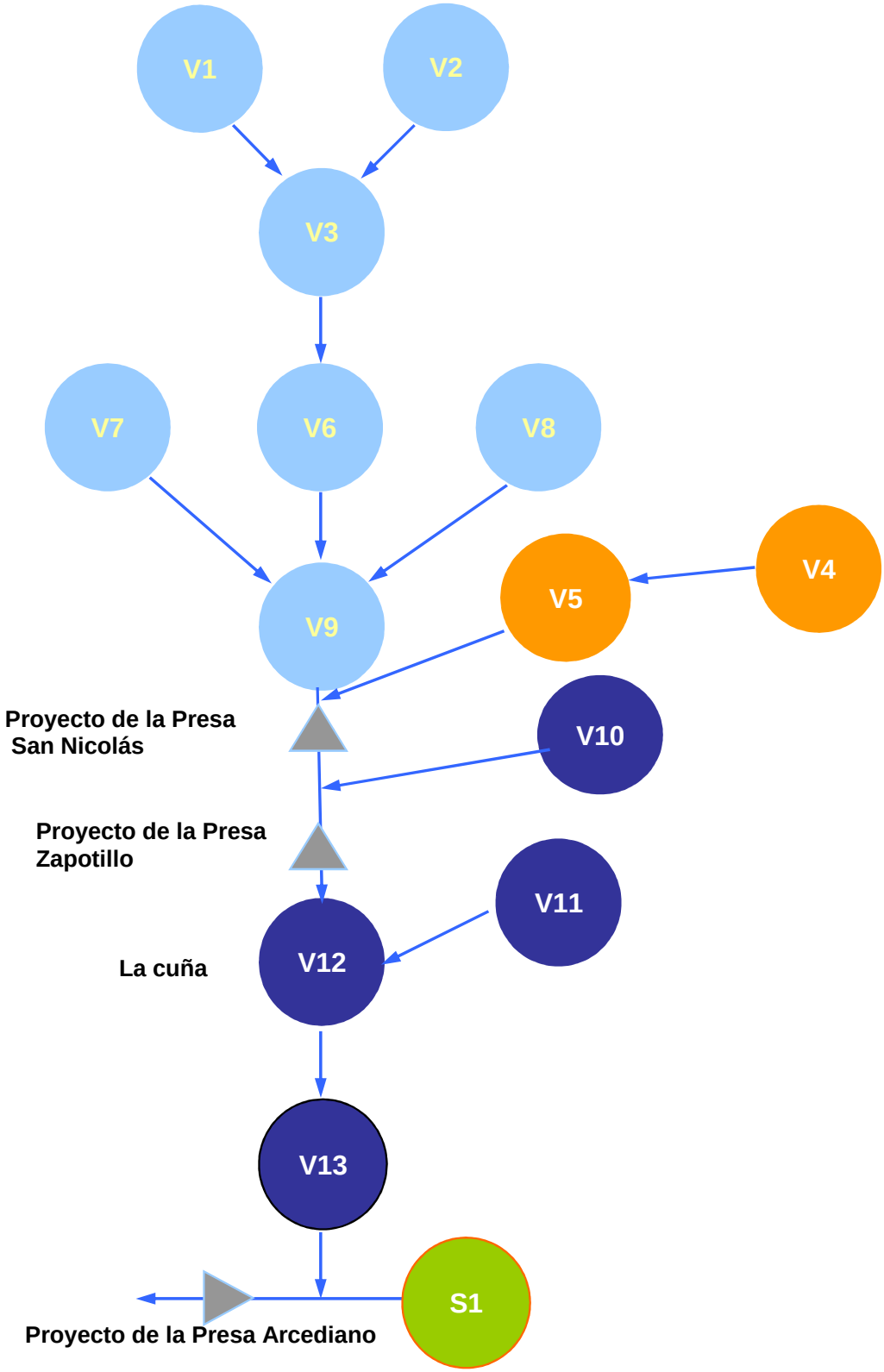
V1
V2
V3
V7
V6
V8
V4
V5
V9
Proyecto de la Presa
San Nicolás
V10
Proyecto de la Presa
Zapotillo
V11
La cuña
V12
V13
S1
Proyecto de la Presa Arcediano

Año	Cuenca												
	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	Total
2005	15.604	3.044	88.102	25.28	60.461	16.013	1.851	36.466	10.251	4.366	2.05	12.14	275.628
2006	15.748	3.104	88.826	25.498	60.989	16.151	1.869	36.784	10.343	4.408	2.07	12.254	278.045
2007	15.893	3.166	89.555	25.718	61.521	16.29	1.887	37.106	10.436	4.451	2.091	12.37	280.484
2008	16.039	3.229	90.29	25.94	62.059	16.43	1.906	37.43	10.53	4.494	2.112	12.486	282.945
2009	16.186	3.293	91.031	26.164	62.601	16.572	1.924	37.757	10.625	4.537	2.133	12.604	285.428
2010	16.335	3.359	91.779	26.389	63.148	16.714	1.943	38.087	10.72	4.581	2.154	12.722	287.933
2011	16.485	3.426	92.532	26.617	63.699	16.858	1.962	38.42	10.817	4.626	2.175	12.842	290.46
2012	16.636	3.494	93.292	26.847	64.256	17.003	1.981	38.756	10.914	4.67	2.197	12.963	293.01
2013	16.789	3.563	94.058	27.078	64.817	17.15	2.001	39.095	11.012	4.716	2.218	13.085	295.583
2014	16.944	3.634	94.83	27.312	65.383	17.298	2.02	39.437	11.112	4.761	2.24	13.209	298.179
2015	17.099	3.706	95.609	27.548	65.954	17.446	2.04	39.781	11.212	4.807	2.263	13.333	300.799
2016	17.256	3.78	96.394	27.785	66.531	17.597	2.06	40.129	11.312	4.854	2.285	13.458	303.442
2017	17.415	3.855	97.185	28.025	67.112	17.748	2.08	40.48	11.414	4.901	2.308	13.585	306.108
2018	17.575	3.932	97.983	28.267	67.698	17.901	2.1	40.834	11.517	4.948	2.331	13.713	308.799
2019	17.737	4.01	98.788	28.511	68.289	18.055	2.121	41.191	11.621	4.996	2.354	13.842	311.514
2020	17.9	4.09	99.599	28.757	68.886	18.21	2.142	41.551	11.725	5.044	2.377	13.973	314.253
2021	18.064	4.171	100.416	29.005	69.488	18.367	2.163	41.914	11.831	5.093	2.401	14.104	317.017
2022	18.23	4.254	101.241	29.256	70.094	18.525	2.184	42.28	11.937	5.142	2.425	14.237	319.805
2023	18.398	4.339	102.072	29.508	70.707	18.685	2.205	42.65	12.045	5.192	2.449	14.371	322.619
2024	18.567	4.425	102.91	29.763	71.324	18.846	2.227	43.022	12.153	5.242	2.473	14.507	325.458
2025	18.737	4.513	103.755	30.019	71.947	19.008	2.248	43.398	12.262	5.293	2.497	14.643	328.323
2026	18.909	4.603	104.607	30.278	72.576	19.172	2.27	43.778	12.373	5.344	2.522	14.781	331.213
2027	19.083	4.694	105.466	30.54	73.21	19.337	2.292	44.16	12.484	5.396	2.547	14.92	334.13
2028	19.259	4.788	106.332	30.803	73.849	19.503	2.315	44.546	12.597	5.448	2.573	15.061	337.073
2029	19.436	4.883	107.205	31.069	74.494	19.671	2.337	44.936	12.71	5.501	2.598	15.203	340.042
2030	19.614	4.98	108.085	31.337	75.145	19.84	2.36	45.329	12.824	5.554	2.624	15.346	343.038
2031	19.794	5.079	108.972	31.608	75.802	20.011	2.383	45.725	12.94	5.608	2.65	15.49	346.061
2032	19.976	5.18	109.867	31.88	76.464	20.183	2.407	46.124	13.056	5.662	2.676	15.636	349.112
2033	20.16	5.283	110.769	32.156	77.132	20.357	2.43	46.528	13.174	5.717	2.703	15.783	352.19
2034	20.345	5.388	111.678	32.433	77.805	20.532	2.454	46.934	13.292	5.772	2.73	15.932	355.296
2035	20.532	5.495	112.595	32.713	78.485	20.709	2.478	47.344	13.412	5.828	2.757	16.082	358.43
2036	20.721	5.605	113.52	32.995	79.171	20.887	2.502	47.758	13.533	5.884	2.784	16.234	361.592
2037	20.911	5.716	114.452	33.28	79.862	21.067	2.526	48.176	13.654	5.941	2.812	16.387	364.784
2038	21.103	5.83	115.391	33.567	80.56	21.249	2.551	48.597	13.777	5.998	2.839	16.541	368.004
2039	21.297	5.946	116.339	33.857	81.263	21.431	2.576	49.022	13.901	6.056	2.868	16.697	371.253
2040	21.493	6.064	117.294	34.149	81.973	21.616	2.601	49.45	14.026	6.115	2.896	16.854	374.531
2041	21.691	6.184	118.257	34.444	82.689	21.802	2.627	49.882	14.153	6.174	2.925	17.013	377.84
2042	21.89	6.307	119.228	34.741	83.412	21.99	2.652	50.318	14.28	6.234	2.954	17.173	381.178
2043	22.091	6.433	120.207	35.041	84.14	22.179	2.678	50.758	14.408	6.294	2.983	17.335	384.547
2044	22.294	6.561	121.194	35.343	84.875	22.37	2.704	51.202	14.538	6.355	3.013	17.498	387.946
2045	22.499	6.691	122.189	35.648	85.617	22.563	2.731	51.649	14.669	6.417	3.043	17.663	391.377

2046	22.706	6.824	123.192	35.956	86.364	22.757	2.757	52.101	14.801	6.479	3.073	17.829	394.838
2047	22.914	6.96	124.203	36.266	87.119	22.953	2.784	52.556	14.934	6.541	3.103	17.997	398.331
2048	23.125	7.098	125.223	36.579	87.88	23.15	2.812	53.015	15.069	6.604	3.134	18.166	401.856
2049	23.337	7.24	126.251	36.895	88.647	23.35	2.839	53.479	15.204	6.668	3.165	18.337	405.413
2050	23.552	7.384	127.288	37.213	89.422	23.551	2.867	53.946	15.341	6.733	3.197	18.51	409.002
2051	23.768	7.53	128.333	37.534	90.203	23.753	2.895	54.418	15.479	6.798	3.228	18.684	412.624
2052	23.987	7.68	129.386	37.858	90.991	23.958	2.923	54.893	15.618	6.864	3.26	18.86	416.279
2053	24.207	7.833	130.449	38.185	91.786	24.164	2.952	55.373	15.759	6.93	3.293	19.038	419.968
2054	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2055	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2056	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2057	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2058	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2059	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2060	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2061	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2062	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2063	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69
2064	24.43	7.989	131.52	38.514	92.587	24.372	2.98	55.857	15.901	6.997	3.325	19.217	423.69

Cálculo del escurrimiento disponible en la subcuenca V1 San Francisco de los Romo

riego		pecuario	urbano	total

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	11

Año	Año proyectado	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp	Escurrimiento (Mm³)							Δ V'	Usos actuales (Mm³)		Escurrimiento disponible (Mm³)
		Ab	Ex	Ev	Uc	Ar	Im	R			CP+Esc. disp. Ar'	Usos Proyectados	menos usos actuales (Uc+Ev)	excedente	almacenado	deficit	derrames		Uc real=Uc total actual-deficit	R real	
1945	2005	0.921		0.700	5.346			1.518		5.449	5.449	15.604	(10.855)	-	-	- 10.855	-	-	4.749	1.348	0.921
1946	2006	0.072		0.700	5.453			1.548		4.677	4.677	15.748	(11.771)	-	-	- 11.771	-	-	3.977	1.129	0.072
1947	2007	4.076		0.700	5.562			1.579		8.759	8.759	15.893	(7.834)	-	-	- 7.834	-	-	8.059	2.288	2.288
1948	2008	13.047		0.700	5.673			1.611		17.810	17.810	16.039	1.071	1.071	1.071	-	-	1.071	16.039	4.553	4.553
1949	2009	2.280		0.700	5.787			1.643		7.124	7.124	16.186	(9.762)	-	-	- 8.691	-	- 1.071	7.495	2.128	2.128
1950	2010	2.276		0.700	5.902			1.676		7.203	7.203	16.335	(9.832)	-	-	- 9.832	-	-	6.503	1.846	1.846
1951	2011	10.048		0.700	6.020			1.709		15.059	15.059	16.485	(2.126)	-	-	- 2.126	-	-	14.359	4.076	4.076
1952	2012	4.608		0.700	6.141			1.743		9.706	9.706	16.636	(7.630)	-	-	- 7.630	-	-	9.006	2.557	2.557
1953	2013	7.323		0.700	6.264			1.778		12.509	12.509	16.789	(4.980)	-	-	- 4.980	-	-	11.809	3.352	3.352
1954	2014	21.213		0.700	6.389			1.814		26.488	26.488	16.944	8.844	8.844	8.844	-	-	8.844	16.944	4.810	4.810
1955	2015	8.828		0.700	6.517			1.850		14.195	14.195	17.099	(3.604)	-	5.240	-	-	- 3.604	17.099	4.854	4.854
1956	2016	17.910		0.700	6.647			1.887		23.370	23.370	17.256	5.414	5.414	10.654	-	-	5.414	17.256	4.899	4.899
1957	2017	8.102		0.700	6.780			1.925		13.657	13.657	17.415	(4.458)	-	6.196	-	-	- 4.458	17.415	4.944	4.944
1958	2018	9.892		0.700	6.916			1.963		15.544	15.544	17.575	(2.731)	-	3.466	-	-	- 2.731	17.575	4.989	4.989
1959	2019	9.683		0.700	7.054			2.003		15.435	15.435	17.737	(3.002)	-	0.463	-	-	- 3.002	17.737	5.035	5.035
1960	2020	11.597		0.700	7.195			2.043		17.450	17.450	17.900	(1.150)	-	-	- 0.687	-	- 0.463	17.213	4.887	4.887
1961	2021	6.340		0.700	7.339			2.083		12.295	12.295	18.064	(6.469)	-	-	- 6.469	-	-	11.595	3.292	3.292
1962	2022	3.808		0.700	7.486			2.125		9.868	9.868	18.230	(9.062)	-	-	- 9.062	-	-	9.168	2.603	2.603
1963	2023	4.641		0.700	7.635			2.168		10.809	10.809	18.398	(8.289)	-	-	- 8.289	-	-	10.109	2.870	2.870
1964	2024	6.007		0.700	7.788			2.211		12.284	12.284	18.567	(6.983)	-	-	- 6.983	-	-	11.584	3.289	3.289
1965	2025	2.123		0.700	7.944			2.255		8.512	8.512	18.737	(10.925)	-	-	- 10.925	-	-	7.812	2.218	2.123
1966	2026	6.072		0.700	8.103			2.300		12.574	12.574	18.909	(7.035)	-	-	- 7.035	-	-	11.874	3.371	3.371
1967	2027	9.658		0.700	8.265			2.346		16.277	16.277	19.083	(3.506)	-	-	- 3.506	-	-	15.577	4.422	4.422
1968	2028	11.140		0.700	8.430			2.393		17.877	17.877	19.259	(2.082)	-	-	- 2.082	-	-	17.177	4.876	4.876
1969	2029	19.067		0.700	8.599			2.441		25.925	25.925	19.436	5.789	5.789	5.789	-	-	5.789	19.436	5.518	5.518
1970	2030	8.092		0.700	8.771			2.490		15.073	15.073	19.614	(5.241)	-	0.547	-	-	- 5.241	19.614	5.568	5.568
1971	2031	10.743		0.700	8.946			2.540		17.849	17.849	19.794	(2.645)	-	-	- 2.097	-	- 0.547	17.697	5.024	5.024
1972	2032	17.121		0.700	9.125			2.591		24.355	24.355	19.976	3.679	3.679	3.679	-	-	3.679	19.976	5.671	5.671
1973	2033	17.995		0.700	9.308			2.642		25.360	25.360	20.160	4.500	4.500	8.179	-	-	4.500	20.160	5.723	5.723
1974	2034	10.226		0.700	9.494			2.695		17.725	17.725	20.345	(3.320)	-	4.859	-	-	- 3.320	20.345	5.776	5.776
1975	2035	17.314		0.700	9.684			2.749		24.948	24.948	20.532	3.716	3.716	8.575	-	-	3.716	20.532	5.829	5.829
1976	2036	17.319		0.700	9.877			2.804		25.092	25.092	20.721	3.671	3.671	11.000	-	1.246	2.425	20.721	5.882	7.129
1977	2037	19.645		0.700	10.075			2.860		27.560	27.560	20.911	5.949	5.949	11.000	-	5.949	-	20.911	5.936	11.885
1978	2038	18.947		0.700	10.276			2.917		27.005	27.005	21.103	5.202	5.202	11.000	-	5.202	-	21.103	5.991	11.193
1979	2039	18.404		0.700	10.482			2.976		26.610	26.610	21.297	4.613	4.613	11.000	-	4.613	-	21.297	6.046	10.659
1980	2040	13.888		0.700	10.691			3.035		22.244	22.244	21.493	0.051	0.051	11.000	-	0.051	-	21.493	6.102	6.153
1981	2041	10.226		0.700	10.905			3.096		18.735	18.735	21.691	(3.656)	-	7.344	-	-	- 3.656	21.691	6.158	6.158
1982	2042	10.226		0.700	11.123			3.158		18.892	18.892	21.890	(3.698)	-	3.646	-	-	- 3.698	21.890	6.214	6.214
1983	2043	10.226		0.700	11.346			3.221		19.051	19.051	22.091	(3.740)	-	-	- 0.094	-	- 3.646	21.997	6.245	6.245
1984	2044	4.183		0.700	11.573			3.285		13.171	13.171	22.294	(9.823)	-	-	- 9.823	-	-	12.471	3.540	3.540
1985	2045	13.969		0.700	11.804			3.351		23.122	23.122	22.499	(0.077)	-	-	- 0.077	-	-	22.422	6.365	6.365
1986	2046	13.101		0.700	12.040			3.418		22.423	22.423	22.706	(0.983)	-	-	- 0.983	-	-	21.723	6.167	6.167
1987	2047	13.262		0.700	12.281			3.486		22.756	22.756	22.914	(0.858)	-	-	- 0.858	-	-	22.056	6.262	6.262
1988	2048	13.021		0.700	12.527			3.556		22.692	22.692	23.125	(1.133)	-	-	- 1.133	-	-	21.992	6.243	6.243
1989	2049	13.192		0.700	12.777			3.627		23.042	23.042	23.337	(0.995)	-	-	- 0.995	-	-	22.342	6.343	6.343
1990	2050	12.815		0.700	13.033			3.700		22.848	22.848	23.552	(1.404)	-	-	- 1.404	-	-	22.148	6.288	6.288
1991	2051	10.745		0.700	13.293			3.774		20.965	20.965	23.768	(3.503)	-	-	- 3.503	-	-	20.265	5.753	5.753
1992	2052	12.766		0.700	13.559			3.849		23.176	23.176	23.987	(1.511)	-	-	- 1.511	-	-	22.476	6.381	6.381
1993	2053	13.141		0.700	13.831			3.926		23.745	23.745	24.207	(1.162)	-	-	- 1.162	-	-	23.045	6.542	6.542
1994	2054	13.140		0.700	14.107			4.005		23.942	23.942	24.430	(1.188)	-	-	- 1.188	-	-	23.242	6.598	6.598
1995	2055	10.689		0.700	14.240			4.043		21.586	21.586	24.430	(3.544)	-	-	- 3.544	-	-	20.886	5.929	5.929
1996	2056	10.689		0.700	14.374			4.081		21.682	21.682	24.430	(3.448)	-	-	- 3.448	-	-	20.982	5.957	5.957
1997	2057	10.689		0.700	14.507			4.118		21.777	21.777	24.430	(3.353)	-	-	- 3.353	-	-	21.077	5.984	5.984
1998	2058	10.689		0.700	14.640			4.156		21.873	21.873	24.430	(3.257)	-	-	- 3.257	-	-	21.173	6.011	6.011
1999	2059	10.689		0.700	14.773			4.194		21.968	21.968	24.430	(3.162)	-	-	- 3.162	-	-	21.268	6.038	6.038
2000	2060	10.689		0.700	14.907			4.232		22.064	22.064	24.430	(3.066)	-	-	- 3.066	-	-	21.364	6.065	6.065
2001	2061	10.689		0.700	15.040			4.270		22.159	22.159	24.430	(2.971)	-	-	- 2.971	-	-	21.459	6.092	6.092
2002	2062	10.689		0.700	15.182			4.310		22.261	22.261	24.430	(2.869)	-	-	- 2.869	-	-	21.561	6.121	6.121
2003	2063	10.689		0.700	15.322			4.350		22.361	22.361	24.430	(2.769)	-	-	- 2.769	-	-	21.661	6.149	6.149
2004	2064	10.689		0.700	15.462			4.390		22.461	22.461	24.430	(2.669)	-	-	- 2.669	-	-	21.761	6.178	6.178
																					5.764

Cálculo del escurrimiento disponible en la subcuenca V2 Presa Calles

K7+S7+G7-(R7+D7+C7+Q7)

Futuros 2% incremento 0.00

riego		pecuario	urbano	total

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	364.1

Año	Año proyectado	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp	Escurrimiento (Mm³)								Usos actuales (Mm³)		Escurrimiento disponible (Mm³)
		Ab	Ex	Ev	Uc	Ar	Im	R			CP+Esc. disp. Ar'	Usos Proyectados	menos usos actuales (Uc+Ev+Im)	excedente	almacenado	deficit	derrames	Δ V'	Uc real=Uc total actual-deficit	R real	
1945	2005	31.040	-	10.010	0.928	-	1.158	0.147	(27.540)	13.132	13.132	3.044	0.078	0.078	364.100	-	-	-	3.044	0.484	0.562
1946	2006	22.645	-	3.343	0.946	-	0.358	0.150	(13.620)	12.806	12.806	3.104	6.359	6.359	364.100	-	6.359	-	3.104	0.493	6.852
1947	2007	4.990	-	4.226	0.965	-	10.036	0.153	27.190	27.182	27.182	3.166	19.790	19.790	364.100	-	19.790	-	3.166	0.503	4.990
1948	2008	31.789	-	8.538	0.985	-	15.720	0.156	(0.406)	25.029	25.029	3.229	13.262	13.262	364.100	-	13.262	-	3.229	0.513	13.775
1949	2009	33.014	-	7.133	1.004	-	2.951	0.160	(21.270)	16.771	16.771	3.293	6.345	6.345	364.100	-	6.345	-	3.293	0.523	6.868
1950	2010	14.824	-	4.623	1.024	-	6.386	0.163	5.837	19.760	19.760	3.359	11.778	11.778	364.100	-	11.778	-	3.359	0.534	12.311
1951	2011	15.511	-	5.581	1.045	-	12.731	0.166	5.479	14.719	14.719	3.426	5.712	5.712	364.100	-	5.712	-	3.426	0.544	6.256
1952	2012	24.250	-	5.096	1.066	-	3.192	0.169	(13.640)	13.410	13.410	3.494	4.820	4.820	364.100	-	4.820	-	3.494	0.555	5.375
1953	2013	6.675	-	2.777	1.087	-	8.715	0.173	8.513	10.164	10.164	3.563	3.824	3.824	364.100	-	3.824	-	3.563	0.566	4.390
1954	2014	14.086	-	5.273	1.109	-	2.850	0.176	(6.081)	11.361	11.361	3.634	2.454	2.454	364.100	-	2.454	-	3.634	0.577	3.031
1955	2015	10.757	-	6.093	1.131	-	30.977	0.180	53.640	40.464	40.464	3.706	30.665	30.665	364.100	-	30.665	-	3.706	0.589	10.757
1956	2016	51.675	-	12.270	1.154	-	17.539	0.183	(18.740)	28.636	28.636	3.780	12.586	12.586	364.100	-	12.586	-	3.780	0.601	13.187
1957	2017	41.182	-	7.696	1.177	-	3.965	0.187	(30.840)	15.063	15.063	3.855	3.512	3.512	364.100	-	3.512	-	3.855	0.612	4.124
1958	2018	7.420	-	7.817	1.200	-	37.962	0.191	108.500	86.784	86.784	3.932	75.035	75.035	364.100	-	75.035	-	3.932	0.625	7.420
1959	2019	40.726	-	19.700	1.224	-	13.087	0.194	(26.960)	21.409	21.409	4.010	(2.301)	-	361.799	-	-	- 2.301	4.010	0.637	0.637
1960	2020	48.606	-	16.898	1.249	-	3.406	0.198	(51.053)	12.095	12.095	4.090	(8.893)	-	352.906	-	-	- 8.893	4.090	0.650	0.650
1961	2021	26.663	-	10.031	1.274	-	2.785	0.202	(24.718)	10.262	10.262	4.171	(3.940)	-	348.966	-	-	- 3.940	4.171	0.663	0.663
1962	2022	16.016	-	6.148	1.299	-	6.239	0.206	4.394	21.412	21.412	4.254	11.010	11.010	359.976	-	-	11.010	4.254	0.676	0.676
1963	2023	19.520	-	6.895	1.325	-	8.092	0.211	1.960	21.398	21.398	4.339	10.164	10.164	364.100	-	6.040	4.124	4.339	0.689	6.729
1964	2024	25.266	-	5.857	1.352	-	6.230	0.215	(9.786)	16.244	16.244	4.425	5.962	5.962	364.100	-	5.962	-	4.425	0.703	6.665
1965	2025	8.930	-	5.515	1.379	-	21.257	0.219	22.319	16.667	16.667	4.513	6.639	6.639	364.100	-	6.639	-	4.513	0.717	7.356
1966	2026	25.538	-	9.945	1.406	-	25.569	0.223	47.414	58.511	58.511	4.603	43.963	43.963	364.100	-	43.963	-	4.603	0.731	25.538
1967	2027	40.623	-	14.641	1.434	-	39.884	0.228	76.966	93.552	93.552	4.694	74.217	74.217	364.100	-	74.217	-	4.694	0.746	40.623
1968	2028	46.854	-	21.580	1.463	-	26.308	0.232	15.604	58.961	58.961	4.788	32.593	32.593	364.100	-	32.593	-	4.788	0.761	33.353
1969	2029	80.194	-	23.706	1.492	-	0.813	0.237	92.466	196.808	196.808	4.883	168.219	168.219	364.100	-	168.219	-	4.883	0.776	80.194
1970	2030	34.034	-	16.806	1.522	-	27.324	0.242	30.792	55.588	55.588	4.980	33.802	33.802	364.100	-	33.802	-	4.980	0.791	34.034
1971	2031	45.183	-	20.251	1.553	-	56.206	0.247	102.732	113.266	113.266	5.079	87.936	87.936	364.100	-	87.936	-	5.079	0.807	45.183
1972	2032	72.007	-	25.628	1.584	-	18.800	0.252	(43.869)	36.298	36.298	5.180	5.490	5.490	364.100	-	5.490	-	5.180	0.823	6.313
1973	2033	75.686	-	25.485	1.615	-	41.900	0.257	60.613	121.243	121.243	5.283	90.475	90.475	364.100	-	90.475	-	5.283	0.839	75.686
1974	2034	77.393	-	26.870	1.648	-	8.680	0.262	(74.734)	22.235	22.235	5.388	(10.023)	-	354.077	-	-	- 10.023	5.388	0.856	0.856
1975	2035	72.820	-	21.634	1.681	-	18.800	0.267	(34.360)	42.708	42.708	5.495	15.579	15.579	364.100	-	5.555	10.023	5.495	0.873	6.428
1976	2036	72.843	-	18.620	1.714	-	29.700	0.272	75.828	139.033	139.033	5.605	114.808	114.808	364.100	-	114.808	-	5.605	0.890	72.843
1977	2037	82.626	-	23.134	1.748	-	4.020	0.278	(68.370)	34.841	34.841	5.716	5.991	5.991	364.100	-	5.991	-	5.716	0.908	6.899
1978	2038	79.689	-	12.851	1.783	-	26.900	0.283	-	67.140	67.140	5.830	48.459	48.459	364.100	-	48.459	-	5.830	0.926	49.385
1979	2039	77.407	-	12.851	1.819	-	0.840	0.289	-	90.948	90.948	5.946	72.151	72.151	364.100	-	72.151	-	5.946	0.945	73.096
1980	2040	57.605	-	12.851	1.855	-	-	0.295	-	72.017	72.017	6.064	53.102	53.102	364.100	-	53.102	-	6.064	0.963	54.065
1981	2041	56.887	-	4.600	1.893	-	-	0.301	1.760	64.838	64.838	6.184	54.054	54.054	364.100	-	54.054	-	6.184	0.982	55.037
1982	2042	56.922	-	7.582	1.930	-	-	0.307	-	66.128	66.128	6.307	52.239	52.239	364.100	-	52.239	-	6.307	1.002	53.241
1983	2043	58.061	-	6.875	1.969	-	-	0.313	38.880	105.473	105.473	6.433	92.165	92.165	364.100	-	92.165	-	6.433	1.022	58.061
1984	2044	17.595	-	10.299	2.008	-	-	0.319	2.805	32.388	32.388	6.561	15.528	15.528	364.100	-	15.528	-	6.561	1.042	16.571
1985	2045	58.754	-	12.851	2.049	-	-	0.325	-	73.328	73.328	6.691	53.786	53.786	364.100	-	53.786	-	6.691	1.063	54.849
1986	2046	57.885	-	14.870	2.090	-	-	0.332	19.935	94.448	94.448	6.824	72.754	72.754	364.100	-	72.754	-	6.824	1.084	57.885
1987	2047	58.825	-	15.848	2.131	-	-	0.339	(16.095)	60.370	60.370	6.960	37.562	37.562	364.100	-	37.562	-	6.960	1.106	38.668
1988	2048	57.419	-	14.947	2.174	-	-	0.345	(5.280)	68.915	68.915	7.098	46.870	46.870	364.100	-	46.870	-	7.098	1.128	47.998
1989	2049	58.415	-	12.730	2.217	-	-	0.352	(39.515)	33.496	33.496	7.240	13.526	13.526	364.100	-	13.526	-	7.240	1.150	14.676
1990	2050	56.217	-	10.652	2.262	-	-	0.359	65.640	134.411	134.411	7.384	116.375	116.375	364.100	-	116.375	-	7.384	1.173	56.217
1991	2051	44.127	-	20.585	2.307	-	-	0.367	155.075	221.728	221.728	7.530	193.613	193.613	364.100	-	193.613	-	7.530	1.196	44.127
1992	2052	55.932	-	27.680	2.353	-	-	0.374	7.200	92.791	92.791	7.680	57.431	57.431	364.100	-	57.431	-	7.680	1.220	55.932
1993	2053	58.120	-	26.635	2.400	-	-	0.381	(63.275)	23.499	23.499	7.833	(10.969)	-	353.131	-	-	- 10.969	7.833	1.244	1.244
1994	2054	58.113	-	20.871	2.448	-	-	0.389	(69.525)	11.518	11.518	7.989	(17.342)	-	335.789	-	-	- 17.342	7.989	1.269	1.269
1995	2055	47.947	-	12.017	2.500	-	-	0.397	247.540	309.606	309.606	7.989	289.601	289.601	364.100	-	261.290	28.311	7.989	1.269	47.947
1996	2056	64.017	-	12.971	2.552	-	-	0.405	(173.860)	(94.726)	- 94.726	7.989	(115.686)	-	248.414	-	-	- 115.686	7.989	1.269	1.269
1997	2057	62.458	-	18.912	2.603	-	-	0.414	(38.855)	44.704	44.704	7.989	17.804	17.804	266.218	-	-	17.804	7.989	1.269	1.269
1998	2058	26.041	-	11.862	2.655	-	-	0.422	(13.160)	26.977	26.977	7.989	7.125	7.125	273.343	-	-	7.125	7.989	1.269	1.269
1999	2059	21.658	-	9.793	2.707	-	-	0.430	(20.440)	13.288	13.288	7.989	(4.494)	-	268.849	-	-	- 4.494	7.989	1.269	1.269
2000	2060	1.360	-	8.231	2.758	-	-	0.438	10.637	22.548	22.548	7.989	6.328	6.328	275.177	-	-	6.328	7.989	1.269	1.269
2001	2061	7.730	-	8.362	2.810	-	-	0.446	(0.590)	17.866	17.866	7.989	1.515	1.515	276.691	-	-	1.515	7.989	1.269	1.269
2002	2062	15.040		8.871	2.869	-	-	0.456	26.186	52.510	52.510	7.989	35.650	35.650	312.342	-	-	35.650	7.989	1.269	1.269
2003	2063	20.362	-	12.538	2.926	-	-	0.465	43.320	78.681	78.681	7.989	58.154	58.154	364.100	-	6.396	51.758	7.989	1.269	7.665
2004	2064	31.577	-	16.613	2.985	-	-	0.474	62.500	113.201	113.201	7.989	88.599	88.599	364.100	-	88.599	-	7.989	1.269	31.577
1952-2001		45.34																		1952-2001	22.99
		Azul negritas se obtuvieron de la información de CNA y del DR-01																			
		Verdes del BANDAS																			

Cálculo del escurrimiento disponible en la subcuenca V3 Presa Niagara

Demandas actuales (Mm³): Futuros 2% incremento

riego		pecuario	urbano	total

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	46.4

Esc disp=Cp+Ar disp+R+Im-(Uc+Ev+Ex+DV)

Año	Año proyectado	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp	Escurrimiento (Mm³)								Usos actuales (Mm³)		Escurrimiento disponible (Mm³)
		Ab	Ex	Ev	Uc	Ar	Im	R			CP+Esc. disp. Ar'	Usos Proyectados	menos usos actuales (Uc+Ev+Im)	excedente	almacenado	deficit	derrames	Δ V'	Uc real=Uc total actual-deficit	R real	
1945	2005	59.011	1.158	7.308	30.509	31.961	-	10.648	(0.010)	55.366	56.849	88.102	(38.561)	-	46.400	- 38.561	-	-	49.541	17.291	17.291
1946	2006	59.773	0.358	7.079	31.119	22.717	-	10.861	0.133	64.884	71.808	88.826	(24.097)	-	22.303	-	-	- 24.097	88.826	31.002	31.002
1947	2007	61.376	10.036	7.109	31.742	9.066	-	11.079	0.553	90.672	97.949	89.555	1.285	1.285	23.588	-	-	1.285	89.555	31.257	31.257
1948	2008	58.943	15.720	7.258	32.376	44.836	-	11.300	0.269	58.430	76.758	90.290	(20.790)	-	2.799	-	-	- 20.790	90.290	31.513	31.513
1949	2009	58.831	2.951	7.209	33.024	35.294	-	11.526	0.054	55.250	64.245	91.031	(33.995)	-	-	- 31.196	-	- 2.799	59.835	20.884	20.884
1950	2010	60.483	6.386	7.123	33.684	17.100	-	11.757	0.334	79.153	93.310	91.779	(5.591)	-	-	- 5.591	-	-	86.188	30.082	30.082
1951	2011	60.421	12.731	7.156	34.358	25.559	-	11.992	0.330	77.445	87.777	92.532	(11.911)	-	-	- 11.911	-	-	80.621	28.139	28.139
1952	2012	59.627	3.192	7.139	35.045	28.858	-	12.232	0.133	64.047	71.979	93.292	(28.452)	-	-	- 28.452	-	-	64.840	22.631	22.631
1953	2013	61.223	8.715	7.059	35.746	13.998	-	12.476	0.361	86.630	94.373	94.058	(6.744)	-	-	- 6.744	-	-	87.314	30.475	30.475
1954	2014	60.550	2.850	7.145	36.461	35.299	-	12.726	0.211	59.192	67.033	94.830	(34.942)	-	-	- 34.942	-	-	59.888	20.902	20.902
1955	2015	60.852	30.977	7.173	37.190	19.585	-	12.980	0.826	104.454	120.065	95.609	17.282	17.282	17.282	-	-	17.282	95.609	33.370	33.370
1956	2016	57.137	17.539	7.386	37.934	69.585	-	13.240	0.080	37.252	55.337	96.394	(48.443)	-	-	- 31.161	-	- 17.282	65.233	22.768	22.768
1957	2017	58.090	3.965	7.229	38.693	49.284	-	13.505	(0.044)	45.143	54.211	97.185	(50.202)	-	-	- 50.202	-	-	46.983	16.398	16.398
1958	2018	61.155	37.962	7.233	39.467	17.312	-	13.775	1.391	116.121	128.530	97.983	23.314	23.314	23.314	-	-	23.314	97.983	34.198	34.198
1959	2019	58.131	13.087	7.642	40.256	50.409	-	14.050	(0.004)	54.652	60.325	98.788	(46.105)	-	-	- 22.791	-	- 23.314	75.997	26.525	26.525
1960	2020	6.530	3.406	7.546	41.061	60.203	-	14.331	23.593	7.602	13.138	99.599	(94.007)	-	-	- 94.007	-	-	5.592	1.952	1.952
1961	2021	4.380	2.785	7.309	41.882	33.003	-	14.618	1.000	9.736	13.690	100.416	(94.035)	-	-	- 94.035	-	-	6.381	2.227	2.227
1962	2022	9.662	6.239	7.175	42.720	19.824	-	14.910	0.319	31.380	34.659	101.241	(73.757)	-	-	- 73.757	-	-	27.484	9.593	9.593
1963	2023	60.057	8.092	7.201	43.574	24.161	-	15.209	0.294	79.848	89.447	102.072	(19.826)	-	-	- 19.826	-	-	82.246	28.706	28.706
1964	2024	62.464	6.230	5.059	44.446	31.273	-	15.513	8.689	80.102	90.055	102.910	(17.914)	-	-	- 17.914	-	-	84.996	29.666	29.666
1965	2025	32.573	21.257	8.417	45.335	11.053	-	15.823	2.154	82.859	92.338	103.755	(19.834)	-	-	- 19.834	-	-	83.921	29.291	29.291
1966	2026	47.069	25.569	8.484	46.242	31.610	-	16.139	(0.270)	79.344	108.253	104.607	(4.838)	-	-	- 4.838	-	-	99.769	34.822	34.822
1967	2027	119.050	39.884	8.215	47.166	50.281	-	16.462	0.513	148.085	193.130	105.466	79.449	79.449	46.400	-	33.049	46.400	105.466	36.810	69.859
1968	2028	20.349	26.308	8.165	48.110	57.994	-	16.791	(0.270)	27.876	66.106	106.332	(48.391)	-	-	- 1.991	-	- 46.400	104.341	36.418	20.349
1969	2029	3.965	0.813	9.160	49.072	99.261	-	17.127	57.994	4.616	90.327	107.205	(26.038)	-	-	- 26.038	-	-	81.167	28.329	3.965
1970	2030	48.117	27.324	8.366	50.053	42.126	-	17.470	3.626	77.891	117.493	108.085	1.042	1.042	1.042	-	-	1.042	108.085	37.724	37.724
1971	2031	94.115	56.206	9.076	51.054	55.926	-	17.819	(0.162)	136.544	186.751	108.972	68.703	68.703	46.400	-	23.345	45.358	108.972	38.034	61.379
1972	2032	55.813	18.800	8.849	52.075	89.128	-	18.176	(0.864)	27.371	39.355	109.867	(79.362)	-	-	- 32.962	-	- 46.400	76.905	26.842	26.842
1973	2033	98.406	41.900	9.385	53.117	93.681	-	18.539	0.783	91.371	172.780	110.769	52.626	52.626	46.400	-	6.226	46.400	110.769	38.661	44.887
1974	2034	56.972	8.680	8.123	54.179	87.619	-	18.910	(1.359)	20.066	26.698	111.678	(93.103)	-	-	- 46.703	-	- 46.400	64.975	22.678	22.678
1975	2035	31.947	18.800	8.182	55.263	90.134	-	19.288	33.091	37.861	50.118	112.595	(70.659)	-	-	- 70.659	-	-	41.936	14.637	14.637
1976	2036	99.165	29.700	7.535	56.368	90.162	-	19.674	2.043	84.975	164.947	113.520	43.892	43.892	43.892	-	-	43.892	113.520	39.621	39.621
1977	2037	11.136	4.020	7.522	57.496	102.271	-	20.067	55.129	12.964	31.748	114.452	(90.226)	-	-	- 46.334	-	- 43.892	68.118	23.775	11.136
1978	2038	57.657	26.900	7.235	58.645	98.636	-	20.469	(0.189)	31.144	91.722	115.391	(30.903)	-	-	- 30.903	-	-	84.488	29.488	29.488
1979	2039	62.418	0.840	6.957	59.818	95.811	-	20.878	(1.882)	11.462	95.217	116.339	(28.079)	-	-	- 28.079	-	-	88.260	30.805	30.805
1980	2040	61.367	-	6.812	61.015	71.493	-	21.296	1.470	37.876	98.093	117.294	(26.013)	-	-	- 26.013	-	-	91.281	31.859	31.859
1981	2041	65.757	-	6.642	62.235	67.113	-	21.722	(2.520)	43.280	104.475	118.257	(20.424)	-	-	- 20.424	-	-	97.833	34.146	34.146
1982	2042	65.041	-	5.958	63.480	67.148	-	22.156	(1.865)	43.309	102.764	119.228	(22.421)	-	-	- 22.421	-	-	96.807	33.788	33.788
1983	2043	41.976	-	6.907	64.749	68.287	-	22.599	4.865	27.611	91.917	120.207	(35.197)	-	-	- 35.197	-	-	85.010	29.671	29.671
1984	2044	30.353	-	7.379	66.044	21.778	-	23.051	(0.420)	58.527	78.638	121.194	(49.935)	-	-	- 49.935	-	-	71.259	24.871	24.871
1985	2045	38.674	-	7.879	67.365	72.723	-	23.512	1.020	18.703	79.918	122.189	(50.151)	-	-	- 50.151	-	-	72.038	25.143	25.143
1986	2046	45.543	-	7.552	68.712	70.986	-	23.982	(0.340)	26.499	90.551	123.192	(40.193)	-	-	- 40.193	-	-	82.999	28.969	28.969
1987	2047	26.526	-	7.781	70.087	72.086	-	24.462	(1.250)	6.595	51.525	124.203	(80.459)	-	-	- 80.459	-	-	43.744	15.268	15.268
1988	2048	54.971	-	6.854	71.488	70.441	-	24.951	0.600	38.522	92.763	125.223	(39.314)	-	-	- 39.314	-	-	85.909	29.984	29.984
1989	2049	34.809	-	6.886	72.918	71.607	-	25.450	0.970	18.526	39.544	126.251	(93.593)	-	-	- 93.593	-	-	32.658	11.399	11.399
1990	2050	79.311	-	7.094	74.377	69.032	-	25.959	(0.240)	65.550	128.055	127.288	(6.327)	-	-	- 6.327	-	-	120.961	42.218	42.218
1991	2051	324.048	-	7.476	75.864	54.872	-	26.478	0.360	326.397	376.277	128.333	240.468	240.468	46.400	-	194.068	46.400	128.333	44.791	238.860
1992	2052	85.083	-	6.554	77.381	68.698	-	27.008	0.020	73.332	135.645	129.386	(0.295)	-	46.105	-	-	- 0.295	129.386	45.159	45.159
1993	2053	40.787	-	7.092	78.929	71.261	-	27.548	(0.240)	27.758	35.545	130.449	(101.996)	-	-	- 55.891	-	- 46.105	74.558	26.023	26.023
1994	2054	40.932	-	7.688	80.508	71.253	-	28.099	(0.780)	28.996	36.863	131.520	(102.345)	-	-	- 102.345	-	-	29.175	10.183	10.183
1995	2055	35.817	-	7.688	81.185	58.636	-	28.336	(0.780)	36.939	90.815	131.520	(48.393)	-	-	- 48.393	-	-	83.127	29.013	29.013
1996	2056	39.015	-	7.688	81.863	74.706	-	28.572	0.600	25.888	33.114	131.520	(106.095)	-	-	- 106.095	-	-	25.425	8.874	8.874
1997	2057	42.400	-	7.688	82.540	73.147	-	28.809	(0.930)	29.743	36.996	131.520	(102.212)	-	-	- 102.212	-	-	29.308	10.229	10.229
1998	2058	39.913	-	7.688	83.218	36.730	-	29.045	(0.210)	64.834	72.114	131.520	(67.094)	-	-	- 67.094	-	-	64.426	22.486	22.486
1999	2059	58.252	-	7.688	83.895	32.347	-	29.281	0.360	88.567	95.874	131.520	(43.334)	-	-	- 43.334	-	-	88.186	30.779	30.779
2000	2060	34.729	-	7.688	84.573	12.049	-	29.518	0.260	85.683	93.017	131.520	(46.191)	-	-	- 46.191	-	-	85.329	29.782	29.782
2001	2061	36.511	-	7.688	85.250	18.419	-	29.754	0.160	81.436	88.797	131.520	(50.411)	-	-	- 50.411	-	-	81.109	28.309	28.309
2002	2062	58.252	-	7.688	85.967	25.729	-	30.005	0.460	96.634	104.024	131.520	(35.184)	-	-	- 35.184	-	-	96.336	33.624	33.624
2003	2063	65.948	-	7.688	86.673	31.051	-	30.251	(1.827)	97.180	110.994	131.520	(28.214)	-	-	- 28.214	-	-	103.306	36.056	36.056
2004	2064	86.627	-	7.688	87.385	42.266	-	30.500	(1.128)	107.807	145.561	131.520	6.353	6.353	6.353	-	-	6.353	131.520	45.904	45.904
1952-2001		55.61		La evaporacion no se modifico ya quew solose conoce la evap en la pr					Azul negritas Cna AGS											1952-2001	30.83
									Azul BANDAS												

0 1

Cálculo del escurrimiento disponible en la subcuenca V4 Presa El Cuarenta

Demandas actuales (Mm³): Futuros 2% incremento 64.44

riego		pecuario	urbano	total
23.3		1.12	0	**34.60**

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	42.1

Año	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp	Escurrimiento (Mm³)							Δ V'	Usos actuales (Mm³)		Escurrimiento disponible (Mm³)
	Ab	Ex	Ev	Uc	Ar	Im	R			CP+Esc. disp. Ar	Usos Proyectados	menos usos actuales	excedente	almacenado	deficit	derrames		Uc real	R real	
1945	13.214		1.386	8.714			1.193		22.122	22.122	25.280	(13.867)	-	42.100	- 3.685		-	30.917	4.232	0.00
1946	15.658		1.414	8.888			1.217		24.744	24.744	25.498	(11.272)	-	41.010	-	-	- 1.090	34.602	4.736	0.00
1947	32.404		1.442	9.066			1.241		41.671	41.671	25.718	5.627	5.627	42.100	-	14.719	1.090	34.602	4.736	9.27
1948	29.289		1.471	9.247			1.266		38.742	38.742	25.940	2.669	2.669	42.100	-	12.851	-	34.602	4.736	7.40
1949	7.093		1.501	9.432			1.291		16.735	16.735	26.164	(19.368)	-	32.914	-	-	- 9.186	34.602	4.736	0.00
1950	7.926		4.403	9.621			1.317	10.964	31.597	31.597	26.389	(7.408)	-	35.688	-	-	2.774	34.602	4.736	0.00
1951	2.107		5.179	9.813			1.343	(8.516)	7.240	7.240	26.617	(32.541)	-	13.329	-	-	- 22.359	34.602	4.736	0.00
1952	0.202		5.016	10.010			1.370	6.372	20.229	20.229	26.847	(19.389)	-	4.123	-	-	- 9.207	34.602	4.736	0.00
1953	3.622		4.896	10.210			1.398	13.485	30.816	30.816	27.078	(8.683)	-	5.622	-	-	1.499	34.602	4.736	0.00
1954	1.383		5.240	10.414			1.425	(11.160)	4.451	4.451	27.312	(35.391)	-	-	- 19.587	-	- 5.622	15.015	2.055	0.00
1955	39.923		4.278	10.622			1.454	14.795	68.164	68.164	27.548	29.284	29.284	39.466	-	-	39.466	34.602	4.736	0.00
1956	4.460		5.515	10.835			1.483	(1.965)	17.361	17.361	27.785	(22.755)	-	26.893	-	-	- 12.573	34.602	4.736	0.00
1957	0.726		5.352	11.051			1.513	(10.011)	5.606	5.606	28.025	(34.348)	-	2.727	-	-	- 24.166	34.602	4.736	0.00
1958	82.042		4.428	11.272			1.543	16.331	112.531	112.531	28.267	73.500	73.500	42.100	-	44.309	39.373	34.602	4.736	38.86
1959	29.496		6.186	11.498			1.574	(3.485)	42.121	42.121	28.511	1.333	1.333	42.100	-	11.515	-	34.602	4.736	6.07
1960	0.232		5.081	11.728			1.605	(14.761)	0.674	0.674	28.757	(39.008)	-	13.274	-	-	- 28.826	34.602	4.736	0.00
1961	0.208		4.191	11.962			1.637	(5.015)	9.709	9.709	29.005	(29.084)	-	-	- 5.629	-	- 13.274	28.973	3.966	0.00
1962	3.569		3.781	12.202			1.670	1.800	19.682	19.682	29.256	(18.701)	-	-	- 8.519	-	-	26.083	3.570	0.00
1963	3.716		3.861	12.446			1.704	(0.165)	18.154	18.154	29.508	(20.309)	-	-	- 10.127	-	-	24.475	3.350	0.00
1964	0.803		4.336	12.695			1.738	19.123	35.219	35.219	29.763	(3.719)	-	6.463	-	-	6.463	34.602	4.736	0.00
1965	81.282		5.529	12.948			1.772	0.245	98.232	98.232	30.019	58.101	58.101	42.100	-	32.646	35.637	34.602	4.736	27.20
1966	52.826		5.512	13.207			1.808	(1.248)	68.490	68.490	30.278	28.376	28.376	42.100	-	38.558	-	34.602	4.736	33.11
1967	133.125		5.369	13.472			1.844	1.949	152.071	152.071	30.540	112.100	112.100	42.100	-	122.282	-	34.602	4.736	116.84
1968	20.071		5.410	13.741			1.881	(4.707)	32.635	32.635	30.803	(7.377)	-	42.100	-	2.805	-	34.602	4.736	0.00
1969	21.710		4.873	14.016			1.919	(18.996)	19.684	19.684	31.069	(19.791)	-	32.491	-	-	- 9.609	34.602	4.736	0.00
1970	31.787		4.348	14.296			1.957	16.811	65.285	65.285	31.337	26.336	26.336	42.100	-	26.909	9.609	34.602	4.736	21.46
1971	132.783		5.332	14.582			1.996	5.669	156.370	156.370	31.608	116.436	116.436	42.100	-	126.618	-	34.602	4.736	121.17
1972	2.368		5.693	14.874			2.036	0.360	21.259	21.259	31.880	(19.036)	-	33.246	-	-	- 8.854	34.602	4.736	0.00
1973	278.113		5.857	15.171			2.077	0.116	297.181	297.181	32.156	256.722	256.722	42.100	-	258.050	8.854	34.602	4.736	252.60
1974	1.678		5.676	15.475			2.118	(6.536)	14.174	14.174	32.433	(26.104)	-	26.178	-	-	- 15.922	34.602	4.736	0.00
1975	56.874		5.557	15.784			2.161	4.333	80.388	80.388	32.713	40.229	40.229	42.100	-	34.489	15.922	34.602	4.736	29.04
1976	194.458		5.568	16.100			2.204	4.819	218.742	218.742	32.995	178.571	178.571	42.100	-	188.753	-	34.602	4.736	183.31
1977	0.793		5.643	16.422			2.248	(3.140)	17.470	17.470	33.280	(22.775)	-	29.507	-	-	- 12.593	34.602	4.736	0.00
1978	4.184		5.676	16.750			2.293	0.744	25.061	25.061	33.567	(15.217)	-	24.472	-	-	- 5.035	34.602	4.736	0.00
1979	0.279		5.610	17.085			2.339	(17.939)	2.697	2.697	33.857	(37.515)	-	-	- 2.861	-	- 24.472	31.741	4.345	0.00
1980	0.170		2.773	17.427			2.385		17.984	17.984	34.149	(19.390)	-	-	- 9.208	-	-	25.394	3.476	0.00
1981	0.175		2.828	17.776			2.433		18.345	18.345	34.444	(19.085)	-	-	- 8.903	-	-	25.699	3.518	0.00
1982	0.204		2.885	18.131			2.482		18.738	18.738	34.741	(18.749)	-	-	- 8.567	-	-	26.035	3.564	0.00
1983	0.176		2.942	18.494			2.531		19.081	19.081	35.041	(18.464)	-	-	- 8.282	-	-	26.320	3.603	0.00
1984	11.617		3.001	18.864			2.582		30.900	30.900	35.343	(6.704)	-	3.478	-	-	3.478	34.602	4.736	0.00
1985	21.237		3.061	19.241			2.634		40.905	40.905	35.648	3.242	3.242	16.902	-	-	13.424	34.602	4.736	0.00
1986	43.806		3.122	19.626			2.686		63.868	63.868	35.956	26.143	26.143	42.100	-	11.128	25.198	34.602	4.736	5.68
1987	0.869		3.185	20.018			2.740		21.332	21.332	36.266	(16.455)	-	35.827	-	-	- 6.273	34.602	4.736	0.00
1988	25.929		3.249	20.418			2.795		46.801	46.801	36.579	8.951	8.951	42.100	-	12.860	6.273	34.602	4.736	7.41
1989	6.194		3.314	20.827			2.851		27.484	27.484	36.895	(10.432)	-	41.850	-	-	- 0.250	34.602	4.736	0.00
1990	60.447		3.380	21.243			2.908		82.163	82.163	37.213	44.181	44.181	42.100	-	54.113	0.250	34.602	4.736	48.67
1991	137.999		3.447	21.668			2.966		160.149	160.149	37.534	122.099	122.099	42.100	-	132.281	-	34.602	4.736	126.84
1992	58.935		3.516	22.102			3.025		81.528	81.528	37.858	43.409	43.409	42.100	-	53.591	-	34.602	4.736	48.15
1993	2.667		3.587	22.544			3.086		25.712	25.712	38.185	(12.477)	-	39.805	-	-	- 2.295	34.602	4.736	0.00
1994	2.214		3.658	22.995			3.148		25.719	25.719	38.514	(12.541)	-	37.446	-	-	- 2.359	34.602	4.736	0.00
1995	33.261		3.691	23.198			3.175		56.974	56.974	38.514	18.682	18.682	42.100	-	24.209	4.654	34.602	4.736	18.76
1996	33.261		3.723	23.402			3.203		57.183	57.183	38.514	18.857	18.857	42.100	-	29.039	-	34.602	4.736	23.59
1997	33.261		3.756	23.605			3.231		57.391	57.391	38.514	19.033	19.033	42.100	-	29.215	-	34.602	4.736	23.77
1998	33.261		3.788	23.809			3.259		57.599	57.599	38.514	19.209	19.209	42.100	-	29.391	-	34.602	4.736	23.95
1999	33.261		3.820	24.013			3.287		57.807	57.807	38.514	19.385	19.385	42.100	-	29.567	-	34.602	4.736	24.12
2000	33.261		3.853	24.216			3.315		58.015	58.015	38.514	19.560	19.560	42.100	-	29.742	-	34.602	4.736	24.30
2001	33.261		3.885	24.420			3.343		58.223	58.223	38.514	19.736	19.736	42.100	-	29.918	-	34.602	4.736	24.47
2002	33.261		3.920	24.636			3.372		58.444	58.444	38.514	19.923	19.923	42.100			-	34.602	4.736	24.66
2003	33.261		3.953	24.849			3.401		58.662	58.662	38.514	20.106	20.106	42.100			-	34.602	4.736	24.84
2004	33.261		3.988	25.063			3.431		58.881	58.881	38.514	20.291	20.291	42.100			-	34.602	4.736	25.03

Cálculo del escurrimiento disponible en la subcuenca V5 San Gaspar. Los usos contempla la cuenca V4

Ar=0 debido a que se considero una sola cuenca

Demandas actuales (Mm³): Futuros 2% incremento

riego		pecuario	urbano	total

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	62.6

Esc disp=Cp+Ar disp+R+Im-(Uc+Ev+Ex+DV)

Año	Año proyectado	Salidas históricas (Mm³)						Entradas históricas (Mm³)				Δ V (V4+V5)	Cp	Escurrimiento (Mm³)							D V'	Usos actuales (Mm³)		Escurrimiento disponible (Mm³)
		Ab	Ex	Ev	Ev (V4+V5)	Uc	Uc V4+V5	Ar	Im	R	R (V4+V5)			CP+Esc. disp. Ar	Usos Proy=V4+V5	menos usos actuales	excedente	almacenado	deficit	derrames		Uc real	R real	
1945	2005	66.399		1.204	2.591	20.817	29.531	-		3.166	4.358	-	94.162	94.162	85.741	5.830	5.830	62.600	-	-	-	85.741	13.039	18.869
1946	2006	62.513		1.228	2.643	21.233	30.121	-		3.229	4.446	-	90.831	90.831	86.487	1.702	1.702	62.600	-	1.702	-	86.487	13.152	14.854
1947	2007	127.474		1.253	2.695	21.658	30.724	-		3.293	4.534	-	156.359	156.359	87.239	66.424	66.424	62.600	-	66.424	-	87.239	13.266	79.691
1948	2008	161.338		1.278	2.749	22.091	31.338	-		3.359	4.625	-	190.801	190.801	87.999	100.052	100.052	62.600	-	100.052	-	87.999	13.382	113.434
1949	2009	64.429		1.304	2.804	22.533	31.965	-		3.427	4.718	-	94.481	94.481	88.765	2.911	2.911	62.600	-	2.911	-	88.765	13.498	16.410
1950	2010	66.850		1.330	5.732	22.984	32.604	-		3.495	4.812	10.964	111.339	111.339	89.537	16.069	16.069	62.600	-	16.069	-	89.537	13.616	29.685
1951	2011	63.737		1.356	6.536	23.443	33.257	-		3.565	4.908	(8.516)	90.105	90.105	90.316	(6.747)	-	55.853	-	-	- 6.747	90.316	13.734	13.734
1952	2012	99.048		1.383	6.399	23.912	33.922	-		3.636	5.006	6.372	140.734	140.734	91.103	43.232	43.232	62.600	-	36.486	6.747	91.103	13.854	50.339
1953	2013	122.532		1.411	6.307	24.390	34.600	-		3.709	5.107	13.485	171.818	171.818	91.895	73.616	73.616	62.600	-	73.616	-	91.895	13.974	87.590
1954	2014	51.084		1.439	6.679	24.878	35.292	-		3.783	5.209	(11.160)	76.686	76.686	92.695	(22.688)	-	39.912	-	-	- 22.688	92.695	14.096	14.096
1955	2015	230.962		1.468	5.746	25.376	35.998	-		3.859	5.313	14.795	282.188	282.188	93.502	182.940	182.940	62.600	-	160.252	22.688	93.502	14.219	174.471
1956	2016	88.955		1.497	7.012	25.883	36.718	-		3.936	5.419	(1.965)	125.301	125.301	94.316	23.973	23.973	62.600	-	23.973	-	94.316	14.343	38.315
1957	2017	30.086		1.527	6.880	26.401	37.452	-		4.015	5.527	(10.011)	58.879	58.879	95.137	(43.137)	-	19.463	-	-	- 43.137	95.137	14.467	14.467
1958	2018	499.553		1.558	5.986	26.929	38.201	-		4.095	5.638	16.331	554.434	554.434	95.965	452.482	452.482	62.600	-	409.345	43.137	95.965	14.593	423.938
1959	2019	123.453		1.589	7.775	27.467	38.965	-		4.177	5.751	(3.485)	160.958	160.958	96.800	56.383	56.383	62.600	-	56.383	-	96.800	14.720	71.103
1960	2020	44.485		1.621	6.702	28.017	39.745	-		4.260	5.866	(14.761)	70.305	70.305	97.643	(34.040)	-	28.560	-	-	- 34.040	97.643	14.848	14.848
1961	2021	41.027		1.653	5.845	28.577	40.540	-		4.346	5.983	(5.015)	76.413	76.413	98.493	(27.925)	-	0.635	-	-	- 27.925	98.493	14.978	14.978
1962	2022	90.944		1.686	5.468	29.149	41.350	-		4.433	6.103	1.800	133.459	133.459	99.350	28.642	28.642	29.277	-	-	28.642	99.350	15.108	15.108
1963	2023	131.465		1.720	5.581	29.732	42.177	-		4.521	6.225	(0.165)	172.834	172.834	100.215	67.037	67.037	62.600	-	33.714	33.323	100.215	15.240	48.954
1964	2024	93.959		1.754	6.090	30.326	43.021	-		4.612	6.349	19.123	155.844	155.844	101.087	48.667	48.667	62.600	-	48.667	-	101.087	15.372	64.039
1965	2025	401.440		1.790	7.319	30.933	43.881	-		4.704	6.476	0.245	446.409	446.409	101.966	337.124	337.124	62.600	-	337.124	-	101.966	15.506	352.630
1966	2026	161.890		1.825	7.338	31.551	44.759	-		4.798	6.606	(1.248)	206.133	206.133	102.854	95.941	95.941	62.600	-	95.941	-	102.854	15.641	111.582
1967	2027	418.481		1.862	7.231	32.182	45.654	-		4.894	6.738	1.949	466.577	466.577	103.750	355.596	355.596	62.600	-	355.596	-	103.750	15.777	371.373
1968	2028	82.414		1.899	7.309	32.826	46.567	-		4.992	6.873	(4.707)	124.711	124.711	104.652	12.749	12.749	62.600	-	12.749	-	104.652	15.914	28.664
1969	2029	24.942		1.937	6.810	33.483	47.499	-		5.092	7.010	(18.996)	53.244	53.244	105.563	(59.129)	-	3.471	-	-	- 59.129	105.563	16.053	16.053
1970	2030	192.787		1.976	6.323	34.152	48.448	-		5.193	7.150	16.811	257.219	257.219	106.482	144.414	144.414	62.600	-	85.285	59.129	106.482	16.193	101.478
1971	2031	518.085		2.015	7.347	34.835	49.417	-		5.297	7.293	5.669	573.225	573.225	107.410	458.468	458.468	62.600	-	458.468	-	107.410	16.334	474.802
1972	2032	48.771		2.056	7.749	35.532	50.406	-		5.403	7.439	0.360	99.847	99.847	108.344	(16.246)	-	46.354	-	-	- 16.246	108.344	16.476	16.476
1973	2033	476.342		2.097	7.954	36.243	51.414	-		5.511	7.588	0.116	528.237	528.237	109.288	410.996	410.996	62.600	-	394.749	16.246	109.288	16.619	411.369
1974	2034	73.337		2.139	7.815	36.968	52.442	-		5.622	7.740	(6.536)	119.318	119.318	110.238	1.265	1.265	62.600	-	1.265	-	110.238	16.764	18.029
1975	2035	209.683		2.181	7.739	37.707	53.491	-		5.734	7.895	4.333	267.351	267.351	111.198	148.414	148.414	62.600	-	148.414	-	111.198	16.910	165.324
1976	2036	552.821		2.225	7.794	38.461	54.561	-		5.849	8.052	4.819	611.942	611.942	112.166	491.982	491.982	62.600	-	491.982	-	112.166	17.057	509.039
1977	2037	108.217		2.270	7.912	39.230	55.652	-		5.966	8.214	(3.140)	160.428	160.428	113.142	39.374	39.374	62.600	-	39.374	-	113.142	17.205	56.579
1978	2038	86.812		2.315	7.991	40.015	56.765	-		6.085	8.378	0.744	143.934	143.934	114.127	21.816	21.816	62.600	-	21.816	-	114.127	17.355	39.171
1979	2039	35.371		2.361	7.972	40.815	57.900	-		6.207	8.545	(17.939)	74.759	74.759	115.120	(48.333)	-	14.267	-	-	- 48.333	115.120	17.506	17.506
1980	2040	155.951		2.409	5.181	41.631	59.058	-		6.331	8.716	-	211.475	211.475	116.122	90.172	90.172	62.600	-	41.839	48.333	116.122	17.659	59.497
1981	2041	36.760		2.457	5.285	42.464	60.240	-		6.457	8.891	-	93.394	93.394	117.133	(29.024)	-	33.576	-	-	- 29.024	117.133	17.812	17.812
1982	2042	12.300		2.506	5.390	43.313	61.444	-		6.587	9.068	-	70.066	70.066	118.153	(53.477)	-	-	- 19.901	-	- 33.576	98.252	14.941	12.300
1983	2043	92.105		2.556	5.498	44.180	62.673	-		6.718	9.250	-	151.027	151.027	119.181	26.348	26.348	26.348	-	-	26.348	119.181	18.124	18.124
1984	2044	72.499		2.607	5.608	45.063	63.927	-		6.853	9.435	-	132.599	132.599	120.218	6.773	6.773	33.120	-	-	6.773	120.218	18.281	18.281
1985	2045	58.416		2.659	5.720	45.965	65.205	-		6.990	9.623	-	119.718	119.718	121.265	(7.267)	-	25.853	-	-	- 7.267	121.265	18.441	18.441
1986	2046	90.852		2.712	5.835	46.884	66.509	-		7.130	9.816	-	153.380	153.380	122.320	25.225	25.225	51.079	-	-	25.225	122.320	18.601	18.601
1987	2047	155.951		2.767	5.952	47.821	67.840	-		7.272	10.012	-	219.730	219.730	123.385	90.394	90.394	62.600	-	78.873	11.521	123.385	18.763	97.636
1988	2048	191.152		2.822	6.071	48.778	69.196	-		7.418	10.213	-	256.206	256.206	124.459	125.677	125.677	62.600	-	125.677	-	124.459	18.926	144.603
1989	2049	49.138		2.878	6.192	49.753	70.580	-		7.566	10.417	-	115.494	115.494	125.542	(16.240)	-	46.360	-	-	- 16.240	125.542	19.091	19.091
1990	2050	198.775		2.936	6.316	50.749	71.992	-		7.717	10.625	-	266.458	266.458	126.635	133.507	133.507	62.600	-	117.266	16.240	126.635	19.257	136.524
1991	2051	582.616		2.995	6.442	51.764	73.432	-		7.872	10.838	-	651.652	651.652	127.737	517.473	517.473	62.600	-	517.473	-	127.737	19.425	536.898
1992	2052	176.791		3.055	6.571	52.799	74.900	-		8.029	11.054	-	247.208	247.208	128.849	111.788	111.788	62.600	-	111.788	-	128.849	19.594	131.382
1993	2053	89.187		3.116	6.702	53.855	76.398	-		8.190	11.275	-	161.012	161.012	129.971	24.339	24.339	62.600	-	24.339	-	129.971	19.765	44.103
1994	2054	56.254		3.178	6.836	54.932	77.926	-		8.353	11.501	-	129.516	129.516	131.101	(8.422)	-	54.178	-	-	- 8.422	131.101	19.936	19.936
1995	2055	79.839		3.242	6.932	55.424	78.623	-		8.428	11.604	-	153.790	153.790	131.101	15.757	15.757	62.600	-	7.335	8.422	131.101	19.936	27.272
1996	2056	54.250		3.306	7.030	55.917	79.319	-		8.503	11.707	-	128.892	128.892	131.101	(9.239)	-	53.361	-	-	- 9.239	131.101	19.936	19.936
1997	2057	22.316		3.373	7.128	56.410	80.015	-		8.578	11.809	-	97.650	97.650	131.101	(40.579)	-	12.782	-	-	- 40.579	131.101	19.936	19.936
1998	2058	194.439		3.373	7.161	56.902	80.711	-		8.653	11.912	-	270.399	270.399	131.101	132.137	132.137	62.600	-	82.319	49.818	131.101	19.936	102.256
1999	2059	28.117		3.373	7.193	57.395	81.408	-		8.728	12.015	-	104.703	104.703	131.101	(33.591)	-	29.009	-	-	- 33.591	131.101	19.936	19.936
2000	2060	17.355		3.373	7.225	57.887	82.104	-		8.803	12.118	-	94.566	94.566	131.101	(43.760)	-	-	- 14.751	-	- 29.009	116.350	17.693	17.355
2001	2061	64.579		3.373	7.258	58.380	82.800	-		8.878	12.220	-	142.416	142.416	131.101	4.057	4.057	4.057	-	-	4.057	131.101	19.936	19.936
2002	2062	191.161		3.373	7.292	58.904	83.540	-		8.957	12.330	-	269.663	269.663	131.101	131.270	131.270	62.600	-	72.728	58.543	131.101	19.936	92.664
2003	2063	565.382		3.373	7.326	59.418	84.267	-		9.036	12.437	-	644.538	644.538	131.101	506.111	506.111	62.600	-	506.111	-	131.101	19.936	526.047
2004	2064	419.297		3.373	7.360	59.937	85.000	-		9.115	12.545	-	499.112	499.112	131.101	360.651	360.651	62.600	-	360.651	-	131.101	19.936	380.588

0 1

Usos históricos en la subcuenca V6 Ajojucar

Demandas actuales (Mm³): Futuros 2% incremento 40.82

riego	pecuario	urbano	total
14.81	0.66	0	**21.91**

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	1

Año	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp
	Ab	Ex	Ev	Uc	Ar	Im	R		
1945			1.050	5.521			1.103		
1946			1.071	5.631			1.125		
1947			1.093	5.744			1.148		
1948			1.115	5.859			1.171		
1949			1.137	5.976			1.194		
1950			1.160	6.096			1.218		
1951			1.183	6.218			1.242		
1952			1.206	6.342			1.267		
1953			1.231	6.469			1.293		
1954			1.255	6.598			1.318		
1955			1.280	6.730			1.345		
1956			1.306	6.865			1.372		
1957			1.332	7.002			1.399		
1958			1.359	7.142			1.427		
1959			1.386	7.285			1.456		
1960			1.414	7.431			1.485		
1961			1.442	7.579			1.514		
1962			1.471	7.731			1.545		
1963			1.500	7.885			1.576		
1964			1.530	8.043			1.607		
1965			1.561	8.204			1.639		
1966			1.592	8.368			1.672		
1967			1.624	8.535			1.705		
1968			1.656	8.706			1.740		
1969			1.689	8.880			1.774		
1970			1.723	9.058			1.810		
1971			1.758	9.239			1.846		
1972			1.793	9.424			1.883		
1973			1.829	9.612			1.921		
1974			1.865	9.805			1.959		
1975			1.902	10.001			1.998		
1976			1.941	10.201			2.038		
1977			1.979	10.405			2.079		
1978			2.019	10.613			2.121		
1979			2.059	10.825			2.163		
1980			2.100	11.042			2.206		
1981			2.142	11.262			2.250		
1982			2.185	11.488			2.295		
1983			2.229	11.717			2.341		
1984			2.274	11.952			2.388		
1985			2.319	12.191			2.436		
1986			2.365	12.435			2.485		
1987			2.413	12.683			2.534		
1988			2.461	12.937			2.585		
1989			2.510	13.196			2.637		
1990			2.560	13.460			2.689		
1991			2.612	13.729			2.743		
1992			2.664	14.003			2.798		
1993			2.717	14.283			2.854		
1994			2.772	14.569			2.911		
1995			2.796	14.698			2.937		
1996			2.821	14.826			2.962		
1997			2.845	14.955			2.988		
1998			2.869	15.084			3.014		
1999			2.894	15.213			3.040		
2000			2.918	15.341			3.065		
2001			2.943	15.470			3.091		
2002			2.969	15.607			3.118		
2003			2.994	15.741			3.145		
2004			3.020	15.877			3.172		

0 2

Usos históricos en la subcuenca V7 Agostadero

Demandas actuales (Mm³): Futuros 2% incremento 4.70

riego	pecuario	urbano	total
1.21	0.56	0.01	**2.62**

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	4.4

Año	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp										
	Ab	Ex	Ev	Uc	Ar	Im	R												
1945			0.011	0.630			0.162												
1946			0.011	0.643			0.166												
1947			0.011	0.656			0.169												
1948			0.011	0.669			0.172												
1949			0.011	0.682			0.176												
1950			0.012	0.696			0.179												
1951			0.012	0.710			0.183												
1952			0.012	0.724			0.187												
1953			0.012	0.738			0.190												
1954			0.013	0.753			0.194												
1955			0.013	0.768			0.198												
1956			0.013	0.784			0.202												
1957			0.013	0.799			0.206												
1958			0.014	0.815			0.210												
1959			0.014	0.832			0.214												
1960			0.014	0.848			0.219												
1961			0.014	0.865			0.223												
1962			0.015	0.882			0.227												
1963			0.015	0.900			0.232												
1964			0.015	0.918			0.237												
1965			0.016	0.936			0.241												
1966			0.016	0.955			0.246												
1967			0.016	0.974			0.251												
1968			0.017	0.994			0.256												
1969			0.017	1.014			0.261												
1970			0.017	1.034			0.267												
1971			0.018	1.055			0.272												
1972			0.018	1.076			0.277												
1973			0.018	1.097			0.283												
1974			0.019	1.119			0.288												
1975			0.019	1.141			0.294												
1976			0.019	1.164			0.300												
1977			0.020	1.188			0.306												
1978			0.020	1.211			0.312												
1979			0.021	1.236			0.319												
1980			0.021	1.260			0.325												
1981			0.021	1.285			0.331												
1982			0.022	1.311			0.338												
1983			0.022	1.337			0.345												
1984			0.023	1.364			0.352												
1985			0.023	1.391			0.359												
1986			0.024	1.419			0.366												
1987			0.024	1.448			0.373												
1988			0.025	1.477			0.381												
1989			0.025	1.506			0.388												
1990			0.026	1.536			0.396												
1991			0.026	1.567			0.404												
1992			0.027	1.598			0.412												
1993			0.027	1.630			0.420												
1994			0.028	1.663			0.429												
1995			0.028	1.680			0.433												
1996			0.028	1.696			0.437												
1997			0.029	1.713			0.442												
1998			0.029	1.730			0.446												
1999			0.029	1.747			0.450												
2000			0.029	1.763			0.455												
2001			0.030	1.780			0.459												
2002			0.030	1.798			0.463												
2003			0.030	1.815			0.468												
2004			0.031	1.833			0.473												

0 3

Usos históricos en la subcuenca V8 Río Encarnación

Demandas actuales (Mm³): Futuros 2% incremento 92.91

riego	pecuario	urbano	total
32.32	2.89	0	**50.07**

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	16

Año	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp										
	Ab	Ex	Ev	Uc	Ar	Im	R												
1945			0.704	12.555			2.562												
1946			0.718	12.806			2.613												
1947			0.732	13.062			2.665												
1948			0.747	13.323			2.718												
1949			0.762	13.589			2.773												
1950			0.777	13.861			2.828												
1951			0.792	14.138			2.885												
1952			0.808	14.421			2.943												
1953			0.824	14.710			3.001												
1954			0.841	15.004			3.061												
1955			0.858	15.304			3.123												
1956			0.875	15.610			3.185												
1957			0.892	15.922			3.249												
1958			0.910	16.241			3.314												
1959			0.929	16.565			3.380												
1960			0.947	16.897			3.448												
1961			0.966	17.235			3.517												
1962			0.985	17.579			3.587												
1963			1.005	17.931			3.659												
1964			1.025	18.290			3.732												
1965			1.046	18.655			3.807												
1966			1.067	19.029			3.883												
1967			1.088	19.409			3.960												
1968			1.110	19.797			4.040												
1969			1.132	20.193			4.120												
1970			1.154	20.597			4.203												
1971			1.178	21.009			4.287												
1972			1.201	21.429			4.372												
1973			1.225	21.858			4.460												
1974			1.250	22.295			4.549												
1975			1.275	22.741			4.640												
1976			1.300	23.196			4.733												
1977			1.326	23.660			4.828												
1978			1.353	24.133			4.924												
1979			1.380	24.615			5.023												
1980			1.407	25.108			5.123												
1981			1.435	25.610			5.226												
1982			1.464	26.122			5.330												
1983			1.493	26.645			5.437												
1984			1.523	27.177			5.545												
1985			1.554	27.721			5.656												
1986			1.585	28.275			5.769												
1987			1.617	28.841			5.885												
1988			1.649	29.418			6.002												
1989			1.682	30.006			6.123												
1990			1.716	30.606			6.245												
1991			1.750	31.218			6.370												
1992			1.785	31.843			6.497												
1993			1.821	32.480			6.627												
1994			1.857	33.129			6.760												
1995			1.874	33.426			6.820												
1996			1.890	33.724			6.881												
1997			1.907	34.021			6.942												
1998			1.924	34.318			7.002												
1999			1.940	34.615			7.063												
2000			1.957	34.913			7.124												
2001			1.974	35.210			7.184												
2002			1.991	35.526			7.249												
2003			2.009	35.836			7.312												
2004			2.026	36.15			7.376												

Cálculo del escurrimiento disponible en la subcuenca V9 Paso del Sabino, incluyendo los usos y almacenamientos de las subcuencas V6, V7 y V8

Demandas actuales (Mm³): Futuros 2% incremento

riego		pecuario	urbano	total

Capacidad de almacenamiento (Mm³) Total:

mínima	máxima
0	23.9

Año	Año proyectado	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp	Escurrimiento (Mm³)								Usos actuales (Mm³)		Escurrimiento disponible (Mm³)
		Ab	Ex	Ev	Uc	Ar	Im	R			CP+Esc. disp. Ar'	Usos Proy V6+v7+v8+v9	menos usos actuales (Uc+Ev+Im)	excedente	almacenado	deficit	derrames	Δ V'	Uc real=Uc total actual-deficit	R real	
1945	2005	144.396		1.894	24.735	59.011		4.514	-	107.501	124.792	64.581	58.317	58.317	23.900	-	-	-	64.581	11.785	70.102
1946	2006	136.419		1.929	25.152	59.773		4.590	-	99.138	130.140	65.147	63.064	63.064	23.900	-	63.064	-	65.147	11.890	74.953
1947	2007	140.645		1.965	25.577	61.376		4.668	-	102.143	133.400	65.719	65.716	65.716	23.900	-	65.716	-	65.719	11.995	77.711
1948	2008	223.098		2.002	26.011	58.943		4.748	-	187.421	218.934	66.296	150.636	150.636	23.900	-	150.636	-	66.296	12.102	162.738
1949	2009	111.167		2.039	26.454	58.831		4.829	-	76.000	96.883	66.878	27.966	27.966	23.900	-	27.966	-	66.878	12.209	40.175
1950	2010	145.457		2.078	26.905	60.483		4.912	-	109.044	139.126	67.464	69.584	69.584	23.900	-	69.584	-	67.464	12.317	81.902
1951	2011	144.904		2.117	27.365	60.421		4.997	-	108.968	137.107	68.057	66.933	66.933	23.900	-	66.933	-	68.057	12.427	79.360
1952	2012	134.942		2.156	27.835	59.627		5.083	-	100.223	122.853	68.654	52.043	52.043	23.900	-	52.043	-	68.654	12.537	64.580
1953	2013	141.313		2.197	28.314	61.223		5.171	-	105.430	135.905	69.258	64.450	64.450	23.900	-	64.450	-	69.258	12.648	77.098
1954	2014	126.625		2.238	28.802	60.550		5.261	-	91.855	112.758	69.867	40.652	40.652	23.900	-	40.652	-	69.867	12.761	53.413
1955	2015	259.882		2.280	29.300	60.852		5.352	-	225.258	258.628	70.479	185.869	185.869	23.900	-	185.869	-	70.479	12.874	198.742
1956	2016	139.945		2.323	29.809	57.137		5.445	-	109.495	132.263	71.098	58.841	58.841	23.900	-	58.841	-	71.098	12.988	71.829
1957	2017	84.948		2.367	30.327	58.090		5.540	-	54.012	70.410	71.722	(3.679)	-	20.221	-	-	- 3.679	71.722	13.103	13.103
1958	2018	446.994		2.412	30.856	61.155		5.638	-	413.469	447.667	72.352	372.903	372.903	23.900	-	369.224	3.679	72.352	13.219	382.443
1959	2019	121.918		2.458	31.395	58.131		5.737	-	91.903	118.428	72.988	42.982	42.982	23.900	-	42.982	-	72.988	13.337	56.319
1960	2020	107.272		2.504	31.945	6.530		5.838	-	129.354	131.306	73.628	55.173	55.173	23.900	-	55.173	-	73.628	13.455	68.628
1961	2021	62.454		2.552	32.506	4.380		5.941	-	87.192	89.419	74.275	12.592	12.592	23.900	-	12.592	-	74.275	13.574	26.166
1962	2022	115.380		2.600	33.078	9.662		6.046	-	135.351	144.944	74.926	67.418	67.418	23.900	-	67.418	-	74.926	13.694	81.112
1963	2023	115.200		2.650	33.662	60.057		6.153	-	85.303	114.009	75.585	35.774	35.774	23.900	-	35.774	-	75.585	13.816	49.590
1964	2024	91.761		2.700	34.258	62.464		6.262	-	59.993	89.658	76.248	10.710	10.710	23.900	-	10.710	-	76.248	13.938	24.648
1965	2025	188.407		2.751	34.865	32.573		6.374	-	187.077	216.368	76.916	136.700	136.700	23.900	-	136.700	-	76.916	14.061	150.761
1966	2026	179.213		2.804	35.485	47.069		6.487	-	163.945	198.767	77.593	118.370	118.370	23.900	-	118.370	-	77.593	14.186	132.556
1967	2027	521.148		2.857	36.116	119.050		6.603	-	434.468	504.327	78.273	423.197	423.197	23.900	-	423.197	-	78.273	14.311	437.508
1968	2028	133.528		2.912	36.761	20.349		6.722	-	146.130	166.479	78.961	84.606	84.606	23.900	-	84.606	-	78.961	14.438	99.044
1969	2029	57.397		2.968	37.418	3.965		6.842	-	86.976	90.941	79.654	8.319	8.319	23.900	-	8.319	-	79.654	14.566	22.885
1970	2030	210.490		3.024	38.089	48.117		6.966	-	196.521	234.245	80.353	150.868	150.868	23.900	-	150.868	-	80.353	14.695	165.562
1971	2031	392.054		3.082	38.773	94.115		7.091	-	332.703	394.082	81.059	309.941	309.941	23.900	-	309.941	-	81.059	14.825	324.766
1972	2032	67.332		3.141	39.471	55.813		7.219	-	46.912	73.754	81.770	(11.158)	-	12.742	-	-	- 11.158	81.770	14.956	14.956
1973	2033	567.498		3.202	40.182	98.406		7.350	-	505.126	550.013	82.489	464.322	464.322	23.900	-	453.165	11.158	82.489	15.088	468.253
1974	2034	67.371		3.263	40.908	56.972		7.483	-	47.087	69.765	83.212	(16.710)	-	7.190	-	-	- 16.710	83.212	15.222	15.222
1975	2035	192.049		3.326	41.649	31.947		7.619	-	197.457	212.094	83.943	124.825	124.825	23.900	-	108.115	16.710	83.943	15.356	123.471
1976	2036	470.418		3.390	42.404	99.165		7.758	-	409.288	448.910	84.680	360.840	360.840	23.900	-	360.840	-	84.680	15.492	376.332
1977	2037	123.295		3.455	43.174	11.136		7.899	-	150.889	162.025	85.423	73.147	73.147	23.900	-	73.147	-	85.423	15.629	88.776
1978	2038	147.636		3.521	43.960	57.657		8.043	-	129.416	158.905	86.174	69.210	69.210	23.900	-	69.210	-	86.174	15.768	84.977
1979	2039	49.557		3.589	44.761	62.418		8.191	-	27.299	58.104	86.930	(32.416)	-	-	- 8.516	-	- 23.900	78.414	14.349	14.349
1980	2040	68.215		3.658	45.578	61.367		8.341	-	47.744	79.603	87.693	(11.748)	-	-	- 11.748	-	-	75.945	13.898	13.898
1981	2041	51.947		3.729	46.412	65.757		8.494	-	27.837	61.983	88.464	(30.210)	-	-	- 30.210	-	-	58.254	10.661	10.661
1982	2042	54.359		3.801	47.263	65.041		8.650	-	31.732	65.520	89.240	(27.521)	-	-	- 27.521	-	-	61.719	11.296	11.296
1983	2043	127.126		3.874	48.130	41.976		8.809	-	128.345	158.015	90.023	64.118	64.118	23.900	-	40.218	23.900	90.023	16.477	56.695
1984	2044	124.291		3.949	49.015	30.353		8.972	-	137.931	162.802	90.814	68.039	68.039	23.900	-	68.039	-	90.814	16.622	84.661
1985	2045	77.109		4.026	49.917	38.674		9.137	-	83.241	108.384	91.612	12.746	12.746	23.900	-	12.746	-	91.612	16.769	29.516
1986	2046	167.521		4.104	50.838	45.543		9.306	-	167.613	196.582	92.416	100.062	100.062	23.900	-	100.062	-	92.416	16.918	116.980
1987	2047	53.409		4.183	51.777	26.526		9.479	-	73.364	88.632	93.227	(8.778)	-	15.122	-	-	- 8.778	93.227	17.067	17.067
1988	2048	154.089		4.264	52.735	54.971		9.655	-	146.462	176.446	94.046	78.136	78.136	23.900	-	69.358	8.778	94.046	17.218	86.576
1989	2049	51.498		4.347	53.712	34.809		9.834	-	64.913	76.312	94.872	(22.907)	-	0.993	-	-	- 22.907	94.872	17.370	17.370
1990	2050	151.943		4.431	54.708	79.311		10.017	-	121.755	163.973	95.705	63.837	63.837	23.900	-	40.930	22.907	95.705	17.523	58.453
1991	2051	504.443		4.517	55.724	324.048		10.204	-	230.433	469.292	96.545	368.230	368.230	23.900	-	368.230	-	96.545	17.678	385.908
1992	2052	258.449		4.605	56.761	85.083		10.394	-	224.338	269.497	97.392	167.500	167.500	23.900	-	167.500	-	97.392	17.834	185.334
1993	2053	59.949		4.694	57.819	40.787		10.588	-	71.087	97.110	98.248	(5.833)	-	18.067	-	-	- 5.833	98.248	17.992	17.992
1994	2054	50.636		4.786	58.897	40.932		10.786	-	62.601	72.784	99.110	(31.112)	-	-	- 13.045	-	- 18.067	86.065	15.761	15.761
1995	2055	78.646		4.827	59.390	35.817		10.876	-	96.170	125.184	99.110	21.247	21.247	21.247	-	-	21.247	99.110	18.150	18.150
1996	2056	49.559		4.869	59.884	39.015		10.967	-	64.330	73.204	99.110	(30.775)	-	-	- 9.528	-	- 21.247	89.582	16.405	16.405
1997	2057	72.428		4.910	60.377	42.400		11.057	-	84.258	94.487	99.110	(9.533)	-	-	- 9.533	-	-	89.577	16.405	16.405
1998	2058	158.029		4.951	60.871	39.913		11.147	-	172.790	195.277	99.110	91.215	91.215	23.900	-	67.315	23.900	99.110	18.150	85.466
1999	2059	158.029		4.993	61.364	58.252		11.238	-	154.895	185.675	99.110	81.572	81.572	23.900	-	81.572	-	99.110	18.150	99.722
2000	2060	58.915		5.034	61.857	34.729		11.328	-	79.749	109.531	99.110	5.387	5.387	23.900	-	5.387	-	99.110	18.150	23.537
2001	2061	114.947		5.076	62.351	36.511		11.418	-	134.444	162.753	99.110	58.567	58.567	23.900	-	58.567	-	99.110	18.150	76.717
2002	2062	141.587		5.113	62.910	58.252		11.521	-	139.837	173.460	99.110	69.237	69.237	23.900	-	69.237	-	99.110	18.150	87.388
2003	2063	261.255		5.159	63.461	65.948		11.622	-	252.306	288.362	99.110	184.093	184.093	23.900	-	184.093	-	99.110	18.150	202.243
2004	2064	221.466		5.206	64.019	86.627		11.724	-	192.340	238.244	99.110	133.928	133.928	23.900	-	133.928	-	99.110	18.150	152.078
												-									

0 1

Cálculo del escurrimiento disponible en la subcuenca V10 San Miguel

Demandas actuales (Mm³): Futuros 2% incremento 11.08

riego	pecuario	urbano	total
2.6	1.6	0	6.16

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	91.5

0

Esc disp=Cp+Ar disp+R+Im-(Uc+Ev+Ex+DV)

Año	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp	Escurrimiento (Mm³)						Δ V'	Usos actuales (Mm³)		
	Ab	Ex	Ev	Uc	Ar	Im	R			CP+Esc. disp. Ar	menos usos actuales	excedente	almacenado	deficit	derrames		Uc real	R real	
1945	70.262		0.112	1.488		-	0.408		71.454	71.454	65.187	65.187	91.500	-		-	6.155	1.687	
1946	68.155		0.114	1.518			0.416		69.371	69.371	63.101	63.101	91.500	-	65.056	-	6.155	1.687	
1947	69.234		0.117	1.548			0.424		70.474	70.474	64.203	64.203	91.500	-	66.158	-	6.155	1.687	
1948	90.746		0.119	1.579			0.433		92.011	92.011	85.737	85.737	91.500	-	87.692	-	6.155	1.687	
1949	61.485		0.121	1.611			0.441		62.775	62.775	56.499	56.499	91.500	-	58.454	-	6.155	1.687	
1950	70.415		0.124	1.643			0.450		71.731	71.731	65.453	65.453	91.500	-	67.408	-	6.155	1.687	
1951	70.244		0.126	1.676			0.459		71.587	71.587	65.306	65.306	91.500	-	67.261	-	6.155	1.687	
1952	67.615		0.129	1.709			0.469		68.985	68.985	62.701	62.701	91.500	-	64.656	-	6.155	1.687	
1953	69.252		0.131	1.743			0.478		70.649	70.649	64.363	64.363	91.500	-	66.318	-	6.155	1.687	
1954	65.388		0.134	1.778			0.487		66.813	66.813	60.524	60.524	91.500	-	62.479	-	6.155	1.687	
1955	100.166		0.137	1.814			0.497		101.619	101.619	95.328	95.328	91.500	-	97.283	-	6.155	1.687	
1956	68.809		0.139	1.850			0.507		70.292	70.292	63.997	63.997	91.500	-	65.952	-	6.155	1.687	
1957	54.415		0.142	1.887			0.517		55.926	55.926	49.629	49.629	91.500	-	51.584	-	6.155	1.687	
1958	148.951		0.145	1.925			0.528		150.493	150.493	144.193	144.193	91.500	-	146.148	-	6.155	1.687	
1959	64.010		0.148	1.963			0.538		65.583	65.583	59.280	59.280	91.500	-	61.235	-	6.155	1.687	
1960	60.153		0.151	2.003			0.549		61.758	61.758	55.452	55.452	91.500	-	57.407	-	6.155	1.687	
1961	23.454		0.154	2.043			0.560		25.090	25.090	18.782	18.782	91.500	-	20.737	-	6.155	1.687	
1962	95.077		0.157	2.083			0.571		96.746	96.746	90.434	90.434	91.500	-	92.389	-	6.155	1.687	
1963	137.269		0.160	2.125			0.583		138.971	138.971	132.656	132.656	91.500	-	134.611	-	6.155	1.687	
1964	72.769		0.163	2.168			0.594		74.505	74.505	68.187	68.187	91.500	-	70.142	-	6.155	1.687	
1965	88.065		0.166	2.211			0.606		89.836	89.836	83.515	83.515	91.500	-	85.470	-	6.155	1.687	
1966	34.543		0.170	2.255			0.618		36.350	36.350	30.025	30.025	91.500	-	31.980	-	6.155	1.687	
1967	229.948		0.173	2.300			0.631		231.791	231.791	225.463	225.463	91.500	-	227.418	-	6.155	1.687	
1968	90.712		0.177	2.346			0.643		92.592	92.592	86.260	86.260	91.500	-	88.215	-	6.155	1.687	
1969	75.119		0.180	2.393			0.656		77.036	77.036	70.701	70.701	91.500	-	72.656	-	6.155	1.687	
1970	72.439		0.184	2.441			0.669		74.395	74.395	68.056	68.056	91.500	-	70.011	-	6.155	1.687	
1971	95.011		0.187	2.490			0.683		97.006	97.006	90.664	90.664	91.500	-	92.619	-	6.155	1.687	
1972	27.508		0.191	2.540			0.696		29.543	29.543	23.197	23.197	91.500	-	25.152	-	6.155	1.687	
1973	204.406		0.195	2.591			0.710		206.481	206.481	200.131	200.131	91.500	-	202.086	-	6.155	1.687	
1974	17.148		0.199	2.642			0.724		19.265	19.265	12.911	12.911	91.500	-	14.866	-	6.155	1.687	
1975	19.295		0.203	2.695			0.739		21.455	21.455	15.097	15.097	91.500	-	17.052	-	6.155	1.687	
1976	77.745		0.207	2.749			0.754		79.948	79.948	73.586	73.586	91.500	-	75.541	-	6.155	1.687	
1977	71.710		0.211	2.804			0.769		73.957	73.957	67.591	67.591	91.500	-	69.546	-	6.155	1.687	
1978	38.308		0.215	2.860			0.784		40.599	40.599	34.229	34.229	91.500	-	36.184	-	6.155	1.687	
1979	44.345		0.220	2.917			0.800		46.682	46.682	40.308	40.308	91.500	-	42.263	-	6.155	1.687	
1980	74.652		0.224	2.976			0.816		77.036	77.036	70.657	70.657	91.500	-	72.612	-	6.155	1.687	
1981	0.543		0.229	3.035			0.832		2.974	2.974	(3.409)	-	90.046	-	-	- 1.454	6.155	1.687	
1982	74.556		0.233	3.096			0.849		77.036	77.036	70.648	70.648	91.500	-	71.149	1.454	6.155	1.687	
1983	83.486		0.238	3.158			0.866		86.016	86.016	79.623	79.623	91.500	-	81.578	-	6.155	1.687	
1984	73.395		0.243	3.221			0.883		75.976	75.976	69.578	69.578	91.500	-	71.533	-	6.155	1.687	
1985	44.645		0.247	3.285			0.901		47.278	47.278	40.875	40.875	91.500	-	42.830	-	6.155	1.687	
1986	167.855		0.252	3.351			0.919		170.540	170.540	164.133	164.133	91.500	-	166.088	-	6.155	1.687	
1987	34.188		0.257	3.418			0.937		36.927	36.927	30.514	30.514	91.500	-	32.469	-	6.155	1.687	
1988	71.193		0.263	3.486			0.956		73.986	73.986	67.569	67.569	91.500	-	69.524	-	6.155	1.687	
1989	44.340		0.268	3.556			0.975		47.189	47.189	40.766	40.766	91.500	-	42.721	-	6.155	1.687	
1990	70.520		0.273	3.627			0.994		73.426	73.426	66.998	66.998	91.500	-	68.953	-	6.155	1.687	
1991	162.534		0.279	3.700			1.014		165.498	165.498	159.065	159.065	91.500	-	161.020	-	6.155	1.687	
1992	98.221		0.284	3.774			1.034		101.245	101.245	94.806	94.806	91.500	-	96.761	-	6.155	1.687	
1993	46.313		0.290	3.849			1.055		49.397	49.397	42.952	42.952	91.500	-	44.907	-	6.155	1.687	
1994	43.818		0.296	3.926			1.076		46.964	46.964	40.513	40.513	91.500	-	42.468	-	6.155	1.687	
1995	51.072		0.299	3.965			1.087		54.249	54.249	47.795	47.795	91.500	-	49.750	-	6.155	1.687	
1996	43.419		0.302	4.005			1.098		46.627	46.627	40.170	40.170	91.500	-	42.125	-	6.155	1.687	
1997	46.069		0.304	4.044			1.108		49.309	49.309	42.849	42.849	91.500	-	44.804	-	6.155	1.687	
1998	74.434		0.307	4.083			1.119		77.705	77.705	71.242	71.242	91.500	-	73.197	-	6.155	1.687	
1999	74.434		0.310	4.122			1.130		77.736	77.736	71.271	71.271	91.500	-	73.226	-	6.155	1.687	
2000	74.434		0.313	4.161			1.141		77.767	77.767	71.299	71.299	91.500	-	73.254	-	6.155	1.687	
2001	74.434		0.316	4.200			1.151		77.799	77.799	71.328	71.328	91.500	-	73.283	-	6.155	1.687	
2002			0.319	4.242			1.163						91.500						
2003			0.322	4.283			1.174						91.500						
2004			0.326	4.324			1.185						91.500						
																		1952-2001	

0 2

Cálculo del escurrimiento disponible en la subcuenca V11 El Salto

Demandas actuales (Mm³): Futuros 2% incremento 5.20

riego	pecuario	urbano	total
1.43	0.53	0.01	**2.91**

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	7.6

0

Año	Salidas históricas (Mm³)				Entradas históricas (Mm³)			Δ V	Cp	Escurrimiento (Mm³)						Δ V'	Usos actuales (Mm³)		Escurrimiento disponible (Mm³)
	Ab	Ex	Ev	Uc	Ar	Im	R			CP+Esc. disp. Ar	menos usos actuales	excedente	almacenado	deficit	derrames		Uc real	R real	
1945	62.307		3.603	0.697			0.394		66.212	66.212	59.700	59.700	7.600	-		-	2.910	1.647	61.346
1946	127.706		3.675	0.711			0.402		131.689	131.689	125.105	125.105	7.600	-	126.045	-	2.910	1.647	126.751
1947	126.874		3.748	0.725			0.410		130.937	130.937	124.279	124.279	7.600	-	125.219	-	2.910	1.647	125.926
1948	50.591		3.823	0.739			0.418		54.735	54.735	48.002	48.002	7.600	-	48.942	-	2.910	1.647	49.648
1949	64.441		3.899	0.754			0.427		68.668	68.668	61.858	61.858	7.600	-	62.798	-	2.910	1.647	63.505
1950	46.794		3.977	0.769			0.435		51.105	51.105	44.218	44.218	7.600	-	45.158	-	2.910	1.647	45.864
1951	72.740		4.057	0.785			0.444		77.138	77.138	70.171	70.171	7.600	-	71.111	-	2.910	1.647	71.817
1952	73.436		4.138	0.800			0.453		77.922	77.922	70.873	70.873	7.600	-	71.813	-	2.910	1.647	72.520
1953	32.448		4.221	0.816			0.462		37.023	37.023	29.893	29.893	7.600	-	30.833	-	2.910	1.647	31.539
1954	17.287		4.305	0.833			0.471		21.954	21.954	14.739	14.739	7.600	-	15.679	-	2.910	1.647	16.385
1955	116.290		4.391	0.849			0.481		121.050	121.050	113.748	113.748	7.600	-	114.688	-	2.910	1.647	115.395
1956	113.601		4.479	0.866			0.490		118.456	118.456	111.067	111.067	7.600	-	112.007	-	2.910	1.647	112.714
1957	3.199		4.569	0.884			0.500		8.151	8.151	0.672	0.672	7.600	-	1.612	-	2.910	1.647	2.319
1958	263.050		4.660	0.901			0.510		268.101	268.101	260.531	260.531	7.600	-	261.471	-	2.910	1.647	262.177
1959	93.884		4.753	0.919			0.520		99.036	99.036	91.373	91.373	7.600	-	92.313	-	2.910	1.647	93.019
1960	47.913		4.849	0.938			0.531		53.168	53.168	45.410	45.410	7.600	-	46.350	-	2.910	1.647	47.057
1961	104.734		4.945	0.956			0.541		110.095	110.095	102.239	102.239	7.600	-	103.179	-	2.910	1.647	103.886
1962	47.951		5.044	0.976			0.552		53.419	53.419	45.464	45.464	7.600	-	46.404	-	2.910	1.647	47.111
1963	219.899		5.145	0.995			0.563		225.477	225.477	217.421	217.421	7.600	-	218.361	-	2.910	1.647	219.068
1964	46.947		5.248	1.015			0.574		52.636	52.636	44.478	44.478	7.600	-	45.418	-	2.910	1.647	46.125
1965	214.039		5.353	1.035			0.586		219.842	219.842	211.579	211.579	7.600	-	212.519	-	2.910	1.647	213.225
1966	57.720		5.460	1.056			0.597		63.639	63.639	55.268	55.268	7.600	-	56.208	-	2.910	1.647	56.915
1967	199.005		5.569	1.077			0.609		205.042	205.042	196.563	196.563	7.600	-	197.503	-	2.910	1.647	198.209
1968	135.960		5.681	1.099			0.622		142.118	142.118	133.527	133.527	7.600	-	134.467	-	2.910	1.647	135.174
1969	11.404		5.794	1.121			0.634		17.685	17.685	8.980	8.980	7.600	-	9.920	-	2.910	1.647	10.627
1970	147.008		5.910	1.143			0.647		153.414	153.414	144.594	144.594	7.600	-	145.534	-	2.910	1.647	146.240
1971	177.172		6.029	1.166			0.660		183.707	183.707	174.768	174.768	7.600	-	175.708	-	2.910	1.647	176.415
1972	24.690		6.149	1.189			0.673		31.355	31.355	22.296	22.296	7.600	-	23.236	-	2.910	1.647	23.942
1973	260.167		6.272	1.213			0.686		266.966	266.966	257.784	257.784	7.600	-	258.724	-	2.910	1.647	259.431
1974	32.835		6.398	1.237			0.700		39.770	39.770	30.462	30.462	7.600	-	31.402	-	2.910	1.647	32.109
1975	157.746		6.525	1.262			0.714		164.819	164.819	155.384	155.384	7.600	-	156.324	-	2.910	1.647	157.030
1976	245.891		6.656	1.287			0.728		253.106	253.106	243.540	243.540	7.600	-	244.480	-	2.910	1.647	245.186
1977	121.193		6.789	1.313			0.743		128.552	128.552	118.853	118.853	7.600	-	119.793	-	2.910	1.647	120.500
1978	158.858		6.925	1.339			0.758		166.364	166.364	156.529	156.529	7.600	-	157.469	-	2.910	1.647	158.176
1979	56.467		7.063	1.366			0.773		64.123	64.123	54.150	54.150	7.600	-	55.090	-	2.910	1.647	55.797
1980	87.429		7.205	1.393			0.788		95.238	95.238	85.124	85.124	7.600	-	86.064	-	2.910	1.647	86.770
1981	75.830		7.349	1.421			0.804		83.796	83.796	73.537	73.537	7.600	-	74.477	-	2.910	1.647	75.183
1982	11.131		7.496	1.450			0.820		19.256	19.256	8.850	8.850	7.600	-	9.790	-	2.910	1.647	10.497
1983	188.223		7.646	1.479			0.837		196.511	196.511	185.955	185.955	7.600	-	186.895	-	2.910	1.647	187.602
1984	204.661		7.799	1.508			0.853		213.114	213.114	202.405	202.405	7.600	-	203.345	-	2.910	1.647	204.052
1985	80.659		7.955	1.538			0.870		89.282	89.282	78.417	78.417	7.600	-	79.357	-	2.910	1.647	80.064
1986	151.870		8.114	1.569			0.888		160.664	160.664	149.641	149.641	7.600	-	150.581	-	2.910	1.647	151.287
1987	36.923		8.276	1.600			0.906		45.894	45.894	34.708	34.708	7.600	-	35.648	-	2.910	1.647	36.355
1988	134.468		8.441	1.632			0.924		143.618	143.618	132.266	132.266	7.600	-	133.206	-	2.910	1.647	133.913
1989	139.287		8.610	1.665			0.942		148.620	148.620	137.100	137.100	7.600	-	138.040	-	2.910	1.647	138.746
1990	140.926		8.782	1.698			0.961		150.446	150.446	138.754	138.754	7.600	-	139.694	-	2.910	1.647	140.400
1991	142.566		8.958	1.732			0.980		152.276	152.276	140.408	140.408	7.600	-	141.348	-	2.910	1.647	142.054
1992	144.205		9.137	1.767			1.000		154.110	154.110	142.062	142.062	7.600	-	143.002	-	2.910	1.647	143.709
1993	145.845		9.320	1.802			1.020		155.947	155.947	143.717	143.717	7.600	-	144.657	-	2.910	1.647	145.364
1994	139.250		9.506	1.838			1.040		149.555	149.555	137.138	137.138	7.600	-	138.078	-	2.910	1.647	138.785
1995	78.350		9.604	1.857			1.051		88.760	88.760	76.247	76.247	7.600	-	77.187	-	2.910	1.647	77.893
1996	150.767		9.701	1.876			1.062		161.282	161.282	148.672	148.672	7.600	-	149.612	-	2.910	1.647	150.318
1997	152.455		9.798	1.895			1.072		163.075	163.075	150.367	150.367	7.600	-	151.307	-	2.910	1.647	152.014
1998	154.142		9.895	1.914			1.083		164.868	164.868	152.063	152.063	7.600	-	153.003	-	2.910	1.647	153.710
1999	155.830		9.992	1.932			1.093		166.661	166.661	153.759	153.759	7.600	-	154.699	-	2.910	1.647	155.405
2000	109.450		10.089	1.951			1.104		120.387	120.387	107.387	107.387	7.600	-	108.327	-	2.910	1.647	109.034
2001	-		10.187	1.970			1.115		11.042	11.042	(2.055)	-	7.600	-	-	-	2.910	1.647	- 0.408
2002	75.000		10.187	1.99			1.126		86.051	86.051	72.954	72.954	7.600	-	72.954	-	2.910	1.647	74.601
2003	120.000		10.187	2.01			1.137		131.059	131.059	117.963	117.963	7.600	-	117.963	-	2.910	1.647	119.609
2004	145.000		10.187	2.03			1.149		156.068	156.068	142.971	142.971	7.600	-	142.971	-	2.910	1.647	144.618
	113.438	-	10.187	1.269	-	-				120.550	110.579								
1952-2001	116.10																		

Cálculo del escurrimiento disponible en la subcuenca V12 La Cuña incluye las cuencas V10 y V11

Demandas actuales (Mm³): Futuros 2% incremento

riego		pecuario	urbano	total

Capacidad de almacenamiento (Mm³):

mínima	máxima
0	113.1

9 Salidas-entradas

Sabino+Gaspar

Esc disp=Cp+Ar disp+R+Im-(Uc+Ev+Ex+DV)

Año	Año proyectado	Salidas históricas (Mm³)						Entradas históricas (Mm³)				D V	Cp	Escurrimiento (Mm³)								Usos actuales (Mm³)		Escurrimiento disponible (Mm³) Con Sabino
		Ab Est Cuña	Ex	Ev Tot	Ev	Uc tot	Uc	Ar	Im	R tot	R			CP+Esc. disp. Ar	Usos proy V10+v11+v12	menos usos actuales	excedente	almacenado Total	deficit	derrames	D V'	Uc real=Uc total actual-deficit	R real	
1945	2005	473.591		3.956	0.242	6.333	4.149	210.795		1.826	1.024		271.258	360.230	18.381	337.893	337.893	113.100	-	-	-	18.381	5.301	343.193
1946	2006	454.634		4.035	0.246	6.460	4.232	198.932		1.863	1.045		264.334	354.141	18.556	331.550	331.550	113.100	-	331.550	-	18.556	5.351	336.901
1947	2007	565.194		4.116	0.251	6.589	4.316	268.119		1.900	1.066		305.880	463.282	18.732	440.434	440.434	113.100	-	440.434	-	18.732	5.402	445.836
1948	2008	757.539		4.198	0.256	6.721	4.403	384.436		1.938	1.087		382.083	658.256	18.912	635.145	635.145	113.100	-	635.145	-	18.912	5.454	640.599
1949	2009	388.014		4.282	0.261	6.855	4.491	175.596		1.977	1.109		221.578	278.163	19.092	254.789	254.789	113.100	-	254.789	-	19.092	5.506	260.295
1950	2010	413.237		4.368	0.267	6.992	4.580	212.307		2.017	1.131		210.274	321.861	19.274	298.219	298.219	113.100	-	298.219	-	19.274	5.558	303.777
1951	2011	437.659		4.455	0.272	7.132	4.672	208.641		2.057	1.154		238.549	331.643	19.457	307.731	307.731	113.100	-	307.731	-	19.457	5.611	313.342
1952	2012	548.992		4.544	0.277	7.275	4.766	233.990		2.098	1.177		324.724	439.643	19.643	415.456	415.456	113.100	-	415.456	-	19.643	5.665	421.120
1953	2013	518.656		4.635	0.283	7.420	4.861	263.845		2.140	1.200		264.726	429.414	19.830	404.949	404.949	113.100	-	404.949	-	19.830	5.719	410.668
1954	2014	302.673		4.728	0.289	7.569	4.958	177.709		2.183	1.224		135.078	202.587	20.019	177.840	177.840	113.100	-	177.840	-	20.019	5.773	183.613
1955	2015	973.118		4.822	0.294	7.720	5.057	490.844		2.226	1.249		492.590	865.804	20.210	840.771	840.771	113.100	-	840.771	-	20.210	5.828	846.600
1956	2016	492.605		4.919	0.300	7.875	5.158	228.900		2.271	1.274		274.228	384.372	20.403	359.050	359.050	113.100	-	359.050	-	20.403	5.884	364.934
1957	2017	171.576		5.017	0.306	8.032	5.262	115.034		2.316	1.299		67.275	94.845	20.597	69.231	69.231	113.100	-	69.231	-	20.597	5.940	75.171
1958	2018	1,570.235		5.118	0.312	8.193	5.367	946.547		2.363	1.325		634.636	1,441.017	20.794	1,415.106	1,415.106	113.100	-	1,415.106	-	20.794	5.997	1,421.103
1959	2019	527.715		5.220	0.319	8.357	5.474	245.371		2.410	1.352		293.510	420.932	20.992	394.720	394.720	113.100	-	394.720	-	20.992	6.054	400.774
1960	2020	325.349		5.324	0.325	8.524	5.584	151.757		2.458	1.379		184.982	268.458	21.192	241.942	241.942	113.100	-	241.942	-	21.192	6.112	248.053
1961	2021	358.296		5.431	0.332	8.694	5.695	103.481		2.507	1.406		266.432	307.576	21.394	280.751	280.751	113.100	-	280.751	-	21.394	6.170	286.921
1962	2022	437.504		5.540	0.338	8.868	5.809	206.324		2.557	1.434		243.030	339.250	21.598	312.112	312.112	113.100	-	312.112	-	21.598	6.229	318.341
1963	2023	922.081		5.650	0.345	9.045	5.925	246.665		2.609	1.463		687.503	786.046	21.804	758.592	758.592	113.100	-	758.592	-	21.804	6.288	764.880
1964	2024	410.200		5.763	0.352	9.226	6.044	185.720		2.661	1.492		236.809	325.496	22.012	297.721	297.721	113.100	-	297.721	-	22.012	6.348	304.069
1965	2025	1,241.029		5.879	0.359	9.411	6.165	589.847		2.714	1.522		663.757	1,167.148	22.222	1,139.048	1,139.048	113.100	-	1,139.048	-	22.222	6.409	1,145.456
1966	2026	602.290		5.996	0.366	9.599	6.288	341.103		2.768	1.553		274.014	518.152	22.433	489.723	489.723	113.100	-	489.723	-	22.433	6.469	496.192
1967	2027	1,899.260		6.116	0.373	9.791	6.414	939.629		2.824	1.584		972.715	1,781.596	22.647	1,752.833	1,752.833	113.100	-	1,752.833	-	22.647	6.531	1,759.364
1968	2028	593.079		6.238	0.381	9.987	6.542	215.942		2.880	1.615		390.482	518.190	22.863	489.089	489.089	113.100	-	489.089	-	22.863	6.593	495.682
1969	2029	195.763		6.363	0.389	10.187	6.673	82.339		2.938	1.648		127.036	165.974	23.082	136.529	136.529	113.100	-	136.529	-	23.082	6.657	143.185
1970	2030	872.967		6.490	0.396	10.390	6.806	403.277		2.997	1.681		483.574	750.615	23.302	720.822	720.822	113.100	-	720.822	-	23.302	6.720	727.542
1971	2031	1,366.076		6.620	0.404	10.598	6.942	910.139		3.056	1.714		470.099	1,269.666	23.524	1,239.522	1,239.522	113.100	-	1,239.522	-	23.524	6.784	1,246.306
1972	2032	274.666		6.753	0.412	10.810	7.081	116.103		3.118	1.749		173.008	204.440	23.748	173.939	173.939	113.100	-	173.939	-	23.748	6.849	180.788
1973	2033	1,969.912		6.888	0.421	11.026	7.223	1,043.840		3.180	1.783		940.806	1,820.428	23.974	1,789.566	1,789.566	113.100	-	1,789.566	-	23.974	6.914	1,796.480
1974	2034	364.506		7.025	0.429	11.247	7.367	140.708		3.244	1.819		238.827	272.078	24.203	240.849	240.849	113.100	-	240.849	-	24.203	6.980	247.829
1975	2035	864.459		7.166	0.438	11.472	7.515	401.732		3.308	1.856		478.056	766.852	24.434	735.252	735.252	113.100	-	735.252	-	24.434	7.047	742.299
1976	2036	1,448.454		7.309	0.446	11.701	7.665	1,023.239		3.375	1.893		440.851	1,326.223	24.667	1,294.247	1,294.247	113.100	-	1,294.247	-	24.667	7.114	1,301.360
1977	2037	570.023		7.455	0.455	11.935	7.818	231.512		3.442	1.931		354.460	499.815	24.902	467.457	467.457	113.100	-	467.457	-	24.902	7.182	474.639
1978	2038	462.136		7.605	0.464	12.174	7.975	234.448		3.511	1.969		243.956	368.104	25.140	335.360	335.360	113.100	-	335.360	-	25.140	7.250	342.610
1979	2039	216.733		7.757	0.474	12.418	8.134	84.928		3.581	2.008		148.398	180.253	25.378	147.118	147.118	113.100	-	147.118	-	25.378	7.319	154.437
1980	2040	285.571		7.912	0.483	12.666	8.297	224.167		3.653	2.049		78.329	151.724	25.621	118.192	118.192	113.100	-	118.192	-	25.621	7.389	125.580
1981	2041	270.888		8.070	0.493	12.919	8.463	88.707		3.726	2.090		199.444	227.918	25.865	193.983	193.983	113.100	-	193.983	-	25.865	7.459	201.442
1982	2042	143.917		8.231	0.503	13.178	8.632	66.659		3.800	2.131		94.866	118.462	26.112	84.119	84.119	113.100	-	84.119	-	26.112	7.530	91.649
1983	2043	392.270		8.396	0.513	13.441	8.805	219.231		3.876	2.174		191.000	265.819	26.361	231.062	231.062	113.100	-	231.062	-	26.361	7.602	238.664
1984	2044	403.770		8.564	0.523	13.710	8.981	196.790		3.954	2.218		225.300	328.242	26.612	293.066	293.066	113.100	-	293.066	-	26.612	7.675	300.741
1985	2045	217.050		8.735	0.533	13.984	9.160	135.525		4.033	2.262		100.211	148.168	26.866	112.567	112.567	113.100	-	112.567	-	26.866	7.748	120.315
1986	2046	814.682		8.910	0.544	14.264	9.344	258.373		4.114	2.307		575.369	710.950	27.123	674.917	674.917	113.100	-	674.917	-	27.123	7.822	682.739
1987	2047	251.971		9.088	0.555	14.549	9.531	209.360		4.196	2.353		62.052	176.754	27.381	140.285	140.285	113.100	-	140.285	-	27.381	7.896	148.182
1988	2048	704.370		9.270	0.566	14.840	9.721	345.241		4.280	2.400		378.959	610.139	27.641	573.228	573.228	113.100	-	573.228	-	27.641	7.971	581.199
1989	2049	226.291		9.455	0.577	15.137	9.916	100.636		4.365	2.448		145.882	182.343	27.904	144.984	144.984	113.100	-	144.984	-	27.904	8.047	153.031
1990	2050	806.182		9.644	0.589	15.440	10.114	350.718		4.453	2.497		476.095	671.072	28.170	633.257	633.257	113.100	-	633.257	-	28.170	8.124	641.381
1991	2051	1,723.019		9.837	0.601	15.748	10.316	1,087.059		4.542	2.547		657.004	1,579.811	28.440	1,541.533	1,541.533	113.100	-	1,541.533	-	28.440	8.202	1,549.735
1992	2052	946.124		10.034	0.613	16.063	10.522	435.240		4.633	2.598		532.349	849.065	28.710	810.321	810.321	113.100	-	810.321	-	28.710	8.280	818.601
1993	2053	325.676		10.235	0.625	16.385	10.733	149.136		4.725	2.650		198.434	260.529	28.984	221.311	221.311	113.100	-	221.311	-	28.984	8.359	229.669
1994	2054	243.092		10.439	0.637	16.712	10.948	106.890		4.820	2.703		158.534	194.232	29.261	154.531	154.531	113.100	-	154.531	-	29.261	8.439	162.970
1995	2055	454.585		10.546	0.644	16.876	11.054	158.485		4.867	2.729		318.655	364.077	29.539	323.992	323.992	113.100	-	323.992	-	29.539	8.519	332.511
1996	2056	352.928		10.652	0.650	17.040	11.160	103.809		4.915	2.756		271.897	308.238	29.539	268.047	268.047	113.100	-	268.047	-	29.539	8.520	276.567
1997	2057	127.959		10.758	0.656	17.204	11.266	94.744		4.962	2.782		56.215	92.556	29.539	52.259	52.259	113.100	-	52.259	-	29.539	8.520	60.779
1998	2058	344.680		10.865	0.662	17.368	11.372	352.468		5.010	2.808		15.435	203.156	29.539	162.753	162.753	113.100	-	162.753	-	29.539	8.521	171.273
1999	2059	254.588		10.971	0.668	17.532	11.478	186.146		5.057	2.834		91.888	211.546	29.539	171.036	171.036	113.100	-	171.036	-	29.539	8.521	179.557
2000	2060	119.011		11.077	0.675	17.696	11.584	76.270		5.105	2.860		66.409	107.302	29.539	66.685	66.685	113.100	-	66.685	-	29.539	8.521	75.207
2001	2061	330.233		11.184	0.681	17.860	11.690	179.526		5.152	2.886		174.598	271.252	29.539	230.530	230.530	113.100	-	230.530	-	29.539	8.522	239.051
2002	2062	571.232		10.506	-	18.035	11.803	332.748		5.203	2.914		261.822	441.873	29.539	401.828	401.828	113.100	-	401.828	-	29.539	8.522	410.351
2003	2063	1,019.336		10.509	-	18.207	11.914	826.637		5.253	2.942		216.162	944.452	29.539	904.404	904.404	113.100	-	904.404	-	29.539	8.523	912.927
2004	2064	1,028.366		10.512	-	18.381	12.027	640.763		5.304	2.970		411.192	943.858	29.539	903.806	903.806	113.100	-	903.806	-	29.539	8.523	912.330
		605.800																						

		Disponibles					
Año	Año	Cuña	Paso del Sabino	San Gaspar	Disponible cuenca propia Cuña-(Sabino+S Gaspar)=Vcp cuña	Cuenca propia Zapotillo	Disponible hasta Zapotillo=VSG +VPS+Vcp zapot
1945	2005	343.193	70.102	18.869	254.222	157.62	246.59
1946	2006	336.901	74.953	14.854	247.094	153.20	243.01
1947	2007	445.836	77.711	79.691	288.434	178.83	336.23
1948	2008	640.599	162.738	113.434	364.427	225.94	502.12
1949	2009	260.295	40.175	16.410	203.710	126.30	182.89
1950	2010	303.777	81.902	29.685	192.190	119.16	230.74
1951	2011	313.342	79.360	13.734	220.248	136.55	229.65
1952	2012	421.120	64.580	50.339	306.201	189.84	304.76
1953	2013	410.668	77.098	87.590	245.980	152.51	317.20
1954	2014	183.613	53.413	14.096	116.104	71.98	139.49
1955	2015	846.600	198.742	174.471	473.386	293.50	666.71
1956	2016	364.934	71.829	38.315	254.790	157.97	268.11
1957	2017	75.171	13.103	14.467	47.601	29.51	57.08
1958	2018	1421.103	382.443	423.938	614.721	381.13	1187.51
1959	2019	400.774	56.319	71.103	273.352	169.48	296.90
1960	2020	248.053	68.628	14.848	164.577	102.04	185.51
1961	2021	286.921	26.166	14.978	245.777	152.38	193.53
1962	2022	318.341	81.112	15.108	222.121	137.72	233.93
1963	2023	764.880	49.590	48.954	666.337	413.13	511.67
1964	2024	304.069	24.648	64.039	215.382	133.54	222.22
1965	2025	1145.456	150.761	352.630	642.066	398.08	901.47
1966	2026	496.192	132.556	111.582	252.054	156.27	400.41
1967	2027	1759.364	437.508	371.373	950.483	589.30	1398.18
1968	2028	495.682	99.044	28.664	367.974	228.14	355.85
1969	2029	143.185	22.885	16.053	104.248	64.63	103.57
1970	2030	727.542	165.562	101.478	460.502	285.51	552.55
1971	2031	1246.306	324.766	474.802	446.739	276.98	1076.55
1972	2032	180.788	14.956	16.476	149.356	92.60	124.03
1973	2033	1796.480	468.253	411.369	916.858	568.45	1448.07
1974	2034	247.829	15.222	18.029	214.578	133.04	166.29
1975	2035	742.299	123.471	165.324	453.503	281.17	569.97
1976	2036	1301.360	376.332	509.039	415.989	257.91	1143.28
1977	2037	474.639	88.776	56.579	329.284	204.16	349.51
1978	2038	342.610	84.977	39.171	218.461	135.45	259.59
1979	2039	154.437	14.349	17.506	122.582	76.00	107.86
1980	2040	125.580	13.898	59.497	52.186	32.36	105.75
1981	2041	201.442	10.661	17.812	172.969	107.24	135.71
1982	2042	91.649	11.296	12.300	68.053	42.19	65.79
1983	2043	238.664	56.695	18.124	163.845	101.58	176.40
1984	2044	300.741	84.661	18.281	197.799	122.64	225.58
1985	2045	120.315	29.516	18.441	72.358	44.86	92.82
1986	2046	682.739	116.980	18.601	547.158	339.24	474.82
1987	2047	148.182	17.067	97.636	33.479	20.76	135.46
1988	2048	581.199	86.576	144.603	350.020	217.01	448.19
1989	2049	153.031	17.370	19.091	116.570	72.27	108.73
1990	2050	641.381	58.453	136.524	446.404	276.77	471.75
1991	2051	1549.735	385.908	536.898	626.929	388.70	1311.50
1992	2052	818.601	185.334	131.382	501.885	311.17	627.88
1993	2053	229.669	17.992	44.103	167.574	103.90	165.99
1994	2054	162.970	15.761	19.936	127.272	78.91	114.61
1995	2055	332.511	18.150	27.272	287.089	178.00	223.42
1996	2056	276.567	16.405	19.936	240.225	148.94	185.28
1997	2057	60.779	16.405	19.936	24.438	15.15	51.49
1998	2058	171.273	85.466	102.256	0.000	0.00	187.72
1999	2059	179.557	99.722	19.936	59.899	37.14	156.80
2000	2060	75.207	23.537	17.355	34.314	21.27	62.17
2001	2061	239.051	76.717	19.936	142.398	88.29	184.94
2002	2062	410.351	87.388	92.664	230.299	142.79	322.84
2003	2063	912.927	202.243	526.047	184.637	114.47	842.76
2004	2064	912.330	152.078	380.588	379.664	235.39	768.06

492.680	**102.672**	**108.803**	**281.480**	**174.518**	**385.992**

Cuenca La Cuña=	**19218**	km2
Cuenca Zapotillo=	**17617**	km2
Cuenca San Nicolas =	15260	km2
Area Sabino+San Gaspar=	14949	km2
Cuenca Cuña-(Sabino+Gaspar)	**4269**	km2
Zapotillo-(Sabino+Gaspar)	2668	km2
Factor de transporte Cuenca propia	0.62	

FACTORES MENSUALES DE DISTRIBUCIÓN DEL ESCURRIMIENTO EN LA Cuña

Año	Enero	Febrero	Marzo	Abril	Mayo	Junio	Julio	Agosto	Septiembre	Octubre	Noviembre	Diciembre	Suma
1945	0.019	0.012	0.009	0.006	0.006	0.138	0.029	0.335	0.403	0.023	0.012	0.009	1.000
1946	0.019	0.012	0.009	0.006	0.006	0.138	0.029	0.335	0.403	0.023	0.012	0.009	1.000
1947	0.019	0.012	0.009	0.006	0.006	0.138	0.029	0.335	0.403	0.023	0.012	0.009	1.000
1948	0.014	0.006	0.005	0.004	0.005	0.163	0.447	0.211	0.109	0.018	0.009	0.007	1.000
1949	0.013	0.010	0.008	0.007	0.006	0.150	0.474	0.214	0.071	0.027	0.010	0.010	1.000
1950	0.009	0.007	0.008	0.006	0.005	0.172	0.438	0.133	0.172	0.028	0.014	0.009	1.000
1951	0.010	0.008	0.008	0.006	0.006	0.159	0.425	0.179	0.150	0.025	0.018	0.008	1.000
1952	0.007	0.007	0.006	0.005	0.004	0.127	0.245	0.292	0.182	0.095	0.020	0.010	1.000
1953	0.009	0.008	0.007	0.005	0.004	0.076	0.154	0.344	0.309	0.033	0.030	0.022	1.000
1954	0.020	0.012	0.010	0.008	0.008	0.173	0.295	0.257	0.073	0.099	0.028	0.016	1.000
1955	0.005	0.004	0.003	0.002	0.002	0.014	0.146	0.461	0.210	0.134	0.012	0.008	1.000
1956	0.013	0.010	0.008	0.006	0.039	0.117	0.403	0.285	0.086	0.012	0.011	0.011	1.000
1957	0.027	0.023	0.020	0.015	0.014	0.067	0.114	0.175	0.352	0.120	0.044	0.029	1.000
1958	0.004	0.002	0.002	0.001	0.001	0.043	0.256	0.126	0.230	0.153	0.167	0.014	1.000
1959	0.027	0.014	0.010	0.015	0.007	0.088	0.234	0.360	0.130	0.074	0.026	0.013	1.000
1960	0.019	0.014	0.012	0.009	0.006	0.013	0.176	0.469	0.234	0.021	0.013	0.014	1.000
1961	0.013	0.010	0.010	0.007	0.006	0.081	0.602	0.153	0.068	0.021	0.015	0.015	1.000
1962	0.010	0.009	0.008	0.008	0.005	0.122	0.291	0.069	0.312	0.130	0.021	0.017	1.000
1963	0.006	0.004	0.004	0.002	0.002	0.072	0.455	0.296	0.116	0.022	0.007	0.014	1.000
1964	0.021	0.009	0.006	0.004	0.005	0.082	0.168	0.217	0.337	0.115	0.024	0.013	1.000
1965	0.006	0.004	0.002	0.002	0.004	0.011	0.048	0.503	0.235	0.167	0.010	0.007	1.000
1966	0.012	0.013	0.009	0.012	0.007	0.071	0.110	0.412	0.253	0.076	0.014	0.012	1.000
1967	0.010	0.003	0.002	0.001	0.003	0.033	0.066	0.244	0.540	0.078	0.013	0.007	1.000
1968	0.016	0.014	0.027	0.009	0.008	0.025	0.301	0.223	0.326	0.029	0.012	0.012	1.000
1969	0.036	0.026	0.017	0.014	0.012	0.030	0.354	0.128	0.268	0.067	0.023	0.024	1.000
1970	0.007	0.006	0.005	0.003	0.002	0.114	0.195	0.174	0.365	0.109	0.010	0.011	1.000
1971	0.006	0.004	0.004	0.003	0.003	0.082	0.112	0.388	0.273	0.111	0.008	0.008	1.000
1972	0.030	0.022	0.019	0.012	0.018	0.152	0.207	0.257	0.203	0.037	0.023	0.020	1.000
1973	0.003	0.003	0.002	0.002	0.001	0.009	0.257	0.599	0.077	0.033	0.009	0.005	1.000
1974	0.023	0.017	0.016	0.011	0.009	0.014	0.316	0.320	0.213	0.029	0.015	0.016	1.000
1975	0.008	0.006	0.005	0.003	0.002	0.037	0.300	0.515	0.101	0.009	0.006	0.007	1.000
1976	0.004	0.003	0.003	0.002	0.001	0.003	0.599	0.093	0.071	0.177	0.029	0.014	1.000
1977	0.015	0.009	0.008	0.006	0.004	0.107	0.177	0.110	0.515	0.024	0.013	0.012	1.000
1978	0.013	0.011	0.009	0.006	0.004	0.027	0.080	0.167	0.320	0.326	0.022	0.016	1.000
1979	0.027	0.024	0.020	0.014	0.008	0.016	0.080	0.450	0.286	0.024	0.022	0.028	1.000
1980	0.022	0.018	0.012	0.007	0.005	0.013	0.145	0.481	0.211	0.035	0.034	0.018	1.000
1981	0.023	0.016	0.013	0.010	0.005	0.122	0.318	0.205	0.216	0.035	0.020	0.017	1.000
1982	0.031	0.026	0.025	0.012	0.010	0.008	0.410	0.241	0.082	0.082	0.030	0.044	1.000
1983	0.008	0.005	0.005	0.002	0.002	0.018	0.341	0.317	0.261	0.021	0.011	0.007	1.000
1984	0.009	0.009	0.006	0.004	0.003	0.070	0.408	0.302	0.154	0.017	0.009	0.009	1.000
1985	0.013	0.010	0.008	0.005	0.004	0.138	0.356	0.335	0.069	0.036	0.013	0.012	1.000
1986	0.006	0.005	0.004	0.002	0.002	0.180	0.415	0.075	0.154	0.129	0.015	0.012	1.000
1987	0.022	0.015	0.018	0.009	0.008	0.021	0.329	0.360	0.137	0.046	0.015	0.019	1.000
1988	0.004	0.003	0.003	0.002	0.001	0.007	0.328	0.512	0.112	0.017	0.006	0.006	1.000
1989	0.018	0.017	0.017	0.009	0.005	0.028	0.124	0.410	0.299	0.030	0.016	0.028	1.000

1990	0.006	0.005	0.004	0.002	0.001	0.020	0.102	0.530	0.211	0.088	0.024	0.007	1.000
1991	0.003	0.003	0.002	0.001	0.001	0.001	0.759	0.089	0.110	0.020	0.006	0.005	1.000
1992	0.335	0.089	0.013	0.006	0.004	0.021	0.052	0.135	0.077	0.233	0.024	0.012	1.000
1993	0.023	0.020	0.013	0.010	0.007	0.039	0.530	0.079	0.202	0.038	0.021	0.019	1.000
1994	0.029	0.023	0.016	0.010	0.007	0.170	0.096	0.164	0.364	0.071	0.026	0.024	1.000
1995	0.014	0.013	0.010	0.006	0.004	0.012	0.135	0.377	0.376	0.032	0.010	0.010	1.000
1996	0.013	0.012	0.011	0.008	0.008	0.027	0.044	0.096	0.182	0.197	0.390	0.012	1.000
1997	0.032	0.028	0.024	0.028	0.019	0.136	0.305	0.134	0.161	0.076	0.027	0.029	1.000
1998	0.014	0.010	0.009	0.007	0.006	0.010	0.064	0.166	0.335	0.339	0.032	0.010	1.000
1999	0.011	0.010	0.011	0.009	0.005	0.027	0.287	0.276	0.304	0.032	0.015	0.014	1.000
2000	0.029	0.026	0.024	0.016	0.009	0.290	0.198	0.158	0.099	0.076	0.046	0.029	1.000
2001	0.010	0.009	0.010	0.004	0.004	0.074	0.271	0.205	0.323	0.053	0.020	0.017	1.000
2002	0.007	0.006	0.007	0.002	0.002	0.024	0.224	0.362	0.229	0.073	0.056	0.008	1.000
2003	0.004	0.004	0.004	0.002	0.001	0.019	0.163	0.189	0.481	0.102	0.023	0.007	1.000
2004	0.004	0.004	0.004	0.003	0.003	0.055	0.070	0.106	0.552	0.163	0.025	0.011	1.000
Minimo	0.003	0.002	0.002	0.001	0.001	0.001	0.029	0.069	0.068	0.009	0.006	0.005	
Máximo	0.335	0.089	0.027	0.028	0.039	0.290	0.759	0.599	0.552	0.339	0.390	0.044	
Media	0.020	0.012	0.010	0.007	0.006	0.071	0.259	0.267	0.229	0.077	0.028	0.014	

Usos constantes despues de 2001 VULUMEN DISPONIBLE EN ZAPOTILLO CON LOS FACTORES DE La Cuña

Año	Enero	Febrero	Marzo	Abril	Mayo	Junio	Julio	Agosto	Septiembre	Octubre	Noviembre	Diciembre	Suma
2005	4.645	2.905	2.279	1.579	1.374	34.138	7.029	82.486	99.345	5.591	3.042	2.102	246.516
2006	4.578	2.863	2.246	1.556	1.354	33.642	6.927	81.287	97.901	5.510	2.998	2.072	242.933
2007	6.334	3.961	3.107	2.153	1.873	46.549	9.584	112.472	135.460	7.624	4.148	2.866	336.131
2008	7.203	2.916	2.421	2.129	2.741	81.815	224.570	106.153	54.891	9.167	4.542	3.569	502.117
2009	2.366	1.885	1.530	1.240	1.093	27.475	86.717	39.086	12.974	4.904	1.778	1.837	182.885
2010	2.126	1.727	1.798	1.347	1.206	39.632	101.051	30.574	39.634	6.437	3.148	2.065	230.745
2011	2.185	1.747	1.774	1.457	1.341	36.534	97.527	41.051	34.357	5.711	4.057	1.908	229.648
2012	2.179	1.998	1.730	1.578	1.118	38.842	74.760	89.027	55.521	28.870	6.194	2.947	304.764
2013	2.993	2.405	2.139	1.500	1.158	24.147	48.707	109.086	98.169	10.476	9.567	6.849	317.196
2014	2.751	1.685	1.381	1.152	1.151	24.104	41.095	35.915	10.215	13.787	3.972	2.286	139.494
2015	3.180	2.599	2.247	1.422	1.222	9.306	97.219	307.171	139.680	89.011	8.292	5.364	666.713
2016	3.389	2.613	2.106	1.719	10.404	31.337	108.160	76.431	23.051	3.150	2.914	2.838	268.114
2017	1.543	1.329	1.138	0.878	0.773	3.806	6.526	9.983	20.069	6.858	2.502	1.678	57.083
2018	4.764	2.929	2.248	1.227	1.122	51.340	303.644	149.750	273.572	181.472	198.400	17.042	1187.509
2019	8.021	4.208	3.015	4.421	2.210	26.255	69.589	106.886	38.689	22.114	7.605	3.888	296.900
2020	3.542	2.574	2.222	1.687	1.127	2.375	32.565	87.015	43.326	3.957	2.481	2.643	185.514
2021	2.608	1.981	1.845	1.355	1.207	15.630	116.465	29.517	13.109	3.979	2.930	2.900	193.526
2022	2.260	2.137	1.829	1.785	1.124	28.463	68.065	16.050	72.968	30.458	4.805	3.991	233.935
2023	3.223	2.079	1.884	1.243	0.953	36.703	232.607	151.650	59.488	11.023	3.809	7.009	511.672
2024	4.662	1.967	1.432	0.883	1.157	18.120	37.305	48.118	74.804	25.524	5.299	2.953	222.224
2025	5.375	3.939	2.179	1.870	3.493	9.496	43.417	453.763	211.669	150.928	8.685	6.657	901.471
2026	4.805	5.039	3.507	4.831	2.640	28.326	44.087	164.898	101.255	30.354	5.760	4.910	400.412
2027	13.283	4.300	3.392	1.879	3.604	46.469	91.668	341.163	755.688	109.256	18.289	9.190	1398.181
2028	5.626	5.018	9.490	3.112	2.723	8.873	106.998	79.238	115.848	10.259	4.256	4.411	355.852
2029	3.734	2.714	1.797	1.441	1.205	3.115	36.670	13.238	27.801	6.904	2.427	2.525	103.571
2030	3.641	3.210	2.700	1.724	1.140	62.748	107.606	96.264	201.463	60.141	5.687	6.228	552.552
2031	6.308	4.563	4.228	2.891	3.158	87.794	120.280	417.603	293.853	119.119	8.630	8.119	1076.545
2032	3.730	2.767	2.306	1.501	2.286	18.810	25.733	31.814	25.176	4.586	2.797	2.526	124.033
2033	4.849	4.103	3.022	2.446	1.718	12.633	371.873	867.799	112.005	47.315	13.391	6.919	1448.074
2034	3.833	2.864	2.578	1.839	1.505	2.401	52.551	53.201	35.485	4.848	2.565	2.620	166.289
2035	4.609	3.164	3.053	1.836	1.269	21.215	171.192	293.316	57.560	5.017	3.527	4.209	569.968
2036	4.711	3.866	3.209	2.252	1.500	3.556	684.324	106.861	81.257	202.641	33.281	15.827	1143.285
2037	5.130	3.117	2.816	2.028	1.358	37.304	62.028	38.458	180.103	8.462	4.529	4.179	349.511
2038	3.279	2.859	2.464	1.487	1.020	6.903	20.870	43.294	83.064	84.503	5.693	4.158	259.595
2039	2.923	2.630	2.200	1.464	0.891	1.700	8.623	48.515	30.882	2.637	2.333	3.058	107.856
2040	2.319	1.937	1.227	0.740	0.541	1.328	15.369	50.835	22.262	3.649	3.615	1.929	105.750
2041	3.091	2.161	1.752	1.375	0.658	16.534	43.181	27.885	29.285	4.761	2.738	2.290	135.714
2042	2.065	1.729	1.622	0.780	0.630	0.528	26.967	15.859	5.377	5.384	1.984	2.863	65.789
2043	1.403	0.896	0.802	0.438	0.340	3.232	60.172	55.945	46.119	3.776	1.959	1.322	176.403
2044	2.037	1.950	1.466	0.875	0.629	15.701	92.124	68.078	34.710	3.846	2.126	2.035	225.578
2045	1.251	0.897	0.751	0.485	0.343	12.793	33.033	31.135	6.430	3.355	1.189	1.155	92.818
2046	2.734	2.337	2.098	1.003	0.842	85.476	197.004	35.715	73.355	61.251	7.094	5.910	474.819
2047	3.022	2.068	2.399	1.201	1.069	2.890	44.598	48.801	18.519	6.170	2.089	2.634	135.460
2048	1.756	1.268	1.355	0.773	0.390	2.943	146.969	229.682	50.223	7.594	2.755	2.483	448.192
2049	1.998	1.803	1.813	0.945	0.515	3.023	13.429	44.594	32.555	3.237	1.766	3.055	108.734
2050	2.654	2.269	1.785	0.875	0.683	9.452	48.203	249.896	99.666	41.676	11.519	3.068	471.748
2051	3.753	3.675	2.939	1.775	1.069	1.880	995.831	117.045	143.614	25.833	7.536	6.551	1311.502
2052	210.166	56.050	7.885	3.659	2.699	13.420	32.664	84.771	48.209	146.071	15.025	7.266	627.884

2053	3.882	3.275	2.101	1.580	1.093	6.453	87.975	13.087	33.594	6.245	3.493	3.215	165.991
2054	3.270	2.651	1.872	1.091	0.777	19.538	11.015	18.832	41.711	8.101	2.955	2.792	114.607
2055	3.081	2.959	2.246	1.318	0.925	2.652	30.224	84.186	84.009	7.177	2.297	2.345	223.417
2056	2.410	2.191	2.064	1.422	1.430	5.094	8.092	17.840	33.773	36.486	72.312	2.168	185.281
2057	1.661	1.434	1.259	1.441	1.003	6.987	15.704	6.923	8.283	3.921	1.400	1.475	51.492
2058	2.594	1.810	1.704	1.259	1.080	1.841	11.979	31.235	62.840	63.595	5.968	1.817	187.721
2059	1.774	1.603	1.782	1.375	0.711	4.185	44.989	43.312	47.627	5.026	2.289	2.124	156.796
2060	1.795	1.623	1.516	0.965	0.587	18.025	12.312	9.792	6.174	4.705	2.880	1.794	62.167
2061	1.917	1.730	1.914	0.736	0.754	13.674	50.040	37.881	59.717	9.823	3.686	3.068	184.940
2062	2.207	1.995	2.163	0.762	0.652	7.663	72.469	116.800	74.003	23.413	18.204	2.505	322.837
2063	3.656	3.309	3.493	1.859	1.224	16.140	137.153	159.191	405.002	86.346	19.214	6.177	842.765
2064	3.079	2.880	3.037	2.674	2.138	41.993	53.573	81.681	424.029	125.401	19.369	8.203	768.057
Minimo	1.251	0.896	0.751	0.438	0.340	0.528	6.526	6.923	5.377	2.637	1.189	1.155	51.492
Máximo	210.166	56.050	9.490	4.831	10.404	87.794	995.831	867.799	755.688	202.641	198.400	17.042	1448.074
Media	**6.999**	**3.486**	**2.373**	**1.605**	**1.467**	**21.250**	**100.052**	**107.336**	**93.357**	**33.657**	**10.330**	**4.076**	**385.988**