

Table 1: 2004 Water Withdrawals for Golf Course Irrigation in Michigan, by County*

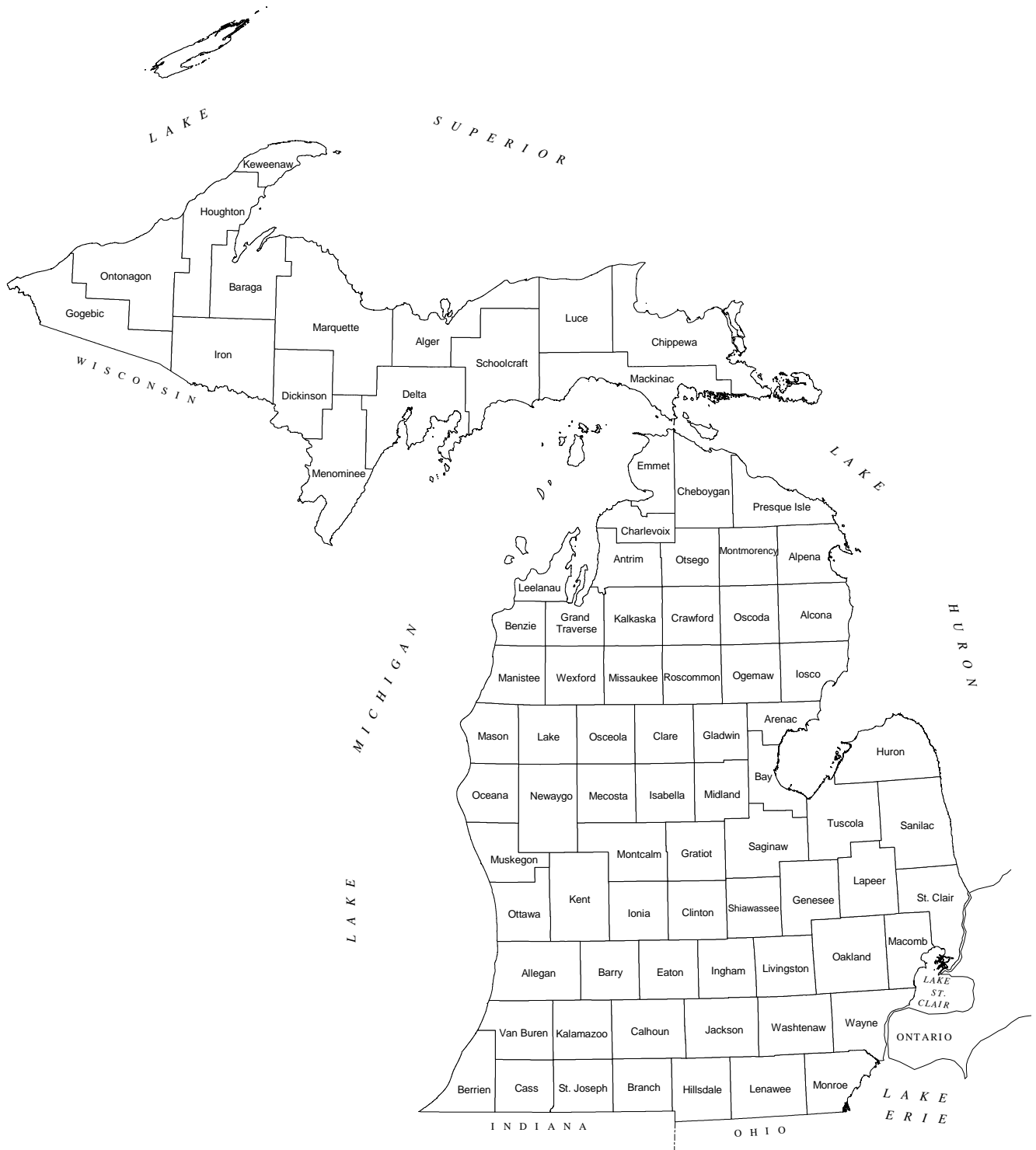
County	Number of Courses	Irrigated Acres	Water Withdrawn (MGD)			Total
			Great Lakes	Surface Water	Ground Water	
Alcona	4	201	0.00	0.11	0.05	0.16
Allegan	12	660	0.00	0.16	0.28	0.44
Alpena	2	143	0.00	0.09	0.05	0.13
Antrim	6	495	0.00	0.13	0.49	0.62
Arenac	1	75	0.00	0.02	0.11	0.13
Barry	6	317	0.00	0.06	0.26	0.33
Bay	5	214	0.01	0.08	0.06	0.15
Benzie	5	336	0.00	0.00	0.41	0.41
Berrien	13	720	0.00	0.35	0.22	0.57
Branch	4	110	0.00	0.07	0.07	0.13
Calhoun	11	543	0.00	0.11	0.26	0.37
Cass	5	462	0.00	0.08	0.29	0.37
Charlevoix	6	379	0.00	0.12	0.18	0.30
Cheboygan	3	150	0.00	0.07	0.12	0.19
Chippewa	4	208	0.00	0.08	0.03	0.10
Clare	3	144	0.00	0.10	0.05	0.15
Clinton	5	175	0.00	0.05	0.11	0.16
Crawford	2	115	0.00	0.01	0.11	0.13
Delta	6	237	0.13	0.06	0.07	0.26
Dickinson	3	99	0.00	0.09	0.06	0.14
Eaton	7	378	0.00	0.10	0.03	0.13
Emmet	9	1,223	0.00	0.00	0.73	0.73
Genesee	23	1,362	0.00	0.68	0.22	0.91
Gladwin	2	83	0.00	0.00	0.03	0.03
Grand Traverse	7	558	0.00	0.09	0.38	0.47
Gratiot	5	255	0.00	0.09	0.07	0.15
Hillsdale	5	194	0.00	0.10	0.08	0.18
Houghton	1	60	0.00	0.02	0.00	0.02
Huron	5	335	0.00	0.04	0.21	0.25
Ingham	12	730	0.00	0.17	0.29	0.46
Ionia	7	210	0.00	0.02	0.15	0.18
Iosco	5	262	0.00	0.15	0.30	0.45
Iron	1	110	0.00	0.00	0.03	0.03

County	Number of Courses	Irrigated Acres	Water Withdrawn (MGD)			Total
			Great Lakes	Surface Water	Ground Water	
Isabella	8	421	0.00	0.38	0.02	0.40
Jackson	18	761	0.00	0.07	0.52	0.59
Kalamazoo	16	1,042	0.00	0.57	0.82	1.39
Kalkaska	2	100	0.00	0.00	0.08	0.08
Kent	32	1,884	0.00	0.48	1.22	1.69
Keweenaw	1	18	0.01	0.00	0.00	0.02
Lake	1	50	0.00	0.00	0.05	0.05
Lapeer	6	272	0.00	0.04	0.09	0.14
Leelanau	7	333	0.02	0.13	0.14	0.29
Lenawee	7	245	0.00	0.13	0.20	0.33
Livingston	15	1,577	0.00	0.61	0.41	1.02
Luce	1	125	0.00	0.06	0.00	0.06
Mackinac	3	59	0.02	0.00	0.08	0.10
Macomb	24	1,926	0.03	1.15	0.28	1.46
Manistee	7	420	0.00	0.00	0.47	0.47
Marquette	4	211	0.00	0.24	0.05	0.29
Mason	3	106	0.00	0.07	0.06	0.13
Mecosta	5	518	0.00	0.34	0.09	0.43
Menominee	2	85	0.01	0.03	0.00	0.04
Midland	2	102	0.00	0.09	0.02	0.11
Missaukee	1	70	0.00	0.00	0.05	0.05
Monroe	12	875	0.00	0.03	0.72	0.75
Montcalm	8	472	0.00	0.17	0.10	0.27
Montmorency	2	200	0.00	0.15	0.00	0.15
Muskegon	14	813	0.02	0.09	0.82	0.92
Newaygo	5	238	0.00	0.03	0.44	0.47
Oakland	62	5,556	0.00	1.90	2.71	4.60
Oceana	5	200	0.00	0.13	0.24	0.37
Ogemaw	5	308	0.00	0.14	0.11	0.25
Ontonagon	1	18	0.00	0.00	0.01	0.01
Osceola	2	111	0.00	0.01	0.07	0.09
Oscoda	3	553	0.00	0.29	0.32	0.61
Otsego	12	1,258	0.00	0.09	0.72	0.81
Ottawa	13	679	0.00	0.36	0.27	0.63
Presque Isle	2	103	0.00	0.00	0.13	0.13
Roscommon	6	467	0.00	0.02	0.39	0.41

County	Number of Courses	Irrigated Acres	Water Withdrawn (MGD)			Total
			Great Lakes	Surface Water	Ground Water	
Saginaw	12	544	0.00	0.44	0.05	0.50
Saint Clair	13	693	0.05	0.18	0.05	0.27
Saint Joseph	3	153	0.00	0.34	0.03	0.37
Sanilac	4	179	0.02	0.00	0.12	0.14
Schoolcraft	1	73	0.00	0.10	0.00	0.10
Shiawassee	4	145	0.00	0.08	0.05	0.13
Tuscola	4	231	0.00	0.07	0.06	0.12
Van Buren	6	319	0.00	0.08	0.34	0.42
Washtenaw	24	1,596	0.00	0.36	0.61	0.97
Wayne	30	2,002	0.09	0.94	0.39	1.41
Wexford	6	360	0.00	0.02	0.33	0.34
Total	619	40,014	0.41	13.70	19.55	33.65

*This report is provided by the Michigan Department of Environmental Quality and was generated using data collected for the water use reporting program.

Index Map of Michigan Counties



**Table 2: 2004 Water Withdrawals for Golf Course Irrigation
in Michigan, by Hydrologic Basin***

Hydrologic Basin Code	Number of Courses	Irrigated Acres	Water Withdrawn (MGD)			
			Great Lakes	Surface Water	Ground Water	Total
04020103	3	96	0.01	0.02	0.01	0.04
04020105	2	126	0.00	0.05	0.05	0.10
04020202	1	125	0.00	0.06	0.00	0.06
04020203	1	40	0.00	0.05	0.00	0.05
04030106	1	110	0.00	0.00	0.03	0.03
04030108	4	149	0.00	0.11	0.06	0.17
04030109	2	38	0.01	0.00	0.01	0.02
04030110	2	85	0.00	0.19	0.00	0.19
04030111	4	209	0.13	0.06	0.04	0.23
04030112	1	25	0.00	0.00	0.02	0.02
04040001	3	120	0.00	0.12	0.02	0.13
04050001	31	1,772	0.00	1.01	0.81	1.82
04050002	8	325	0.00	0.21	0.21	0.42
04050003	43	2,336	0.00	0.71	1.63	2.34
04050004	35	1,779	0.00	0.34	0.81	1.15
04050005	4	219	0.00	0.03	0.07	0.10
04050006	42	2,391	0.00	0.70	1.40	2.10
04050007	12	511	0.00	0.19	0.21	0.40
04060101	19	956	0.02	0.21	0.96	1.19
04060102	24	1,709	0.00	0.49	1.34	1.83
04060103	9	606	0.00	0.02	0.46	0.48
04060104	15	843	0.00	0.19	0.80	0.99
04060105	30	2,771	0.02	0.28	1.85	2.15
04060106	1	73	0.00	0.10	0.00	0.10
04060107	1	20	0.00	0.00	0.08	0.08
04070001	4	172	0.00	0.02	0.03	0.05
04070002	1	35	0.01	0.00	0.00	0.01
04070003	4	151	0.00	0.05	0.12	0.17
04070004	8	824	0.00	0.02	0.59	0.61
04070005	1	58	0.00	0.00	0.08	0.08
04070006	6	513	0.00	0.31	0.13	0.43
04070007	14	1,389	0.00	0.59	0.82	1.41
04080101	10	525	0.00	0.17	0.39	0.56
04080102	5	165	0.00	0.04	0.08	0.11

Hydrologic Basin Code	Number of Courses	Irrigated Acres	Water Withdrawn (MGD)			
			Great Lakes	Surface Water	Ground Water	Total
04080103	4	211	0.01	0.09	0.06	0.15
04080104	4	295	0.07	0.00	0.14	0.21
04080201	8	324	0.00	0.21	0.10	0.31
04080202	12	633	0.00	0.56	0.04	0.60
04080203	25	1,502	0.00	0.72	0.73	1.45
04080204	27	1,541	0.00	0.76	0.25	1.01
04080205	9	418	0.00	0.16	0.10	0.26
04080206	1	80	0.00	0.04	0.01	0.05
04090001	10	568	0.00	0.14	0.11	0.26
04090002	9	505	0.03	0.16	0.19	0.38
04090003	44	3,917	0.00	2.09	1.15	3.23
04090004	43	3,185	0.09	1.24	0.91	2.23
04090005	46	4,070	0.00	1.00	1.49	2.48
04100001	12	958	0.00	0.02	0.74	0.76
04100002	12	450	0.00	0.17	0.35	0.52
04100006	2	91	0.00	0.00	0.10	0.10
Total	619	40,014	0.41	13.70	19.55	33.65

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Hydrologic Basins in Michigan: U.S. Geological Survey

04020103	Keweenaw Peninsula	04050007	Thornapple	04080103	Pigeon-Wiscoggin
04020105	Dead-Kelsey	04060101	Pere Marquette-White	04080104	Birch-Willow
04020202	Tahquamenon	04060102	Muskegon	04080201	Tittabawassee
04020203	Waiska	04060103	Manistee	04080202	Pine
04030106	Brule	04060104	Betsie-Platte	04080203	Shiawassee
04030108	Menominee	04060105	Boardman-Charlevoix	04080204	Flint
04030109	Cedar-Ford	04060106	Manistique	04080205	Cass
04030110	Escanaba	04060107	Brevoort-Millecoquin	04080206	Saginaw
04030111	Tacoosh-Whitefish	04070001	St. Marys	04090001	St. Clair
04030112	Fishdam-Sturgeon	04070002	Carp-Pine	04090002	Lake St. Clair
04040001	Little Calumet-Galien	04070003	Lone Lake-Ocqueoc	04090003	Clinton
04050001	St. Joseph	04070004	Cheboygan	04090004	Detroit
04050002	Black-Macatawa	04070005	Black	04090005	Huron
04050003	Kalamazoo	04070006	Thunder Bay	04100001	Ottawa-Stony
04050004	Upper Grand	04070007	Au Sable	04100002	Raisin
04050005	Maple	04080101	Au Gres-Rifle	04100006	Tiffin
04050006	Lower Grand	04080102	Kawkawlin-Pine		

Index Map of Michigan Hydrologic Basins

