	299.	0.	142892.	118.0	102.
5	1238.	9107.	684.	10345.	97.	0.	684.	0.	142892.	118.0	102.
6	825.	10787.	249.	11612.	138.	0.	249.	0.	142892.	118.0	106.
7	2888.	10738.	124.	13519.	100.	0.	17.	0.	142892.	118.0	107.
8	2805.	8834.	1517.	11007.	67.	0.	885.	0.	142892.	118.0	106.
9	3548.	4382.	120.	7930.	149.	0.	120.	0.	142892.	118.0	111.
10	2393.	3227.	76.	5620.	159.	0.	76.	0.	142892.	118.0	114.
11	1237.	3017.	116.	1160.	151.	0.	77.	0.	139837.	117.6	116.
12	1154.	3311.	104.	7270.	168.	0.	104.	0.	142642.	118.0	119.
	17993.	70000.	7159.	150753.		0.	3280.	0.			

CRITICAL PERIOD IS FROM 1/1954 THROUGH 2/1957. MINIMUM CONTENT = 25532.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1955											
1	231.	3017.	1239.	0.	300.	0.	0.	0.	50214.	106.5	410.
2	-1586.	2793.	8967.	35010.	244.	0.	106.	0.	92878.	111.9	326.
3	2090.	4053.	0.	0.	0.	0.	0.	0.	86735.	111.1	334.
4	890.	6734.	80.	38180.	203.	0.	80.	0.	117291.	114.9	295.
5	732.	9107.	3039.	0.	278.	0.	3039.	0.	107452.	113.7	296.
6	2830.	10787.	120.	0.	300.	0.	120.	0.	93835.	112.0	305.
7	2729.	10738.	1453.	0.	300.	0.	1453.	0.	80368.	110.3	314.
8	1989.	8834.	412.	0.	300.	0.	412.	0.	69545.	108.9	323.
9	1893.	4382.	888.	0.	300.	0.	888.	0.	63270.	108.2	331.
10	4586.	3227.	29.	63650.	987.	0.	0.	0.	119136.	115.1	690.
11	3026.	3017.	0.	15540.	886.	0.	0.	0.	128633.	116.3	729.
12	1310.	3311.	0.	0.	0.	0.	0.	0.	124012.	115.7	737.
	20720.	70000.	16227.	152380.		0.	6098.	0.			
1956											
1	327.	3017.	1626.	0.	300.	0.	1626.	0.	120668.	115.3	733.
2	82.	2793.	998.	5370.	442.	0.	510.	0.	123651.	115.7	719.
3	1470.	4053.	0.	0.	0.	0.	0.	0.	118128.	115.0	727.
4	814.	6734.	103.	0.	300.	0.	103.	0.	110580.	114.1	732.
5	1620.	9107.	448.	0.	300.	0.	448.	0.	99853.	112.7	742.
6	2819.	10787.	278.	0.	300.	0.	278.	0.	86247.	111.0	763.
7	5985.	10738.	1.	0.	300.	0.	1.	0.	69524.	108.9	824.
8	5262.	8834.	10.	0.	300.	0.	10.	0.	55428.	107.1	896.
9	5161.	4382.	50.	0.	300.	0.	50.	0.	45885.	105.9	992.
10	2840.	3227.	0.	0.	0.	0.	0.	0.	39818.	105.1	1060.
11	2019.	3017.	0.	0.	0.	0.	0.	0.	34782.	104.4	1119.
12	281.	3311.	15.	1150.	339.	0.	0.	0.	32355.	104.1	1101.
	28680.	70000.	3529.	6520.		0.	3026.	0.			
1957											
1	949.	3017.	0.	0.	0.	0.	0.	0.	28389.	103.4	1136.
2	64.	2793.	12.	0.	300.	0.	12.	0.	25532.	103.0	1138.
3	-1434.	4053.	10999.	29300.	379.	0.	31.	0.	63181.	108.1	644.
4	-2379.	6734.	10365.	11270.	222.	0.	54.	0.	80407.	110.3	517.
5	1138.	9107.	1075.	71710.	314.	0.	55.	0.	142892.	118.0	421.
6	248.	10787.	1378.	11035.	303.	0.	1378.	0.	142892.	118.0	411.
7	3630.	10738.	28.	14357.	342.	0.	17.	0.	142892.	118.0	415.
8	3878.	8834.	21.	12712.	355.	0.	21.	0.	142892.	118.0	421.
9	1073.	4382.	1916.	5002.	450.	0.	1463.	0.	142892.	118.0	425.
10	-495.	3227.	20098.	0.	184.	0.	1679.	15687.	142892.	118.0	404.
11	-825.	3017.	10942.	0.	213.	0.	77.	8673.	142892.	118.0	393.
12	1238.	3311.	81.	4549.	424.	0.	81.	0.	142892.	118.0	397.
	7085.	70000.	56915.	159935.		0.	4868.	24360.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1958											
1	-908.	3017.	7295.	0.	234.	0.	326.	4860.	142892.	118.0	389.
2	-413.	2793.	4426.	0.	254.	0.	510.	1536.	142892.	118.0	385.
3	990.	4053.	70.	5043.	332.	0.	70.	0.	142892.	118.0	386.
4	495.	6734.	55.	7229.	440.	0.	55.	0.	142892.	118.0	390.
5	1238.	9107.	187.	10345.	289.	0.	187.	0.	142892.	118.0	386.
6	2558.	10787.	196.	13345.	343.	0.	196.	0.	142892.	118.0	388.
7	2888.	10738.	156.	13487.	426.	0.	17.	0.	142892.	118.0	399.
8	3127.	8834.	149.	0.	300.	0.	149.	0.	130931.	116.5	409.
9	-2633.	4382.	3590.	11583.	275.	0.	1463.	0.	142892.	118.0	387.
10	825.	3227.	1814.	3917.	316.	0.	1679.	0.	142892.	118.0	387.
11	908.	3017.	94.	3908.	436.	0.	77.	0.	142892.	118.0	390.
12	743.	3311.	232.	4038.	606.	0.	216.	0.	142892.	118.0	399.
	9818.	70000.	18264.	72895.		0.	4945.	6396.			
1959											
1	1236.	3017.	152.	0.	300.	0.	152.	0.	138639.	117.5	402.
2	-1813.	2793.	17063.	0.	187.	0.	510.	11320.	142892.	118.0	381.
3	1733.	4053.	198.	5786.	539.	0.	198.	0.	142892.	118.0	392.
4	-1650.	6734.	11743.	0.	209.	0.	2765.	3894.	142892.	118.0	375.
5	-330.	9107.	2178.	8777.	250.	0.	2178.	0.	142892.	118.0	365.
6	2888.	10787.	119.	13675.	289.	0.	119.	0.	142892.	118.0	365.
7	1733.	10738.	729.	11759.	369.	0.	17.	0.	142892.	118.0	370.
8	990.	8834.	6864.	3845.	336.	0.	885.	0.	142892.	118.0	370.
9	2307.	4382.	179.	0.	300.	0.	179.	0.	136203.	117.2	376.
10	412.	3227.	21515.	0.	180.	0.	1679.	9508.	142892.	118.0	355.
11	1733.	3017.	9855.	0.	218.	0.	77.	5028.	142892.	118.0	352.
12	-330.	3311.	5527.	0.	248.	0.	216.	2330.	142892.	118.0	348.
	8909.	70000.	76122.	43842.		0.	8975.	32080.			
1960											
1	165.	3017.	2329.	1179.	307.	0.	326.	0.	142892.	118.0	348.
2	-413.	2793.	2584.	306.	290.	0.	510.	0.	142892.	118.0	345.
3	1073.	4053.	99.	5126.	400.	0.	99.	0.	142892.	118.0	350.
4	495.	6734.	1249.	7229.	395.	0.	1249.	0.	142892.	118.0	354.
5	2558.	9107.	123.	11665.	291.	0.	123.	0.	142892.	118.0	355.
6	-1155.	10787.	38289.	0.	150.	0.	3058.	25599.	142892.	118.0	319.
7	2310.	10738.	404.	12661.	305.	0.	17.	0.	142892.	118.0	323.
8	413.	8834.	3708.	6424.	430.	0.	885.	0.	142892.	118.0	331.
9	3380.	4382.	112.	4710.	532.	0.	112.	0.	139840.	117.6	346.
10	-742.	3227.	6974.	242.	240.	0.	1679.	0.	142892.	118.0	339.
11	-330.	3017.	1297.	1467.	279.	0.	77.	0.	142892.	118.0	337.
12	-1403.	3311.	9179.	0.	223.	0.	216.	7055.	142892.	118.0	329.
	6351.	70000.	66347.	51009.		0.	8351.	32654.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1961											
1	-578.	3017.	5224.	0.	251.	0.	326.	2459.	142892.	118.0	326.
2	-1073.	2793.	7112.	0.	231.	0.	510.	4882.	142892.	118.0	320.
3	1155.	4053.	76.	5208.	350.	0.	76.	0.	142892.	118.0	324.
4	1155.	6734.	620.	7889.	427.	0.	620.	0.	142892.	118.0	332.
5	2222.	9107.	164.	580.	431.	0.	164.	0.	132143.	116.7	338.
6	-1399.	10787.	18249.	4946.	222.	0.	3058.	0.	142892.	118.0	317.
7	413.	10738.	14114.	0.	201.	0.	17.	2946.	142892.	118.0	308.
8	2970.	8834.	106.	11804.	770.	0.	106.	0.	142892.	118.0	352.
9	-1320.	4382.	13797.	0.	201.	0.	1463.	9272.	142892.	118.0	339.
10	3135.	3227.	68.	6362.	614.	0.	68.	0.	142892.	118.0	359.
11	-413.	3017.	3349.	0.	272.	0.	77.	668.	142892.	118.0	356.
12	908.	3311.	1406.	3029.	392.	0.	216.	0.	142892.	118.0	359.
	7175.	70000.	64285.	39818.		0.	6701.	20227.			
1962											
1	330.	3017.	14.	3347.	489.	0.	14.	0.	142892.	118.0	363.
2	825.	2793.	3.	3618.	422.	0.	3.	0.	142892.	118.0	367.
3	1648.	4053.	3.	1040.	574.	0.	3.	0.	138231.	117.4	372.
4	-576.	6734.	382.	0.	300.	0.	382.	0.	132073.	116.7	371.
5	2131.	9107.	961.	3640.	434.	0.	961.	0.	124475.	115.8	379.
6	-164.	10787.	962.	13090.	427.	0.	962.	0.	126942.	116.1	384.
7	4439.	10738.	514.	30630.	447.	0.	17.	0.	142892.	118.0	408.
8	4606.	8834.	69.	0.	300.	0.	69.	0.	129452.	116.4	422.
9	905.	4382.	2178.	18012.	719.	0.	1463.	0.	142892.	118.0	466.
10	1980.	3227.	74.	5207.	717.	0.	74.	0.	142892.	118.0	482.
11	578.	3017.	376.	3296.	567.	0.	77.	0.	142892.	118.0	486.
12	-1155.	3311.	7718.	0.	232.	0.	216.	5346.	142892.	118.0	473.
	15547.	70000.	13254.	81880.		0.	4241.	5346.			
1963											
1	330.	3017.	5541.	0.	248.	0.	326.	1868.	142892.	118.0	467.
2	-165.	2793.	1557.	1581.	327.	0.	510.	0.	142892.	118.0	463.
3	1978.	4053.	32.	1210.	476.	0.	32.	0.	138071.	117.4	470.
4	1401.	6734.	29.	12956.	330.	0.	29.	0.	142892.	118.0	462.
5	2386.	9107.	28.	0.	300.	0.	28.	0.	131399.	116.6	470.
6	982.	10787.	914.	0.	300.	0.	914.	0.	119630.	115.2	473.
7	3090.	10738.	780.	0.	300.	0.	780.	0.	105802.	113.5	484.
8	4040.	8834.	69.	0.	300.	0.	69.	0.	92928.	111.9	504.
9	2652.	4382.	45.	0.	300.	0.	45.	0.	85894.	111.0	519.
10	3202.	3227.	26.	0.	300.	0.	26.	0.	79465.	110.2	540.
11	160.	3017.	113.	8770.	603.	0.	0.	0.	85171.	110.9	547.
12	80.	3311.	2040.	11950.	479.	0.	0.	0.	95770.	112.2	538.
	20136.	70000.	11174.	36467.		0.	2759.	1868.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1964											
1	-242.	3017.	1001.	2670.	464.	0.	326.	0.	96340.	112.3	534.
2	-243.	2793.	3901.	16080.	365.	0.	510.	0.	113261.	114.4	503.
3	409.	4053.	5472.	25170.	290.	0.	406.	0.	139035.	117.5	459.
4	1315.	6734.	108.	0.	300.	0.	108.	0.	130986.	116.6	463.
5	1719.	9107.	128.	0.	300.	0.	128.	0.	120160.	115.2	469.
6	2766.	10787.	419.	0.	300.	0.	419.	0.	106607.	113.6	480.
7	3313.	10738.	127.	0.	300.	0.	127.	0.	92556.	111.8	496.
8	3289.	8834.	130.	0.	300.	0.	130.	0.	80433.	110.3	515.
9	-401.	4382.	1530.	9450.	327.	0.	0.	0.	87432.	111.2	490.
10	2592.	3227.	1220.	39950.	252.	0.	1220.	0.	121563.	115.4	421.
11	657.	3017.	1406.	23674.	236.	0.	77.	0.	142892.	118.0	391.
12	-248.	3311.	3556.	0.	270.	0.	216.	277.	142892.	118.0	387.
	14926.	70000.	18998.	116994.		0.	3667.	277.			
1965											
1	248.	3017.	4700.	0.	256.	0.	326.	1109.	142892.	118.0	384.
2	-990.	2793.	4714.	0.	251.	0.	510.	2401.	142892.	118.0	378.
3	1320.	4053.	33.	5373.	336.	0.	33.	0.	142892.	118.0	380.
4	1568.	6734.	90.	8302.	266.	0.	90.	0.	142892.	118.0	378.
5	-825.	9107.	1475.	8282.	241.	0.	1475.	0.	142892.	118.0	367.
6	2558.	10787.	972.	13345.	241.	0.	972.	0.	142892.	118.0	361.
7	4208.	10738.	267.	14696.	297.	0.	17.	0.	142892.	118.0	365.
8	3295.	8834.	204.	4830.	323.	0.	204.	0.	135593.	117.1	372.
9	2306.	4382.	174.	13987.	401.	0.	174.	0.	142892.	118.0	380.
10	1650.	3227.	1764.	4792.	355.	0.	1679.	0.	142892.	118.0	384.
11	-1403.	3017.	8421.	0.	226.	0.	77.	6730.	142892.	118.0	374.
12	-1980.	3311.	4879.	0.	255.	0.	216.	3332.	142892.	118.0	367.
	11955.	70000.	27693.	73607.		0.	5773.	13572.			
1966											
1	-248.	3017.	3308.	0.	274.	0.	326.	213.	142892.	118.0	364.
2	-165.	2793.	7250.	0.	230.	0.	510.	4112.	142892.	118.0	359.
3	1155.	4053.	321.	5208.	303.	0.	321.	0.	142892.	118.0	360.
4	0.	6734.	11261.	0.	211.	0.	2765.	1762.	142892.	118.0	349.
5	-330.	9107.	11481.	1642.	225.	0.	4346.	0.	142892.	118.0	337.
6	1980.	10787.	652.	12767.	339.	0.	652.	0.	142892.	118.0	342.
7	3372.	10738.	379.	0.	300.	0.	379.	0.	128782.	116.3	351.
8	2467.	8834.	743.	25411.	312.	0.	743.	0.	142892.	118.0	350.
9	1898.	4382.	2522.	5221.	467.	0.	1463.	0.	142892.	118.0	360.
10	2888.	3227.	125.	6115.	512.	0.	125.	0.	142892.	118.0	374.
11	1898.	3017.	10.	4915.	642.	0.	10.	0.	142892.	118.0	388.
12	824.	3311.	32.	160.	613.	0.	32.	0.	138917.	117.5	391.
	15739.	70000.	38084.	61439.		0.	11672.	6087.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1967											
1	412.	3017.	794.	420.	421.	0.	326.	0.	136376.	117.2	392.
2	575.	2793.	278.	0.	300.	0.	278.	0.	133008.	116.8	394.
3	1231.	4053.	73.	0.	300.	0.	73.	0.	127724.	116.2	397.
4	819.	6734.	509.	4760.	402.	0.	509.	0.	124931.	115.8	400.
5	654.	9107.	1489.	7240.	367.	0.	1489.	0.	122410.	115.5	400.
6	3826.	10787.	164.	0.	300.	0.	164.	0.	107797.	113.7	413.
7	3800.	10738.	652.	0.	300.	0.	652.	0.	93259.	111.9	428.
8	3211.	8834.	4893.	0.	254.	0.	4893.	0.	81214.	110.4	434.
9	642.	4382.	2826.	15070.	539.	0.	0.	0.	94086.	112.0	457.
10	1212.	3227.	2233.	14570.	506.	0.	1679.	0.	104771.	113.3	469.
11	1227.	3017.	34.	42365.	320.	0.	34.	0.	142892.	118.0	430.
12	248.	3311.	2605.	1170.	327.	0.	216.	0.	142892.	118.0	428.
	17857.	70000.	16550.	85595.		0.	10313.	0.			
1968											
1	-413.	3017.	6051.	0.	244.	0.	326.	3121.	142892.	118.0	421.
2	248.	2793.	1447.	2104.	391.	0.	510.	0.	142892.	118.0	421.
3	495.	4053.	1099.	3855.	368.	0.	406.	0.	142892.	118.0	420.
4	248.	6734.	987.	6982.	334.	0.	987.	0.	142892.	118.0	416.
5	-83.	9107.	8670.	4700.	269.	0.	4346.	0.	142892.	118.0	403.
6	-165.	10787.	16457.	0.	192.	0.	3058.	2777.	142892.	118.0	381.
7	2640.	10738.	1225.	12170.	235.	0.	17.	0.	142892.	118.0	375.
8	4290.	8834.	284.	13124.	328.	0.	284.	0.	142892.	118.0	382.
9	1155.	4382.	1737.	5263.	278.	0.	1463.	0.	142892.	118.0	380.
10	1815.	3227.	1177.	5042.	331.	0.	1177.	0.	142892.	118.0	382.
11	1155.	3017.	786.	3463.	361.	0.	77.	0.	142892.	118.0	385.
12	578.	3311.	1640.	2465.	259.	0.	216.	0.	142892.	118.0	383.
	11963.	70000.	41560.	59168.		0.	12867.	5898.			
1969											
1	743.	3017.	1709.	2377.	359.	0.	326.	0.	142892.	118.0	384.
2	-1155.	2793.	10971.	0.	209.	0.	510.	8823.	142892.	118.0	373.
3	743.	4053.	4921.	281.	253.	0.	406.	0.	142892.	118.0	371.
4	330.	6734.	1067.	7064.	217.	0.	1067.	0.	142892.	118.0	363.
5	660.	9107.	12846.	1267.	220.	0.	4346.	0.	142892.	118.0	351.
6	3795.	10787.	145.	14582.	610.	0.	145.	0.	142892.	118.0	386.
7	5426.	10738.	66.	0.	300.	0.	66.	0.	126728.	116.0	402.
8	3511.	8834.	245.	0.	300.	0.	245.	0.	114383.	114.5	413.
9	2617.	4382.	318.	25090.	542.	0.	318.	0.	132474.	116.7	446.
10	2634.	3227.	881.	16279.	680.	0.	881.	0.	142892.	118.0	482.
11	1980.	3017.	258.	4816.	499.	0.	77.	0.	142892.	118.0	489.
12	495.	3311.	2191.	1831.	305.	0.	216.	0.	142892.	118.0	485.
	21779.	70000.	35618.	73587.		0.	8603.	8823.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1970											
1	-83.	3017.	981.	2279.	394.	0.	326.	0.	142892.	118.0	483.
2	0.	2793.	2316.	987.	315.	0.	510.	0.	142892.	118.0	479.
3	83.	4053.	4576.	0.	258.	0.	406.	34.	142892.	118.0	472.
4	248.	6734.	815.	6982.	298.	0.	815.	0.	142892.	118.0	464.
5	-248.	9107.	3666.	8859.	339.	0.	3666.	0.	142892.	118.0	453.
6	3218.	10787.	772.	14005.	329.	0.	772.	0.	142892.	118.0	450.
7	3454.	10738.	167.	0.	300.	0.	167.	0.	128700.	116.3	462.
8	3841.	8834.	201.	0.	300.	0.	201.	0.	116025.	114.7	476.
9	246.	4382.	3570.	29388.	301.	0.	1463.	0.	142892.	118.0	437.
10	83.	3227.	14886.	0.	199.	0.	1679.	9897.	142892.	118.0	422.
11	2558.	3017.	150.	5502.	262.	0.	77.	0.	142892.	118.0	423.
12	907.	3311.	12.	1980.	501.	0.	12.	0.	140654.	117.7	427.
	14307.	70000.	32112.	69982.		0.	10094.	9931.			
1971											
1	1894.	3017.	17.	510.	546.	0.	17.	0.	136253.	117.2	433.
2	986.	2793.	182.	0.	300.	0.	182.	0.	132474.	116.7	436.
3	2378.	4053.	12.	0.	300.	0.	12.	0.	126043.	115.9	444.
4	1961.	6734.	318.	0.	300.	0.	318.	0.	117348.	114.9	451.
5	1788.	9107.	194.	0.	300.	0.	194.	0.	106453.	113.5	458.
6	3232.	10787.	175.	0.	300.	0.	175.	0.	92434.	111.8	473.
7	4328.	10738.	247.	0.	300.	0.	247.	0.	77368.	109.9	497.
8	1761.	8834.	7043.	13870.	237.	0.	0.	0.	87686.	111.2	447.
9	969.	4382.	20454.	7640.	247.	0.	1463.	0.	108966.	113.9	401.
10	1310.	3227.	2054.	38088.	445.	0.	1679.	0.	142892.	118.0	417.
11	1568.	3017.	45.	4585.	527.	0.	45.	0.	142892.	118.0	425.
12	-248.	3311.	4218.	0.	262.	0.	216.	939.	142892.	118.0	420.
	21927.	70000.	34959.	64693.		0.	4548.	939.			
1972											
1	165.	3017.	2936.	572.	313.	0.	326.	0.	142892.	118.0	418.
2	825.	2793.	5030.	0.	250.	0.	510.	902.	142892.	118.0	415.
3	1403.	4053.	7869.	0.	231.	0.	406.	2007.	142892.	118.0	410.
4	1729.	6734.	815.	0.	300.	0.	815.	0.	134429.	117.0	415.
5	412.	9107.	11315.	11013.	212.	0.	4346.	0.	142892.	118.0	385.
6	2223.	10787.	1502.	2940.	557.	0.	1502.	0.	132822.	116.8	397.
7	1966.	10738.	579.	0.	300.	0.	579.	0.	120118.	115.2	403.
8	2604.	8834.	945.	0.	300.	0.	945.	0.	108680.	113.8	411.
9	1702.	4382.	17751.	0.	188.	0.	17751.	0.	102596.	113.1	383.
10	1378.	3227.	864.	11320.	523.	0.	864.	0.	109311.	113.9	403.
11	82.	3017.	6216.	30541.	298.	0.	77.	0.	142892.	118.0	376.
12	248.	3311.	196.	3559.	622.	0.	196.	0.	142892.	118.0	383.
	14737.	70000.	56018.	59945.		0.	28317.	2909.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1973											
1	-495.	3017.	5209.	0.	251.	0.	326.	2361.	142892.	118.0	378.
2	-330.	2793.	7376.	0.	229.	0.	510.	4403.	142892.	118.0	372.
3	165.	4053.	3239.	1385.	268.	0.	406.	0.	142892.	118.0	369.
4	-248.	6734.	17903.	0.	188.	0.	2765.	8652.	142892.	118.0	352.
5	2063.	9107.	819.	11170.	505.	0.	819.	0.	142892.	118.0	370.
6	-83.	10787.	23444.	0.	174.	0.	3058.	9682.	142892.	118.0	345.
7	2805.	10738.	1481.	12079.	567.	0.	17.	0.	142892.	118.0	372.
8	2228.	8834.	777.	11062.	702.	0.	777.	0.	142892.	118.0	404.
9	660.	4382.	7649.	0.	230.	0.	1463.	1144.	142892.	118.0	398.
10	330.	3227.	16841.	0.	193.	0.	1679.	11605.	142892.	118.0	383.
11	1733.	3017.	1392.	3435.	286.	0.	77.	0.	142892.	118.0	385.
12	743.	3311.	663.	3607.	308.	0.	216.	0.	142892.	118.0	384.
	9571.	70000.	86793.	42738.		0.	12113.	37847.			
1974											
1	-743.	3017.	15753.	0.	196.	0.	326.	13153.	142892.	118.0	371.
2	1650.	2793.	172.	4443.	550.	0.	172.	0.	142892.	118.0	381.
3	990.	4053.	58.	5043.	616.	0.	58.	0.	142892.	118.0	392.
4	1894.	6734.	700.	0.	300.	0.	700.	0.	134264.	116.9	397.
5	1235.	9107.	5664.	17652.	409.	0.	4346.	0.	142892.	118.0	402.
6	3125.	10787.	620.	0.	300.	0.	620.	0.	128980.	116.3	411.
7	3676.	10738.	593.	0.	300.	0.	593.	0.	114566.	114.5	423.
8	1299.	8834.	1301.	0.	300.	0.	1301.	0.	104433.	113.3	426.
9	818.	4382.	287.	43659.	290.	0.	287.	0.	142892.	118.0	387.
10	1155.	3227.	2839.	3222.	286.	0.	1679.	0.	142892.	118.0	386.
11	0.	3017.	14774.	0.	198.	0.	77.	11680.	142892.	118.0	375.
12	83.	3311.	3528.	82.	272.	0.	216.	0.	142892.	118.0	372.
	15182.	70000.	46289.	74101.		0.	10375.	24833.			
1975											
1	330.	3017.	1108.	2565.	560.	0.	326.	0.	142892.	118.0	378.
2	413.	2793.	679.	3037.	585.	0.	510.	0.	142892.	118.0	384.
3	743.	4053.	74.	4796.	909.	0.	74.	0.	142892.	118.0	404.
4	495.	6734.	1709.	7229.	738.	0.	1709.	0.	142892.	118.0	426.
5	330.	9107.	11467.	2316.	239.	0.	4346.	0.	142892.	118.0	409.
6	1650.	10787.	5761.	9734.	521.	0.	3058.	0.	142892.	118.0	425.
7	2558.	10738.	406.	12907.	510.	0.	17.	0.	142892.	118.0	440.
8	1898.	8834.	1011.	10606.	731.	0.	885.	0.	142892.	118.0	469.
9	2640.	4382.	145.	7022.	980.	0.	145.	0.	142892.	118.0	503.
10	1733.	3227.	460.	4960.	474.	0.	460.	0.	142892.	118.0	508.
11	1650.	3017.	1331.	3413.	401.	0.	77.	0.	142892.	118.0	510.
12	660.	3311.	3749.	438.	305.	0.	216.	0.	142892.	118.0	506.
	15100.	70000.	27900.	69023.		0.	11823.	0.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1976											
1	1073.	3017.	81.	4090.	702.	0.	81.	0.	142892.	118.0	516.
2	1733.	2793.	66.	4526.	704.	0.	66.	0.	142892.	118.0	528.
3	660.	4053.	72.	3870.	604.	0.	72.	0.	142049.	117.9	532.
4	330.	6734.	502.	7907.	262.	0.	502.	0.	142892.	118.0	518.
5	1238.	9107.	2674.	10345.	217.	0.	2674.	0.	142892.	118.0	496.
6	1733.	10787.	5995.	9583.	241.	0.	3058.	0.	142892.	118.0	475.
7	1320.	10738.	1833.	10242.	249.	0.	17.	0.	142892.	118.0	461.
8	3548.	8834.	58.	12382.	459.	0.	58.	0.	142892.	118.0	472.
9	1403.	4382.	145.	5785.	515.	0.	145.	0.	142892.	118.0	478.
10	578.	3227.	6230.	0.	242.	0.	1679.	746.	142892.	118.0	471.
11	83.	3017.	1684.	1493.	305.	0.	77.	0.	142892.	118.0	467.
12	-660.	3311.	11575.	0.	211.	0.	216.	8708.	142892.	118.0	453.
	13039.	70000.	30915.	70223.		0.	8645.	9454.			
1977											
1	-330.	3017.	1871.	1142.	353.	0.	326.	0.	142892.	118.0	450.
2	330.	2793.	8277.	0.	223.	0.	510.	4644.	142892.	118.0	441.
3	908.	4053.	1040.	4327.	364.	0.	406.	0.	142892.	118.0	441.
4	660.	6734.	10656.	0.	214.	0.	2765.	497.	142892.	118.0	427.
5	1980.	9107.	902.	11087.	318.	0.	902.	0.	142892.	118.0	424.
6	2393.	10787.	1184.	13180.	337.	0.	1184.	0.	142892.	118.0	422.
7	3795.	10738.	125.	14425.	459.	0.	17.	0.	142892.	118.0	437.
8	2964.	8834.	70.	3020.	554.	0.	70.	0.	134114.	116.9	449.
9	2141.	4382.	125.	15301.	558.	0.	125.	0.	142892.	118.0	467.
10	2640.	3227.	90.	5867.	576.	0.	90.	0.	142892.	118.0	480.
11	330.	3017.	156.	2400.	525.	0.	77.	0.	142024.	117.9	482.
12	1320.	3311.	188.	5499.	377.	0.	188.	0.	142892.	118.0	482.
	19131.	70000.	24684.	76248.		0.	6660.	5141.			
1978											
1	-825.	3017.	1269.	1249.	265.	0.	326.	0.	142892.	118.0	476.
2	-495.	2793.	1806.	1002.	274.	0.	510.	0.	142892.	118.0	470.
3	1980.	4053.	479.	5960.	254.	0.	406.	0.	142892.	118.0	467.
4	2058.	6734.	252.	0.	300.	0.	252.	0.	134100.	116.9	474.
5	2623.	9107.	137.	0.	300.	0.	137.	0.	122370.	115.5	483.
6	2120.	10787.	193.	4120.	310.	0.	193.	0.	113583.	114.4	486.
7	3567.	10738.	39.	0.	300.	0.	39.	0.	99278.	112.7	502.
8	3955.	8834.	27.	8340.	729.	0.	27.	0.	94829.	112.1	541.
9	649.	4382.	4380.	28120.	563.	0.	1463.	0.	120835.	115.3	550.
10	3261.	3227.	109.	440.	845.	0.	109.	0.	114787.	114.6	567.
11	-328.	3017.	2639.	25930.	544.	0.	77.	0.	140590.	117.7	561.
12	165.	3311.	1204.	4790.	404.	0.	216.	0.	142892.	118.0	555.
	18730.	70000.	12534.	79951.		0.	3755.	0.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1979											
1	-660.	3017.	9335.	0.	222.	0.	326.	6652.	142892.	118.0	539.
2	-660.	2793.	5280.	0.	246.	0.	510.	2637.	142892.	118.0	528.
3	578.	4053.	1705.	3332.	274.	0.	406.	0.	142892.	118.0	521.
4	-83.	6734.	9866.	0.	218.	0.	2765.	450.	142892.	118.0	501.
5	825.	9107.	15181.	0.	198.	0.	4346.	903.	142892.	118.0	474.
6	2063.	10787.	9855.	6053.	238.	0.	3058.	0.	142892.	118.0	456.
7	990.	10738.	417.	11328.	300.	0.	17.	0.	142892.	118.0	446.
8	2475.	8834.	229.	11309.	261.	0.	229.	0.	142892.	118.0	439.
9	660.	4382.	2446.	4059.	295.	0.	1463.	0.	142892.	118.0	435.
10	2805.	3227.	271.	6032.	491.	0.	271.	0.	142892.	118.0	446.
11	1320.	3017.	310.	4104.	406.	0.	77.	0.	142892.	118.0	449.
12	-83.	3311.	942.	2502.	363.	0.	216.	0.	142892.	118.0	446.
	10230.	70000.	55837.	48719.		0.	13684.	10642.			
1980											
1	-495.	3017.	4628.	0.	257.	0.	326.	1780.	142892.	118.0	440.
2	330.	2793.	1578.	2055.	261.	0.	510.	0.	142892.	118.0	436.
3	413.	4053.	883.	3989.	326.	0.	406.	0.	142892.	118.0	434.
4	2145.	6734.	649.	8879.	238.	0.	649.	0.	142892.	118.0	428.
5	990.	9107.	4393.	10050.	201.	0.	4346.	0.	142892.	118.0	409.
6	4617.	10787.	234.	12630.	250.	0.	234.	0.	140118.	117.7	407.
7	4933.	10738.	54.	5630.	471.	0.	17.	0.	130114.	116.4	425.
8	4497.	8834.	42.	0.	300.	0.	42.	0.	116783.	114.8	441.
9	1712.	4382.	53.	8170.	608.	0.	53.	0.	118859.	115.1	458.
10	2203.	3227.	295.	6160.	467.	0.	295.	0.	119589.	115.2	467.
11	816.	3017.	185.	2980.	663.	0.	77.	0.	118844.	115.1	475.
12	1061.	3311.	211.	5800.	675.	0.	211.	0.	120272.	115.2	489.
	23222.	70000.	13205.	66343.		0.	7166.	1780.			
1981											
1	163.	3017.	408.	7780.	794.	0.	326.	0.	124954.	115.8	510.
2	327.	2793.	267.	3920.	807.	0.	267.	0.	125754.	115.9	521.
3	1066.	4053.	299.	10690.	564.	0.	299.	0.	131325.	116.6	528.
4	1229.	6734.	1174.	700.	375.	0.	1174.	0.	124062.	115.7	531.
5	980.	9107.	2526.	5540.	324.	0.	2526.	0.	119515.	115.1	522.
6	575.	10787.	7364.	30433.	244.	0.	3058.	0.	142892.	118.0	454.
7	2393.	10738.	625.	12523.	323.	0.	17.	0.	142892.	118.0	450.
8	2723.	8834.	152.	11557.	549.	0.	152.	0.	142892.	118.0	466.
9	2310.	4382.	242.	6692.	371.	0.	242.	0.	142892.	118.0	469.
10	660.	3227.	289.	3887.	626.	0.	289.	0.	142892.	118.0	475.
11	578.	3017.	8962.	0.	223.	0.	77.	5290.	142892.	118.0	466.
12	990.	3311.	380.	4137.	627.	0.	216.	0.	142892.	118.0	475.
	13994.	70000.	22688.	97859.		0.	8643.	5290.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1982											
1	578.	3017.	372.	3549.	591.	0.	326.	0.	142892.	118.0	480.
2	-82.	2793.	457.	1650.	598.	0.	457.	0.	141831.	117.9	481.
3	660.	4053.	464.	5716.	464.	0.	406.	0.	142892.	118.0	483.
4	660.	6734.	1089.	7394.	251.	0.	1089.	0.	142892.	118.0	471.
5	578.	9107.	8274.	5757.	267.	0.	4346.	0.	142892.	118.0	454.
6	3053.	10787.	208.	13840.	616.	0.	208.	0.	142892.	118.0	479.
7	4620.	10738.	145.	15230.	620.	0.	17.	0.	142892.	118.0	508.
8	4287.	8834.	43.	9740.	584.	0.	43.	0.	139511.	117.6	528.
9	3706.	4382.	23.	7330.	583.	0.	23.	0.	138753.	117.5	545.
10	1484.	3227.	53.	8430.	958.	0.	53.	0.	142472.	117.9	575.
11	-82.	3017.	529.	2903.	588.	0.	77.	0.	142892.	118.0	575.
12	330.	3311.	1113.	2744.	432.	0.	216.	0.	142892.	118.0	573.
	19792.	70000.	12770.	84283.		0.	7261.	0.			
1983											
1	0.	3017.	1160.	2183.	483.	0.	326.	0.	142892.	118.0	570.
2	-413.	2793.	3602.	0.	265.	0.	510.	712.	142892.	118.0	562.
3	413.	4053.	9452.	0.	221.	0.	406.	4580.	142892.	118.0	547.
4	2723.	6734.	652.	9457.	483.	0.	652.	0.	142892.	118.0	553.
5	1485.	9107.	7671.	7267.	266.	0.	4346.	0.	142892.	118.0	530.
6	1980.	10787.	239.	12767.	434.	0.	239.	0.	142892.	118.0	528.
7	2144.	10738.	154.	10430.	720.	0.	17.	0.	140577.	117.7	550.
8	1979.	8834.	497.	13128.	572.	0.	497.	0.	142892.	118.0	559.
9	1320.	4382.	185.	5702.	450.	0.	185.	0.	142892.	118.0	560.
10	1815.	3227.	130.	3950.	355.	0.	130.	0.	141800.	117.9	561.
11	825.	3017.	206.	4590.	333.	0.	77.	0.	142677.	118.0	557.
12	330.	3311.	935.	3137.	279.	0.	216.	0.	142892.	118.0	550.
	14601.	70000.	24883.	72611.		0.	7601.	5292.			
1984											
1	165.	3017.	443.	0.	300.	0.	326.	0.	139827.	117.6	550.
2	659.	2793.	559.	0.	300.	0.	510.	0.	136424.	117.2	552.
3	1236.	4053.	1232.	10931.	278.	0.	406.	0.	142892.	118.0	533.
4	3210.	6734.	246.	0.	300.	0.	246.	0.	132948.	116.8	546.
5	2050.	9107.	1144.	3170.	454.	0.	1144.	0.	124961.	115.8	551.
6	2854.	10787.	195.	0.	300.	0.	195.	0.	111320.	114.1	564.
7	3158.	10738.	52.	0.	300.	0.	52.	0.	97424.	112.4	581.
8	3219.	8834.	49.	0.	300.	0.	49.	0.	85371.	110.9	602.
9	2721.	4382.	25.	1230.	609.	0.	0.	0.	79523.	110.2	622.
10	-324.	3227.	860.	52850.	158.	0.	0.	0.	130330.	116.5	432.
11	1070.	3017.	201.	16525.	155.	0.	77.	0.	142892.	118.0	403.
12	330.	3311.	1467.	2390.	234.	0.	216.	0.	142892.	118.0	399.
	20348.	70000.	6473.	87096.		0.	3221.	0.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1985											
1	660.	3017.	2398.	1605.	280.	0.	326.	0.	142892.	118.0	398.
2	743.	2793.	4721.	0.	251.	0.	510.	675.	142892.	118.0	395.
3	743.	4053.	3371.	1831.	251.	0.	406.	0.	142892.	118.0	392.
4	1320.	6734.	863.	8054.	438.	0.	863.	0.	142892.	118.0	399.
5	2228.	9107.	490.	11335.	576.	0.	490.	0.	142892.	118.0	419.
6	2473.	10787.	238.	8970.	640.	0.	238.	0.	138602.	117.5	440.
7	3373.	10738.	203.	10460.	634.	0.	17.	0.	135137.	117.1	465.
8	5164.	8834.	25.	0.	300.	0.	25.	0.	121139.	115.3	484.
9	2611.	4382.	38.	3950.	905.	0.	38.	0.	118096.	115.0	509.
10	1395.	3227.	302.	29418.	378.	0.	302.	0.	142892.	118.0	487.
11	990.	3017.	6058.	0.	242.	0.	77.	1974.	142892.	118.0	482.
12	1238.	3311.	1406.	3359.	234.	0.	216.	0.	142892.	118.0	478.
	22938.	70000.	20113.	78982.		0.	3508.	2649.			
1986											
1	1073.	3017.	582.	3834.	402.	0.	326.	0.	142892.	118.0	479.
2	908.	2793.	1142.	3069.	262.	0.	510.	0.	142892.	118.0	476.
3	2063.	4053.	549.	5973.	433.	0.	406.	0.	142892.	118.0	480.
4	1729.	6734.	267.	130.	385.	0.	267.	0.	134559.	117.0	486.
5	1071.	9107.	1281.	18511.	266.	0.	1281.	0.	142892.	118.0	460.
6	990.	10787.	9615.	5220.	255.	0.	3058.	0.	142892.	118.0	443.
7	5280.	10738.	113.	15922.	440.	0.	17.	0.	142892.	118.0	458.
8	2888.	8834.	63.	11722.	494.	0.	63.	0.	142892.	118.0	470.
9	1320.	4382.	641.	5702.	558.	0.	641.	0.	142892.	118.0	478.
10	660.	3227.	670.	3887.	651.	0.	670.	0.	142892.	118.0	486.
11	-330.	3017.	1695.	1069.	384.	0.	77.	0.	142892.	118.0	483.
12	-825.	3311.	8065.	0.	229.	0.	216.	5363.	142892.	118.0	471.
	16827.	70000.	24683.	75039.		0.	7532.	5363.			
1987											
1	495.	3017.	1538.	2300.	345.	0.	326.	0.	142892.	118.0	469.
2	-578.	2793.	3013.	0.	274.	0.	510.	288.	142892.	118.0	463.
3	1815.	4053.	2001.	4273.	445.	0.	406.	0.	142892.	118.0	468.
4	3465.	6734.	297.	10199.	721.	0.	297.	0.	142892.	118.0	498.
5	659.	9107.	2637.	2500.	450.	0.	2637.	0.	135626.	117.1	498.
6	906.	10787.	15392.	6625.	267.	0.	3058.	0.	142892.	118.0	467.
7	2475.	10738.	344.	12886.	401.	0.	17.	0.	142892.	118.0	469.
8	4290.	8834.	104.	13124.	390.	0.	104.	0.	142892.	118.0	476.
9	2393.	4382.	395.	6775.	560.	0.	395.	0.	142892.	118.0	488.
10	3548.	3227.	91.	6775.	549.	0.	91.	0.	142892.	118.0	503.
11	83.	3017.	563.	2614.	420.	0.	77.	0.	142892.	118.0	501.
12	-248.	3311.	1227.	2052.	378.	0.	216.	0.	142892.	118.0	497.
	19303.	70000.	27602.	70123.		0.	8134.	288.			

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

DATE	EVAP. LOSS *AC-FT*	DEMAND *AC-FT*	NATURAL INFLOW *AC-FT*	MAKE-UP INFLOW *AC-FT*	INFLOW QUALITY *MG/L*	SHORT-AGE *AC-FT*	D/S RELEASE *AC-FT*	SPILLS *AC-FT*	-------END OF MONTH------- CONTENT *AC-FT*	ELEV. *FT*	QUALITY *MG/L*
1988											
1	1073.	3017.	491.	3925.	445.	0.	326.	0.	142892.	118.0	499.
2	825.	2793.	476.	3618.	529.	0.	476.	0.	142892.	118.0	503.
3	660.	4053.	4156.	963.	276.	0.	406.	0.	142892.	118.0	497.
4	1565.	6734.	404.	0.	300.	0.	404.	0.	134593.	117.0	502.
5	2705.	9107.	2606.	0.	286.	0.	2606.	0.	122781.	115.5	509.
6	2935.	10787.	540.	3160.	312.	0.	540.	0.	112219.	114.3	515.
7	3006.	10738.	113.	11000.	482.	0.	17.	0.	109571.	113.9	525.
8	3966.	8834.	43.	0.	300.	0.	43.	0.	96771.	112.3	546.
9	3383.	4382.	17.	0.	300.	0.	17.	0.	89006.	111.4	566.
10	3208.	3227.	25.	0.	300.	0.	25.	0.	82571.	110.6	588.
11	2317.	3017.	42.	0.	300.	0.	42.	0.	77237.	109.9	605.
12	398.	3311.	75.	2400.	697.	0.	0.	0.	76003.	109.8	611.
	26041.	70000.	8988.	25066.		0.	4902.	0.			
1989											
1	-961.	3017.	1953.	16090.	303.	0.	0.	0.	91990.	111.8	545.
2	649.	2793.	363.	33340.	242.	0.	363.	0.	121888.	115.4	465.
3	491.	4053.	1554.	8610.	288.	0.	406.	0.	127102.	116.1	453.
4	1726.	6734.	299.	24250.	269.	0.	299.	0.	142892.	118.0	427.
5	1238.	9107.	684.	10345.	401.	0.	684.	0.	142892.	118.0	429.
6	825.	10787.	249.	11612.	497.	0.	249.	0.	142892.	118.0	437.
7	2888.	10738.	124.	13519.	425.	0.	17.	0.	142892.	118.0	444.
8	2805.	8834.	1517.	11007.	308.	0.	885.	0.	142892.	118.0	441.
9	3548.	4382.	120.	7930.	552.	0.	120.	0.	142892.	118.0	458.
10	2393.	3227.	76.	5620.	567.	0.	76.	0.	142892.	118.0	470.
11	1237.	3017.	116.	1160.	549.	0.	77.	0.	139837.	117.6	475.
12	1154.	3311.	104.	7270.	580.	0.	104.	0.	142642.	118.0	484.
	17993.	70000.	7159.	150753.		0.	3280.	0.			

CRITICAL PERIOD IS FROM 1/1954 THROUGH 2/1957. MINIMUM CONTENT = 25532.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

NUMBER OF MONTHS OF DATA = 600

QUALITY

AVERAGES	442.
STD.DEV. SAMPLE	106.

RANK	% TIME < =	QUALITY (MG/L)
1	.17	283.
2	.33	285.
3	.50	285.
4	.67	286.
5	.83	287.
6	1.00	288.
7	1.17	288.
8	1.33	290.
9	1.50	290.
10	1.67	294.
11	1.83	294.
12	2.00	295.
13	2.17	296.
14	2.33	297.
15	2.50	297.
16	2.67	298.
17	2.83	299.
18	3.00	299.
19	3.17	300.
20	3.33	305.
21	3.50	308.
22	3.67	308.
23	3.83	314.
24	4.00	317.
25	4.17	319.
26	4.33	320.
27	4.50	321.
28	4.67	322.
29	4.83	323.
30	5.00	323.
31	5.17	324.
32	5.33	326.
33	5.50	326.
34	5.67	328.
35	5.83	329.
36	6.00	331.
37	6.17	332.
38	6.33	332.
39	6.50	334.
40	6.67	335.
41	6.83	336.
42	7.00	336.
43	7.17	337.
44	7.33	337.
45	7.50	338.
46	7.67	338.
47	7.83	339.
48	8.00	339.
49	8.17	339.
50	8.33	340.
51	8.50	342.
52	8.67	343.
53	8.83	343.
54	9.00	344.
55	9.17	345.
56	9.33	346.
57	9.50	346.
58	9.67	347.
59	9.83	347.
60	10.00	348.
61	10.17	348.
62	10.33	349.
63	10.50	349.
64	10.67	349.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
65	10.83	350.
66	11.00	350.
67	11.17	350.
68	11.33	350.
69	11.50	350.
70	11.67	351.
71	11.83	351.
72	12.00	352.
73	12.17	352.
74	12.33	352.
75	12.50	352.
76	12.67	352.
77	12.83	353.
78	13.00	354.
79	13.17	355.
80	13.33	355.
81	13.50	356.
82	13.67	356.
83	13.83	357.
84	14.00	358.
85	14.17	359.
86	14.33	359.
87	14.50	359.
88	14.67	360.
89	14.83	360.
90	15.00	361.
91	15.17	361.
92	15.33	361.
93	15.50	362.
94	15.67	362.
95	15.83	362.
96	16.00	363.
97	16.17	363.
98	16.33	363.
99	16.50	363.
100	16.67	364.
101	16.83	364.
102	17.00	365.
103	17.17	365.
104	17.33	365.
105	17.50	365.
106	17.67	365.
107	17.83	366.
108	18.00	366.
109	18.17	367.
110	18.33	367.
111	18.50	367.
112	18.67	367.
113	18.83	367.
114	19.00	368.
115	19.17	369.
116	19.33	369.
117	19.50	369.
118	19.67	369.
119	19.83	370.
120	20.00	370.
121	20.17	370.
122	20.33	371.
123	20.50	371.
124	20.67	371.
125	20.83	372.
126	21.00	372.
127	21.17	372.
128	21.33	372.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
129	21.50	373.
130	21.67	373.
131	21.83	373.
132	22.00	373.
133	22.17	374.
134	22.33	374.
135	22.50	374.
136	22.67	375.
137	22.83	375.
138	23.00	375.
139	23.17	376.
140	23.33	376.
141	23.50	378.
142	23.67	378.
143	23.83	378.
144	24.00	378.
145	24.17	378.
146	24.33	378.
147	24.50	379.
148	24.67	379.
149	24.83	379.
150	25.00	380.
151	25.17	380.
152	25.33	380.
153	25.50	381.
154	25.67	381.
155	25.83	381.
156	26.00	381.
157	26.17	381.
158	26.33	382.
159	26.50	382.
160	26.67	383.
161	26.83	383.
162	27.00	383.
163	27.17	383.
164	27.33	383.
165	27.50	384.
166	27.67	384.
167	27.83	384.
168	28.00	384.
169	28.17	384.
170	28.33	384.
171	28.50	384.
172	28.67	385.
173	28.83	385.
174	29.00	385.
175	29.17	385.
176	29.33	386.
177	29.50	386.
178	29.67	386.
179	29.83	386.
180	30.00	386.
181	30.17	386.
182	30.33	386.
183	30.50	387.
184	30.67	387.
185	30.83	387.
186	31.00	387.
187	31.17	387.
188	31.33	388.
189	31.50	388.
190	31.67	389.
191	31.83	389.
192	32.00	389.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
193	32.17	389.
194	32.33	389.
195	32.50	390.
196	32.67	390.
197	32.83	390.
198	33.00	391.
199	33.17	391.
200	33.33	391.
201	33.50	392.
202	33.67	392.
203	33.83	392.
204	34.00	392.
205	34.17	392.
206	34.33	392.
207	34.50	393.
208	34.67	393.
209	34.83	393.
210	35.00	394.
211	35.17	395.
212	35.33	395.
213	35.50	395.
214	35.67	396.
215	35.83	396.
216	36.00	396.
217	36.17	397.
218	36.33	397.
219	36.50	397.
220	36.67	397.
221	36.83	398.
222	37.00	398.
223	37.17	398.
224	37.33	398.
225	37.50	398.
226	37.67	399.
227	37.83	399.
228	38.00	399.
229	38.17	399.
230	38.33	399.
231	38.50	400.
232	38.67	400.
233	38.83	400.
234	39.00	400.
235	39.17	401.
236	39.33	401.
237	39.50	402.
238	39.67	402.
239	39.83	402.
240	40.00	403.
241	40.17	403.
242	40.33	403.
243	40.50	403.
244	40.67	403.
245	40.83	404.
246	41.00	404.
247	41.17	404.
248	41.33	405.
249	41.50	405.
250	41.67	406.
251	41.83	407.
252	42.00	408.
253	42.17	408.
254	42.33	409.
255	42.50	409.
256	42.67	409.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
257	42.83	410.
258	43.00	410.
259	43.17	410.
260	43.33	410.
261	43.50	410.
262	43.67	411.
263	43.83	411.
264	44.00	411.
265	44.17	412.
266	44.33	413.
267	44.50	413.
268	44.67	415.
269	44.83	415.
270	45.00	415.
271	45.17	415.
272	45.33	416.
273	45.50	416.
274	45.67	416.
275	45.83	417.
276	46.00	417.
277	46.17	418.
278	46.33	418.
279	46.50	418.
280	46.67	419.
281	46.83	420.
282	47.00	420.
283	47.17	421.
284	47.33	421.
285	47.50	421.
286	47.67	421.
287	47.83	421.
288	48.00	421.
289	48.17	422.
290	48.33	422.
291	48.50	422.
292	48.67	422.
293	48.83	423.
294	49.00	423.
295	49.17	423.
296	49.33	424.
297	49.50	424.
298	49.67	425.
299	49.83	425.
300	50.00	425.
301	50.17	426.
302	50.33	426.
303	50.50	426.
304	50.67	426.
305	50.83	426.
306	51.00	427.
307	51.17	427.
308	51.33	427.
309	51.50	428.
310	51.67	428.
311	51.83	428.
312	52.00	428.
313	52.17	429.
314	52.33	429.
315	52.50	429.
316	52.67	430.
317	52.83	430.
318	53.00	431.
319	53.17	431.
320	53.33	432.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
321	53.50	432.
322	53.67	433.
323	53.83	433.
324	54.00	434.
325	54.17	434.
326	54.33	434.
327	54.50	435.
328	54.67	435.
329	54.83	435.
330	55.00	436.
331	55.17	436.
332	55.33	436.
333	55.50	437.
334	55.67	437.
335	55.83	437.
336	56.00	437.
337	56.17	437.
338	56.33	439.
339	56.50	439.
340	56.67	439.
341	56.83	439.
342	57.00	439.
343	57.17	440.
344	57.33	440.
345	57.50	440.
346	57.67	440.
347	57.83	440.
348	58.00	441.
349	58.17	441.
350	58.33	441.
351	58.50	441.
352	58.67	441.
353	58.83	441.
354	59.00	443.
355	59.17	444.
356	59.33	444.
357	59.50	444.
358	59.67	445.
359	59.83	446.
360	60.00	446.
361	60.17	446.
362	60.33	446.
363	60.50	446.
364	60.67	447.
365	60.83	449.
366	61.00	449.
367	61.17	449.
368	61.33	450.
369	61.50	450.
370	61.67	450.
371	61.83	451.
372	62.00	453.
373	62.17	453.
374	62.33	453.
375	62.50	453.
376	62.67	454.
377	62.83	454.
378	63.00	454.
379	63.17	455.
380	63.33	455.
381	63.50	456.
382	63.67	457.
383	63.83	458.
384	64.00	458.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
385	64.17	458.
386	64.33	459.
387	64.50	459.
388	64.67	460.
389	64.83	461.
390	65.00	462.
391	65.17	462.
392	65.33	462.
393	65.50	463.
394	65.67	463.
395	65.83	463.
396	66.00	464.
397	66.17	465.
398	66.33	465.
399	66.50	466.
400	66.67	466.
401	66.83	466.
402	67.00	467.
403	67.17	467.
404	67.33	467.
405	67.50	467.
406	67.67	467.
407	67.83	467.
408	68.00	468.
409	68.17	469.
410	68.33	469.
411	68.50	469.
412	68.67	469.
413	68.83	469.
414	69.00	469.
415	69.17	470.
416	69.33	470.
417	69.50	470.
418	69.67	470.
419	69.83	470.
420	70.00	470.
421	70.17	471.
422	70.33	471.
423	70.50	471.
424	70.67	472.
425	70.83	472.
426	71.00	473.
427	71.17	473.
428	71.33	473.
429	71.50	474.
430	71.67	474.
431	71.83	475.
432	72.00	475.
433	72.17	475.
434	72.33	475.
435	72.50	475.
436	72.67	475.
437	72.83	476.
438	73.00	476.
439	73.17	476.
440	73.33	476.
441	73.50	477.
442	73.67	478.
443	73.83	478.
444	74.00	478.
445	74.17	478.
446	74.33	479.
447	74.50	479.
448	74.67	479.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
449	74.83	480.
450	75.00	480.
451	75.17	480.
452	75.33	480.
453	75.50	480.
454	75.67	481.
455	75.83	481.
456	76.00	482.
457	76.17	482.
458	76.33	482.
459	76.50	482.
460	76.67	482.
461	76.83	482.
462	77.00	483.
463	77.17	483.
464	77.33	483.
465	77.50	483.
466	77.67	483.
467	77.83	484.
468	78.00	485.
469	78.17	485.
470	78.33	485.
471	78.50	486.
472	78.67	486.
473	78.83	486.
474	79.00	486.
475	79.17	487.
476	79.33	488.
477	79.50	489.
478	79.67	489.
479	79.83	490.
480	80.00	492.
481	80.17	496.
482	80.33	496.
483	80.50	497.
484	80.67	497.
485	80.83	497.
486	81.00	498.
487	81.17	498.
488	81.33	498.
489	81.50	499.
490	81.67	500.
491	81.83	501.
492	82.00	501.
493	82.17	502.
494	82.33	502.
495	82.50	503.
496	82.67	503.
497	82.83	503.
498	83.00	503.
499	83.17	503.
500	83.33	504.
501	83.50	506.
502	83.67	506.
503	83.83	508.
504	84.00	508.
505	84.17	509.
506	84.33	509.
507	84.50	509.
508	84.67	510.
509	84.83	510.
510	85.00	512.
511	85.17	513.
512	85.33	513.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
513	85.50	514.
514	85.67	515.
515	85.83	515.
516	86.00	515.
517	86.17	516.
518	86.33	517.
519	86.50	517.
520	86.67	518.
521	86.83	520.
522	87.00	521.
523	87.17	521.
524	87.33	522.
525	87.50	525.
526	87.67	526.
527	87.83	528.
528	88.00	528.
529	88.17	528.
530	88.33	529.
531	88.50	529.
532	88.67	530.
533	88.83	531.
534	89.00	532.
535	89.17	533.
536	89.33	534.
537	89.50	538.
538	89.67	539.
539	89.83	540.
540	90.00	541.
541	90.17	545.
542	90.33	545.
543	90.50	546.
544	90.67	546.
545	90.83	547.
546	91.00	547.
547	91.17	550.
548	91.33	550.
549	91.50	550.
550	91.67	550.
551	91.83	550.
552	92.00	551.
553	92.17	552.
554	92.33	553.
555	92.50	555.
556	92.67	557.
557	92.83	559.
558	93.00	560.
559	93.17	561.
560	93.33	561.
561	93.50	562.
562	93.67	564.
563	93.83	566.
564	94.00	567.
565	94.17	571.
566	94.33	573.
567	94.50	575.
568	94.67	575.
569	94.83	578.
570	95.00	581.
571	95.17	588.
572	95.33	588.
573	95.50	602.
574	95.67	605.
575	95.83	611.
576	96.00	620.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
449	74.83	480.
450	75.00	480.
451	75.17	480.
452	75.33	480.
453	75.50	480.
454	75.67	481.
455	75.83	481.
456	76.00	482.
457	76.17	482.
458	76.33	482.
459	76.50	482.
460	76.67	482.
461	76.83	482.
462	77.00	483.
463	77.17	483.
464	77.33	483.
465	77.50	483.
466	77.67	483.
467	77.83	484.
468	78.00	485.
469	78.17	485.
470	78.33	485.
471	78.50	486.
472	78.67	486.
473	78.83	486.
474	79.00	486.
475	79.17	487.
476	79.33	488.
477	79.50	489.
478	79.67	489.
479	79.83	490.
480	80.00	492.
481	80.17	496.
482	80.33	496.
483	80.50	497.
484	80.67	497.
485	80.83	497.
486	81.00	498.
487	81.17	498.
488	81.33	498.
489	81.50	499.
490	81.67	500.
491	81.83	501.
492	82.00	501.
493	82.17	502.
494	82.33	502.
495	82.50	503.
496	82.67	503.
497	82.83	503.
498	83.00	503.
499	83.17	503.
500	83.33	504.
501	83.50	506.
502	83.67	506.
503	83.83	508.
504	84.00	508.
505	84.17	509.
506	84.33	509.
507	84.50	509.
508	84.67	510.
509	84.83	510.
510	85.00	512.
511	85.17	513.
512	85.33	513.

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
513	85.50	514.
514	85.67	515.
515	85.83	515.
516	86.00	515.
517	86.17	516.
518	86.33	517.
519	86.50	517.
520	86.67	518.
521	86.83	520.
522	87.00	521.
523	87.17	521.
524	87.33	522.
525	87.50	525.
526	87.67	526.
527	87.83	528.
528	88.00	528.
529	88.17	528.
530	88.33	529.
531	88.50	529.
532	88.67	530.
533	88.83	531.
534	89.00	532.
535	89.17	533.
536	89.33	534.
537	89.50	538.
538	89.67	539.
539	89.83	540.
540	90.00	541.
541	90.17	545.
542	90.33	545.
543	90.50	546.
544	90.67	546.
545	90.83	547.
546	91.00	547.
547	91.17	550.
548	91.33	550.
549	91.50	550.
550	91.67	550.
551	91.83	550.
552	92.00	551.
553	92.17	552.
554	92.33	553.
555	92.50	555.
556	92.67	557.
557	92.83	559.
558	93.00	560.
559	93.17	561.
560	93.33	561.
561	93.50	562.
562	93.67	564.
563	93.83	566.
564	94.00	567.
565	94.17	571.
566	94.33	573.
567	94.50	575.
568	94.67	575.
569	94.83	578.
570	95.00	581.
571	95.17	588.
572	95.33	588.
573	95.50	602.
574	95.67	605.
575	95.83	611.
576	96.00	620.

APPENDIX I

IMPACT OF ALLENS CREEK RESERVOIR ON INSTREAM FLOWS AND DOWNSTREAM WATER QUALITY

ALLENS CREEK RESERVOIR - TDS run with TTP bypass requirements 60% drought cont
70,000 demand 1600 cfs pump rate; Brazos available flow based on daily analyse

RANK	% TIME < =	QUALITY (MG/L)
577	96.17	622.
578	96.33	639.
579	96.50	640.
580	96.67	644.
581	96.83	651.
582	97.00	651.
583	97.17	660.
584	97.33	690.
585	97.50	719.
586	97.67	727.
587	97.83	729.
588	98.00	732.
589	98.17	733.
590	98.33	737.
591	98.50	742.
592	98.67	763.
593	98.83	824.
594	99.00	896.
595	99.17	992.
596	99.33	1060.
597	99.50	1101.
598	99.67	1119.
599	99.83	1136.
600	100.00	1139.

NOTE: Standard deviation of sample is NOT an unbiased estimator.

(see pp. 376-382 of Benjamin & Cornell.) - Tom Gooch.

APPENDIX I

IMPACT OF ALLENS CREEK RESERVOIR ON INSTREAM FLOWS AND DOWNSTREAM WATER QUALITY

The impact of Allens Creek Reservoir (ACR) on instream flows in the Brazos River during the 50-year study period from 1940 through 1989 was calculated for a demand of 70,000 acre-feet per year and a Brazos River diversion capacity of 1,600 cubic-feet per second. Instream flow with and without Allens Creek Reservoir was computed as follows:

Instream Flows without ACR	=	Historical Flows @ Richmond Gage
Instream Flows with ACR	=	Historical Flows @ Richmond
		- ACR Natural Inflows
		- make-up Flows from Brazos River
		+ Releases from ACR
		+ Spills from ACR

For the 50-year period, the average reduction in flow would be about 1.64 percent, while the reduction during the drought period of January 1954 through February 1957 would average about 3.99 percent.

The impact of Allens Creek Reservoir on the downstream water quality in the Brazos River was computed, under the same previous assumptions, as follows:

Downstream Water Quality without ACR	=	Historical Water Quality @ Richmond Gage

Downstream Water Quality with ACR:

Define: Q_R = Historical Flow @ Richmond
γ_R = Historical Water Quality @ Richmond
Q_B = Historical Flow @ Richmond of Brazos Origin
Q_A = Historical Allens Creek Flows

i.e. $Q_R = Q_B + Q_A$ or $Q_B = Q_R - Q_A$

γ_A = Historical Water Quality of Allens Creek
γ_B = Historical Water Quality of the Brazos River (unknown)

$Q_R \cdot \gamma_R = Q_B \cdot \gamma_B + Q_A \cdot \gamma_A$
$\gamma_B = (Q_R \cdot \gamma_R - Q_A \cdot \gamma_A)/Q_B$

Then, downstream water quality with ACR would be:

$= [(Q_B \cdot \gamma_B) - (q_{makeup} \cdot \gamma_B) + (\text{Releases} + \text{Spills}) \cdot \gamma_{ACR}]$ / Instream Flow with ACR

where: q_{makeup} is the Brazos River water diverted to Allens Creek Reservoir

γ_{ACR} is the modeled water quality in Allens Creek Reservoir

For the 50-year period, the average increase in chloride and total dissolved solids (TDS) concentrations, attributable to Allens Creek Reservoir, would be 0.22 and 0.17 percent, respectively. During the drought period, the average increase would be 0.12 and 0.10 percent, respectively. Detailed printouts of monthly computation of the impact of the Allens Creek Reservoir on downstream water quality are included as Tables I-1 and I-2, for TDS and chloride concentrations, respectively.

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
1940	1	43750	535	6	300	43744	535.03	0	43744	28857687	6	0	6	482	3566	43750	28861253	535.02
	2	150100	447	597	433	149503	447.06	5641	143862	79299602	510	0	510	478	300581	144372	79600182	447.17
	3	42590	537	4	300	42586	537.02	0	42586	28198254	4	0	4	483	2382	42590	28200636	537.02
	4	192200	429	328	426	191872	429.01	12847	179025	94697659	328	0	328	479	193719	179353	94891378	429.10
	5	306300	396	2168	379	304132	396.12	10510	293622	143410100	2168	0	2168	475	1269743	295790	144679843	396.70
	6	641900	343	9031	261	632869	344.17	4319	628550	266732594	3058	0	3058	455	1715584	631608	268448178	344.71
	7	1307000	293	32496	160	1274504	296.39	0	1274504	465767772	17	19348	19365	418	9980605	1293869	475748377	298.21
	8	244500	412	12	300	244488	412.01	0	244488	124200583	12	0	12	430	6362	244500	124206945	412.01
	9	107400	471	45	300	107355	471.07	0	107355	62355153	45	0	45	441	24469	107400	62379622	471.06
	10	66170	554	129	551	66041	554.01	10750	55291	37768686	129	0	129	453	72053	55420	37840739	553.77
	11	1406000	336	13315	203	1392685	337.27	0	1392685	579156197	77	350	427	418	220073	1393112	579376270	337.30
	12	3251000	277	20866	182	3230134	277.61	0	3230134	1105667335	216	18989	19205	396	9377187	3249339	1115044522	278.31
1941	1	1187504	300	3838	267	1183666	300.11	0	1183666	437994218	326	165	491	393	237923	1184157	438232141	300.15
	2	1356713	290	3925	260	1352788	290.09	0	1352788	483861591	510	1117	1627	389	780369	1354415	484641960	290.21
	3	1587173	279	10003	219	1577170	279.38	0	1577170	543297542	406	6699	7105	378	3311456	1584275	546608998	279.82
	4	1053937	308	4326	281	1049611	308.11	3523	1046088	397410097	2765	0	2765	369	1258011	1048853	398668108	308.27
	5	2507106	246	9546	228	2497560	246.07	3907	2493653	756581373	4346	0	4346	356	1907668	2497999	758489041	246.26
	6	2089387	259	15001	197	2074386	259.45	0	2074386	663595712	3058	1981	5039	339	2106236	2079425	665701949	259.64
	7	1041024	309	24488	174	1016536	312.25	0	1016536	391373316	17	12660	12677	322	5033099	1029213	396406415	312.37
	8	274730	404	199	402	274531	404.00	12299	262232	130626619	199	0	199	336	82443	262431	130709063	403.95
	9	303530	397	33	396	303497	397.00	3804	299693	146700063	33	0	33	336	13672	299726	146713735	396.99
	10	786089	547	178	524	785911	547.01	1742	784169	528888603	178	0	178	336	73743	784347	528962346	546.96
	11	664859	656	1363	540	663496	656.24	2804	660692	534593526	77	0	77	344	32660	660769	534626186	656.20
	12	158340	506	221	495	158119	506.02	4049	154070	96126886	216	0	216	350	93215	154286	96220100	505.80
1942	1	147094	669	136	657	146958	669.01	4172	142786	117782842	136	0	136	362	60703	142922	117843546	668.72
	2	102962	646	137	300	102825	646.46	0	102825	81960410	137	0	137	362	61149	102962	82021559	646.08
	3	89296	646	124	300	89172	646.48	0	89172	71080004	124	0	124	365	55806	89296	71135809	646.09
	4	2081235	303	8314	263	2072921	303.16	7454	2065467	772064978	2765	0	2765	350	1193236	2068232	773258213	303.22
	5	1953520	287	377	287	1953143	287.00	10840	1942303	687324705	377	0	377	349	162230	1942680	687486934	287.01
	6	1287470	346	306	345	1287164	346.00	12190	1274974	543927232	306	0	306	352	132809	1275280	544060041	346.00
	7	333719	409	516	403	333203	409.01	9249	323954	163372742	17	0	17	353	7399	323971	163380141	409.01
	8	96714	537	13	300	96701	537.03	0	96701	64031562	13	0	13	357	5722	96714	64037284	537.01
	9	819828	280	496	281	819332	280.00	16262	803070	277251287	496	0	496	352	215272	803566	277466559	280.04
	10	726307	476	67	474	726240	476.00	5207	721033	423180200	67	0	67	361	29823	721100	423210023	475.99
	11	410261	452	451	435	409810	452.02	3551	406259	226424012	77	0	77	366	34748	406336	226458761	452.00
	12	246486	476	497	452	245989	476.05	3195	242794	142512257	216	0	216	368	98009	243010	142610266	475.95
1943	1	351253	377	1562	337	349691	377.18	1451	348240	161952948	326	0	326	367	147519	348566	162100467	377.17
	2	167762	734	181	714	167581	734.02	3701	163880	148319370	181	0	181	378	84359	164061	148403730	733.63

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	3	266182	645	1369	545	264813	645.52	3338	261475	208113815	406	0	406	384	192230	261881	208306045	645.11
	4	317335	528	257	521	317078	528.01	8632	308446	200807906	257	0	257	398	126119	308703	200934025	527.90
	5	222962	480	1058	446	221904	480.16	4530	217374	128694076	1058	0	1058	401	523110	218432	129217186	479.78
	6	226195	217	605	221	225590	216.99	13060	212530	56861928	605	0	605	391	291672	213135	57153601	217.48
	7	151942	426	15	426	151927	426.00	8450	143477	75362442	15	0	15	393	7269	143492	75369711	426.00
	8	107002	997	1	997	107001	997.00	6750	100251	123238655	1	0	1	435	536	100252	123239191	996.99
	9	61509	785	111	300	61398	785.88	0	61398	59493810	111	0	111	439	60083	61509	59553893	785.25
	10	89097	390	112	389	88985	390.00	18450	70535	33918275	112	0	112	440	60762	70647	33979037	390.08
	11	56194	502	8	502	56186	502.00	5650	50536	31280066	8	0	8	441	4350	50544	31284416	501.99
	12	91458	388	113	386	91345	388.00	5706	85639	40970301	113	0	113	436	60747	85752	41031049	388.07
1944	1	677831	261	6453	241	671378	261.19	0	671378	216217299	326	6245	6571	422	3419062	677949	219636361	262.75
	2	955001	233	5991	241	949010	232.95	0	949010	272581039	510	2688	3198	416	1640344	952208	274221382	233.56
	3	1132165	230	5161	252	1127004	229.90	0	1127004	319467067	406	2352	2758	407	1384050	1129762	320851117	230.33
	4	338241	327	500	325	337741	327.00	8137	329604	132894570	500	0	500	406	250299	330104	133144869	327.12
	5	2803675	193	5876	221	2797799	192.94	5102	2792697	664372819	4346	0	4346	386	2068427	2797043	666441246	193.24
	6	1029461	231	647	234	1028814	231.00	13757	1015057	289109219	647	0	647	379	302348	1015704	289411566	231.09
	7	134955	425	97	300	134858	425.09	0	134858	70683914	17	0	17	390	8175	134875	70692088	425.09
	8	66547	530	394	300	66153	531.37	0	66153	43342058	394	0	394	396	192378	66547	43534436	530.57
	9	252159	416	1677	410	250482	416.04	30883	219599	112649353	1463	0	1463	403	726963	221062	113376316	415.95
	10	83534	623	2	623	83532	623.00	6197	77335	59405576	2	0	2	421	1038	77337	59406614	622.99
	11	335831	441	8256	227	327575	446.39	0	327575	180298334	77	6565	6642	410	3357730	334217	183656064	445.67
	12	791424	232	10465	216	780959	232.21	0	780959	223604461	216	8423	8639	397	4228799	789598	227833260	234.02
1945	1	1326981	268	12861	206	1314120	268.61	0	1314120	435226241	326	9766	10092	386	4803166	1324212	440029408	269.50
	2	927471	284	3549	265	923922	284.07	0	923922	323614757	510	659	1169	383	552047	925091	324166804	284.20
	3	1284515	296	1945	298	1282570	296.00	2101	1280469	467325421	406	0	406	379	189727	1280875	467515148	296.02
	4	2493222	267	10441	215	2482781	267.22	0	2482781	818028251	2765	1520	4285	367	1939010	2487066	819967261	267.39
	5	757824	341	933	338	756891	341.00	10922	745969	313648305	933	0	933	369	424494	746902	314072799	341.04
	6	561580	309	3397	300	558183	309.05	11603	546580	208282253	3058	0	3058	365	1376238	549638	209658491	309.37
	7	433944	396	297	394	433647	396.00	12933	420714	205421894	17	0	17	374	7839	420731	205429733	396.00
	8	445587	241	6714	239	438873	241.03	1437	437436	130001922	885	0	885	362	395016	438321	130396938	241.27
	9	362558	277	1293	281	361265	276.99	7105	354160	120953909	1293	0	1293	364	580314	355453	121534223	277.30
	10	478949	340	3773	289	475176	340.40	1546	473630	198791654	1679	0	1679	363	751485	475309	199543139	340.48
	11	131921	427	253	421	131668	427.01	4739	126929	66828780	77	0	77	369	35033	127006	66863814	426.98
	12	490572	346	811	332	489761	346.02	1808	487953	208183481	216	0	216	366	97476	488169	208280957	346.03
1946	1	695365	316	5845	246	689520	316.59	0	689520	269160781	326	3327	3653	361	1625998	693173	270786778	316.83
	2	875186	337	4928	249	870258	337.50	0	870258	362145182	510	1542	2052	358	905782	872310	363050964	337.55
	3	1312383	248	13612	203	1298771	248.47	0	1298771	397898653	406	9731	10137	347	4337126	1308908	402235779	249.23
	4	511239	324	1276	320	509963	324.01	7312	502651	200811256	1276	0	1276	347	545938	503927	201357194	324.07

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TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	5	1601434	230	4121	242	1597313	229.97	7457	1589856	450806573	4121	0	4121	335	1702200	1593977	452508773	230.24
	6	844879	239	2239	248	842640	238.98	10870	831770	245087280	2239	0	2239	328	905505	834009	245992786	239.22
	7	213521	438	70	437	213451	438.00	13325	200126	108078928	17	0	17	343	7190	200143	108086117	437.99
	8	69687	836	0	0	69687	836.00	0	69687	71832523	0	0	0	350	0	69687	71832523	836.00
	9	175259	614	515	300	174744	614.93	0	174744	132491431	515	0	515	349	221613	175259	132713044	614.14
	10	318149	797	664	780	317485	797.04	19324	298161	293016184	664	0	664	410	335672	298825	293351856	796.18
	11	1044515	311	9568	219	1034947	311.85	0	1034947	397949237	77	9444	9521	395	4637060	1044468	402586297	312.61
	12	565844	422	1332	382	564512	422.09	2690	561822	292395975	216	0	216	396	105466	562038	292501441	422.08
1947	1	1026624	328	9388	222	1017236	328.98	0	1017236	412621645	326	7365	7691	386	3660439	1024927	416282084	329.41
	2	323702	497	150	490	323552	497.00	3948	319604	195854930	150	0	150	392	72500	319754	195927430	496.95
	3	812449	323	1512	315	810937	323.01	2699	808238	321902922	406	0	406	389	194733	808644	322097655	323.05
	4	433448	395	128	393	433320	395.00	7642	425678	207320395	128	0	128	392	61867	425806	207382262	395.00
	5	853884	501	5968	381	847916	501.84	6742	841174	520496943	4346	0	4346	389	2084502	845520	522581445	501.26
	6	357659	772	226	764	357433	772.01	13262	344171	327610261	226	0	226	429	119544	344397	327729806	771.78
	7	101792	766	309	300	101483	767.42	0	101483	96026005	309	0	309	440	167639	101792	96193644	766.42
	8	363864	256	2313	260	361551	255.97	19150	342401	108067387	885	0	885	416	453941	343286	108521329	256.39
	9	143837	425	536	419	143301	425.02	11279	132022	69186482	536	0	536	427	282199	132558	69468681	425.03
	10	57935	807	145	769	57790	807.10	1780	56010	55738271	145	0	145	439	78487	56155	55816757	806.14
	11	91755	595	579	571	91176	595.15	6517	84659	62124715	77	0	77	445	42249	84736	62166963	595.02
	12	213937	405	5278	251	208659	408.90	0	208659	105199199	216	2906	3122	437	1682199	211781	106881398	409.31
1948	1	120119	513	984	363	119135	514.24	410	118725	75278370	326	0	326	435	174852	119051	75453222	514.02
	2	257296	516	1478	427	255818	516.51	2125	253693	161567434	510	0	510	431	271026	254203	161838460	516.34
	3	350023	334	1083	327	348940	334.02	4036	344904	142048294	406	0	406	429	214757	345310	142263051	334.13
	4	165501	490	362	481	165139	490.02	7394	157745	95308634	362	0	362	434	193714	158107	95502348	489.89
	5	282109	397	613	389	281496	397.02	7290	274206	134230001	613	0	613	433	327274	274819	134557275	397.10
	6	123671	379	70	300	123601	379.04	0	123601	57766431	70	0	70	444	38322	123671	57804753	379.08
	7	184840	447	28	446	184812	447.00	7290	177522	97841461	17	0	17	455	9537	177539	97850998	447.00
	8	34965	1065	19	300	34946	1065.42	0	34946	45907087	19	0	19	469	10987	34965	45918074	1065.09
	9	68469	1105	35	300	68434	1105.41	0	68434	93273670	35	0	35	481	20758	68469	93294427	1105.09
	10	39404	990	68	925	39336	990.11	650	38686	47228199	68	0	68	499	41838	38754	47270038	989.25
	11	34425	863	407	300	34018	869.74	0	34018	36480370	77	0	77	502	47660	34095	36528031	868.91
	12	37137	923	15	300	37122	923.25	0	37122	42258549	15	0	15	509	9414	37137	42267963	923.08
1949	1	77587	551	846	300	76741	553.77	0	76741	52398353	846	0	846	498	519473	77587	52917826	553.16
	2	241864	453	2903	416	238961	453.45	10950	228011	127481685	106	0	106	477	62343	228117	127544028	453.46
	3	486089	249	2741	251	483348	248.99	45726	437622	134351274	406	0	406	400	200239	438028	134551513	249.13
	4	767781	232	7514	231	760267	232.01	417	759850	217368911	2765	0	2765	387	1319378	762615	218688289	232.57
	5	837738	241	438	243	837300	241.00	11417	825883	245412546	438	0	438	381	205761	826321	245618306	241.07
	6	490631	803	102	799	490529	803.00	12602	477927	473195535	102	0	102	422	53073	478029	473248608	802.92

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	7	215266	639	1358	600	213908	639.25	10552	203356	160283630	17	0	17	439	9202	203373	160292831	639.23
	8	62083	925	725	300	61358	932.38	0	61358	70539036	725	0	725	449	401372	62083	70940408	926.74
	9	72843	1036	1687	300	71156	1053.45	0	71156	92424753	1687	0	1687	454	944352	72843	93369105	1039.57
	10	277666	537	9764	378	267902	542.79	9672	258230	172824601	1679	0	1679	432	894329	259909	173718930	542.08
	11	216853	404	90	402	216763	404.00	5809	210954	105083154	77	0	77	439	41679	211031	105124833	404.01
	12	277249	379	8481	227	268768	383.80	0	268768	127186643	216	6934	7150	426	3755595	275918	130942238	384.89
1950	1	285461	336	1924	316	283537	336.14	1502	282035	116890911	326	0	326	424	170430	282361	117061341	336.24
	2	758003	247	4973	249	753030	246.99	0	753030	229323776	510	3403	3913	415	2002263	756943	231326039	247.86
	3	181388	334	320	332	181068	334.00	5621	175447	72253699	320	0	320	416	164137	175767	72417836	334.15
	4	482340	250	795	256	481545	249.99	5414	476131	146761565	795	0	795	405	396995	476926	147158561	250.25
	5	402446	288	941	289	401505	288.00	10180	391325	138959942	941	0	941	400	464101	392266	139424043	288.27
	6	662717	299	6864	268	655853	299.32	7146	648707	239416368	3058	0	3058	388	1462959	651765	240879327	299.74
	7	169349	475	692	300	168657	475.72	0	168657	98927505	692	0	692	395	337028	169349	99264533	475.39
	8	209851	956	113	300	209738	956.35	0	209738	247319648	113	0	113	410	57125	209851	247376773	956.06
	9	263187	528	615	523	262572	528.01	25690	236882	154219288	615	0	615	436	330617	237497	154549904	527.77
	10	149058	906	165	899	148893	906.01	13879	135014	150825161	165	0	165	492	100095	135179	150925256	905.50
	11	54065	896	12	892	54053	896.00	1640	52413	57904263	12	0	12	506	7487	52425	57911749	895.91
	12	52903	838	32	793	52871	838.03	350	52521	54269297	32	0	32	512	20201	52553	54289499	837.83
1951	1	56340	911	81	300	56259	911.88	0	56259	63254676	81	0	81	514	51335	56340	63306010	911.31
	2	66902	933	40	300	66862	933.38	0	66862	76948529	40	0	40	514	25350	66902	76973879	933.13
	3	61218	673	1151	300	60067	680.15	0	60067	50373492	406	0	406	513	256807	60473	50630299	679.03
	4	74644	365	146	363	74498	365.00	5860	68638	30890520	146	0	146	513	92349	68784	30982870	365.32
	5	73858	620	52	300	73806	620.23	0	73806	56442252	52	0	52	517	33148	73858	56475400	620.15
	6	248013	291	73	300	247940	291.00	0	247940	88960806	73	0	73	525	47255	248013	89008060	291.07
	7	59304	722	23	300	59281	722.16	0	59281	52785455	23	0	23	550	15597	59304	52801052	722.10
	8	51905	1307	66	300	51839	1308.28	0	51839	83622103	66	0	66	588	47850	51905	83669953	1307.37
	9	78365	972	1336	300	77029	983.66	0	77029	93424385	1336	0	1336	578	952132	78365	94376518	976.74
	10	48609	829	178	808	48431	829.08	4350	44081	45061898	0	0	0	620	0	44081	45061898	829.08
	11	35070	957	84	300	34986	958.58	0	34986	41350862	84	0	84	639	66183	35070	41417045	957.81
	12	37702	750	114	300	37588	751.36	0	37588	34822756	0	0	0	651	0	37588	34822756	751.36
1952	1	33376	790	25	300	33351	790.37	0	33351	32501313	0	0	0	660	0	33351	32501313	790.37
	2	54835	571	801	300	54034	575.02	0	54034	38309908	106	0	106	640	83647	54140	38393555	575.14
	3	79170	443	159	300	79011	443.29	0	79011	43185344	31	0	31	651	24883	79042	43210227	443.37
	4	334433	255	10227	247	324206	255.25	38140	286066	90032453	54	0	54	431	28697	286120	90061150	255.29
	5	355652	229	5058	237	350594	228.88	9520	341074	96256094	4346	0	4346	399	2138089	345420	98394183	231.02
	6	212943	208	600	211	212343	207.99	20720	191623	49142398	600	0	600	373	275945	192223	49418344	208.51
	7	56162	305	295	300	55867	305.03	0	55867	21011442	295	0	295	381	138583	56162	21150025	305.43
	8	36926	843	90	300	36836	844.33	0	36836	38348295	90	0	90	405	44943	36926	38393238	843.26

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River

08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria

70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concentration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concentration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concentration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concentration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	9	36260	968	57	300	36203	969.05	0	36203	43256821	57	0	57	426	29940	36260	43286761	968.20
	10	12474	690	34	300	12440	691.07	0	12440	10599928	34	0	34	462	19368	12474	10619296	690.44
	11	24778	571	1392	300	23386	587.13	0	23386	16929877	1392	0	1392	446	765486	24778	17695363	579.20
	12	229999	245	2343	247	227656	244.98	51850	175806	53103894	0	0	0	343	0	175806	53103894	244.98
1953	1	275921	182	154	182	275767	182.00	43042	232725	52224886	154	0	154	299	56775	232879	52281661	182.08
	2	121488	270	925	280	120563	269.92	1800	118763	39526155	510	0	510	297	186763	119273	39712918	270.04
	3	245819	268	70	268	245749	268.00	5373	240376	79430807	70	0	70	299	25807	240446	79456614	268.01
	4	75019	287	22	300	74997	287.00	0	74997	26538911	22	0	22	300	8138	75019	26547049	287.00
	5	1646121	173	12377	196	1633744	172.83	6492	1627252	346757892	4346	0	4346	283	1516489	1631598	348274381	173.12
	6	113827	226	12	300	113815	225.99	0	113815	31714365	12	0	12	290	4291	113827	31718656	226.00
	7	61125	407	41	300	61084	407.07	0	61084	30659254	41	0	41	298	15065	61125	30674319	407.00
	8	49238	450	12267	208	36971	530.30	0	36971	24173660	12267	0	12267	288	4356061	49238	28529721	469.93
	9	115970	268	8670	260	107300	268.65	37203	70097	23219002	1463	0	1463	286	515909	71560	23734912	269.00
	10	211987	235	150	237	211837	235.00	4712	207125	60015143	150	0	150	287	53081	207275	60068223	235.04
	11	199537	205	2274	254	197263	204.44	1728	195535	49288220	77	0	77	288	27343	195612	49315563	204.47
	12	553051	203	7360	234	545691	202.58	0	545691	136304590	216	4576	4792	285	1683933	550483	137988523	203.30
1954	1	138486	285	1114	290	137372	284.96	2394	134978	47425196	326	0	326	285	114558	135304	47539754	284.96
	2	53018	440	30	300	52988	440.08	0	52988	28752228	30	0	30	290	10727	53018	28762955	439.99
	3	27388	483	0	0	27388	483.00	0	27388	16310622	0	0	0	294	0	27388	16310622	483.00
	4	49331	585	0	0	49331	585.00	0	49331	35582697	0	0	0	294	0	49331	35582697	585.00
	5	435023	658	726	300	434297	658.60	0	434297	352671703	726	0	726	297	265862	435023	352937565	657.99
	6	171778	984	6	300	171772	984.02	0	171772	208411218	6	0	6	308	2279	171778	208413497	984.00
	7	53272	1007	77	300	53195	1008.02	0	53195	66115684	77	0	77	321	30476	53272	66146160	1007.03
	8	56943	957	94	300	56849	958.09	0	56849	67156887	94	0	94	340	39407	56943	67196294	957.07
	9	24647	946	17	300	24630	946.45	0	24630	28742416	17	0	17	363	7609	24647	28750025	946.04
	10	36702	799	19	300	36683	799.26	0	36683	36150571	19	0	19	373	8738	36702	36159309	799.04
	11	51546	658	1	658	51545	658.00	3100	48445	39304107	0	0	0	398	0	48445	39304107	658.00
	12	29508	486	0	486	29508	486.00	280	29228	17514528	0	0	0	411	0	29228	17514528	486.00
1955	1	35794	487	1239	300	34555	493.71	0	34555	21034953	0	0	0	410	0	34555	21034953	493.71
	2	239794	251	8967	244	230827	251.27	35010	195817	60667688	106	0	106	326	42608	195923	60710296	251.31
	3	58939	411	0	0	58939	411.00	0	58939	29868104	0	0	0	334	0	58939	29868104	411.00
	4	268028	203	80	203	267948	203.00	38180	229768	57510701	80	0	80	295	29099	229848	57539799	203.03
	5	266461	441	3039	278	263422	442.88	0	263422	143847278	3039	0	3039	296	1109138	266461	144956416	441.21
	6	349884	737	120	300	349764	737.15	0	349764	317902550	120	0	120	305	45128	349884	317947678	737.00
	7	104571	790	1453	300	103118	796.90	0	103118	101322009	1453	0	1453	314	562546	104571	101884556	790.19
	8	74527	621	412	300	74115	622.78	0	74115	56912403	412	0	412	323	164083	74527	57076486	621.13
	9	53516	749	888	300	52628	756.58	0	52628	49094465	888	0	888	331	362413	53516	49456878	749.51
	10	670155	987	29	987	670126	987.00	63650	606476	738063704	0	0	0	690	0	606476	738063704	987.00

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	11	66631	886	0	886	66631	886.00	15540	51091	55813750	0	0	0	729	0	51091	55813750	886.00
	12	48184	780	0	0	48184	780.00	0	48184	46340480	0	0	0	737	0	48184	46340480	780.00
1956	1	59133	724	1626	300	57507	735.99	0	57507	52186099	1626	0	1626	733	1469561	59133	53655660	735.91
	2	119544	468	998	442	118546	468.22	5370	113176	65338076	510	0	510	719	452129	113686	65790205	469.34
	3	64780	770	0	0	64780	770.00	0	64780	61502780	0	0	0	727	0	64780	61502780	770.00
	4	53173	623	103	300	53070	623.63	0	53070	40807219	103	0	103	732	92963	53173	40900182	623.84
	5	318857	612	448	300	318409	612.44	0	318409	240442502	448	0	448	742	409869	318857	240852370	612.62
	6	46788	902	278	300	46510	905.60	0	46510	51933191	278	0	278	763	261537	46788	52194727	904.75
	7	44085	1067	1	300	44084	1067.02	0	44084	57998341	1	0	1	824	1016	44085	57999357	1067.01
	8	39130	1068	10	300	39120	1068.20	0	39120	51524407	10	0	10	896	11048	39130	51535454	1068.15
	9	35837	1117	50	300	35787	1118.14	0	35787	49338407	50	0	50	992	61157	35837	49399564	1117.97
	10	39535	1217	0	0	39535	1217.00	0	39535	59324679	0	0	0	1060	0	39535	59324679	1217.00
	11	76387	610	0	0	76387	610.00	0	76387	57452954	0	0	0	1119	0	76387	57452954	610.00
	12	62785	340	15	337	62770	340.00	1150	61620	25832391	0	0	0	1101	0	61620	25832391	340.00
1957	1	41996	765	0	0	41996	765.00	0	41996	39612517	0	0	0	1136	0	41996	39612517	765.00
	2	50793	1000	12	300	50781	1000.17	0	50781	62623330	12	0	12	1138	16838	50793	62640168	1000.20
	3	223220	438	10999	377	212221	441.16	29300	182921	99500270	31	0	31	644	24616	182952	99524886	441.20
	4	1075378	228	10365	222	1065013	228.06	11270	1053743	296308316	54	0	54	517	34423	1053797	296342739	228.07
	5	4746642	314	1075	314	4745567	314.00	71710	4673857	1809539824	55	0	55	421	28550	4673912	1809568374	314.00
	6	3472064	303	1378	303	3470686	303.00	11035	3459651	1292522154	1378	0	1378	411	698319	3461029	1293220473	303.04
	7	979001	342	28	342	978973	342.00	14357	964616	406765063	17	0	17	415	8699	964633	406773761	342.00
	8	201818	355	21	355	201797	355.00	12712	189085	82765341	21	0	21	421	10901	189106	82776242	355.01
	9	98535	506	1916	449	96619	507.13	5002	91617	57287350	1463	0	1463	425	766649	93080	58053999	505.84
	10	1768541	179	20098	184	1748443	178.94	0	1748443	385769705	1679	15687	17366	404	8650560	1765809	394420265	181.16
	11	1046836	283	10942	213	1035894	283.74	0	1035894	362408220	77	8673	8750	393	4239979	1044644	366648199	284.65
	12	504139	426	81	424	504058	426.00	4549	499509	262371296	81	0	81	397	39650	499590	262410946	426.00
1958	1	585838	302	7295	234	578543	302.86	0	578543	216041385	326	4860	5186	389	2487397	583729	218528782	303.62
	2	813897	342	4426	254	809471	342.48	0	809471	341822827	510	1536	2046	385	971246	811517	342794073	342.59
	3	853884	332	70	332	853814	332.00	5043	848771	347449501	70	0	70	386	33316	848841	347482817	332.00
	4	356192	441	55	440	356137	441.00	7229	348908	189719838	55	0	55	390	26448	348963	189746286	440.99
	5	1564462	289	187	289	1564275	289.00	10345	1553930	553722754	187	0	187	386	89000	1554117	553811755	289.01
	6	295934	344	196	343	295738	344.00	13345	282393	119777786	196	0	196	388	93767	282589	119871554	344.03
	7	388800	427	156	426	388644	427.00	13487	375157	197516970	17	0	17	399	8363	375174	197525333	427.00
	8	114464	628	149	300	114315	628.43	0	114315	88577107	149	0	149	409	75140	114464	88652247	628.14
	9	297223	277	3590	275	293633	277.02	11583	282050	96340143	1463	0	1463	387	698101	283513	97038244	277.59
	10	251960	323	1814	316	250146	323.05	3917	246229	98078327	1679	0	1679	387	801170	247908	98879497	323.48
	11	130195	439	94	436	130101	439.00	3908	126193	68306968	77	0	77	390	37027	126270	68343995	436.97
	12	104331	624	232	606	104099	624.04	4038	100061	76991082	216	0	216	399	106265	100277	77097347	623.56

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TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concentration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concentration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concentration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concentration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
1959	1	86777	620	152	300	86625	620.56	0	86625	66281321	152	0	152	402	75341	86777	66356662	620.18
	2	322473	333	17063	187	305410	341.16	0	305410	128469634	510	11320	11830	381	5557415	317240	134027048	342.64
	3	133884	547	198	539	133686	547.01	5786	127900	86264151	198	0	198	392	95701	128098	86359852	546.77
	4	864608	203	11743	209	852865	202.92	0	852865	213384382	2765	3894	6659	375	3078955	859524	216463337	204.25
	5	525322	239	2178	250	523144	238.95	8777	514367	151548224	2178	0	2178	365	980198	516545	152528422	239.49
	6	331735	289	119	289	331616	289.00	13675	317941	113294142	119	0	119	365	53555	318060	113347697	289.03
	7	253507	373	729	369	252778	373.01	11759	241019	110850235	17	0	17	370	7756	241036	110857991	373.01
	8	139200	502	6864	332	132336	510.82	3845	128491	80928520	885	0	885	370	403746	129376	81332266	509.85
	9	77867	504	179	300	77688	504.47	0	77688	48322833	179	0	179	376	82986	77867	48405819	504.17
	10	1454717	341	21515	180	1433202	343.42	0	1433202	606865088	1679	9508	11187	355	4896718	1444389	611761805	343.51
	11	599504	276	9855	218	589649	276.97	0	589649	201367042	77	5028	5105	352	2215652	594754	203582694	277.61
	12	657362	310	5527	248	651835	310.53	0	651835	249573409	216	2330	2546	348	1092448	654381	250665857	310.67
1960	1	1015537	338	2329	307	1013208	338.07	1179	1012029	421856052	326	0	326	348	139881	1012355	421995933	338.07
	2	705977	345	2584	290	703393	345.20	306	703087	299257821	510	0	510	345	216946	703597	299474768	345.20
	3	389276	402	99	400	389177	402.00	5126	384051	190361264	99	0	99	350	42723	384150	190403987	401.99
	4	212807	412	1249	395	211558	412.10	7229	204329	103823600	1249	0	1249	354	545166	205578	104368766	411.75
	5	477580	291	123	291	477457	291.00	11665	465792	167127567	123	0	123	355	53839	465915	167181406	291.02
	6	416461	230	38289	150	378172	238.10	0	378172	111022624	3058	25599	28657	319	11271572	406829	122294196	243.80
	7	329137	305	404	305	328733	305.00	12661	316072	118863617	17	0	17	323	6770	316089	118870387	305.00
	8	110836	521	3708	429	107128	524.18	6424	100704	65086943	885	0	885	331	361189	101589	65448131	522.50
	9	69540	538	112	532	69428	538.01	4710	64718	42931717	112	0	112	346	47781	64830	42979498	537.68
	10	468539	324	6974	240	461565	325.27	242	461323	185016780	1679	0	1679	339	701800	463002	185718581	325.32
	11	1058360	260	1297	279	1057063	259.98	1467	1055596	338372623	77	0	77	337	31995	1055673	338404618	259.98
	12	1603080	223	9179	223	1593901	223.00	0	1593901	438257425	216	7055	7271	329	2949532	1601172	441206957	223.48
1961	1	2236759	272	5224	251	2231535	272.05	0	2231535	748538547	326	2459	2785	326	1119453	2234320	749658000	272.12
	2	1931701	269	7112	231	1924589	269.14	0	1924589	638675131	510	4882	5392	320	2127468	1929981	640802599	269.28
	3	867431	351	76	350	867355	351.00	5208	862147	373122658	76	0	76	324	30361	862223	373153020	351.00
	4	338757	437	620	427	338137	437.02	7889	330248	177952024	620	0	620	332	253801	330868	178205825	436.82
	5	173970	468	164	431	173806	468.03	580	173226	99966481	164	0	164	338	68348	173390	100034828	467.91
	6	926360	348	18249	221	908111	350.55	4946	903165	390375716	3058	0	3058	317	1195253	906223	391570969	350.44
	7	985190	428	14114	201	971076	431.30	0	971076	516410493	17	2946	2963	308	1125241	974039	517535733	430.92
	8	330545	774	106	770	330439	774.00	11804	318635	304087267	106	0	106	352	46006	318741	304133273	773.86
	9	753421	268	13797	201	739624	269.25	0	739624	245544097	1463	9272	10735	339	4487090	750359	250031187	270.25
	10	366466	617	68	614	366398	617.00	6362	360036	273901595	68	0	68	359	30100	360104	273931695	616.95
	11	367815	423	3349	272	364466	424.39	0	364466	190714049	77	668	745	356	327016	365211	191041066	424.25
	12	414843	435	1406	392	413437	435.15	3029	410408	220198381	216	0	216	359	95612	410624	220293993	435.11
1962	1	245752	490	14	489	245738	490.00	3347	242391	146445387	14	0	14	363	6266	242405	146451654	489.99
	2	217210	422	3	422	217207	422.00	3618	213589	111135910	3	0	3	367	1358	213592	111137268	422.00

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	3	147054	575	3	574	147051	575.00	1040	146011	103518152	3	0	3	372	1376	146014	103519528	575.00
	4	112939	612	382	300	112557	613.06	0	112557	85082016	382	0	382	371	174743	112939	85256759	612.24
	5	187977	470	961	434	187016	470.18	3640	183376	106310052	961	0	961	379	449082	184337	106759134	469.71
	6	304399	436	962	427	303437	436.03	13090	290347	156097278	962	0	962	384	455480	291309	156552758	435.86
	7	180522	449	514	447	180008	449.01	30630	149378	82699252	17	0	17	408	8552	149395	82707804	449.00
	8	272287	938	69	300	272218	938.16	0	272218	314889096	69	0	69	422	35902	272287	314924998	938.03
	9	446400	770	2178	719	444222	770.25	18012	426210	404779442	1463	0	1463	466	840608	427673	405620050	769.21
	10	300496	723	74	717	300422	723.00	5207	295215	263172607	74	0	74	482	43979	295289	263216585	722.94
	11	146360	598	376	567	145984	598.08	3296	142688	105222761	77	0	77	486	46141	142765	105268902	598.02
	12	380231	314	7718	232	372513	315.70	0	372513	145003214	216	5346	5562	473	3243808	378075	148247023	318.01
1963	1	224826	351	5541	248	219285	353.60	0	219285	95606522	326	1868	2194	467	1263329	221479	96869851	354.73
	2	218281	354	1557	327	216724	354.19	1581	215143	93957503	510	0	510	463	291148	215653	94248651	354.45
	3	110162	481	32	476	110130	481.00	1210	108920	64597706	32	0	32	470	18544	108952	64616251	481.00
	4	163646	330	29	330	163617	330.00	12956	150661	61302454	29	0	29	462	16520	150690	61318974	330.03
	5	80166	648	28	300	80138	648.12	0	80138	64040994	28	0	28	470	16226	80166	64057220	648.06
	6	185811	749	914	300	184897	751.22	0	184897	171261529	914	0	914	473	533053	185811	171794582	749.85
	7	119893	749	780	300	119113	751.94	0	119113	110434702	780	0	780	484	465482	119893	110900184	750.20
	8	33796	892	69	300	33727	893.21	0	33727	37144534	69	0	69	504	42879	33796	37187413	892.42
	9	34032	872	45	300	33987	872.76	0	33987	36573744	45	0	45	519	28797	34032	36602541	872.29
	10	52399	911	26	300	52373	911.30	0	52373	58848241	26	0	26	540	17311	52399	58865552	911.12
	11	63634	607	113	603	63521	607.01	8770	54751	40977826	0	0	0	547	0	54751	40977826	607.01
	12	66367	509	2040	478	64327	509.98	11950	52377	32935138	0	0	0	538	0	52377	32935138	509.98
1964	1	53808	524	1001	463	52807	525.16	2670	50137	32464596	326	0	326	534	214646	50463	32679242	525.21
	2	117084	389	3901	364	113183	389.86	16080	97103	46677356	510	0	510	503	316301	97613	46993658	390.45
	3	213858	299	5472	290	208386	299.24	25170	183216	67599081	406	0	406	459	229774	183622	67828856	299.59
	4	97928	439	108	300	97820	439.15	0	97820	52967204	108	0	108	463	61655	97928	53028859	439.18
	5	163200	322	128	300	163072	322.02	0	163072	64747296	128	0	128	469	74019	163200	64821315	322.13
	6	148754	403	419	300	148335	403.29	0	148335	73760726	419	0	419	480	247981	148754	74008707	403.51
	7	82899	407	127	300	82772	407.16	0	82772	41554311	127	0	127	496	77669	82899	41631980	407.30
	8	33844	801	130	300	33714	802.93	0	33714	33377364	130	0	130	515	82549	33844	33459914	801.83
	9	151158	331	1530	327	149628	331.04	9450	140178	57216935	0	0	0	490	0	140178	57216935	331.04
	10	181507	251	1220	252	180287	250.99	39950	140337	43430745	1220	0	1220	421	633293	141557	44064038	252.46
	11	247854	232	1406	236	246448	231.98	23674	222774	63719571	77	0	77	391	37122	222851	63756693	232.03
	12	167246	358	3556	270	163690	359.91	0	163690	72640898	216	277	493	387	235245	164183	72876143	359.99
1965	1	482241	230	4700	256	477541	229.74	0	477541	135275180	326	1109	1435	384	679432	478976	135954612	230.21
	2	1015596	235	4714	251	1010882	234.93	0	1010882	292815116	510	2401	2911	378	1356741	1013793	294171858	235.34
	3	383246	336	33	336	383213	336.00	5373	377840	156534578	33	0	33	380	15462	377873	156550040	336.00
	4	437018	266	90	266	436928	266.00	8302	428626	140579898	90	0	90	378	41947	428716	140621845	266.02

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	5	2668481	230	1475	241	2667006	229.99	8282	2658724	753967596	1475	0	1475	367	667454	2660199	754635050	230.07
	6	1186730	237	972	241	1185758	237.00	13345	1172413	342598959	972	0	972	361	432650	1173385	343031609	237.10
	7	323425	297	267	297	323158	297.00	14696	308462	112959093	17	0	17	365	7651	308479	112966744	297.00
	8	227921	324	204	323	227717	324.00	4830	222887	89041820	204	0	204	372	93570	223091	89135390	324.04
	9	108972	402	174	401	108798	402.00	13987	94811	46994776	174	0	174	380	81526	94985	47076302	401.96
	10	128013	375	1764	355	126249	375.28	4792	121457	56200529	1679	0	1679	384	794959	123136	56995489	375.40
	11	417520	295	8421	226	409099	296.42	0	409099	149520058	77	6730	6807	374	3138994	415906	152659052	297.69
	12	481765	239	4879	255	476886	238.84	0	476886	140435852	216	3332	3548	367	1605509	480434	142041361	239.78
1966	1	238096	367	3308	274	234788	368.31	0	234788	106623478	326	213	539	364	241910	235327	106865387	368.30
	2	420912	295	7250	230	413662	296.14	0	413662	151044399	510	4112	4622	359	2045914	418284	153090313	296.83
	3	401335	303	321	303	401014	303.00	5208	395806	147872726	321	0	321	360	142485	396127	148015211	303.05
	4	679279	250	11261	211	668018	250.66	0	668018	206458056	2765	1762	4527	349	1948045	672545	208406101	251.32
	5	2256435	317	11481	225	2244954	317.47	1642	2243312	878124578	4346	0	4346	337	1805854	2247658	879930432	317.51
	6	325408	341	652	339	324756	341.00	12767	311989	131178256	652	0	652	342	274939	312641	131453195	341.01
	7	119524	465	379	300	119145	465.52	0	119145	68388296	379	0	379	351	164025	119524	68552320	465.16
	8	228159	312	743	312	227416	312.00	25411	202005	77710515	743	0	743	350	320642	202748	78031157	312.14
	9	668191	554	2522	467	665669	554.33	5221	660448	451408556	1463	0	1463	360	649396	661911	452057953	553.90
	10	310334	516	125	512	310209	516.00	6115	304094	193473722	125	0	125	374	57643	304219	193531365	515.94
	11	90010	643	10	642	90000	643.00	4915	85085	67457016	10	0	10	388	4784	85095	67461800	642.97
	12	84873	675	32	613	84841	675.02	160	84681	70480321	32	0	32	391	15427	84713	70495748	674.92
1967	1	71244	647	794	420	70450	649.56	420	70030	56087411	326	0	326	392	157568	70356	56244979	648.36
	2	47395	593	278	300	47117	594.73	0	47117	34550923	278	0	278	394	135053	47395	34685976	593.55
	3	33132	697	73	300	33059	697.88	0	33059	28446671	73	0	73	397	35734	33132	28482405	697.21
	4	125510	413	509	402	125001	413.04	4760	120241	61236845	509	0	509	400	251039	120750	61487884	412.99
	5	174736	381	1489	367	173247	381.12	7240	166007	78010235	1489	0	1489	400	734375	167496	78744610	381.29
	6	172939	402	164	300	172775	402.10	0	172775	85659319	164	0	164	413	83514	172939	85742832	402.11
	7	84432	668	652	300	83780	670.86	0	83780	69300735	652	0	652	428	344076	84432	69644811	668.99
	8	80184	865	4893	254	75291	904.71	0	75291	83987445	4893	0	4893	434	2618352	80184	86605797	875.98
	9	76431	586	2826	538	73605	587.84	15070	58535	42426772	0	0	0	457	0	58535	42426772	587.84
	10	63931	537	2233	505	61698	538.16	14570	47128	31271738	1679	0	1679	469	970927	48807	32242665	535.78
	11	273957	320	34	320	273923	320.00	42365	231558	91363524	34	0	34	430	18026	231592	91381551	320.02
	12	177640	416	2605	326	175035	417.34	1170	173865	89467371	216	0	216	428	113988	174081	89581360	417.35
1968	1	1115504	239	6051	244	1109453	238.97	0	1109453	326904072	326	3121	3447	421	1789314	1112900	328693385	239.54
	2	723153	454	1447	391	721706	454.13	2104	719602	402932321	510	0	510	421	264737	720112	403197058	454.10
	3	931001	388	1099	368	929902	388.02	3855	926047	443051578	406	0	406	420	210251	926453	443261829	388.04
	4	964958	339	987	334	963971	339.01	6982	956989	400015002	987	0	987	416	506260	957976	400521262	339.08
	5	2233249	348	8670	269	2224579	348.31	4700	2219879	953357295	4346	0	4346	403	2159523	2224225	955516818	348.41
	6	1668098	204	16457	192	1651641	204.12	0	1651641	415684062	3058	2777	5835	381	2741125	1657476	418425187	204.74

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	7	1051398	229	1225	235	1050173	228.99	12170	1038003	293078456	17	0	17	375	7860	1038020	293086316	229.00
	8	167306	329	284	328	167022	329.00	13124	153898	62430124	284	0	284	382	133766	154182	62563889	329.10
	9	231868	271	1737	278	230131	270.95	5263	224868	75123419	1463	0	1463	380	685474	226331	75808893	271.65
	10	194281	338	1177	331	193104	338.04	5042	188062	78385484	1177	0	1177	382	554374	189239	78939858	338.32
	11	177025	375	786	361	176239	375.06	3463	172776	79900604	77	0	77	385	36552	172853	79937157	375.07
	12	552238	232	1640	259	550598	231.92	2465	548133	156742381	216	0	216	383	102004	548349	156844384	231.98
1969	1	159927	401	1709	359	158218	401.45	2377	155841	77140106	326	0	326	384	154352	156167	77294458	401.42
	2	517051	202	10971	209	506080	201.85	0	506080	125952631	510	8823	9333	373	4292331	515413	130244961	204.95
	3	788429	229	4921	253	783508	228.85	281	783227	221004056	406	0	406	371	185722	783633	221189778	228.92
	4	1281203	205	1067	217	1280136	204.99	7064	1273072	321772344	1067	0	1067	363	477567	1274139	322249911	205.12
	5	1453606	362	12846	220	1440760	363.27	1267	1439493	644759119	4346	0	4346	351	1880875	1443839	646639994	363.23
	6	440132	613	145	610	439987	613.00	14582	425405	321533954	145	0	145	386	69011	425550	321602965	612.92
	7	172443	689	66	300	172377	689.15	0	172377	146472295	66	0	66	402	32714	172443	146505009	689.04
	8	97222	706	245	300	96977	707.03	0	96977	84540931	245	0	245	413	124761	97222	84665692	706.28
	9	116688	545	318	542	116370	545.01	25090	91280	61339713	318	0	318	446	174874	91598	61514587	544.66
	10	74809	701	881	680	73928	701.25	16279	57649	49845722	881	0	881	482	523584	58530	50369305	697.95
	11	146321	510	258	499	146063	510.02	4816	141247	88823735	77	0	77	489	46426	141324	88870161	510.01
	12	276793	317	2191	305	274602	317.10	1831	272771	106647748	216	0	216	485	129169	272987	106776917	317.23
1970	1	334968	435	981	394	333987	435.12	2279	331708	177962498	326	0	326	483	194146	332034	178156644	435.17
	2	290618	380	2316	315	288302	380.52	987	287315	134803550	510	0	510	479	301210	287825	135104760	380.70
	3	1368793	331	4576	258	1364217	331.24	0	1364217	557180216	406	34	440	472	256069	1364657	557436285	331.29
	4	784145	298	815	298	783330	298.00	6982	776348	285256651	815	0	815	464	466271	777163	285722922	298.17
	5	619001	368	3666	339	615335	368.17	8859	606476	275314044	3666	0	3666	453	2047641	610142	277361685	368.68
	6	427537	331	772	329	426765	331.00	14005	412760	168458691	772	0	772	450	428344	413532	168887035	331.23
	7	91787	423	167	300	91620	423.22	0	91620	47810563	167	0	167	462	95131	91787	47905694	423.29
	8	81414	509	201	300	81213	509.52	0	81213	51020832	201	0	201	476	117969	81414	51138801	509.43
	9	179861	305	3570	301	176291	305.08	29388	146903	55259749	1463	0	1463	437	788295	148366	56048044	306.38
	10	376641	235	14886	199	361755	236.48	0	361755	105481080	1679	9897	11576	422	6023294	373331	111504374	242.23
	11	102422	261	150	262	102272	261.00	5502	96770	31141669	77	0	77	423	40160	96847	31181829	261.13
	12	54492	502	12	501	54480	502.00	1980	52500	32495729	12	0	12	427	6318	52512	32502047	501.98
1971	1	69616	554	17	546	69599	554.00	510	69089	47193619	17	0	17	433	9076	69106	47202695	553.97
	2	38983	507	182	300	38801	507.97	0	38801	24302160	182	0	182	436	97841	38983	24400001	507.63
	3	47798	401	12	300	47786	401.03	0	47786	23628470	12	0	12	444	6569	47798	23635039	401.04
	4	56388	365	318	300	56070	365.37	0	56070	25259509	318	0	318	451	176834	56388	25436344	365.85
	5	101772	277	194	300	101578	276.96	0	101578	34687550	194	0	194	458	109555	101772	34797105	277.30
	6	52625	408	175	300	52450	408.36	0	52450	26409011	175	0	175	473	102062	52625	26511072	408.58
	7	44132	477	247	300	43885	478.00	0	43885	25864473	247	0	247	497	151362	44132	26015835	478.10
	8	157190	238	7043	237	150147	238.05	13870	136277	39998913	0	0	0	447	0	136277	39998913	238.05

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	9	113163	389	20454	238	92709	422.31	7640	85069	44296600	1463	0	1463	401	723355	86532	45019956	421.95
	10	257671	453	2054	445	255617	453.06	38088	217529	121517847	1679	0	1679	417	863276	219208	122381123	452.79
	11	376800	529	45	527	376755	529.00	4585	372170	242750597	45	0	45	425	23581	372215	242774178	528.99
	12	757210	299	4218	262	752992	299.21	0	752992	277795731	216	939	1155	420	598128	754147	278393859	299.39
1972	1	482777	480	2936	313	479841	481.02	572	479269	284254399	326	0	326	418	168018	479595	284422417	480.98
	2	224906	344	5030	250	219876	346.15	0	219876	93843832	510	902	1412	415	722513	221288	94566346	346.59
	3	135352	347	7869	231	127483	354.16	0	127483	55669216	406	2007	2413	410	1219844	129896	56889060	355.20
	4	67896	543	815	300	67081	545.95	0	67081	45156194	815	0	815	415	417031	67896	45573225	544.38
	5	473930	211	11315	212	462615	210.98	11013	451602	117476512	4346	0	4346	385	2063068	455948	119539580	212.63
	6	145666	687	1502	556	144164	688.36	2940	141224	119864415	1502	0	1502	397	735231	142726	120599645	685.30
	7	106268	443	579	300	105689	443.78	0	105689	57831429	579	0	579	403	287705	106268	58119133	443.56
	8	86781	613	945	300	85836	616.45	0	85836	65242041	945	0	945	411	478891	86781	65720932	614.21
	9	59980	676	17751	188	42229	881.13	0	42229	45879057	17751	0	17751	383	8382714	59980	54261772	733.71
	10	79394	540	864	523	78530	540.19	11320	67210	44765262	864	0	864	403	429321	68074	45194583	538.45
	11	308251	310	6216	298	302035	310.25	30541	271494	103855824	77	0	77	376	35698	271571	103891521	310.27
	12	199061	640	196	622	198865	640.02	3559	195306	154124143	196	0	196	383	92559	195502	154216702	639.76
1973	1	463854	320	5209	251	458645	320.78	0	458645	181406137	326	2361	2687	378	1252341	461332	182658478	321.12
	2	512013	220	7376	229	504637	219.87	0	504637	136805981	510	4403	4913	372	2253475	509550	139059456	221.34
	3	896449	250	3239	268	893210	249.93	1385	891825	274833281	406	0	406	369	184721	892231	275018002	249.99
	4	1244270	310	17903	188	1226367	311.78	0	1226367	471447335	2765	8652	11417	352	4955161	1237784	476402496	312.15
	5	917672	520	819	505	916853	520.01	11170	905683	580702675	819	0	819	370	373636	906502	581076311	519.88
	6	1421255	320	23444	174	1397811	322.45	0	1397811	555740650	3058	9682	12740	345	5419405	1410551	561160055	322.65
	7	377911	600	1481	567	376430	600.13	12079	364351	269605197	17	0	17	372	7797	364368	269612994	600.12
	8	165886	730	777	702	165109	730.13	11062	154047	138681192	777	0	777	404	387049	154824	139068241	728.50
	9	134323	360	7649	230	126674	367.85	0	126674	57454113	1463	1144	2607	398	1279344	129281	58733457	368.46
	10	1399596	220	16841	193	1382755	220.33	0	1382755	375646775	1679	11605	13284	383	6273223	1396039	381919998	221.88
	11	581653	280	1392	286	580261	279.99	3435	576826	199133171	77	0	77	385	36552	576903	199169723	280.00
	12	451537	310	663	308	450874	310.00	3607	447267	170960487	216	0	216	384	102270	447483	171062757	310.04
1974	1	746538	230	15753	196	730785	230.73	0	730785	207903715	326	13153	13479	371	6165874	744264	214069590	233.27
	2	458201	560	172	550	458029	560.00	4443	453586	313194161	172	0	172	381	80801	453758	313274962	559.94
	3	219074	620	58	616	219016	620.00	5043	213973	163574079	58	0	58	392	28033	214031	163602113	619.94
	4	126724	350	700	300	126024	350.28	0	126024	54428812	700	0	700	397	342651	126724	54771463	350.54
	5	314043	460	5664	408	308379	460.96	17652	290727	165236906	4346	0	4346	402	2154164	295073	167391070	460.09
	6	72248	700	620	300	71628	703.46	0	71628	62127911	620	0	620	411	314193	72248	62442104	700.95
	7	63396	630	593	300	62803	633.12	0	62803	49026028	593	0	593	423	309284	63396	49335313	631.15
	8	88790	220	1301	300	87489	218.81	0	87489	23603936	1301	0	1301	426	683361	88790	24287296	221.85
	9	1180978	290	287	290	1180691	290.00	43659	1137032	406568532	287	0	287	387	136948	1137319	406705480	290.02
	10	504139	290	2839	286	501300	290.02	3222	498078	178111662	1679	0	1679	386	799100	499757	178910762	290.35

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	11	1925553	380	14774	198	1910779	381.41	0	1910779	898591767	77	11680	11757	375	5436143	1922536	904027910	381.37
	12	901487	310	3528	272	897959	310.15	82	897877	343360812	216	0	216	372	99074	898093	343459886	310.16
1975	1	698796	672	1108	560	697688	672.18	2565	695123	576114683	326	0	326	378	151940	695449	576266623	672.04
	2	1301573	649	679	585	1300894	649.03	3037	1297857	1038620691	510	0	510	384	241471	1298367	1038862162	648.93
	3	572370	918	74	909	572296	918.00	4796	567500	642350659	74	0	74	404	36862	567574	642387521	917.93
	4	611722	841	1709	738	610013	841.29	7229	602784	625273146	1709	0	1709	426	897666	604493	626170812	840.11
	5	1403127	375	11467	239	1391660	376.12	2316	1389344	644317610	4346	0	4346	409	2191675	1393690	646509285	376.22
	6	1263867	684	5761	521	1258106	684.75	9734	1248372	1053990872	3058	0	3058	425	1602468	1251430	1055593341	684.11
	7	533077	517	406	510	532671	517.01	12907	519764	331332698	17	0	17	440	9223	519781	331341921	517.00
	8	259755	772	1011	731	258744	772.16	10606	248138	236245621	885	0	885	469	511775	249023	236757396	771.08
	9	129084	994	145	980	128939	994.02	7022	121917	149424086	145	0	145	503	89929	122062	149514015	993.43
	10	107024	490	460	474	106564	490.07	4960	101604	61394741	460	0	460	508	288127	102064	61682869	490.15
	11	94584	440	1331	401	93253	440.56	3413	89840	48801658	77	0	77	510	48420	89917	48850078	440.62
	12	109142	610	3749	304	105393	620.88	438	104955	80348416	216	0	216	506	134762	105171	80483178	620.65
1976	1	103934	710	81	702	103853	710.01	4090	99763	87336291	81	0	81	516	51534	99844	87387825	709.85
	2	124998	710	66	704	124932	710.00	4526	120406	105407495	66	0	66	528	42968	120472	105450463	709.90
	3	151775	610	72	604	151703	610.00	3870	147833	111190153	72	0	72	532	47229	147905	111237382	609.96
	4	675748	260	502	262	675246	260.00	7907	667339	213934313	502	0	502	518	320624	667841	214254938	260.19
	5	1123794	200	2674	217	1121120	199.96	10345	1110775	273861582	2674	0	2674	496	1635333	1113449	275496915	200.67
	6	649408	240	5995	241	643413	239.99	9583	633830	187555692	3058	0	3058	475	1790994	636888	189346686	241.12
	7	766433	240	1833	249	764600	239.98	10242	754358	223209551	17	0	17	461	9663	754375	223219214	239.98
	8	180972	460	58	459	180914	460.00	12382	168532	95588046	58	0	58	472	33755	168590	95621801	460.00
	9	134578	520	145	515	134433	520.01	5785	128648	82484807	145	0	145	478	85459	128793	82570266	519.96
	10	342446	270	6230	242	336216	270.52	0	336216	112144753	1679	746	2425	471	1408302	338641	113553055	271.95
	11	358611	310	1684	305	356927	310.02	1493	355434	135867876	77	0	77	467	44337	355511	135912214	310.06
	12	1088370	210	11575	211	1076795	209.99	0	1076795	278800257	216	8708	8924	453	4984491	1085719	283784749	211.99
1977	1	455722	440	1871	353	453851	440.36	1142	452709	245803886	326	0	326	450	180881	453035	245984767	440.37
	2	1096304	270	8277	223	1088027	270.36	0	1088027	362694729	510	4644	5154	441	2802503	1093181	365497232	271.16
	3	489183	380	1040	364	488143	380.03	4327	483816	226707484	406	0	406	441	220764	484222	226928248	380.09
	4	1908852	350	10656	214	1898196	350.76	0	1898196	820953367	2765	497	3262	427	1717414	1901458	822670781	350.89
	5	1215669	320	902	318	1214767	320.00	11087	1203680	474926185	902	0	902	424	471558	1204582	475397743	320.08
	6	504535	340	1184	337	503351	340.01	13180	490171	205493752	1184	0	1184	422	616066	491355	206109818	340.20
	7	122955	460	125	459	122830	460.00	14425	108405	61485284	17	0	17	437	9160	108422	61494444	460.00
	8	89455	560	70	554	89385	560.00	3020	86365	59633806	70	0	70	449	38753	86435	59672559	559.91
	9	103755	560	125	558	103630	560.00	15301	88329	60989671	125	0	125	467	71976	88454	61061647	559.87
	10	60317	580	90	576	60227	580.01	5867	54360	38875411	90	0	90	480	53266	54450	38928677	579.84
	11	58530	540	156	525	58374	540.04	2400	55974	37271375	77	0	77	482	45762	56051	37317137	539.96
	12	61962	380	188	377	61774	380.01	5499	56275	26367722	188	0	188	482	111730	56463	26479452	380.35

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
1978	1	165326	230	1269	265	164057	229.73	1249	162808	46116374	326	0	326	476	191332	163134	46307706	230.22
	2	237620	230	1806	274	235814	229.66	1002	234812	66492772	510	0	510	470	295550	235322	66788322	230.18
	3	188370	250	479	254	187891	249.99	5960	181931	56077943	406	0	406	467	233779	182337	56311723	250.47
	4	53855	390	252	300	53603	390.42	0	53603	25804039	252	0	252	474	147279	53855	25951318	390.81
	5	67662	390	137	300	67525	390.18	0	67525	32485950	137	0	137	483	81589	67662	32567538	390.37
	6	134955	310	193	310	134762	310.00	4120	130642	49935292	193	0	193	486	115653	130835	50050945	310.26
	7	60415	400	39	300	60376	400.06	0	60376	29782252	39	0	39	502	24140	60415	29806392	400.13
	8	104565	730	27	729	104538	730.00	8340	96198	86586888	27	0	27	541	18010	96225	86604899	729.95
	9	177203	610	4380	563	172823	611.19	28120	144703	109047993	1463	0	1463	550	992133	146166	110040126	610.58
	10	41304	980	109	845	41195	980.36	440	40755	49263847	109	0	109	567	76203	40864	49340050	979.25
	11	147584	570	2639	544	144945	570.47	25930	119015	83714398	77	0	77	561	53262	119092	83767660	570.47
	12	140965	430	1204	404	139761	430.22	4790	134971	71597549	216	0	216	555	147812	135187	71745362	430.42
1979	1	640462	340	9335	222	631127	341.75	0	631127	265939247	326	6652	6978	539	4637488	638105	270576736	343.90
	2	579034	380	5280	246	573754	381.23	0	573754	269699071	510	2637	3147	528	2048773	576901	271747844	382.03
	3	777639	260	1705	274	775934	259.97	3332	772602	247651444	406	0	406	521	260812	773008	247912255	260.11
	4	1109573	220	9866	218	1099707	220.02	0	1099707	298330850	2765	450	3215	501	1986012	1102922	300316862	220.84
	5	1618928	390	15181	198	1603747	391.82	0	1603747	774787709	4346	903	5249	474	3067736	1608996	777855445	392.09
	6	2038194	270	9855	238	2028339	270.16	6053	2022286	673626911	3058	0	3058	456	1719354	2025344	675346265	270.44
	7	533791	300	417	300	533374	300.00	11328	522046	193104815	17	0	17	446	9349	522063	193114164	300.00
	8	395583	260	229	261	395354	260.00	11309	384045	123116872	229	0	229	439	123955	384274	123240827	260.11
	9	293216	300	2446	295	290770	300.04	4059	286711	106069268	1463	0	1463	435	784687	288174	106853955	300.73
	10	116053	500	271	491	115782	500.02	6032	109750	67663726	271	0	271	446	149028	110021	67812753	499.89
	11	96426	414	310	406	96116	414.03	4104	92012	46971557	77	0	77	449	42629	92089	47014185	414.06
	12	186526	387	942	363	185584	387.12	2502	183082	87388921	216	0	216	446	118782	183298	87507703	387.19
1980	1	446162	267	4628	257	441534	267.10	0	441534	145414913	326	1780	2106	440	1142547	443640	146557460	267.93
	2	367735	231	1578	261	366157	230.87	2055	364102	103646581	510	0	510	436	274170	364612	103920751	231.16
	3	161375	332	883	326	160492	332.03	3989	156503	64071812	406	0	406	434	217260	156909	64289072	332.30
	4	321025	234	649	238	320376	233.99	8879	311497	89870625	649	0	649	428	342493	312146	90213118	234.40
	5	954327	175	4393	201	949934	174.88	10050	939884	202664129	4346	0	4346	409	2191675	944230	204855804	175.96
	6	239940	249	234	250	239706	249.00	12630	227076	69715919	234	0	234	407	117428	227310	69833347	249.16
	7	98519	473	54	471	98465	473.00	5630	92835	54142333	17	0	17	425	8908	92852	54151241	472.99
	8	68390	550	42	300	68348	550.15	0	68348	46363143	42	0	42	441	22838	68390	46385980	550.09
	9	69991	610	53	608	69938	610.00	8170	61768	46457681	53	0	53	458	29930	61821	46487611	609.87
	10	53159	475	295	467	52864	475.04	6160	46704	27355936	295	0	295	467	169864	46999	27525800	474.99
	11	51977	686	185	663	51792	686.08	2980	48812	41291989	77	0	77	475	45097	48889	41337086	685.75
	12	79349	689	211	675	79138	689.04	5800	73338	62306720	211	0	211	489	127220	73549	62433940	688.46
1981	1	97894	820	408	794	97486	820.11	7780	89706	90710184	326	0	326	510	204999	90032	90915183	818.99
	2	106354	841	267	807	106087	841.09	3920	102167	105953157	267	0	267	521	171519	102434	106124676	840.25

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	3	120434	571	299	564	120135	571.02	10690	109445	77056337	299	0	299	528	194656	109744	77250993	570.90
	4	91624	500	1174	375	90450	501.62	700	89750	55510417	1174	0	1174	531	768645	90924	56279062	502.00
	5	213759	341	2526	324	211233	341.20	5540	205693	86535798	2526	0	2526	522	1625799	208219	88161597	343.40
	6	1751186	247	7364	244	1743822	247.01	30433	1713389	521841097	3058	0	3058	454	1711813	1716447	523552911	247.38
	7	706691	324	625	323	706066	324.00	12523	693543	277065637	17	0	17	450	9432	693560	277075070	324.00
	8	134083	552	152	549	133931	552.00	11557	122374	83290216	152	0	152	466	87336	122526	83377552	551.90
	9	251405	374	242	371	251163	374.00	6692	244471	112736717	242	0	242	469	139943	244713	112876660	374.10
	10	874492	650	289	626	874203	650.01	3887	870316	697523272	289	0	289	475	169260	870605	697692532	649.95
	11	912456	586	8962	223	903494	589.60	0	903494	656819951	77	5290	5367	466	3083760	908861	659903711	588.87
	12	145111	657	380	627	144731	657.08	4137	140594	113906183	216	0	216	475	126506	140810	114032688	656.80
1982	1	118631	621	372	591	118259	621.09	3549	114710	87845991	326	0	326	480	192940	115036	88038931	620.69
	2	110380	681	457	598	109923	681.35	1650	108273	90959982	457	0	457	481	271034	108730	91231016	680.50
	3	169309	477	464	464	168845	477.04	5716	163129	95950039	406	0	406	483	241789	163535	96191828	477.05
	4	319259	244	1089	251	318170	243.98	7394	310776	93488400	1089	0	1089	471	632429	311865	94120830	244.77
	5	1219457	322	8274	267	1211183	322.38	5757	1205426	479143897	4346	0	4346	454	2432813	1209772	481576710	322.85
	6	842400	621	208	616	842192	621.00	13840	828352	634264589	208	0	208	479	122846	828560	634387435	620.97
	7	786882	623	145	620	786737	623.00	15230	771507	592640572	17	0	17	508	10648	771524	592651220	623.00
	8	108651	585	43	584	108608	585.00	9740	98868	71314031	43	0	43	528	27994	98911	71342025	584.98
	9	61254	584	23	583	61231	584.00	7330	53901	38812626	23	0	23	545	15456	53924	38828081	583.98
	10	65185	962	53	958	65132	962.00	8430	56702	67257078	53	0	53	575	37576	56755	67294654	961.64
	11	138288	640	529	588	137759	640.20	2903	134856	106450769	77	0	77	575	54591	134933	106505360	640.16
	12	195768	485	1113	432	194655	485.30	2744	191911	114835446	216	0	216	573	152606	192127	114988052	485.40
1983	1	234347	580	1160	483	233187	580.48	2183	231004	165337639	326	0	326	570	229116	231330	165566755	580.47
	2	642287	382	3602	265	638685	382.66	0	638685	301344095	510	712	1222	562	846780	639907	302190875	383.00
	3	706710	333	9452	221	697258	334.52	0	697258	287591748	406	4580	4986	547	3362813	702244	290954561	336.03
	4	306763	496	652	483	306111	496.03	9457	296654	181434222	652	0	652	553	444566	297306	181878787	496.15
	5	805051	302	7671	266	797380	302.35	7267	790113	294548615	4346	0	4346	530	2840068	794459	297388682	303.59
	6	379874	436	239	434	379635	436.00	12767	366868	197224404	239	0	239	528	155595	367107	197379999	436.06
	7	110459	726	154	720	110305	726.01	10430	99875	89404937	17	0	17	550	11529	99892	89416465	725.98
	8	226175	582	497	572	225678	582.02	13128	212550	152532927	497	0	497	559	342556	213047	152875483	581.97
	9	143383	455	185	450	143198	455.01	5702	137496	77138414	185	0	185	560	127739	137681	77266152	455.15
	10	50011	357	130	355	49881	357.01	3950	45931	20218249	130	0	130	561	89923	46061	20308171	357.58
	11	53629	335	206	333	53423	335.01	4590	48833	20171179	77	0	77	557	52882	48910	20224061	335.36
	12	111699	273	935	279	110764	272.95	3137	107627	36221496	216	0	216	550	146480	107843	36367976	273.50
1984	1	64623	433	443	300	64180	433.92	0	64180	34337643	326	0	326	550	221077	64506	34558720	434.50
	2	63336	349	559	300	62777	349.44	0	62777	27047783	510	0	510	552	347114	63287	27394898	351.07
	3	183901	275	1232	278	182669	274.98	10931	171738	58227778	406	0	406	533	266819	172144	58494597	275.59
	4	76155	359	246	300	75909	359.19	0	75909	33618787	246	0	246	546	165612	76155	33784399	359.79

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concentration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concentration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concentration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concentration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	5	123124	508	1144	453	121980	508.52	3170	118810	74493871	1144	0	1144	551	777214	119954	75271085	508.92
	6	92866	384	195	300	92671	384.18	0	92671	43897320	195	0	195	564	135605	92866	44032926	384.55
	7	80267	455	52	300	80215	455.10	0	80215	45011756	52	0	52	581	37251	80267	45049008	455.18
	8	74089	565	49	300	74040	565.18	0	74040	51595606	49	0	49	602	36371	74089	51631977	565.20
	9	44569	615	25	609	44544	615.00	1230	43314	32844969	0	0	0	622	0	43314	32844969	615.00
	10	643575	156	860	158	642715	156.00	52850	589865	113457407	0	0	0	432	0	589865	113457407	156.00
	11	447749	153	201	155	447548	153.00	16525	431023	81311581	77	0	77	403	38261	431100	81349842	153.04
	12	518360	194	1467	234	516893	193.89	2390	514503	122998129	216	0	216	399	106265	514719	123104394	193.97
1985	1	555649	265	2398	280	553251	264.93	1605	551646	180203350	326	0	326	398	159979	551972	180363329	265.01
	2	485910	326	4721	251	481189	326.74	0	481189	193854343	510	675	1185	395	577136	482374	194431479	326.90
	3	774168	210	3371	251	770797	209.82	1831	768966	198938357	406	0	406	392	196234	769372	199134591	209.92
	4	344330	453	863	438	343467	453.04	8054	335413	187360183	863	0	863	399	424568	336276	187784750	452.90
	5	466135	588	490	576	465645	588.01	11335	454310	329383641	490	0	490	419	253147	454800	329636788	587.83
	6	262492	649	238	640	262254	649.01	8970	253284	202684713	238	0	238	440	129120	253522	202813833	648.81
	7	111118	640	203	634	110915	640.01	10460	100455	79272410	17	0	17	465	9747	100472	79282157	639.98
	8	63108	889	25	300	63083	889.23	0	63083	69165766	25	0	25	484	14919	63108	69180686	889.07
	9	62456	911	38	905	62418	911.00	3950	58468	65675204	38	0	38	509	23849	58506	65699053	910.74
	10	199215	379	302	378	198913	379.00	29418	169495	79206517	302	0	302	487	181342	169797	79387860	379.19
	11	593616	228	6058	242	587558	227.86	0	587558	165072082	77	1974	2051	482	1218922	589609	166291004	228.74
	12	1127373	207	1406	234	1125967	206.97	3359	1122608	286477695	216	0	216	478	127305	1122824	286605000	207.02
1986	1	276363	417	582	402	275781	417.03	3834	271947	139835156	326	0	326	479	192538	272273	140027694	417.11
	2	825247	248	1142	262	824105	247.98	3069	821036	251040032	510	0	510	476	299323	821546	251339356	248.12
	3	213263	445	549	433	212714	445.03	5973	206741	113443580	406	0	406	480	240287	207147	113683868	445.10
	4	113065	561	267	385	112798	561.42	130	112668	77991795	267	0	267	486	159997	112935	78151791	561.24
	5	662064	264	1281	266	660783	264.00	18511	642272	209064173	1281	0	1281	460	726558	643553	209790730	264.39
	6	1173846	321	9615	255	1164231	321.55	5220	1159011	459507382	3058	0	3058	443	1670338	1162069	461177720	321.86
	7	376686	441	113	440	376573	441.00	15922	360651	196105197	17	0	17	458	9600	360668	196114797	441.00
	8	176664	495	63	494	176601	495.00	11722	164879	100631497	63	0	63	470	36509	164942	100668006	494.99
	9	328879	587	641	558	328238	587.06	5702	322536	233464725	641	0	641	478	377789	323177	233842514	586.84
	10	582763	711	670	651	582093	711.07	3887	578206	506941042	670	0	670	486	401489	578876	507342532	710.81
	11	510069	517	1695	384	508374	517.44	1069	507305	323664529	77	0	77	483	45857	507382	323710386	517.44
	12	1256389	260	8065	229	1248324	260.20	0	1248324	400495976	216	5363	5579	471	3239965	1253903	403735942	261.14
1987	1	821395	375	1538	345	819857	375.06	2300	817557	378074649	326	0	326	469	188518	817883	378263167	375.09
	2	574810	494	3013	274	571797	495.16	0	571797	349100003	510	288	798	463	455561	572595	349555564	495.11
	3	1233718	514	2001	445	1231717	514.11	4273	1227444	778077013	406	0	406	468	234280	1227850	778311293	514.10
	4	543074	733	297	721	542777	733.01	10199	532578	481342450	297	0	297	498	182368	532875	481524818	732.88
	5	307041	622	2637	449	304404	623.50	2500	301904	232095903	2637	0	2637	498	1619208	304541	233715111	622.41
	6	2553718	433	15392	267	2538326	434.01	6625	2531701	1354789496	3058	0	3058	467	1760830	2534759	1356550326	434.05

Table I-1: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

TDS with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concentration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens Ck Quality Concentration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concentration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concentration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	7	952899	404	344	401	952555	404.00	12886	939669	468080454	17	0	17	469	9831	939686	468090284	404.00
	8	340383	391	104	390	340279	391.00	13124	327155	157722530	104	0	104	476	61038	327259	157783569	391.03
	9	130314	575	395	560	129919	575.05	6775	123144	87312942	395	0	395	488	237673	123539	87550615	574.77
	10	80898	552	91	549	80807	552.00	6775	74032	50387672	91	0	91	503	56438	74123	50444110	551.94
	11	133880	446	563	420	133317	446.11	2614	130703	71893627	77	0	77	501	47565	130780	71941193	446.14
	12	222347	425	1227	378	221120	425.26	2052	219068	114867555	216	0	216	497	132365	219284	114999920	425.33
1988	1	212112	463	491	445	211621	463.04	3925	207696	118579980	326	0	326	499	200577	208022	118780557	463.10
	2	126188	559	476	529	125712	559.11	3618	122094	84170024	476	0	476	503	295215	122570	84465238	558.90
	3	231471	333	4156	276	227315	334.04	963	226352	93228492	406	0	406	497	248797	226758	93477289	334.33
	4	112322	398	404	300	111918	398.35	0	111918	54970785	404	0	404	502	250062	112322	55220847	398.73
	5	74166	497	2606	286	71560	504.68	0	71560	44530024	2606	0	2606	509	1635518	74166	46165542	504.84
	6	164231	314	540	312	163691	314.01	3160	160531	62152809	540	0	540	515	342897	161071	62495706	314.68
	7	112701	484	113	482	112588	484.00	11000	101588	60625125	17	0	17	525	11005	101605	60636130	484.01
	8	77687	441	43	300	77644	441.08	0	77644	42226634	43	0	43	546	28948	77687	42255582	441.14
	9	37267	430	17	300	37250	430.06	0	37250	19752302	17	0	17	566	11864	37267	19764166	430.12
	10	29034	586	25	300	29009	586.25	0	29009	20968921	25	0	25	588	18125	29034	20987046	586.25
	11	21790	563	42	300	21748	563.51	0	21748	15110625	42	0	42	605	31331	21790	15141955	563.59
	12	66296	709	75	697	66221	709.01	2400	63821	55793196	0	0	0	611	0	63821	55793196	709.01
1989	1	116818	303	1953	303	114865	303.00	16090	98775	36902241	0	0	0	545	0	98775	36902241	303.00
	2	187482	241	363	242	187119	241.00	33340	153779	45695523	363	0	363	465	208124	154142	45903648	241.53
	3	164618	286	1554	288	163064	285.98	8610	154454	54462720	406	0	406	453	226771	154860	54689491	286.42
	4	272687	269	299	269	272388	269.00	24250	248138	82301667	299	0	299	427	157421	248437	82459088	269.19
	5	935762	408	684	401	935078	408.01	10345	924733	465205720	684	0	684	429	361807	925417	465567527	408.02
	6	1417189	501	249	497	1416940	501.00	11612	1405328	868118699	249	0	249	437	134166	1405577	868252866	500.99
	7	359722	426	124	425	359598	426.00	13519	346079	181780911	17	0	17	444	9307	346096	181790217	426.00
	8	287802	309	1517	308	286285	309.01	11007	275278	104881891	885	0	885	441	481221	276163	105363112	309.43
	9	76215	556	120	552	76095	556.01	7930	68165	46730910	120	0	120	458	67766	68285	46798675	555.83
	10	66724	571	76	567	66648	571.00	5620	61028	42966679	76	0	76	470	44043	61104	43010722	570.88
	11	54811	574	116	549	54695	574.05	1160	53535	37892468	77	0	77	475	45097	53612	37937565	573.91
	12	63759	584	104	580	63655	584.01	7270	56385	40601714	104	0	104	484	62064	56489	40663778	583.82
50-yr Avg:		428766	466.66	2571	363.69	426195	467.88	5839	420356	186370802	648	715	1363	441.73	668317	421718	187039119	467.46
1/54-2/57 Average:		116236	708.26	575	284.50	115660	709.50	4334	111327	93116654	275	0	275	572.26	146600	111601	93263253	708.97

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
1940	1	43750	139	6	60	43744	139.01	0	43744	7497737	6	0	6	120	888	43750	7498625	139.01
	2	150100	108	597	103	149503	108.02	5641	143862	19160781	510	0	510	119	74831	144372	19235612	108.06
	3	42590	140	4	60	42586	140.01	0	42586	7351590	4	0	4	121	597	42590	7352187	140.01
	4	192200	101	328	100	191872	101.00	12847	179025	22294898	328	0	328	119	48126	179353	22343024	101.03
	5	306300	89	2168	82	304132	89.05	10510	293622	32239263	2168	0	2168	117	312758	295790	32552021	89.25
	6	641900	70	9031	44	632869	70.37	4319	628550	54537691	3058	0	3058	110	414757	631608	54952447	70.56
	7	1307000	52	32496	18	1274504	52.87	0	1274504	83078396	17	19348	19365	98	2339950	1293869	85418346	53.54
	8	244500	95	12	60	244488	95.00	0	244488	28638620	12	0	12	101	1494	244500	28640114	95.00
	9	107400	116	45	60	107355	116.02	0	107355	15357878	45	0	45	104	5770	107400	15363649	116.02
	10	66170	147	129	146	66041	147.00	10750	55291	10021682	129	0	129	108	17178	55420	10038860	146.91
	11	1406000	67	13315	27	1392685	67.38	0	1392685	115707796	77	350	427	98	51596	1393112	115759392	67.39
	12	3251000	46	20866	23	3230134	46.15	0	3230134	183798479	216	18989	19205	91	2154859	3249339	185953338	46.41
1941	1	1187504	54	3838	40	1183666	54.05	0	1183666	78877101	326	165	491	90	54486	1184157	78931587	54.06
	2	1356713	51	3925	39	1352788	51.03	0	1352788	85125442	510	1117	1627	88	176536	1354415	85301978	51.08
	3	1587173	47	10003	30	1577170	47.11	0	1577170	91608252	406	6699	7105	85	744640	1584275	92352891	47.28
	4	1053937	57	4326	47	1049611	57.04	3523	1046088	73573271	2765	0	2765	82	279558	1048853	73852829	57.11
	5	2507106	35	9546	32	2497560	35.01	3907	2493653	107648851	4346	0	4346	77	412614	2497999	108061464	35.08
	6	2089387	39	15001	26	2074386	39.09	0	2074386	99991451	3058	1981	5039	72	447342	2079425	100438793	39.17
	7	1041024	57	24488	21	1016536	57.87	0	1016536	72530140	17	12660	12677	66	1031629	1029213	73561769	57.97
	8	274730	92	199	91	274531	92.00	12299	262232	29746784	199	0	199	70	17176	262431	29763959	91.98
	9	303530	89	33	89	303497	89.00	3804	299693	32887411	33	0	33	70	2848	299726	32890259	89.00
	10	786089	141	178	133	785911	141.00	1742	784169	136331885	178	0	178	70	15363	784347	136347248	140.99
	11	664859	157	1363	122	663496	157.07	2804	660692	127955990	77	0	77	73	6931	660769	127962920	157.06
	12	158340	98	221	96	158119	98.00	4049	154070	18617425	216	0	216	74	19708	154286	18637134	97.97
1942	1	147094	162	136	159	146958	162.00	4172	142786	28521421	136	0	136	77	12912	142922	28534333	161.92
	2	102962	154	137	60	102825	154.13	0	102825	19540495	137	0	137	77	13007	102962	19553502	154.02
	3	89296	163	124	60	89172	163.14	0	89172	17937447	124	0	124	77	11773	89296	17949220	163.02
	4	2081235	60	8314	45	2072921	60.06	7454	2065467	152956463	2765	0	2765	73	248875	2068232	153205338	60.08
	5	1953520	51	377	51	1953143	51.00	10840	1942303	122137840	377	0	377	72	33469	1942680	122171308	51.00
	6	1287470	69	306	69	1287164	69.00	12190	1274974	108470963	306	0	306	73	27543	1275280	108498506	69.00
	7	333719	82	516	81	333203	82.00	9249	323954	32754312	17	0	17	73	1530	323971	32755842	82.00
	8	96714	125	13	60	96701	125.01	0	96701	14905084	13	0	13	73	1170	96714	14906254	125.00
	9	819828	52	496	52	819332	52.00	16262	803070	51489636	496	0	496	72	44033	803566	51533669	52.01
	10	726307	130	67	129	726240	130.00	5207	721033	115574462	67	0	67	75	6196	721100	115580657	129.99
	11	410261	100	451	95	409810	100.01	3551	406259	50094491	77	0	77	76	7216	406336	50101707	100.00
	12	246486	90	497	86	245989	90.01	3195	242794	26945270	216	0	216	76	20241	243010	26965510	90.00
1943	1	351253	95	1562	72	349691	95.10	1451	348240	40835205	326	0	326	76	30549	348566	40865754	95.08
	2	167762	208	181	201	167581	208.01	3701	163880	42030848	181	0	181	80	17854	164061	42048702	207.87

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138 0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	3	266182	193	1369	152	264813	193.21	3338	261475	62291279	406	0	406	82	41049	261881	62332328	193.04
	4	317335	126	257	124	317078	126.00	8632	308446	47920170	257	0	257	86	27252	308703	47947422	125.97
	5	222962	184	1058	159	221904	184.12	4530	217374	49346021	1058	0	1058	89	116102	218432	49464123	183.66
	6	226195	58	605	58	225590	58.00	13060	212530	15198870	605	0	605	88	65645	213135	15264515	58.09
	7	151942	125	15	125	151927	125.00	8450	143477	22113393	15	0	15	90	1665	143492	22115057	125.00
	8	107002	204	1	204	107001	204.00	6750	100251	25216335	1	0	1	98	121	100252	25216455	204.00
	9	61509	237	111	60	61398	237.32	0	61398	17966010	111	0	111	99	13549	61509	17979559	237.07
	10	89097	74	112	74	88985	74.00	18450	70535	6435754	112	0	112	98	13533	70647	6449288	74.04
	11	56194	128	8	128	56186	128.00	5650	50536	7975794	8	0	8	98	967	50544	7976760	128.00
	12	91458	86	113	85	91345	86.00	5706	85639	9081119	113	0	113	97	13515	85752	9094634	86.02
1944	1	677831	62	6453	35	671378	62.26	0	671378	51538989	326	6245	6571	94	761592	677949	52300581	62.57
	2	955001	39	5991	35	949010	39.03	0	949010	45664591	510	2688	3198	92	362768	952208	46027360	39.20
	3	1132165	44	5161	37	1127004	44.03	0	1127004	61186766	406	2352	2758	89	302655	1129762	61489420	44.14
	4	338241	51	500	52	337741	51.00	8137	329604	20725887	500	0	500	88	54252	330104	20780139	51.05
	5	2803675	21	5876	29	2797799	20.98	5102	2792697	72253448	4346	0	4346	82	439407	2797043	72692855	21.08
	6	1029461	23	647	25	1028814	23.00	13757	1015057	28784427	647	0	647	78	62225	1015704	28846652	23.03
	7	134955	78	97	60	134858	78.01	0	134858	12971986	17	0	17	81	1698	134875	12973684	78.01
	8	66547	127	394	60	66153	127.40	0	66153	10391513	394	0	394	82	39836	66547	10431349	127.13
	9	252159	108	1677	105	250482	108.02	30883	219599	29248120	1463	0	1463	88	158741	221062	29406861	107.89
	10	83534	189	2	189	83532	189.00	6197	77335	18021916	2	0	2	94	232	77337	18022148	189.00
	11	335831	103	8256	32	327575	104.79	0	327575	42324452	77	6565	6642	91	745252	334217	43069705	104.52
	12	791424	34	10465	30	780959	34.05	0	780959	32790977	216	8423	8639	87	926714	789598	33717691	34.63
1945	1	1326981	57	12861	28	1314120	57.28	0	1314120	92817538	326	9766	10092	84	1045249	1324212	93862787	57.49
	2	927471	43	3549	40	923922	43.01	0	923922	48998548	510	659	1169	83	119634	925091	49118183	43.06
	3	1284515	48	1945	48	1282570	48.00	2101	1280469	75783277	406	0	406	81	40548	1280875	75823826	48.01
	4	2493222	51	10441	29	2482781	51.09	0	2482781	156407940	2765	1520	4285	78	412106	2487066	156820046	51.14
	5	757824	62	933	61	756891	62.00	10922	745969	57027480	933	0	933	77	88580	746902	57116060	62.02
	6	561580	58	3397	54	558183	58.02	11603	546580	39104528	3058	0	3058	76	286559	549638	39391087	58.12
	7	433944	94	297	93	433647	94.00	12933	420714	48761949	17	0	17	79	1656	420731	48763605	94.00
	8	445587	54	6714	38	438873	54.24	1437	437436	29257384	885	0	885	75	81840	438321	29339224	54.29
	9	362558	56	1293	55	361265	56.00	7105	354160	24455603	1293	0	1293	76	121164	355453	24576767	56.08
	10	478949	65	3773	48	475176	65.13	1546	473630	38037905	1679	0	1679	75	155266	475309	38193170	65.17
	11	131921	86	253	85	131668	86.00	4739	126929	13459598	77	0	77	76	7216	127006	13466814	86.00
	12	490572	83	811	75	489761	83.01	1808	487953	49944592	216	0	216	76	20241	488169	49964833	83.01
1946	1	695365	65	5845	36	689520	65.25	0	689520	55470580	326	3327	3653	74	333307	693173	55803887	65.29
	2	875186	63	4928	37	870258	63.15	0	870258	67758753	510	1542	2052	73	184698	872310	67943451	63.17
	3	1312383	30	13612	27	1298771	30.03	0	1298771	48091890	406	9731	10137	70	874924	1308908	48966815	30.34
	4	511239	52	1276	52	509963	52.00	7312	502651	32227972	1276	0	1276	69	108558	503927	32336530	52.04

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	5	1601434	29	4121	33	1597313	28.99	7457	1589856	56828251	4121	0	4121	66	335359	1593977	57163610	29.09
	6	844879	36	2239	38	842640	35.99	10870	831770	36915157	2239	0	2239	63	173923	834009	37089080	36.07
	7	213521	89	70	89	213451	89.00	13325	200126	21961227	17	0	17	67	1404	200143	21962631	89.00
	8	69687	244	0	0	69687	244.00	0	69687	20965473	0	0	0	68	0	69687	20965473	244.00
	9	175259	175	515	60	174744	175.34	0	174744	37778411	515	0	515	68	43180	175259	37821591	175.02
	10	318149	267	664	260	317485	267.01	19324	298161	98163263	664	0	664	95	77778	298825	98241041	266.63
	11	1044515	70	9568	30	1034947	70.37	0	1034947	89798169	77	9444	9521	91	1068285	1044468	90866454	70.56
	12	565844	93	1332	79	564512	93.03	2690	561822	64446450	216	0	216	91	24236	562038	64470686	93.03
1947	1	1026624	59	9388	31	1017236	59.26	0	1017236	74324979	326	7365	7691	87	825021	1024927	75150000	59.47
	2	323702	107	150	105	323552	107.00	3948	319604	42166041	150	0	150	89	16461	319754	42182501	106.99
	3	812449	58	1512	55	810937	58.01	2699	808238	57805907	406	0	406	87	43552	808644	57849459	58.02
	4	433448	72	128	72	433320	72.00	7642	425678	37789990	128	0	128	87	13731	425806	37803721	72.00
	5	853884	130	5968	86	847916	130.31	6742	841174	135152982	4346	0	4346	87	466200	845520	135619182	130.09
	6	357659	235	226	232	357433	235.00	13262	344171	99726073	226	0	226	101	28144	344397	99754218	234.91
	7	101792	216	309	60	101483	216.47	0	101483	27087200	309	0	309	104	39624	101792	27126824	216.13
	8	363864	60	2313	58	361551	60.01	19150	342401	25336228	885	0	885	98	106938	343286	25443166	60.11
	9	143837	106	536	104	143301	106.01	11279	132022	17256229	536	0	536	101	66750	132558	17322979	105.99
	10	57935	218	145	206	57790	218.03	1780	56010	15057231	145	0	145	104	18594	56155	15075825	217.74
	11	91755	153	579	145	91176	153.05	6517	84659	15976139	77	0	77	106	10064	84736	15986202	153.01
	12	213937	88	5278	37	208659	89.29	0	208659	22972233	216	2906	3122	103	396491	211781	23368723	89.49
1948	1	120119	122	984	74	119135	122.40	410	118725	17917363	326	0	326	103	41402	119051	17958765	122.34
	2	257296	145	1478	106	255818	145.23	2125	253693	45426985	510	0	510	102	64141	254203	45491126	145.14
	3	350023	63	1083	61	348940	63.01	4036	344904	26794438	406	0	406	101	50560	345310	26844998	63.05
	4	165501	177	362	172	165139	177.01	7394	157745	34428558	362	0	362	105	46866	158107	34475425	176.85
	5	282109	86	613	84	281496	86.00	7290	274206	29077728	613	0	613	104	78606	274819	29156335	86.04
	6	123671	79	70	60	123601	79.01	0	123601	12041242	70	0	70	107	9235	123671	12050478	79.03
	7	184840	111	28	111	184812	111.00	7290	177522	24296193	17	0	17	110	2306	177539	24298499	111.00
	8	34965	348	19	60	34946	348.16	0	34946	15001516	19	0	19	113	2647	34965	15004164	348.03
	9	68469	373	35	60	68434	373.16	0	68434	31486920	35	0	35	116	5006	68469	31491926	373.03
	10	39404	300	68	277	39336	300.04	650	38686	14311848	68	0	68	121	10145	38754	14321993	299.73
	11	34425	241	407	60	34018	243.17	0	34018	10199382	77	0	77	122	11583	34095	10210965	242.89
	12	37137	264	15	60	37122	264.08	0	37122	12087429	15	0	15	123	2275	37137	12089704	264.03
1949	1	77587	143	846	56	76741	143.96	0	76741	13621648	846	0	846	120	125174	77587	13746822	143.70
	2	241864	125	2903	108	238961	125.21	10950	228011	35200257	106	0	106	116	15161	228117	35215418	125.20
	3	486089	41	2741	41	483348	41.00	45726	437622	22123105	406	0	406	91	45554	438028	22168659	41.05
	4	767781	39	7514	33	760267	39.06	417	759850	36594465	2765	0	2765	87	296604	762615	36891069	39.23
	5	837738	32	438	33	837300	32.00	11417	825883	32585507	438	0	438	84	45365	826321	32630871	32.03
	6	490631	237	102	236	490529	237.00	12602	477927	139660428	102	0	102	98	12325	478029	139672753	236.97

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	7	215266	182	1358	167	213908	182.10	10552	203356	45658184	17	0	17	104	2180	203373	45660364	182.09
	8	62083	292	725	58	61358	294.76	0	61358	22300267	725	0	725	106	94756	62083	22395023	292.56
	9	72843	346	1687	49	71156	353.04	0	71156	30974211	1687	0	1687	107	222568	72843	31196779	347.34
	10	277666	159	9764	94	267902	161.37	9672	258230	51379501	1679	0	1679	103	213231	259909	51592732	160.99
	11	216853	109	90	108	216763	109.00	5809	210954	28351693	77	0	77	105	9969	211031	28361662	109.00
	12	277249	92	8481	32	268768	93.89	0	268768	31115391	216	6934	7150	101	890411	275918	32005802	94.08
1950	1	285461	73	1924	59	283537	73.09	1502	282035	25418724	326	0	326	100	40196	282361	25458920	73.13
	2	756003	38	4973	36	753030	38.01	0	753030	35294731	510	3403	3913	98	472823	756943	35767554	38.32
	3	181388	64	320	64	181068	64.00	5621	175447	13844874	320	0	320	97	38272	175767	13883146	64.06
	4	482340	42	795	44	481545	42.00	5414	476131	24654982	795	0	795	94	92142	476926	24747124	42.08
	5	402446	55	941	55	401505	55.00	10180	391325	26537705	941	0	941	92	106743	392266	26644448	55.09
	6	662717	59	6864	47	655853	59.13	7146	648707	47291941	3058	0	3058	88	331805	651765	47623747	59.26
	7	169349	117	692	58	168657	117.24	0	168657	24380968	692	0	692	89	75938	169349	24456906	117.13
	8	209851	323	113	60	209738	323.14	0	209738	83566690	113	0	113	93	12958	209851	83579647	323.02
	9	263187	148	615	146	262572	148.00	25690	236882	43228543	615	0	615	104	78863	237497	43307406	147.89
	10	149058	285	165	282	148893	285.00	13879	135014	47445148	165	0	165	124	25227	135179	47470375	284.81
	11	54065	251	12	250	54053	251.00	1640	52413	16220947	12	0	12	128	1894	52425	16222841	250.97
	12	52903	235	32	220	52871	235.01	350	52521	15218810	32	0	32	129	5090	52553	15223900	234.94
1951	1	56340	267	81	60	56259	267.30	0	56259	18541755	81	0	81	130	12983	56340	18554739	267.10
	2	66902	306	40	60	66862	306.15	0	66862	25239032	40	0	40	130	6412	66902	25245443	306.04
	3	61218	224	1151	53	60067	227.28	0	60067	16832705	406	0	406	129	64577	60473	16897282	226.62
	4	74644	75	146	75	74498	75.00	5860	68638	6347299	146	0	146	129	23222	68784	6370521	75.11
	5	73858	186	52	60	73806	186.09	0	73806	16934599	52	0	52	129	8271	73858	16942870	186.05
	6	248013	62	73	60	247940	62.00	0	247940	18954201	73	0	73	132	11881	248013	18966082	62.02
	7	59304	228	23	60	59281	228.07	0	59281	16870076	23	0	23	138	3914	59304	16673990	228.03
	8	51905	495	66	60	51839	495.55	0	51839	31674555	66	0	66	147	11963	51905	31686518	495.11
	9	78365	360	1336	51	77029	365.36	0	77029	34700645	1336	0	1336	144	237209	78365	34937854	361.59
	10	48609	274	178	266	48431	274.03	4350	44081	14894011	0	0	0	159	0	44081	14894011	274.03
	11	35070	314	84	60	34986	314.61	0	34986	13571557	84	0	84	164	16986	35070	13588543	314.25
	12	37702	216	114	60	37588	216.47	0	37588	10032665	0	0	0	167	0	37588	10032665	216.47
1952	1	33376	243	25	60	33351	243.14	0	33351	9998234	0	0	0	169	0	33351	9998234	243.14
	2	54835	153	801	56	54034	154.44	0	54034	10289260	106	0	106	164	21434	54140	10310695	154.46
	3	79170	114	159	60	79011	114.11	0	79011	11116531	31	0	31	167	6383	79042	11122914	114.13
	4	334433	44	10227	41	324206	44.09	38140	286066	15553032	54	0	54	99	6592	286120	15559624	44.10
	5	355652	28	5058	31	350594	27.96	9520	341074	11757037	4346	0	4346	88	471558	345420	12228596	28.71
	6	212943	21	600	22	212343	21.00	20720	191623	4961027	600	0	600	77	56965	192223	5017991	21.17
	7	56162	58	295	60	55867	57.99	0	55867	3994545	295	0	295	79	28735	56162	4023280	58.10
	8	36926	272	90	60	36836	272.52	0	36836	12377436	90	0	90	84	9321	36926	12386757	272.06

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138.0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	9	36260	334	57	60	36203	334.43	0	36203	14928449	57	0	57	88	6185	36260	14934634	334.04
	10	12474	201	34	60	12440	201.39	0	12440	3088954	34	0	34	95	3983	12474	3092936	201.10
	11	24778	147	1392	51	23386	152.71	0	23386	4403504	1392	0	1392	92	157903	24778	4561407	149.30
	12	229999	43	2343	43	227656	43.00	51850	175806	9321058	0	0	0	67	0	175806	9321058	43.00
1953	1	275921	27	154	27	275767	27.00	43042	232725	7747648	154	0	154	56	10633	232879	7758281	27.02
	2	121488	45	925	48	120563	44.98	1800	118763	6586195	510	0	510	55	34586	119273	6620780	45.02
	3	245819	40	70	40	245749	40.00	5373	240376	11855344	70	0	70	55	4747	240446	11860091	40.00
	4	75019	45	22	60	74997	45.00	0	74997	4160802	22	0	22	55	1492	75019	4162294	45.00
	5	1646121	17	12377	24	1633744	16.95	6492	1627252	34002428	4346	0	4346	51	273290	1631598	34275717	17.04
	6	113827	29	12	60	113815	29.00	0	113815	4069224	12	0	12	52	769	113827	4069994	29.00
	7	61125	94	41	60	61084	94.02	0	61084	7081477	41	0	41	53	2679	61125	7084156	94.00
	8	49238	121	12267	28	36971	151.86	0	36971	6922459	12267	0	12267	51	771386	49238	7693845	126.73
	9	115970	49	8670	46	107300	49.24	37203	70097	4256001	1463	0	1463	50	90194	71560	4346195	49.26
	10	211987	34	150	35	211837	34.00	4712	207125	8682913	150	0	150	50	9248	207275	8692161	34.01
	11	199537	32	2274	40	197263	31.91	1728	195535	7692795	77	0	77	50	4747	195612	7697542	31.91
	12	553051	25	7360	33	545691	24.89	0	545691	16748326	216	4576	4792	49	289518	550483	17037844	25.10
1954	1	138486	53	1114	53	137372	53.00	2394	134978	8820677	326	0	326	50	20098	135304	8840775	52.99
	2	53018	108	30	60	52988	108.03	0	52988	7057870	30	0	30	50	1850	53018	7059719	107.99
	3	27388	116	0	0	27388	116.00	0	27388	3917251	0	0	0	51	0	27388	3917251	116.00
	4	49331	162	0	0	49331	162.00	0	49331	9853670	0	0	0	51	0	49331	9853670	162.00
	5	435023	214	726	58	434297	214.26	0	434297	114734120	726	0	726	52	46548	435023	114780668	213.99
	6	171778	349	6	60	171772	349.01	0	171772	73918550	6	0	6	54	399	171778	73918949	349.00
	7	53272	366	77	60	53195	366.44	0	53195	24034785	77	0	77	56	5317	53272	24040102	365.99
	8	56943	331	94	60	56849	331.45	0	56849	23232794	94	0	94	59	6838	56943	23239632	331.00
	9	24647	329	17	60	24630	329.19	0	24630	9996970	17	0	17	63	1321	24647	9998291	329.00
	10	36702	261	19	60	36683	261.10	0	36683	11809775	19	0	19	65	1523	36702	11811298	261.00
	11	51546	192	1	192	51545	192.00	3100	48445	11468676	0	0	0	73	0	48445	11468676	192.00
	12	29508	137	0	137	29508	137.00	280	29228	4937223	0	0	0	76	0	29228	4937223	137.00
1955	1	35794	133	1239	52	34555	135.90	0	34555	5790383	0	0	0	76	0	34555	5790383	135.90
	2	239794	49	8967	45	230827	49.16	35010	195817	11868193	106	0	106	60	7842	195923	11876035	49.16
	3	58939	109	0	0	58939	109.00	0	58939	7921225	0	0	0	62	0	58939	7921225	109.00
	4	268028	32	80	32	267948	32.00	38180	229768	9065726	80	0	80	53	5228	229848	9070954	32.01
	5	266461	116	3039	43	263422	116.84	0	263422	37950259	3039	0	3039	53	198596	266461	38148855	116.11
	6	349884	243	120	60	349764	243.06	0	349764	104823017	120	0	120	54	7990	349884	104831006	243.00
	7	104571	262	1453	50	103118	264.99	0	103118	33691666	1453	0	1453	56	100327	104571	33791993	262.08
	8	74527	192	412	60	74115	192.73	0	74115	17612744	412	0	412	57	28956	74527	17641700	191.98
	9	53516	241	888	55	52628	244.14	0	52628	15842220	888	0	888	59	64599	53516	15906820	241.07
	10	670155	327	29	327	670126	327.00	63650	606476	244525665	0	0	0	203	0	606476	244525665	327.00

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	11	66631	272	0	272	66631	272.00	15540	51091	17134695	0	0	0	216	0	51091	17134695	272.00
	12	48184	212	0	0	48184	212.00	0	48184	12595105	0	0	0	218	0	48184	12595105	212.00
1956	1	59133	206	1626	49	57507	210.44	0	57507	14921426	1626	0	1626	216	433049	59133	15354475	210.59
	2	119544	138	998	125	118546	138.11	5370	113176	19272621	510	0	510	212	133312	113686	19405933	138.44
	3	64780	236	0	0	64780	236.00	0	64780	18850203	0	0	0	214	0	64780	18850203	236.00
	4	53173	169	103	60	53070	169.21	0	53070	11072410	103	0	103	216	27432	53173	11099842	169.30
	5	318857	164	448	60	318409	164.15	0	318409	64443569	448	0	448	218	120420	318857	64563988	164.22
	6	46788	256	278	60	46510	257.17	0	46510	14747972	278	0	278	225	77124	46788	14825096	256.98
	7	44085	344	1	60	44084	344.01	0	44084	18698667	1	0	1	242	298	44085	18698965	344.00
	8	39130	349	10	60	39120	349.07	0	39120	16837564	10	0	10	264	3255	39130	16840820	349.05
	9	35837	369	50	60	35787	369.43	0	35787	16301312	50	0	50	292	18002	35837	16319314	369.32
	10	39535	403	0	0	39535	403.00	0	39535	19644902	0	0	0	312	0	39535	19644902	403.00
	11	76387	179	0	0	76387	179.00	0	76387	16859146	0	0	0	329	0	76387	16859146	179.00
	12	62785	75	15	74	62770	75.00	1150	61620	5698328	0	0	0	323	0	61620	5698328	75.00
1957	1	41996	218	0	0	41996	218.00	0	41996	11288273	0	0	0	333	0	41996	11288273	218.00
	2	50793	347	12	60	50781	347.07	0	50781	21730948	12	0	12	334	4942	50793	21735890	347.06
	3	223220	124	10999	98	212221	125.35	29300	182921	28271081	31	0	31	181	6918	182952	28278000	125.36
	4	1075378	40	10365	35	1065013	40.05	11270	1053743	52033829	54	0	54	138	9188	1053797	52043017	40.05
	5	4746642	62	1075	62	4745567	62.00	71710	4673857	357297672	55	0	55	102	6917	4673912	357304589	62.00
	6	3472064	61	1378	60	3470686	61.00	11035	3459651	260212424	1378	0	1378	98	166509	3461029	260378934	61.02
	7	979001	65	28	65	978973	65.00	14357	964616	77309149	17	0	17	98	2054	964633	77311203	65.00
	8	201818	66	21	66	201797	66.00	12712	189085	15387359	21	0	21	97	2512	189106	15389871	66.00
	9	98535	111	1916	93	96619	111.36	5002	91617	12579300	1463	0	1463	98	176780	93080	12756080	111.15
	10	1768541	26	20098	23	1748443	26.03	0	1748443	56125928	1679	15687	17366	91	1948517	1765809	58074445	26.67
	11	1046836	54	10942	29	1035894	54.26	0	1035894	69309181	77	8673	8750	88	949410	1044644	70258591	54.55
	12	504139	81	81	81	504058	81.00	4549	499509	49887462	81	0	81	89	8889	499590	49896351	81.00
1958	1	585838	52	7295	34	578543	52.23	0	578543	37255768	326	4860	5186	86	549913	583729	37805681	52.53
	2	813897	62	4426	38	809471	62.13	0	809471	62011794	510	1536	2046	85	214431	811517	62226225	62.19
	3	853884	52	70	52	853814	52.00	5043	848771	54419801	70	0	70	84	7250	848841	54427051	52.00
	4	356192	83	55	83	356137	83.00	7229	348908	35706896	55	0	55	84	5696	348963	35712592	83.00
	5	1564462	55	187	55	1564275	55.00	10345	1553930	105379763	187	0	187	83	19137	1554117	105398900	55.00
	6	295934	64	196	64	295738	64.00	13345	282393	22284196	196	0	196	83	20058	282589	22304255	64.01
	7	388800	105	156	104	388644	105.00	13487	375157	48569887	17	0	17	86	1803	375174	48571689	105.00
	8	114464	175	149	60	114315	175.15	0	114315	24687447	149	0	149	88	16167	114464	24703614	175.04
	9	297223	63	3590	58	293633	63.06	11583	282050	21930621	1463	0	1463	84	151526	283513	22082147	63.17
	10	251960	78	1814	69	250146	78.07	3917	246229	23700643	1679	0	1679	83	171827	247908	23872470	78.10
	11	130195	104	94	103	130101	104.00	3908	126193	16182093	77	0	77	84	7975	126270	16190068	103.99
	12	104331	172	232	166	104099	172.01	4038	100061	21222186	216	0	216	87	23171	100277	21245357	171.83

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
1959	1	86777	157	152	60	86625	157.17	0	86625	16787133	152	0	152	88	16493	86777	16803626	157.05
	2	322473	78	17063	24	305410	81.02	0	305410	30508590	510	11320	11830	82	1196084	317240	31704674	81.05
	3	133884	166	198	162	133686	166.01	5786	127900	26179250	198	0	198	86	20996	128098	26200246	165.88
	4	864608	35	11743	28	852865	35.10	0	852865	36906743	2765	3894	6659	81	665054	859524	37571797	35.45
	5	525322	49	2178	48	523144	49.00	8777	514367	31079151	2178	0	2178	79	212152	516545	31291304	49.13
	6	331735	52	119	52	331616	52.00	13675	317941	20385105	119	0	119	78	11445	318060	20396550	52.01
	7	253507	91	729	89	252778	91.01	11759	241019	27044769	17	0	17	80	1677	241036	27046446	91.00
	8	139200	147	6864	75	132336	150.73	3845	128491	23880776	885	0	885	80	87296	129376	23968072	150.25
	9	77867	140	179	60	77688	140.18	0	77688	13428159	179	0	179	81	17877	77867	13446036	140.05
	10	1454717	83	21515	22	1433202	83.92	0	1433202	148290667	1679	9508	11187	75	1034518	1444389	149325185	83.85
	11	599504	49	9855	30	589649	49.32	0	589649	35855697	77	5028	5105	73	459496	594754	36315193	49.52
	12	657362	51	5527	36	651835	51.13	0	651835	41091562	216	2330	2546	72	226024	654381	41317586	51.21
1960	1	1015537	64	2329	52	1013208	64.03	1179	1012029	79895652	326	0	326	72	28941	1012355	79924593	64.03
	2	705977	59	2584	45	703393	59.05	306	703087	51192056	510	0	510	71	44647	703597	51236703	59.06
	3	389276	73	99	73	389177	73.00	5126	384051	34568046	99	0	99	72	8789	384150	34576835	73.00
	4	212807	88	1249	83	211558	88.03	7229	204329	22177951	1249	0	1249	73	112421	205578	22290372	87.94
	5	477580	61	123	61	477457	61.00	11665	465792	35033614	123	0	123	73	11071	465915	35044685	61.00
	6	416461	41	38289	16	378172	43.53	0	378172	20297988	3058	25599	28657	63	2226047	406829	22524035	44.90
	7	329137	67	404	67	328733	67.00	12661	316072	26111024	17	0	17	64	1342	316089	26112365	67.00
	8	110836	136	3708	101	107128	137.21	6424	100704	17037275	885	0	885	67	73111	101589	17110386	136.60
	9	69540	137	112	135	69428	137.00	4710	64718	10932487	112	0	112	71	9805	64830	10942292	136.89
	10	468539	77	6974	35	461565	77.63	242	461323	44159433	1679	0	1679	69	142844	463002	44302277	77.60
	11	1058360	65	1297	59	1057063	65.01	1467	1055596	84610323	77	0	77	68	6456	1055673	84616779	65.01
	12	1603080	39	9179	31	1593901	39.05	0	1593901	76736459	216	7055	7271	66	591699	1601172	77328158	39.17
1961	1	2236759	48	5224	37	2231535	48.03	0	2231535	132142021	326	2459	2785	65	223204	2234320	132365224	48.05
	2	1931701	43	7112	33	1924589	43.04	0	1924589	102127475	510	4882	5392	64	425494	1929981	102552969	43.10
	3	867431	54	76	54	867355	54.00	5208	862147	57403472	76	0	76	64	5997	862223	57409469	54.00
	4	338757	81	620	79	338137	81.00	7889	330248	32984352	620	0	620	65	49690	330868	33034042	80.97
	5	173970	103	164	94	173806	103.01	580	173226	22001343	164	0	164	67	13548	173390	22014891	102.97
	6	926360	83	18249	36	908111	83.94	4946	903165	93480791	3058	0	3058	61	230001	906223	93710792	83.87
	7	985190	109	14114	27	971076	110.19	0	971076	131936711	17	2946	2963	59	215549	974039	132152261	110.04
	8	330545	227	106	226	330439	227.00	11804	318635	89183195	106	0	106	73	9541	318741	89192736	226.95
	9	753421	52	13797	26	739624	52.49	0	739624	47864037	1463	9272	10735	70	926538	750359	48790574	52.74
	10	366466	178	68	177	366398	178.00	6362	360036	79018623	68	0	68	76	6372	360104	79024996	177.98
	11	367815	101	3349	41	364466	101.55	0	364466	45635803	77	668	745	75	68894	365211	45704697	101.50
	12	414843	111	1406	92	413437	111.06	3029	410408	56202367	216	0	216	76	20241	410624	56222608	111.05
1962	1	245752	122	14	122	245738	122.00	3347	242391	36461909	14	0	14	77	1329	242405	36463238	122.00
	2	217210	101	3	101	217207	101.00	3618	213589	26598879	3	0	3	78	289	213592	26599167	101.00

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	3	147054	155	3	155	147051	155.00	1040	146011	27904892	3	0	3	80	296	146014	27905188	155.00
	4	112939	163	382	60	112557	163.35	0	112557	22670107	382	0	382	79	37209	112939	22707316	163.06
	5	187977	116	961	103	187016	116.07	3640	183376	26243007	961	0	961	81	95978	184337	26338985	115.88
	6	304399	118	962	114	303437	118.01	13090	290347	42248286	962	0	962	85	100822	291309	42349109	117.90
	7	180522	112	514	111	180008	112.00	30630	149378	20629030	17	0	17	93	1949	149395	20630980	112.00
	8	272287	312	69	60	272218	312.06	0	272218	104742615	69	0	69	96	8167	272287	104750783	312.01
	9	446400	232	2178	212	444222	232.10	18012	426210	121971459	1463	0	1463	113	203838	427673	122175298	231.69
	10	300496	211	74	209	300422	211.00	5207	295215	76804199	74	0	74	118	10767	295289	76814966	210.98
	11	146360	165	376	154	145984	165.03	3296	142688	29034145	77	0	77	119	11298	142765	29045443	165.00
	12	380231	74	7718	33	372513	74.85	0	372513	34378999	216	5346	5562	115	788664	378075	35167663	75.44
1963	1	224826	84	5541	36	219285	85.21	0	219285	23039725	326	1868	2194	113	305688	221479	23345412	85.49
	2	218281	82	1557	65	216724	82.12	1581	215143	21784646	510	0	510	112	70429	215653	21855075	82.19
	3	110162	125	32	123	110130	125.00	1210	108920	16787373	32	0	32	113	4459	108952	16791832	125.00
	4	163646	75	29	75	163617	75.00	12956	150661	13932376	29	0	29	111	3969	150690	13936345	75.01
	5	80166	190	28	60	80138	190.05	0	80138	18778417	28	0	28	113	3901	80166	18782319	190.02
	6	185811	249	914	55	184897	249.96	0	184897	56985153	914	0	914	114	128474	185811	57113627	249.29
	7	119893	245	780	57	119113	246.23	0	119113	36163058	780	0	780	116	111562	119893	36274620	245.38
	8	33796	302	69	60	33727	302.50	0	33727	12579377	69	0	69	121	10294	33796	12589671	302.12
	9	34032	296	45	60	33987	296.31	0	33987	12417262	45	0	45	125	6936	34032	12424198	296.09
	10	52399	309	26	60	52373	309.12	0	52373	19961938	26	0	26	130	4168	52399	19966106	309.03
	11	63634	187	113	185	63521	187.00	8770	54751	12624233	0	0	0	136	0	54751	12624233	187.00
	12	66367	146	2040	132	64327	146.44	11950	52377	9457475	0	0	0	135	0	52377	9457475	146.44
1964	1	53808	137	1001	114	52807	137.44	2670	50137	8496144	326	0	326	134	53862	50463	8550007	137.41
	2	117084	102	3901	90	113183	102.41	16080	97103	12261775	510	0	510	126	79233	97613	12341007	102.54
	3	213858	65	5472	60	208386	65.13	25170	183216	14713507	406	0	406	112	56067	183622	14769573	65.23
	4	97928	103	108	60	97820	103.05	0	97820	12428768	108	0	108	113	15048	97928	12443816	103.06
	5	163200	76	128	60	163072	76.01	0	163072	15283676	128	0	128	115	18150	163200	15301826	76.04
	6	148754	101	419	60	148335	101.12	0	148335	18493784	419	0	419	117	60445	148754	18554230	101.16
	7	82899	105	127	60	82772	105.07	0	82772	10723124	127	0	127	121	18948	82899	10742071	105.09
	8	33844	262	130	60	33714	262.78	0	33714	10923551	130	0	130	126	20197	33844	10943748	262.25
	9	151158	32	1530	34	149628	31.98	9450	140178	5527328	0	0	0	114	0	140178	5527328	31.98
	10	181507	45	1220	45	180287	45.00	39950	140337	7786598	1220	0	1220	93	139896	141557	7926495	45.41
	11	247854	41	1406	42	246448	40.99	23674	222774	11260327	77	0	77	85	8070	222851	11268397	41.01
	12	167246	92	3556	41	163690	93.11	0	163690	18791951	216	277	493	84	51061	164183	18843012	93.08
1965	1	482241	38	4700	38	477541	38.00	0	477541	22374706	326	1109	1435	83	146856	478976	22521562	38.13
	2	1015596	45	4714	37	1010882	45.04	0	1010882	56135287	510	2401	2911	81	290730	1013793	56426017	45.14
	3	383246	67	33	67	383213	67.00	5373	377840	31213740	33	0	33	81	3296	377873	31217036	67.00
	4	437018	48	90	48	436928	48.00	8302	428626	25367801	90	0	90	80	8878	428716	25376679	48.01

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	5	2668481	37	1475	39	2667006	37.00	8282	2658724	121290022	1475	0	1475	77	140038	2660199	121430060	37.02
	6	1186730	31	972	33	1185758	31.00	13345	1172413	44810772	972	0	972	74	88687	1173385	44899459	31.03
	7	323425	45	267	45	323158	45.00	14696	308462	17115014	17	0	17	73	1530	308479	17116544	45.00
	8	227921	60	204	60	227717	60.00	4830	222887	16489180	204	0	204	74	18613	223091	16507794	60.01
	9	108972	88	174	88	108798	88.00	13987	94811	10287373	174	0	174	77	16520	94985	10303892	87.98
	10	128013	83	1764	74	126249	83.13	4792	121457	12448620	1679	0	1679	78	161476	123136	12610096	83.06
	11	417520	59	8421	32	409099	59.56	0	409099	30041068	77	6730	6807	75	629477	415906	30670546	59.81
	12	481765	41	4879	38	476886	41.03	0	476886	24126065	216	3332	3548	73	319352	480434	24445417	41.27
1966	1	238096	77	3308	42	234788	77.49	0	234788	22433764	326	213	539	73	48515	235327	22482279	77.48
	2	420912	58	7250	33	413662	58.44	0	413662	29806106	510	4112	4622	71	404624	418284	30210729	58.58
	3	401335	60	321	60	401014	60.00	5208	395806	29281728	321	0	321	71	28101	396127	29309829	60.01
	4	679279	40	11261	29	668018	40.19	0	668018	33099381	2765	1762	4527	68	379562	672545	33478942	40.37
	5	2256435	64	11481	33	2244954	64.16	1642	2243312	177462754	4346	0	4346	65	348310	2247658	177811064	64.16
	6	325408	58	652	58	324756	58.00	12767	311989	22311581	652	0	652	65	52255	312641	22363836	58.01
	7	119524	112	379	60	119145	112.17	0	119145	16477748	379	0	379	67	31310	119524	16509057	112.02
	8	228159	62	743	62	227416	62.00	25411	202005	15442474	743	0	743	67	61380	202748	15503854	62.02
	9	668191	170	2522	129	665669	170.16	5221	660448	138563000	1463	0	1463	71	128075	661911	138691075	169.94
	10	310334	153	125	151	310209	153.00	6115	304094	57367331	125	0	125	76	11714	304219	57379045	152.97
	11	90010	179	10	179	90000	179.00	4915	85085	18778855	10	0	10	81	999	85095	18779854	178.99
	12	84873	186	32	165	84841	186.01	160	84681	19421398	32	0	32	81	3196	84713	19424594	185.97
1967	1	71244	184	794	101	70450	184.94	420	70030	15968619	326	0	326	82	32961	70356	16001579	184.46
	2	47395	144	278	60	47117	144.50	0	47117	8394511	278	0	278	82	28107	47395	8422618	144.13
	3	33132	140	73	60	33059	140.18	0	33059	5713845	73	0	73	83	7471	33132	5721316	140.05
	4	125510	95	509	92	125001	95.01	4760	120241	14086241	509	0	509	84	52718	120750	14138959	94.97
	5	174736	84	1489	78	173247	84.05	7240	166007	17204232	1489	0	1489	84	154219	167496	17358451	84.05
	6	172939	96	164	60	172775	96.03	0	172775	20458311	164	0	164	86	17390	172939	20475701	96.02
	7	84432	210	652	59	83780	211.18	0	83780	21814547	652	0	652	90	72352	84432	21886899	210.24
	8	80184	304	4893	38	75291	321.29	0	75291	29826272	4893	0	4893	90	542976	80184	30369249	307.17
	9	76431	181	2826	159	73605	181.84	15070	58535	13124395	0	0	0	104	0	58535	13124395	181.84
	10	63931	144	2233	131	61698	144.47	14570	47128	8395011	1679	0	1679	109	225653	48807	8620664	143.25
	11	273957	57	34	57	273923	57.00	42365	231558	16274128	34	0	34	95	3983	231592	16278110	57.01
	12	177640	104	2605	63	175035	104.61	1170	173865	22425867	216	0	216	94	25035	174081	22450902	104.60
1968	1	1115504	40	6051	35	1109453	40.03	0	1109453	54755526	326	3121	3447	92	391014	1112900	55146540	40.19
	2	723153	116	1447	89	721706	116.05	2104	719602	102971266	510	0	510	92	57852	720112	103029119	116.04
	3	931001	94	1099	85	929902	94.01	3855	926047	107342844	406	0	406	92	46055	926453	107388899	94.01
	4	964958	77	987	74	963971	77.00	6982	956989	90861117	987	0	987	91	110744	957976	90971861	77.02
	5	2233249	62	8670	42	2224579	62.08	4700	2219879	169914221	4346	0	4346	87	466200	2224225	170380420	62.13
	6	1668098	29	16457	25	1651641	29.04	0	1651641	59138893	3058	2777	5835	81	582759	1657476	59721652	29.22

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	7	1051398	35	1225	37	1050173	35.00	12170	1038003	44792034	17	0	17	78	1635	1038020	44793669	35.00
	8	167306	70	284	70	167022	70.00	13124	153898	13282936	284	0	284	80	28014	154182	13310950	70.02
	9	231868	40	1737	42	230131	39.98	5263	224868	11086304	1463	0	1463	78	140703	226331	11227007	40.23
	10	194281	79	1177	74	193104	79.03	5042	188062	18325622	1177	0	1177	79	114648	189239	18440270	79.03
	11	177025	88	786	82	176239	88.03	3463	172776	18752588	77	0	77	80	7595	172853	18760183	88.02
	12	552238	39	1640	43	550598	38.99	2465	548133	26350019	216	0	216	79	21040	548349	26371059	39.00
1969	1	159927	94	1709	75	158218	94.21	2377	155841	18101719	326	0	326	79	31755	156167	18133474	94.17
	2	517051	31	10971	28	506080	31.07	0	506080	19384478	510	8823	9333	77	886084	515413	20270562	31.90
	3	788429	32	4921	37	783508	31.97	281	783227	30872677	406	0	406	76	38045	783633	30910723	31.99
	4	1281203	31	1067	34	1280136	31.00	7064	1273072	48656706	1067	0	1067	73	96040	1274139	48752746	31.03
	5	1453606	90	12846	33	1440760	90.51	1267	1439493	160642574	4346	0	4346	70	375103	1443839	161017677	90.45
	6	440132	198	145	197	439987	198.00	14582	425405	103855997	145	0	145	84	15018	425550	103871015	197.96
	7	172443	225	66	60	172377	225.06	0	172377	47835117	66	0	66	88	7161	172443	47842278	225.01
	8	97222	235	245	60	96977	235.44	0	96977	28152436	245	0	245	90	27188	97222	28179623	235.08
	9	116688	168	318	167	116370	168.00	25090	91280	18908412	318	0	318	106	41562	91598	18949974	167.79
	10	74809	227	881	218	73928	227.11	16279	57649	16143060	881	0	881	122	132525	58530	16275585	225.53
	11	146321	149	258	144	146063	149.01	4816	141247	25951013	77	0	77	124	11773	141324	25962786	149.00
	12	276793	64	2191	54	274602	64.08	1831	272771	21551740	216	0	216	123	32758	272987	21584498	64.13
1970	1	334968	123	981	102	333987	123.06	2279	331708	50331731	326	0	326	122	49039	332034	50380770	123.06
	2	290618	86	2316	57	288302	86.23	987	287315	30548838	510	0	510	121	76088	287825	30624926	86.29
	3	1368793	74	4576	38	1364217	74.12	0	1364217	124677007	406	34	440	118	64017	1364657	124741024	74.13
	4	784145	84	815	81	783330	84.00	6982	776348	80410903	815	0	815	116	116568	777163	80527471	84.04
	5	619001	87	3666	73	615335	87.08	8859	606476	65119658	3666	0	3666	112	506260	610142	65625918	87.23
	6	427537	63	772	63	426765	63.00	14005	412760	32062784	772	0	772	110	104706	413532	32167490	63.09
	7	91787	100	167	60	91620	100.07	0	91620	11304982	167	0	167	113	23268	91787	11328250	100.10
	8	81414	148	201	60	81213	148.22	0	81213	14841882	201	0	201	116	28749	81414	14870631	148.14
	9	179861	64	3570	61	176291	64.06	29388	146903	11603414	1463	0	1463	104	187603	148366	11791017	64.45
	10	376641	36	14886	26	361755	36.41	0	361755	16241125	1679	9897	11576	99	1413048	373331	17654173	38.35
	11	102422	35	150	36	102272	35.00	5502	96770	4175934	77	0	77	98	9304	96847	4185239	35.05
	12	54492	99	12	99	54480	99.00	1980	52500	6408518	12	0	12	99	1465	52512	6409982	99.00
1971	1	69616	140	17	137	69599	140.00	510	69089	11926206	17	0	17	100	2096	69106	11928302	139.99
	2	38983	116	182	60	38801	116.26	0	38801	5562196	182	0	182	101	22665	38983	5584861	116.19
	3	47798	76	12	60	47786	76.00	0	47786	4478167	12	0	12	103	1524	47798	4479691	76.01
	4	56388	70	318	60	56070	70.06	0	56070	4843323	318	0	318	104	40778	56388	4884100	70.25
	5	101772	45	194	60	101578	44.97	0	101578	5632467	194	0	194	106	25355	101772	5657823	45.09
	6	52625	105	175	60	52450	105.15	0	52450	6800149	175	0	175	109	23519	52625	6823669	105.16
	7	44132	133	247	60	43885	133.41	0	43885	7218889	247	0	247	115	35023	44132	7253913	132.31
	8	157190	42	7043	39	150147	42.14	13870	136277	7080886	0	0	0	100	0	136277	7080886	42.14

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-00E0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	9	113163	98	20454	43	92709	110.13	7640	85069	11552008	1463	0	1463	87	156937	86532	11708945	109.74
	10	257671	131	2054	127	255617	131.03	38088	217529	35144558	1679	0	1679	99	204950	219208	35349508	130.79
	11	376800	171	45	170	376755	171.00	4585	372170	78469494	45	0	45	102	5659	372215	78475154	170.99
	12	757210	72	4218	39	752992	72.18	0	752992	67019244	216	939	1155	101	143836	754147	67163080	72.23
1972	1	482777	147	2936	60	479841	147.53	572	479269	87182558	326	0	326	100	40196	479595	87222754	147.50
	2	224906	79	5030	37	219876	79.96	0	219876	21677945	510	902	1412	98	170618	221288	21848563	80.08
	3	135352	76	7869	33	127483	78.65	0	127483	12363383	406	2007	2413	96	285622	129896	12649005	78.98
	4	67896	135	815	56	67081	135.96	0	67081	11245355	815	0	815	97	97475	67896	11342829	135.49
	5	473930	34	11315	31	462615	34.07	11013	451602	18972917	4346	0	4346	88	471558	455948	19444475	34.59
	6	145666	99	1502	82	144164	99.18	2940	141224	17269631	1502	0	1502	89	164825	142726	17434456	99.07
	7	106268	114	579	60	105689	114.30	0	105689	14894408	579	0	579	90	64252	106268	14958660	114.16
	8	86781	188	945	55	85836	189.46	0	85836	20052098	945	0	945	92	107197	86781	20159295	188.40
	9	59980	205	17751	24	42229	281.08	0	42229	14635557	17751	0	17751	83	1816620	59980	16452177	222.46
	10	79394	160	864	153	78530	160.08	11320	67210	13265571	864	0	864	91	96943	68074	13362514	159.20
	11	308251	68	6216	62	302035	68.12	30541	271494	22804479	77	0	77	84	7975	271571	22812454	68.13
	12	199061	200	196	193	198865	200.01	3559	195306	48164121	196	0	196	87	21025	195502	48185146	199.89
1973	1	463854	73	5209	37	458645	73.41	0	458645	41513395	326	2361	2687	85	281611	461332	41795006	73.48
	2	512013	39	7376	32	504637	39.10	0	504637	24330142	510	4403	4913	83	502792	509550	24832933	39.53
	3	896449	50	3239	44	893210	50.02	1385	891825	55004936	406	0	406	82	41049	892231	55045985	50.04
	4	1244270	71	17903	24	1226367	71.69	0	1226367	108397343	2765	8652	11417	77	1083941	1237784	109481284	71.74
	5	917672	150	819	144	916853	150.01	11170	905683	167512056	819	0	819	83	83816	906502	167595872	149.94
	6	1421255	74	23444	21	1397811	74.89	0	1397811	129071113	3058	9682	12740	75	1178132	1410551	130249245	74.89
	7	377911	180	1481	166	376430	180.06	12079	364351	80888806	17	0	17	85	1782	364368	80890587	180.05
	8	165886	240	777	228	165109	240.06	11062	154047	45596314	777	0	777	98	93888	154824	45690203	239.34
	9	134323	87	7649	33	126674	90.26	0	126674	14097732	1463	1144	2607	95	305371	129281	14403103	90.36
	10	1399596	41	16841	25	1382755	41.19	0	1382755	70234653	1679	11605	13284	90	1474125	1396039	71708778	41.66
	11	581653	55	1392	54	580261	55.00	3435	576826	39119161	77	0	77	90	8545	576903	39127706	55.01
	12	451537	64	663	63	450874	64.00	3607	447267	35295544	216	0	216	90	23970	447483	35319514	64.01
1974	1	746538	47	15753	25	730785	47.47	0	730785	42777037	326	13153	13479	85	1412667	744264	44189704	48.15
	2	458201	44	172	45	458029	44.00	4443	453586	24607738	172	0	172	85	18026	453758	24625764	44.02
	3	219074	160	58	159	219016	160.00	5043	213973	42212663	58	0	58	88	6293	214031	42218957	159.98
	4	126724	180	700	58	126024	180.68	0	126024	28075065	700	0	700	89	76816	126724	28151881	180.17
	5	314043	75	5664	66	308379	75.17	17652	290727	26944235	4346	0	4346	86	460841	295073	27405076	75.32
	6	72248	110	620	59	71628	110.44	0	71628	9753893	620	0	620	88	67272	72248	9821166	110.25
	7	63396	220	593	60	62803	221.51	0	62803	17152929	593	0	593	91	66536	63396	17219465	220.29
	8	88790	190	1301	52	87489	192.05	0	87489	20717418	1301	0	1301	91	145976	88790	20863394	190.57
	9	1180978	41	287	41	1180691	41.00	43659	1137032	57480379	287	0	287	77	27248	1137319	57507627	41.01
	10	504139	62	2839	53	501300	62.05	3222	498078	38107373	1679	0	1679	76	157336	499757	38264708	62.10

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Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	11	1925553	92	14774	26	1910779	92.51	0	1910779	217953405	77	11680	11757	73	1058236	1922536	219011641	92.39
	12	901487	67	3528	42	897959	67.10	82	897877	74283258	216	0	216	72	19176	898093	74302433	67.10
1975	1	698796	89	1108	78	697688	89.02	2565	695123	76295685	326	0	326	73	29343	695449	76325028	89.01
	2	1301573	85	679	80	1300894	85.00	3037	1297857	136026079	510	0	510	73	45905	1298367	136071984	85.00
	3	572370	130	74	129	572296	130.00	4796	567500	90964665	74	0	74	75	6843	567574	90971509	129.99
	4	611722	110	1709	98	610013	110.03	7229	602784	81780581	1709	0	1709	77	162254	604493	81942835	109.94
	5	1403127	31	11467	29	1391660	31.02	2316	1389344	53133126	4346	0	4346	73	391179	1393690	53524305	31.15
	6	1263867	91	5761	70	1258106	91.10	9734	1248372	140219099	3058	0	3058	73	275248	1251430	140494346	91.05
	7	533077	59	406	59	532671	59.00	12907	519764	37811272	17	0	17	73	1530	519781	37812802	59.00
	8	259755	110	1011	105	258744	110.02	10606	248138	33660934	885	0	885	77	84023	249023	33744957	109.90
	9	129084	160	145	158	128939	160.00	7022	121917	24052124	145	0	145	82	14660	122062	24066784	159.91
	10	107024	130	460	124	106564	130.03	4960	101604	16289350	460	0	460	85	48210	102064	16337560	129.82
	11	94584	110	1331	93	93253	110.24	3413	89840	12211877	77	0	77	86	8165	89917	12220042	110.22
	12	109142	170	3749	54	105393	174.13	438	104955	22533601	216	0	216	85	22638	105171	22556239	173.94
1976	1	103934	210	81	207	103853	210.00	4090	99763	25831921	81	0	81	90	8989	99844	25840910	209.90
	2	124998	210	66	208	124932	210.00	4526	120406	31176882	66	0	66	94	7650	120472	31184532	209.94
	3	151775	170	72	168	151703	170.00	3870	147833	30987448	72	0	72	97	8611	147905	30996059	169.97
	4	675748	50	502	51	675246	50.00	7907	667339	41140838	502	0	502	94	58183	667841	41199020	50.03
	5	1123794	29	2674	32	1121120	28.99	10345	1110775	39708182	2674	0	2674	90	296734	1113449	40004916	29.14
	6	649408	41	5995	39	643413	41.02	9583	633830	32056571	3058	0	3058	86	324264	636888	32380836	41.23
	7	766433	43	1833	44	764600	43.00	10242	754358	39993077	17	0	17	83	1740	754375	39994817	43.00
	8	180972	120	58	120	180914	120.00	12382	168532	24935995	58	0	58	88	6293	168590	24942288	119.99
	9	134578	140	145	138	134433	140.00	5785	128648	22207560	145	0	145	91	16269	128793	22223829	139.95
	10	342446	51	6230	35	336216	51.30	0	336216	21265176	1679	746	2425	89	266112	338641	21531288	51.57
	11	358611	62	1684	55	356927	62.03	1493	355434	27185981	77	0	77	88	8355	355511	27194336	62.04
	12	1088370	33	11575	29	1076795	33.04	0	1076795	43870800	216	8708	8924	85	935280	1085719	44806079	33.47
1977	1	455722	110	1871	71	453851	110.16	1142	452709	61490666	326	0	326	84	33764	453035	61524431	110.14
	2	1096304	49	8277	31	1088027	49.14	0	1088027	65919027	510	4644	5154	82	521100	1093181	66440127	49.29
	3	489183	85	1040	79	488143	85.01	4327	483816	50713962	406	0	406	83	41550	484222	50755511	85.01
	4	1908852	83	10656	29	1898196	83.30	0	1898196	194968978	2765	497	3262	79	317742	1901458	195286720	83.30
	5	1215669	65	902	64	1214767	65.00	11087	1203680	96470036	902	0	902	79	87861	1204582	96557897	65.01
	6	504535	69	1184	68	503351	69.00	13180	490171	41703700	1184	0	1184	79	115330	491355	41819030	69.03
	7	122955	120	125	119	122830	120.00	14425	108405	16039740	17	0	17	85	1782	108422	16041522	120.00
	8	89455	160	70	158	89385	160.00	3020	86365	17038254	70	0	70	89	7682	86435	17045936	159.94
	9	103755	160	125	159	103630	160.00	15301	88329	17425676	125	0	125	98	15104	88454	17440781	159.91
	10	60317	160	90	158	60227	160.00	5867	54360	10724341	90	0	90	102	11319	54450	10735660	159.91
	11	58530	150	156	145	58374	150.01	2400	55974	10353313	77	0	77	103	9779	56051	10363092	149.95
	12	61962	92	188	91	61774	92.00	5499	56275	6383822	188	0	188	103	23876	56463	6407698	92.04

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-00E0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
1978	1	165326	42	1269	47	164057	41.96	1249	162808	8423411	326	0	326	102	41000	163134	8464411	42.08
	2	237620	40	1806	45	235814	39.96	1002	234812	11569841	510	0	510	100	62883	235322	11632724	40.09
	3	188370	45	479	46	187891	45.00	5960	181931	10093870	406	0	406	99	49559	182337	10143429	45.12
	4	53855	94	252	60	53603	94.16	0	53603	6223259	252	0	252	101	31382	53855	6254642	94.19
	5	67662	93	137	60	67525	93.07	0	67525	7748599	137	0	137	103	17399	67662	7765997	93.09
	6	134955	67	193	67	134762	67.00	4120	130642	10792466	193	0	193	103	24511	130835	10816977	67.05
	7	60415	96	39	60	60376	96.02	0	60376	7148318	39	0	39	107	5145	60415	7153463	96.03
	8	104565	210	27	210	104538	210.00	8340	96198	24908548	27	0	27	120	3995	96225	24912543	209.97
	9	177203	170	4380	152	172823	170.46	28120	144703	30412589	1463	0	1463	129	232700	146166	30645289	170.04
	10	41304	350	109	292	41195	350.15	440	40755	17595532	109	0	109	133	17875	40864	17613407	349.57
	11	147584	180	2639	167	144945	180.24	25930	119015	26448922	77	0	77	140	13292	119092	26462214	180.21
	12	140965	120	1204	106	139761	120.12	4790	134971	19990380	216	0	216	139	37020	135187	20027400	120.15
1979	1	640462	77	9335	31	631127	77.68	0	631127	60449291	326	6652	6978	134	1152919	638105	61602210	78.30
	2	579034	92	5280	36	573754	92.52	0	573754	65448932	510	2637	3147	130	504433	576901	65953365	92.72
	3	777639	51	1705	50	775934	51.00	3332	772602	48585625	406	0	406	128	64077	773008	48649701	51.04
	4	1109573	38	9866	30	1099707	38.07	0	1099707	51622990	2765	450	3215	122	483620	1102922	52106610	38.32
	5	1618928	100	15181	26	1603747	100.70	0	1603747	199127150	4346	903	5249	113	731338	1608996	199858488	100.74
	6	2038194	51	9855	38	2028339	51.06	6053	2022286	127324905	3058	0	3058	106	399674	2025344	127724579	51.15
	7	533791	62	417	62	533374	62.00	11328	522046	39908329	17	0	17	104	2180	522063	39910508	62.00
	8	395583	49	229	49	395354	49.00	11309	384045	23202847	229	0	229	101	28518	384274	23231365	49.03
	9	293216	62	2446	55	290770	62.06	4059	286711	21938726	1463	0	1463	100	180388	288174	22119114	62.25
	10	116053	130	271	127	115782	130.01	6032	109750	17592778	271	0	271	103	34417	110021	17627194	129.94
	11	96426	99	310	96	96116	99.01	4104	92012	11232727	77	0	77	103	9779	92089	11242505	99.01
	12	186526	91	942	81	185584	91.05	2502	183082	20553808	216	0	216	103	27432	183298	20581240	91.06
1980	1	446162	55	4628	38	441534	55.18	0	441534	30039636	326	1780	2106	101	262266	443640	30301902	55.40
	2	367735	45	1578	47	366157	44.99	2055	364102	20198330	510	0	510	100	62883	364612	20261213	45.07
	3	161375	73	883	70	160492	73.02	3989	156503	14089864	406	0	406	99	49559	156909	14139423	73.08
	4	321025	45	649	46	320376	45.00	8879	311497	17282633	649	0	649	97	77621	312146	17360254	45.11
	5	954327	31	4393	33	949934	30.99	10050	939884	35914468	4346	0	4346	91	487634	944230	36402102	31.27
	6	239940	49	234	49	239706	49.00	12630	227076	13719251	234	0	234	91	26256	227310	13745506	49.04
	7	98519	120	54	119	98465	120.00	5630	92835	13735929	17	0	17	95	1991	92852	13737921	120.00
	8	68390	150	42	60	68348	150.06	0	68348	12645623	42	0	42	99	5127	68390	12650750	150.02
	9	69991	170	53	169	69938	170.00	8170	61768	12947248	53	0	53	105	6862	61821	12954110	169.95
	10	53159	120	295	117	52864	120.02	6160	46704	6911288	295	0	295	107	38920	46999	6950208	119.94
	11	51977	210	185	201	51792	210.03	2980	48812	12640826	77	0	77	111	10538	48889	12651364	209.88
	12	79349	210	211	205	79138	210.01	5800	73338	18990614	211	0	211	116	30179	73549	19020793	209.74
1981	1	97894	280	408	269	97486	280.05	7780	89706	30975192	326	0	326	126	50647	90032	31025838	279.49
	2	106354	290	267	275	106087	290.04	3920	102167	36536610	267	0	267	131	43127	102434	36579737	289.62

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138.0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	3	120434	160	299	157	120135	160.01	10690	109445	21592317	299	0	299	135	49770	109744	21642087	159.94
	4	91624	140	1174	85	90450	140.71	700	89750	15571644	1174	0	1174	135	195418	90924	15767062	140.64
	5	213759	77	2526	67	211233	77.12	5540	205693	19559028	2526	0	2526	132	411122	208219	19970149	77.79
	6	1751186	52	7364	48	1743822	52.02	30433	1713389	109891335	3058	0	3058	111	418527	1716447	110309862	52.12
	7	706691	71	625	70	706066	71.00	12523	693543	60715592	17	0	17	109	2285	693560	60717877	71.00
	8	134083	150	152	149	133931	150.00	11557	122374	22633243	152	0	152	115	21553	122526	22654795	149.96
	9	251405	90	242	89	251163	90.00	6692	244471	27129237	242	0	242	115	34314	244713	27163552	90.03
	10	874492	210	289	200	874203	210.00	3887	870316	225354469	289	0	289	118	42048	870605	225396517	209.97
	11	912456	170	8962	31	903494	171.38	0	903494	190917348	77	5290	5367	115	761014	908861	191678361	171.05
	12	145111	200	380	188	144731	200.03	4137	140594	34675942	216	0	216	118	31427	140810	34707369	199.91
1982	1	118631	180	372	169	118259	180.03	3549	114710	25463631	326	0	326	120	48235	115036	25511866	179.86
	2	110380	210	457	177	109923	210.14	1650	108273	28053444	457	0	457	121	68181	108730	28121625	209.76
	3	169309	130	464	125	168845	130.01	5716	163129	26150711	406	0	406	121	60572	163535	26211283	129.99
	4	319259	50	1089	50	318170	50.00	7394	310776	19159340	1089	0	1089	118	158443	311865	19317783	50.24
	5	1219457	79	8274	51	1211183	79.19	5757	1205426	117701224	4346	0	4346	112	600165	1209772	118301389	79.31
	6	842400	180	208	178	842192	180.00	13840	828352	183844947	208	0	208	121	31032	828560	183875980	179.99
	7	786882	180	145	179	786737	180.00	15230	771507	171228439	17	0	17	130	2725	771524	171231164	180.00
	8	108651	170	43	170	108608	170.00	9740	98868	20723721	43	0	43	137	7264	98911	20730985	169.99
	9	61254	160	23	160	61231	160.00	7330	53901	10633589	23	0	23	142	4027	53924	10637616	159.99
	10	65185	150	53	149	65132	150.00	8430	56702	10487092	53	0	53	144	9410	56755	10496502	150.00
	11	138288	85	529	81	137759	85.02	2903	134856	14136137	77	0	77	142	13482	134933	14149619	85.05
	12	195768	57	1113	56	194655	57.01	2744	191911	13489050	216	0	216	140	37286	192127	13526336	57.10
1983	1	234347	72	1160	65	233187	72.03	2183	231004	20517529	326	0	326	138	55470	231330	20573000	72.13
	2	642287	41	3602	40	638685	41.01	0	638685	32291884	510	712	1222	136	204915	639907	32496799	41.19
	3	706710	34	9452	31	697258	34.04	0	697258	29265413	406	4580	4986	131	805354	702244	30070767	34.73
	4	306763	58	652	58	306111	58.00	9457	296654	21214914	652	0	652	128	102901	297306	21317815	58.15
	5	805051	32	7671	33	797380	31.99	7267	790113	31165326	4346	0	4346	120	643034	794459	31808361	32.47
	6	379874	48	239	48	379635	48.00	12767	366868	21712716	239	0	239	115	33889	367107	21746605	48.04
	7	110459	96	154	95	110305	96.00	10430	99875	11822176	17	0	17	116	2431	99892	11824607	96.00
	8	226175	74	497	73	225678	74.00	13128	212550	19394064	497	0	497	113	69247	213047	19463311	74.09
	9	143383	53	185	53	143198	53.00	5702	137496	8985226	185	0	185	112	25548	137681	9010774	53.08
	10	50011	83	130	82	49881	83.00	3950	45931	4700680	130	0	130	112	17952	46061	4718633	83.08
	11	53629	76	206	75	53423	76.00	4590	48833	4576275	77	0	77	112	10633	48910	4586908	76.06
	12	111699	59	935	58	110764	59.01	3137	107627	7830662	216	0	216	111	29562	107843	7860224	59.11
1984	1	64623	110	443	60	64180	110.35	0	64180	8732044	326	0	326	111	44617	64506	8776662	110.35
	2	63336	79	559	60	62777	79.17	0	62777	6128015	510	0	510	111	69800	63287	6197815	79.43
	3	183901	58	1232	57	182669	58.01	10931	171738	12283099	406	0	406	107	53564	172144	12336663	58.12
	4	76155	84	246	60	75909	84.08	0	75909	7869327	246	0	246	110	33365	76155	7902692	84.16

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Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River 08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria 70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concent-ration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concent-ration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concent-ration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concent-ration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	5	123124	140	1144	117	121980	140.22	3170	118810	20540582	1144	0	1144	112	157982	119954	20698564	139.95
	6	92866	91	195	60	92671	91.07	0	92671	10405418	195	0	195	114	27410	92866	10432827	91.11
	7	80267	110	52	60	80215	110.03	0	80215	10882766	52	0	52	118	7566	80267	10890332	110.04
	8	74089	160	49	60	74040	160.07	0	74040	14612653	49	0	49	122	7371	74089	14620024	160.04
	9	44569	180	25	178	44544	180.00	1230	43314	9613169	0	0	0	127	0	43314	9613169	180.00
	10	643575	30	860	30	642715	30.00	52850	589865	21819106	0	0	0	87	0	589865	21819106	30.00
	11	447749	28	201	28	447548	28.00	16525	431023	14880638	77	0	77	81	7690	431100	14888328	28.01
	12	518360	37	1467	42	516893	36.99	2390	514503	23463139	216	0	216	80	21306	514719	23484445	37.00
1985	1	555649	56	2398	50	553251	56.03	1605	551646	38107742	326	0	326	80	32157	551972	38139899	56.04
	2	485910	77	4721	37	481189	77.39	0	481189	45917405	510	675	1185	79	115427	482374	46032832	77.40
	3	774168	41	3371	41	770797	41.00	1831	768966	38873538	406	0	406	78	39047	769372	38912585	41.02
	4	344330	110	863	105	343467	110.01	8054	335413	45497261	863	0	863	80	85126	336276	45582387	109.94
	5	466135	170	490	165	465645	170.01	11335	454310	95230866	490	0	490	88	53167	454800	95284033	169.92
	6	262492	200	238	196	262254	200.00	8970	253284	62460968	238	0	238	97	28465	253522	62489433	199.91
	7	111118	190	203	188	110915	190.00	10460	100455	23534046	17	0	17	106	2222	100472	23536268	189.99
	8	63108	310	25	60	63083	310.10	0	63083	24119921	25	0	25	110	3391	63108	24123312	310.02
	9	62456	320	38	318	62418	320.00	3950	58468	23069222	38	0	38	120	5622	58506	23074844	319.87
	10	199215	99	302	99	198913	99.00	29418	169495	20689746	302	0	302	116	43194	169797	20732941	99.03
	11	593616	49	6058	35	587558	49.14	0	587558	35603065	77	1974	2051	114	288293	589609	35891358	49.37
	12	1127373	42	1406	45	1125967	42.00	3359	1122608	58130193	216	0	216	113	30095	1122824	58160288	42.01
1986	1	276363	100	582	95	275781	100.01	3834	271947	33534603	326	0	326	113	45421	272273	33580025	100.03
	2	825247	53	1142	53	824105	53.00	3069	821036	53653882	510	0	510	112	70429	821546	53724311	53.04
	3	213263	110	549	106	212714	110.01	5973	206741	28042913	406	0	406	114	57068	207147	28099982	110.02
	4	113065	160	267	93	112798	160.16	130	112668	22249175	267	0	267	115	37859	112935	22287034	160.05
	5	662064	56	1281	56	660783	56.00	18511	642272	44347597	1281	0	1281	108	170583	643553	44518180	56.10
	6	1173846	75	9615	46	1164231	75.24	5220	1159011	107521804	3058	0	3058	102	384592	1162069	107906397	75.31
	7	376686	110	113	110	376573	110.00	15922	360651	48915095	17	0	17	107	2243	360668	48917338	110.00
	8	176664	130	63	130	176601	130.00	11722	164879	26428455	63	0	63	111	8622	164942	26437077	129.99
	9	328879	170	641	159	328238	170.02	5702	322536	67615314	641	0	641	114	90100	323177	67705414	169.91
	10	582763	230	670	205	582093	230.03	3887	578206	163993954	670	0	670	117	96655	578876	164090609	229.90
	11	510069	140	1695	84	508374	140.19	1069	507305	87687779	77	0	77	116	11013	507382	87698793	140.18
	12	1256389	57	8065	32	1248324	57.16	0	1248324	87982063	216	5363	5579	113	777316	1253903	88759379	57.41
1987	1	821395	89	1538	73	819857	89.03	2300	817557	89746509	326	0	326	112	45019	817883	89791528	89.04
	2	574810	130	3013	42	571797	130.46	0	571797	91980264	510	288	798	110	108233	572595	92088496	130.44
	3	1233718	140	2001	110	1231717	140.05	4273	1227444	211955143	406	0	406	112	56067	1227850	212011210	140.04
	4	543074	240	297	235	542777	240.00	10199	532578	157602278	297	0	297	123	45043	532875	157647321	239.94
	5	307041	190	2637	115	304404	190.65	2500	301904	70968904	2637	0	2637	123	399925	304541	71368829	190.06
	6	2553718	110	15392	51	2538326	110.36	6625	2531701	344491406	3058	0	3058	113	426068	2534759	344917474	110.36

Table I-2: Impact of Allens Creek Reservoir on Instream Flows and Downstream Water Quality in the Brazos River

08/13/96 HMA - BRT94138-0OE0

Chloride with TTP Bypass and Instream Flow Criteria

70,000 Acre-Feet per Year Demand, 1,600 cfs Max Pumping from the Brazos

		Flows @ Richmond (Ac-Ft) (1)	Richmond Quality Concentration (Mg/L) (2)	Allens Ck Natural Inflows (Ac-Ft) (3)	Allens C Quality Concentration (Mg/L) (4)	Brazos River Flows (Ac-Ft) (5) (1)-(3)	Brazos River Concentration (Mg/L) (6) [(1)*(2)-(3)*(4)]/(5)	Make-Up Flows (Ac-Ft) (7)	Richmond - makeup - Nat ARC (Ac-Ft) (8)= (1)-(3)-(7)	Quality in (Richmond - makeup - Nat ACR (Kg) (9)= (6)*(8)	Allens Ck D/S Rels. (Ac-Ft) (10)	Allens Ck Spills (Ac-Ft) (11)	Total Rels & Spills (Ac-Ft) (12) = (10)+(11)	A C R Quality Concentration (Mg/L) (13)	CL/TDS in Rels & Spills (Kg) (14)= (12)*(13)	Modeled Richmond Flows (Ac-Ft) (15)= (8)+(12)	Combined Modeled CL/TDS in Brazos (Kg) (16)= (9)+(14)	Combined Modeled Quality (Mg/L) (17)= (16)/(15)
	7	952899	99	344	98	952555	99.00	12886	939669	114702994	17	0	17	114	2390	939686	114705384	99.00
	8	340383	94	104	94	340279	94.00	13124	327155	37917919	104	0	104	115	14747	327259	37932665	94.01
	9	130314	160	395	154	129919	160.02	6775	123144	24296618	395	0	395	119	57957	123539	24354575	159.89
	10	80898	150	91	149	80807	150.00	6775	74032	13692321	91	0	91	124	13913	74123	13706234	149.97
	11	133880	130	563	118	133317	130.05	2614	130703	20958551	77	0	77	124	11773	130780	20970323	130.05
	12	222347	110	1227	88	221120	110.12	2052	219068	29745168	216	0	216	122	32492	219284	29777660	110.13
1988	1	212112	120	491	113	211621	120.02	3925	207696	30734859	326	0	326	123	49441	208022	30784300	120.02
	2	126188	160	476	148	125712	160.05	3618	122094	24093545	476	0	476	125	73364	122570	24166908	159.91
	3	231471	77	4156	47	227315	77.55	963	226352	21643164	406	0	406	122	61073	226758	21704237	77.63
	4	112322	96	404	60	111918	96.13	0	111918	13265443	404	0	404	124	61768	112322	13327211	96.23
	5	74166	130	2606	44	71560	133.13	0	71560	11746687	2606	0	2606	125	401650	74166	12148337	132.85
	6	164231	70	540	69	163691	70.00	3160	160531	13856084	540	0	540	126	83893	161071	13939977	70.19
	7	112701	130	113	129	112588	130.00	11000	101588	16283666	17	0	17	130	2725	101605	16286391	130.00
	8	77687	110	43	60	77644	110.03	0	77644	10533507	43	0	43	135	7158	77687	10540664	110.04
	9	37267	110	17	60	37250	110.02	0	37250	5053266	17	0	17	140	2935	37267	5056200	110.04
	10	29034	170	25	60	29009	170.09	0	29009	6083967	25	0	25	145	4470	29034	6088437	170.07
	11	21790	160	42	60	21748	160.19	0	21748	4295624	42	0	42	149	7716	21790	4303340	160.17
	12	66296	230	75	225	66221	230.01	2400	63821	18099443	0	0	0	152	0	63821	18099443	230.01
1989	1	116818	70	1953	68	114865	70.03	16090	98775	8529412	0	0	0	134	0	98775	8529412	70.03
	2	187482	51	363	51	187119	51.00	33340	153779	9670085	363	0	363	112	50129	154142	9720214	51.14
	3	164618	63	1554	61	163064	63.02	8610	154454	12001462	406	0	406	109	54565	154860	12056027	63.14
	4	272687	59	299	59	272388	59.00	24250	248138	18051295	299	0	299	102	37604	248437	18088899	59.05
	5	935762	100	684	97	935078	100.00	10345	924733	114022081	684	0	684	102	86024	925417	114108105	100.00
	6	1417189	140	249	138	1416940	140.00	11612	1405328	242588328	249	0	249	106	32544	1405577	242620872	139.99
	7	359722	100	124	100	359598	100.00	13519	346079	42671541	17	0	17	107	2243	346096	42673784	100.00
	8	287802	69	1517	67	286285	69.01	11007	275278	23423423	885	0	885	106	115668	276163	23539091	69.13
	9	76215	150	120	149	76095	150.00	7930	68165	12607249	120	0	120	111	16424	68285	12623673	149.93
	10	66724	160	76	159	66648	160.00	5620	61028	12039690	76	0	76	114	10683	61104	12050372	159.94
	11	54811	160	116	151	54695	160.02	1160	53535	10562645	77	0	77	116	11013	53612	10573658	159.96
	12	63759	170	104	168	63655	170.00	7270	56385	11819087	104	0	104	119	15260	56489	11834347	169.91
50-yr Avg:		428766	118.86	2571	80.09	426195	119.34	5839	420356	40872877	648	715	1363	100.15	146542	421718	41019419	119.12
1/54-2/57 Average:		116236	217.34	575	64.84	115660	217.84	4334	111327	28762384	275	0	275	147.29	34612	111601	28796996	217.61

[brt94138.hma.allen_ck]richmon2.wq2

APPENDIX J

DETAILS OF OPINIONS OF PROBABLE COST

Table J-1
Allens Creek Reservoir
Estimated Costs of Permitting

-1995 Dollars-

Geotechnical review	$300,000
Detailed feasibility study and water right permit application	300,000
Environmental assessment for water right permit	300,000
Water right permitting, including additional studies as required	1,000,000
404 application and permitting	300,000
Archeological investigations and mitigation	300,000
Contingencies at 15%	375,000
Total for permitting	**$2,875,000**

Table J-2

Allens Creek Reservoir

Opinion of Probable Cost of Dam and Related Facilities

- 1995 Dollars -

	Quantity	Unit	Unit Cost	Total Cost
Embankment				
Mobilization - 5% of subtotal	1	LS	$1,836,000	$1,836,000
Care of water	1	LS	312,000	312,000
Site preparation - 1% of subtotal	1	LS	$365,000	365,000
Embankment fill	3,824,000	CY	2	7,648,000
Embankment underdrain system:				
Filter sand	320,000	CY	15	4,800,000
Miscellaneous piping	1	LS	960,000	960,000
Soil cement on dam:				
Placement	310,000	CY	15	4,650,000
Cement (0.1436 tons/cy)	44,500	Ton	75	3,338,000
Fly ash (0.0436 tons/cy)	13,500	Ton	45	608,000
Seeding	32	Acre	4,000	128,000
Slurry trench cutoff	920,000	SF	3.75	3,450,000
Two dikes for Wallis, Texas	1	LS	24,000	24,000
Embankment subtotal				$28,119,000
Spillway				
Stilling basin excavation	44,000	CY	3	132,000
Discharge channel excavation	663,400	CY	3	1,990,000
Soil cement spillway foundation:				
Placement	54,000	CY	15	810,000
Cement	7,800	Ton	75	585,000
Fly ash	2,400	Ton	45	108,000
Spillway:				
Formed concrete - walls	7,400	CY	150	1,110,000
Mass concrete - slab	21,800	CY	125	2,725,000
Cement (0.2 tons/cy)	5,900	Ton	75	443,000
Fly ash (0.0505 tons/cy)	1,500	Ton	45	68,000
Reinforcing steel (0.04267 tons/cy)	1,300	Ton	1,000	1,300,000
Spillway bridge	10,200	SF	50	510,000

Table J-2 Continued

	Quantity	Unit	Unit Cost	Total Cost
Spillway subsurface drainage:				
Filter sand	3,000	CY	15	45,000
Miscellaneous piping	1	LS	60,000	60,000
Spillway subtotal				$9,886,000
Outlet works	1	LS	210,000	210,000
Site work				
Asphalt road to spillway, 5,000 ft:				
Lime stabilized subgrade, 8"	11,100	SY	2.5	28,000
Lime	300	Ton	120	36,000
Flexible base, 8"	2,500	CY	25	63,000
Hot mix asphaltic concrete, 2"	11,100	SY	5	56,000
Flexible base road, 22,500 ft:				
Flexible base, 8"	11,100	CY	25	278,000
Timber guard posts, 40'c/c, staggered	700	EA	75	53,000
Site work subtotal				$514,000
Total construction of dam, spillway and outlet works				$38,729,000
Engineering and contingencies on construction at 25%				9,682,000
Construction Monitoring				
Geotechnical investigation				600,000
Resident representation				840,000
Field laboratory				420,000
Contingencies on construction monitoring @ 15%				279,000
Construction monitioring subtotal				2,139,000
Total				$50,550,000

Table J-3

Aliens Creek Reservoir
Opinion of Probable Cost of Pump Station and Related Facilities

- 1995 Dollars -

Intake and Forebay	
Headwall	$1,553,000
Gates	120,000
Excavation	349,000
Soil cement channel lining	259,000
Intake and forebay subtotal	$2,281,000
Structure and Equipment	
Pump station structure and miscellaneous equipment	19,217,000
Pumps, motors and switch gear	8,325,000
Pump control valves	951,000
Operators' housing	180,000
Structure and equipment subtotal	$28,673,000
Discharge Facilities	
Surge tower	288,000
Discharge pipeline	3,272,000
Outlet	40,000
Discharge facilities subtotal	$3,600,000
Pump station total	$34,554,000
Engineering and contingencies at 25%	8,639,000
Electrical Facilities with contingencies	2,796,000
Construction Monitoring	
Geotechnical investigation	120,000
Resident representation	504,000
Materials testing	264,000
Contingencies on construction monitoring at 15%	133,000
Construction monitoring subtotal	1,021,000
Total	$47,010,000

Table J-4

Allens Creek Reservoir
Estimated Costs of Conflict Resolution

24-inch high pressure gas pipeline relocation	$6,000,000
6-inch petroleum products pipeline relocation	900,000
8-inch crude oil pipeline relocation	1,188,000
Farm Road 1486 bridge at spillway	912,000
State Highway 36 raising	120,000
Gulf, Colorado and Santa Fe Railroad embankment protection	12,000
Subtotal	$9,132,000
Engineering and contingencies at 25%	2,283,000
Total	$11,415,000

Table J-5

Allens Creek Reservoir
Effect of 4.5 Percent Annual Inflation on Capital
and Operation and Maintenance Costs

Capital Costs	
Capital cost in 1995 dollars	$169,017,000
Cost in 2002 dollars with 4.5% annual inflation	$230,009,000
Annual payment on 30-year bonds at 8.5% interest	$21,402,000
Operation and Maintenance Costs	
Annual operation and maintenance cost in 1995 dollars	$1,007,000
Annual operation and maintenance cost in 2005 dollars	$1,564,000
Initial cost of electricity for reservoir filling in 1995 dollars	$433,000
Initial cost of electricity for reservoir filling in 2005 dollars	$672,000
Operation and maintenance cost in 2005, including filling cost	$2,236,000
Operation and maintenance cost in the year 2006	$1,634,000

APPENDIX K

COMMENTS

The Light company
Houston Lighting & Power

P.O. Box 1700 Houston, Texas 77251-1700 713-207-1111

January 8, 1997

Mr. Thomas Gooch, P.E.
Freese and Nichols, Inc.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109-4895

Re: **Trans-Texas Water Program - Southeast Area**
Comments on Draft Memorandum Reports for Allens Creek Reservoir

Dear Mr. Gooch:

Members of Houston Lighting & Power Company's (HL&P) staff have reviewed the two draft memorandum reports prepared for the Trans-Texas Water Program concerning the proposed Allens Creek Reservoir: *Operation Studies and Opinions of Cost for Allens Creek Reservoir* (Operation Study) dated November 1996 and *Status of Environmental Issues for Allens Creek Reservoir* (Environmental Study) dated November 1996. The following comments are submitted for your consideration.

Comments on the Environmental Study

1. Copies of additional studies which contained information about wildlife and habitat at the proposed Allens Creek Reservoir site were sent to you last month. We feel that where appropriate this information should be incorporated into the final Trans-Texas report.

   - *Wildlife Habitat Appraisal for The Proposed Allens Creek Reservoir Site*. August 1995. Dr. James Lester of the University of Houston Clear Lake commissioned by Texas Parks and Wildlife Department.

   - *Biological Monitoring Program of the Allens Creek Nuclear Generating Station.* 1975. Dames & Moore Environmental commissioned by Houston Lighting & Power Company.

2. The title of Section 2 of the Environmental Study, "Affected Environment", should be changed to something less prejudicial. We suggest a more neutral title such as "Site Description" since the purpose of Section 2 is to detail the existing baseline conditions found at the site; whereas, Section 3 assesses how constructing a reservoir will impact the site.

3. The Operation Study proposes an alternative dam alignment to reduce wetlands mitigation costs, but this second design and the reduced impacts are only briefly mentioned in the Environmental Study. We believe that the Environmental Study should fully discuss this alternative.

4. During the recent meeting of the Technical Advisory Committee for the Southeast Area of the Trans-Texas Water Project, there were questions as to why the estimated acreage needed to mitigate the reservoir site differed so much between the Environmental Study and the Wildlife Habitat Appraisal prepared by Dr. Lester. Both reports contain similar area estimates for potential wetlands, but it appears that Dr. Lester based his mitigation estimates on mitigating all land inundated by a 8,250 acre reservoir, whereas, the Environmental Study assumes that only the jurisdictional waters of the U.S. impacted by a 8,250 acre and a 7,060 acre reservoir would be mitigated. We understand that under current law the reservoir developer must mitigate impacts to jurisdictional waters of the U.S. and that any additional mitigation would be solely at the discretion of the developer. If this is the case, it is inappropriate to include estimates for discretionary mitigation in cost estimates that will be used to compare this water management strategy with other strategies.

   Additionally, we question whether the statement in Section 4 (third paragraph) that the remaining area in the proposed reservoir area would require some mitigation is correct.

5. Both the Environmental Study and Dr. Lester's Wildlife Habitat Appraisal assume that all the environmental and ecological impacts will be negative. This assumption has proven false at the reservoir constructed adjacent to the South Texas Project in Matagorda County. HL&P constructed the 7,000 acre reservoir in the early 1980's and filled the reservoir with fresh water from the Colorado River. Annual waterfowl population counts conducted each fall from 1980 to 1986 showed a increase in the number and diversity of migratory waterfowl and native shorebird species. Annual Mad Island Marsh Christmas Bird Counts which are conducted at the STP Reservoir and neighboring land have continued to identify a wide range of species that have been attracted by the reservoir. Reports detailing these ecological studies are attached. In general, the ecological advantages of managed deep water habitat over farmlands include increased number and diversity of migratory waterfowl (i.e., ducks, loons, grebes), increased number and

diversity of native shorebird species, and a refuge for migratory waterfowl during drought cycles.

In addition, aquatic life habitat has not been addressed. Construction of a reservoir enables a well managed fishery to be established that will enhance the ecological value of the site, the recreational fishing activity, and general aquatic recreation activities.

HL&P believes that the positive environment and ecological impacts should be fully discussed in the Environmental Study and the value of these positive impacts be used to offset needed mitigation.

6. Will the reservoir dam design include relief well or some other mechanism for relieving the hydrostatic pressure of the reservoir on the dam? If so, could this water be used to enhance the wetland areas which lay between the reservoir and the Brazos River?

Comments on the Operation Study

1. The Operation Study is somewhat confusing. The main body of the study addresses the operation and costs associated with a 8,250 acre reservoir. Almost as an afterthought, an additional section was added which proposes an alternate dam alignment that would minimize the inundation of wetland areas. Since the outcome of evaluating this water management strategy would undoubtedly be significantly different depending on which of the two design options is considered, it is important that only one design be proposed for final review by the Trans-Texas Section Team so that all team members are evaluating the same project. Based on the material in these studies, HL&P supports the concept of realigning the dam to minimize disturbing established wetland areas. We suggest that the realigned dam design be the single design evaluated by the Trans-Texas Selection Team for the Allens Creek Reservoir; consequently, all the supporting operational studies, cost estimates, environmental impacts, and other materials should support this design. It seems more appropriate to discuss the two alternate designs and the advantages of the realignment in the report's Introduction, then focus exclusively on the one design in the body of the report.

2. The Operation Study does not address several of the criteria which will be used to evaluate the various Water Management Strategies. In particular, the study does not discuss a very important issue: the economic impacts of the reservoir to the surrounding communities. HL&P commissioned an economic analysis of the recreational value of the proposed Allens Creek Reservoir and State Park when we were planning an electric generating facility adjacent to the reservoir. The study, which is attached, concluded that

there would be an annual net benefit of at least $24 million (in 1985 dollars) from the direct use of reservoir and park facilities. In addition, the development of a dependable water supply will also impact the economic development of not only the surrounding communities, but also of the downstream communities in Fort Bend and Brazoria Counties. HL&P suggests that the economic impact of the reservoir be fully discussed in the final Study.

3. The Operation Report does not address operating the Allens Creek Reservoir and the other Brazos River Authority reservoirs as a system. Is it possible to optimize the yield from the Brazos River and the Allens Creek Reservoir by operating these reservoirs in a coordinated fashion?

We appreciate the opportunity to comment on these Studies. Should you have any questions about our comments, please contact Ms. Cynthia M. Schmidt at (713) 945-8214.

Sincerely,

Edward A. Feith, P.E.
Manager, Environmental Department

CMS/cms J:\ENV\WATERSUP\ALENS-CK\COMMENT1.WP6

Attachments

cc: Jeff Taylor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Division of Ecological Services
17629 El Camino Real, Suite 211
Houston, Texas 77058

February 11, 1997

JLT ——
NG
Copy To Tom Gooch
+ Jeff Taylor

Albert Gray
Development Manager
Sabine River Authority
P. O. Box 579
Orange, Texas 77630

Dear Mr. Gray:

The U.S. Fish and Wildlife Service (myself and Bryan Pridgeon) has been participating on the SETAC to insure that TTWP planning will be consistent with any Federal environmental requirements and that fish and wildlife resource planning is included with other features of project development.

We have recently reviewed and completed a preliminary field evaluation of the Allens Creek Reservoir site near Wallis, Texas. The information contained in the environmental issues volume is quite comprehensive but we believe Figures 2.1 and 2.2 should be combined into one (or an overlay) cover type habitat map.

The action agency for this project should inspect the area for bald eagle nests and for the presence of Attwater greater prairie chicken at the time the detailed planning for construction begins. There are eagle nests across the Brazos in Fort Bend County and suitable habitat for prairie chickens was identified within the reservoir area.

Alligator Hole is a rather unique and interesting habitat. Mitigation for losses here would be extremely costly so the project should be designed around the alternative that avoids this area. A mitigation scheme for subsequent losses could be put in place in and around the Alligator Hole landscape to return value that has been lost from past agriculture. This could be done by an easement on the lands involved to conserve them as natural areas against deterioration and drainage for the future.

The operation of the reservoir for storing trans-basin water was not discussed in the document if this is the case. Would the reservoir be on the direct route of trans-Texas conveyance or re-allocation take place by withdrawal and discharge into the Brazos during pick up periods elsewhere? This requirements could affect design of the reservoir and consequential environmental impacts in the reservoir and river.

Thank you for the opportunity to comment. If you need any additional information please do not hesitate to contact me at 713/286-8282.

Sincerely,

Frederick T. Werner
Chief, Regulatory Activities

cc:
Glenda Callaway, TTWP Environmental Focus Group

December 8, 1996

Albert Gray
Sabine River Authority of Texas
Box 579
Orange, Texas 77630

Dear Mr. Gray,

Enclosed is a copy of my personal comments regarding the TPWD's Legislative Summary for the State Water Plan.

My comments on the Allens Creek Project can be found here as well as other comments that address the Trans - Texas Plan. Please do send me a copy of Volume II of the Allens Creek Plan.

Thank you for your assistance.

Sincerely,

Brandt Mannchen

Brandt Mannchen
1705 Michigan #3
Houston, Texas 77006
H713-521-9534, W713-640-4313

December 8, 1996

Craig Pedersen
Executive Administrator
Texas Water Development Board
P. O. Box 13231
1700 N. Congress Ave.
Austin, Texas 78711-3231

Dear Mr. Pedersen,

Enclosed are my personal comments regarding the "Draft Water for Texas Today and Tomorrow - A Draft Legislative Summary of the 1996 Consensus - based Update of the State Water Plan".

1) I am concerned that the TWDB is talking to state legislators about what bills should be passed by the Texas Legislature and what should be in the bills. This one action virtually nullifies any possible impact the public, including myself, can have on this proposal. This is not true public participation since the outcome is already preordained. In essence this is sham public input. I object!

2) In reality the entire process is backwards. The Texas Water Plan update should come out first, the public should give their comments, and then the water plan finalized. By the time the water plan does come out the TWDB will have gotten much of what it wanted, without public input and scrutiny of the water plan because the Texas Legislature will have passed changes that TWDB pushed to have made. All this is being done again without the benefit of public input which can correct errors as well as bring additional information to the fore and prevent hasty actions that are not in the public's best interest. I object again!!

3) Since we have no inflow studies completed, as one example, how can we push for changes to water policy that will effect inflows when we cannot tell how the inflow issue will effect the water plan? The same can be said for the drought criteria. Without seeing what TWDB proposes and how the public feels about this how can legislation be passed that will change drought policy regarding overriding inflow protection? You in essence seek changes to obtain more power before you give the public the ability to see what you propose and judge it.

4) I certainly agree with Bill Moore of the San Jacinto River Authority that we need to have people take responsibility for their actions or inactions. This means that we need to start living within our means. In the Houston Area we have exceeded our carrying capacity. We exceed air quality standards so we are exceeding our airshed capacity, we exceed water quality standards so we are exceeding our water quality capacity, we exceed our watershed capacity to only use water in the basin where we live, we exceed our floodshed capacity since we have severe floods every year which cause millions of dollars of damage, we have exceeded our wildlife capacity since we have endangered species, depleted wildlife populations, and deteriorated habitat (very little native prairie and bottomland hardwoods left, to name just two habitats that have severely deteriorated), we have exceeded our vegetation capacity by destroying so much of our native vegetation that erosion is having a major impact on our human created systems, like dredging for navigation.

We need to start living within our means. Just because there have been interbasin transfers in the past does not mean we should have more of them. The magnitude of interbasin transfers being proposed are huge compared to what we have seen in the past. I do not believe that once water has been transfered that it can be cut off from the basin it has been transfered to. I believe those who say this are not being accurate or honest. I do not really believe that once Houston gets Trans - Texas in it will give the water back to East Texas.

We need to redirect our population growth to areas where we are not exceeding our water carrying capacity. We also need to reduce population growth and discourage additional people from moving here. We need to reduce our material usage. We do not need a doubled population. Trend is not destiny. We can plan for these things. If we do not talk about them and start the process then we will never come to grips with the growing forever cancer talk. This is not biologically possible or socially desirable or responsible.

4) I also am concerned that we are piecemealing the old Texas Water Plan. You do not show in the document the existing water transfer projects that are in place. If you overlay these with the ones proposed that are in your document you can very easily see that a canal or pipeline down to Brownsville and one to the Panhandle are not that farfetched from happening. The political momentum will be hard to resist once all of these projects are in place to go ahead and make some final connections. This would be disasterous for the environment and for people's livelihoods.

5) The economic emphasis of this plan scares me. Economic potential is not necessarily good for people. For instance, massive layoffs in Texas and elsewhere, are good for economic potential for bondholders and stockholders as are movements to other countries of jobs. But they are devestating to our people who need the jobs here and now. In addition on page 2 this plan does not focus on economic viability because it does not take the attitude that overstripping our natural resource base is bad and that those jobs shipped out of Texas to other countries is not good. In addition on page 1 when you talk about reasonable cost for economic developement what does this mean? Is it reasonable to have socialistic intents to support wealthy persons or interests by subsidizing these with lots of water projects? Is this best for the public in the long run?

6) I continue to be worried that by TPWD signing on to this process and plan it has placed itself in an impossible position. I do not believe TPWD will have the leverage to stop unacceptable parts of this plan when it is so emeshed in the matrix of the plan. I do not beleive that TPWD will have the independent voice to stop foolishness within the process. The TPWD has an opportunity to do this outside the process where it can talk directly to the public and not be compromised by its entanglements within the process. This is a great concern that I have. Already the PR part of the process makes you wonder about its fairness and validity. This is not a concensus - based process when you do not allow the public to respond before you work with legislators about what changes are needed and when most meetings of the Trans - Texas project are held at times when the public cannot attend.

7) I am opposed to many of the water projects that are listed on page 6, Figure 5, In particular the Wallisville Dam will unacceptably impact the Trinity River Delta and is not necessary economically. The Allens Creek Dam really scares me since on page 1 - 1 of the Draft Memorandum Status of Environmental Issues for Allens Creek Reservoir, Trans - Texas Water Program Southeast Area, November 1996, when it says that "The proposed reservoir could provide additional yield and or serve as regulating storage for water being transferred westward to areas of need in the central part of the state.". I can easily see Toledo Bend water going to Austin and San Antonio as well as Houston. This is not living within our means and is disrupting entire multiple watersheds in a third of the State of Texas. This is not a comforting thought for a plan that is supposed to care about the environment. This same phrase is also given on page 1 - 1 of the companion report. "Operation Studies and Opinions of Cost for Allens Creek Reservoir, Volume I - Text.

8) I am very concerned about the water transfer proposal on page 6 that will take Trinity River (Luce Bayou Project) across Sam Houston National Forest in San Jacinto County. We must stop thinking of the NF as a place to put projects across and destroy the environment. I am also concerend about the canal that is shown as connecting Lake Conroe to the Conroe Area. It appears as if the San Jacinto River may be impacted by this. The river makes an excellent flood control, recreation, and wildlife corridor to Lake Houston and should be protected and not degraded.

9) Many of the other dams on page 6 look unneeded including the Paluxy Dam. Rio Grande Wier, and others.

10) I have a concern that this plan does not do enough about stressing the need to learn to live with droughts and not fight against them. Droughts are not disasters. People living where there is not enough water is the disaster. It is natural and cyclical to have dry and wet times. We need to adapt to these real natural rhythms and not try to engineer our way around them.

11) The State must stop granting water rights permits to already overallocated waters. This makes no sense at all. In addition the state must not do anything to weaken the Texas Open Records or Meetings Acts. There are very few real emergencies that require such draconian authority that cannot be seen coming and planned for ahead of time. Do not wait for droughts or floods but plan ahead. I am totally against any emergency suspension of inflows into bays, estuaries, and rivers. You do not even define what emergency is here or give the criteria for determining if it exists.

12) I am not for using streams as conveyance mechanisms for someone's water that will be used later. Once the water hits the stream it is the public's and should be used for public purposes. Also on page 11, TNRCC "must" and not simply "consider" mitigate impacts of interbasin transfers. Why would you allow short-changing of other's environment when you take their water?

13) Once again water conservation is given short shrift here. A minimum water conservation plan must reduce use by 30%. Otherwise you are just paying lipservice to what we can do to save water.

14) On page 13. I am against streamlining water rights permitting. This usually means the public has fewer opportunities to get their concerns on record. Also on page 15. I do not want the state to buy dam sites. Buying dam sites ensure that boondoggle projects will be provided subsidies and momentum for completion.

15) On page 16. I do not see a crisis of bond funding. It looks like alot of money is left to use. It is obvious the State wants to mix all the monies so it can use them to build boondoggle water projects without the public's oversight. I object. In addition environmental mitigation must be a state requirement and not just a federal one.

16) On page 19 flooded areas should be bought and turned into natural flood control areas and be used for parks, recreation, and wildlife corridors.

17) On page 23. I have real concerns about regional environmental mitigation banks. These banks, if not operated properly, may make development of wetlands sites, which under Section 404(b)(1) guidelines by the U. S. EPA are deemed to be sites of special significance and should not be developed, easier to develop. Two areas where mitigation banks would be useful would be the Katy Prairie, so that we could create at least a 50,000 acre Katy Prairie National Wildlife Refuge, and Sam Houston National Forest where we could buy inholdings, acquire buffer lands, and corridors to connect all of the federal forest lands.

18) I see nothing in here that addresses saving wild, scenic, and recreational rivers in our state. This is a large oversight and must be corrected.

19) In West Harris County and in Waller and Fort Bend Counties I want to see some groundwater use saved for the Katy Prairie and the farms that exist there so the hundreds of thousands of waterfowl and shorebirds can safely live in this area.

20) I am against golf course irrigation projects having a greater priority than instream flows for wildlife and for natural purposes.

21) I am very concerned that the present studies on inflows into Galveston Bay suggest that about half of the water (4.9 million acre feet) be protected for bays and estuaries and the other 50% be allowed to be sucked up by development. This hardly seems fair to the environment and its natural range of flows.

Because of these concerns I request that this document be withdrawn and not be developed until the new Texas Water Plan is finalized. Thank you.

Sincerely,

Brandt Mannchen

Brandt Mannchen
1705 Michigan #3
Houston, Texas 77006
H713-521-9534, W713-640-4313

AG

Don W. Hooper, Ph.D.
Office of the Superintendent

Copy To Tom Gooch
+ Jeff Taylor

January 28, 1997

Mr. Albert Gray
Coordinator, Trans-Texas Water Program Southeast Area
Sabine River Authority
P.O. Box 579
Orange, Texas 77630

Re: Proposed Allens Creek Reservoir

Dear Mr. Gray:

I understand that the Trans-Texas Water Program (Southeast Study Area) is considering the proposed Allens Creek Reservoir as a water supply option for meeting projected water demand in the State of Texas. As a local official I am in favor of the Allens Creek Reservoir because

- the Fort Bend Independent School District will ultimately need a dependable surface water supply
- future economic development in FBISD depends on the future availability of a dependable water supply
- the reservoir can store otherwise destructive flood water for constructive use during droughts
- the reservoir will have a positive economic impact on the school district due to increased recreation facilities and tourism
- the reserve will have a positive economic impact on the school district due to the potential for development and increased property value of the land surrounding the reservoir
- the reservoir will enhance the environment by replacing flood prone agricultural and grazing land with a reservoir that can support a large fish and bird population.

I urge you to give full consideration to the positive economic impact that the Allens Creek Reservoir will have on the local and regional economy and recommend it as a water supply project to the State.

Sincerely,

Don W. Hooper, Ph.D.
Superintendent

cc: County Judge
Brazos River Authority
The Greater Fort Bend Economic Development Council

Fort Bend Independent School District • 16431 Lexington Blvd. • Sugar Land, Texas 77479 • (713) 634-1006 • Fax (713) 634-1700
E-mail: dhooper@soho.ios.com! ••• World Wide Web: www.fortbend.k12.tx.us

Copy P.E. Taylor TG

City of Meadows
One Troyan Drive
Stafford, Texas 77477
Tel (281) 983-2950
Fax (281) 983-2940

January 28, 1997

Mr. Albert Gray
Coordinator, Trans-Texas Water Program Southeast Area
Sabine River Authority
P.O. Box 579
Orange, Texas 77630

Re: Proposed Allens Creek Reservoir

Dear Mr. Gray:

I understand that the Trans-Texas Water Program (Southeast Study Area) is considering the proposed Allens Creek Reservoir as a water supply option for meeting projected water demand in the State of Texas. As a Local official, I am in favor of the Allens Creek Reservoir because:

The City of Meadows will ultimately need a dependable surface water supply.

Future economic development in the City of Meadows depends on the future availability of a dependable water supply.

The reserve will have a positive economic impact on the City of Meadows due to the potential for development and increased property value of the land surrounding the reservoir.

The reservoir will enhance the environment by replacing flood prone agricultural and grazing land with a reservoir that can support a large fish and bird population.

I urge you to give full consideration to the positive economic impact that the Allens Creek Reservoir will have on the local and regional economy and recommend it as a water supply project to the State.

Sincerely,

J. McDonald

Jim McDonald
Mayor

JM:eh

cc: County Judge Mike Rosell
Brazos River Authority
The Greater Fort Bend Economic Development

COUNTY JUDGE
Fort Bend County, Texas

Michael D. Rozeil
County Judge

(713) 341-8608
Fax (713) 341-8609

January 16, 1997

Mr. Albert Gray
Coordinator, Trans-Texas Water Program Southeast Area
Sabine River Authority
P. O. Box 579
Orange, Texas 77630

Dear Mr. Gray:

I understand that the Trans-Texas Water Program (Southeast Study Area) is considering the proposed Allens Creek Reservoir as a water supply option for meeting projected water demand in the State of Texas. As a local official, I am in favor of the Allens Creek Reservoir because:

- Fort Bend County will ultimately need a dependable surface water supply

- future economic development in Fort Bend County depends on the future availability of a dependable water supply

- the reservoir can store otherwise destructive flood water for constructive use during droughts

- the reservoir will have a positive economic impact on Fort Bend County due to increased recreational facilities and tourism

- the reserve will have a positive impact on Fort Bend County due to the potential for development and increased property value of the land surrounding the reservoir

- the reservoir will enhance the environment by replacing flood prone agricultural and grazing land with a reservoir that can support a large fish and bird population.

I urge you to give full consideration to the positive economic impact that the Allens Creek Reservoir will have on the local and regional economy and recommend it as a water supply project to the State.

Sincerely,

Michael D. Rozell
County Judge

MDR/lz

MISSOURI CITY 1522 TEXAS PARKWAY • P.O. BOX 666 • MISSOURI CITY, TEXAS 77459 • 281-261-4260

MAYOR
Allen Owen

January 21, 1997

Mr. Albert Gray
Coordinator, Trans-Texas Water Program Southeast Area
Sabine River Authority
P. O. Box 579
Orange, Texas 77630

Re: Proposed Allens Creek Reservoir

Dear Mr. Gray:

I understand that the Trans-Texas Water Program (Southeast Study Area) is considering the proposed Allens Creek Reservoir as a water supply option for meeting projected water demand in the State of Texas. As a local official, I am in favor of the Allens Creek Reservoir because:

- The City of Missouri City will ultimately need a dependable surface water supply.
- Future economic development in the City of Missouri City depends on the future availability of a dependable water supply.
- The reservoir can store otherwise destructive flood water for constructive use during droughts.
- The reservoir will have a positive economic impact on the City of Missouri City due to increased recreation facilities and tourism.
- The reservoir will have a positive economic impact on the City of Missouri City due to the potential for development and increased property value of the land surrounding the reservoir.
- The reservoir will enhance the environment by replacing flood prone agricultural and grazing land with a reservoir that can support a large fish and bird population.

I urge you to give full consideration to the positive economic impact that the Allens Creek Reservoir will have on the local and regional economy and recommend it as a water supply project to the State.

Sincerely,

Allen Owen
Mayor

cc: Mike D. Rozell
Fort Bend County Judge

Herb Appel
Greater Fort Bend Economic Development

Brazos River Authority

Raymond R. Betz Interests, Inc.
Raymond R. Betz Brokerage, Inc.

The BETZ Companies
Established in 1976

Betz Realty Investors, L.C.
Betz Realty Management, L.C.

January 17, 1997

Mr. Albert Gray
Coordinator, Trans-Texas Water Program Southeast Area
SABINE RIVER AUTHORITY
P.O. Box 579
Orange, Texas 77630

RE: Proposed Allens Creek Reservoir

Dear Mr. Gray:

I understand that the Trans-Texas Water Program (Southeast Study Area) is considering the proposed Allens Creek Reservoir as a water supply option for meeting projected water demand in the State of Texas. As a local real estate professional, I am in favor of the Allens Creek Reservoir because:

- Fort Bend County will ultimately need a dependable surface water supply.
- future economic development in Fort Bend County depends on the future availability of a dependable water supply.
- the reservoir can store otherwise destructive flood water for constructive use during droughts.
- the reservoir will have a positive impact on Fort Bend County due to:
    - increased recreation facilities and tourism.
    - the potential for development and increased property value of the land surrounding the reservoir.
- the reservoir will enhance the environment by replacing flood prone agricultural and grazing land with a reservoir that can support a large fish and bird population.

I urge you to give full consideration to the positive economic impact that the Allens Creek Reservoir will have on the local and regional economy and recommend it as a water supply project to the State.

Sincerely,

RAYMOND R. BETZ BROKERAGE, INC.

Tom Condon, Jr.
Vice President

cc: The Greater Fort Bend Economic Development Council

Raymond R. Betz Interests, Inc.
Raymond R. Betz Brokerage, Inc.

The BETZ Companies
Established in 1976

Betz Realty Investors, L.C.
Betz Realty Management, L.C.

January 27, 1997

Mr. Albert Gray
Coordinator, Trans-Texas Water Program Southeast Area
SABINE RIVER AUTHORITY
P.O. Box 579
Orange, Texas 77630

RE: ***Proposed Allens Creek Reservoir***

Dear Mr. Gray:

I understand that the Trans-Texas Water Program (Southeast Study Area) is considering the proposed Allens Creek Reservoir as a water supply option for meeting projected water demand in the State of Texas. As a local real estate professional, I am in favor of the Allens Creek Reservoir because:

- Fort Bend County will ultimately need a dependable surface water supply.
- future economic development in Fort Bend County depends on the future availability of a dependable water supply.
- the reservoir can store otherwise destructive flood water for constructive use during droughts.
- the reservoir will have a positive impact on Fort Bend County due to:
    - increased recreation facilities and tourism.
    - the potential for development and increased property value of the land surrounding the reservoir.
- the reservoir will enhance the environment by replacing flood prone agricultural and grazing land with a reservoir that can support a large fish and bird population.

I urge you to give full consideration to the positive economic impact that the Allens Creek Reservoir will have on the local and regional economy and recommend it as a water supply project to the State.

Sincerely,

Raymond R. Betz

cc: The Greater Fort Bend Economic Development Council

RESPONSE TO COMMENTS

Response to Comments by Edward Feith, Houston Lighting and Power Company:

1. Treatment of the Potential Alignment Change

This report covers several specific work tasks related to simulation of reservoir performance and a revised estimate of probable project cost, all of which are based on the project concept that has been proposed since at least 1974. The possibility that the environmental impact of the project could be significantly improved by realignment of the embankment and raising the storage level three feet without loss of performance or increase in total cost was recognized and explored after those other tasks were completed. Preliminary evaluations confirmed that the change would be basically beneficial, as shown in Table 6-1 of the report. We think the sequence in which these findings are covered is valid and that it is more realistic to present the alignment change as an option than to take it for granted at this time. It is not a fundamental change, but rather a refinement at the detail level. We believe the report deals with it in a proper manner.

2. Impact on the Local Economy

This is more an environmental factor than something to be covered in the operation study report. We are adding discussion of this consideration in Section 4 of the environmental report.

3. Operation as Part of the Brazos River Authority System

The scope of work for the Trans-Texas studies refers to the Allens Creek project in the context of "a balancing reservoir in the Trans-Texas system." Its function as a component of the Trans-Texas program might or might not contribute directly to the Authority's system performance. Obviously, the Trans-Texas system as a whole would need to operate in a way that would be compatible with the BRA system, but it remains to be seen whether it would be closely coordinated with that system. As you know, this is a complex issue, and it was not included among the tasks budgeted for the present report.

Response to Comments by Frederick Werner, U.S. Fish & Wildlife Service:

First four paragraphs: Noted.

Fifth paragraph: The Trans-Texas Scope called for a review of the benefits and environmental impacts of operating Allens Creek Reservoir as a balancing reservoir in the Trans-Texas system. The environmental impacts of using Allens Creek as a balancing reservoir are very similar to those of using it as a water supply project. Those effects are covered in the report. The use of Allens Creek operationally as a balancing reservoir would cause day to day variations but would not impact the yield. However, if considerable storage is dedicated to smoothing out *seasonal* demand, this would affect the yield. The specifics of the balancing reservoir operation would depend on the specifics of the program to export water to the west. The trade-off between yield and the balancing need should be analyzed at the time a specific program of transfer is established.

Response to Comments by Brandt Mannchen:

Item #7 referencing Allens Creek Reservoir: Noted

Response to Comments by Don Hooper, Fort Bend ISD: Noted

Response to Comments by Jim McDonald, City of Meadows: Noted

Response to Comments by Michael Rozell, Fort Bend County Judge: Noted

Response to Comments by Allen Owen, Mayor of Missouri City, Texas: Noted

Response to Comments by Tom Condon, The Betz Companies: Noted

Response to Comments by Raymond Betz, The Betz Companies: Noted