

Appendix A

Water Supply

1. Ground and Surface Water Availability Estimates.

The following tables of ground-water availability and surface water availability contain alternative availability measures for each of the 147 watersheds of the Delaware River Basin. These estimates have been derived using the methods described in the main report. The numbers in the tables are expressed in both million gallons per square mile per day (MG/mi²/d) and million gallons per day (MG/d), for each watershed.

Table A1.1: Ground-Water Availability

Basin identification number	(MGD/mi ²)			(MGD)		
	10-yr RI	25-yr RI	50-yr RI	10-yr RI	25-yr RI	50-yr RI
DB-001	0.492	0.403	0.373	70.812	57.975	53.695
DB-002	0.492	0.403	0.373	25.738	21.072	19.517
DB-003	0.492	0.403	0.373	40.802	33.405	30.940
DB-004	0.492	0.403	0.373	26.143	21.403	19.824
DB-005	0.501	0.412	0.384	61.452	50.562	47.090
DB-006	0.495	0.406	0.376	19.418	15.915	14.766
DB-007	0.503	0.415	0.387	34.063	28.109	26.255
DB-008	0.542	0.456	0.434	23.003	19.336	18.439
DB-009	0.620	0.537	0.468	38.500	33.315	29.053
DB-010	0.497	0.408	0.380	104.389	85.730	79.779
DB-011	0.498	0.410	0.382	80.354	66.110	61.620
DB-012	0.524	0.446	0.429	50.846	43.342	41.665
DB-013	0.515	0.442	0.427	68.221	58.493	56.522
DB-014	0.514	0.426	0.401	47.030	38.994	36.667
DB-015	0.477	0.414	0.400	33.347	28.947	28.007
DB-016	0.513	0.439	0.422	40.225	34.425	33.144
DB-017	0.394	0.356	0.349	32.470	29.341	28.787
DB-018	0.635	0.550	0.471	79.447	68.870	58.954
DB-019	0.347	0.318	0.311	12.358	11.331	11.092
DB-020	0.444	0.396	0.390	33.865	30.208	29.696
DB-021	0.336	0.309	0.302	8.667	7.973	7.799
DB-022	0.639	0.553	0.473	51.172	44.328	37.908
DB-023	0.340	0.312	0.306	20.152	18.504	18.106
DB-024	0.639	0.554	0.473	25.211	21.842	18.662
DB-025	0.640	0.554	0.474	59.058	51.089	43.740
DB-026	0.639	0.554	0.473	44.765	38.783	33.137
DB-027	0.648	0.555	0.483	53.252	45.633	39.752
DB-028	0.640	0.554	0.474	80.656	69.825	59.721
DB-029	0.504	0.423	0.400	44.811	37.563	35.559
DB-030	0.651	0.555	0.488	43.954	37.503	32.933
DB-031	0.647	0.555	0.483	103.418	88.688	77.180
DB-032	0.640	0.554	0.474	59.247	51.291	43.869
DB-033	0.502	0.415	0.388	39.124	32.354	30.259
DB-034	0.497	0.408	0.380	20.060	16.478	15.316
DB-035	0.507	0.420	0.394	56.122	46.459	43.538

Basin identification number	(MGD/mi2)			(MGD)		
	10-yr RI	25-yr RI	50-yr RI	10-yr RI	25-yr RI	50-yr RI
DB-036	0.624	0.537	0.477	50.064	43.093	38.279
DB-037	0.516	0.430	0.407	47.772	39.855	37.675
DB-038	0.514	0.427	0.393	101.457	84.311	77.585
DB-039	0.531	0.445	0.408	38.478	32.285	29.571
DB-040	0.617	0.530	0.479	54.682	46.943	42.393
DB-041	0.610	0.522	0.480	10.965	9.386	8.636
DB-042	0.530	0.459	0.408	35.133	30.427	27.025
DB-043	0.635	0.549	0.475	99.967	86.432	74.786
DB-044	0.499	0.431	0.374	15.309	13.216	11.478
DB-045	0.634	0.546	0.477	110.217	95.020	82.913
DB-046	0.626	0.539	0.478	71.257	61.312	54.427
DB-047	0.547	0.472	0.423	19.025	16.436	14.716
DB-048	0.415	0.358	0.278	12.543	10.817	8.410
DB-049	0.426	0.354	0.286	45.672	37.906	30.654
DB-050	0.424	0.351	0.284	29.632	24.503	19.810
DB-051	0.425	0.352	0.284	20.831	17.234	13.895
DB-052	0.454	0.361	0.308	54.629	43.530	37.113
DB-053	0.421	0.356	0.283	31.603	26.672	21.201
DB-054	0.452	0.349	0.304	21.685	16.777	14.587
DB-055	0.423	0.346	0.282	33.828	27.653	22.513
DB-056	0.651	0.557	0.489	60.646	51.925	45.529
DB-057	0.650	0.555	0.487	83.928	71.602	62.869
DB-058	0.650	0.574	0.499	59.261	52.264	45.485
DB-059	0.650	0.583	0.505	32.101	28.782	24.941
DB-060	0.650	0.575	0.500	97.035	85.792	74.620
DB-061	0.636	0.555	0.492	74.601	65.142	57.654
DB-062	0.629	0.541	0.479	69.812	60.014	53.091
DB-063	0.516	0.447	0.381	58.280	50.473	43.046
DB-064	0.590	0.508	0.453	46.190	39.801	35.479
DB-065	0.421	0.347	0.280	38.683	31.810	25.730
DB-066	0.419	0.348	0.277	44.385	36.851	29.420
DB-067	0.451	0.348	0.303	37.796	29.151	25.372
DB-068	0.436	0.339	0.292	64.882	50.464	43.397
DB-069	0.464	0.372	0.318	26.982	21.647	18.518
DB-070	0.485	0.413	0.345	39.585	33.706	28.141
DB-071	0.459	0.373	0.315	33.924	27.572	23.278
DB-072	0.303	0.251	0.215	29.389	24.312	20.866
DB-073	0.254	0.213	0.181	15.933	13.347	11.363
DB-074	0.211	0.175	0.150	23.633	19.650	16.850
DB-075	0.246	0.207	0.176	13.407	11.290	9.565
DB-076	0.300	0.253	0.217	23.193	19.588	16.837
DB-077	0.240	0.202	0.172	15.055	12.651	10.758
DB-078	0.822	0.671	0.640	78.636	64.191	61.225
DB-079	0.331	0.290	0.274	17.886	15.657	14.802
DB-080	0.379	0.327	0.306	54.683	47.181	44.151
DB-081	0.379	0.327	0.306	19.833	17.112	16.013

Basin identification number	(MGD/mi2)			(MGD)		
	10-yr RI	25-yr RI	50-yr RI	10-yr RI	25-yr RI	50-yr RI
DB-082	0.558	0.504	0.467	29.633	26.765	24.801
DB-083	0.298	0.252	0.212	50.090	42.496	35.628
DB-084	0.359	0.312	0.273	23.358	20.298	17.768
DB-085	0.558	0.504	0.467	61.566	55.608	51.526
DB-086	0.558	0.504	0.467	38.295	34.589	32.050
DB-087	0.558	0.504	0.467	42.435	38.329	35.515
DB-088	0.558	0.504	0.467	53.474	48.299	44.754
DB-089	0.348	0.303	0.277	27.964	24.343	22.225
DB-090	0.443	0.393	0.390	24.898	22.088	21.920
DB-091	0.330	0.289	0.274	21.701	18.988	17.979
DB-092	0.443	0.393	0.390	22.724	20.159	20.005
DB-093	0.443	0.393	0.390	43.826	38.880	38.583
DB-094	0.615	0.543	0.475	84.167	74.311	65.047
DB-095	0.650	0.584	0.505	43.463	39.033	33.801
DB-096	0.610	0.534	0.474	84.428	73.866	65.629
DB-097	0.424	0.360	0.286	45.569	38.661	30.723
DB-098	0.419	0.367	0.284	38.030	33.282	25.789
DB-099	0.431	0.349	0.288	53.985	43.814	36.050
DB-100	0.427	0.344	0.284	55.953	45.077	37.218
DB-101	0.427	0.355	0.288	37.743	31.339	25.402
DB-102	0.356	0.297	0.249	60.395	50.370	42.301
DB-103	0.425	0.351	0.297	38.926	32.116	27.152
DB-104	0.299	0.250	0.222	41.703	34.865	30.976
DB-105	0.346	0.300	0.266	24.287	21.087	18.695
DB-106	0.300	0.253	0.213	43.193	36.479	30.733
DB-107	0.231	0.193	0.165	30.979	25.838	22.110
DB-108	0.219	0.183	0.156	18.420	15.357	13.140
DB-109	0.357	0.302	0.272	46.114	39.039	35.129
DB-110	0.349	0.292	0.256	22.254	18.616	16.324
DB-111	0.443	0.393	0.390	22.220	19.712	19.562
DB-112	0.331	0.289	0.274	26.975	23.608	22.355
DB-113	0.780	0.688	0.670	32.000	28.225	27.487
DB-114	0.330	0.289	0.274	25.492	22.306	21.120
DB-115	0.331	0.289	0.274	21.946	19.207	18.187
DB-116	0.325	0.284	0.269	13.295	11.626	11.017
DB-117	0.353	0.344	0.265	17.553	17.105	13.177
DB-118	0.353	0.344	0.265	15.546	15.150	11.671
DB-119	0.780	0.688	0.670	56.128	49.508	48.213
DB-120	0.343	0.292	0.275	42.279	36.062	33.930
DB-121	0.336	0.290	0.275	45.289	39.198	37.060
DB-122	0.331	0.289	0.274	21.564	18.872	17.840
DB-123	0.336	0.291	0.275	18.860	16.304	15.389
DB-124	0.337	0.291	0.275	35.044	30.252	28.554
DB-125	0.328	0.287	0.272	27.851	24.385	23.080
DB-126	0.780	0.688	0.670	53.684	47.352	46.113
DB-127	0.633	0.532	0.515	19.940	16.759	16.223

Basin identification number	(MGD/mi ²)			(MGD)		
	10-yr RI	25-yr RI	50-yr RI	10-yr RI	25-yr RI	50-yr RI
DB-128	0.340	0.278	0.267	11.004	8.997	8.641
DB-129	0.780	0.688	0.670	60.625	53.474	52.075
DB-130	0.309	0.234	0.178	28.149	21.317	16.215
DB-131	0.540	0.482	0.443	29.830	26.626	24.471
DB-132	0.340	0.278	0.267	33.901	27.719	26.623
DB-133	0.560	0.509	0.470	60.004	54.539	50.361
DB-134	0.540	0.482	0.443	59.971	53.530	49.199
DB-135	0.309	0.234	0.178	31.041	23.507	17.881
DB-136	0.511	0.458	0.431	38.808	34.783	32.733
DB-137	0.511	0.458	0.431	58.612	52.533	49.436
DB-138	0.511	0.458	0.431	35.599	31.907	30.026
DB-139	0.511	0.458	0.431	38.540	34.542	32.506
DB-140	0.780	0.688	0.670	38.176	33.673	32.792
DB-141	0.780	0.688	0.670	67.484	59.524	57.967
DB-142	0.780	0.688	0.670	35.270	31.110	30.296
DB-143	0.309	0.234	0.178	27.288	20.665	15.720
DB-144	0.309	0.234	0.178	32.185	24.373	18.540
DB-145	0.309	0.234	0.178	23.108	17.499	13.311
DB-146	0.309	0.234	0.178	25.732	19.486	14.823
DB-147	0.340	0.278	0.267	28.392	23.215	22.296

Table A1.2: Surface Water Availability

Basin identification number	MG/mi ² /d			MG/d		
	Q ₇ 10	95% Exceedence	Sept. Med minus Q ₇ 10	Q ₇ 10	95% Exceedence	Sept. Med minus Q ₇ 10
DB-001	0.027	0.058	0.115	3.940	8.312	16.589
DB-002	0.027	0.058	0.116	1.436	3.029	6.043
DB-003	0.027	0.058	0.116	2.274	4.798	9.574
DB-004	0.027	0.058	0.115	1.456	3.072	6.131
DB-005	0.031	0.064	0.122	3.854	7.889	14.974
DB-006	0.028	0.060	0.117	1.118	2.337	4.599
DB-007	0.033	0.067	0.125	2.250	4.551	8.464
DB-008	0.050	0.095	0.153	2.139	4.029	6.508
DB-009	0.045	0.096	0.181	2.780	5.989	11.238
DB-010	0.030	0.062	0.119	6.272	12.971	25.065
DB-011	0.031	0.064	0.121	5.003	10.266	19.575
DB-012	0.053	0.099	0.157	5.166	9.631	15.222
DB-013	0.054	0.101	0.158	7.211	13.386	20.967
DB-014	0.038	0.075	0.133	3.468	6.840	12.142
DB-015	0.051	0.095	0.151	3.580	6.679	10.598
DB-016	0.053	0.098	0.155	4.131	7.704	12.195
DB-017	0.046	0.087	0.140	3.818	7.160	11.548

Basin identification number	MG/mi ² /d			MG/d		
	Q ₇ 10	95% Exceedence	Sept. Med minus Q ₇ 10	Q ₇ 10	95% Exceedence	Sept. Med minus Q ₇ 10
DB-018	0.042	0.094	0.183	5.229	11.728	22.960
DB-019	0.038	0.074	0.126	1.369	2.631	4.481
DB-020	0.056	0.102	0.157	4.237	7.784	11.947
DB-021	0.036	0.070	0.122	0.938	1.817	3.150
DB-022	0.041	0.094	0.184	3.321	7.494	14.749
DB-023	0.037	0.072	0.124	2.207	4.258	7.322
DB-024	0.042	0.094	0.184	1.636	3.693	7.269
DB-025	0.045	0.098	0.186	4.140	9.046	17.193
DB-026	0.041	0.094	0.184	2.904	6.558	12.913
DB-027	0.078	0.141	0.206	6.438	11.625	16.950
DB-028	0.043	0.096	0.185	5.452	12.097	23.379
DB-029	0.041	0.079	0.137	3.636	7.059	12.166
DB-030	0.094	0.161	0.215	6.318	10.879	14.517
DB-031	0.077	0.140	0.206	12.354	22.388	32.849
DB-032	0.043	0.095	0.185	3.948	8.811	17.137
DB-033	0.034	0.068	0.126	2.618	5.283	9.781
DB-034	0.030	0.061	0.119	1.196	2.479	4.809
DB-035	0.037	0.073	0.130	4.075	8.042	14.429
DB-036	0.093	0.159	0.231	7.426	12.786	18.543
DB-037	0.041	0.079	0.137	3.778	7.347	12.694
DB-038	0.050	0.092	0.143	9.890	18.078	28.247
DB-039	0.067	0.116	0.164	4.831	8.412	11.879
DB-040	0.115	0.188	0.251	10.154	16.637	22.277
DB-041	0.138	0.219	0.273	2.489	3.928	4.913
DB-042	0.080	0.141	0.155	5.272	9.327	10.243
DB-043	0.059	0.116	0.200	9.221	18.215	31.491
DB-044	0.074	0.130	0.145	2.260	3.982	4.440
DB-045	0.071	0.131	0.209	12.307	22.856	36.376
DB-046	0.094	0.161	0.231	10.679	18.336	26.267
DB-047	0.092	0.157	0.179	3.189	5.455	6.226
DB-048	0.061	0.107	0.157	1.842	3.230	4.753
DB-049	0.106	0.153	0.175	11.408	16.378	18.786
DB-050	0.104	0.149	0.173	7.230	10.378	12.085
DB-051	0.111	0.158	0.178	5.443	7.722	8.738
DB-052	0.183	0.235	0.211	21.992	28.356	25.371
DB-053	0.084	0.130	0.166	6.305	9.753	12.444
DB-054	0.206	0.256	0.219	9.880	12.295	10.502
DB-055	0.117	0.161	0.179	9.313	12.869	14.279
DB-056	0.102	0.171	0.217	9.526	15.948	20.263
DB-057	0.094	0.162	0.215	12.176	20.920	27.801
DB-058	0.183	0.264	0.240	16.691	24.088	21.832
DB-059	0.230	0.318	0.252	11.351	15.709	12.465
DB-060	0.192	0.275	0.242	28.696	41.021	36.148
DB-061	0.159	0.238	0.248	18.623	27.870	29.034
DB-062	0.091	0.157	0.227	10.084	17.448	25.128
DB-063	0.075	0.134	0.187	8.501	15.149	21.092

Basin identification number	MG/mi ² /d			MG/d		
	Q ₇ 10	95% Exceedence	Sept. Med minus Q ₇ 10	Q ₇ 10	95% Exceedence	Sept. Med minus Q ₇ 10
DB-064	0.092	0.159	0.208	7.234	12.415	16.316
DB-065	0.109	0.153	0.176	9.987	14.074	16.132
DB-066	0.099	0.143	0.172	10.471	15.197	18.273
DB-067	0.207	0.256	0.219	17.314	21.478	18.331
DB-068	0.183	0.229	0.205	27.165	34.043	30.452
DB-069	0.190	0.247	0.216	11.078	14.363	12.553
DB-070	0.161	0.228	0.209	13.129	18.621	17.054
DB-071	0.171	0.227	0.207	12.677	16.786	15.322
DB-072	0.069	0.110	0.124	6.705	10.691	12.038
DB-073	0.042	0.082	0.104	2.607	5.113	6.500
DB-074	0.019	0.054	0.084	2.154	6.059	9.424
DB-075	0.021	0.053	0.087	1.123	2.907	4.738
DB-076	0.037	0.070	0.102	2.865	5.424	7.880
DB-077	0.021	0.054	0.087	1.286	3.370	5.425
DB-078	0.429	0.635	0.492	41.051	60.740	47.022
DB-079	0.098	0.191	0.196	5.302	10.339	10.565
DB-080	0.154	0.246	0.236	22.156	35.506	33.984
DB-081	0.148	0.236	0.226	7.720	12.371	11.841
DB-082	0.253	0.357	0.280	13.437	18.963	14.843
DB-083	0.028	0.059	0.096	4.791	10.011	16.117
DB-084	0.051	0.099	0.133	3.306	6.466	8.628
DB-085	0.254	0.359	0.281	28.061	39.600	30.997
DB-086	0.255	0.359	0.281	17.482	24.672	19.312
DB-087	0.255	0.360	0.281	19.375	27.343	21.402
DB-088	0.253	0.357	0.279	24.247	34.219	26.784
DB-089	0.082	0.157	0.173	6.568	12.631	13.864
DB-090	0.184	0.282	0.240	10.333	15.872	13.475
DB-091	0.101	0.197	0.199	6.633	12.938	13.096
DB-092	0.176	0.271	0.230	9.034	13.876	11.781
DB-093	0.180	0.276	0.234	17.787	27.321	23.195
DB-094	0.168	0.246	0.225	22.997	33.658	30.804
DB-095	0.234	0.323	0.254	15.662	21.610	16.966
DB-096	0.156	0.234	0.237	21.629	32.423	32.849
DB-097	0.084	0.131	0.167	9.005	14.093	17.912
DB-098	0.045	0.093	0.150	4.128	8.407	13.634
DB-099	0.134	0.181	0.188	16.785	22.666	23.552
DB-100	0.132	0.176	0.185	17.292	23.112	24.175
DB-101	0.113	0.160	0.178	9.956	14.172	15.761
DB-102	0.070	0.105	0.127	11.877	17.912	21.589
DB-103	0.146	0.201	0.188	13.326	18.413	17.189
DB-104	0.070	0.123	0.138	9.743	17.203	19.344
DB-105	0.065	0.127	0.151	4.555	8.928	10.569
DB-106	0.058	0.101	0.119	8.322	14.517	17.170
DB-107	0.030	0.067	0.093	3.950	8.908	12.471
DB-108	0.020	0.054	0.085	1.643	4.528	7.123
DB-109	0.093	0.154	0.165	12.070	19.886	21.359

Basin identification number	MG/mi ² /d			MG/d		
	Q ₇ 10	95% Exceedence	Sept. Med minus Q ₇ 10	Q ₇ 10	95% Exceedence	Sept. Med minus Q ₇ 10
DB-110	0.082	0.132	0.148	5.193	8.399	9.415
DB-111	0.187	0.287	0.244	9.375	14.401	12.226
DB-112	0.101	0.198	0.200	8.270	16.132	16.328
DB-113	0.440	0.538	0.291	18.066	22.090	11.932
DB-114	0.101	0.198	0.200	7.825	15.264	15.451
DB-115	0.101	0.198	0.200	6.729	13.126	13.286
DB-116	0.099	0.194	0.196	4.064	7.928	8.025
DB-117	0.073	0.160	0.214	3.649	7.963	10.652
DB-118	0.075	0.164	0.220	3.317	7.239	9.684
DB-119	0.186	0.299	0.298	13.390	21.498	21.449
DB-120	0.116	0.206	0.203	14.353	25.447	25.034
DB-121	0.108	0.201	0.201	14.537	27.178	27.175
DB-122	0.102	0.198	0.200	6.637	12.905	13.050
DB-123	0.109	0.202	0.202	6.106	11.327	11.300
DB-124	0.110	0.203	0.202	11.442	21.080	20.987
DB-125	0.101	0.196	0.198	8.538	16.656	16.859
DB-126	0.468	0.573	0.309	32.227	39.406	21.286
DB-127	0.303	0.454	0.362	9.555	14.301	11.403
DB-128	0.007	0.034	0.090	0.240	1.108	2.920
DB-129	0.522	0.639	0.345	40.598	49.640	26.815
DB-130	0.066	0.125	0.149	5.972	11.358	13.571
DB-131	0.241	0.343	0.264	13.320	18.925	14.578
DB-132	0.007	0.034	0.089	0.731	3.368	8.874
DB-133	0.175	0.349	0.468	18.784	37.365	50.198
DB-134	0.245	0.349	0.269	27.263	38.734	29.836
DB-135	0.065	0.124	0.148	6.554	12.464	14.892
DB-136	0.202	0.310	0.244	15.332	23.555	18.540
DB-137	0.202	0.311	0.245	23.201	35.645	28.055
DB-138	0.201	0.308	0.243	13.972	21.466	16.895
DB-139	0.202	0.310	0.244	15.217	23.379	18.401
DB-140	0.483	0.591	0.319	23.649	28.916	15.620
DB-141	0.525	0.641	0.346	45.387	55.497	29.978
DB-142	0.522	0.639	0.345	23.622	28.883	15.602
DB-143	0.066	0.125	0.150	5.819	11.066	13.222
DB-144	0.066	0.125	0.149	6.839	13.005	15.539
DB-145	0.065	0.124	0.148	4.882	9.285	11.093
DB-146	0.065	0.124	0.148	5.422	10.311	12.320
DB-147	0.007	0.034	0.091	0.624	2.876	7.577

2. A Review of Population Projections Conducted within the Delaware River Basin

Population growth is a key driver of demand for public water supply. This makes it an integral component when projecting future water demand. The boundary of the Delaware River Basin contains portions of Delaware, New Jersey, New York and Pennsylvania. Numerous population projections by state agencies and research organizations within the Basin were reviewed for use in this study. As each agency or research publication pertained to a particular state, uniformity of projection methods across the entire basin was not possible. The best available projection figures were selected based on the needs of this project.

The most applicable population figures were allocated to the 147 watersheds using GIS. To minimize the assumptions that arise when allocating figures across a geographic boundary, the finest geographic boundaries available were selected. Population projections for New Jersey and Pennsylvania were found at the municipal level. Delaware had county level population projections which also included figures for major cities, three of which are found within the basin. Projections for the New York portion of the DRB were only available at the county level. However, due to the lack of major cities and the overall distribution of the population in this region of the basin, these figures are believed adequate for the purposes of this study.

In the state of Delaware all population studies are conducted by the Delaware Population Consortium (DPC). The DPC is a cooperative organization that consists of representatives from state, county and local governments. It was formed to provide uniform projections of population and households in the state of Delaware. The DPC provides projections for all counties and major cities. Major cities within the Basin include Dover, Newark, and Wilmington. The DPC uses mortality, fertility, and labor force data to develop their projections, which are updated each year. These are annual projections spanning a range from 2000 through 2030.

In the state of New Jersey two sources of population projections were found. Population projections were made by the New Jersey Department of Labor and Workforce Development (NJLWD), as well as by Metropolitan Planning Organizations (MPO), which deal with transportation issues within their jurisdictions. The projections provided by each MPO were at the municipal level and had a range that was more applicable to the needs of this project than the projections provided by the NJLWD.

The North Jersey Transportation Planning Authority, Inc. (NJTPA) serves the 13 county region of northern New Jersey. They have created a spreadsheet model that calculates projections of both population and employment at the municipal level. Their figures are provided in five year increments beginning in 2000 and continuing through 2030. Their model factors in historical information regarding base year population, fertility, mortality and migration.

The South Jersey Transportation Planning Organization (SJTPO) is the MPO that serves the southern region of New Jersey. They provide projected population figures by municipality every five years from 2000 through 2025.

The Delaware Valley Regional Planning Commission (DVRPC) is an interstate MPO that serves the central portion of New Jersey and the greater Philadelphia region in Pennsylvania. They produced population projections at the municipal level every five years from 2000 through 2030.

The best available population projection figures for the State of New York were provided by the New York Statistical Information System (NYsis). NYsis is a component of the Program on Applied Demographics (PAD) at the Cornell Institute for Social and Economic Research (CISER). CISER is a research organization established to provide research support to the social science program at Cornell University. NYsis provides population projections by county in five year increments from 2000 through 2030.

Projections for the State of Pennsylvania were provided by the Pennsylvania Department of Environmental Protection (PADEP). The PADEP provided figures at the municipal level in ten year increments beginning in 2000 and continuing through 2030. To produce their population projections, the PADEP used an Ordinary Least Squares trending function that incorporated historical population figures from three previous decades of Federal Census data.

Table A2: Population Projections

BASIN ID	2000 BASE	2005 PROJ	2010 PROJ	2015 PROJ	2020 PROJ	2025 PROJ	2030 PROJ
DB-001	6,875	6,895	6,877	6,833	6,758	6,644	6,492
DB-002	1,210	1,214	1,211	1,203	1,190	1,171	1,144
DB-003	2,993	3,003	2,996	2,977	2,945	2,896	2,830
DB-004	3,362	3,373	3,365	3,345	3,308	3,253	3,179
DB-005	2,986	2,996	2,989	2,970	2,938	2,889	2,823
DB-006	1,520	1,525	1,523	1,518	1,507	1,488	1,462
DB-007	2,038	2,042	2,050	2,062	2,075	2,082	2,083
DB-008	1,004	1,008	1,005	999	988	972	950
DB-009	1,052	1,072	1,091	1,124	1,157	1,157	1,155
DB-010	6,200	6,232	6,230	6,206	6,154	6,068	5,947
DB-011	2,181	2,190	2,188	2,178	2,157	2,125	2,081
DB-012	1,074	1,102	1,130	1,157	1,184	1,206	1,226
DB-013	5,458	5,659	5,868	6,090	6,310	6,520	6,721
DB-014	1,668	1,673	1,669	1,659	1,641	1,613	1,577
DB-015	1,034	1,049	1,060	1,069	1,075	1,076	1,073
DB-016	1,651	1,657	1,653	1,643	1,625	1,598	1,561
DB-017	2,006	2,053	2,096	2,140	2,179	2,212	2,238
DB-018	2,998	3,129	3,260	3,437	3,614	3,627	3,639
DB-019	1,500	1,556	1,613	1,674	1,735	1,792	1,848
DB-020	4,898	5,078	5,266	5,465	5,663	5,851	6,032
DB-021	994	1,030	1,068	1,109	1,149	1,187	1,224
DB-022	3,844	4,162	4,479	4,815	5,151	5,209	5,266
DB-023	1,765	1,830	1,897	1,969	2,040	2,108	2,174
DB-024	2,183	2,486	2,788	3,139	3,489	3,786	4,082
DB-025	6,722	7,048	7,373	7,709	8,044	8,043	8,041
DB-026	3,687	3,848	4,010	4,179	4,348	4,347	4,346

BASIN ID	2000 BASE	2005 PROJ	2010 PROJ	2015 PROJ	2020 PROJ	2025 PROJ	2030 PROJ
DB-027	6,697	7,200	7,704	8,321	8,938	8,922	8,906
DB-028	11,032	11,979	12,926	13,940	14,954	15,910	16,866
DB-029	3,765	3,904	4,048	4,201	4,353	4,498	4,637
DB-030	7,093	7,602	8,111	8,635	9,159	9,157	9,155
DB-031	14,574	16,721	18,867	21,429	23,991	25,688	27,385
DB-032	6,262	7,970	9,678	11,285	12,893	14,754	16,616
DB-033	10,934	11,337	11,756	12,199	12,641	13,062	13,466
DB-034	4,501	4,667	4,839	5,022	5,204	5,377	5,543
DB-035	10,650	11,080	11,524	11,991	12,456	12,896	13,310
DB-036	9,334	11,199	13,064	15,233	17,401	19,911	22,420
DB-037	1,247	1,292	1,339	1,389	1,438	1,485	1,528
DB-038	28,479	29,668	30,895	32,250	33,594	34,836	36,079
DB-039	7,389	7,672	7,967	8,277	8,586	8,880	9,159
DB-040	11,934	15,618	19,302	22,508	25,714	29,426	33,138
DB-041	922	984	1,051	1,134	1,217	1,315	1,435
DB-042	2,388	2,505	2,636	2,793	2,953	3,204	3,510
DB-043	13,705	17,162	20,620	23,923	27,226	30,895	34,564
DB-044	1,950	2,129	2,195	2,273	2,338	2,418	2,472
DB-045	46,346	52,221	58,096	63,886	69,676	75,473	81,271
DB-046	37,101	41,912	46,722	51,522	56,322	61,122	65,922
DB-047	5,334	5,917	6,501	7,082	7,664	8,245	8,827
DB-048	4,445	4,829	5,212	5,584	5,956	6,167	6,377
DB-049	28,406	29,879	31,344	32,799	34,267	35,887	37,518
DB-050	7,505	7,978	8,162	8,475	8,744	9,081	9,314
DB-051	5,869	6,310	6,515	6,783	7,002	7,284	7,485
DB-052	28,840	31,174	34,013	35,973	37,820	39,399	40,539
DB-053	29,410	30,770	32,129	33,540	34,951	35,641	36,331
DB-054	29,032	32,297	34,674	35,913	36,567	37,470	38,078
DB-055	59,932	63,084	66,236	69,812	73,389	75,780	78,171
DB-056	6,550	7,617	8,684	9,756	10,827	11,597	12,367
DB-057	16,880	20,858	24,836	28,761	32,686	36,576	40,465
DB-058	3,807	3,702	3,597	3,535	3,473	3,467	3,461
DB-059	5,629	5,431	5,234	5,107	4,980	4,970	4,960
DB-060	23,227	23,480	23,733	24,164	24,595	24,942	25,289
DB-061	24,279	24,362	24,445	24,375	24,305	24,327	24,349
DB-062	22,100	25,522	28,945	32,386	35,827	38,488	41,148
DB-063	27,337	28,512	29,686	30,748	31,809	31,995	32,181
DB-064	15,614	16,898	18,182	19,323	20,465	21,418	22,371
DB-065	58,201	60,869	63,537	66,012	68,488	69,190	69,892
DB-066	83,450	86,155	88,861	91,330	93,799	94,051	94,302
DB-067	118,051	121,704	125,357	129,186	133,015	133,940	134,866
DB-068	199,042	204,565	210,088	216,245	222,402	223,191	223,981
DB-069	20,661	22,521	24,439	25,413	26,229	27,169	27,828
DB-070	60,573	62,829	64,340	65,289	66,103	66,910	68,784
DB-071	24,121	25,471	26,701	27,099	27,618	28,147	28,869
DB-072	16,558	17,835	19,112	20,449	21,789	22,622	23,455
DB-073	12,496	13,189	13,532	13,946	14,485	15,031	15,606
DB-074	39,245	42,530	45,816	49,578	53,340	56,199	59,058

BASIN ID	2000 BASE	2005 PROJ	2010 PROJ	2015 PROJ	2020 PROJ	2025 PROJ	2030 PROJ
DB-075	6,437	6,845	6,972	7,215	7,664	8,110	8,588
DB-076	47,370	50,377	53,383	56,645	59,906	61,934	63,962
DB-077	40,108	41,205	42,041	42,654	43,921	45,087	46,291
DB-078	184,558	189,156	195,099	198,441	201,755	204,852	208,252
DB-079	126,147	128,837	131,527	133,731	135,935	134,428	132,922
DB-080	82,989	86,859	91,438	94,443	97,426	100,793	104,333
DB-081	25,172	28,992	31,994	33,226	34,300	37,057	39,280
DB-082	41,478	45,303	47,096	48,673	50,117	52,568	55,179
DB-083	185,122	196,439	207,756	219,481	231,206	237,833	244,460
DB-084	146,125	150,707	155,290	159,444	163,597	163,381	163,164
DB-085	28,809	29,609	30,699	31,107	32,016	32,465	33,155
DB-086	12,273	13,244	13,609	14,073	14,915	15,784	16,440
DB-087	64,617	70,167	72,394	74,726	76,729	79,239	81,904
DB-088	120,215	127,729	134,014	138,689	143,355	148,111	153,229
DB-089	338,555	338,166	337,777	341,390	345,002	338,874	332,745
DB-090	131,734	136,973	137,015	138,052	140,553	142,202	144,923
DB-091	848,992	840,422	831,853	839,499	847,145	827,707	808,269
DB-092	189,241	188,341	187,121	186,214	186,166	184,274	183,904
DB-093	295,985	298,296	299,963	299,713	300,349	299,847	300,826
DB-094	24,150	23,783	23,416	22,972	22,528	22,539	22,550
DB-095	27,557	26,288	25,019	23,896	22,773	22,752	22,731
DB-096	37,054	37,077	37,101	37,254	37,407	37,389	37,370
DB-097	52,298	53,863	55,428	57,620	59,812	59,723	59,633
DB-098	6,289	6,709	7,130	7,553	7,977	8,166	8,356
DB-099	35,847	38,033	40,219	42,677	45,134	45,132	45,130
DB-100	25,762	27,093	28,423	29,496	30,568	30,681	30,794
DB-101	39,988	42,362	44,735	47,470	50,206	50,162	50,118
DB-102	182,995	188,088	193,181	198,811	204,442	204,270	204,098
DB-103	31,598	32,785	33,973	35,391	36,810	36,749	36,688
DB-104	120,828	127,620	134,411	141,265	148,118	151,478	154,838
DB-105	24,317	25,431	26,545	27,334	28,124	28,539	28,954
DB-106	44,024	47,207	50,390	53,453	56,516	58,819	61,123
DB-107	88,613	95,413	102,212	108,743	115,273	120,076	124,879
DB-108	100,939	107,084	113,229	118,248	123,267	124,965	126,663
DB-109	556,678	556,205	555,732	561,729	567,726	557,187	546,648
DB-110	161,552	162,832	164,111	165,581	167,052	164,302	161,552
DB-111	82,788	85,859	89,007	92,053	95,850	98,482	101,712
DB-112	457,638	452,925	448,212	447,057	445,903	442,854	439,805
DB-113	12,290	12,654	13,309	14,105	14,952	15,664	16,491
DB-114	133,222	133,862	134,502	134,967	135,431	135,396	135,361
DB-115	104,497	108,154	111,811	115,396	118,982	119,375	119,769
DB-116	118,490	122,258	125,794	129,419	132,713	134,918	136,684
DB-117	15,934	17,949	20,350	23,014	25,648	29,695	32,344
DB-118	7,110	8,020	9,008	10,393	11,539	12,651	13,897
DB-119	21,920	21,951	22,081	22,321	22,476	22,519	22,692
DB-120	94,602	100,649	106,695	111,742	116,789	119,054	121,319
DB-121	55,477	58,416	61,356	63,761	66,166	67,356	68,546
DB-122	69,793	72,032	74,219	76,456	78,531	79,180	79,818

BASIN ID	2000 BASE	2005 PROJ	2010 PROJ	2015 PROJ	2020 PROJ	2025 PROJ	2030 PROJ
DB-123	41,218	44,011	46,725	49,118	51,402	52,903	54,250
DB-124	116,533	124,214	131,421	137,700	143,472	147,702	151,335
DB-125	188,524	196,229	203,218	209,523	214,910	219,478	223,142
DB-126	19,755	19,751	19,640	19,415	19,275	19,251	19,083
DB-127	32,356	34,060	35,652	37,154	38,503	39,605	40,492
DB-128	8,859	9,325	9,761	10,172	10,541	10,843	11,086
DB-129	5,501	5,522	5,613	5,781	5,891	5,921	6,042
DB-130	15,609	16,431	17,199	17,924	18,574	19,106	19,534
DB-131	3,387	3,467	3,573	3,757	3,886	3,985	4,119
DB-132	12,920	14,283	15,281	16,171	17,010	17,727	18,333
DB-133	39,375	40,803	42,191	44,519	46,239	47,951	49,665
DB-134	6,290	6,541	6,785	7,194	7,497	7,797	8,098
DB-135	20,129	22,318	23,761	25,104	26,382	27,512	28,487
DB-136	35,079	36,951	39,336	41,751	44,493	47,084	49,574
DB-137	57,562	59,494	61,710	65,405	68,108	70,433	73,185
DB-138	30,472	31,717	32,927	34,954	36,452	37,946	39,438
DB-139	21,897	22,711	23,503	24,776	25,735	26,693	27,652
DB-140	3,614	3,760	3,902	4,141	4,317	4,492	4,668
DB-141	11,147	11,643	12,133	12,750	13,286	13,815	14,350
DB-142	25,391	26,513	27,634	28,684	29,732	30,754	31,870
DB-143	53,866	59,058	62,340	65,540	68,577	71,312	73,685
DB-144	18,585	21,005	22,685	24,161	25,570	26,788	27,829
DB-145	13,981	15,699	17,143	18,478	19,716	20,800	21,749
DB-146	8,280	9,248	10,190	11,090	11,909	12,633	13,275
DB-147	15,932	17,793	19,606	21,338	22,914	24,306	25,542
DRB-Total	7,742,242	7,978,836	8,196,574	8,433,737	8,669,240	8,770,787	8,873,315

3. Water Conservation Program in the Delaware River Basin

The Delaware River Basin Commission has a well-established and comprehensive water conservation program which has for many years provided water resources protection and improved drought preparedness and response. Water conservation has become an integral component of the Commission’s strategy to manage water supplies throughout the Basin and includes both regulatory and educational initiatives

It is the policy of the Commission to require maximum feasible efficiency in the use of water on the part of water users throughout the Basin. The Commission works towards this through its regulatory program. Under Section 3.8 entitled ‘Referral and Review’ of the Delaware River Basin Compact, the Commission is charged with reviewing and approving all projects having a substantial effect on the water resources of the Delaware River Basin. The Commission’s regulatory program covers the following general areas which discussed in more detail below:

- Source and Service metering

- Water loss, leak detection and repair
- Water conservation performance standards for plumbing fixtures and fittings
- Conservation oriented pricing structures; and
- Requirements for water conservation plans and water user education.

The Commission continually works to ensure its regulations reflect the latest thinking in the field of water conservation. It is currently working to update its regulations regarding water loss in drinking water supply distribution systems and is considering adoption of the American Water Works Association (AWWA) Water Audit Methodology.

Source and Service Metering

In the mid-1980's the Commission passed resolutions requiring source (Resolution No. 86-12) and service (Resolution No. 87-7) metering for users withdrawing greater than an average of 100,000gpd. Metering at the source level is essential to enable water users to monitor and report their withdrawals. The source metering resolution requires the use of an automated continuous recording device or flow meter, accurate to within five percent. Exception to the five percent performance standard, but no greater than ten percent, may be granted for surface water withdrawals if maintenance of the five percent performance standard is not technically feasible or economically practicable. Meters or other methods of measurement are subject to approval and inspection regarding type, method, installation, maintenance, calibration, reading, and accuracy. The following water users are exempt from the source metering requirements:

- agricultural irrigation;
- snowmaking;
- dewatering incidental to mining and quarrying; and
- dewatering incidental to construction

These exempt users are however required to estimate withdrawals based on pumping rates and durations.

Owners of water supply systems serving the public that withdraw more than 100,000gpd are required to install water meters at the customer connection. Metering at the customer level is important for tracking efficient operation of the distribution system and for providing information and incentives to the customer to reduce water use. The Commission further requires that water charges collected by purveyors shall be based in part on metered usage.

Requirements for Water Purveyors

Water loss, leak detection and repair

The Commission is currently in the process of revising its regulations regarding the measurement and tracking of water loss. The existing resolution (Resolution 87-6 Rev 1)

promotes the concept of “unaccounted for water” which is no longer considered best practice by the water industry. Recent efforts by the AWWA have resulted in a new approach to track water loss which relies on a more rigid audit structure and well-defined definitions. It is estimated that over 150 mgd is physically lost from distribution systems throughout the basin and that the new audit approach will help the Commission, State Agencies and utility managers target efforts to improve water supply planning and efficiency thereby reducing water withdrawals that have no beneficial end use. AWWA hosts a water audit software tool on its website which is available as a free download for use by water purveyors. The software design was led by Commission staff, demonstrating DRBC’s continued leadership in the field of water conservation.

Water conservation performance standards for plumbing fixtures and fittings

In 1988 the DRBC implemented Resolution 88-2 (Rev 2) which established water conservation performance standards for plumbing fixtures and fittings. The performance standards, which were consistent with federal regulations, stipulate that all performance standards or plumbing codes adopted by the four states or political subdivisions shall comply with certain minimum standards. By January 1, 1992, the states of Delaware, New Jersey and New York had adopted statewide conservation requirements that met DRBC standards. In Pennsylvania, attempts to adopt a statewide plumbing code failed in the Legislature and DRBC notified the 505 Pennsylvania municipalities in the Basin that they were required to enact local ordinances to meet DRBC standards. The standards described apply to plumbing fixtures and fittings installed in new construction and, under certain conditions, to existing structures undergoing renovations involving replacement of such fixtures and fittings. In 2004, by Act of the General Assembly, the Uniform Construction Code (UCC) went into effect in the Commonwealth of Pennsylvania. Resolution 88-2 still remains in the DRBC Water Code, however the adoption of the UCC by Pennsylvania means that the municipal ordinances are no longer required by DRBC.

Conservation oriented pricing structures

Resolution No. 92-2 makes it the policy of the Delaware River Basin Commission to promote and support retail water pricing that encourages conservation. A water conserving pricing structure is an important demand management tool that provides incentives to consumers to reduce average or peak water use, or both. Conservation pricing reflects the fact that water is a precious resource that should be used in an efficient manner. Such pricing can be characterized by one or more of the following components:

- Rates in which the unit price of water per class of customer (residential, industrial, etc.) is constant within each class regardless of the quantity of water used (uniform rates) or increases as the quantity of water used increases (increasing block rates);
- Seasonal rates or excess-use surcharges to reduce peak water demands during summer months; or
- Rates based on the long-run marginal cost or the cost of adding the next unit of water supply to the system.

All purveyors are encouraged to evaluate alternative pricing structures with the objective of adopting a water conserving pricing structure. A purveyor seeking approval under Section 3.8 of the Compact for a new or expanded water withdrawal and whose proposed total withdrawal equals or exceeds an average of one million gallons of water per day must include in its water conservation plan, submitted as part of the application, an evaluation of the feasibility of implementing a water conserving pricing structure and billing program. A purveyor may limit the evaluation to less than its entire system upon application and a determination that a review of its entire system is not necessary.

Requirements for water conservation plans and water user education

Owners of water supply systems serving the public (purveyors) seeking approval under section 3.8 of the Compact for a new or expanded water withdrawal must develop a water conservation plan. The plan must, at a minimum, describe the implementation of the programs described above. All applications for a new or expanded water withdrawal that results in a total withdrawal equaling or exceeding an average of one million gallons of water per day shall include a plan for provision of information on the availability of water conserving devices and procedures (Resolution No. 81-9). In addition, a Drought Contingency Plan describing use priorities and emergency conservation measures to be instituted in the event of a drought or other water shortage condition is required. Contingency plans of public authorities or private water works corporations shall be prepared in cooperation with all municipalities in the area affected by the contingency plan, and shall be coordinated with any applicable statewide water shortage contingency plans.

Requirements for Non Water Purveyors

The Commission requires that applications for approval of new industrial or commercial water withdrawals from surface or ground water sources in excess of an average of one million gallons per day contain a report of the water-conserving procedures and technology considered by the applicant and the extent to which they will be applied in the development of the project. In addition, a contingency plan must be developed which includes emergency conservation measures to be instituted in the event of a drought or other water shortage. The report and contingency plan must estimate the impact of the water conservation measures upon consumptive and non-consumptive water use by the applicant.

Applications for approval of new agricultural irrigation water withdrawals from surface or ground water sources in excess of one million gallons per day shall include a statement of the operating procedure or equipment to be used by the applicant to achieve the most efficient method of application of water and to avoid waste.

4. Water Use Estimates and Projections

The table below contains a summary of current and future water use, aggregated to the watershed scale. All figures are peak demand using the month of July (Million gallons/per day), and are listed by source type, ground water (GW) and surface water (SW). Assumptions regarding water conservation are included in these estimates.

Table 4.1 Total Withdrawals: Peak MGD (July)

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-001	GW	0.790	0.787	0.771	0.752	0.732	0.709	0.684
DB-001	SW	0.070	0.068	0.065	0.061	0.058	0.056	0.053
DB-002	GW	0.194	0.193	0.188	0.183	0.177	0.172	0.165
DB-002	SW	0.025	0.024	0.023	0.022	0.021	0.020	0.019
DB-003	GW	1.427	1.427	1.406	1.370	1.330	1.284	1.233
DB-003	SW	0.039	0.038	0.037	0.035	0.033	0.031	0.030
DB-004	GW	0.312	0.311	0.305	0.298	0.290	0.281	0.271
DB-004	SW	0.025	0.025	0.023	0.022	0.021	0.020	0.019
DB-005	GW	0.619	0.617	0.604	0.588	0.572	0.555	0.535
DB-005	SW	0.058	0.057	0.054	0.051	0.049	0.046	0.044
DB-006	GW	0.264	0.263	0.258	0.253	0.247	0.241	0.233
DB-006	SW	0.019	0.019	0.018	0.017	0.016	0.015	0.015
DB-007	GW	0.486	0.485	0.478	0.472	0.467	0.461	0.454
DB-007	SW	0.035	0.035	0.033	0.031	0.030	0.029	0.027
DB-008	GW	0.187	0.186	0.182	0.177	0.172	0.167	0.161
DB-008	SW	0.020	0.020	0.019	0.018	0.017	0.016	0.015
DB-009	GW	0.428	0.429	0.429	0.432	0.436	0.429	0.422
DB-009	SW	0.043	0.042	0.041	0.039	0.037	0.035	0.034
DB-010	GW	1.060	1.057	1.038	1.012	0.986	0.958	0.927
DB-010	SW	0.125	0.123	0.118	0.112	0.107	0.102	0.098
DB-011	GW	0.672	0.669	0.655	0.637	0.619	0.600	0.579
DB-011	SW	0.088	0.086	0.083	0.078	0.074	0.071	0.068
DB-012	GW	0.505	0.507	0.506	0.503	0.500	0.497	0.495
DB-012	SW	0.087	0.086	0.083	0.080	0.076	0.073	0.071
DB-013	GW	0.931	0.942	0.960	0.979	0.997	1.015	1.032
DB-013	SW	0.057	0.057	0.055	0.053	0.052	0.050	0.049
DB-014	GW	0.486	0.484	0.474	0.462	0.450	0.436	0.421
DB-014	SW	0.043	0.042	0.040	0.038	0.036	0.035	0.033
DB-015	GW	0.434	0.435	0.431	0.426	0.421	0.415	0.408
DB-015	SW	0.032	0.031	0.030	0.028	0.027	0.026	0.024
DB-016	GW	0.346	0.344	0.337	0.327	0.318	0.308	0.297
DB-016	SW	0.037	0.036	0.035	0.033	0.031	0.030	0.028
DB-017	GW	0.486	0.488	0.489	0.489	0.490	0.489	0.487
DB-017	SW	0.034	0.033	0.032	0.030	0.029	0.028	0.027
DB-018	GW	0.986	0.998	1.018	1.049	1.081	1.069	1.057
DB-018	SW	0.088	0.087	0.084	0.079	0.076	0.072	0.070

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-019	GW	0.447	0.453	0.463	0.474	0.485	0.496	0.505
DB-019	SW	0.011	0.011	0.011	0.011	0.010	0.010	0.010
DB-020	GW	0.858	0.869	0.889	0.910	0.931	0.950	0.968
DB-020	SW	0.024	0.024	0.024	0.023	0.022	0.022	0.022
DB-021	GW	0.282	0.286	0.292	0.299	0.306	0.312	0.318
DB-021	SW	0.008	0.008	0.008	0.008	0.008	0.007	0.007
DB-022	GW	0.759	0.778	0.819	0.862	0.904	0.901	0.899
DB-022	SW	0.053	0.052	0.050	0.048	0.045	0.043	0.042
DB-023	GW	0.554	0.561	0.574	0.587	0.600	0.612	0.624
DB-023	SW	0.019	0.019	0.018	0.018	0.017	0.017	0.017
DB-024	GW	0.784	0.827	0.927	1.038	1.147	1.247	1.344
DB-024	SW	0.015	0.015	0.014	0.013	0.013	0.012	0.012
DB-025	GW	1.309	1.330	1.370	1.411	1.452	1.442	1.433
DB-025	SW	0.064	0.063	0.061	0.058	0.055	0.053	0.051
DB-026	GW	0.533	0.540	0.550	0.561	0.573	0.565	0.557
DB-026	SW	0.049	0.048	0.046	0.044	0.042	0.040	0.038
DB-027	GW	1.424	1.458	1.532	1.621	1.711	1.709	1.709
DB-027	SW	0.069	0.069	0.067	0.065	0.064	0.061	0.059
DB-028	GW	2.282	2.350	2.495	2.647	2.799	2.949	3.099
DB-028	SW	0.096	0.097	0.099	0.101	0.102	0.104	0.105
DB-029	GW	0.681	0.689	0.704	0.719	0.735	0.749	0.763
DB-029	SW	0.028	0.028	0.028	0.027	0.026	0.025	0.025
DB-030	GW	1.252	1.283	1.346	1.410	1.473	1.457	1.441
DB-030	SW	0.048	0.048	0.046	0.044	0.042	0.040	0.038
DB-031	GW	2.625	2.749	3.029	3.367	3.699	3.856	4.010
DB-031	SW	0.125	0.128	0.134	0.140	0.146	0.148	0.150
DB-032	GW	1.652	1.800	2.148	2.473	2.791	3.155	3.513
DB-032	SW	0.006	0.006	0.006	0.006	0.006	0.005	0.005
DB-033	GW	0.922	0.934	0.956	0.979	1.002	1.022	1.042
DB-033	SW	0.025	0.025	0.024	0.023	0.023	0.022	0.022
DB-034	GW	0.911	0.923	0.946	0.970	0.994	1.016	1.036
DB-034	SW	0.013	0.013	0.013	0.012	0.012	0.012	0.011
DB-035	GW	1.651	1.672	1.711	1.748	1.786	1.821	1.853
DB-035	SW	0.092	0.091	0.088	0.085	0.081	0.079	0.077
DB-036	GW	1.963	2.090	2.384	2.739	3.087	3.486	3.878
DB-036	SW	0.006	0.006	0.006	0.005	0.005	0.005	0.005
DB-037	GW	0.594	0.599	0.604	0.607	0.610	0.614	0.618
DB-037	SW	0.098	0.098	0.095	0.091	0.087	0.084	0.082
DB-038	GW	3.346	3.397	3.495	3.602	3.706	3.795	3.885
DB-038	SW	0.400	0.398	0.390	0.377	0.364	0.354	0.347
DB-039	GW	1.830	1.855	1.902	1.947	1.992	2.032	2.068
DB-039	SW	0.042	0.042	0.041	0.039	0.038	0.037	0.036
DB-040	GW	2.086	2.301	2.812	3.245	3.669	4.156	4.632

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-040	SW	0.006	0.006	0.006	0.006	0.006	0.005	0.005
DB-041	GW	0.403	0.412	0.435	0.462	0.489	0.522	0.562
DB-041	SW	0.049	0.049	0.048	0.046	0.044	0.042	0.041
DB-042	GW	0.582	0.591	0.611	0.634	0.658	0.701	0.754
DB-042	SW	0.186	0.185	0.180	0.172	0.164	0.159	0.154
DB-043	GW	1.988	2.143	2.510	2.852	3.191	3.566	3.937
DB-043	SW	0.242	0.261	0.303	0.342	0.377	0.415	0.448
DB-044	GW	0.601	0.616	0.622	0.629	0.632	0.641	0.644
DB-044	SW	0.548	0.545	0.531	0.508	0.485	0.468	0.457
DB-045	GW	3.811	3.961	4.297	4.619	4.941	5.263	5.584
DB-045	SW	3.257	3.357	3.578	3.787	3.991	4.198	4.401
DB-046	GW	1.932	2.016	2.207	2.393	2.575	2.754	2.929
DB-046	SW	0.087	0.089	0.093	0.097	0.100	0.103	0.105
DB-047	GW	1.018	1.059	1.150	1.238	1.326	1.414	1.501
DB-047	SW	0.130	0.134	0.144	0.153	0.160	0.167	0.174
DB-048	GW	0.237	0.243	0.256	0.267	0.279	0.284	0.289
DB-048	SW	0.057	0.056	0.055	0.052	0.050	0.048	0.047
DB-049	GW	3.629	3.699	3.837	3.963	4.085	4.211	4.329
DB-049	SW	0.386	0.386	0.381	0.372	0.362	0.355	0.350
DB-050	GW	1.916	1.952	1.965	1.998	2.023	2.063	2.084
DB-050	SW	1.284	1.279	1.250	1.199	1.151	1.115	1.092
DB-051	GW	2.484	2.520	2.528	2.540	2.542	2.561	2.564
DB-051	SW	1.003	0.998	0.973	0.930	0.889	0.858	0.837
DB-052	GW	5.032	5.166	5.615	5.891	6.149	6.347	6.481
DB-052	SW	1.861	1.854	1.816	1.745	1.676	1.622	1.583
DB-053	GW	1.700	1.717	1.742	1.765	1.788	1.783	1.779
DB-053	SW	1.054	1.067	1.091	1.110	1.128	1.129	1.130
DB-054	GW	7.982	8.124	8.262	8.340	8.296	8.302	8.264
DB-054	SW	1.077	1.075	1.056	1.016	0.975	0.945	0.923
DB-055	GW	3.955	3.972	3.993	4.016	4.040	4.041	4.043
DB-055	SW	2.856	2.827	2.729	2.612	2.500	2.395	2.296
DB-056	GW	0.631	0.664	0.739	0.813	0.885	0.934	0.981
DB-056	SW	0.059	0.058	0.057	0.054	0.051	0.050	0.048
DB-057	GW	2.280	2.432	2.783	3.118	3.448	3.773	4.093
DB-057	SW	0.392	0.420	0.486	0.549	0.605	0.658	0.709
DB-058	GW	0.505	0.497	0.471	0.455	0.439	0.432	0.426
DB-058	SW	0.101	0.100	0.098	0.093	0.089	0.086	0.084
DB-059	GW	0.587	0.577	0.547	0.525	0.504	0.495	0.487
DB-059	SW	0.047	0.046	0.045	0.043	0.041	0.040	0.039
DB-060	GW	0.616	0.614	0.606	0.602	0.598	0.597	0.598
DB-060	SW	5.584	5.504	5.254	5.021	4.793	4.722	4.655
DB-061	GW	8.341	8.464	8.759	9.052	9.367	9.746	10.147
DB-061	SW	2.783	2.579	2.697	2.800	2.920	3.084	3.269

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-062	GW	0.892	0.941	1.053	1.162	1.265	1.344	1.416
DB-062	SW	18.190	18.355	18.594	18.811	19.040	19.043	19.064
DB-063	GW	4.923	4.915	4.872	4.830	4.798	4.702	4.614
DB-063	SW	0.283	0.282	0.275	0.263	0.253	0.244	0.239
DB-064	GW	0.840	0.851	0.873	0.892	0.911	0.931	0.951
DB-064	SW	4.023	4.083	4.194	4.302	4.413	4.469	4.530
DB-065	GW	6.591	6.644	6.731	6.793	6.858	6.835	6.815
DB-065	SW	1.326	1.333	1.339	1.340	1.341	1.325	1.312
DB-066	GW	10.284	10.368	10.479	10.533	10.599	10.568	10.549
DB-066	SW	0.651	0.653	0.651	0.641	0.629	0.613	0.597
DB-067	GW	19.052	19.189	19.353	19.469	19.602	19.489	19.398
DB-067	SW	5.128	5.147	5.145	5.126	5.114	5.048	4.993
DB-068	GW	10.094	10.140	10.203	10.274	10.341	10.279	10.217
DB-068	SW	0.793	0.795	0.792	0.784	0.774	0.758	0.743
DB-069	GW	3.334	3.398	3.536	3.588	3.621	3.667	3.685
DB-069	SW	1.222	1.217	1.189	1.139	1.090	1.054	1.029
DB-070	GW	6.210	6.298	6.375	6.388	6.400	6.405	6.464
DB-070	SW	1.273	1.281	1.280	1.257	1.226	1.192	1.166
DB-071	GW	7.021	7.100	7.175	7.114	7.076	7.047	7.030
DB-071	SW	2.229	2.231	2.211	2.160	2.109	2.069	2.038
DB-072	GW	1.732	1.778	1.875	1.975	2.074	2.133	2.191
DB-072	SW	0.259	0.257	0.251	0.239	0.229	0.221	0.215
DB-073	GW	1.954	1.991	2.016	2.046	2.088	2.132	2.177
DB-073	SW	0.419	0.419	0.412	0.399	0.386	0.377	0.371
DB-074	GW	5.517	5.658	5.953	6.278	6.599	6.815	7.028
DB-074	SW	0.481	0.481	0.475	0.463	0.452	0.440	0.432
DB-075	GW	1.388	1.416	1.425	1.450	1.507	1.563	1.623
DB-075	SW	0.305	0.304	0.297	0.285	0.273	0.265	0.259
DB-076	GW	6.342	6.484	6.816	7.166	7.525	7.826	8.139
DB-076	SW	0.309	0.310	0.309	0.305	0.300	0.295	0.290
DB-077	GW	1.597	1.611	1.627	1.633	1.658	1.681	1.705
DB-077	SW	0.861	0.862	0.853	0.829	0.808	0.787	0.768
DB-078	GW	7.089	7.184	7.362	7.406	7.453	7.483	7.528
DB-078	SW	1.480	1.476	1.451	1.401	1.349	1.311	1.282
DB-079	GW	2.526	2.553	2.595	2.625	2.656	2.644	2.634
DB-079	SW	1.058	1.060	1.056	1.040	1.025	1.012	1.000
DB-080	GW	9.220	9.477	9.870	10.141	10.401	10.681	10.967
DB-080	SW	4.487	4.501	4.496	4.407	4.305	4.238	4.197
DB-081	GW	5.280	5.461	5.735	5.895	6.039	6.230	6.420
DB-081	SW	2.113	2.116	2.091	2.017	1.942	1.899	1.869
DB-082	GW	10.347	10.558	10.631	10.637	10.626	10.698	10.749
DB-082	SW	1.961	1.953	1.907	1.825	1.746	1.688	1.648
DB-083	GW	17.691	18.057	18.832	19.590	20.351	20.830	21.320

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-083	SW	18.616	18.931	19.529	19.834	20.132	20.098	20.069
DB-084	GW	4.241	4.310	4.440	4.557	4.670	4.677	4.685
DB-084	SW	11.102	11.234	11.460	11.618	11.785	11.919	12.067
DB-085	GW	3.655	3.689	3.757	3.741	3.783	3.778	3.797
DB-085	SW	9.699	9.725	9.752	9.703	9.667	9.647	9.662
DB-086	GW	2.690	2.751	2.774	2.800	2.880	2.975	3.036
DB-086	SW	2.937	2.925	2.864	2.758	2.655	2.579	2.526
DB-087	GW	6.575	6.797	6.923	7.036	7.094	7.218	7.350
DB-087	SW	3.504	3.518	3.470	3.374	3.268	3.194	3.140
DB-088	GW	9.237	9.348	9.567	9.698	9.793	9.890	9.979
DB-088	SW	3.963	3.958	3.892	3.757	3.620	3.520	3.449
DB-089	GW	3.294	3.331	3.390	3.443	3.498	3.512	3.529
DB-089	SW	0.344	0.343	0.337	0.333	0.327	0.315	0.301
DB-090	GW	27.198	27.435	27.167	26.923	26.811	26.452	26.192
DB-090	SW	2.110	2.104	2.055	1.973	1.895	1.834	1.792
DB-091	GW	0.247	0.251	0.258	0.264	0.271	0.278	0.285
DB-091	SW	0.106	0.106	0.103	0.102	0.100	0.096	0.092
DB-092	GW	24.380	24.302	23.823	23.266	22.818	22.237	21.771
DB-092	SW	1.891	1.879	1.827	1.749	1.674	1.611	1.560
DB-093	GW	27.958	28.012	27.840	27.380	26.981	26.532	26.473
DB-093	SW	4.756	4.735	4.626	4.434	4.247	4.105	4.004
DB-094	GW	13.968	13.359	12.013	10.815	9.757	8.841	8.035
DB-094	SW	2.535	2.504	2.406	2.297	2.193	2.135	2.084
DB-095	GW	6.465	6.221	5.703	5.254	4.880	4.582	4.348
DB-095	SW	10.813	10.685	10.264	9.846	9.444	9.271	9.110
DB-096	GW	2.473	2.489	2.505	2.527	2.551	2.523	2.497
DB-096	SW	2.812	2.774	2.650	2.524	2.401	2.358	2.320
DB-097	GW	7.963	8.012	8.061	8.145	8.237	8.156	8.082
DB-097	SW	0.555	0.552	0.540	0.520	0.504	0.492	0.484
DB-098	GW	1.546	1.571	1.621	1.669	1.719	1.734	1.750
DB-098	SW	0.809	0.805	0.787	0.763	0.741	0.721	0.705
DB-099	GW	12.452	12.704	13.297	13.935	14.602	15.033	15.497
DB-099	SW	14.690	14.823	15.027	15.209	15.411	15.544	15.702
DB-100	GW	4.270	4.399	4.559	4.681	4.820	4.873	4.940
DB-100	SW	1.154	1.151	1.135	1.104	1.076	1.054	1.038
DB-101	GW	6.031	6.147	6.378	6.631	6.884	6.861	6.841
DB-101	SW	0.601	0.599	0.588	0.569	0.553	0.539	0.529
DB-102	GW	7.715	7.825	8.046	8.287	8.540	8.593	8.656
DB-102	SW	1.525	1.537	1.557	1.563	1.574	1.553	1.540
DB-103	GW	2.037	2.059	2.098	2.144	2.193	2.173	2.155
DB-103	SW	1.074	1.076	1.071	1.059	1.049	1.040	1.036
DB-104	GW	13.156	13.548	14.517	15.540	16.653	17.766	18.990
DB-104	SW	4.855	4.909	4.997	5.053	5.107	5.140	5.178

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-105	GW	1.671	1.698	1.753	1.789	1.825	1.848	1.872
DB-105	SW	0.501	0.501	0.497	0.485	0.473	0.462	0.453
DB-106	GW	5.007	5.115	5.338	5.538	5.737	5.870	6.002
DB-106	SW	0.658	0.658	0.653	0.639	0.626	0.614	0.605
DB-107	GW	8.422	8.624	9.047	9.446	9.839	10.109	10.378
DB-107	SW	0.776	0.784	0.795	0.799	0.800	0.797	0.793
DB-108	GW	7.179	7.308	7.558	7.723	7.886	7.892	7.899
DB-108	SW	19.704	19.943	20.359	20.652	20.961	21.203	21.465
DB-109	GW	11.673	11.803	12.041	12.229	12.427	12.569	12.722
DB-109	SW	0.666	0.665	0.655	0.647	0.635	0.611	0.585
DB-110	GW	9.192	9.305	9.501	9.630	9.761	9.786	9.815
DB-110	SW	0.486	0.487	0.483	0.479	0.471	0.454	0.435
DB-111	GW	19.796	20.023	20.409	20.692	21.013	21.178	21.645
DB-111	SW	4.131	4.117	4.033	3.878	3.728	3.616	3.540
DB-112	GW	0.237	0.236	0.231	0.227	0.223	0.219	0.215
DB-112	SW	0.348	0.346	0.339	0.332	0.324	0.314	0.304
DB-113	GW	4.986	5.012	5.069	5.091	5.118	5.125	5.162
DB-113	SW	4.094	4.091	4.044	3.937	3.831	3.754	3.709
DB-114	GW	1.031	1.033	1.030	1.023	1.017	1.008	0.998
DB-114	SW	21.731	21.989	22.433	22.746	23.074	23.336	23.619
DB-115	GW	1.124	1.137	1.159	1.178	1.197	1.190	1.184
DB-115	SW	2.637	2.664	2.709	2.738	2.770	2.793	2.819
DB-116	GW	0.421	0.422	0.421	0.416	0.411	0.406	0.401
DB-116	SW	0.041	0.041	0.040	0.038	0.037	0.035	0.034
DB-117	GW	4.098	4.228	4.564	4.868	5.139	5.680	5.925
DB-117	SW	3.798	3.783	3.701	3.552	3.407	3.307	3.236
DB-118	GW	3.611	3.705	3.921	4.196	4.400	4.591	4.805
DB-118	SW	4.386	4.368	4.273	4.103	3.936	3.812	3.731
DB-119	GW	9.452	9.436	9.348	9.196	9.051	8.937	8.843
DB-119	SW	20.668	20.602	20.221	19.589	18.955	18.411	17.969
DB-120	GW	8.509	8.661	8.967	9.211	9.469	9.668	9.882
DB-120	SW	6.999	7.083	7.232	7.325	7.425	7.494	7.575
DB-121	GW	5.773	5.889	6.127	6.307	6.493	6.589	6.690
DB-121	SW	6.468	6.608	6.904	7.161	7.438	7.682	7.955
DB-122	GW	1.447	1.462	1.484	1.505	1.523	1.516	1.510
DB-122	SW	19.244	19.326	19.307	19.255	19.122	18.951	18.767
DB-123	GW	2.573	2.629	2.745	2.843	2.938	3.002	3.061
DB-123	SW	1.273	1.240	1.152	1.060	0.976	0.902	0.837
DB-124	GW	5.421	5.517	5.685	5.817	5.930	6.004	6.062
DB-124	SW	21.618	21.984	22.588	23.092	23.478	23.764	23.934
DB-125	GW	6.861	6.958	7.099	7.192	7.251	7.304	7.331
DB-125	SW	2.912	2.959	3.033	3.092	3.136	3.168	3.186
DB-126	GW	3.945	3.935	3.854	3.730	3.621	3.544	3.465

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-126	SW	8.071	8.030	7.833	7.488	7.156	6.908	6.738
DB-127	GW	14.214	14.327	14.453	14.544	14.624	14.689	14.739
DB-127	SW	1.444	1.388	1.246	1.106	0.983	0.874	0.778
DB-128	GW	0.531	0.527	0.511	0.492	0.473	0.457	0.443
DB-128	SW	0.054	0.053	0.052	0.050	0.047	0.046	0.045
DB-129	GW	3.063	3.055	3.015	2.957	2.890	2.826	2.798
DB-129	SW	10.027	9.980	9.753	9.355	8.960	8.650	8.435
DB-130	GW	1.363	1.372	1.377	1.368	1.356	1.346	1.339
DB-130	SW	0.152	0.151	0.147	0.140	0.134	0.129	0.126
DB-131	GW	2.011	2.013	2.003	1.992	1.969	1.948	1.946
DB-131	SW	5.719	5.691	5.551	5.307	5.071	4.895	4.775
DB-132	GW	5.619	5.630	5.571	5.443	5.317	5.217	5.141
DB-132	SW	0.768	0.763	0.744	0.711	0.679	0.656	0.639
DB-133	GW	11.796	11.844	11.843	11.965	11.953	11.959	11.981
DB-133	SW	10.388	10.315	10.014	9.547	9.097	8.750	8.498
DB-134	GW	2.537	2.541	2.523	2.485	2.434	2.402	2.387
DB-134	SW	9.540	9.495	9.270	8.877	8.498	8.215	8.022
DB-135	GW	7.325	7.370	7.331	7.187	7.044	6.945	6.884
DB-135	SW	1.254	1.247	1.216	1.162	1.110	1.071	1.044
DB-136	GW	11.251	11.440	11.803	11.980	12.248	12.519	13.089
DB-136	SW	6.470	6.446	6.315	6.071	5.835	5.660	5.543
DB-137	GW	83.778	84.795	86.772	90.618	92.340	93.583	95.229
DB-137	SW	11.856	11.799	11.515	11.018	10.536	10.176	9.930
DB-138	GW	7.676	7.758	7.875	8.126	8.259	8.399	8.545
DB-138	SW	5.781	5.752	5.611	5.365	5.126	4.949	4.827
DB-139	GW	3.284	3.305	3.321	3.353	3.355	3.367	3.389
DB-139	SW	5.918	5.891	5.753	5.510	5.274	5.098	4.978
DB-140	GW	1.628	1.635	1.634	1.637	1.629	1.628	1.635
DB-140	SW	7.196	7.176	7.077	6.903	6.736	6.611	6.526
DB-141	GW	2.575	2.613	2.679	2.744	2.799	2.860	2.928
DB-141	SW	3.119	3.103	3.027	2.894	2.765	2.670	2.604
DB-142	GW	8.388	8.505	8.708	8.892	9.069	9.234	9.416
DB-142	SW	0.618	0.615	0.600	0.574	0.548	0.529	0.516
DB-143	GW	12.997	13.164	13.206	13.185	13.143	13.124	13.108
DB-143	SW	1.103	1.097	1.069	1.022	0.976	0.942	0.918
DB-144	GW	7.900	7.977	7.994	7.884	7.771	7.693	7.646
DB-144	SW	1.298	1.291	1.259	1.203	1.149	1.109	1.081
DB-145	GW	8.300	8.422	8.538	8.546	8.549	8.574	8.619
DB-145	SW	1.164	1.162	1.144	1.106	1.072	1.050	1.039
DB-146	GW	6.812	6.804	6.716	6.512	6.331	6.220	6.176
DB-146	SW	1.664	1.665	1.654	1.616	1.585	1.572	1.574
DB-147	GW	10.893	11.000	11.152	11.154	11.166	11.231	11.351
DB-147	SW	1.674	1.675	1.664	1.626	1.595	1.581	1.584

The table below contains a summary of current and future water use, aggregated to the watershed scale. All figures are peak consumptive use, using the month of July (Million gallons/per day), and are listed by source type, ground water (GW) and surface water (SW). Assumptions regarding water conservation are included in these estimates.

Table 4.2: Consumptive Use: Peak MGD (July)

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-001	GW	0.222	0.219	0.210	0.201	0.192	0.184	0.177
DB-001	SW	0.063	0.061	0.059	0.055	0.052	0.050	0.048
DB-002	GW	0.070	0.069	0.066	0.063	0.060	0.058	0.055
DB-002	SW	0.022	0.022	0.021	0.020	0.019	0.018	0.017
DB-003	GW	0.223	0.222	0.216	0.208	0.201	0.193	0.185
DB-003	SW	0.035	0.035	0.033	0.031	0.030	0.028	0.027
DB-004	GW	0.083	0.082	0.079	0.075	0.072	0.069	0.066
DB-004	SW	0.023	0.022	0.021	0.020	0.019	0.018	0.017
DB-005	GW	0.181	0.179	0.172	0.164	0.157	0.151	0.144
DB-005	SW	0.052	0.051	0.049	0.046	0.044	0.042	0.040
DB-006	GW	0.066	0.065	0.062	0.060	0.058	0.055	0.053
DB-006	SW	0.017	0.017	0.016	0.015	0.014	0.014	0.013
DB-007	GW	0.120	0.119	0.115	0.111	0.107	0.104	0.101
DB-007	SW	0.032	0.031	0.030	0.028	0.027	0.026	0.025
DB-008	GW	0.060	0.059	0.057	0.054	0.052	0.050	0.047
DB-008	SW	0.018	0.018	0.017	0.016	0.015	0.014	0.014
DB-009	GW	0.100	0.099	0.096	0.094	0.092	0.089	0.086
DB-009	SW	0.039	0.038	0.037	0.035	0.033	0.032	0.030
DB-010	GW	0.340	0.336	0.324	0.310	0.298	0.286	0.275
DB-010	SW	0.112	0.111	0.106	0.101	0.096	0.092	0.088
DB-011	GW	0.239	0.236	0.227	0.216	0.207	0.199	0.190
DB-011	SW	0.079	0.078	0.074	0.070	0.067	0.064	0.061
DB-012	GW	0.196	0.195	0.190	0.184	0.178	0.173	0.169
DB-012	SW	0.078	0.077	0.075	0.072	0.068	0.066	0.064
DB-013	GW	0.195	0.195	0.195	0.193	0.192	0.192	0.192
DB-013	SW	0.051	0.051	0.050	0.048	0.046	0.045	0.044
DB-014	GW	0.138	0.136	0.131	0.125	0.120	0.115	0.110
DB-014	SW	0.039	0.038	0.036	0.034	0.033	0.031	0.030
DB-015	GW	0.108	0.107	0.104	0.100	0.097	0.094	0.091
DB-015	SW	0.029	0.028	0.027	0.025	0.024	0.023	0.022
DB-016	GW	0.111	0.109	0.105	0.100	0.096	0.092	0.088
DB-016	SW	0.033	0.033	0.031	0.029	0.028	0.027	0.025
DB-017	GW	0.116	0.115	0.113	0.110	0.107	0.105	0.103
DB-017	SW	0.030	0.030	0.029	0.027	0.026	0.025	0.024
DB-018	GW	0.211	0.210	0.207	0.204	0.202	0.197	0.191
DB-018	SW	0.079	0.078	0.075	0.071	0.068	0.065	0.063
DB-019	GW	0.066	0.067	0.067	0.068	0.068	0.069	0.070
DB-019	SW	0.010	0.010	0.010	0.010	0.009	0.009	0.009
DB-020	GW	0.132	0.133	0.134	0.135	0.136	0.137	0.138
DB-020	SW	0.022	0.022	0.021	0.021	0.020	0.020	0.019
DB-021	GW	0.044	0.044	0.045	0.045	0.045	0.045	0.046

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-021	SW	0.007	0.007	0.007	0.007	0.007	0.007	0.007
DB-022	GW	0.145	0.145	0.146	0.147	0.148	0.145	0.142
DB-022	SW	0.048	0.047	0.045	0.043	0.041	0.039	0.038
DB-023	GW	0.092	0.092	0.092	0.093	0.093	0.094	0.095
DB-023	SW	0.017	0.017	0.017	0.016	0.016	0.015	0.015
DB-024	GW	0.104	0.108	0.118	0.129	0.140	0.150	0.160
DB-024	SW	0.013	0.013	0.013	0.012	0.011	0.011	0.010
DB-025	GW	0.215	0.215	0.215	0.215	0.215	0.211	0.207
DB-025	SW	0.058	0.057	0.055	0.052	0.050	0.047	0.046
DB-026	GW	0.117	0.116	0.114	0.112	0.110	0.107	0.104
DB-026	SW	0.044	0.043	0.042	0.039	0.038	0.036	0.035
DB-027	GW	0.239	0.242	0.247	0.254	0.261	0.259	0.258
DB-027	SW	0.062	0.062	0.060	0.059	0.057	0.055	0.053
DB-028	GW	0.278	0.284	0.296	0.309	0.322	0.335	0.348
DB-028	SW	0.086	0.087	0.089	0.091	0.092	0.093	0.094
DB-029	GW	0.122	0.123	0.123	0.123	0.123	0.124	0.125
DB-029	SW	0.026	0.025	0.025	0.024	0.023	0.023	0.023
DB-030	GW	0.174	0.176	0.180	0.184	0.188	0.185	0.181
DB-030	SW	0.043	0.043	0.041	0.039	0.037	0.036	0.035
DB-031	GW	0.335	0.346	0.370	0.400	0.430	0.443	0.456
DB-031	SW	0.113	0.115	0.120	0.126	0.131	0.133	0.135
DB-032	GW	0.168	0.183	0.218	0.250	0.282	0.318	0.354
DB-032	SW	0.006	0.006	0.006	0.005	0.005	0.005	0.005
DB-033	GW	0.140	0.141	0.142	0.143	0.144	0.145	0.147
DB-033	SW	0.022	0.022	0.022	0.021	0.021	0.020	0.020
DB-034	GW	0.116	0.117	0.119	0.120	0.122	0.124	0.125
DB-034	SW	0.012	0.012	0.011	0.011	0.011	0.010	0.010
DB-035	GW	0.322	0.323	0.323	0.320	0.318	0.317	0.317
DB-035	SW	0.082	0.082	0.080	0.076	0.073	0.071	0.069
DB-036	GW	0.200	0.213	0.242	0.278	0.312	0.352	0.391
DB-036	SW	0.005	0.005	0.005	0.005	0.005	0.004	0.004
DB-037	GW	0.218	0.217	0.214	0.208	0.202	0.198	0.195
DB-037	SW	0.088	0.088	0.086	0.082	0.079	0.076	0.074
DB-038	GW	0.527	0.531	0.538	0.544	0.551	0.557	0.564
DB-038	SW	0.360	0.358	0.351	0.339	0.327	0.319	0.312
DB-039	GW	0.257	0.259	0.262	0.264	0.266	0.268	0.270
DB-039	SW	0.038	0.038	0.037	0.035	0.034	0.033	0.032
DB-040	GW	0.212	0.233	0.284	0.327	0.369	0.418	0.466
DB-040	SW	0.006	0.006	0.006	0.005	0.005	0.005	0.005
DB-041	GW	0.054	0.055	0.057	0.059	0.061	0.064	0.067
DB-041	SW	0.044	0.044	0.043	0.041	0.039	0.038	0.037
DB-042	GW	0.111	0.111	0.111	0.111	0.111	0.114	0.118
DB-042	SW	0.167	0.166	0.162	0.155	0.148	0.143	0.139
DB-043	GW	0.206	0.221	0.258	0.292	0.325	0.362	0.399
DB-043	SW	0.204	0.220	0.258	0.293	0.324	0.358	0.387
DB-044	GW	0.166	0.166	0.164	0.160	0.156	0.153	0.151
DB-044	SW	0.493	0.490	0.478	0.457	0.437	0.421	0.411
DB-045	GW	0.410	0.425	0.460	0.493	0.526	0.559	0.591

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-045	SW	0.861	0.894	0.967	1.036	1.097	1.157	1.208
DB-046	GW	0.231	0.241	0.262	0.283	0.303	0.323	0.342
DB-046	SW	0.078	0.080	0.084	0.087	0.090	0.093	0.095
DB-047	GW	0.106	0.110	0.119	0.128	0.136	0.145	0.153
DB-047	SW	0.117	0.121	0.129	0.138	0.144	0.151	0.157
DB-048	GW	0.048	0.048	0.048	0.048	0.048	0.048	0.048
DB-048	SW	0.051	0.051	0.049	0.047	0.045	0.043	0.042
DB-049	GW	0.508	0.515	0.528	0.539	0.549	0.561	0.571
DB-049	SW	0.347	0.347	0.343	0.335	0.325	0.319	0.315
DB-050	GW	0.432	0.433	0.428	0.420	0.413	0.409	0.405
DB-050	SW	1.125	1.119	1.092	1.044	0.998	0.964	0.940
DB-051	GW	0.440	0.442	0.437	0.429	0.422	0.417	0.413
DB-051	SW	0.903	0.898	0.876	0.837	0.800	0.772	0.753
DB-052	GW	0.869	0.882	0.919	0.931	0.942	0.948	0.948
DB-052	SW	1.579	1.574	1.543	1.483	1.424	1.380	1.348
DB-053	GW	0.242	0.243	0.243	0.243	0.243	0.240	0.238
DB-053	SW	0.360	0.363	0.368	0.370	0.370	0.367	0.362
DB-054	GW	1.017	1.030	1.039	1.038	1.026	1.021	1.012
DB-054	SW	0.955	0.953	0.935	0.899	0.863	0.836	0.816
DB-055	GW	0.664	0.665	0.665	0.664	0.664	0.662	0.660
DB-055	SW	0.268	0.267	0.260	0.251	0.243	0.236	0.230
DB-056	GW	0.093	0.096	0.102	0.108	0.115	0.118	0.122
DB-056	SW	0.053	0.052	0.051	0.049	0.046	0.045	0.043
DB-057	GW	0.243	0.258	0.293	0.326	0.359	0.391	0.423
DB-057	SW	0.352	0.378	0.437	0.494	0.544	0.592	0.639
DB-058	GW	0.074	0.073	0.070	0.067	0.064	0.063	0.061
DB-058	SW	0.091	0.090	0.088	0.084	0.080	0.077	0.075
DB-059	GW	0.070	0.069	0.066	0.063	0.060	0.059	0.058
DB-059	SW	0.042	0.042	0.041	0.039	0.037	0.036	0.035
DB-060	GW	0.097	0.097	0.095	0.094	0.093	0.092	0.091
DB-060	SW	0.620	0.612	0.585	0.559	0.534	0.525	0.517
DB-061	GW	1.456	1.480	1.541	1.604	1.671	1.746	1.826
DB-061	SW	1.455	1.248	1.370	1.487	1.620	1.774	1.949
DB-062	GW	0.373	0.393	0.439	0.485	0.525	0.553	0.575
DB-062	SW	1.850	1.867	1.890	1.910	1.932	1.931	1.933
DB-063	GW	0.821	0.817	0.805	0.792	0.781	0.763	0.745
DB-063	SW	0.254	0.252	0.246	0.236	0.226	0.219	0.214
DB-064	GW	0.097	0.098	0.100	0.102	0.104	0.106	0.108
DB-064	SW	0.424	0.430	0.441	0.451	0.461	0.466	0.471
DB-065	GW	0.943	0.949	0.956	0.960	0.965	0.960	0.955
DB-065	SW	0.304	0.304	0.300	0.292	0.285	0.278	0.273
DB-066	GW	1.105	1.113	1.121	1.124	1.127	1.122	1.118
DB-066	SW	0.586	0.588	0.586	0.577	0.566	0.552	0.537
DB-067	GW	2.096	2.110	2.125	2.135	2.146	2.132	2.120
DB-067	SW	0.761	0.761	0.755	0.743	0.732	0.719	0.709
DB-068	GW	1.806	1.811	1.817	1.823	1.827	1.813	1.797
DB-068	SW	0.592	0.593	0.589	0.581	0.571	0.557	0.542
DB-069	GW	0.561	0.565	0.572	0.567	0.561	0.558	0.555

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-069	SW	1.100	1.095	1.071	1.025	0.981	0.949	0.926
DB-070	GW	0.708	0.716	0.722	0.719	0.717	0.714	0.718
DB-070	SW	0.489	0.488	0.480	0.462	0.445	0.431	0.421
DB-071	GW	0.976	0.984	0.989	0.975	0.963	0.954	0.947
DB-071	SW	1.024	1.020	0.998	0.959	0.921	0.892	0.872
DB-072	GW	0.257	0.261	0.269	0.277	0.286	0.290	0.295
DB-072	SW	0.233	0.232	0.226	0.216	0.206	0.199	0.193
DB-073	GW	0.309	0.313	0.314	0.315	0.317	0.320	0.323
DB-073	SW	0.377	0.377	0.371	0.359	0.348	0.340	0.334
DB-074	GW	0.626	0.639	0.666	0.695	0.724	0.743	0.762
DB-074	SW	0.298	0.296	0.289	0.277	0.266	0.257	0.251
DB-075	GW	0.282	0.286	0.286	0.288	0.295	0.302	0.309
DB-075	SW	0.269	0.267	0.261	0.249	0.238	0.230	0.225
DB-076	GW	1.075	1.097	1.150	1.206	1.264	1.316	1.371
DB-076	SW	0.278	0.279	0.278	0.274	0.270	0.265	0.261
DB-077	GW	0.279	0.280	0.280	0.277	0.276	0.276	0.276
DB-077	SW	0.495	0.493	0.482	0.462	0.443	0.429	0.418
DB-078	GW	0.984	0.993	1.008	1.005	1.002	0.999	0.998
DB-078	SW	1.328	1.324	1.302	1.256	1.210	1.175	1.149
DB-079	GW	0.288	0.291	0.293	0.295	0.296	0.294	0.292
DB-079	SW	0.230	0.230	0.226	0.220	0.214	0.209	0.205
DB-080	GW	1.588	1.615	1.652	1.665	1.675	1.692	1.712
DB-080	SW	4.038	4.051	4.046	3.967	3.874	3.814	3.777
DB-081	GW	0.979	1.004	1.039	1.047	1.051	1.072	1.090
DB-081	SW	1.902	1.904	1.882	1.815	1.748	1.709	1.682
DB-082	GW	1.458	1.482	1.485	1.476	1.463	1.465	1.467
DB-082	SW	1.765	1.757	1.716	1.643	1.572	1.519	1.483
DB-083	GW	2.464	2.513	2.617	2.719	2.821	2.888	2.955
DB-083	SW	2.667	2.707	2.780	2.818	2.850	2.840	2.828
DB-084	GW	0.697	0.707	0.723	0.736	0.747	0.741	0.736
DB-084	SW	1.255	1.267	1.286	1.296	1.306	1.315	1.327
DB-085	GW	0.772	0.773	0.770	0.751	0.738	0.725	0.718
DB-085	SW	4.297	4.297	4.269	4.178	4.096	4.026	3.985
DB-086	GW	0.659	0.663	0.656	0.642	0.634	0.631	0.629
DB-086	SW	2.329	2.318	2.264	2.168	2.076	2.007	1.960
DB-087	GW	1.119	1.140	1.143	1.137	1.126	1.126	1.130
DB-087	SW	3.085	3.094	3.050	2.962	2.867	2.801	2.754
DB-088	GW	1.582	1.593	1.606	1.599	1.587	1.582	1.579
DB-088	SW	3.567	3.562	3.503	3.381	3.258	3.168	3.104
DB-089	GW	0.361	0.365	0.369	0.373	0.377	0.378	0.378
DB-089	SW	0.309	0.309	0.304	0.300	0.294	0.283	0.271
DB-090	GW	3.214	3.239	3.203	3.165	3.142	3.095	3.060
DB-090	SW	1.899	1.893	1.850	1.776	1.705	1.651	1.613
DB-091	GW	0.034	0.034	0.034	0.034	0.035	0.035	0.036
DB-091	SW	0.096	0.095	0.093	0.092	0.090	0.087	0.083
DB-092	GW	2.774	2.766	2.711	2.645	2.590	2.522	2.467
DB-092	SW	1.206	1.200	1.171	1.122	1.075	1.038	1.010
DB-093	GW	3.729	3.731	3.696	3.618	3.546	3.474	3.448

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-093	SW	4.267	4.248	4.150	3.977	3.809	3.680	3.590
DB-094	GW	2.918	2.781	2.533	2.314	2.126	1.968	1.835
DB-094	SW	0.695	0.690	0.671	0.643	0.616	0.599	0.586
DB-095	GW	1.804	1.774	1.749	1.738	1.753	1.794	1.860
DB-095	SW	1.303	1.289	1.242	1.191	1.143	1.120	1.100
DB-096	GW	0.412	0.413	0.413	0.413	0.415	0.412	0.411
DB-096	SW	0.743	0.737	0.714	0.684	0.655	0.638	0.626
DB-097	GW	1.220	1.222	1.221	1.220	1.226	1.215	1.207
DB-097	SW	0.500	0.497	0.486	0.468	0.453	0.443	0.436
DB-098	GW	0.380	0.381	0.382	0.381	0.383	0.383	0.383
DB-098	SW	0.396	0.394	0.385	0.371	0.358	0.348	0.342
DB-099	GW	2.415	2.453	2.545	2.641	2.748	2.836	2.931
DB-099	SW	2.045	2.058	2.070	2.074	2.081	2.082	2.088
DB-100	GW	1.543	1.623	1.686	1.739	1.810	1.881	1.965
DB-100	SW	1.036	1.034	1.019	0.991	0.967	0.946	0.932
DB-101	GW	1.130	1.143	1.169	1.195	1.224	1.216	1.208
DB-101	SW	0.463	0.461	0.452	0.438	0.426	0.416	0.409
DB-102	GW	1.590	1.600	1.621	1.639	1.667	1.677	1.691
DB-102	SW	0.886	0.883	0.871	0.848	0.828	0.810	0.799
DB-103	GW	0.598	0.599	0.599	0.598	0.600	0.595	0.591
DB-103	SW	0.471	0.469	0.461	0.447	0.435	0.426	0.420
DB-104	GW	2.454	2.520	2.690	2.870	3.069	3.274	3.500
DB-104	SW	1.356	1.367	1.382	1.387	1.388	1.379	1.371
DB-105	GW	0.526	0.529	0.533	0.532	0.532	0.528	0.525
DB-105	SW	0.451	0.451	0.447	0.437	0.426	0.416	0.407
DB-106	GW	0.758	0.769	0.791	0.808	0.828	0.840	0.853
DB-106	SW	0.468	0.468	0.462	0.450	0.439	0.429	0.422
DB-107	GW	1.202	1.226	1.279	1.327	1.374	1.406	1.439
DB-107	SW	0.589	0.596	0.606	0.610	0.612	0.610	0.607
DB-108	GW	0.794	0.807	0.831	0.845	0.860	0.859	0.857
DB-108	SW	2.248	2.275	2.321	2.351	2.381	2.400	2.421
DB-109	GW	1.637	1.652	1.677	1.699	1.722	1.733	1.745
DB-109	SW	0.600	0.598	0.589	0.582	0.571	0.550	0.527
DB-110	GW	1.180	1.191	1.209	1.220	1.229	1.222	1.214
DB-110	SW	0.438	0.438	0.435	0.431	0.424	0.408	0.391
DB-111	GW	8.191	8.292	8.466	8.609	8.740	8.780	8.889
DB-111	SW	3.486	3.471	3.391	3.248	3.111	3.008	2.937
DB-112	GW	0.058	0.058	0.056	0.055	0.053	0.052	0.051
DB-112	SW	0.313	0.312	0.305	0.299	0.291	0.283	0.273
DB-113	GW	0.981	0.981	0.975	0.956	0.940	0.925	0.919
DB-113	SW	3.127	3.117	3.064	2.961	2.861	2.786	2.740
DB-114	GW	0.297	0.297	0.293	0.288	0.283	0.278	0.272
DB-114	SW	2.551	2.576	2.615	2.639	2.663	2.680	2.699
DB-115	GW	0.173	0.174	0.174	0.173	0.173	0.171	0.169
DB-115	SW	0.439	0.442	0.445	0.445	0.445	0.443	0.442
DB-116	GW	0.180	0.179	0.176	0.169	0.163	0.158	0.155
DB-116	SW	0.037	0.037	0.036	0.034	0.033	0.032	0.031
DB-117	GW	1.087	1.101	1.132	1.151	1.165	1.220	1.242

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-117	SW	3.418	3.404	3.331	3.197	3.066	2.976	2.913
DB-118	GW	1.100	1.109	1.121	1.129	1.129	1.133	1.147
DB-118	SW	3.947	3.931	3.846	3.693	3.542	3.431	3.358
DB-119	GW	2.989	2.980	2.929	2.850	2.764	2.691	2.636
DB-119	SW	10.241	10.200	9.987	9.629	9.263	8.973	8.769
DB-120	GW	1.193	1.203	1.223	1.233	1.248	1.259	1.273
DB-120	SW	1.424	1.434	1.448	1.445	1.443	1.435	1.430
DB-121	GW	1.054	1.062	1.075	1.079	1.088	1.088	1.089
DB-121	SW	1.213	1.223	1.237	1.239	1.246	1.254	1.269
DB-122	GW	0.290	0.291	0.290	0.288	0.286	0.282	0.278
DB-122	SW	2.796	2.810	2.813	2.809	2.789	2.756	2.718
DB-123	GW	0.531	0.540	0.555	0.567	0.578	0.582	0.585
DB-123	SW	0.474	0.471	0.460	0.443	0.426	0.412	0.399
DB-124	GW	1.130	1.136	1.139	1.130	1.121	1.112	1.106
DB-124	SW	2.537	2.578	2.645	2.697	2.736	2.762	2.774
DB-125	GW	1.134	1.142	1.145	1.137	1.125	1.117	1.110
DB-125	SW	0.457	0.462	0.469	0.472	0.472	0.472	0.471
DB-126	GW	1.674	1.666	1.626	1.558	1.495	1.447	1.412
DB-126	SW	7.263	7.227	7.050	6.739	6.440	6.217	6.064
DB-127	GW	1.460	1.476	1.498	1.512	1.525	1.537	1.547
DB-127	SW	0.186	0.180	0.165	0.149	0.135	0.123	0.112
DB-128	GW	0.264	0.263	0.259	0.250	0.241	0.235	0.229
DB-128	SW	0.048	0.048	0.047	0.045	0.043	0.041	0.040
DB-129	GW	1.811	1.801	1.760	1.690	1.621	1.568	1.533
DB-129	SW	8.602	8.560	8.352	7.990	7.639	7.375	7.194
DB-130	GW	0.641	0.639	0.626	0.604	0.582	0.565	0.553
DB-130	SW	0.136	0.136	0.132	0.126	0.121	0.116	0.113
DB-131	GW	1.147	1.143	1.121	1.083	1.045	1.015	0.996
DB-131	SW	5.147	5.122	4.996	4.776	4.564	4.406	4.298
DB-132	GW	3.218	3.205	3.133	3.006	2.884	2.792	2.728
DB-132	SW	0.691	0.687	0.670	0.640	0.611	0.590	0.575
DB-133	GW	4.441	4.472	4.501	4.561	4.554	4.559	4.577
DB-133	SW	8.546	8.505	8.299	7.945	7.599	7.341	7.164
DB-134	GW	2.103	2.103	2.079	2.037	1.983	1.946	1.923
DB-134	SW	8.349	8.308	8.106	7.752	7.411	7.157	6.983
DB-135	GW	5.088	5.070	4.959	4.759	4.566	4.422	4.324
DB-135	SW	1.128	1.122	1.094	1.045	0.999	0.964	0.940
DB-136	GW	2.279	2.297	2.320	2.307	2.304	2.309	2.353
DB-136	SW	5.823	5.802	5.683	5.464	5.251	5.094	4.989
DB-137	GW	63.057	63.844	65.435	68.448	69.727	70.586	71.802
DB-137	SW	10.671	10.619	10.363	9.916	9.482	9.158	8.937
DB-138	GW	2.550	2.568	2.583	2.617	2.616	2.622	2.637
DB-138	SW	5.203	5.177	5.050	4.828	4.614	4.454	4.345
DB-139	GW	1.598	1.601	1.590	1.571	1.542	1.522	1.511
DB-139	SW	5.326	5.302	5.177	4.959	4.746	4.588	4.480
DB-140	GW	0.795	0.793	0.777	0.751	0.724	0.705	0.693
DB-140	SW	4.282	4.264	4.175	4.019	3.868	3.756	3.679
DB-141	GW	0.815	0.818	0.815	0.804	0.792	0.785	0.783

Basin_ID	SourceType	2003	2005	2010	2015	2020	2025	2030
DB-141	SW	2.807	2.793	2.724	2.604	2.489	2.403	2.344
DB-142	GW	0.949	0.960	0.979	0.993	1.007	1.021	1.038
DB-142	SW	0.556	0.553	0.540	0.516	0.493	0.476	0.465
DB-143	GW	5.121	5.118	5.027	4.861	4.699	4.579	4.496
DB-143	SW	0.993	0.987	0.962	0.920	0.879	0.848	0.827
DB-144	GW	5.287	5.272	5.162	4.958	4.761	4.614	4.514
DB-144	SW	1.168	1.162	1.133	1.082	1.034	0.998	0.973
DB-145	GW	4.748	4.748	4.686	4.545	4.413	4.324	4.274
DB-145	SW	1.048	1.046	1.030	0.995	0.965	0.945	0.935
DB-146	GW	6.131	6.124	6.044	5.861	5.698	5.598	5.559
DB-146	SW	1.497	1.499	1.489	1.454	1.427	1.415	1.417
DB-147	GW	6.512	6.515	6.457	6.291	6.145	6.061	6.035
DB-147	SW	1.506	1.508	1.498	1.463	1.435	1.423	1.425