

Appendixes 1–5

Appendix 1. Tables from U.S. Geological Survey Circulars on estimated use of water in the United States, 1960–1995	120
Appendix 2. Tables from 1983 Census of Manufacturing.....	152
Appendix 3. Tables from Great Lakes Commission documents.....	176
Appendix 4. Tables from “Water Demands in the Canadian section of the Great Lakes Basin”	185
Appendix 5. Tables from “The Nation’s Water Resources, 1975”	187

Table 1-1. Domestic water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes Basin									
Total withdrawn	290	280	280	290	270	1,730	1,690	1,760	6,590
Consumptive use	96	103	78	61	74	213	235	248	1,108
Coefficient	33	37	28	21	27	12	14	14	17
Illinois									
Total withdrawn	73	92	17	17	82	981	1,020	1,060	3,342
Consumptive use	51	64	12	12	58	97	102	107	503
Coefficient	70	70	71	71	70	10	10	10	15
Indiana									
Total withdrawn	96	94	87	100	120	562	421	441	1,921
Consumptive use	67	66	61	31	120	56	63	66	530
Coefficient	70	70	70	31	100	10	15	15	28
Michigan									
Total withdrawn	100	100	160	160	160	752	707	817	2,956
Consumptive use	21	21	26	26	27	98	103	119	441
Coefficient	21	21	16	16	17	13	15	15	15
Minnesota									
Total withdrawn	52	49	110	89	120	532	601	326	1,879
Consumptive use	7.7	49	110	8.7	120	172	204	110	781.4
Coefficient	15	100	100	10	100	32	34	34	42
New York									
Total withdrawn	110	130	120	120	130	1,660	2,010	1,960	6,240
Consumptive use	12	13	12	12	13	166	201	107	536
Coefficient	11	10	10	10	10	10	10	5	9
Ohio									
Total withdrawn	110	100	110	110	89	606	589	637	2,351
Consumptive use	97	94	100	77	62	91	88	96	705
Coefficient	88	94	91	70	70	15	15	15	30
Pennsylvania									
Total withdrawn	97	100	110	120	150	723	711	740	2,751
Consumptive use	9.7	10	11	12	15	72	71	74	274.7
Coefficient	10	10	10	10	10	10	10	10	10
Wisconsin									
Total withdrawn	70	82	74	70	72	253	269	281	1,171
Consumptive use	7.0	8.2	7.3	6.9	7	25	54	56	171.4
Coefficient	10	10	10	10	10	10	20	20	15

Table 1-1. Domestic water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes States									
Total withdrawn	708	747	788	786	923	6,069	6,328	6,262	22,611
Consumptive use	272.4	325.2	339.3	185.6	422	777	886	735	3,942.7
Coefficient	38	44	43	24	46	13	14	12	17

¹ MacKichan and Kammerer (1961, tables 3 and 4). Total withdrawn is from the column “Domestic use—Withdrawn—All water.” Consumptive use is from the column “Domestic use—Consumed.”

² Murray (1968, tables 8 and 9). Total withdrawn is from the column “Domestic use—Withdrawn—All water.” Consumptive use is from the column “Domestic use—Consumed.”

³ Murray and Reeves (1972, tables 6 and 13). Total withdrawn is from the column “Domestic use—Withdrawn—All water.” Consumptive use is from the column “Domestic use—Water consumed.”

⁴ Murray and Reeves (1977, tables 6 and 13). Total withdrawn is from the column “Domestic use—Withdrawn—All water.” Consumptive use is from the column “Domestic use—Fresh-water consumed.”

⁵ Solley and others (1983, tables 3 and 4). Total withdrawn is from the column “Domestic use—Withdrawals and deliveries.” Consumptive use is from the column “Domestic use—Consumptive use.” For this and previous 5-year compilations, only self-supplied domestic was accounted for.

⁶ Solley and others (1988, tables 3 and 4). Total withdrawn is from the column “Total—Withdrawals and deliveries.” Consumptive use is from the column “Total—Consumptive use.” For this and following 5-year compilations, domestic included self-supplied and publicly supplied deliveries to domestic.

⁷ Solley and others (1993, tables 11 and 12). Total withdrawn is from the column “Total use—Withdrawals and deliveries.” Consumptive use is from the column “Total use—Consumptive use.”

⁸ Solley and others (1998, tables 11 and 12). Total withdrawn is from the column “Total use—Withdrawals and deliveries.” Consumptive use is from the column “Total use—Consumptive use.”

Table 1-2. Domestic water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Mid-Atlantic Region									
Total withdrawn	260	270	340	380	430	3,350	3,660	3,830	
Consumptive use	86	88	130	100	110	420	415	355	
Coefficient	33	33	38	29	26	13	11	9	14
New England Region									
Total withdrawn	39	100	96	110	130	943	882	886	
Consumptive use	31	84	47	36	63	249	124	139	
Coefficient	79	84	49	33	48	26	14	16	24
Ohio Region									
Total withdrawn	230	260	270	300	310	1,470	1,410	1,470	
Consumptive use	140	180	180	140	200	220	191	189	
Coefficient	61	69	67	47	65	15	14	13	25
Tennessee Region									
Total withdrawn	58	90	52	42	61	311	308	338	
Consumptive use	54	84	31	25	39	48	43	51	
Coefficient	93	93	60	60	64	15	14	15	30
Upper Mississippi Region									
Total withdrawn	180	200	210	200	300	1,940	1,900	1,760	
Consumptive use	73	100	130	48	190	409	401	329	
Coefficient	41	50	62	24	63	21	21	19	25
Connecticut									
Total withdrawn	22	46	39	50	53	217	234	246	
Consumptive use	22	46	39	26	32	59	47	49	
Coefficient	100	100	100	52	60	27	20	20	35
Delaware									
Total withdrawn	6.1	5.2	11	10	25	46	52	55	
Consumptive use	.6	.5	1.2	1.1	0	4.6	5.2	5.5	
Coefficient	10	10	11	11	0	10	10	10	9
Iowa									
Total withdrawn	56	41	47	51	55	354	183	184	
Consumptive use	14	7.0	19	20	22	144	73	73	
Coefficient	25	17	40	39	40	41	40	40	38
Kentucky									
Total withdrawn	24	65	55	38	61	226	235	260	
Consumptive use	14	39	44	30	48	60	41	34	
Coefficient	58	60	80	79	79	27	17	13	32
Maine									
Total withdrawn	7.4	10	12	16	26	114	88	81	
Consumptive use	2.2	3.1	3.3	5.3	26	80	13	12	
Coefficient	30	31	28	33	100	70	15	15	41

Table 1-2. Domestic water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Maryland									
Total withdrawn	30	33	46	49	49	428	484	506	
Consumptive use	30	33	46	32	32	43	48	51	
Coefficient	100	100	100	65	65	10	10	10	19
Massachusetts									
Total withdrawn	4.7	38	28	25	32	450	402	396	
Consumptive use	4.2	34	2.7	3.0	3.9	77	40	54	
Coefficient	89	89	10	12	12	17	10	14	16
Missouri									
Total withdrawn	55	46	39	58	92	408	410	433	
Consumptive use	55	21	18	26	39	114	114	108	
Coefficient	100	46	46	45	42	28	28	25	32
New Hampshire									
Total withdrawn	4.3	6.3	11	8.5	9.3	85	76	89	
Consumptive use	3.9	4.5	1.1	.4	.5	17	11	13	
Coefficient	91	71	10	5	5	20	14	15	18
New Jersey									
Total withdrawn	83	36	80	110	75	567	580	624	
Consumptive use	25	11	40	53	15	103	106	122	
Coefficient	30	31	50	48	20	18	18	20	22
Rhode Island									
Total withdrawn	1.2	4.8	4.6	4.4	4.9	64	67	64	
Consumptive use	0	1.4	.7	.7	.8	14	10	9.6	
Coefficient	0	29	15	16	16	22	15	15	17
Tennessee									
Total withdrawn	28	48	39	41	43	373	397	409	
Consumptive use	28	48	9.9	11	12	37	40	41	
Coefficient	100	100	25	27	28	10	10	10	16
Vermont									
Total withdrawn	7.5	7.4	11	19	20	46	43	45	
Consumptive use	6.8	6.6	1.1	.9	1.0	9.1	6.5	6.7	
Coefficient	91	89	10	5	5	20	15	15	19
Virginia									
Total withdrawn	66	84	74	84	150	448	464	548	
Consumptive use	39	50	45	4.3	74	90	47	55	
Coefficient	59	60	61	5	49	20	10	10	21
West Virginia									
Total withdrawn	19	28	18	22	19	102	136	136	
Consumptive use	.2	28	.2	.1	.2	29	14	14	
Coefficient	1	100	1	0	1	28	10	10	18

Table 1-2. Domestic water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁵	1990 ⁷	1995 ⁸	1960–95
District of Columbia									
Total withdrawn	0	0	0	0	0	174	109	95	
Consumptive use	0	0	0	0	0	17	11	9.5	
Coefficient	-	-	-	-	-	10	10	10	10
Climatically similar states									
Total withdrawn	414.2	498.7	514.6	585.9	714.2	4,102	3,960	4,171	14,961
Consumptive use	244.9	333.1	271.2	213.8	306.4	897.7	626.7	6,573	3,551
Coefficient	59	67	53	36	43	22	16	16	24

¹ MacKichan and Kammerer (1961, tables 3 and 4). Total withdrawn is from the column “Domestic use—Withdrawn—All water.” Consumptive use is from the column “Domestic use—Consumed.”

² Murray (1968, tables 8 and 9). Total withdrawn is from the column “Domestic use—Withdrawn—All water.” Consumptive use is from the column “Domestic use—Consumed.”

³ Murray and Reeves (1972, tables 6 and 13). Total withdrawn is from the column “Domestic use—Withdrawn—All water.” Consumptive use is from the column “Domestic use—Water consumed.”

⁴ Murray and Reeves (1977, tables 6 and 13). Total withdrawn is from the column “Domestic use—Withdrawn—All water.” Consumptive use is from the column “Domestic use—Fresh-water consumed.”

⁵ Solley and others (1983, tables 3 and 4). Total withdrawn is from the column “Domestic use—Withdrawals and deliveries.” Consumptive use is from the column “Domestic use—Consumptive use.” For this and previous 5-year compilations, only self-supplied domestic was accounted for.

⁶ Solley and others (1988, tables 3 and 4). Total withdrawn is from the column “Total—Withdrawals and deliveries.” Consumptive use is from the column “Total—Consumptive use.” For this and following 5-year compilations, domestic included self-supplied and publicly supplied deliveries to domestic.

⁷ Solley and others (1993, tables 11 and 12). Total withdrawn is from the column “Total use—Withdrawals and deliveries.” Consumptive use is from the column “Total use—Consumptive use.”

⁸ Solley and others (1998, tables 11 and 12). Total withdrawn is from the column “Total use—Withdrawals and deliveries.” Consumptive use is from the column “Total use—Consumptive use.”

Table 1-3. Industrial water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes Basin									
Total withdrawn	7,700	9,000	9,000	7,600	6,120	5,120	5,040	4,950	
Consumptive use	280	360	570	490	490	380	458	436	
Coefficient	4	4	6	6	8	7	9	9	6
Illinois									
Total withdrawn	2,100	1,800	1,940	1,631	1,838	790	728	570	
Consumptive use	44	41	76	80	88	273	80	63	
Coefficient	2	2	4	5	5	35	11	11	7
Indiana									
Total withdrawn	2,000	2,600	3,200	3,300	3,100	2,730	2,590	2,400	
Consumptive use	78	100	130	130	160	228	155	144	
Coefficient	4	4	4	4	5	8	6	6	5
Michigan									
Total withdrawn	1,800	1,900	2,100	1,900	2,120	1,570	2,100	2,120	
Consumptive use	51	54	240	216	219	124	152	160	
Coefficient	3	3	11	11	10	8	7	8	8
Minnesota									
Total withdrawn	840	1,400	1,200	600	590	231	198	181	
Consumptive use	59	110	85	42	58	70	35	26	
Coefficient	7	8	7	7	10	30	18	14	9
New York									
Total withdrawn	3,000	3,200	1,466	1,638	1,230	2,050	588	615	
Consumptive use	120	130	130	142	107	205	60	62	
Coefficient	4	4	9	9	9	10	10	10	7
Ohio									
Total withdrawn	2,600	4,600	3,700	2,400	2,000	802	679	912	
Consumptive use	87	140	110	72	180	156	204	190	
Coefficient	3	3	3	3	9	19	30	21	6
Pennsylvania									
Total withdrawn	4,860	4,950	5,450	4,743	3,600	2,300	2,120	1,870	
Consumptive use	190	200	220	344	260	186	189	158	
Coefficient	4	4	4	7	7	8	9	8	6
Wisconsin									
Total withdrawn	700	350	330	310	450	614	619	592	
Consumptive use	17	8.6	10	31	45	58	125	95	
Coefficient	2	2	3	10	10	9	20	16	10

Table 1-3. Industrial water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes States									
Total withdrawn	17,900	20,800	19,386	16,522	14,928	11,087	9,622	9,260	119,505
Consumptive use	646	784	1,001	1,057	1,117	1,300	1,000	898	7,803
Coefficient	4	4	5	6	7	12	10	10	7

¹ MacKichan and Kammerer (1961, tables 7 and 8). Total withdrawn is from the columns “Other uses—water withdrawn—All water—Fresh and Saline.” Consumptive use is from the column “Other uses—Water consumed.”

² Murray (1968, tables 14 and 15). Total withdrawn is from the columns “Other uses—water withdrawn—All water—Fresh and Saline.” Consumptive use is from the column “Other uses—Water consumed.”

³ Murray and Reeves (1972, tables 8 and 15). Total withdrawn is from the columns “Other uses—water withdrawn—All water—Fresh and Saline.” Consumptive use is from the columns “Other uses—Water consumed—fresh and saline.”

⁴ Murray and Reeves (1977, tables 8 and 15). Total withdrawn is from the columns “Other industrial uses—water withdrawn—All water—Fresh and Saline.” Consumptive use is from the columns “Other industrial uses—Water consumed—fresh and saline.”

⁵ Solley and others (1983, tables 7 and 8). Total withdrawn is from the columns “Other industries—Total, excluding reclaimed sewage—Fresh and Saline.” Consumptive use is from the columns “Other industries—Consumptive use—fresh and saline.”

⁶ Solley and others (1988, tables 11 and 12). Total withdrawn is from the columns “Total—Withdrawals and deliveries—Fresh” and “Self-supplied withdrawals—Total—Saline.” Consumptive use is from the column “Total—Consumptive use—Total.”

⁷ Solley and others (1993, tables 19 and 20). Total withdrawn is from the columns “Total—Withdrawals and deliveries—Fresh” and “Self-supplied withdrawals—Total—Saline.” Consumptive use is from the columns “Total use—Consumptive use—Fresh and Saline.”

⁸ Solley and others (1998, tables 19 and 20). Total withdrawn is from the columns “Total use—Withdrawals and deliveries—Fresh” and “Self-supplied withdrawals—Total—Saline.” Consumptive use is from the columns “Total use—Consumptive use—Fresh and Saline.”

Table 1-4. Industrial water-use category: total withdrawals, water consumed, and consumptive-use coefficients by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Mid-Atlantic Region									
Total withdrawn	7,080	7,490	8,000	6,200	5,500	5,400	3,870	2,476	
Consumptive use	460	470	340	365	410	495	341	247	
Coefficient	6	6	4	6	7	9	9	10	7
New England Region									
Total withdrawn	1,410	1,560	1,520	1,670	1,578	988	766	321	
Consumptive use	84	79	114	91	71.1	199	85	24	
Coefficient	6	5	8	5	5	20	11	7	8
Ohio Region									
Total withdrawn	7,234	8,526	5,858	6,020	5,024	3,720	2,990	4,280	
Consumptive use	310	400	260	360	420	550	297	480	
Coefficient	4	5	4	6	8	15	10	11	7
Tennessee Region									
Total withdrawn	1,500	1,100	1,400	1,600	2,000	1,850	1,290	1,170	
Consumptive use	240	180	72	120	220	229	163	115	
Coefficient	16	16	5	8	11	12	13	10	11
Upper Mississippi Region									
Total withdrawn	1,720	1,618	1,720	1,815	3,315	1,350	1,430	1,350	
Consumptive use	36	58	75	98	170	325	214	176	
Coefficient	2	4	4	5	5	24	15	13	8
Connecticut									
Total withdrawn	316	268	215	322	272	207	212	51	
Consumptive use	20	6.1	6	23	19	14	30	1.1	
Coefficient	6	2	3	7	7	7	14	2	6
Delaware									
Total withdrawn	435	521	387	500	412	428	86	79	
Consumptive use	54	1.2	1.4	5.4	41.1	7.5	12	11	
Coefficient	12	0	0	1	10	2	14	14	5
Iowa									
Total withdrawn	110	180	280	310	550	239	253	335	
Consumptive use	11	19	5.3	6	11	31	33	44	
Coefficient	10	11	2	2	2	13	13	13	7
Kentucky									
Total withdrawn	251	261	385	280	320	408	512	543	
Consumptive use	24	44	40	29	33	17	19	22	
Coefficient	10	17	10	10	10	4	4	4	8
Maine									
Total withdrawn	353	497	424	439	661	256	270	25	
Consumptive use	25	29	25.4	6	8.9	88	27	2.5	
Coefficient	7	6	6	1	1	34	10	10	7
Maryland									
Total withdrawn	880	1,440	1,440	1,210	650	405	502	370	
Consumptive use	74	130	52	41	20	101	75	42	
Coefficient	8	9	4	3	3	25	15	11	8

Consumptive Water-Use Coefficients for the Great Lakes Basin and Climatically Similar Areas
Table 1-4. Industrial water-use category: total withdrawals, water consumed, and consumptive-use coefficients by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Massachusetts									
Total withdrawn	580	600	690	680	374	220	195	171	
Consumptive use	30	30	69	50	30.1	44	20	13	
Coefficient	5	5	10	7	8	20	10	8	8
Missouri									
Total withdrawn	163	316	310	240	300	221	218	179	
Consumptive use	9	30	29	5.0	24	30	29	27	
Coefficient	6	9	9	2	8	14	13	15	9
New Hampshire									
Total withdrawn	150	170	190	210	210	254	53	56	
Consumptive use	8	9	9.6	11	10	51	5.3	6.6	
Coefficient	5	5	5	5	5	20	10	12	9
New Jersey									
Total withdrawn	1,320	1,530	1,000	1,100	1,750	1,300	1,587	487	
Consumptive use	150	170	70	90	115	53	65	37	
Coefficient	11	11	7	8	7	4	4	8	7
Rhode Island									
Total withdrawn	47.3	45.4	38.4	30.3	35.6	37.2	24	13	
Consumptive use	2.2	4.4	3.8	3.0	2.9	2.6	1.7	1.3	
Coefficient	5	10	10	10	8	7	7	10	8
Tennessee									
Total withdrawn	1,400	890	1,000	1,300	1,700	1,700	988	993	
Consumptive use	310	180	47	120	150	187	109	109	
Coefficient	22	20	5	9	9	11	11	11	12
Vermont									
Total withdrawn	34	34	46	15	15	67	47	17	
Consumptive use	2	1.6	2.3	1.8	2.3	13	4.7	1.7	
Coefficient	6	5	5	12	15	19	10	10	11
Virginia									
Total withdrawn	1,285	802	1,080	950	551	714	713	671	
Consumptive use	0	1.4	7.4	8.4	55.1	80	85.9	80	
Coefficient	0	0	1	1	10	11	12	12	5
West Virginia									
Total withdrawn	2,300	2,100	660	660	830	909	145	1,330	
Consumptive use	120	140	57	57	82	133	22	200	
Coefficient	5	7	9	9	10	15	15	15	9
District of Columbia									
Total withdrawn	1.8	1.4	1.4	1.4	1.4	0	.5	1.2	
Consumptive use	.7	.3	.3	.3	.3	0	0	.1	
Coefficient	39	21	21	21	21	-	0	8	22

Table 1-4. Industrial water-use category: total withdrawals, water consumed, and consumptive-use coefficients by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Climatically similar states									
Total withdrawn	9,626	9,656	8,147	8,248	8,632	7,365	5,806	5,321	62,799
Consumptive use	840	796	426	457	604.7	852.1	539	598	5,111
Coefficient	9	8	5	6	7	12	9	11	8

¹ MacKichan and Kammerer (1961, tables 7 and 8). Total withdrawn is from the columns “Other uses—water withdrawn—All water—Fresh and Saline.” Consumptive use is from the column “Other uses—Water consumed.”

² Murray (1968, tables 14 and 15). Total withdrawn is from the columns “Other uses—water withdrawn—All water—Fresh and Saline.” Consumptive use is from the column “Other uses—Water consumed.”

³ Murray and Reeves (1972, tables 8 and 15). Total withdrawn is from the columns “Other uses—water withdrawn—All water—Fresh and Saline.” Consumptive use is from the columns “Other uses—Water consumed—fresh and saline.”

⁴ Murray and Reeves (1977, tables 8 and 15). Total withdrawn is from the columns “Other industrial uses—water withdrawn—All water—Fresh and Saline.” Consumptive use is from the columns “Other industrial uses—Water consumed—fresh and saline.”

⁵ Solley and others (1983, tables 7 and 8). Total withdrawn is from the columns “Other industries—Total, excluding reclaimed sewage—Fresh and Saline.” Consumptive use is from the columns “Other industries—Consumptive use—fresh and saline.”

⁶ Solley and others (1988, tables 11 and 12). Total withdrawn is from the columns “Total—Withdrawals and deliveries—Fresh” and “Self-supplied withdrawals—Total—Saline.” Consumptive use is from the column “Total—Consumptive use—Total.”

⁷ Solley and others (1993, tables 19 and 20). Total withdrawn is from the columns “Total—Withdrawals and deliveries—Fresh” and “Self-supplied withdrawals—Total—Saline.” Consumptive use is from the columns “Total use—Consumptive use—Fresh and Saline.”

⁸ Solley and others (1998, tables 19 and 20). Total withdrawn is from the columns “Total use—Withdrawals and deliveries—Fresh” and “Self-supplied withdrawals—Total—Saline.” Consumptive use is from the columns “Total use—Consumptive use—Fresh and Saline.”

Table 1-5. Thermoelectric power water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes Basin									
Total withdrawn	18,000	21,000	26,000	25,000	27,000	22,400	22,800	22,800	
Consumptive use	12	11	14	52	93	1,100	476	429	
Coefficient	0	0	0	0	0	5	2	2	1
Illinois									
Total withdrawn	9,700	13,000	11,000	9,100	14,000	11,700	15,200	17,100	
Consumptive use	2	4	5	5	260	121	370	407	
Coefficient	0	0	0	0	2	1	2	2	1
Indiana									
Total withdrawn	3,200	6,400	4,800	7,300	9,700	4,480	5,960	5,690	
Consumptive use	7	6	5	65	65	77	119	114	
Coefficient	0	0	0	1	1	2	2	2	1
Michigan									
Total withdrawn	3,900	5,800	9,800	12,000	12,000	8,390	8,060	8,370	
Consumptive use	1	4	0	0	0	108	204	126	
Coefficient	0	0	0	0	0	1	3	2	1
Minnesota									
Total withdrawn	1,200	1,300	1,700	2,900	1,700	1,480	1,880	2,090	
Consumptive use	0	2	.2	58	7.2	140	323	48	
Coefficient	0	0	0	2	0	9	17	2	4
New York									
Total withdrawn	8,300	10,500	13,000	20,000	12,000	10,900	15,500	13,100	
Consumptive use	8	10	27	39	38.6	2,310	340	300	
Coefficient	0	0	0	0	0	21	2	2	3
Ohio									
Total withdrawn	8,200	9,100	14,000	12,000	10,000	10,500	9,550	8,190	
Consumptive use	22	7	14	78	93	64	393	336	
Coefficient	0	0	0	1	1	1	4	4	1
Pennsylvania									
Total withdrawn	6,600	8,800	12,000	11,000	10,000	10,200	5,750	5,930	
Consumptive use	4	6	8.9	230	290	193	218	239	
Coefficient	0	0	0	2	3	2	4	4	2
Wisconsin									
Total withdrawn	2,900	3,900	5,300	2,200	4,500	5,440	5,100	5,830	
Consumptive use	0	1	0	30	46	54	51	58	
Coefficient	0	0	0	1	1	1	1	1	1

Table 1-5. Thermoelectric power water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes States									
Total withdrawn	44,000	58,800	71,600	76,500	73,900	63,090	67,000	66,300	521,190
Consumptive use	44	40	60.1	506	800	3,067	2,018	1,628	8,163.1
Coefficient	0	0	0	1	1	5	3	2	2

¹ MacKichan and Kammerer (1961, tables 9 and 10). Total withdrawn is from the columns “Condenser cooling and Other uses—Self-supplied and Public supplies.” Consumptive use is from the column “Consumed.” Because data was reported to two significant figures, totals were rounded to two significant figures as well. In some cases, tables 7 and 8, as well as partial columns were used to help determine rounding.

² Murray (1968, tables 17 and 18). Total withdrawn is from the columns “Condenser cooling and Other uses—Self-supplied and Public supplies.” Consumptive use is from the column “Water consumed.” Because data were reported to two significant figures, totals were rounded to two significant figures as well. In some cases, tables 14 and 15, as well as partial columns, were used to help determine rounding.

³ Murray and Reeves (1972, tables 9 and 16). Total withdrawn is from the columns “Condenser cooling and Other uses—Self-supplied and Public supplies.” Consumptive use is from the columns “Water consumed—Fresh and Saline.” Because data were reported to two significant figures, totals were rounded to two significant figures as well. In some cases, tables 8 and 15, as well as partial columns, were used to help determine rounding.

⁴ Murray and Reeves (1977, tables 9 and 16). Total withdrawn is from the columns “Condenser and reactor cooling and Other thermoelectric uses—self-supplied and public supplies.” Consumptive use is from the columns “Water consumed—Fresh and Saline.” Because data were reported to two significant figures, totals were rounded to two significant figures as well. In some cases, tables 8 and 15, as well as partial columns, were used to help determine rounding.

⁵ Solley and others (1983, tables 9 and 10). Total withdrawn is from the columns “Cooling of condensers and reactors—Total and Other thermoelectric uses—total. Consumptive use is from the columns “Consumptive use—Fresh and Saline.” Because data were reported to two significant figures, totals were rounded to two significant figures as well.

⁶ Solley and others (1988, tables 15 and 16). Total withdrawn is from the columns “Self-supplied withdrawals, by source and type” for both “Ground water—Fresh” and “Surface water—Total,” plus “Public-supply deliveries.” As a check—because independent rounding is noted as a reason figures might not add to totals, the “Total use—Withdrawals and deliveries—Fresh” was added to the “Surface water—saline.” Consumptive use is from the column “Total—Consumptive use—total.”

⁷ Solley and others (1993, tables 23 and 24.) Total withdrawn is from the columns “Self-supplied withdrawals, by source and type” for both “Ground water—Fresh” and “Surface water—Total” plus “Public-supply deliveries.” As a check—because independent rounding is noted as a reason figures might not add to totals—the column “Total—Withdrawals and deliveries—Fresh” was added to the column “Surface water—saline.” Consumptive use is from the column “Total Use—Consumptive use—total.”

⁸ Solley and others (1998, tables 23 and 24). Total withdrawn is from the columns “Self-supplied withdrawals, by source and type” for both “Ground water—Fresh” and “Surface water—Total” plus “Public-supply deliveries.” As a check—because independent rounding is noted as a reason figures might not add to totals—the column “Total use—Withdrawals and deliveries—Fresh” was added to the column “Surface water—saline.” Consumptive use is from the column “Total Use—Consumptive use—Total.”

Table 1-6. Thermoelectric power water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the water-resources regions and states climatically similar to the Great Lakes Basin.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Mid-Atlantic Region									
Total withdrawn	15,300	21,000	32,000	39,000	40,000	32,400	37,200	32,400	
Consumptive use	15	27	52	186	920	2,040	413	401	
Coefficient	0	0	0	0	2	6	1	1	2
New England Region									
Total withdrawn	3,900	4,200	6,500	11,000	9,900	13,200	11,510	10,400	
Consumptive use	1	3	4	96	21	254	230	105	
Coefficient	0	0	0	1	0	2	2	1	1
Ohio Region									
Total withdrawn	16,000	20,000	27,000	27,000	30,000	24,400	23,900	22,600	
Consumptive use	33	17	50	280	520	1,020	881	838	
Coefficient	0	0	0	1	2	4	4	4	2
Tennessee Region									
Total withdrawn	5,600	6,500	6,100	8,700	9,200	6,810	7,070	6,990	
Consumptive use	0	8	64	59	20	11	15	13	
Coefficient	0	0	1	1	0	0	0	0	0
Upper Mississippi Region									
Total withdrawn	8,200	13,000	12,000	13,000	16,000	12,800	16,500	19,100	
Consumptive use	4	27	23	96	290	276	635	388	
Coefficient	0	0	0	1	2	2	4	2	2
Connecticut									
Total withdrawn	1,500	1,600	2,900	1,900	3,200	3,210	4,240	3,940	
Consumptive use	0	1	2	4.7	1.9	65	85	80	
Coefficient	0	0	0	0	0	2	2	2	1
Delaware									
Total withdrawn	440	600	730	1,500	680	1,120	1,160	1,270	
Consumptive use	0	4	0	0	68	.7	6.6	3.1	
Coefficient	0	1	0	0	10	0	1	0	1
Iowa									
Total withdrawn	1,500	1,500	1,400	2,800	3,200	1,810	2,080	2,130	
Consumptive use	2	21	20	15	20	54	10	10	
Coefficient	0	1	1	1	1	3	0	0	1
Kentucky									
Total withdrawn	2,000	2,700	3,800	2,300	4,100	3,410	3,440	3,440	
Consumptive use	1	5	21	45	140	124	203	203	
Coefficient	0	0	1	2	3	4	6	6	3
Maine									
Total withdrawn	120	180	200	620	750	746	691	137	
Consumptive use	0	0	0	0	0	0	14	5.2	
Coefficient	0	0	0	0	0	0	2	4	1

Table 1-6. Thermoelectric power water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Maryland									
Total withdrawn	1,100	2,200	3,200	5,600	6,500	5,420	4,970	6,360	
Consumptive use	0	0	0	20	19	465	59	52	
Coefficient	0	0	0	0	0	9	1	1	2
Massachusetts									
Total withdrawn	1,800	2,000	2,700	7,200	4,700	8,450	4,500	4,520	
Consumptive use	1	2	2	0	0	182	90	6	
Coefficient	0	0	0	0	0	2	2	0	1
Missouri									
Total withdrawn	1,300	1,600	2,500	3,000	5,500	4,930	5,600	5,550	
Consumptive use	1	9	13	29	300	89	97	51	
Coefficient	0	1	1	1	5	2	2	1	2
New Hampshire									
Total withdrawn	260	240	410	700	700	542	1,150	1,110	
Consumptive use	0	0	0	0	0	5.3	23	4.3	
Coefficient	0	0	0	0	0	1	2	0	1
New Jersey									
Total withdrawn	2,700	4,000	4,200	4,300	7,400	4,540	10,100	4,390	
Consumptive use	4	9	26	2.5	570	14	.2	36	
Coefficient	0	0	1	0	8	0	0	1	2
Rhode Island									
Total withdrawn	310	300	310	330	330	261	393	275	
Consumptive use	0	0	0	0	0	2.6	7.9	5.5	
Coefficient	0	0	0	0	0	1	2	2	1
Tennessee									
Total withdrawn	3,900	3,300	4,900	5,800	7,800	6,060	7,320	8,300	
Consumptive use	1	1	62	50	1.0	.8	0	.5	
Coefficient	0	0	1	1	0	0	0	0	0
Vermont									
Total withdrawn	29	53	5.0	250	240	.8	519	453	
Consumptive use	0	0	0	94	22	.6	11	4	
Coefficient	0	0	0	38	9	75	2	1	8
Virginia									
Total withdrawn	3,400	4,200	3,900	5,900	8,400	5,760	5,290	6,620	
Consumptive use	2	8	.8	0	83	89	12	8.8	
Coefficient	0	0	0	0	1	2	0	0	0
West Virginia									
Total withdrawn	3,700	2,700	5,000	5,400	4,600	4,210	3,710	3,010	
Consumptive use	0	1	1.1	1.2	110	658	99	122	
Coefficient	0	0	0	0	2	16	3	4	3
District of Columbia									
Total withdrawn	270	200	1,100	130	130	130	8.0	9.7	
Consumptive use	0	0	0	2	2	2	.6	.8	
Coefficient	0	0	0	2	2	2	8	8	0

Table 1-6. Thermoelectric power water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Climatically similar states									
Total withdrawn	24,329	27,373	37,255	47,730	58,230	50,600	55,171	51,515	352,203
Consumptive use	12	61	147.9	263.4	1,336.9	1,752	718.3	592.2	4,883.7
Coefficient	0	0	0	1	2	3	1	1	1

¹ MacKichan and Kammerer (1961, tables 9 and 10). Total withdrawn is from the columns “Condenser cooling and Other uses—Self-supplied and Public supplies.” Consumptive use is from the column “Consumed.” Because data was reported to two significant figures, totals were rounded to two significant figures as well. In some cases, tables 7 and 8, as well as partial columns were used to help determine rounding.

² Murray (1968, tables 17 and 18). Total withdrawn is from the columns “Condenser cooling and Other uses—Self-supplied and Public supplies.” Consumptive use is from the column “Water consumed.” Because data were reported to two significant figures, totals were rounded to two significant figures as well. In some cases, tables 14 and 15, as well as partial columns, were used to help determine rounding.

³ Murray and Reeves (1972, tables 9 and 16). Total withdrawn is from the columns “Condenser cooling and Other uses—Self-supplied and Public supplies.” Consumptive use is from the columns “Water consumed—Fresh and Saline.” Because data were reported to two significant figures, totals were rounded to two significant figures as well. In some cases, tables 8 and 15, as well as partial columns, were used to help determine rounding.

⁴ Murray and Reeves (1977, tables 9 and 16). Total withdrawn is from the columns “Condenser and reactor cooling and Other thermoelectric uses—self-supplied and public supplies.” Consumptive use is from the columns “Water consumed—Fresh and Saline.” Because data were reported to two significant figures, totals were rounded to two significant figures as well. In some cases, tables 8 and 15, as well as partial columns, were used to help determine rounding.

⁵ Solley and others (1983, tables 9 and 10). Total withdrawn is from the columns “Cooling of condensers and reactors—Total and Other thermoelectric uses—total. Consumptive use is from the columns “Consumptive use—Fresh and Saline.” Because data were reported to two significant figures, totals were rounded to two significant figures as well.

⁶ Solley and others (1988, tables 15 and 16). Total withdrawn is from the columns “Self-supplied withdrawals, by source and type” for both “Ground water—Fresh” and “Surface water—Total,” plus “Public-supply deliveries.” As a check—because independent rounding is noted as a reason figures might not add to totals, the “Total use—Withdrawals and deliveries—Fresh” was added to the “Surface water—saline.” Consumptive use is from the column “Total—Consumptive use—total.”

⁷ Solley and others (1993, tables 23 and 24.) Total withdrawn is from the columns “Self-supplied withdrawals, by source and type” for both “Ground water—Fresh” and “Surface water—Total” plus “Public-supply deliveries.” As a check—because independent rounding is noted as a reason figures might not add to totals—the “Total—Withdrawals and deliveries—Fresh” was added to the “Surface water—saline.” Consumptive use is from the column “Total Use—Consumptive use—total.”

⁸ Solley and others (1998, tables 23 and 24). Total withdrawn is from the columns “Self-supplied withdrawals, by source and type” for both “Ground water—Fresh” and “Surface water—Total” plus “Public-supply deliveries.” As a check—because independent rounding is noted as a reason figures might not add to totals—the “Total use—Withdrawals and deliveries—Fresh” was added to the “Surface water—saline.” Consumptive use is from the column “Total Use—Consumptive use—total.”

Table 1-7. Irrigation water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes Basin									
Total withdrawn	46	67	90	99	340	275 ¹	290	315	
Consumptive use	45	65	87	94	330	274	274	295	
Coefficient	98	97	97	95	97	100	94	94	96
Illinois									
Total withdrawn	2.4	15	21	41	110	71	78	180	
Consumptive use	2.4	15	21	41	110	71	70	180	
Coefficient	100	100	100	100	100	100	90	100	98
Indiana									
Total withdrawn	7.2	9	25	34	230	47	51	116	
Consumptive use	7.2	9	25	33	230	47	46	104	
Coefficient	100	100	100	100	100	100	90	90	97
Michigan									
Total withdrawn	22	37	58	64	210	231 ¹	240	227	
Consumptive use	22	36	58	64	210	231	227	216	
Coefficient	100	97	100	100	100	100	95	95	98
Minnesota									
Total withdrawn	7.1	5.8	20	47	160	209	195	157	
Consumptive use	7.1	5.8	20	47	160	190	175	140	
Coefficient	100	100	100	100	100	91	90	89	93
New York									
Total withdrawn	28	53	27	32	46	38	54	30	
Consumptive use	28	53	27	32	46	38	49	26	
Coefficient	100	100	100	100	100	100	91	87	97
Ohio									
Total withdrawn	8.5	11	31	18	5.3	17	15	27	
Consumptive use	7.7	11	28	16	4.8	15	14	26	
Coefficient	91	100	90	89	91	88	93	96	92
Pennsylvania									
Total withdrawn	3	6.7	10	34	160	11	14	16	
Consumptive use	3	6.7	10	34	160	11	14	16	
Coefficient	100	100	100	100	100	100	100	100	100
Wisconsin									
Total withdrawn	16	39	52	71	85	84	151	169	
Consumptive use	16	29	40	56	77	84	151	151	
Coefficient	100	74	77	79	91	100	100	89	91

Table 1-7. Irrigation water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes States									
Total withdrawn	94.2	176.5	244	341	1,006.3	708	798	922	4,290
Consumptive use	93.4	165.5	229	323	997.8	687	744	859	4,099
Coefficient	99	94	94	95	99	97	93	93	96

¹ MacKichan and Kammerer (1961, tables 5 and 6). Total withdrawn is from the column “Water delivered to farms (million gallons per day)—All water.” Consumptive use is from the column “Consumptive use (mgd).”

² Murray (1968, tables 11 and 12). Total withdrawn is from the column “Total water withdrawn (million gallons per day)—All water.” Consumptive use is from the column “Consumptive use (mgd).”

³ Murray and Reeves (1972, tables 7 and 14). Total withdrawn is from the column “Total water withdrawn (million gallons per day)—All water.” Consumptive use is from the column “water consumed.”

⁴ Murray and Reeves (1977, tables 7 and 14). Total withdrawn is from the column “Total water withdrawn (million gallons per day)—All water.” Consumptive use is from the column “freshwater consumed (mgd).”

⁵ Solley and others (1983, tables 5 and 6). Total withdrawn is from the column “Million gallons per day—Withdrawals—Total.” Consumptive use is from the column “Million gallons per day—Consumptive use, fresh water.”

⁶ Solley and others (1988, tables 7 and 8). Total withdrawn is from the column “Million gallons per day—Withdrawals, by source—Total.” Consumptive use is from the column “Million gallons per day—Consumptive use, fresh water.”

⁷ Solley and others (1993, tables 15 and 16). Total withdrawn is from the column “Million gallons per day—Withdrawals, by source—Total.” Consumptive use is from the column “Million gallons per day—Consumptive use, fresh water.”

⁸ Solley and others (1998, tables 15 and 16). Total withdrawn is from the column “Million gallons per day—Withdrawals, by source—Total.” Consumptive use is from the column “Million gallons per day—Consumptive use, fresh water.”

Table 1-8. Irrigation water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Mid-Atlantic Region									
Total withdrawn	82	122	130	230	250	248	197	293	
Consumptive use	82	122	120	200	240	229	168	200	
Coefficient	100	100	92	87	96	92	85	68	88
New England Region									
Total withdrawn	11	26	80	57	53	25	120	146	
Consumptive use	6.9	26	64	57	52	25	120	142	
Coefficient	63	100	80	100	98	100	100	97	95
Ohio Region									
Total withdrawn	13	23	35	34	150	40	68	104	
Consumptive use	12	23	35	32	150	38	59	97	
Coefficient	92	100	100	94	100	95	87	93	96
Tennessee Region									
Total withdrawn	14	9.2	6.6	7.2	6.8	10	27	48	
Consumptive use	14	9.2	6.6	6.9	6.6	7.7	19	48	
Coefficient	100	100	100	96	97	77	70	100	92
Upper Mississippi Region									
Total withdrawn	44	85	100	150	380	358	392	484	
Consumptive use	44	77	95	140	370	345	364	449	
Coefficient	100	91	95	93	97	96	93	93	95
Connecticut									
Total withdrawn	1.0	10	5.9	4.3	21	2.7	15	28	
Consumptive use	1.0	10	5.9	4.3	21	2.7	15	28	
Coefficient	100	100	100	100	100	100	100	100	100
Delaware									
Total withdrawn	2.4	3.6	2.7	14	6.5	27	32	48	
Consumptive use	2.4	3.6	2.7	14	6.5	27	32	48	
Coefficient	100	100	100	100	100	100	100	100	100
Iowa									
Total withdrawn	61	73	26	21	56	67	23	39	
Consumptive use	61	73	26	21	56	67	23	39	
Coefficient	100	100	100	100	100	100	100	100	100
Kentucky									
Total withdrawn	2.5	8.9	7.1	2.7	4.9	7.7	12	12	
Consumptive use	2.5	8.9	6.8	2.6	4.9	7.3	11	11	
Coefficient	100	100	96	96	100	95	92	92	95
Maine									
Total withdrawn	.88	2.5	8.9	8.5	6.1	1.9	1.8	27	
Consumptive use	.88	2.5	8.8	8.5	5.8	1.9	1.8	24	
Coefficient	100	100	99	100	95	100	100	89	94
Maryland									
Total withdrawn	5.3	6.1	6.6	9.5	20	34	29	62	
Consumptive use	5.3	6.1	6.6	9.4	19	34	29	57	
Coefficient	100	100	100	99	95	100	100	92	96

Table 1-8. Irrigation water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Climatically similar states									
Total withdrawn	194.15	286	316.1	371	367.8	663.4	719.3	1,056.5	3,974
Consumptive use	188.81	267.9	269.4	312.2	311.5	543.4	572.2	808.5	3,274
Coefficient	97	94	85	84	85	82	80	77	82

¹ MacKichan and Kammerer (1961, tables 5 and 6). Total withdrawn is from the column “Water delivered to farms (million gallons per day)—All water.” Consumptive use is from the column “Consumptive use (mgd).”

² Murray (1968, tables 11 and 12). Total withdrawn is from the column “Total water withdrawn (million gallons per day)—All water.” Consumptive use is from the column “Consumptive use (mgd).”

³ Murray and Reeves (1972, tables 7 and 14). Total withdrawn is from the column “Total water withdrawn (million gallons per day)—All water.” Consumptive use is from the column “water consumed.”

⁴ Murray and Reeves (1977, tables 7 and 14). Total withdrawn is from the column “Total water withdrawn (million gallons per day)—All water.” Consumptive use is from the column “freshwater consumed (mgd).”

⁵ Solley and others (1983, tables 5 and 6). Total withdrawn is from the column “Million gallons per day—Withdrawals—Total.” Consumptive use is from the column “Million gallons per day—Consumptive use, fresh water.”

⁶ Solley and others (1988, tables 7 and 8). Total withdrawn is from the column “Million gallons per day—Withdrawals, by source—Total.” Consumptive use is from the column “Million gallons per day—Consumptive use, fresh water.”

⁷ Solley and others (1993, tables 15 and 16). Total withdrawn is from the column “Million gallons per day—Withdrawals, by source—Total.” Consumptive use is from the column “Million gallons per day—Consumptive use, fresh water.”

⁸ Solley and others (1998, tables 15 and 16). Total withdrawn is from the column “Million gallons per day—Withdrawals, by source—Total.” Consumptive use is from the column “Million gallons per day—Consumptive use, fresh water.”

Table 1-9. Livestock water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use numbers. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960¹	1965²	1970³	1975⁴	1980⁵	1985⁶	1990⁷	1995⁸	1960–95
Great Lakes Basin									
Total withdrawn	92	84	86	84	84	78	72	61	
Consumptive use	85	77	82	78	77	69	62	53	
Coefficient	92	92	95	93	92	88	86	87	91
Illinois									
Total withdrawn	78	62	42	42	65	57	52	45	
Consumptive use	78	62	42	42	65	49	41	36	
Coefficient	100	100	100	100	100	86	79	80	94
Indiana									
Total withdrawn	44	41	46	65	42	48	46	46	
Consumptive use	44	40	46	59	42	41	36	37	
Coefficient	100	98	100	91	100	86	78	80	91
Michigan									
Total withdrawn	29	27	31	25	22	25	23	13	
Consumptive use	23	21	28	22	19	22	19	12	
Coefficient	79	78	90	88	86	88	83	92	85
Minnesota									
Total withdrawn	71	69	68	77	68	63	65	62	
Consumptive use	71	62	68	76	68	63	65	62	
Coefficient	100	90	100	99	100	100	100	100	99
New York									
Total withdrawn	35	33	38	38	58	20	25	33	
Consumptive use	32	30	34	34	52	18	23	30	
Coefficient	91	91	89	89	90	90	92	91	90
Ohio									
Total withdrawn	45	38	40	58	40	41	33	26	
Consumptive use	45	37	39	54	36	41	32	25	
Coefficient	100	97	98	93	90	100	97	96	96
Pennsylvania									
Total withdrawn	32	28	28	51	61	70	53	55	
Consumptive use	32	23	18	38	41	61	40	41	
Coefficient	100	82	64	75	67	87	75	75	78
Wisconsin									
Total withdrawn	73	72	71	70	75	90	68	64	
Consumptive use	73	72	71	70	75	73	55	51	
Coefficient	100	100	100	100	100	81	81	80	93

Table 1-9. Livestock water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use numbers. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Great Lakes States									
Total withdrawn	407	370	364	426	431	414	365	344	3121
Consumptive use	398	347	346	395	398	368	311	294	2,857
Coefficient	98	94	95	93	92	89	85	85	92

¹ MacKichan and Kammerer (1961, tables 3 and 4). Total withdrawn is from the column “Livestock use—Withdrawn—All water.” Consumptive use is from the column “Livestock use—Consumed.”

² Murray, 1968 (tables 8 and 9). Total withdrawn is from the column “Livestock use—Withdrawals—All water.” Consumptive use is from the column “Livestock use—Consumed.”

³ Murray and Reeves (1972, tables 6 and 13). Total withdrawn is from the column “Livestock use—Withdrawals—All water.” Consumptive use is from the column “Livestock use—Water consumed.”

⁴ Murray and Reeves (1977, tables 6 and 13). Total withdrawn is from the column “Livestock use—Withdrawals—All water.” Consumptive use is from the column “Livestock use—Fresh-water consumed.”

⁵ Solley and others (1983, tables 3 and 4). Total withdrawn is from the column “Livestock use—Withdrawals—Total.” Consumptive use is from the column “Livestock use—Consumptive use.”

⁶ Solley and others (1988, tables 9 and 10). Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive use.”

⁷ Solley and others (1993, tables 17 and 18). Total withdrawn is from the column “Livestock—Withdrawals—Total.” Consumptive use is from the column “Livestock—Consumptive use.”

⁸ Solley and others (1998, tables 17 and 18). Total withdrawn is from the column “Livestock—Withdrawals—Total.” Consumptive use is from the column “Livestock—Consumptive use.”

Table 1-10. Livestock water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Mid-Atlantic Region									
Total withdrawn	64	60	79	95	110	142	90	107	
Consumptive use	58	51	65	76	86	85	78	92	
Coefficient	91	85	82	80	78	60	87	86	79
New England Region									
Total withdrawn	13	11	12	8.6	9.2	44	7.5	7.2	
Consumptive use	13	11	12	8.5	9.2	30	6.8	6.0	
Coefficient	100	100	100	99	100	68	91	83	86
Ohio Region									
Total withdrawn	130	120	140	180	150	184	125	123	
Consumptive use	130	120	140	170	140	155	111	111	
Coefficient	100	100	100	94	93	84	89	90	93
Tennessee Region									
Total withdrawn	38	51	31	38	41	59	33	18	
Consumptive use	38	50	30	32	40	28	33	18	
Coefficient	100	98	97	84	98	47	100	100	87
Upper Mississippi Region									
Total withdrawn	290	310	260	260	270	300	236	223	
Consumptive use	290	300	250	250	270	279	217	205	
Coefficient	100	97	96	96	100	93	92	92	96
Connecticut									
Total withdrawn	3.0	2.3	2.5	3.0	2.2	8.4	1.2	1.2	
Consumptive use	3.0	2.3	2.5	3.0	2.2	1.8	1.0	1.0	
Coefficient	100	100	100	100	100	21	83	83	71
Delaware									
Total withdrawn	1.8	2.2	1.7	2.9	2.0	1.9	2.4	4.1	
Consumptive use	.9	1.0	1.4	2.3	2.0	1.9	2.4	3.7	
Coefficient	50	45	82	79	100	100	100	90	82
Iowa									
Total withdrawn	140	150	130	120	130	172	118	109	
Consumptive use	130	150	130	120	130	172	118	109	
Coefficient	93	100	100	100	100	100	100	100	99
Kentucky									
Total withdrawn	31	38	40	46	39	50	32	45	
Consumptive use	31	37	40	46	39	50	32	45	
Coefficient	100	97	100	100	100	100	100	100	100
Maine									
Total withdrawn	3.4	3.5	2.8	0	1.7	29	1.7	1.8	
Consumptive use	3.4	3.5	2.6	0	1.7	25	1.5	1.6	
Coefficient	100	100	93	-	100	86	88	89	90

Table 1-10. Livestock water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960 ¹	1965 ²	1970 ³	1975 ⁴	1980 ⁵	1985 ⁶	1990 ⁷	1995 ⁸	1960–95
Maryland									
Total withdrawn	8.8	11	11	11	11	23	10	11	
Consumptive use	8.8	11	11	11	11	11	10	10	
Coefficient	100	100	100	100	100	48	100	91	87
Massachusetts									
Total withdrawn	3.0	2.7	2.1	1.4	1.2	1.3	1.6	1.8	
Consumptive use	2.7	2.4	2.3	1.4	1.2	1.3	1.6	1.4	
Coefficient	90	89	---	100	100	100	100	78	95
Missouri									
Total withdrawn	71	110	110	150	65	41	52	76	
Consumptive use	71	100	100	140	58	41	52	76	
Coefficient	100	91	91	93	89	100	100	100	95
New Hampshire									
Total withdrawn	1.8	1.4	1.3	.9	.8	1.2	1.0	.8	
Consumptive use	1.6	1.4	1.3	.8	.7	.2	.8	.5	
Coefficient	89	100	100	89	88	17	80	63	79
New Jersey									
Total withdrawn	4.7	3.0	2.4	2.3	3.0	3.1	1.5	1.2	
Consumptive use	3.3	2.1	2.1	2.1	2.5	3.1	1.5	1.2	
Coefficient	70	70	88	91	83	100	100	100	84
Rhode Island									
Total withdrawn	.4	.4	.2	.2	.2	2.3	.2	.4	
Consumptive use	.3	.3	.3	.2	.2	2.0	.1	.3	
Coefficient	75	75	---	100	100	87	50	75	86
Tennessee									
Total withdrawn	30	30	34	38	42	65	21	8.4	
Consumptive use	30	30	34	34	42	28	21	8.4	
Coefficient	100	100	100	89	100	43	100	100	85
Vermont									
Total withdrawn	6.6	5.4	8.3	8.7	9.2	5.6	6.0	5.1	
Consumptive use	6.0	4.9	8.4	8.7	9.2	1.1	5.4	4.6	
Coefficient	91	91	---	100	100	20	90	90	88
Virginia									
Total withdrawn	22	19	29	25	28	53	28	36	
Consumptive use	17	15	23	15	17	5.4	28	36	
Coefficient	77	79	79	60	61	10	100	100	65
West Virginia									
Total withdrawn	8.9	7.2	6.9	7.4	7.6	26	4.7	5.1	
Consumptive use	8.9	7.1	6.0	6.4	6.7	22	4.0	4.4	
Coefficient	100	99	87	86	88	85	85	86	89

Table 1-10. Livestock water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin. —Continued

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1960–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. Data from 1960 to 1980 were reported in two significant figures and data from 1985 to 1995 were reported in three significant figures.]

Statistic	1960¹	1965²	1970³	1975⁴	1980⁵	1985⁶	1990⁷	1995⁸	1960–95
Climatically similar states									
Total withdrawn	336.4	386.1	382.2	416.8	342.9	482.8	281.3	306.9	2,935
Consumptive use	317.9	368	364.9	390.9	323.4	365.8	279.3	303.1	2,713
Coefficient	95	95	95	94	94	76	99	99	92

¹ MacKichan and Kemmerer (1961, tables 3 and 4). Total withdrawn is from the column “Livestock use—Withdrawn—All water.” Consumptive use is from the column “Livestock use—Consumed.”

² Murray, 1968 (tables 8 and 9). Total withdrawn is from the column “Livestock use—Withdrawals—All water.” Consumptive use is from the column “Livestock use—Consumed.”

³ Murray and Reeves (1972, tables 6 and 13). Total withdrawn is from the column “Livestock use—Withdrawals—All water.” Consumptive use is from the column “Livestock use—Water consumed.”

⁴ Murray and Reeves (1977, tables 6 and 13). Total withdrawn is from the column “Livestock use—Withdrawals—All water.” Consumptive use is from the column “Livestock use—Fresh-water consumed.”

⁵ Solley and others (1983, tables 3 and 4). Total withdrawn is from the column “Livestock use—Withdrawals—Total.” Consumptive use is from the column “Livestock use—Consumptive use.”

⁶ Solley and others (1988, tables 9 and 10). Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive use.”

⁷ Solley and others (1993, tables 17 and 18). Total withdrawn is from the column “Livestock—Withdrawals—Total.” Consumptive use is from the column “Livestock—Consumptive use.”

⁸ Solley and others (1998, tables 17 and 18). Total withdrawn is from the column “Livestock —Withdrawals—Total.” Consumptive use is from the column “Livestock—Consumptive use.”

Table 1-11. Animal specialties water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1990–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area.]

Statistic	1990 ¹	1995 ²	1990–95
Great Lakes Basin			
Total withdrawn	20	8.6	28.6
Consumptive use	2.4	1.8	4.2
Coefficient	12	21	15
Illinois			
Total withdrawn	11	11	22
Consumptive use	11	11	22
Coefficient	100	100	100
Indiana			
Total withdrawn	.5	.6	1.1
Consumptive use	.5	.5	1.0
Coefficient	100	83	91
Michigan			
Total withdrawn	6.3	.6	6.9
Consumptive use	.8	.6	1.4
Coefficient	13	100	20
Minnesota			
Total withdrawn	2.2	.4	2.6
Consumptive use	2.2	.4	2.6
Coefficient	100	100	100
New York			
Total withdrawn	.5	.5	1.0
Consumptive use	.5	.5	1.0
Coefficient	100	100	100
Ohio			
Total withdrawn	.5	.7	1.2
Consumptive use	0	0	0
Coefficient	0	0	0
Pennsylvania			
Total withdrawn	0	.6	.6
Consumptive use	0	.6	.6
Coefficient	-	100	100
Wisconsin			
Total withdrawn	31	29	60
Consumptive use	3.1	2.8	5.9
Coefficient	10	10	10
Great Lakes States			
Total withdrawn	52	43.4	95.4
Consumptive use	18.1	16.4	34.5
Coefficient	35	38	36

¹ Solley, and others (1993, tables 17 and 18). Total withdrawn is from the column “Animal specialties—Withdrawals—Total.” Consumptive use is from the column “Animal specialties—Consumptive use.”

² Solley and others (1998, tables 17 and 18). Total withdrawn is from the column “Animal specialties—Withdrawals—Total.” Consumptive use is from the column “Animal Specialties—Consumptive use.”

Table 1-12. Animal specialties water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes Basin.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1990–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area.]

Statistic	1990 ¹	1995 ²	1990–95	Statistic	1990 ¹	1995 ²	1990–95
Mid-Atlantic Region				Massachusetts			
Total withdrawn	9.4	26		Total withdrawn	.2	8.2	
Consumptive use	1.5	1.3		Consumptive use	.2	6.5	
Coefficient	16	5	8	Coefficient	100	79	80
New England Region				Missouri			
Total withdrawn	.6	12		Total withdrawn	2.5	1.0	
Consumptive use	.6	9.5		Consumptive use	2.5	1.0	
Coefficient	100	79	80	Coefficient	100	100	100
Ohio Region				New Hampshire			
Total withdrawn	7.4	18		Total withdrawn	0	.1	
Consumptive use	4.6	4.6		Consumptive use	0	.1	
Coefficient	62	26	36	Coefficient	-	100	100
Tennessee Region				New Jersey			
Total withdrawn	168	188		Total withdrawn	.6	.3	
Consumptive use	23	26		Consumptive use	.6	.3	
Coefficient	14	14	14	Coefficient	100	100	100
Upper Mississippi Region				Rhode Island			
Total withdrawn	32	32		Total withdrawn	.2	3.2	
Consumptive use	17	13		Consumptive use	.1	2.6	
Coefficient	53	41	47	Coefficient	50	81	79
Connecticut				Tennessee			
Total withdrawn	.3	.3		Total withdrawn	28	28	
Consumptive use	.3	.3		Consumptive use	28	28	
Coefficient	100	100	100	Coefficient	100	100	100
Delaware				Vermont			
Total withdrawn	0	0		Total withdrawn	0	.2	
Consumptive use	0	0		Consumptive use	0	.2	
Coefficient	-	-	-	Coefficient	-	100	100
Iowa				Virginia			
Total withdrawn	2.4	.5		Total withdrawn	.9	.1	
Consumptive use	2.4	.5		Consumptive use	.9	.1	
Coefficient	100	100	100	Coefficient	100	100	100
Kentucky				West Virginia			
Total withdrawn	.9	.9		Total withdrawn	.1	13	
Consumptive use	.9	.9		Consumptive use	.1	.1	
Coefficient	100	100	100	Coefficient	100	1	2
Maine				Climatically similar states			
Total withdrawn	0	0		Total withdrawn	45.5	79.8	125.3
Consumptive use	0	0		Consumptive use	36.0	40.6	76.6
Coefficient	-	-	-	Coefficient	79	51	61
Maryland							
Total withdrawn	9.4	24					
Consumptive use	0	0					
Coefficient	0	0	0				

¹ Solley, and others (1993, tables 17 and 18). Total withdrawn is from the column “Animal specialties—Withdrawals—Total.” Consumptive use is from the column “Animal specialties—Consumptive use.”

² Solley and others (1998, tables 17 and 18). Total withdrawn is from the column “Animal specialties—Withdrawals—Total.” Consumptive use is from the column “Animal Specialties—Consumptive use.”

Table 1-13. Commercial water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1985–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. The 1985–95 compilations rounded data to three significant figures.]

Statistic	1985 ¹	1990 ²	1995 ³	1985–95
Great Lakes Basin				
Total withdrawn	776	746	752	
Consumptive use	73	69	82	
Coefficient	9	9	11	10
Illinois				
Total withdrawn	577	672	544	
Consumptive use	64	54	44	
Coefficient	11	8	8	9
Indiana				
Total withdrawn	79	165	212	
Consumptive use	5.5	25	32	
Coefficient	7	15	15	14
Michigan				
Total withdrawn	374	375	294	
Consumptive use	27	30	31	
Coefficient	7	8	11	8
Minnesota				
Total withdrawn	49	93	169	
Consumptive use	11	12	18	
Coefficient	22	13	11	13
New York				
Total withdrawn	413	452	609	
Consumptive use	40	45	61	
Coefficient	10	10	10	10
Ohio				
Total withdrawn	377	361	424	
Consumptive use	19	30	66	
Coefficient	5	8	16	10
Pennsylvania				
Total withdrawn	214	229	247	
Consumptive use	46	23	11	
Coefficient	21	10	4	12
Wisconsin				
Total withdrawn	102	110	128	
Consumptive use	27	22	26	
Coefficient	26	20	20	22
Great Lakes States				
Total withdrawn	2,185	2,454	2,627	7,269
Consumptive use	239.5	241	289	703.5
Coefficient	11	10	11	10

¹ Solley and others (1988, tables 5 and 6). Total withdrawn is from the column "Total—Withdrawals and deliveries." Consumptive use is from the column "Total—Consumptive Use."

² Solley and others (1993, tables 13 and 14). Total withdrawn is from the column "Total Use—Withdrawals and deliveries." Consumptive use is from the column "Total use—Consumptive use."

³ Solley and others (1998, tables 13 and 14). Total withdrawn is from the column "Total Use—Withdrawals and deliveries." Consumptive use is from the column "Total use—Consumptive use."

Table 1-14. Commercial water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1985–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area.]

Statistic	1985 ¹	1990 ²	1995 ³	1985–95	Statistic	1985 ¹	1990 ²	1995 ³	1985–95
Mid-Atlantic Region					Massachusetts				
Total withdrawn	854	1,070	1,230		Total withdrawn	514	132	200	
Consumptive use	102	101	102		Consumptive use	112	13	25	
Coefficient	12	9	8	10	Coefficient	22	10	13	18
New England Region					Missouri				
Total withdrawn	635	305	433		Total withdrawn	78	81	73	
Consumptive use	143	36	46		Consumptive use	5.4	5.5	5.3	
Coefficient	23	12	11	16	Coefficient	7	7	7	7
Ohio Region					New Hampshire				
Total withdrawn	439	500	631		Total withdrawn	9.1	17	51	
Consumptive use	33	52	93		Consumptive use	1.8	1.9	3.5	
Coefficient	8	10	15	11	Coefficient	20	11	7	9
Tennessee Region					New Jersey				
Total withdrawn	108	167	156		Total withdrawn	151	157	197	
Consumptive use	10	16	18		Consumptive use	7.5	6.3	7.5	
Coefficient	9	10	12	10	Coefficient	5	4	4	4
Upper Mississippi Region					Rhode Island				
Total withdrawn	628	867	861		Total withdrawn	15	28	21	
Consumptive use	76	83	86		Consumptive use	.6	2.7	2.1	
Coefficient	12	10	10	10	Coefficient	4	10	10	8
Connecticut					Tennessee				
Total withdrawn	58	69	116		Total withdrawn	168	236	234	
Consumptive use	15	13	12		Consumptive use	15	21	21	
Coefficient	26	19	10	16	Coefficient	9	9	9	9
Delaware					Vermont				
Total withdrawn	14	20	22		Total withdrawn	5.2	6.9	33	
Consumptive use	1.4	2.0	2.2		Consumptive use	1.0	.9	2.4	
Coefficient	10	10	10	10	Coefficient	19	13	7	10
Iowa					Virginia				
Total withdrawn	42	86	108		Total withdrawn	92	208	193	
Consumptive use	5.5	11	14		Consumptive use	12	25	23	
Coefficient	13	13	13	13	Coefficient	13	12	12	12
Kentucky					West Virginia				
Total withdrawn	35	37	45		Total withdrawn	22	23	68	
Consumptive use	1.3	1.3	1.6		Consumptive use	2.4	2.3	10	
Coefficient	4	4	4	4	Coefficient	11	10	15	13
Maine					Climatically similar states				
Total withdrawn	40	58	37		Total withdrawn	1,325.3	1,271.9	1,516	4,113.2
Consumptive use	13	5.5	3.7		Consumptive use	202	122.4	144.3	468.7
Coefficient	33	9	10	16	Coefficient	15	10	10	11
Maryland									
Total withdrawn	82	113	118						
Consumptive use	8.1	11	11						
Coefficient	10	10	9	10					

¹ Solley and others (1988, tables 5 and 6). Total withdrawn is from the column “Total—Withdrawals and deliveries.” Consumptive use is from the column “Total—Consumptive Use.”

² Solley and others (1993, tables 13 and 14). Total withdrawn is from the column “Total Use—Withdrawals and deliveries.” Consumptive use is from the column “Total use—Consumptive use.”

³ Solley and others (1998, tables 13 and 14). Total withdrawn is from the column “Total Use—Withdrawals and deliveries.” Consumptive use is from the column “Total use—Consumptive use.”

Table 1-15. Mining water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for the Great Lakes Basin and Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1985–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. The 1985–95 compilations rounded data to three significant figures.]

Statistic	1985	1990	1995	1985–95
Great Lakes Basin				
Total withdrawn	253	257	398	
Consumptive use	61	66	37	
Coefficient	24	26	9	18
Illinois				
Total withdrawn	104	94	75	
Consumptive use	48	46	35	
Coefficient	46	49	47	47
Indiana				
Total withdrawn	91	97	137	
Consumptive use	.3	5.8	8.2	
Coefficient	0	6	6	4
Michigan				
Total withdrawn	61	56	58	
Consumptive use	2.3	2.2	3.0	
Coefficient	4	4	5	4
Minnesota				
Total withdrawn	273	220	298	
Consumptive use	122	57	12	
Coefficient	45	26	4	24
New York				
Total withdrawn	50	62	62	
Consumptive use	5.0	17	17	
Coefficient	10	27	27	22
Ohio				
Total withdrawn	78	243	93	
Consumptive use	11	140	52	
Coefficient	14	58	56	49
Pennsylvania				
Total withdrawn	148	252	252	
Consumptive use	20	25	25	
Coefficient	14	10	10	11
Wisconsin				
Total withdrawn	0	.2	12	
Consumptive use	0	0	2.5	
Coefficient	-	0	21	20
Great Lakes States				
Total withdrawn	805	1,024.2	987	2,816.2
Consumptive use	208.6	293	154.7	656.3
Coefficient	26	29	16	23

¹ Solley and others (1988, tables 13 and 14). Total withdrawn is from the column “Withdrawals—Total—Total.” Consumptive use is from the column “Consumptive use—Total.”

² Solley and others (1993, tables 21 and 22). Total withdrawn is from the column “Withdrawals—Total—Total.” Consumptive use is from the column “Consumptive use—Total.”

³ Solley and others (1998, tables 21 and 22). Total withdrawn is from the column “Withdrawals—Total—Total.” Consumptive use is from the column “Consumptive use—Total.”

Table 1-16. Mining water-use category: total withdrawals, water consumed, and consumptive-use coefficients, by USGS compilation year, for water-resources regions and states climatically similar to the Great Lakes States.

[Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total withdrawn and consumptive-use data. The 1985–95 coefficient was calculated by dividing the sum of the consumptive use by the sum of the total withdrawn for each geographic area. The 1985–95 compilations rounded data to three significant figures.]

Statistic	1985	1990	1995	1985–95	Statistic	1985	1990	1995	1985–95
Mid-Atlantic Region					Massachusetts				
Total withdrawn	227	416	330		Total withdrawn	2.0	5.0	3.2	
Consumptive use	27	81	36		Consumptive use	.5	0	.3	
Coefficient	12	19	11	15	Coefficient	25	0	9	8
New England Region					Missouri				
Total withdrawn	13	20	24		Total withdrawn	28	25	24	
Consumptive use	1.5	2.2	3.8		Consumptive use	2.8	2.5	2.4	
Coefficient	12	11	16	13	Coefficient	10	10	10	10
Ohio Region					New Hampshire				
Total withdrawn	440	1,020	349		Total withdrawn	1.2	2.8	7.0	
Consumptive use	72	530	76		Consumptive use	0	.6	1.4	
Coefficient	16	52	22	37	Coefficient	0	21	20	18
Tennessee Region					New Jersey				
Total withdrawn	16	92	11		Total withdrawn	80	110	90	
Consumptive use	1.9	9.6	1.4		Consumptive use	8.0	8.8	7.2	
Coefficient	12	10	13	11	Coefficient	10	8	8	9
Upper Mississippi Region					Rhode Island				
Total withdrawn	213	158	138		Total withdrawn	2.7	6.8	6.2	
Consumptive use	76	33	24		Consumptive use	.3	.7	.8	
Coefficient	36	21	17	26	Coefficient	11	10	13	11
Connecticut					Tennessee				
Total withdrawn	1.7	2.2	1.7		Total withdrawn	13	90	5.5	
Consumptive use	0	.4	.3		Consumptive use	1.1	9.9	.6	
Coefficient	0	18	18	13	Coefficient	8	11	11	11
Delaware					Vermont				
Total withdrawn	0	0	0		Total withdrawn	1.1	3.7	3.0	
Consumptive use	0	0	0		Consumptive use	0	.7	.6	
Coefficient	-	-	-	-	Coefficient	0	19	20	17
Iowa					Virginia				
Total withdrawn	63	34	43		Total withdrawn	16	91	39	
Consumptive use	0	0	0		Consumptive use	1.9	11	4.7	
Coefficient	0	0	0	0	Coefficient	12	12	12	12
Kentucky					West Virginia				
Total withdrawn	25	18	28		Total withdrawn	142	527	12	
Consumptive use	.7	.5	.8		Consumptive use	29	369	2.7	
Coefficient	3	3	3	3	Coefficient	20	70	23	59
Maine					Climatically similar states				
Total withdrawn	4.0	3.7	5.0		Total withdrawn	400.7	968.2	272.8	1,641.7
Consumptive use	.6	.5	.9		Consumptive use	49.1	430.6	23.7	503.4
Coefficient	15	14	18	16	Coefficient	12	44	9	31
Maryland									
Total withdrawn	21	49	5.2						
Consumptive use	4.2	26	1.0						
Coefficient	20	53	19	41					

¹ Solley and others (1988, tables 13 and 14). Total withdrawn is from the column “Withdrawals—Total—Total.” Consumptive use is from the column “Consumptive use—Total.”

² Solley and others (1993, tables 21 and 22). Total withdrawn is from the column “Withdrawals—Total—Total.” Consumptive use is from the column “Consumptive use—Total.”

³ Solley and others (1998, tables 21 and 22). Total withdrawn is from the column “Withdrawals—Total—Total.” Consumptive use is from the column “Consumptive use—Total.”

References Cited in this Appendix

- MacKichan, K.A., 1957, Estimated use of water in the United States, 1955: U.S. Geological Survey Circular 398, 18 p.
- MacKichan, K.A., and Kammerer, J.C., 1961, Estimated use of water in the United States, 1960: U.S. Geological Survey Circular 456, 26 p.
- Murray, C.R., 1968, Estimated use of water in the United States, 1965: U.S. Geological Survey Circular 556, 53 p.
- Murray, C.R., and Reeves, E.B., 1972, Estimated use of water in the United States in 1970: U.S. Geological Survey Circular 676, 37 p.
- Murray, C.R., and Reeves, E.B., 1977, Estimated use of water in the United States in 1975: U.S. Geological Survey Circular 765, 39 p.
- Solley, W.B., Chase, E.B., and Mann, W.B., IV, 1983, Estimated use of water in the United States in 1980: U.S. Geological Survey Circular 1001, 56 p.
- Solley, W.B., Merk, C.F., and Pierce, R.R., 1988, Estimated use of water in the United States in 1985: U.S. Geological Survey Circular 1004, 82 p.
- Solley, W.B., Pierce, R.R., and Perlman, H.A., 1993, Estimated use of water in the United States in 1990: U.S. Geological Survey Circular 1081, 76 p.
- Solley, W.B., Pierce, R.R., and Perlman, H.A., 1998, Estimated use of water in the United States in 1995: U.S. Geological Survey Circular 1200, 71 p.

Table 2-1. Census of Manufacturing: summary of 1983 water-use statistics for Great Lakes States.

[Adapted from table 2b of the U.S. Bureau of Census (1986). Total withdrawn and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the total withdrawn and water discharged data).]

State	Total withdrawn	Water discharged	Coefficient
Illinois	296.2	257.8	13
Indiana	754.1	678.0	10
Michigan	521.7	495.3	5
Minnesota	59.2	54.7	8
New York	357.5	299.1	16
Ohio	466.9	417.2	11
Pennsylvania	714.4	632.1	12
Wisconsin	236.3	218.3	8
Great Lakes States, mean	3,406.3	3,052.5	10

Table 2-2. Census of Manufacturing: summary of 1983 water-use statistics for states climatically similar to the Great Lakes Basin.

[Adapted from table 2b of the U.S. Bureau of Census (1986). Total withdrawn and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the total withdrawn and water discharged data). D, withheld to avoid disclosing data for individual companies; data are included in higher level totals.]

State	Total withdrawn	Water discharged	Coefficient
Connecticut	65.8	63.3	4
Delaware	165.9	D	-
Iowa	100.5	94.0	6
Kentucky	115.1	100.4	13
Maine	138.9	134.1	3
Maryland	185.1	174.1	6
Massachusetts	130.4	124.7	4
Missouri	38.3	33.1	14
New Hampshire	23.7	D	-
New Jersey	230.7	222.5	4
North Carolina	188.6	152.2	19
Rhode Island	5.2	5.2	0
Tennessee	437.1	344.9	21
Vermont	4.7	4.4	6
Virginia	262.0	240.0	8
West Virginia	288.3	275.3	5
All states, mean ¹	2,190.7	1,968.2	10

¹ "All states, mean" refers to only the states in the table. The total withdrawn, water discharged and coefficient do not include New Hampshire and Delaware data since the water-discharged data were withheld for this report.

Table 2-3. Census of Manufacturing: water use in manufacturing by water-resources regions and major standard industrial classification groups; total withdrawals, water discharged, and calculated consumptive-use coefficients for the Great Lakes Basin and climatically similar areas in 1983.

[Adapted from table 7c of the U.S. Bureau of Census (1986). Total withdrawn and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the middle and top numbers). D, withheld to avoid disclosing data for individual companies; data are included in higher level totals.]

Statistic	Great Lakes	New England	Middle Atlantic	Ohio	Tennessee	Upper Mississippi	Mean
SIC code 20: Food and kindred products							
Total withdrawn	70.8	12.1	76.7	29	4.9	106.4	
Water discharged	62.4	6.7	62.7	22.4	3.8	98.3	
Coefficient	12	45	18	23	22	8	15
SIC code 21: Tobacco products							
Total withdrawn	-	-	-	.4	-	-	
Water discharged	-	-	-	.3	-	-	
Coefficient	-	-	-	25	-	-	25
SIC code 22: Textile mill products							
Total withdrawn	D	5.7 ¹	7.5	1.3	5.5	.3	
Water discharged	D	5.8 ¹	6.4	1.2	4.7	.3	
Coefficient	-	-	15	8	15	0	14
SIC code 24: Lumber and wood products							
Total withdrawn	1.3	-	D	-	-	-	
Water discharged	1.2	-	D	-	-	-	
Coefficient	8	-	-	-	-	-	8
SIC code 25: Furniture and fixtures							
Total withdrawn	.6	-	.1 ²	.3	-	.4	
Water discharged	.6	-	D	.3	-	.4	
Coefficient	0	-	-	0	-	0	0
SIC code 26: Paper and allied products							
Total withdrawn	228.5	208.3	138.8	129.4	82.4	87.4	
Water discharged	181.1	200.2	118.5	127.4	78.8	78.4	
Coefficient	21	4	15	2	4	10	10
SIC code 28: Chemicals and allied products							
Total withdrawn	183.6	50.7	293.1	402.5	417.7	51.6	
Water discharged	174.3	50.7	282.6	389.9	324.7	43.8	
Coefficient	5	0	4	3	22	15	10
SIC code 29: Petroleum and coal products							
Total withdrawn	D	-	297.8	21.8	-	12.2	
Water discharged	D	-	285.6	15.4	-	7.9	
Coefficient	-	-	4	29	-	35	7
SIC code 30: Rubber and miscellaneous plastic products							
Total withdrawn	11.5	3.0	7.1	9.0	2	9.3	
Water discharged	9.5	2.6	6.6	8.6	1.6	8.2	
Coefficient	17	13	7	4	20	12	11
SIC code 31: Leather and leather products							
Total withdrawn	1.2	.9	1.6	-	-	-	
Water discharged	1.2	.9	1.6	-	-	-	
Coefficient	0	0	0	-	-	-	0
SIC code 32: Stone, clay, and glass products							
Total withdrawn	49.2	2.0	21.8	17.5	1.5 ¹	13.8	
Water discharged	46.7	1.7	20.3	15.4	1.7 ¹	11.8	
Coefficient	5	15	7	12	-	14	8

154 **Consumptive Water-Use Coefficients for the Great Lakes Basin and Climatically Similar Areas**

Table 2-3. Census of Manufacturing: water use in manufacturing by water-resources regions and major standard industrial classification groups; total withdrawals, water discharged, and calculated consumptive-use coefficients for the Great Lakes Basin and climatically similar areas in 1983. —Continued

[Adapted from table 7c of the U.S. Bureau of Census (1986). Total withdrawn and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the middle and top numbers). D, withheld to avoid disclosing data for individual companies; data are included in higher level totals.]

Statistic	Great Lakes	New England	Middle Atlantic	Ohio	Tennessee	Upper Mississippi	Mean
SIC code 33: Primary metal industries							
Total withdrawn	1,218.2	6.1	335.4	480.5	4.5 ¹	48.7	
Water discharged	1,119.6	5.6	294.7	426.1	5.2 ¹	30.9	
Coefficient	8	8	12	11	-	37	10
SIC code 34: Fabricated metal products							
Total withdrawn	14.3	14.1	4.9	7.6	.4	5.2	
Water discharged	14.0	14.0	4.8	7.3	.3	5.1	
Coefficient	2	1	2	4	25	2	2
SIC code 35: Machinery, except electrical							
Total withdrawn	13.2	13.8	21.5	9.5	.7	41.8	
Water discharged	10.3	13.6	21.1	8.3	.7	41.4	
Coefficient	22	1	2	13	0	1	5
SIC code 36: Electric and electronic equipment							
Total withdrawn	12.6	4.7 ¹	18.6	10.7	1.8	4.1	
Water discharged	11.4	6.1 ¹	17.1	10.6	1.7	3.9	
Coefficient (%)	10	-	8	1	6	5	6
SIC code 37: Transportation Equipment							
Total withdrawn	48.8	D	18.5	14.4	1.4	6.0	
Water discharged	44.6	D	17.6	12.2	1.3	5.2	
Coefficient	9	-	5	15	7	13	9
SIC code 38: Instruments and related products							
Total withdrawn	D	6.3	1.6	.8	D	1.4	
Water discharged	D	6.1	1.5	.8	.8 ²	1.4	
Coefficient	-	3	6	0	-	0	3
SIC code 39: Miscellaneous							
Total withdrawn	.7	1.3	.7	.2	-	.5	
Water discharged	.6	1.2	.6	.2	-	.5	
Coefficient	14	8	14	0	-	0	9
All SIC Codes							
Total withdrawn	1,942.7	365.5	1,247.8	1,136.0	524.0	389.9	
Water discharged	1,759.5	351.4	1,145.1	1,047.2	425.5	338.1	
Coefficient	9	4	8	8	19	13	10

¹ Denotes that the total withdrawn is less than water discharged. These data were not used in calculation of the mean.

² Denotes that, although a number was disclosed, other data were not and a coefficient cannot be determined. These data are not included in the totals or means.

Table 2-4. Census of Manufacturing: summary of 1983 water-use statistics for major groups.

[Adapted from table 1c of the U.S. Bureau of Census (1986). Total withdrawn and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the middle and top numbers). D, withheld to avoid disclosing data for individual companies; data are included in higher level totals.]

Statistic	1983	1978	1973	1968	1964	1959	1954	Mean
SIC code 20: Food and kindred products								
Total withdrawn	648	740	804	811	760	624	616	
Water discharged	552	649	745	753	688	571	550	
Coefficient	15	12	7	7	9	8	11	10
SIC code 21: Tobacco products								
Total withdrawn	5	5	5	6	3	3	3	
Water discharged	4	3	4	5	2	2	2	
Coefficient	20	40	20	17	33	33	33	27
SIC code 22: Textile mill products								
Total withdrawn	133	163	178	154	148	135	184	
Water discharged	116	147	160	136	135	120	147	
Coefficient	13	10	10	12	9	11	20	12
SIC code 24: Lumber and wood products								
Total withdrawn	86	157	160	101	151	140	133	
Water discharged	71	112	123	93	123	126	109	
Coefficient	17	29	23	8	19	10	18	18
SIC code 25: Furniture and fixtures								
Total withdrawn	3	24	6	4	3	3	7	
Water discharged	3	24	6	4	3	2	4	
Coefficient	0	0	0	0	0	33	43	8
SIC code 26: Paper and allied products								
Total withdrawn	1,899	1,963	2,415	2,252	2,064	1,937	1,786	
Water discharged	1,768	1,765	2,301	2,078	1,942	1,824	1,620	
Coefficient	7	10	5	8	6	6	9	7
SIC code 28: Chemicals and allied products								
Total withdrawn	3,401	4,326	4,176	4,476	3,899	3,240	2,685	
Water discharged	2,980	3,910	3,911	4,175	3,688	3,061	2,550	
Coefficient	12	10	6	7	5	6	5	7
SIC code 29: Petroleum and coal products								
Total withdrawn	818	1,173	1,283	1,435	1,398	1,319	1,245	
Water discharged	699	964	1,159	1,217	1,317	1,204	1,134	
Coefficient	15	18	9	15	6	9	9	11
SIC code 30: Rubber and miscellaneous plastic products								
Total withdrawn	76	187	154					
Water discharged	63	168	143					
Coefficient	17	10	7					10
SIC code 31: Leather and leather products								
Total withdrawn	6	9	8	16	14	12	20	
Water discharged	6	8	8	15	12	12	18	
Coefficient	0	11	0	6	14	0	20	7
SIC code 32: Stone, clay, and glass products								
Total withdrawn	155	207	219	251	249	251 ¹	279	
Water discharged	133	182	192	218	218	264	254	
Coefficient	14	12	12	13	12		9	12
SIC code 33: Primary metal industries								
Total withdrawn	2,363	3,392	4,941	5,005	4,600	3,702	3,842	
Water discharged	2,112	3,132	4,757	4,696	4,312	3,551	3,682	
Coefficient	11	8	4	6	6	4	4	6

Table 2-4. Census of Manufacturing: summary of 1983 water-use statistics for major groups. —Continued

[Adapted from table 1c of the U.S. Bureau of Census (1986). Total withdrawn and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the middle and top numbers). D, withheld to avoid disclosing data for individual companies; data are included in higher level totals.]

Statistic	1983	1978	1973	1968	1964	1959	1954	Mean
SIC code 34: Fabricated Metal products								
Total withdrawn	65	90	107					
Water discharged	61	86	101					
Coefficient	6	4	6					5
SIC code 35: Machinery, except electrical								
Total withdrawn	120	165	171	189	158	171	114 ¹	
Water discharged	105	159	165	181	150	165	116	
Coefficient	13	4	4	4	5	4		5
SIC code 36: Electric and electronic equipment								
Total withdrawn	74	116	104	127	102	93	114	
Water discharged	70	112	97	118	88	88	90	
Coefficient	5	3	7	7	14	5	21	9
SIC code 37: Transportation Equipment								
Total withdrawn	153	235	242	313	242	260	231	
Water discharged	139	220	227	293	233	229	215	
Coefficient	9	6	6	6	4	1	7	7
SIC code 38: Instruments and related products								
Total withdrawn	30	36	37	38	29	23	19	
Water discharged	28	33	35	36	26	22	18	
Coefficient	7	8	5	5	10	4	5	7
SIC code 39: Miscellaneous								
Total withdrawn	4	8	12	14	13	14	21	
Water discharged	4	7	12	13	12	13	21	
Coefficient	0	13	0	7	8	7	0	5
All SIC Codes								
Total withdrawn	10,039	12,992	15,024	15,467	14,007	12,131	11,570	
Water discharged	8,914	11,682	14,144	14,276	13,111	11,445	10,789	
Coefficient	11	10	6	8	6	6	7	8

¹ Denotes that the total withdrawn is less than water discharged. These data were not used in the calculation of the mean.

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
All manufacturing industries					
All manufacturing industries			10,038.9	8,913.7	11
Food and kindred products					
Food and kindred products			647.7	552.0	15
201		Meat products	92.7	85.5	8
2011	311611	Meat packaging plants	44.7	41.9	6
2013	311612 311613	Sausages and other prepared meats	11.3	9.8	13
2016	311615	Poultry dressing plants	35.2	32.4	8
2017	311999	Poultry and egg processing	1.5	1.4	7
Dairy products			38.8	35.9	7
2021	311512	Creamery butter	1.0	.9	10
2022	311513	Cheese, natural and processed	10.2	9.3	9
2023	311511 311514*	Condensed and evaporated milk	9.5	8.6	9
2024	311520	Ice cream and frozen desserts	1.4	1.1	21
2025	311514*	Fluid milk	16.7	16.0	4
Preserved fruits and vegetables			100.1	88.6	11
2032	311422 311999	Canned specialties	17.4	13.4	23
2033	311421	Canned fruits and vegetables	30.6	26.3	14
2034	311211 311423 311999	Dehydrated fruits, vegetables, and soups	5.6	4.9	13
2035	311941	Pickles, sauces, and salad dressings	2.4	1.9	21
2037	311411	Frozen fruits and vegetables	40.0	38.8	3
2038	311412	Frozen specialties	4.1	3.4	17
Grain mill products			79.3	74.3	6
2041	311211	Flour and other grain mill products	.8	.5	38
2043	311230 311920	Cereal breakfast foods	5.9	3.8	36
2044	311212	Rice milling	.6	.4	33
2045	311822	Blended and prepared foods	.1	.1	0
2046	311221 311225	Wet corn milling	68.3	66.6	2
2047	311111	Dog, cat, and other pet food	2.9	2.1	28
2048	311119 311611	Prepared feeds, n.e.c.	.8	.7	13

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Food and kindred products—Continued					
205		Bakery products	3.0	2.0	33
2051	311812	Bread, cake, and related products	1.9	1.1	42
2052	311812	Cookies and crackers	1.1	.9	18
	311821				
	311919				
206		Sugar and confectionery products	178.7	142	21
2061	311311	Raw cane sugar	83.1	63	24
2062	311312	Cane sugar refining	62.8	54.9	13
2063	311313	Beet sugar	14.6	9.6	34
2065	311330	Confectionary products	(D)	(D)	
	311340				
2066	311320	Chocolate and cocoa products	(D)	(D)	
	311330				
207		Fats and oils	34.1	28.9	15
2074	311223	Cottonseed oil mills	1.2	(D)	
	311225				
2075	311222	Soybean oil mills	20.1	18.2	9
	311225				
2076	311223	Vegetable oil mills, n.e.c.	.5	(D)	
	311225				
2077	311613	Animal and marine fats and oils	2.8	1.5	46
	311711				
	311712				
2079	311222	Shortening and cooking oils	9.5	7.8	18
	311223				
	311225				
208		Beverages	88.5	68.2	23
2082	311942	Malt beverages	53.3	41.4	22
	312120				
2083	311213	Malt	7.3	6.5	11
2084	312130	Wines, brandy, and brandy spirits	2.6	2.3	12
2085	312130*	Distilled liquor, except brandy	10.3	9.0	13
	312140				
2086	312111	Bottled and canned soft drinks	12.3	6.8	45
	312112				
2087	311920	Flavoring extracts and syrups, n. e. c.	2.7	2.3	15
	311930				
	311942				
	311999				

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Food and kindred products—Continued					
209		Miscellaneous foods and kindred products	32.6	26.5	19
2091	311711	Canned and cured seafoods	3.0	(D)	
2092	311712	Fresh and frozen packaged fish	4.4	4.3	2
2095	311920	Roasted coffee	(D)	(D)	
2097	312113	Manufactured ice	1.2	.9	25
2098	311823	Macaroni and spaghetti	.1	(D)	
2099	111998	Food preparations, n. e. c.	(D)	11.3	
	311212				
	311340				
	311423				
	311823				
	311830				
	311911				
	311920				
	311941				
	311942				
	311991				
	311999				
Tobacco products					
21		Tobacco products	5.3	4.0	25
2111	312221	Cigarettes	(D)	3.1	
Textile products					
22		Textile mill products	132.6	115.6	13
2211	313210*	Weaving mills, cotton	20.7	17.9	14
2221	313210*	Weaving mills, manmade fiber and silk	18.1	14.5	20
2231	313210*	Weaving and finishing mills, wool	2.7	2.6	4
	313311				
	313312*				
2241	313221	Narrow fabric mills	.5	.4	20
225		Knitting mills	27.2	25.3	7
2251	313312*	Women's hosiery, except socks	.7	.7	0
	315111				
2252	313312	Hosiery, n. e. c.	.9	.8	11
	315111				
	315119				

160 **Consumptive Water-Use Coefficients for the Great Lakes Basin and Climatically Similar Areas**

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Textile products—Continued					
2253	313312 315191 315192	Knit outerwear mills	2.2	2.1	5
2254	313312 315192	Knit underwear mills	.6	.5	17
2257	313241 313312	Circular knit fabric mills	17.2	16.2	6
2258	313249 313312*	Warp knit fabric mills	5.6	4.9	13
226		Textile finishing, except wool	39.0	33.6	14
2261	313311*	Finishing plants, cotton	6.8	6.2	9
2262	313311*	Finishing plants, manmade	26.9	22.5	16
2269	313312 313311*	Finishing plants, n. e. c.	5.4	4.8	11
227		Floor covering mills	11.3	9.8	13
2272		Tufted carpets and rugs	10.4	(D)	
2279		Carpets and rugs, n. e. c.	1.0	(D)	
228		Yarn and thread mills	8.1	7.4	9
2281	313111	Yarn mills, except wool	4.6	4.2	9
2282	313112	Throwing and winding mills	1.8	1.6	11
2284	313113 313312	Thread mills	(D)	1.5	
229		Miscellaneous textile goods	5.0	4.3	14
2291		Felt goods, except woven felts and hats	1.4	1.4	0
2294		Processed textile waste	.2	(D)	
2295	313320	Coated fabrics, not rubberized	.6	.6	0
2296	314992	Tire cord and fabric	.3	.2	33
2297	313230	Nonwoven fabrics	1.5	1.0	33
2298	314991 313111	Textile goods, n. e. c.	(D)	(D)	
Lumber and wood products					
24		Lumber and wood products	86.0	71.0	17
2411	113310	Logging camps and logging contractors	.2	.3	
242		Sawmills and planing mills	68.4	58.9	14

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Lumber and wood products—Continued					
2421	321113 321912 321918 321920 321999	Sawmills and planing mills	68.4	58.9	14
243		Millwork, plywood, and structural members	7.6	4.4	42
2431	321911 321918	Millwork	.4	.4	0
2435	321211	Hardwood veneer and plywood	.3	.1	67
2436	321212	Softwood veneer and plywood	6.9	3.9	43
249	321214	Miscellaneous wood products	9.6	7.3	24
2491	321114	Wood preserving	(D)	(D)	
2492		Particleboard	(D)	(D)	
2499	321920 321999 333415 337125 339113 339999	Wood products, n. e. c.	8.5	6.6	22
Furniture and fixtures					
25		Furniture and fixtures	3.4	3.3	3
251		Household furniture	1.9	1.8	5
2511	337122 337215	Wood household furniture	1.5	1.5	0
2514	337121 337124 337215	Metal household furniture	.2	.2	0
252		Office furniture	.6	.6	0
2522	337214	Metal office furniture	.6	.6	0
254		Partitions and fixtures	.5	.5	0
2542	337215	Metal partitions and fixtures	(D)	(D)	
259		Miscellaneous furniture and fixtures	(D)	(D)	
2591	337920	Drapery hardware and blinds and shades	(D)	(D)	
26		Paper and allied products	1,899.3	1,768.1	7

162 Consumptive Water-Use Coefficients for the Great Lakes Basin and Climatically Similar Areas

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Furniture and fixtures—Continued					
2611	322110 322121 322122 322130	Pulp mills	283.2	282.7	0
2621	322121 322122	Paper mills, except building paper	1,009.5	958.2	5
2631	322130	Paperboard mills	538.7	462.3	14
264		Miscellaneous converted paper products	56.5	55.0	3
2641		Paper coating and glazing	6.5	6.2	5
2643		Bags, except textile bags	5.6	5.5	2
2646		Pressed and molded pulp goods	32.1	(D)	
2647		Sanitary paper products	8.9	9.4	--
2649		Converted paper products	3.3	3.2	3
265		Paperboard containers and boxes	6.6	5.9	11
2651		Folding paperboard boxes	4.1	(D)	
2653	322211	Corrugated and solid fiber boxes	.4	.4	0
2654		Sanitary food containers	.9	.9	0
2655	322214	Fiber cans, drums, and similar products	3.3	3.2	3
2661		Building paper and board mills	4.8	3.9	19
Chemicals and allied products					
28		Chemical and allied products	3,400.7	2,979.8	12
281		Industrial inorganic chemicals	885.0	758.4	14
2812	325181	Alkalies and chlorine	157.4	142.9	9
2813	325120	Industrial gases	18.6	11.9	36
2816	325131 325182	Inorganic pigments	48.9	49.5	--
2819	325131 325188 325998 331311	Industrial inorganic chemicals n. e. c.	660.1	554.0	16
282		Plastics materials and synthetics	427.1	391.7	8
2821	325211	Plastics materials and resins	132.7	108.0	19
2822	325212	Synthetic rubber	62.9	58.5	7
2823	325221	Cellulosic manmade fiber	71.7	67.6	6
2824	325412	Organic fibers, noncellulosic	159.9	157.5	2

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Chemicals and allied products—Continued					
283		Drugs	90.5	87.1	4
2831		Biological products	.8	.5	38
2833	325411	Medicinals and botanicals	55.3	54.9	1
2834	325412	Pharmaceutical preparations	34.4	31.6	8
284		Soaps, cleaners, and toilet goods	64.8	38.8	40
2841	325611*	Soap and other detergents	16.6	14.3	14
2842	325612	Polishes and sanitation goods	(D)	3.8	
2843	325613	Surface active agents	(D)	(D)	
2844	325611* 325620	Toilet preparations	2.3	(D)	
2851	325510	Paints and allied products	2.1	2.1	0
286		Industrial organic chemicals	1515.9	1381.0	9
2861	325191	Gum and wood chemicals	(D)	6.5	
2865	325110* 325132 325192	Cyclic crudes and intermediates	(D)	30.9	
2869	325110* 325120 325188 325192 325193 325199 325998	Industrial organic chemicals n.e.c.	1,467.6	1,343.5	8
287		Agriculture chemicals	305	202.7	34
2873	325311	Nitrogenous fertilizers	70.5	45.2	36
2874	325312	Phosphatic fertilizers	216.1	142.2	34
2879	325320	Agricultural chemicals n.e.c.	18.4	15.3	17
289		Miscellaneous chemical products	110.3	95.7	13
2891	325520	Adhesives and sealants	(D)	(D)	
2892	325920	Explosives	(D)	(D)	
2895	325182	Carbon pack	1.6	.3	81
2899	311942 325199 325510 325998	Chemical preparations, n.e.c.	63.3	52.4	17

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Petroleum and coal products					
29		Petroleum and coal products	818.4	699.3	15
2911	324110	Petroleum refining	814.4	695.1	15
295		Paving and roofing materials	2.6	3.3	--
2951	324121	Paving and mixtures and blocks	.8	1.9	--
2952	324122	Asphalt felts and coatings	1.8	1.4	22
299		Miscellaneous petroleum and coal products	1.4	.9	36
2992	324191	Lubricating oils and greases	.2	.1	50
2999	324199	Petroleum and coal products	1.3	.7	46
Rubber and miscellaneous plastics products					
30		Rubber and miscellaneous plastics products	76.0	62.6	18
3011	326211	Tires and inner tubes	(D)	16.5	
3021	316211	Rubber and plastics footwear	.1	.1	0
3041		Rubber and plastics hose and belting	(D)	7.4	
3069	313320 314911 315299 315999 326192 326299 339113 339920 339932	Fabricated rubber products, n.e.c.	8.3	7.4	11
3079		Miscellaneous plastics products	41.9	33.6	20
Leather and leather products					
31		Leather and leather products	6.1	5.7	7
3111	316110	Leather tanning and finishing	(D)	(D)	
Stone, clay, and glass products					
32		Stone, clay, and glass products	154.7	132.8	14
3211	327211	Flat glass	4.8	4.7	2
322		Glass and glassware, pressed or blown	13.3	11.4	14

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Stone, clay, and glass products—Continued					
3221	327213	Glass containers	7.1	5.9	17
3229	327212	Pressed and blown glass, n.e.c.	6.2	5.5	11
3231	327215	Products of purchased glass	7.2	7.1	1
3241	327310	Cement, hydraulic	80.0	68.7	14
325		Structural clay products	1.4	.7	50
3253	327122	Ceramic wall and floor tile	(D)	(D)	
3255	327124	Clay refractories	(D)	(D)	
326		Pottery and related products	1.5	1.1	27
3261	327111	Vitreous plumbing fixtures	.5	.4	20
3262	327112	Vitreous china food utensils	.3	.3	0
3264	327113	Porcelain electrical supplies	.6	.4	33
327		Concrete, gypsum, and plaster products	10.8	6.5	40
3272	327999 327332 327390	Concrete products	(D)	3	
3273	327320	Ready-mixed concrete	2.1	1.5	29
3274	327410	Lime	4.3	3.2	26
3275	327420	Gypsum products	3.7	1.5	59
3281	327991	Cut stone and stone products	1.1	1.1	0
329		Miscellaneous nonmetallic mineral products	34.5	31.5	9
3291	327910 327999	Abrasive products	3.5	3.5	0
3292	327999 336340 336350	Asbestos products	1.8	1.4	22
3293		Gaskets, packing, and sealing devices	1.8	.9	50
3295	212324 212325 212393 212399 327992	Minerals, ground or treated	18.7	18.8	--
3296	327993	Mineral wool	6.2	4.4	29
3297	327125	Nonclay refractories	2.0	2.0	0
3299	327112 327420 327999	Nonmetallic mineral products, n.e.c.	.5	.5	0

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Primary metal industries					
33		Primary metal industries	2,362.5	2,112.0	11
331		Blast furnace and basic steel products	2,077.6	1,829.8	12
3312	324199 331111 331221	Blast furnaces and steel mills	2,038.9	1,829.8	10
3313	331112	Electrometallurgical products	1.2	1.5	--
3315	331222	Cold finishing of steel shapes	2.1	2.1	0
3316	331221	Cold finishing of steel shapes	11.3	11.0	3
3317	331210	Steel pipe and tubes	24.1	23.7	2
332		Iron and steel foundries	69.1	51.5	25
3321	331511*	Gray iron foundries	63.0	45.7	27
3322	331511*	Malleable iron foundries	(D)	1.4	
3324	331512	Steel investment foundries	(D)	.5	
3325	331513	Steel foundries, n.e.c.	4.2	3.9	7
333		Primary nonferrous metals	125.6	111.6	11
3331	331511*	Primary copper	(D)	10.6	
3332		Primary lead	.7	.3	57
3333		Primary zinc	7.2	(D)	
3334	331312	Primary aluminum	67.8	62.9	7
3339	331419	Primary nonferrous metals, n.e.c.	(D)	(D)	
3341	331314 331423 331492	Secondary nonferrous metals, n.e.c.	3.7	3.1	16
335		Nonferrous rolling and drawing	79.9	71.4	11
3351	331421	Copper rolling and drawing	18.6	14.8	20
3353	331315	Aluminum sheet, plate, and foil	37.0	34.6	6
3354	331316	Aluminum extruded products	3.9	3.7	5
3355	331319	Aluminum rolling and drawing, n.e.c.	7.1	6.9	3
3356	331491	Nonferrous rolling and drawing, n.e.c.	6.6	4.9	26
3357	331319 331422 331491 335921 335929	Nonferrous wire drawing and insulating	6.8	6.5	4
336		Nonferrous foundries	2.4	2.2	8
3361		Aluminum foundries	1.7	(D)	
3362		Brass, bronze, and copper foundries	.2	(D)	

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Primary metal industries—Continued					
3369	331528	Non ferrous foundries, n.e.c.	0.5	0.5	0
339		Miscellaneous primary metal products	4.1	4.0	2
3398	332811	Metal heat treating	1.5	1.5	0
3399	331111	Primary metal products n.e.c.	2.6	2.6	0
	331221				
	331314				
	331423				
	331492				
	332618				
	332813				
Fabricated metal products					
34		Fabricated metal products	65.4	61.4	6
341		Metal cans and shipping containers	6.6	6.0	9
3411	332431	Metal cans	6.2	5.6	10
3412	332211	Metal barrels, drums, and pails	.4	.4	--
342		Cutlery, hand tools, and hardware	14.9	14.4	3
3421	332211	Cutlery	(D)	(D)	
	332212*				
3423	332212*	Hand and edge tools	1.0	.9	10
3425	332213	Hand saws and saw blades	.4	(D)	
3429	332510	Hardware, n.e.c.	(D)	2.9	
	332722				
	332919				
	332999				
	333923				
	334518				
	336399				
	337215				
343		Plumbing and heating, except electric	3.0	3.0	0
3431	332998	Metal sanitary ware	.6	.7	--
3432	332913	Plumbing fittings and brass goods	2.1	2.1	0
	332919				
	332999				
3433	333414	Heating equipment, except electric	.3	.2	33
344		Fabricated structural metal products	7.0	6.0	14
3441	332312	Fabricated structural metal	1.2	1.1	8
3442	332321	Metal doors, sash, and trim	.6	.6	0
3443	332313	Fabricated structural metal	1.2	1.1	8

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Fabricated metal products—Continued					
3444	332321 323322 332439 333415	Sheet metal work	0.3	0.3	0
3448	332311	Prefabricated metal buildings	(D)	(D)	
3449	332114 332312 332323	Miscellaneous metal work	.6	.6	0
345		Screw machine products, bolts, etc	2.8	2.7	4
3451	332721	Screw machine products	.1	.1	0
3452	332722	Bolts, nuts, rivets, and washers	2.7	2.6	4
346		Metal forgings and stampings	10.1	9.7	4
3462	332111	Iron and steel forgings	2.8	2.8	0
3463	332112	Nonferrous forgings	1.4	1.4	0
3465	336370	Automotive stampings	3.3	3.0	9
3466	332115	Crowns and closures	.3	.3	0
3469	332116 332214 332439	Metal stampings, n.e.c.	2.3	2.2	4
347		Metal services, n.e.c.	6.9	6.7	3
3471	332813	Plating and polishing	6.0	5.8	3
3479	332812	Metal coating and allied services	.9	.9	0
348		Ordnance and accessories, n.e.c.	6.7	6.0	10
3482	332992	Small arms ammunition	1.4	1.2	14
3483	332993	Ammunition, except for small arms, n.e.c.	2.2	2.0	9
3484	332994	Small arms	.8	.8	0
3489	332995	Ordnance and accessories	2.3	2.0	13
349		Miscellaneous fabricated metal products	7.5	6.8	9
3493	332611	Steel springs, except wire	.2	(D)	
3494	332919 332999	Valves and pipe fittings	2.9	2.8	3
3495	332612 334518	Wire springs	.1	.1	0
3496	332214 332618 333924	Miscellaneous fabricated wire products	.2	.2	0
3497	322225 332999	Metal foil and leaf	1.7	1.4	18
3498	332996	Fabricated pipe and fittings	.2	(D)	

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Fabricated metal products—Continued					
3499	332117 332439 332510 332919 332999 336360 337215	Fabricated metal products, n.e.c.	2.2	2.1	5
Machinery, except electrical					
35		Machinery, except electrical	120.0	104.9	13
351		Engines and turbines	32.0	20.7	35
3519	333618	Internal combustion engines, n.e.c.	(D)	(D)	
352		Farm and garden machinery	32.8	32.0	2
3523	332212 332323 333111 333922	Farm machinery and equipment	32.1	31.3	2
3524	332212 333112	Lawn and garden equipment	.7	.7	0
353		Construction and related machinery	11.4	11.8	--
3531	333120 333923 336510	Construction machinery	10.3	10.8	--
3532	333131	Mining machinery	(D)	(D)	
3533	333132	Oil field machinery	.8	(D)	
354		Metalworking machinery	4.0	3.7	8
3541	333512	Machine tools, metal cutting types	3.0	2.7	10
3542	333513	Machine tools, metal forming types	(D)	(D)	
3544	333511 333514	Special dies, tools, jigs, and fixtures	.2	(D)	
3545	332212	Machine tool accessories	(D)	.4	
3546	333991	Power driven hand tools	.3	.3	0
355		Special industry machinery	6.4	6.2	3
3551		Food products machinery	(D)	.3	
3554	333291	Paper industries machinery	(D)	.1	
3555	333293	Printing trades machinery	(D)	.1	

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Machinery, except electrical—Continued					
3559	332410 333111 333220 333295 333298 333319	Special industry machinery, n.e.c.	(D)	(D)	
356		General industrial machinery	7.1	6.1	14
3561	333911	Pumps and pumping machinery	1.6	1.5	6
3562	332991	Ball and roller bearings	2.6	2.4	8
3563	333912	Air and gas compressors	1.4	.7	50
3564	333411 333412	Blowers and fans	(D)	(D)	
3566	333612	Speed changers, drives, and gears	.4	.4	0
3568	333613	Power transmission equipment, n.e.c.	.7	.7	0
3569	314999 333414 333999	General industrial machinery, n.e.c.	.2	.2	0
357		Office and computing machines	15.0	13.3	11
3573		Electronic computing equipment	(D)	12.3	
3579	333313 334518 339942	Office machines, n.e.c. and typewriters	(D)	(D)	
358		Refrigeration and service machinery	9.6	9.6	0
3585	333415 336391	Refrigeration and heating equipment	9.2	9.3	--
3586	333913	Measuring and dispensing pumps	.2	.2	0
3589	333319	Service industry machinery, n.e.c.	(D)	.1	
359		Miscellaneous machinery, except electrical	1.7	1.5	12
3592	336311	Carburetors, pistons, rings, valves	1.5	1.3	13
3599	332710 332813 332999 333319 333999 334519 336399	Machinery, except electrical, n.e.c.	.2	.2	0

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Electric and electronic equipment					
36		Electric and electronic equipment	74.1	70.3	5
361		Electric distributing equipment	3.4	4.7	--
3612	335311	Transformers	1.6	2.9	--
3613	335313	Switchgear and switchboard apparatus	1.9	1.8	5
362		Electrical industrial apparatus	9.5	9.4	1
3621	335312	Motors and generators	4.8	5.0	--
3622		Industrial controls	(D)	.6	
3623		Welding apparatus, electric	.2	.2	0
3624	335991	Carbon and graphite products	3.8	3.5	8
3629	335999	Electrical industrial apparatus, n.e.c.	(D)	.1	
363		Household appliances	9.4	9.1	3
3631	335221	Household cooking equipment	1.8	1.7	6
3632	335222	Household refrigerators and freezers	2.6	2.5	4
3633	335224	Household laundry equipment	2.1	2.2	--
3634	333414	Electric housewares and fans	1.0	.9	10
	335211				
	339999				
3635	335212	Household vacuum cleaners	(D)	.2	
3639	333298	Household appliances, n.e.c.	1.5	1.5	0
	335212				
	335228				
364		Electric lighting and wiring equipment	6.9	6.0	13
3641	335110	Electric lamps	(D)	.8	
3643	335931	Current-carrying wiring devices	2.1	2.1	0
3644	332212	Non-current-carrying wiring devices	1.7	1.6	6
	335932				
3645	335121	Residential lighting fixtures	.3	.3	0
3646	335122	Commercial lighting fixtures	.1	.1	0
3648	335129	Lighting equipment, n.e.c.	.2	(D)	
365		Radio and TV receiving equipment	2.3	2.4	--
3651	334310	Radio and TV receiving sets	1.7	1.8	--
3652	334612	Phonograph records and prerecorded tape	.6	.5	17
	512220				
366		Communication equipment	13.3	11.7	12
3661	334210	Telephone and telegraph apparatus	3.5	3.2	9
	334418				

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Electric and electronic equipment—Continued					
3662		Radio and TV communication equipment	9.8	8.5	13
367		Electronic components and accessories	23.6	21.9	7
3671	334411	Electron tubes, all types	2.8	2.6	7
3674	334413	Semiconductors and related devices	11.6	10.7	8
3675	334414	Electronic capacitors	3.0	2.9	3
3676	334415	Electronic resistors	.4	.4	0
3678	334417	Electronic connectors	1.4	1.2	14
3679	334220	Electronic components, n.e.c.	4.6	4.2	9
	334310				
	334418				
	334419				
369		Miscellaneous electrical equipment and supplies	5.6	5.1	9
3691	335911	Storage, batteries	1.9	1.5	21
3693		X-ray electromedical, and electrotherapeutic apparatus	.4	(D)	
3694	336322	Engine electrical equipment	2.7	2.7	0
3699	333319	Electrical equipment and supplies, n.e.c.	(D)	.2	
	333618				
	333992				
	335129				
	335999				
Transportation equipment					
37		Transportation equipment	152.8	139.2	9
371		Motor vehicles and equipment	66.4	59.6	10
3711	336112	Motor vehicles and car bodies	22.6	21.0	7
	336120				
	336211				
	336992				
3713	336211	Truck and bus bodies	(D)	.2	
3714	336211	Motor vehicle parts and accessories	43.5	38.4	12
	336312				
	336322				
	336330				
	336340				
	336350				
	336399				
372		Aircraft and parts	58.4	54.1	7
3721	336411	Aircraft	18.0	(D)	
	541710				

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Transportation equipment—Continued					
3724	336412	Aircraft engines and engine parts	(D)	(D)	
	541710				
3728	332912	Aircraft equipment, n.e.c.	(D)	4.5	
	336411				
	336413				
	541710				
373		Ship and boat building and repairing	16.3	15.8	3
3731	336611	Ship building and repairing	16.3	15.8	3
	488390				
3743	333911	Railroad equipment	3.1	2.8	10
	336510				
3751	336991	Motorcycles, bicycles, and parts	1.0	.9	10
376		Guided missiles, space vehicles, parts	6.5	4.9	25
3761	336414	Guided missiles and space vehicles	2.8	2.2	21
	541710				
3764	336415	Space propulsion units and parts	3.3	2.3	30
	541710				
3769	336419	Space vehicle equipment, n.e.c.	.4	.4	0
	541710				
379		Miscellaneous transportation equipment	1.2	1.1	8
3795	336992	Tanks and tank components	1.1	1.0	9
3799	333924	Transportation equipment, n.e.c.	(D)	(Z)	
	336214				
	336399				
	336999				
Instruments and related products					
38		Instruments and related products	29.8	27.6	7
3811		Engineering and scientific instruments	.2	.2	0
382		Measuring and controlling devices	4.2	3.8	10
3822	334512	Environmental controls	1.0	1.0	0
3823	334513	Process control instruments	.8	.7	13
3824	334514*	Fluid meters and counting devices	.4	.3	25
3825	334514*	Instruments to measure electricity	1.7	1.5	12
	334515				

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries. —Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Instruments and related products—Continued					
3829	334514 334518 334519 339112	Measuring and controlling devices, n.e.c.	0.3	0.3	0
3832		Optical instruments and lenses	(D)	.4	0
384		Medical instruments and supplies	2.2	2.1	5
3841	332994 339111 339112	Surgical and medical instruments	(D)	.8	
3842	322291 334510 339113 339999	Surgical appliances and supplies	1.4	1.3	7
3861	325992 333315	Photographic equipment and supplies	17.3	15.7	9
3873	334518	Watches, clocks, and watchcases	(D)	(D)	
Miscellaneous manufacturing industries					
39		Miscellaneous manufacturing industries	4.3	4.0	7
394		Toys and sporting goods	1.5	1.4	7
3944	336991 339932	Games, toys, and children's vehicles	(D)	.4	
3949	339920	Sporting and athletic goods, n.e.c.	1.0	.9	10
395		Pens, pencils, and office and art supplies	.6	.6	0
3951	339941	Pens and mechanical pencils	(D)	(D)	
396		Costume jewelry and notions	.8	.8	0
3961	339914 339993	Costume jewelry	(D)	(D)	
3964		Needles, pins, and fasteners	.6	(D)	
399		Miscellaneous manufacturers	1.2	1.1	8

Table 2-5. Census of Manufacturing: summary of 1983 water-use statistics for industry groups and individual industries.—Continued

[Adapted from table 2a of U.S. Bureau of Census (1986). Water intake and water discharged are in billion gallons; coefficient is the percentage of water withdrawn that was consumed (computed from the water intake and water discharged data). SIC code (Standardized Industrial Classification code) and NAICS (North American Industrial Classification System) are two classification systems. * denotes a NAICS code that relates to more than one SIC code, n.e.c., not elsewhere classified. D, withheld to avoid disclosing data for individual companies; data are included in higher level totals. Z, less than half the unit shown. A double dash (--) means water discharged was greater than water intake (no coefficient).]

Sic code	NAICS code	Industry group and industry	Water intake	Water discharged	Coefficient
Miscellaneous manufacturing industries—Continued					
3999	316110	Manufacturing industries, n.e.c.	0.6	(D)	
	321999				
	325998				
	326199				
	332211				
	332212				
	332812				
	332999				
	333319				
	335121				
	335211				
	337127				
	339932				
	339999				

Table 3-2. Total water use by category for the Great Lakes Basin, by year, from the Great Lakes Commission annual reports, 1998–2002.

[Adapted from annual reports 1998–2002 from the Great Lakes Commission (2005a). Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total-withdrawn and consumptive-use data. For 2001 and 2002, the annual report used units of billion gallons per day. For consistency's sake, these numbers are listed in million gallons per day.]

Statistic	1998 ¹	1999 ²	2000 ³	2001 ⁴	2002 ⁵	1998–2002 ⁶
Public supply						
Total withdrawn	6,711.70	6,311.48	6,060.85	6,030	5,990	31,104.03
Consumptive use	719.26	664.19	630.85	610	600	3224.3
Coefficient	11	11	10	10	10	10
Self-supply domestic						
Total withdrawn	453.18	459.60	463.72	470	460	2,306.5
Consumptive use	57.46	58.34	58.99	60	60	294.79
Coefficient	13	13	13	13	13	13
Self-supply irrigation						
Total withdrawn	434.10	434.48	376.65	420	510	2,175.23
Consumptive use	374.57	373.81	264.15	300	380	1,692.53
Coefficient	86	86	70	71	75	78
Self-supply livestock						
Total withdrawn	131.43	125.92	126.73	140	140	664.08
Consumptive use	103.02	100.00	69.88	90	90	452.9
Coefficient	78	79	55	64	64	68
Self-supply industrial						
Total withdrawn	4,934.15	4,860.68	4,792.90	4,410	4,380	23,377.73
Consumptive use	492.18	446.63	442.57	390	370	2,141.38
Coefficient	10	9	9	9	8	10
Self-supply thermoelectric (fossil fuel)						
Total withdrawn	19,791.20	20,082.56	18,052.49	15,750	15,680	89,356.25
Consumptive use	215.40	242.66	223.34	180	170	1,031.4
Coefficient	1	1	1	1	1	1
Self-supply thermoelectric (nuclear)						
Total withdrawn	14,133.04	14,190.55	14,908.09	15,070	15,140	73,441.68
Consumptive use	206.22	208.45	223.42	220	220	1,078.09
Coefficient	1	1	1	1	1	1
Self-supply other						
Total withdrawn	639.50	1,341.32	1,264.79	1,190	1,190	5,625.61
Consumptive use	.03	32.55	32.97	30	30	125.55
Coefficient	0	2	3	3	3	2

¹ 1998 report, water use data in gallons, page 20, Water-Use by Category—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive use.”

² 1999 report, water use data in gallons, page 15, Water-Use by Category—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive use.”

³ 2000 report, water use data in gallons, page 16, Water-Use by Category—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive use.”

⁴ 2001 report, water use data in gallons, page 17, Water-Use by Category—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive use.”

⁵ 2002 report, water use data in gallons, page 17, Water-Use by Category – All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive use.”

⁶ Includes the total of the 1998 to 2002 data for total withdrawn and total consumed. The consumptive-use coefficient was calculated by dividing the total consumed over the total withdrawn and multiplying it by 100.

Table 3-3. Self-supplied industrial water use and consumptive use for the Great Lakes Basin, by jurisdiction and year, 1998–2002.

[Adapted from annual reports 1998–2002 from the Great Lakes Commission (2005a). Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total-withdrawn and consumptive-use data.]

Statistic	1998 ¹	1999 ²	2000 ³	2001 ⁴	2002 ⁵	1998–2002 ⁶
Illinois						
Total withdrawn	20.33	12.09	19.67	17.41	12.84	82.34
Consumptive use	.00	.00	1.96	.00	.00	1.96
Coefficient	0	0	10	0	0	2
Indiana						
Total withdrawn	1,911.82	1,895.88	1,799.75	1,746.05	1,663.39	9,016.89
Consumptive use	114.71	113.75	107.99	104.77	99.80	541.02
Coefficient	6	6	6	6	6	6
Michigan						
Total withdrawn	681.96	668.18	698.22	632.95	694.17	3,375.48
Consumptive use	68.19	66.82	69.84	63.29	69.42	337.56
Coefficient	10	10	10	10	10	10
Minnesota						
Total withdrawn	357.09	357.15	365.22	206.86	341.75	1,628.07
Consumptive use	74.99	35.72	36.52	20.69	34.18	202.1
Coefficient	21	10	10	10	10	12
New York						
Total withdrawn	360.24	357.66	342.07	337.01	241.16	1,638.14
Consumptive use	90.07	89.42	85.52	84.26	60.30	409.57
Coefficient	25	25	25	25	25	25
Ohio						
Total withdrawn	244.82	211.82	210.07	198.97	156.62	1,022.3
Consumptive use	24.48	21.18	21.00	19.90	15.66	102.22
Coefficient	10	10	10	10	10	10
Ontario						
Total withdrawn	923.22	923.22	923.22	923.22	923.22	4,616.10
Consumptive use	58.16	58.16	58.16	58.16	58.16	290.80
Coefficient	6	6	6	6	6	6
Pennsylvania						
Total withdrawn	41.94	41.94	41.94	30.65	30.65	187.12
Consumptive use	8.95	8.95	8.95	5.31	5.31	37.47
Coefficient	21	21	21	17	17	20
Quebec						
Total withdrawn	125.48	125.48	125.48	125.48	125.48	627.40
Consumptive use	12.55	12.55	12.55	12.55	12.55	62.75
Coefficient	10	10	10	10	10	10
Wisconsin						
Total withdrawn	267.26	267.26	267.26	187.00	187.00	1,175.78
Consumptive use	40.08	40.08	40.08	19.07	19.07	158.38
Coefficient	15	15	15	10	10	13
Total						
Total withdrawn	4,934.16	4,860.68	4,792.90	4,405.6	4,376.28	23,369.62
Consumptive use	492.18	446.63	442.57	388	374.45	2,143.83
Coefficient	10	9	9	9	9	9

¹ 1998 category tables, water use data in gallons, page 10, Industrial, water-use by jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

² 1999 category tables, water use data in gallons, page 11, Industrial water-use by jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

³ 2000 category tables, water use data in gallons, page 10, Industrial water-use by jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁴ 2001 category tables, water use data in gallons, page 10, Industrial water-use by jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁵ 2002 category tables, water use data in gallons, page 10, Industrial water-use by jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁶ Includes the total of the 1998 to 2002 data for total withdrawn and total consumed. The consumptive-use coefficient was calculated by dividing the total consumed over the total withdrawn and multiplying it by 100.

Table 3-4. Fossil fuel power water use and consumptive use for the Great Lakes Basin, by jurisdiction and years, 1998–2002.

[Adapted from annual reports 1998–2002 from the Great Lakes Commission (2005a). Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total-withdrawn and consumptive-use data.]

Statistic	1998 ¹	1999 ²	2000 ³	2001 ⁴	2002 ⁵	1998–2002 ⁶
Illinois						
Total withdrawn	727.05	601.31	709.69	736.03	698.57	3,472.65
Consumptive use	.00	.00	14.19	.00	.00	14.19
Coefficient	0	0	2	0	0	0
Indiana						
Total withdrawn	828.67	1,138.68	1,157.16	1,021.98	750.90	4,897.39
Consumptive use	16.58	22.78	23.15	20.44	15.02	97.97
Coefficient	2	2	2	2	2	2
Michigan						
Total withdrawn	6,446.63	6,420.17	6,394.79	6,368.75	6,454.90	32,085.24
Consumptive use	77.37	77.03	76.73	76.42	77.46	385.01
Coefficient	1	1	1	1	1	1
Minnesota						
Total withdrawn	153.66	158.93	173.90	188.19	158.78	833.46
Consumptive use	3.07	3.18	3.47	3.76	3.18	16.66
Coefficient	2	2	2	2	2	2
New York						
Total withdrawn	2,181.29	2,155.75	2,021.59	1,976.92	1,933.26	10,268.81
Consumptive use	43.62	43.12	40.44	39.53	38.67	205.38
Coefficient	2	2	2	2	2	2
Ohio						
Total withdrawn	2,045.14	2,034.94	2,160.05	2,183.92	2,407.88	10,831.93
Consumptive use	.03	20.35	21.60	21.84	24.08	87.9
Coefficient	0	1	1	1	1	1
Ontario						
Total withdrawn	3,441.13	3,605.14	1,467.67	1,467.67	1,467.67	11,449.28
Consumptive use	30.97	32.45	.00	.00	.00	63.42
Coefficient	1	1	0	0	0	1
Pennsylvania						
Total withdrawn	0.00	0.00	0.00	0.00	0.00	-
Consumptive use	.00	.00	.00	.00	.00	-
Coefficient	-	-	-	-	-	-
Quebec						
Total withdrawn	47.02	47.02	47.02	47.02	47.02	235.1
Consumptive use	4.70	4.70	4.70	4.70	4.70	23.5
Coefficient	10	10	10	10	10	10
Wisconsin						
Total withdrawn	3,920.61	3,920.61	3,920.61	1,763.00	1,763.00	15,287.83
Consumptive use	39.05	39.05	39.05	8.81	8.81	134.77
Coefficient	1	1	1	0	0	1
Total						
Total withdrawn	19,791.20	20,082.55	18,052.48	15,753.48	15,681.98	89,361.69
Consumptive use	215.39	242.66	223.33	175.50	171.92	1,028.80
Coefficient	1	1	1	1	1	1

¹ 1998 category tables, water use data in gallons, page 12, Fossil Fuel Power, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive use.”

² 1999 category tables, water use data in gallons, page 13, Fossil Fuel Power Water-use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column Consumptive use.

³ 2000 category tables, water use data in gallons, page 12, Fossil Fuel Power Water-use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column Consumptive use.

⁴ 2001 category tables, water use data in gallons, page 12, Fossil Fuel Power Water-use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column Consumptive use.

⁵ 2002 category tables, water use data in gallons, page 12, Fossil Fuel Power Water-use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column Consumptive use.

⁶ Includes the total of the 1998 to 2002 data for total withdrawn and total consumed. The consumptive-use coefficient was calculated by dividing the total consumed over the total withdrawn and multiplying it by 100.

180 Consumptive Water-Use Coefficients for the Great Lakes Basin and Climatically Similar Areas

Table 3-5. Nuclear power water use and consumptive use for the Great Lakes Basin, by jurisdiction and year, 1998–2002.

[Adapted from annual reports 1998–2002 from the Great Lakes Commission (2005a). Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total-withdrawn and consumptive-use data.]

Statistic	1998 ¹	1999 ²	2000 ³	2001 ⁴	2002 ⁵	1998–2002 ⁶
Illinois						
Total withdrawn	19.84	21.60	21.60	31.70	31.70	126.44
Consumptive use	.00	.00	.43	.00	.00	.43
Coefficient	0	0	2	0	0	0
Indiana						
Total withdrawn	.00	.00	.00	.00	.00	.00
Consumptive use	.00	.00	.00	.00	.00	.00
Coefficient	-	-	-	-	-	-
Michigan						
Total withdrawn	182.00	621.94	1,313.34	2,196.19	2,305.68	6,619.15
Consumptive use	3.46	11.81	24.95	41.73	43.80	125.75
Coefficient	2	2	2	2	2	2
Minnesota						
Total withdrawn	.00	.00	.00	.00	.00	.00
Consumptive use	.00	.00	.00	.00	.00	.00
Coefficient	-	-	-	-	-	-
New York						
Total withdrawn	1,354.57	1,324.99	1,350.21	1,395.53	1,374.53	6,799.83
Consumptive use	67.73	66.25	67.51	69.78	68.73	340
Coefficient	5	5	5	5	5	5
Ohio						
Total withdrawn	123.43	130.70	131.62	128.50	102.82	617.07
Consumptive use	20.98	19.60	19.74	12.85	10.28	83.45
Coefficient	17	15	15	10	10	14
Ontario						
Total withdrawn	10,487.27	10,125.39	10,125.39	10,125.39	10,125.39	50,988.83
Consumptive use	94.39	91.13	91.13	91.13	91.13	458.91
Coefficient	1	1	1	1	1	1
Pennsylvania						
Total withdrawn	.00	.00	.00	.00	.00	.00
Consumptive use	.00	.00	.00	.00	.00	.00
Coefficient	-	-	-	-	-	-
Quebec						
Total withdrawn	.00	.00	.00	.00	.00	.00
Consumptive use	.00	.00	.00	.00	.00	.00
Coefficient	-	-	-	-	-	-
Wisconsin						
Total withdrawn	1,965.93	1,965.93	1,965.80	1,195.00	1,195.00	8,287.66
Consumptive use	19.66	19.66	19.66	5.97	5.97	70.92
Coefficient	1	1	1	0	0	1
Total						
Total withdrawn	14,133.04	14,190.55	14,908.09	15,072.31	15,135.12	73,439.11
Consumptive use	206.22	208.45	223.42	221.46	219.91	1,079.46
Coefficient	1	1	1	1	1	1

¹ 1998 category tables, water use data in gallons, page 14, Nuclear Power, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

² 1999 category tables, water use data in gallons, page 14, Nuclear Power, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

³ 2000 category tables, water use data in gallons, page 14, Nuclear Power, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁴ 2001 category tables, water use data in gallons, page 14, Nuclear Power, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁵ 2002 category tables, water use data in gallons, page 14, Nuclear Power, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁶ Includes the total of the 1998 to 2002 data for total withdrawn and total consumed. The consumptive-use coefficient was calculated by dividing the total consumed over the total withdrawn and multiplying it by 100.

Table 3-6. Public-supply water use and consumptive use for the Great Lakes Basin, by jurisdiction and year, 1998–2002.

[Adapted from annual reports 1998–2002 from the Great Lakes Commission (2005a). Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total-withdrawn and consumptive-use data.]

Statistic	1998 ¹	1999 ²	2000 ³	2001 ⁴	2002 ⁵	1998–2002 ⁶
Illinois						
Total withdrawn	1,119.47	1,112.60	1,095.80	1,088.08	1,071.40	
Consumptive use	.00	.00	.00	.00	.00	
Coefficient	0	0	0	0	0	0
Indiana						
Total withdrawn	193.22	197.38	188.15	186.75	196.55	
Consumptive use	28.98	29.60	28.28	28.02	29.48	
Coefficient	15	15	15	15	15	15
Michigan						
Total withdrawn	1,228.10	1,234.40	1,143.30	1,191.38	1,189.25	
Consumptive use	153.52	154.31	142.92	148.93	149.65	
Coefficient	13	13	13	13	13	13
Minnesota						
Total withdrawn	44.78	41.30	40.55	40.12	40.44	
Consumptive use	9.40	4.13	4.06	4.01	4.05	
Coefficient	21	10	10	10	10	12
New York						
Total withdrawn	710.63	719.48	719.93	724.11	694.17	
Consumptive use	71.06	81.22	80.64	80.97	77.78	
Coefficient	10	11	11	11	11	11
Ohio						
Total withdrawn	588.63	605.40	596.62	597.28	590.60	
Consumptive use	88.29	90.81	89.49	89.59	88.59	
Coefficient	15	15	15	15	15	15
Ontario						
Total withdrawn	1,313.36	887.43	763.00	763.00	763.00	
Consumptive use	197.00	133.12	114.45	114.45	114.45	
Coefficient	15	15	15	15	15	15
Pennsylvania						
Total withdrawn	44.70	44.70	44.70	44.99	36.87	
Consumptive use	4.47	4.47	4.47	4.5	3.68	
Coefficient	10	10	10	10	10	10
Quebec						
Total withdrawn	1,100.01	1,100.01	1,100.01	1,100.01	1,100.01	
Consumptive use	109.90	109.90	109.90	109.90	109.90	
Coefficient	10	10	10	10	10	10
Wisconsin						
Total withdrawn	368.79	368.79	368.79	299.16	307.91	
Consumptive use	56.64	56.64	56.64	24.70	26.70	
Coefficient	15	15	15	8	9	13
Total						
Total withdrawn	6,711.69	6,311.49	6,060.85	6,034.88	5,990.20	31,109.11
Consumptive use	719.26	664.20	630.85	605.07	604.28	3,223.66
Coefficient	11	11	10	10	10	10

¹ 1998 category tables, water use data in gallons, page 2, Public Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

² 1999 category tables, water use data in gallons, page 3, Public Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

³ 2000 category tables, water use data in gallons, page 2, Public Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁴ 2001 category tables, water use data in gallons, page 2, Public Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁵ 2002 category tables, water use data in gallons, page 2, Public Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁶ Includes the total of the 1998 to 2002 data for total withdrawn and total consumed. The consumptive-use coefficient was calculated by dividing the total consumed over the total withdrawn and multiplying it by 100.

182 Consumptive Water-Use Coefficients for the Great Lakes Basin and Climatically Similar Areas

Table 3-7. Domestic-supply water use and consumptive use for the Great Lakes Basin, by jurisdiction and year, 1998–2002.

[Adapted from annual reports 1998–2002 from the Great Lakes Commission (2005a). Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total-withdrawn and consumptive-use data.]

Statistic	1998 ¹	1999 ²	2000 ³	2001 ⁴	2002 ⁵	1998–2002 ⁶
Illinois						
Total withdrawn	3.88	4.31	4.38	4.39	4.10	
Consumptive use	0	0	.44	.00	.00	
Coefficient	0	0	10	0	0	2
Indiana						
Total withdrawn	54.23	55.34	49.98	66.58	50.62	
Consumptive use	8.14	8.30	7.49	9.98	7.60	
Coefficient	15	15	15	15	15	15
Michigan						
Total withdrawn	-	-	-	-	-	
Consumptive use	-	-	-	-	-	
Coefficient						-
Minnesota						
Total withdrawn	2.40	1.46	.79	1.33	1.38	
Consumptive use	.19	.15	.08	.14	.14	
Coefficient	8	10	10	11	10	10
New York						
Total withdrawn	121.40	123.17	131.59	127.34	129.32	
Consumptive use	12.14	12.32	13.16	12.73	12.93	
Coefficient	10	10	10	10	10	10
Ohio						
Total withdrawn	57.85	60.63	60.89	56.99	56.70	
Consumptive use	8.68	9.08	9.12	8.55	8.51	
Coefficient	15	15	15	15	15	15
Ontario						
Total withdrawn	105.24	106.51	107.91	107.91	107.91	
Consumptive use	15.79	15.97	16.19	16.19	16.19	
Coefficient	15	15	15	15	15	15
Pennsylvania						
Total withdrawn	2.05	2.05	2.05	2.60	2.60	
Consumptive use	.20	.20	.20	.26	.26	
Coefficient	10	10	10	10	10	10
Quebec						
Total withdrawn	71.59	71.59	71.59	71.59	71.59	
Consumptive use	7.13	7.13	7.13	7.13	7.13	
Coefficient	10	10	10	10	10	10
Wisconsin						
Total withdrawn	34.54	34.54	34.54	34.00	34.00	
Consumptive use	5.18	5.18	5.18	3.40	3.40	
Coefficient	15	15	15	10	10	13
Total						
Total withdrawn	453.18	459.6	463.72	472.73	458.22	2,307.45
Consumptive use	57.45	58.33	58.99	58.38	56.16	289.31
Coefficient	13	13	13	12	12	13

¹ 1998 category tables, water use data in gallons, page 4, Domestic Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

² 1999 category tables, water use data in gallons, page 5, Domestic Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

³ 2000 category tables, water use data in gallons, page 4, Domestic Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁴ 2001 category tables, water use data in gallons, page 4, Domestic Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁵ 2002 category tables, water use data in gallons, page 4, Domestic Supply, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁶ Includes the total of the 1998 to 2002 data for total withdrawn and total consumed. The consumptive-use coefficient was calculated by dividing the total consumed over the total withdrawn and multiplying it by 100.

Table 3-8. Irrigation water use and consumptive use for the Great Lakes Basin, by jurisdiction and year, 1998–2002.

[Adapted from annual reports 1998–2002 from the Great Lakes Commission (2005a). Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total-withdrawn and consumptive-use data.]

Statistic	1998 ¹	1999 ²	2000 ³	2001 ⁴	2002 ⁵	1998–2002 ⁶
Illinois						
Total withdrawn	0.00	0.00	0.00	-	-	
Consumptive use	.00	.00	.00	-	-	
Coefficient	-	-	-	-	-	-
Indiana						
Total withdrawn	25.64	35.59	27.06	27.07	37.79	
Consumptive use	23.06	32.05	24.36	24.35	34.02	
Coefficient	90	90	90	90	90	90
Michigan						
Total withdrawn	273.12	250.26	201.42	243.23	314.71	
Consumptive use	245.82	225.24	181.29	218.92	283.23	
Coefficient	90	90	90	90	90	90
Minnesota						
Total withdrawn	.38	.24	.31	.37	.37	
Consumptive use	.34	.22	.28	.33	.33	
Coefficient	89	92	90	89	89	90
New York						
Total withdrawn	3.60	3.66	2.05	5.65	8.59	
Consumptive use	3.21	3.22	1.84	5.08	7.72	
Coefficient	89	88	90	90	90	90
Ohio						
Total withdrawn	14.79	19.15	15.47	18.52	20.49	
Consumptive use	13.31	17.23	13.92	16.75	18.45	
Coefficient	90	90	90	90	90	90
Ontario						
Total withdrawn	59.45	68.46	73.22	73.22	73.22	
Consumptive use	46.38	53.40	-	-	-	
Coefficient	78	78	-	-	-	-
Pennsylvania						
Total withdrawn	.35	.35	.35	.31	.31	
Consumptive use	.32	.32	.32	.31	.31	
Coefficient	91	91	91	100	100	95
Quebec						
Total withdrawn	9.22	9.22	9.22	9.22	9.22	
Consumptive use	8.30	8.30	8.30	8.30	8.30	
Coefficient	90	90	90	90	90	90
Wisconsin						
Total withdrawn	47.55	47.55	47.55	42.70	42.70	
Consumptive use	33.84	33.84	33.84	29.89	29.89	
Coefficient	71	71	71	70	70	71
Total						
Total withdrawn	424.88	425.26	294.21 ⁶	294.21 ⁶	424.96 ⁶	1,179.25 ⁶
Consumptive use	366.28	365.52	255.85 ⁶	255.85 ⁶	373.95 ⁶	1,557.45 ⁶
Coefficient	86	86	87 ⁶	88 ⁶	88 ⁶	88 ⁶

¹ 1998 category tables, water use data in gallons, page 6, Irrigation, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

² 1999 category tables, water use data in gallons, page 7, Irrigation, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

³ 2000 category tables, water use data in gallons, page 6, Irrigation, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁴ 2001 category tables, water use data in gallons, page 6, Irrigation, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁵ 2002 category tables, water use data in gallons, page 6, Irrigation, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁶ Includes the total of the 1998 to 2002 data for total withdrawn and total consumed. The consumptive-use coefficient was calculated by dividing the total consumed over the total withdrawn and multiplying it by 100.

Table 3-9. Livestock water use and consumptive use for the Great Lakes Basin, by jurisdiction and year, 1998–2002.

[Adapted from annual reports 1998–2002 from the Great Lakes Commission (2005a). Total withdrawn and consumptive use are in million gallons per day; coefficient is the percentage of water withdrawn that was consumed, computed from the total-withdrawn and consumptive-use data.]

Statistic	1998 ¹	1999 ²	2000 ³	2001 ⁴	2002 ⁵	1998–2002 ⁶
Illinois						
Total withdrawn	0.00	0.00	0.00	-	-	
Consumptive use	.00	.00	.00	-	-	
Coefficient	-	-	-	-	-	-
Indiana						
Total withdrawn	6.11	6.01	6.07	5.86	5.44	
Consumptive use	4.89	4.81	4.86	4.70	4.35	
Coefficient	80	80	80	80	80	80
Michigan						
Total withdrawn	-	-	-	-	-	
Consumptive use	-	-	-	-	-	
Coefficient	-	-	-	-	-	-
Minnesota						
Total withdrawn	.25	.64	.71	.76	.65	
Consumptive use	.00	.58	.64	.68	.58	
Coefficient	0	91	90	89	89	82
New York						
Total withdrawn	20.57	20.57	20.57	20.57	20.57	
Consumptive use	18.51	18.51	18.51	18.51	18.51	
Coefficient	90	90	90	90	90	90
Ohio						
Total withdrawn	13.02	14.17	14.51	12.46	12.38	
Consumptive use	10.41	12.45	11.61	9.97	9.90	
Coefficient	80	88	80	80	80	82
Ontario						
Total withdrawn	43.69	36.74	37.09	37.09	37.09	
Consumptive use	34.95	29.39	-	-	-	
Coefficient	80	80	-	-	-	-
Pennsylvania						
Total withdrawn	.00	.00	.00	-	-	
Consumptive use	.00	.00	.00	-	-	
Coefficient	-	-	-	-	-	-
Quebec						
Total withdrawn	19.10	19.10	19.10	19.10	19.10	
Consumptive use	15.28	15.28	15.28	15.28	15.28	
Coefficient	80	80	80	80	80	80
Wisconsin						
Total withdrawn	28.69	28.69	28.69	40.60	40.60	
Consumptive use	18.98	18.98	18.98	36.54	36.54	
Coefficient	66	66	66	90	90	78
Total						
Total withdrawn	131.43	125.92	89.65 ⁶	99.35 ⁶	98.74 ⁶	545.09 ⁶
Consumptive use	103.02	100.00	69.88 ⁶	85.68 ⁶	85.16 ⁶	443.74 ⁶
Coefficient	78	79	78 ⁶	86 ⁶	86 ⁶	81 ⁶

¹ 1998 category tables, water use data in gallons, page 8, Livestock, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

² 1999 category tables, water use data in gallons, page 9, Livestock, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

³ 2000 category tables, water use data in gallons, page 8, Livestock, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁴ 2001 category tables, water use data in gallons, page 8, Livestock, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁵ 2002 category tables, water use data in gallons, page 8, Livestock, Water-Use by Jurisdiction—All Facilities. Total withdrawn is from the column “Withdrawals—Total.” Consumptive use is from the column “Consumptive Use.”

⁶ Includes the total of the 1998 to 2002 data for total withdrawn and total consumed. The consumptive-use coefficient was calculated by dividing the total consumed over the total withdrawn and multiplying it by 100.

Table 4-1. Manufacturing water intake, consumption, and derived consumptive-use coefficients for the Canadian part of the Great Lakes Basin, 1972–91.

[From Tate and Harris (1999, p. 50–55). Categories correspond to Canadian Standard Industrial Classifications. Intake and consumption data are in million cubic meters; coefficient is in percent. No withdrawals reported during the survey years for the categories tobacco products, furniture and fixtures, leather products, machinery, or miscellaneous manufacturing]

Statistic	1972	1976	1981	1986	1991	1996	Mean
Food and beverages							
Intake	130	100	120	120	110	220	
Consumption	10	10	10	10	10	40	
Coefficient	8	10	8	8	9	18	11
Textiles, knitting mills, and clothing							
Intake	70	90	80	70	200	60	
Consumption	0	0	0	0	30	0	
Coefficient	0	0	0	0	15	0	5
Wood products							
Intake	10	40	0	0	0	10	
Consumption	0	0	0	0	0	0	
Coefficient	0	0	0	0	0	0	0
Paper and allied products							
Intake	710	670	650	580	540	900	
Consumption	30	30	10	40	40	50	
Coefficient	4	4	2	7	7	6	5
Chemicals and chemical products							
Intake	1,090	1,030	1,940	1,280	1,070	1,020	
Consumption	50 ¹	60	140	20	30	30	
Coefficient	5	6	7	2	3	3	4
Petroleum and coal products							
Intake	310	320	350	310	250	220	
Consumption	10	0	20	10	10	10	
Coefficient	3	0	6	3	4	5	3
Rubber and plastics							
Intake	340	40	20	20	40	20	
Consumption	0	0	0	0	0	0	
Coefficient	0	0	0	0	0	0	0
Non-metallic mineral products							
Intake	40	60	50	60	60	60	
Consumption	0	10	10	0	10	10	
Coefficient	0	17	20	0	17	17	12
Primary metals							
Intake	1,120	1,430	1,120	1,170	1,100	1,040	
Consumption	50	40	20	20	40	30	
Coefficient	4	3	2	2	4	3	3
Metal fabricating							
Intake	20	10	0	20	10	10	
Consumption	0	0	0	0	0	0	
Coefficient	0	0	0	0	0	0	0
Electrical products							
Intake	20	0	0	0	0	0	
Consumption	0	0	0	0	0	0	
Coefficient	0	0	0	0	0	0	0
Transportation equipment							
Intake	130	110	80	100	50	50	
Consumption	0	0	0	0	10	10	
Coefficient	0	0	0	0	20	20	7
Total of the preceding							
Intake	3,990	3,900	4,410	3,730	3,430	3,610	
Consumption	150	150	210	100	180	180	
Coefficient	4	4	5	3	5	5	4

¹ Value missing; derived by subtraction.

Table 4-2. Water intake, consumption, and derived consumptive-use coefficients for agriculture, electric power, water and other utilities, and wholesale and retail trade in the Canadian part of the Great Lakes Basin, 1972-91.

[From Tate and Harris (1999, p. 50-55). Intake and consumption data are in million cubic meters; coefficient is in percent.]

Statistic	1972	1976	1981	1986	1991	1996	Mean
Agriculture							
Intake	240	300	280	320	340	370	
Consumption	190	230	220	260	280	320	
Coefficient	79	77	79	81	82	86	81
Electric power							
Intake	5,630	6,690	14,930	19,970	23,100	24,000	
Consumption	100	120	150	200	210	210	
Coefficient	2	2	1	1	1	1	1
Water and other utilities							
Intake	950	990	1,020	1,120	1,090	970	
Consumption	190	200	200	230	220	170	
Coefficient	20	20	20	21	20	18	20
Wholesale and retail trade							
Intake	360	450	460	390	460	390	
Consumption	70	90	90	80	90	110	
Coefficient	19	20	20	21	20	28	21

Table 5-1. Annual water requirements for offstream uses for agriculture, irrigation, and livestock during base conditions.

[From Water Resources Council (U.S.) (1978), v. 3, Analytical data summary. Withdrawal and consumption are in million gallons per day. The consumptive-use coefficient (in percent) is computed by dividing the water consumption by the water withdrawal and multiplying by 100. Agriculture includes both irrigation and livestock. The withdrawals and consumption for agriculture are from the U.S. Department of Agriculture (Soil Conservation Service)]

Region	Withdrawal	Consumption	Consumptive-use coefficient
Agriculture			
New England Region	53	43	81
Mid-Atlantic Region	333	264	79
Great Lakes Region	230	199	87
Ohio Region	160	150	94
Tennessee Region	41	38	93
Upper Mississippi Region	422	383	91
Irrigation			
New England Region	35	25	71
Mid-Atlantic Region	265	196	74
Great Lakes Region	145	114	79
Ohio Region	47	37	79
Tennessee Region	14	11	79
Upper Mississippi Region	192	153	80
Livestock			
New England Region	18	18	100
Mid-Atlantic Region	68	68	100
Great Lakes Region	85	85	100
Ohio Region	113	113	100
Tennessee Region	27	27	100
Upper Mississippi Region	230	230	100

Table 5-2. Annual water requirements for offstream uses for steam electrical and manufacturing withdrawals during base conditions.

[From Water Resources Council (U.S.) (1978), v. 3, Analytical data summary. Withdrawal and consumption are in million gallons per day. The consumptive use coefficient (in percent) is computed by dividing the water consumption by the water withdrawal and multiplying by 100. Steam electric withdrawals and consumption are from the Department of Energy (Federal Energy Regulatory Commission), and the manufacturing withdrawals and consumption are from the Department of Commerce (Industry and Trade Administration, Office of Business Policy Analysis)]

Region	Withdrawal	Consumption	Consumptive-use coefficient
Steam electrical			
New England Region	1,263	21	2
Mid-Atlantic Region	7,463	103	1
Great Lakes Region	24,362	175	1
Ohio Region	21,022	324	2
Tennessee Region	4,799	42	1
Upper Mississippi Region	7,644	129	2
Manufacturing			
New England Region	2,170	192	9
Mid-Atlantic Region	5,416	607	11
Great Lakes Region	13,220	1,474	11
Ohio Region	10,881	817	8
Tennessee Region	2,093	147	7
Upper Mississippi Region	2,030	240	12
Primary metals			
New England Region	132	4	3
Mid-Atlantic Region	1,124	173	15
Great Lakes Region	7,545	1,030	14
Ohio Region	6,346	467	7
Tennessee Region	77	12	16
Upper Mississippi Region	315	41	13
Chemicals			
New England Region	109	15	14
Mid-Atlantic Region	1,850	179	10
Great Lakes Region	1,939	71	4
Ohio Region	3,261	168	5
Tennessee Region	1,520	81	5
Upper Mississippi Region	384	54	14
Paper			
New England Region	962	86	9
Mid-Atlantic Region	745	76	10
Great Lakes Region	982	143	15
Ohio Region	224	23	10
Tennessee Region	381	41	11
Upper Mississippi Region	348	20	6
Food			
New England Region	56	9	16
Mid-Atlantic Region	271	45	17
Great Lakes Region	354	38	11
Ohio Region	124	17	14
Tennessee Region	19	1	5
Upper Mississippi Region	506	62	12

Table 5-2. Annual water requirements for offstream uses for steam electrical and manufacturing withdrawals during base conditions. —Continued

[From Water Resources Council (U.S.) (1978), v. 3, Analytical data summary. Withdrawal and consumption are in million gallons per day. The consumptive use coefficient (in percent) is computed by dividing the water consumption by the water withdrawal and multiplying by 100. Steam electric withdrawals and consumption are from the Department of Energy (Federal Energy Regulatory Commission), and the manufacturing withdrawals and consumption are from the Department of Commerce (Industry and Trade Administration, Office of Business Policy Analysis)]

Region	Withdrawal	Consumption	Consumptive-use coefficient
Petroleum			
New England Region	16	3	19
Mid-Atlantic Region	562	71	13
Great Lakes Region	687	51	7
Ohio Region	114	23	20
Tennessee Region	0	0	-
Upper Mississippi Region	50	18	36
Transportation			
New England Region	341	26	8
Mid-Atlantic Region	67	6	9
Great Lakes Region	657	80	12
Ohio Region	89	21	24
Tennessee Region	0	0	-
Upper Mississippi Region	26	5	19
Textiles			
New England Region	45	2	4
Mid-Atlantic Region	37	3	8
Great Lakes Region	0	0	-
Ohio Region	7	1	14
Tennessee Region	31	8	26
Upper Mississippi Region	0	0	-
All other			
New England Region	509	47	9
Mid-Atlantic Region	760	54	7
Great Lakes Region	1,056	61	6
Ohio Region	716	97	14
Tennessee Region	65	4	6
Upper Mississippi Region	401	40	10

Table 5-3. Annual water requirements for offstream uses for commercial and domestic water-use categories during base conditions.

[From Water Resources Council (U.S.) (1978), v. 3, Analytical data summary. Withdrawal and consumption are in million gallons per day. The consumptive-use coefficient (in percent) is computed by dividing the water consumption by the water withdrawal and multiplying by 100. Domestic-central is from U.S. Department of Interior (U.S. Geological Survey) and Water Resource Council. Domestic-noncentral is from the U.S. Department of Agriculture (Soil Conservation Service)]

Region	Withdrawal	Consumption	Consumptive-use coefficient
Commercial			
New England Region	361	48	13
Mid-Atlantic Region	650	91	14
Great Lakes Region	1,010	113	11
Ohio Region	495	62	13
Tennessee Region	90	11	12
Upper Mississippi Region	515	63	12
Domestic			
New England Region	1,122	164	15
Mid-Atlantic Region	3,954	705	18
Great Lakes Region	3,267	476	15
Ohio Region	1,842	349	19
Tennessee Region	263	59	22
Upper Mississippi Region	1,450	282	19
Domestic-central			
New England Region	1,011	96	9
Mid-Atlantic Region	3,627	505	14
Great Lakes Region	2,946	280	10
Ohio Region	1,561	175	11
Tennessee Region	210	26	12
Upper Mississippi Region	1,280	178	14
Domestic-noncentral			
New England Region	111	68	61
Mid-Atlantic Region	327	200	61
Great Lakes Region	321	196	61
Ohio Region	281	174	62
Tennessee Region	53	33	62
Upper Mississippi Region	170	104	61

Table 5-4. Annual water requirements for offshore uses for mining water-use categories during base conditions.

[From Water Resources Council (U.S.) (1978), v. 3, Analytical data summary. Withdrawal and consumption are in million gallons per day. The consumptive-use coefficient (in percent) is computed by dividing the water consumption by the water withdrawal and multiplying by 100. Mineral withdrawals and consumption data are from the U.S. Department of the Interior (Bureau of Mines)]

Region	Withdrawal	Consumption	Consumptive-use coefficient
Minerals			
New England Region	90	11	12
Mid-Atlantic Region	459	70	15
Great Lakes Region	696	155	22
Ohio Region	493	91	18
Tennessee Region	110	15	14
Upper Mississippi Region	333	46	14
Nonmetals			
New England Region	87	11	13
Mid-Atlantic Region	424	56	13
Great Lakes Region	451	62	14
Ohio Region	308	34	11
Tennessee Region	86	12	14
Upper Mississippi Region	268	35	13
Fuels			
New England Region	0	0	-
Mid-Atlantic Region	21	11	57
Great Lakes Region	14	8	57
Ohio Region	183	57	31
Tennessee Region	8	1	12
Upper Mississippi Region	20	4	20
Metals			
New England Region	3	<1	-
Mid-Atlantic Region	14	2	14
Great Lakes Region	231	85	37
Ohio Region	2	<1	-
Tennessee Region	16	2	12
Upper Mississippi Region	45	7	16

