OHIO LAKES AND RESERVIORS

1980 305(b) Report
Volume VII

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Ohio Lakes and Reservoirs

I. SUMMARY

This section includes a general description of the Ohio EPA's lake sampling program, morphological, chemical/physical and biological summaries for 45 lakes sampled by Ohio EPA/U.S. Geological Survey (1975 to 1977), an evaluation of lake water quality problems (mine drainage, elevated metal concentrations, sanitary and urban related water quality problems) and a trophic level (nutrient) evaluation for 83 lakes and reservoirs. A method described by Carlson (1977), which uses chlorophyll a, secchi disc, or total phosphorus to calculate a Trophic State Index, was used to determine trophic level. Table VII-1 is an inventory of 210 public lakes with a surface area greater than 15 acres. Major and minor basins of the Ohio River and Lake Erie are grouped separately and arranged in order from west to east (Figure VII-1). Lakes and reservoirs within basins are arranged alphabetically.

Table VII-1 also includes lake location (county, longitude, latitude and map codes), morphometric data, trophic level determination and chemical parameters which exceed Ohio's water quality standards.

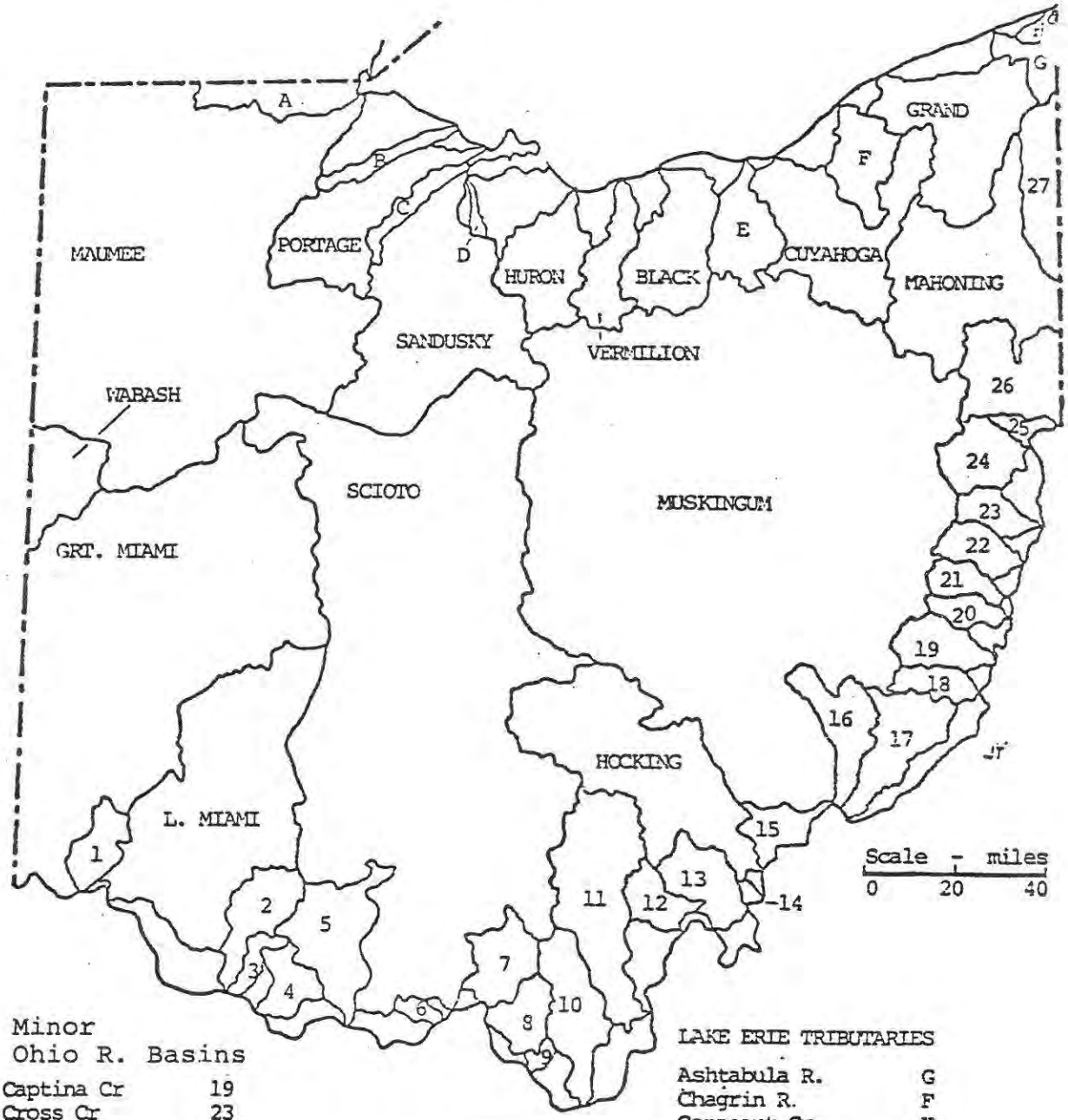
II. INTRODUCTION

Ohio has more than 200 publicly owned lakes and reservoirs greater than 15 acres in surface area, for a combined surface area of more than 100,000 acres. Table VII-1 is an inventory of these lakes and reservoirs, and summarizes location, orgin, use, morphometric characteristics, trophic classification, and availability of scientific data for each lake and reservoir. Lakes and reservoirs are listed alphabetically within the drainage basin in which they are located. The major and minor basins of the Ohio River and Lake Erie watersheds are grouped separately and arranged in order from west to east (Figure VII-1).

The Ohio Department of Natural Resources has compiled an inventory of Ohio's lakes, public and private, greater than five acres (Bowell, 1980). Information provided for each lake includes, latitude and longitude, location by county and township, lake type, drainage basin, purpose, and surface area.

An ongoing cooperative program between the Ohio EPA and U.S. Geological Survey (USGS) was initiated in 1975 to determine the water quality of Ohio's publicly owned lakes and reservoirs. The program is designed to provide baseline data on a wide spectrum of parameters, while providing sufficient information for trophic level determination. Sampling occurs in early spring, before thermal stratification, and again in late summer during peak stratification. Physical and chemical profile measurements are made at primary stations established in the deepest part of each lake. Secondary stations are established in larger lakes to detect horizontal differences in water quality. Sampling stations are also located on the principal tributaries of each lake to determine inflow water quality. Table VII-2 lists the parameters measured and sampling regime for both lake and inflow stations.

Figure VII-1. Major and Minor Basins of Lake Erie and the Ohio River.[a]



Minor Ohio R. Basins

Captina Cr	19		
Cross Cr	23		
Duck Cr	16		
Eagle Cr	4	Raccoon Cr	11
Forked Run	14	Shade R	13
Leading Cr	12	Shenango R	27
L. Beaver Cr	26	Short Cr	22
L. Hocking R	15	Straight Cr	3
L. Muskingum R	17	Storms Cr	9
L. Scioto R	7	Sunfish Cr	18
L. Yellow Cr	25	Symmes Cr	10
McMahan Cr	20	Turkey Cr	6
Mill Cr	1	Wheeling Cr	21
Ohio Brush Cr	5	White Oak Cr	2
Pine Cr	8	Yellow Cr	24

LAKE ERIE TRIBUTARIES

Ashtabula R.	G
Chagrin R.	F
Conneaut Cr.	H
Muddy Cr.	C
Ottawa R.	A
Raccoon Cr.	D
Rocky R.	E
Toussaint Cr.	B

[a] Major basins are named on map, minor basins are numbered, or lettered.

Table VII-1A: Inventory of Lakes and Reservoirs;
Morphometric data and literature references

Major Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Wabash R. Basin										
Wabash River Conservancy Reservoir #1	Darke	Wabash	140	-	984	-	1012	1964	-	-
Great Miami R. Basin										
Acton Lake	Butler	Fourmile Crk	625	99	9400	8	863	1956	1975	-
Bass Lake	Greene	Unnamed	40	12	-	-	-	-	-	-
Buck Creek Lake (Clarence J. Brown Lake)	Clark	Buck Creek	2120	82	36900	10	1012	1974	1977	-
Clark Lake	Clark	Sinking Crk	100	6.7	507	3	-	1957	1979	-
Eastwood Lake	Montgomery	Mad River	125	-	-	-	-	-	-	-
Echo Lake	Miami	Unnamed	15	2.1	-	-	-	-	-	-
Englewood Reservoir (a dry dam)	Montgomery	Stillwater River	130	651	-	-	816	1922	-	-
Grand Lake St. Marys	See Maumee River Basin									
Huffman Reservoir (a dry dam)	Greene	Mad River	43	671	-	-	777	1922	-	-
Indian Lake	Logan	N. Fork Grt Miami River	6134	110	45900	29	998	1852	1977	USEPA, 75
Kiser Lake	Champaign	Mosquito Crk	380	98	3215	5	1067	1940	1977	-
L. Loramie	Shelby	Loramie Crk	785	70	13000	30	-	1844	1975	USEPA, 75
Miami-Whitewater Lake	Hamilton	Unnamed	85	-	-	-	-	1967	-	-
Old Reid Memorial Pk. Lake	Clark	Unnamed	15	-	-	-	-	-	-	-
Rush Run Lake	Preble	Rush Run	54	-	820	-	965	1969	-	-
Swift Run Lake	Miami	Patterson Run	40	7.3	-	2.1	903	1950	-	-

Table VII-1A (Continued)

Major Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
L. Miami R. Basin										
Caesar Creek Lake	Warren	Caesar Crk	2830	237	102000	-	849	1977	1978	-
Cowan Lake	Clinton	Cowan Crk	720	51	12000	17	960	1947	1975	-
East Fork Lake	Clermont	E. Fork L. Miami	2120	342	90400	-	733	1978	1979	-
Lake Isabella	Hamilton		23	-	-	-	-	-	-	-
New Wilmington Reservoir	Clinton	Upground	54	NA	1013	-	1070	1963	-	-
Spring Valley Lake	Warren	Unnamed	79	-	87	2	-	1936	-	-
Stonelick Lake Creek	Clermont	Stonelick	171	23	1750	9.5	875	1949	1977	-
Wilmington Res	Clinton	Upground	-	-	276	NA	1070	1945	-	-
Scioto R. Basin										
Alum Creek Lake	Delaware	Alum Creek	3387	123	-	46	888	1975	1976	-
Amann Reservoir	Morrow	Rocky Fk of Olentangy R	24	11	200	-	-	1943	-	-
Amicks Reservoir	Morrow	Upground	49	NA	1515	-	-	1968	-	-
Deer Creek Lake	Pickaway	Deer Creek	1277	278	21029	-	810	1968	1975	USEPA, 1975
Delaware Lake	Delaware	Olentangy R	1300	381	14000	35	915	1951	-	USEPA, 1975
Griggs Reservoir	Franklin	Scioto R	385	1052	4563	15	-	1905	1979	-
Hammertown Lake (Jackson City Reservoir)	Jackson	Unnamed	186	3.1	4200	8.4	690	1955	1979	-
Hargus Lake	Pickaway	Hargus Crk	146	6.5	2325	5	822	1956	1978	-
Hillsboro Reservoir	Highland	Spring Brk	22	1.0	212	-	1018	1947	-	-

Table VII-1A (Continued)

Major Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Scioto R. Basin (Continued)										
Hoover Reservoir	Franklin	Big Walnut Creek	2825	190	60470	45	890	1955	1975	USEPA, 1975
L. Katharine	Jackson	Rock Run	51	-	-	-	662	1940	-	-
Madison Lake	Madison	Deer Crk	106	57.2	594	4	965	1946	1979	-
Mount Gilead Lake	Morrow	Sams Crk	-	-	-	1.3	-	1930	-	USEPA, 1975
O'Shaughnessy Reservoir	Delaware	Scioto R	829	997	13120	17	845	1925	-	USEPA, 1975
Paint Creek Lake	Highland	Paint Creek	1190	573	20300	30	798	1973	1975	-
Pine Lake	Ross	Tar Hollow Creek	14	2.4	134	0.9	792	1938	-	-
Powers Reservoir	Crawford	Upground	29	NA	460	-	1159	1957	-	-
Richwood Lake	Union	Dugout	15	NA	-	1	-	1940's	-	-
Rocky Fork Lake	Highland	Rocky Fork Creek	2020	114	34100	30	880	1953	1975	USEPA, 1975
Ross Lake	Ross	Unnamed	140	-	-	-	-	1968	1979	-
Washington C.H. Reservoir	Fayette	Upground	32	NA	614	1	995	1955	-	-
Westerville Reservoir	Delaware	Unnamed	53	2.7	780	-	877	1960	-	-
L. White	Pike	Pee Pee Crk	337	37	3734	8.3	570	1935	1979	-
Hocking R. Basin										
Burr Oak Lake (Tom Jenkins Reservoir)	Athens	E Branch of Sunday Crk	664	33	9300	20	721	1952	1976	-
Clouse Lake	Perry	Center Branch L. Brush Crk	42	-	234	1.5	852	1948	-	-

Table VII-1A (Continued)

Major Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Hocking R. Basin (Continued)										
Corning Reservoir	Perry		16	-	-	-	-	-	-	-
Dow Lake	Athens	Strouds Run	153	7.3	1844	7	660	1884	1978	-
Essington Lake	Perry	Unnamed	16	0.7	120	-	958	1945	-	-
Fox Lake	Athens	Unnamed	48	4.0	465	-	694	1967	-	-
Greenfield Lake	Fairfield	Unnamed	14	0.9	80	-	923	1961	-	-
L. Logan (Hocking Lake)	Hocking	Clear Fk	341	14.0	3142	10	-	1955	1976	-
Margaret Creek Conservancy District Structure #4	Athens	Biddle Crk	28	4.2	105	-	696	1971	-	-
New Lexington Reservoir	Perry	Unnamed	27	0.8	344	-	912	1936	-	-
Oakthorpe Res. (Rush Run Conservancy District #VI-D)	Fairfield		43	-	795	-	915	1975	-	-
Rock Mill Lake (Hunters Run Conservancy District #9)	Fairfield	Unnamed	20	8.0	150	-	910	1960	-	-
Rush Creek Conversancy Dist. Structures										
IV A	Perry	Unnamed	44	1.2	536	-	936	1975	-	-
IV C	Perry		32	-	-	-	-	-	-	-
V A	Fairfield	Unnamed	20	2.3	85	-	817	1970	-	-
VII C	Fairfield	Raccoon Run	15	-	-	-	-	-	-	-
Snowden Lake (Margaret Crk Conservancy District #2)	Athens	Unnamed	137	4.0	2120	-	739	1972	1979	-

Table VII-1A (Continued)

Major Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Muskingum R. Basin										
Atwood Lake	Tuscarawas	Indian Fk	1540	70	23600	27.6	928	1937	1976	USEPA, 1975
Barberton Reservoir	Summit	Wolf Creek	196	27	2056	-	996	1927	-	-
Beach City Reservoir	Tuscarawas	Sugar Creek	420	300	1700	-	948	1937	-	-
Buckeye Lake	Licking	S. Fork of Licking R.	3136 -	49.2 -	19940 -	32 -	893 -	1832 -	1975 1978	USEPA, 1975 -
Cambridge City Reservoir	Guernsey	Unnamed	26	-	614	-	832	1908	-	-
Charles Mill Reservoir	Ashland	Black Fork	1350	215	7400	33	-	1936	1978	USEPA, 1975
Clear Fork Reservoir	Richland	Clear Fork	997	34	13176	14	997	1949	1975	-
Clendening Lake	Harrison	Brushy Fk	1800	69.	27900	44	898	1939	1976	-
Crooksville Reservoir. #3	Perry	Black Fork	15	-	142	-	822	1956	-	-
Cutler Lake (Blue Rock Lake)	Muskingum	Salt Creek	18	1.6	163	1.2	829	1937	-	-
Dillon Lake	Muskingum	Licking R.	1325	748	13170	-	734	1959	1977	USEPA, 1975
East Reservoir (a Portage Lake)	Summit	Natural Lake	243	-	-	5.6	989	Nat	-	-
Firestone Reservoir (Tuscarawas R. Diversion Dam)	Summit	Tuscarawas	98	34.8	491	-	995	1957	-	-
Knox Lake	Knox	E. Branch of Kokosing	495	31.4	3502	12	1100	1953	1977	-
Leesville Lake	Carroll	McGuire Crk	1000	48.3	19500	27	963	1936	1976	-
Lime Kiln Lake	Tuscarawas	Unnamed	30	-	76	-	916	-	-	-
Long Lake (a Portage Lake)	Summit	Natural Lake	166	-	-	2.3	988	Nat.	1977	-
Munroe Basin	Muskingum	Wakatomika Creek	17	-	-	-	-	-	-	-
M.W.C.D. - Chippewa Subdivision Reservoir	Wayne	L. Chippewa Creek	34	14.4	141	-	991	1974	-	-

Table VII-1A (Continued)

Major Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Muskingum R. Basin (Continued)										
Nimisila Reservoir	Summit	Nimisila Crk.	811	17	9400	16	985	1938	1977	-
N. Branch of Kokosing River	Knox	N. Branch Kokosing	154	44	-	-	1146	1971	1979	-
North Reservoir (a Portage Lake	Summit	Natural	-	-	-	-	976	Nat	-	-
Piedmont Lake	Harrison	Stillwater Creek	2310	86	34500	36.5	913	1937	1977	-
Pleasant Hill Reservoir	Ashland	Clear Fork	850	197	13500	13.4	1020	1936	-	USEPA, 1975
Salt Fork Reservoir	Guernsey	Salt Fork	2952	160	42085	-	-	1968	1975	-
Senecaville Lake (Seneca Lake)	Guernsey	Seneca Fork	3550	121	43500	47	832	1937	1976	-
Shreve Lake	Wayne	Unnamed	58	1.1	174	-	944	1966	-	-
Tappan Lake	Harrison	L. Still-water Creek	2350	71	35100	41	899	1936	1976	USEPA, 1975
Turkey Foot Lake (a Portage Lake)	Summit	Natural Lake	-	-	-	-	-	Nat.	1977	-
West Reservoir (a Portage Lake)	Summit	Natural Lake	115	-	-	-	-	Nat.	-	-
Wills Creek Lake	Coshocton	Wills Creek	900	842	6000	-	742	1939	1976	-
Mahoning R. Basin										
Berlin Lake	Portage	Mahoning R	2200	249	35400	21	1017	1943	1975	USEPA, 1975
Crystal Lake	Portage	Unnamed	25	0.4	-	-	1075	-	-	-
Dale Walburn Reservoir	Stark	Deer Crk	670	32	5860	-	1093	1971	-	-
Deer Creek Reservoir	Stark	Deer Crk	303	36	3069	8	1040	1954	1977	-
Meander Creek Reservoir	Trumbull	Meander Crk	2010	86	30675	-	905	1932	1979	-
L. Milton	Mahoning	Mahoning R	1685	280	29200	21	951	1916	1979	-

Table VII-1A (Continued)

Major Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Mahoning R. Basin (Continued)										
Mosquito Creek Lake	Trumbull	Mosquito Cr.	7850	98	69400	40	901	1944	1976	USEPA, 1975
Newport Lake	Mahoning	Mill Creek	105	67	920	-	983	1962	-	-
Lake Park	Mahoning	Unnamed	20	0.23	50	1.2	1055	1900's	-	-
West Branch Reservoir (M.J. Kirwan Reservoir)	Portage	W. Branch Mahoning R.	2650	80.5	52900	-	986	1966	1977	-
Westville Reservoir	Columbiana	Naylor Ditch	90	7.8	934	-	1101	1913	-	-
Shenango R. Basin										
Pymatuning Reservoir	Ashtabula	Pymatuning River	20580	158	200000	77	-	1933	-	USEPA, 1975

Table VII-1A (Continued)

Minor Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Mill Creek Basin										
Sharon Lake	Hamilton	Unnamed	38	4.9	-	-	-	1936	-	-
West Fork Mill Crk. L. (Winton Lake)	Hamilton	W. Fork Mill Crk.	183	30	1531	-	675	1952	1978	-
White Oak Creek Basin										
Grant Lake	Brown	Sterling Crk.	181	25	1140	7.9	906	1948	-	USEPA, 1975
Ohio Brush Creek Basin										
Adams Lake	Adams	Lick Fork	38	4.5	32	2.5	760	1947	-	-
Turkey Creek Basin										
Roosevelt Lake	Scioto	Turkey Crk.	16	16	-	1.5	-	1935	-	-
Turkey Crk. Lake	Scioto	Turkey Crk.	51	-	-	-	-	1967	-	-
Storms Creek Basin										
Vesuvius Lake	Lawrence	Storms Crk.	105	10.9	-	6.4	-	1937	1975	-
Sunfish Creek Basin										
Monroe Lake	Monroe	Sunfish Crk.	39	-	-	3.0	-	-	-	-
Symmes Creek Basin										
Jackson Lake	Jackson	Black Fork Creek	243	19	-	11	700	1940	1978	-
Raccoon Creek Basin										
Alma Lake	Vinton	Pigeon Crk.	63	0.8	774	-	690	1901	-	-
Lake Hope	Vinton	Sandy Run	126	9.9	1555	5.4	716	1939	1975 1978	-
Lake Rupert	Vinton	L. Raccoon Crk.	325	-	2400	-	-	1968	1979	-
Tycoon Lake	Gallia	Raccoon Crk.	204	-	-	3.5	-	1960	1978	-

Table VII-1A (Continued)

Minor Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Forked Run Basin										
Forked Run Lake	Meigs	Forked Run	107	-	-	8.5	601	1952	1978	-
L. Hocking Basin										
Veto Lake	Washington	L. Hocking R.	158	20	-	6.0	-	1953	1978	-
Duck Creek Basin										
Caldwell Lake	Noble	Dog Run	27	4.8	343	-	-	1935	-	-
Wolf Run Lake	Noble	Wolf Run	208	-	-	-	-	1966	1976	-
Captina Creek Basin										
Barnesville Reservoir #1	Belmont	Unnamed	23	1.0	263	-	1163	1904	-	-
Barnesville Reservoir #3	Belmont	Slope Crk.	98	5.7	1491	-	1092	1965	-	-
McMahon Basin										
Belmont Lake (Barkcamp Lake)	Belmont	Barkcamp Crk.	117	4.7	1935	-	1085	1961	-	-
Yellow Creek Basin										
Friendship Park Lake	Jefferson	Town Fork	85	3.1	1993	-	1035	1972	-	-
Jefferson Lake	Jefferson	Town Fork	25	7.5	200	1.0	955	1935	-	-
L. Yellow Creek Basin										
Highlandtown Lake	Columbiana	L. Yellow Crk.	170	6.0	1230	6.5	1076	1968	1978	-

Table VII-1A (Continued)

Minor Basins Tributary to the Ohio River

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
L. Beaver Creek Basin										
Guilford Lake	Columbiana	West Fork L. Beaver Creek	396	.10	2510	6.4	1136	1932	1978	-
Salem Reservoir	Columbiana	Unnamed	97	0.8	1100	-	1168	1952	-	-
Zepernick Lake	Columbiana	Unnamed	36	0.1	180	1	1245	1950	-	-

Table VII-1A (Continued)

Major Basins Tributary to Lake Erie

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Maumee R. Basin										
Archbold Reservoir #1	Fulton	Upground	20	NA	233	-	744	1951	-	-
Archbold Reservoir #2	Fulton	Upground	49	NA	853	-	750	1961	-	-
Bresler Reservoir (Spencerville Reservoir)	Allen	Upground	610	NA	15222	3.7	850	1969	-	-
Delta Reservoir	Fulton	Upground	39	NA	331	1.1	750	1933	-	-
Deshler Reservoir	Henry	Unnamed	20	-	-	-	-	-	-	-
Ferguson Lake	Allen	Upground	304	NA	7672	3.0	921	1958	-	-
Old Findlay Reservoir #1	Hancock	Upground	186	NA	4143	2	808	1950	-	-
New Findlay Reservoir #2	Hancock	Upground	640	NA	16879	4.5	815	1970	1979	-
Forty Acre Pond	Auglaize	Unnamed	106	-	-	-	-	1845	-	-
Fulton Pond	Fulton	Dugout	15	-	-	-	-	-	-	-
Grand Lake St. Marys	Auglaize	(a)	11000	118	106605	60	-	1845	1975	USEPA, 1975
Harrison Lake	Fulton	Mill Crk.	97	37	991	3.5	770	1941	1975	-
Independence Dam (a low head dam)	Defiance	Maumee R	600	56	2000	-	660	-	-	-
Leipsic Reservoir	Putnam	Upground	27	NA	130	-	744	-	-	-
Lima Lake Reservoir	Allen	Upground	85	NA	428	-	878	1947	-	-
Metzger Reservoir	Allen	Upground	167	NA	3682	2	920	1946	-	-
Nettle Lake	Williams	Natural	94	-	-	-	945	Nat	1978	-
Ottawa Reservoir	Putnam	Upground	20	NA	-	-	-	-	-	-
Oxbow Lake	Defiance	Upground	36	NA	145	1.5	689	1953	-	-

Table VII-1A (Continued)

Major Basins Tributary to Lake Erie

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Maumee R. Basin (Continued)										
Paulding Reservoir	Paulding	Upground	62	NA	-	1.2	-	1965	-	-
Providence Dam (a low head dam)	Lucas	Maumee R	80	6058	-	-	-	-	-	-
Saulisberry Park Lake	Hardin	Dugout	50	NA	-	-	-	-	-	-
Schoonover Lake	Allen	Upground	22	NA	50	1.0	852	1937	-	-
Spencerville Res - see Bresler Reservoir										
State Fish Hatchery Lake	Auglaize	Upground	56	NA						
Swanton Reservoir	Lucas	Upground	25	NA	270	-	667	1937	-	-
Twin Lakes Reservoir	Allen	Upground	26	NA	426	-	866	1886	-	-
Van Wert City Reservoir #1	Van Wert	Upground	60	NA	-	1.3	-	1952	-	-
Van Wert City Reservoir #2	Van Wert	Upground	60	NA	-	-	-	1960	-	-
Wauseon Reservoir #1	Fulton	Upground	49	NA	215	-	756	1938	-	-
Wauseon Reservoir #2	Fulton	Upground	17	NA	184	-	752	1921	-	-
Portage Basin										
Aldrich Pond	Sandusky	Upground	35	NA	-	-	-	-	-	-
Lake Lacomte (Fostoria Reservoir No. 5)	Hancock	Upground	128	NA	2256	-	808	1958	-	-
Lake Lamberjack	Hancock	Upground	30	NA	400	-	775	1919	-	-
Lake Mosier	Hancock	Upground	91	NA	924	-	786	1941	-	-
N. Baltimore Reservoir	Wood	Upground	29	NA	430	-	-	1969	-	-
Van Buren Lake	Hancock	Rocky Fork Creek	53	23	248	2.1	756	1939	-	-

Table VII-1A (Continued)

Major Basins Tributary to Lake Erie

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Sandusky Basin										
Bucyrus Reservoir #1	Crawford	Unnamed	31	3.5	215	-	1007	1900	-	-
Bucyrus Reservoir #2	Crawford	Unnamed	36	2.8	218	-	1003	1919	-	-
Clyde Reservoir (Beaver Creek Res)	Seneca	Upground	110	NA	-	-	-	1970	-	-
Killdeer Ponds	Wyandot	Unnamed	970	-	-	-	-	1970	-	-
Killdeer Reservoir	Wyandot	Upground	253	NA	6674	2.2	902	1972	1977	-
Riley Reservoir	Crawford	Upground	30	NA	450	-	1026	1955	-	-
Upper Sandusky	Wyandot	Unnamed	33	-	344	-	832	1957	-	-
Huron R. Basin										
Bellevue Reservoir #5	Huron	Upground	87	NA	-	1.3	804	1946	-	-
Celeryville Reservoir	Crawford	Upground	75	NA	1050	-	954	1963	-	-
Norwalk Reservoir #1 (Upper)	Huron	Norwalk Crk.	28	7.3	-	-	-	-	-	-
Norwalk Reservoir #2 (Lower)	Huron	Norwalk Crk.	51	7.3	-	-	-	-	-	-
Norwalk Reservoir #3 (Memorial)	Huron	Norwalk Crk.	96	7.3	-	-	-	1953	-	-
Willard City Reservoir	Huron	Upground	215	NA	7740	2.3	-	1971	1979	-
Vermilion R. Basin										
Kipton Reservoir	Lorain	Unnamed	200	-	-	1.0	-	1950	-	-
New London Reservoir	Huron	Upground	221	-	-	2.6	-	1975	-	-

Table VII-1A (Continued)

Major Basins Tributary to Lake Erie

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Black R. Basin										
Findley Lake	Lorain	Wellington Creek	83	6.5	760	4.0	880	1956	-	NOACA, 1978
Oberlin Reservoir	Lorain	Upground	56	NA	-	-	-	1960	-	-
Spencer Lake	Medina	Unnamed	51	-	136	1.9	847	1958	-	NOACA, 1978
Wellington Reservoir (Upper)	Lorain	Unnamed	31	-	-	-	-	1931	-	-
Wellington Upground Reservoir (Lower)	Lorain	Upground	185	NA	-	-	-	1972	-	-
Rocky River Basin										
Baldwin Lake (a low head dam)	Cuyahoga	E. Branch Rocky River	32	64.6	40	1.3	766	1930	-	NOACA, 1978
Coe Lake	Cuyahoga	Dugout	15	NA	-	-	-	-	-	-
Hinckley Lake	Medina	E. Branch Rocky River	88	22	616	2.8	921	1938	-	NOACA, 1978
Medina Lake	Medina	Unnamed	109	0.7	1770	-	930	1966	-	-
Wallace Lake	Cuyahoga	Dugout	15	-	83	3.3	-	-	-	NOACA, 1978
Cuyahoga R. Basin										
Aquilla Lake	Geauga	Natural L	25	11	246	1.2	1135	Nat	-	NOACA, 1978
Brady Lake	Portage	Unnamed	70	-	-	-	-	-	-	-
E. Branch Reservoir	Geauga	E. Branch Cuyahoga R.	420	17	4604	-	1132	1940	1977	-
Geauga Lake	Geauga	Unnamed	50	0.39	-	-	1009	Nat	-	-
Gorge Metro. Park Lake	Summit	Cuyahoga R.	34	-	589	-	900	1932	-	-
Hodgson Lake (Muddy Lake)	Portage	Unnamed	190	-	3300	4.1	-	1840's	-	NOACA, 1978
La Due Reservoir	Geauga	Bridge Crk.	1500	35.1	14000	-	1125	1960	1978	-
Lower Shaker Lake	Cuyahoga	Doan Brk..	16	-	96	1.0	903	1850's	-	NOACA, 1978

Table VII-1A (Continued)

Major Basins Tributary to Lake Erie

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Cuyahoga R. Basin (Continued)										
Meadowbrook Lake	Summit	Powers Brk.	24	5.6	88	-	-	1948	-	-
Mogadore Reservoir	Portage	L. Cuyahoga River	900	13	7040	19	1090	1938	1976	-
Muzzy Lake	Portage	Unnamed	82	1.7	-	-	-	-	-	-
Lake Pippen	Portage	Natural L	96	0.5	-	-	-	Nat	-	-
Punderson Lake	Geauga	Natural L	101	1.7	-	2.6	1143	Nat	1975	-
L. Rockwell	Portage	Cuyahoga R.	769	207	-	-	-	1914	1976	-
Summit Lake	Summit	Natural L (on Ohio Canal)	90	-	-	-	965	Nat	1976	-
Sunny Lake (Harmons Pond)	Portage	Unnamed	63	-	-	-	-	-	-	-
Grand River Basin										
Geneva Lake (a low head dam)	Ashtabula	Grand R.	36	-	250	-	744	1900's	-	-
Lampson Reservoir (Jefferson Reservoir)	Ashtabula	Upground	22	NA	200	1.0	839	1950	-	-

Table VII-1A (Continued)

Minor Basins Tributary to Lake Erie

Name	Location (County)	Impounded Stream	Surface Area (Acres)	Drainage Area (sq mi)	Capacity (acre ft)	Shoreline (mi)	Surface Elev. (ft)	Date Const.	OEPA/USGS Data	Additional Data
Raccoon Creek Basin										
Clyde Reservoir (Raccoon Crk. Reservoir)	Sandusky	Upground	35	NA	-	0.9	-	1950	-	-
Ottawa River Basin										
Molander Lake	Lucas	Dugout	20	NA	-	-	665	-	-	-

Table VII-1B: Inventory of Ohio Lakes and Reservoirs;
location, trophic classification, use and chemical parameters at or above State water quality limits

Major Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical parameters at or above WQS (2)
Wabash R. Basin											
Wabash River Conservancy Reservoir #1	40°18'57"	84°38'05"	G	Darke	Rossburg	FCR	-	-	-	-	-
Great Miami R. Basin											
Acton Lake	39°33'27"	84°44'03"	H-10	Butler	Oxford	R	-	65	81	Eutrophic	Cu-T
Bass Lake	39°49'50"	84°03'10"	H- 4	Greene	Fairborn	R	-	-	-	-	-
Buck Creek Lake (Clarence J. Brown Lake)	39°57'02"	83°44'50"	H- 3	Clark	New Moorfield	FCR	65	54	57	Eutrophic	-
Clark Lake	39°56'53"	83°39'38"	H- 3	Clark	New Moorfield	R	39	49	-	Eutrophic	-
Eastwood Lake	39°47'00"	84°08'20"	H- 4	Montgomery	Dayton North	R	-	-	-	-	-
Echo Lake	40°09'22"	84°15'37"	H- 2	Miami	Piqua East	RWS	-	-	-	-	-
Englewood Reservoir (a dry dam)	39°52'13"	84°17'08"	H- 6	Montgomery	Trotwood	FCR	-	-	-	-	-
Huffman Reservoir (a dry dam)	39°37'50"	84°05'26"	H- 4	Greene	Fairborn	FCR	-	-	-	-	-
Indian Lake	40°28'03"	83°52'32"	H- 1	Logan	Russells Point	R	75	71	71	Hypereutrophic	-
Kiser Lake	40°11'50"	83°58'55"	H- 2	Champaign	St. Paris	R	80	75	65	Hypereutrophic	-
L. Loramie	40°21'27"	84°21'32"	H- 2	Shelby	Fort Loramie	R	-	83	83	Hypereutrophic	
Miami-Whitewater Lake	39°15'35"	84°44'45"	H-11	Hamilton	Shandon	R	-	-	-	-	-
Old Reid Memorial Pk. Lake	39°56'43"	83°45'30"	H- 3	Clark	Springfield	R	-	-	-	-	-
Rush Run Lake	39°35'42"	84°36'46"	H-10	Preble	West Elkton	R	-	-	-	-	-
Swift Run Lake	40°10'35"	84°15"48"	H- 2	Miami	Piqua West	RWS	-	-	-	-	-

Table VII-1B (Continued)

Major Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
L. Miami R. Basin											
Caesar Creek Lake	-	-	K- 3	Warren	Oregonia	FCR	52	39	73	Eutrophic	-
Cowan Lake	39°23'18"	83°55'30"	K -3	Clinton	Clarksville	WSR	-	68	73	Eutrophic	Cu-T
East Fork Lake	39°01'23"	84°08'59"	K- 4	Clermont	Batavia	FCR	68	58	-	Eutrophic	-
Lake Isabella	39°14'37"	84°18'18"	K- 5	Hamilton	Madeira	R	-	-	-	-	-
New Wilmington Reservoir	39°24'32"	83°48'30"	K- 3	Clinton	Wilmington	WS	-	-	-	-	-
Spring Valley Lake	39°33'50"	84°01'14"	K	Warren	Waynesville	R	-	-	-	-	-
Stonelick Lake	39°12'57"	84°05'01"	K- 4	Clermont	Newtonsville	R	61	59	74	Eutrophic	Fe-T
Wilmington Res	39°24'33"	83°49'00"	K- 3	Clinton	Wilmington	WS	-	-	-	-	-
Scioto R. Basin											
Alum Creek Lake	40°11'03"	82°57'50"	M- 4	Delaware	Galena	FCRWS	-	43	53	Mesotrophic	-
Amann Reservoir	40°42'45"	82°49'21"	M- 3	Morrow	Galion	RWS	-	-	-	-	-
Amicks Reservoir	40°42'11"	82°49'22"	M- 3	Morrow	Galion	RWS	-	-	-	-	-
Deer Creek Lake	39°36'20"	83°14'42"	M- 7	Pickaway	Clarksburg	FCR	-	71	65	Eutrophic	Cu-T
Delaware Lake	40°21'30"	83°04'08"	M- 3	Delaware	Delaware	FCRWS	-	-	-	Eutrophic (3)	-
Griggs Reservoir	40°00'56"	83°05'38" Columbus	M- 5	Franklin	Northwest	RWS	67	66	-	Eutrophic	-
Hammertown Lake (Jackson City Reservoir)	39°03'23"	82°41'05"	M-16	Jackson	Jackson	RWS	40	38	-	Mesotrophic	
Hargus Lake	39°37'36"	82°53'15"	M- 8	Pickaway	Ashville	R	43	51	61	Mesotrophic	Cd-T
Hillsboro Reservoir	39°14"46"	83°36'00"	M-16	Highland	Hillsboro	RWS	-	-	-	-	-

Table VII-1B (Continued)

Major Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Scioto R. Basin (Continued)											
Hoover Reservoir	40°05'58"	82°52'53"	M- 4	Franklin	NE Columbus	FCRWS	-	57	71	Eutrophic	Cu-T
L. Katharine	39°05'05"	82°40'22"		Jackson	Jackson	A	-	-	-	-	-
Madison Lake	39°51'58"	83°22'35"	M- 7	Madison	Walnut Run	R	63	69	-	Eutrophic	
O'Shaughnessy Reservoir	40°09'12"	83°07'33"	M- 5	Delaware	Shawnee Hills	RWS	-	-	-	-	-
Paint Creek Lake	39°15'03"	83°21'15"	M-13	Highland	Bainbridge	FCR	-	61	75	Eutrophic	
Pine Lake	39°23'03"	82°44'57"	M- 3	Ross	Laurelville	R	-	-	-	-	-
Powers Reservoir	40°43'05"	82°48'12"	M- 3	Crawford	Galion	WS	-	-	-	-	-
Richwood Lake	40°25'44"	83°17'56"	M- 2	Union	Richwood		-	-	-	-	-
Rocky Fork Lake				Highland	Rainsboro	RWS	-	62	61	Eutrophic	Cu-T
Ross Lake	39°20'05"	82°54'20"	M-11	Ross	Chillicothe	R	45	44	-	Mesotrophic	-
Washington C.H. Reservoir	39°32'29"	83°27'22"	M-13	Fayette	Washington C.H.	WS	-	-	-	-	-
Westerville Reservoir	40°09'31"	82°56'25"	M- 4	Delaware	Galena	WS	-	-	-	-	-
L. White	39°06'05"	83°00'50"		Pike	Piketon	R	53	53	-	Eutrophic	-
Hocking R. Basin											
Burr Oak Lake (Tom Jenkins Reservoir)	39°32'30"	82°03'28"	O- 2	Athens	Corning	FCRWS	-	55	53	Eutrophic	-
Clouse Lake	39°45'54"	82°18'12"	O- 1	Perry	Somerset	R	-	-	-	-	-

Table VII-1B (Continued)

Major Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Hocking R. Basin (Continued)											
Corning Reservoir	39°35'47"	82°04'19"	O- 2	Perry	Corning	WS	-	-	-	-	-
Dow Lake	39°20'07"	82°01'04"	O- 3	Athens	Athens	R	48	44	37	Mesotrophic	Cd-T
Essington Lake	39°45'28"	82°12'32"	P-15	Perry	Fultonham	-	-	-	-	-	-
Fox Lake	39°18'00"	82°11'32"	O- 2	Athens	The Plains	FCR	-	-	-	-	-
Greenfield Lake	39°46'15"	82°37'57"	O- 1	Fairfield	Carroll	FCR	-	-	-	-	-
L. Logan (Hocking Lake)	39°32'03"	82°27'03"	O- 2	Hocking	Logan	R	-	67	57	Eutrophic	-
Margaret Creek Conservancy District Structure #4	39°15'10"	82°07'28"	O- 2	Athens	Athens	FC	-	-	-	-	-
New Lexington Reservoir	39°44'00"	82°12'55"	O- 1	Perry	New Lexington	RWS	-	-	-	-	-
Oakthorpe Res. (Rush Run Conservancy Dist. #VI-D)	39°48'33"	82°26'55"	O- 1	Fairfield	Rushville	FCR	-	-	-	-	-
Rock Mill Lake (Hunters Run Conservancy Dist. #9)	39°44'20"	82°41'56"	O- 1	Fairfield	Amanda	FCR	-	-	-	-	-
Rush Creek Conversancy Dist. Structures											
IV-A	-	-	O	Perry	New Lexington	FC	-	-	-	-	-
IV-C	-	-	O	Perry	-	FC	-	-	-	-	-
V-A	39°44'09"	82°22'26"	O- 1	Fairfield	Junction City	FC	-	-	-	-	-
VII-C	-	-	O- 1	Fairfield	Bremen	FC	-	-	-	-	-
Snowden Lake (Margaret Crk Conservancy District #2)	39°15'00"	82°11'17"	O- 2	Athens	Albany	FCRWS	58	51	-	Eutrophic	-

Table VII-1B (Continued)

Major Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Muskingum R. Basin											
Atwood Lake	40°31'36"	81°18'03"	P- 8	Tuscarawas	Mineral City	FCR	-	61	53	Mesotrophic	-
Barberton Reservoir	41°02'54"	81°32'38"	-	Summit	Akron West	WS	-	-	-	-	-
Beach City Reservoir	-	-	-	Tuscarawas	Navarre	FC	-	-	-	-	-
Buckeye Lake	39°55'40"	82°29'18"	P-14	Licking	Millersport	R	71	58	76	Hypereutrophic	Cu-T, Pb-T
Cambridge City Reservoir	40°00'17"	81°33'31"	P-18	Guernsey	Cambridge	RWS	-	-	-	-	-
Charles Mill Reservoir	40°44'27"	82°21'58"	P- 2	Ashland	Perrysville	FCR	72	76	72	Hypereutrophic	Fe-T, Pb-T
Clear Fork Reservoir	40°41'53"	82°36'23"	P- 1	Richland	Mansfield	RWS	72	60	57	Eutrophic	Cu-T
Clendening Lake	40°16'08"	81°16'36"	P- 9	Harrison	Tippecanoe	FCR	-	60	57	Eutrophic	-
Crooksville Reservoir. #3	39°42'05"	82°04'28"	P-15	Perry	Deavertown	WS	-	-	-	-	-
Cutler Lake (Blue Rock Lake)	39°49'02"	81°51'63"	P-16	Muskingum	Ruraldale	RWS	-	-	-	-	-
Dillon Lake	40°00'00"	82°07'30"	P-13	Muskingum	Zanesville West	FCR	67	66	69	Eutrophic	Fe-T
East Reservoir (a Portage Lake)	41°00'04"	81°31'53"	-	Summit	Canal Fulton	R	-	-	-	-	-
Firestone Reservoir (Tuscarawas R. Diversion Dam)	41°00'39"	81°30'52"	-	Summit	Akron West	WS	-	-	-	-	-
Knox Lake	40°29'47"	82°31'36"	-	Knox	Fredericktown	R	66	67	53	Eutrophic	-
Leesville Lake	40°28'07"	81°11'41"	-	Carroll	Bowerston	FCR	-	53	53	Eutrophic	-
Lime Kiln Lake	40°36'50"	81°24'57"	P- 5	Tuscarawas	Dover	R	-	-	-	-	-
Long Lake (a Portage Lake)	41°00'54"	81°32'36"	-	Summit	Akron West	R	71	64	65	Eutrophic	-
Munroe Basin	40°09'12"	81°57'18"	P- 4	Muskingum	Conesville	R	-	-	-	-	-
M.W.C.D. - Chippewa Subdivision Reservoir	40°53'05"	81°47'50'	P- 6	Wayne	Rittman	FC	-	-	-	-	-

Table VII-1B (Continued)

Major Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Muskingum R. Basin (Continued)											
Nimisila Reservoir	40°55'28"	81°30'56"	-	Summit	Fulton	RWS	68	61	61	Eutrophic	-
N. Branch of Kokosing R.	40°30'23"	82°34'31"	P-12	Knox	Bellville	FCR	-	69	-	Eutrophic	-
N. Reservoir (a Portage Lake)	41°00'05"	81°32'34"	-	Summit	Akron West	R	-	-	-	-	-
Piedmont Lake	40°11'25"	81°12'48"	P- 9	Harrison	Piedmont	FCR	65	62	47	Eutrophic	-
Pleasant Hill Reservoir	40°37'22"	82°19'30"	P- 2	Ashland	Jelloway	FCR				Eutrophic (3)	-
Salt Fork Reservoir	40°06'17"	81°33'26"	P-17	Guernsey	Cambridge	FCRWS	-	61	47	Eutrophic	Cu-T
Senecaville Lake (Seneca Lake)	-	-	P-18	Guernsey	Senecaville	FCR	-	59	57	Eutrophic	-
Shreve Lake	40°41'03"	82°02'37"	P- 4	Wayne	Shreve	R		-	-	-	-
Tappan Lake	40°21'33"	81°13'34"	P- 9	Harrison	Deersville	FCR	-	58	57	Eutrophic	-
Turkey Foot Lake (a Portage Lake)	40°58'09"	81°32'38"	-	Summit	Canal Fulton	R	65	58	69	Eutrophic	-
West Reservoir (a Portage Lake)	40°58'49"	81°32'07"	-	Summit	Canal Fulton	R	-	-	-	-	-
Wills Creek Lake	40°09'26"	81°51'02"	P-17	Coshocton	Wills Creek	FCR	-	71	67	Hypereutrophic	-
Mahoning R. Basin											
Berlin Lake	41°02'02"	80°59'51"	-	Portage	Deerfield	FCRWS	-	64	47	Eutrophic	Cu-T
Crystal Lake	41°07'59'	81°14'02"	T- 2	Portage	Ravenna	RWS	-	-	-	-	-
Dale Walburn Reservoir	40°58'23"	81°10'40"	T- 1	Stark	Limaville	WS	-	-	-	-	-
Deer Creek Reservoir	40°58'07"	81°07'00"	T- 1	Stark	Alliance	RWS	62	64	57	Eutrophic	-
Meander Creek Reservoir	41°09'12"	80°48'45"	T- 3	Trumbull	Warren	RWS	53	52	-	Eutrophic	-
L. Milton	41°07'38"	80°58'40"	T- 1	Mahoning	Newton Falls	RWS	57	58	-	Eutrophic	-

Table VII-1B (Continued)

Major Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Mahoning R. Basin (Continued)											
Mosquito Creek Lake	41°18'06"	80°45'68"	-	Trumbull	Champion	FCRWS	-	67	63	Eutrophic	-
Newport Lake	41°03'52"	80°40'43"	T- 3	Mahoning	Youngstown	WS	-	-	-	-	-
Lake Park	40°54'43"	81°03'52"	T- 1	Mahoning	Alliance	R	-	-	-	-	-
West Branch Reservoir (M.J. Kirwan Reservoir)	41°09'21"	81°04'58"	-	Portage	Windham	FCRWS	49	55	37	Eutrophic	Cu-T
Westville Reservoir	40°53'28"	81°00'20"	T- 1	Columbiana	Alliance	WS	-	-	-	-	-
Shenango R. Basin											
Pymatuning Reservoir	41°31'01"	80°30'05"	T- 4	Ashtabula	-	FCR				Eutrophic (3)	-

Table VII-1B (Continued)

Minor Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Mill Creek Basin											
Sharon Lake	39°16'57"	84°23'23"	J	Hamilton	Glendale	R	-	-	--	-	-
West Fork Mill Crk. L. (Winton Lake)	39°15'29"	84°29'42"	J	Hamilton	Glendale	FCR	66	69	72	Eutrophic	Pb-T
White Oak Creek Basin											
Grant Lake	38°55'13"	83°55'44"	L- 1	Brown	Mt. Orab	R	-	-	-	Eutrophic (3)	-
Ohio Brush Creek Basin											
Adams Lake	38°48'50"	83°30'58"	L	Adams	West Union	RWS	-	-	-	-	-
Turkey Creek Basin											
Roosevelt Lake	38°43'33"	83°10'32"	M-17	Scioto	Pond Run	R	-	-	-	-	-
Turkey Crk. Lake	38°44'00"	83°11'22"	M-17	Scioto	Pond Run	R	-	-	-	-	-
Storms Creek Basin											
Vesuvius Lake	38°36'23"	82°37'50"	N- 5	Lawrence	Ironton	R	-	45	47	Mesotrophic	-
Sunfish Creek Basin											
Monroe Lake	39°49'05"	81°08'17"	R- 4	Monroe	Lewisville		-	-	-	-	-
Symmes Creek Basin											
Jackson Lake	38°53'30"	82°36'09"	N- 3	Jackson	Oak Hill	R	53	59	47	Eutrophic	
Raccoon Creek Basin											
Alma Lake	39°08'40"	82°31'05"	N- 2	Vinton	Hamden	R	-	-	-	-	-
Lake Hope	39°19'12"	82°21'23"	N- 1	Vinton	Mineral	R	43	51	-	Mesotrophic	Cd-T, Pb-T
Lake Rupert	39°10'35"	82°31'15"	N- 2	Vinton	Hamden	RWS	50	54	-	Eutrophic	-
Tycoon Lake	38°55'18"	82°21'12"	N- 2	Gallia	Vinton	R	53	51	47	Eutrophic	Cd-T, Cu-T, Ni-T

Table VII-1B (Continued)

Minor Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Forked Run Basin											
Forked Run Lake	39°05'30"	81°46'04"	O- 4	Meigs	Portland	R	-	48	37	Mesotrophic	Cd-T, Ni-T
L. Hocking Basin											
Veto Lake	39°20'42"	81°38'48"	P	Washington	L. Hocking	R	57	67	65	Eutrophic	-
Duck Creek Basin											
Caldwell Lake	39°46'32"	81°31'39"	R- 1	Noble	Caldwell N.	RWS	-	-	-	-	-
Wolf Run Lake	39°47'26"	81°32'54"	R- 1	Noble	Caldwell N.	FCR	-	43	47	Mesotrophic	-
Captina Creek Basin											
Barnesville Reservoir #1	39°57'52"	81°10'00"	S- 4	Belmont	Barnesville	WS	-	-	-	-	-
Barnesville Reservoir #3	39°54'32"	81°09'37"	S- 4	Belmont	Barnesville	WS	-	-	-	-	-
McMahon Basin											
Belmont Lake (Barkcamp Lake)	40°02'01"	81°00'33"	S- 4	Belmont	Bethesda	R	-	-	-	-	-
Yellow Creek Basin											
Friendship Park Lake	40°17'02"	80°45'55"	S- 2	Jefferson	Smithfield	R	-	-	-	-	-
Jefferson Lake	40°27'38"	80°47'40"	S- 2	Jefferson	Richmond	R	-	-	-	-	-
L. Yellow Creek Basin											
Highlandtown Lake	40°38'16"	80°44'55"	S- 1	Columbiana	Wellsville	R	67	51	47	Eutrophic	-

Table VII-1B (Continued)

Minor Basins Tributary to the Ohio River

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
L. Beaver Creek Basin											
Guilford Lake	40°47'42"	80°52'20"	S- 1	Columbiana	Lisbon	R	-	61	57	Eutrophic	Cu-T
Salem Reservoir	40°48'47"	80°50'10"	S- 1	Columbiana	Lisbon	WS	-	-	-	-	-
Zepernick Lake	40°47'19"	80°58'42"	P- 7	Columbiana	Hanoverton	R	-	-	-	-	-

Table VII-18 (Continued)

Major Basins Tributary to Lake Erie

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Maumee R. Basin											
Archbold Reservoir #1	41°31'15"	84°17'38"	A- 8	Fulton	Archbold	RWS	-	-	-	-	-
Archbold Reservoir #2	41°31'06"	84°17'38"	A- 8	Fulton	Archbold	RWS	-	-	-	-	-
Bresler Reservoir (Spencerville Reservoir)	40°43'47"	84°14'10"	A	Allen	Criders-ville	WS	-	-	-	-	-
Delta Reservoir	41°35'22"	84°00'44"	A-11	Fulton	Delta	RWS	-	-	-	-	-
Deshler Reservoir	41°12'03"	83°54'04"	A-11	Henry	Deshler						
Fe-Trguson Lake	40°43'55"	84°02'43"	A- 4	Allen	Lima	RWS	-	-	-	-	-
Old Findlay Reservoir #1	41°00'30"	83°33'56"	A- 6	Hancock	Arcadia	AWS	-	-	-	-	-
New Findlay Reservoir #2	41°00'36"	83°34'18"	A- 6	Hancock	Arcadia	RWS	59	55	-	Eutrophic	-
Forty Acre Pond	40°34'58"	84°23'24"	A- 1	Auglaize	St. Marys	R	-	-	-	-	-
Fulton Pond	41°35'48"	83°55'34"	A-12	Fulton	Swanton	R	-	-	-	-	-
Grand Lake St. Marys	40°31'17	84°25'18"	A- 1	Auglaize	Celina	RWS	-	76	76	Hypereutrophic	-
Harrison Lake	41°38'22"	84°21'40"	-	Fulton	Fayette	R	-	70	69	Eutrophic	Cu-T
Independence Dam (a low head dam)	-	-	-	Defiance	Defiance East	WS	-	-	-	-	-
Leipsic Reservoir	41°06'23"	83°55'44"		Putnam	Leipsic	WS	-	-	-	-	-
Lima Lake Reservoir	40°45'12"	84°02'52"	A- 4	Allen	Lima	RWS	-	-	-	-	-
Metzger Reservoir	40°44'18"	84°02'50"	A- 4	Allen	Lima	WS	-	-	-	-	-
Nettle Lake	41°40'37"	84°43'41"	A- 9	Williams	Nettle Lake	R	60	58	57	Eutrophic	-
Ottawa Reservoir	41°00'40"	84°01'14"	A- 5	Putnam	Ottawa	WS	-	-	-	-	-
Oxbow Lake	41°20'38"	84°26'30"	A- 8	Defiance	Defiance West	R	-	-	-	-	-

Table VII-1B (Continued)

Major Basins Tributary to Lake Erie

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Maumee R. Basin (Continued)											
Paulding Reservoir	41°07'12"	84°35'16"	A- 7	Paulding	Latty	WS	-	-	-	-	-
Providence Dam (a low head dam)	-	-	-	Lucas Rapids	Grand	R	-	-	-	-	-
Saulisberry Park Lake	40°37'04"	83°38'13"	M- 1	Hardin	Silver Creek	R	-	-	-	-	-
Schoonover Lake	40°44'50"	84°05'50"	A- 4	Allen	Lima	R	-	-	-	-	-
Spencerville Res - see Bresler Reservoir	-	-	-								
State Fish Hatchery Lake	40°31'24"	84°25'06"	A- 1	Auglaize	St. Marys	-	-	-	-	-	-
Swanton Reservoir	41°34'08"	83°52'26"	A-12	Lucas	Swanton	RWS	-	-	-	-	-
Twin Lakes Reservoir	40°44'28"	84°05'00"	A- 4	Allen	Lima	RWS	-	-	-	-	-
Van Wert City Reservoir #1	40°50'14"	84°34'30"	A- 2	Van Wert	Van Wert	RWS	-	-	-	-	-
Van Wert City Reservoir #2	40°50'30"	84°34'24"	A- 2	Van Wert	Van Wert	RWS	-	-	-	-	-
Wauseon Reservoir #1	41°30'42"	84°09'00"	A-10	Fulton	Wauseon	RWS	-	-	-	-	-
Wauseon Reservoir #2	41°30'41"	84°09'00"	A-10	Fulton	Wauseon	RWS	-	-	-	-	-
Portage Basin											
Aldrich Pond	41°24'20"	83°15'02"	B- 2	Sandusky	Elmore	R	-	-	-	-	-
Lake Lacomte (Fostoria Reservoir No. 5)	41°08'20"	83°25'40"	B- 1	Hancock	Alvada	RWS	-	-	-	-	-
Lake Lamberjack	41°09'23"	83°25'55"	B- 1	Hancock	Fostoria	RWS	-	-	-	-	-
Lake Mosier	41°08'20"	83°25'40"	B- 2	Hancock	Fostoria	RWS	-	-	-	-	-
N. Baltimore Reservoir	41°10'05"	83°40'10"	B- 1	Wood	N. Baltimore	RWS	-	-	-	-	-
Van Buren Lake	41°08'02"	83°38'40"	B- 1	Hancock	N. Baltimore	R	-	-	-	-	-

Table VII-1B (Continued)

Major Basins Tributary to Lake Erie

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Sandusky Basin											
Bucyrus Reservoir #1	40°49'38"	82°56'18"	C- 2	Crawford	Bucyrus	RWS	-	-	-	-	-
Bucyrus Reservoir #2	40°49'12"	82°55'35"	C- 2	Crawford	Bucyrus	RWS	-	-	-	-	-
Clyde Reservoir (Beaver Creek Reservoir)	41°14'08"	83°01'13"	C- 4	Seneca	Watson	WS	-	-	-	-	-
Killdeer Reservoir	40°41'55"	83°22'46"	C- 1	Wyandot	Marseilles	WS	47	51	37	Mesotrophic	-
Riley Reservoir	40°49'38"	82°56'00"	C- 2	Crawford	Bucyrus	RWS	-	-	-	-	-
Upper Sandusky	40°49'13"	83°16'19"	C- 1	Wyandot	U. Sandusky	RWS	-	-	-	-	-
Huron R. Basin											
Bellevue Reservoir #5	41°12'42"	82°46'35"	-	Huron	Flat Rock	RWS	-	-	-	-	-
Celeryville Reservoir	40°59'22"	82°44'05"	D- 2	Crawford	Shelby	WS	-	-	-	-	-
Norwalk Reservoir #1 (Upper)	41°14'18"	82°35'24"	D- 2	Huron	Norwalk	AWS	-	-	-	-	-
Norwalk Reservoir #2 (Lower)	41°14'02"	82°34'58"	D- 2	Huron	Norwalk	AWS	-	-	-	-	-
Norwalk Reservoir #3 (Memorial)	41°14'04"	82°35'26"	D- 2	Huron	Norwalk	AWS	-	-	-	-	-
Willard City Reservoir	41°03'26"	82°39'55"	D- 2	Huron	Willard	RWS	52	54	-	Eutrophic	
Vermilion R. Basin											
Kipton Reservoir	41°15'15"	82°18'22"	D- 3	Lorain	Kipton	RWS	-	-	-	-	-
New London Reservoir	41°03'58"	82°25'30"	D-	Huron	New London	WS	-	-	-	-	-

Table VII-1B (Continued)

Major Basins Tributary to Lake Erie

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Black R. Basin											
Findley Lake	41°08'15"	82°12'30"	D- 4	Lorain	Wellington	R	-	-	-	Eutrophic (4)	-
Oberlin Reservoir	41°16'30"	82°10'42"	D- 4	Lorain	Oberlin	RWS	-	-	-	-	-
Spencer Lake	41°05'27"	82°07'31"	D- 4	Medina	Lodi	WS	-	-	-	Eutrophic (4)	-
Wellington Reservoir (Upper)	41°08'34"	82°14'01"	-	Lorain	Wellington	WS	-	-	-	-	-
Wellington Upground Reservoir (Lower)	41°08'55"	82°14'23"	-	Lorain	Wellington	RWS	-	-	-	-	-
Rocky River Basin											
Baldwin Lake (a low head dam)	41°21'47"	81°51'20"	D- 5	Cuyahoga	Berea	RWS	-	-	-	Eutrophic (4)	-
Coe Lake	41°21'40"	81°51'06"	D- 5	Cuyahoga	Berea	-	-	-	-	-	-
Hinckley Lake	41°13'35"	81°43'13"	D- 5	Medina	W. Richfield	R	-	-	-	Eutrophic (4)	-
Medina Lake	41°08'21"	81°49'20"	-	Medina	Medina	RWS	-	-	-	-	-
Wallace Lake	41°21'52"	81°51'30"	D- 5	Cuyahoga	Berea	RWS	-	-	-	Eutrophic (4)	-
Cuyahoga R. Basin											
Aquilla Lake	41°32'46"	81°10'12"	F- 1	Geauga	Chardon	R	-	-	-	Eutrophic (4)	-
Brady Lake	41°10'66"	81°18'54"	E- 1	Portage	Kent	R					
E. Branch Reservoir	41°30'13"	81°05'38"	E- 1	Geauga	E. Claridon	RWS	64	61	57	Eutrophic	-
Geauga Lake	41°20'54"	81°22'06"	E- 2	Geauga	Aurora	R	-	-	-	-	-
Gorge Metro. Park Lake	-	-	-	Summit	Akron East	R	-	-	-	-	-
Hodgson Lake (Muddy Lake)	-	-	-	Portage	Kent	WS	-	-	-	Eutrophic (4)	-
La Due Reservoir	41°24'25"	81°11'12"	E- 1	Geauga	Burton	WS	54	51	61	Eutrophic	-
Lower Shaker Lake	41°29'24"	81°34'54"	E- 2	Cuyahoga	Shaker Hgts.	R	-	-	-	Eutrophic (4)	-

Table VII-1B (Continued)

Major Basins Tributary to Lake Erie

Name	Latitude	Longitude	Map Reference Number(1)	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Cuyahoga R. Basin (Continued)											
Meadowbrook Lake	41°12'03"	81°27'18"	E- 2	Summit	Hudson	R	-	-	-	-	-
Mogadore Reservoir	41°03'28"	81°22'50"	E- 1	Portage	Akron E.	RWS	-	54	53	Eutrophic	-
Muzzy Lake	41°06'51"	81°15'04"	E- 1	Portage	Suffield	WS	-	-	-	-	-
Lake Pippen	41°10'26"	81°13'42"	E- 1	Portage	Kent	-	-	-	-	-	-
Punderson Lake	41°26'51"	81°12'27"	E- 1	Geauga	Burton	R	-	56	53	Eutrophic	-
L. Rockwell	41°10'58"	81°19'52"	E- 1	Portage	Kent	WS	-	60	61	Eutrophic	Cu-T
Summit Lake	41°02'54"	81°32'38"	P- 6	Summit	Akron W.	RWS	-	66	65	Eutrophic	-
Sunny Lake (Harmons Pond)	41°17'53"	81°18'55"	E- 2	Portage	Aurora	R	-	-	-	-	-
Grand River Basin											
Geneva Lake (a low head dam)	-	-	-	Ashtabula	Geneva	-	-	-	-	-	-
Lampson Reservoir (Jefferson Reservoir)	41°45'08"	80°47'50"	F-	Ashtabula	Ashtabula South	RWS	-	-	-	-	-

Table VII-1B (Continued)

Minor Basins Tributary to Lake Erie

Name	Longitude	Latitude	Map Reference Number	Location (County)	7 1/2 Min Quad	Use	Trophic State Index Chla	SD	P	Trophic Classification	Chemical Parameters at or above WQS (2)
Raccoon Creek Basin											
Clyde Reservoir (Raccoon Crk. Reservoir)	41°17'15"	82°58'35"	D- 1	Sandusky	Clyde	WS	-	-	-	-	-
Ottawa River Basin											
Molander Lake	41°41'26"	83°42'32"	A-12	Lucas	Sylvania	R	-	-	-	-	-

Key to Symbols:

Use

FC - Flood Control
R - Recreation
WS - Water Supply
A - Angling

Chemical Parameters

Cadmium, Total - Cd-T
Copper, Total - Cu-T
Iron, Total - Fe-T
Lead, Total - Pb-T
Nickel, Total - Ni-T

Footnotes:

1. - Map Reference Number referes to specific "Underground Water Resource Map" on which the lake is located. See the Publications booklet, Division of Water, Ohio Dept. of Natural Resources, Columbus, Ohio, 43224.
2. - OEPA Water Quality standards (Chapter 3745.1 of the Administrative Code, 1978.)
3. - U.S. Environmental Protection Agency, Working paper from the National Eutrophication Survey, NERC Corvallis, Oregon, 1975.
4. - In report prepared for Northeast Ohio Areawide Coordinating Agency by Biotest Laboratory, University of Akron, 1978.

Table VII-2A: Lake Sampling Locations and Parameter Sampling Schedules - Lake Stations

	Station Location[a]		Sampling Period[b]			Sampling Depth[c]		
PARAMETER (Chemical/Physical)	1	2	Sp	Su	P	Sur	Bot	I
Acidity, Total, $CaCO_3$	X		X	X		X	X	
Alkalinity, Total, $CaCO_3$	X		X	X		X	X	
Arsenic, Total, As	X		X					X
Barium, Total, Ba	X		X					X
BOD, 5 day	X		X	X		X	X	
Boron, Total, B	X		X					X
Cadmium, Total, Cd	X		X					X
Calcium, Total, Ca	X		X					X
Carbon, Total Org., C	X		X	X			X	
Chloride, Cl	X		X					X
Chromium, Total, Cr	X		X					X
Cobalt, Total, Co	X		X					X
COD	X		X	X		X	X	
Color	X		X	X		X	X	
Conductivity (field)	X	X	X	X	X			
Copper, Total, Cu	X		X					X
Dissolved Oxygen (field)	X	X	X	X	X			
Fecal Coli, Total, MF	X		X	X		X	X	
Fecal Strep, Total, MF	X		X	X		X	X	
Fluoride, Diss., F	X		X					X
Hydrogen Sulfide, H_2S	X		X	X			X	
Iron, Total, Fe	X		X					X
Lead, Total, Pb	X		X					X
Magnesium, Total, Mg	X		X					X
Manganese, Total, Mn	X		X					X
MBAS	X		X					X
Mercury, Total, Hg	X		X					X
Molybdenum, Total, Mo	X		X					X
Nickel, Total, Ni	X		X					X
Nitrate, NO_3 as N	X		X	X		X	X	
Nitrite, NO_2 as N	X		X	X		X	X	

Table VII-2A: (Continued)

PARAMETER (Chemical/Physical)	Station Location[a] 1	2	Sampling Period[b] Sp	Su	Sampling Depth[c] P	Sur	Bot	I
Nitrogen, Ammonia, N	X		X	X		X	X	
pH (field)	X	X	X	X	X			
Phosphorus, Dissolved, P	X		X	X		X	X	
Phosphorus, Total, P	X		X	X		X	X	
Potassium, Total, K	X		X					X
Residue, Total Flt., TDS	X		X					X
Residue, Total Nflt., TSS	X		X					X
Secchi Disc	X	X	X	X				
Selenium, Total, Se	X		X					X
Silica, Total (Diss), SiO_2	X		X	X		X	X	
Silver, Total, Ag	X		X					X
Sodium, Total, Na	X		X					X
Sulfate, SO_4	X		X					X
Total Kjeldahl Nitrogen	X		X	X		X	X	
Turbidity	X		X	X		X	X	
Water Temperature (field)	X	X	X	X	X			
Zinc, Total, Zn	X		X					X
PARAMETER (Biological)								
Phytoplankton								
Total Count	X		X	X				X
Identification (Principal Genera)	X		X	X				X
Chlorophyll *a*	X		X	X				
Macrophyte Observations			X	X				

a. Primary lake stations (1); secondary lake stations (2)

b. Spring (Sp); Summer (Su)

c. Profile (P); Surface (Sur) samples are taken at a depth of 2 feet; Bottom (Bot); Integrated (I)

Table VII-2B: Lake Survey Station Locations and Parameter Sampling Schedules - Inflow Stream Stations[d]

PARAMETER	PARAMETER
Carbon, Total Org., C	Nitrite, NO_2 as N
Color	pH (field)
Conductivity (field)	Phosphorus, Total, P
Dissolved Oxygen (field)	Total Kjeldahl Nitrogen
Flow (USGS)	Turbidity
Nitrate, NO_3 as N	Water Temperature (field)

d. All parameters are sampled in spring and summer, and are taken at a depth of 6 inches (surface).

III. WATER QUALITY

A. General Lake Water Quality

In general, the water quality of most of the lakes surveyed was generally good. Tables VII-3 to VII-5 summarize chemical/physical and biological water quality data for 45 Ohio lakes surveyed by Ohio EPA/USGS from 1975 through 1977. Comprehensive data from the first three surveys, are available in two reports (Tobin and Youger, 1977; Tobin and Youger, 1979). Two reports for 28 lakes surveyed during 1978 and 1979 are in preparation. The following paragraphs summarize conditions in selected problem categories.

1) Sanitary Water Quality

Sanitary water quality in the lakes surveyed was very good (Tobin and Youger, 1977, Tobin and Youger, 1979). High fecal coliform and/or fecal streptococcus counts, when observed, were always associated with storm runoff events. Counts that exceeded applicable Ohio water quality standards were never found during both the spring and summer samplings.

2) Metal Concentrations

Seventeen of the 71 Ohio lakes surveyed since 1975 exceeded Ohio water quality standards (Chapter 3745-1 of the Administrative Code) for one metal, 4 lakes exceeded standards for 2 metals and one lake exceeded standards for 3 metals (Tables VII-6 and VII-1B).

Table VII-6: The number of Ohio lakes with metal concentrations exceeding water quality standards (Ohio EPA/USGS Lake Surveys - 1975 to 1979).[a]

Metal	Cu	Pd	Cd	Fe	Ni
Lakes	13	4	5	4	2

[a] For the names of specific lakes, see Table VII-1B.

Copper was the metal that most frequently exceeded Ohio water quality standards. The use of copper sulfate for the control of algae in these lakes could be a contributing factor to these high values. Five public water supply reservoirs, (Hoover, Clear Fork, Berlin, and West Branch Reservoirs and Lake Rockwell) had elevated copper concentrations. A possible source of copper contamination in Harrison Lake (Fulton Co.) was effluent from a metal plating company discharged into an unnamed tributary.

Table VII-3A. Morphometric data for lakes sampled in Ohio, 1975. [a]

Name and primary site identification number	Location county(ies)	Type	Date of origin	Use	Morphology: Surface area (acres)	Depth: Maximum (feet)	Depth: Mean (feet)	Shoreline (miles)	Capacity (acre-feet)	Drainage area (miles)	Mean annual inflow (acre-feet)	Capacity inflow ratio C/I
Acton Lake 393333084441400	Preble Butler	Re	1956	Rec	625	36	15	8.0	9400	98.9	71,600	0.13
Berlin Lake 410202080595100	Stark Portage Mahoning	Re	1942	Fc, Ws,Rec	5500	74	17		93,150			0.56
					3590	66	16	68.5	56,600	248	163,600	0.35
Buckeye Lake 395548082274300	Licking Fairfield Perry	Re	1832	Rec	3140	13	8.7	32	27,300	47	30,700	0.89
Clearfork Reservoir 404152082363300	Morrow Richland	Re	1949	Ws,Rec	977	23	11	14	10,740	33.7	23,320	0.46
Cowan Lake 392317083552100	Clinton	Re	1948	Rec	648	40	19	17	12,000	50.5	43,800	0.27
Deer Creek Lake 393717083130200	Fayette Pickaway	Re	1968	Fc, Rec,Ws	4046	79	25	--	102,540			0.52
					1277	45	16	19.4	21,030	277	196,900	0.11
Grand Lake St.Marys 403135084291400	Auglaize Mercer	Re	1841	Rec	13,440	10	6.8	52	92,000	112	69,000	1.3
Guilford Lake 404746080520900	Columbiana	Re	1932	Rec	380	25	--	6.4	--	11.2	7340	--
Harrison Lake 413819084214500	Fulton	Re	1941	Rec	97	24	10	3.5	991	37.2	18,600	0.05
Hoover Reservoir 400636082530200	Delaware Franklin	Re	1954	Ws,Rec	2825	63	21	45	60,340	190	131,800	0.46
Lake Hope 391914082211800	Vinton	Re	1939	Rec	126	20	12	5.4	1555	10	7750	0.20
Lake Loramie 402201084212800	Auglaize Shelby	Re	1844	Rec	1700	8	7.6	30	13,000	77.7	48,570	0.27
Lake Vesuvius 383624082375300	Lawrence	Re	1937	Rec	125	28	12	6.4	1489	20.9	8850	0.17
Paint Creek Lake 391450083212200	Ross Highland	Re	1974	Fc, Rec	4760	97	30	--	145,000			0.34
					1190	50	17	50	20,310	570	422,100	0.05
Punderson Lake 412718081122600	Geauga	Lk	--	Rec	101	60	--	2.6	--	1.27	960	--
Rocky Fork Lake 391111083263200	Highland	Re	1952	Rec	2000	45	17	30	34,100	114	86,900	0.39
Salt Fork Lake 400617081331600	Guernsey	Re	1967	Fc,Rec	2952	38	15	74	43,200	159	120,000	0.36

Type: Re = Reservoir; Lk = Lake.
Use: Fc = flood control; Ws = water supply; Rec = recreation.
C/I ratio: Capacity divided by mean annual inflow = decreasing values indicate shorter hydraulic retention time.

[a] Modified from Tobin and Youger, 1977.

Table VII-3B. Summary of physical and chemical characteristics of selected lakes in Ohio, 1975.[a]

Lake name and site location	Maximum observed depth (feet)	Secchi disk transparency (inches)		Thermal stratification		Dissolved oxygen ranges* (mg/L)		pH range*		BOD ranges* (mg/L)		TOC range* (mg/L)	
		spring	summer	spring	summer	spring	summer	spring	summer	spring	summer	spring	summer
Acton Lake above dam (L-1)	30	5	28	partial	yes	9.8-9.4	8.2-0.0	7.9-7.7	7.9-6.5	1.7-3.2	4.0->7.9	6.3-15	4.8-11
Berlin Lake above dam (L-1)	50	59	30	yes	no	8.2-4.0	6.7-0.0	8.3-6.9	7.5-6.8	1.1-0.5	1.4-3.5	16-4.2	10
Buckeye Lake at midpoint (L-1)	13	19	17	partial	no	12.3-4.5	7.0-4.2	9.0-7.9	8.2-7.6	5.0-6.1	7.4-6.7	7.5-9.8	11-9.2
Clear Fork Reservoir above dam (L-1)	23	41	41	yes	partial	13.2-0.0	8.5-0.0	9.1-7.1	8.2-6.7	5.7-1.1	2.3-2.5	11-4.0	2.6-9.2
Cowan Lake above dam (L-1)	38	11	23	no	yes	9.0-8.7	8.8-0.0	8.2-7.9	8.1-6.7	1.0-1.4	4.4	6.6-11	5.7-9.1
Deer Creek Lake above dam (L-1)	44	19	18	no	no	11.0-9.7	5.0-3.7	8.2-7.7	7.4-7.3	1.0-1.2	2.0	8.0-8.5	4.8-5.7
Grand Lake St.Marys near midpoint (L-1)	8	17	13	no	no	9.6-8.2	10.2-5.4	9.3-9.0	8.9-8.4	7.0->8.0	15-7.5	12-20	12-13
Guilford Lake above dam (L-1)	23	34	30	yes	yes	15.8-0.0	8.2-0.0	9.8-7.3	8.5-6.5	7.2-1.7	3.5-2.5	6.8-3.5	9.5-7.4
Harrison Lake at east end (L-1)	17	25	20	yes	partial	13.6-0.0	11.7-0.0	8.8-7.0	8.3-7.0	5.8-3.5	4.3-6.5	9.5-12	10-13
Hoover Reservoir above dam (L-1)	60	18	49	partial	yes	11.6-9.4	6.8-0.0	8.3-7.3	7.6-6.4	3.3-2.9	1.3-3.1	7.9-5.9	9.8-7.6
Lake Hope above dam (L-1)	20	41	113	yes	yes	9.5-3.2	11.6-0.0	5.1-4.2	6.3-5.0	0.4-0.3	1.1-0.5	4.0-7.1	4.7-13
Lake Loramie above dam (L-1)	7	11	8	no	no	10.9-7.2	8.1-3.5	8.6-8.3	8.2-7.5	7.0-5.6	6.7-5.8	8.3-13	13-17
Lake Vesuvius above dam (L-1)	24	32	110	yes	yes	9.6-3.6	7.3-0.0	7.3-5.9	7.0-6.0	1.3-0.5	0.8-1.0	3.6-5.7	5.5-8.1
Paint Creek Lake above dam (L-1)	45	26	36	partial	partial	20.8-4.1	6.8-0.0	8.6-6.8	7.9-6.8	>8.2-2.5	3.2-1.7	11-9.9	6.5-1.3
Punderson Lake at midpoint (L-1)	50	91	52	yes	yes	12.8-1.1	11.1-0.0	8.4-6.6	8.6-6.8	1.6-2.2	2.2	9.9-5.8	11-9.0
Rocky Fork Lake above dam (L-1)	45	25	34	partial	yes	12.9-0.8	6.2-0.0	8.5-7.5	7.7-6.6	4.2-1.5	3.3-2.7	12-7.9	12-21
Salt Fork Lake above dam (L-1)	38	65	36	yes	yes	10.6-1.3	9.6-0.0	7.8-6.2	8.4-6.5	1.3-1.2	2.6-2.4	8.1-4.9	4.8-4.6

* Water column data - near surface values shown first.
** National Academy of Sciences, 1972.
*** Ohio EPA Regulation EP-1 Water Quality Standards.

Lake name and site location	Specific conductance range* (umho)		Chemical typing (spring only)		Substances at or above accepted limits		Total N (maximum concentration in mg/L)	Total P (maximum concentration in mg/L)	H_2S present
	spring	summer	hardness	major ions	pesticides**	metals***			
Acton Lake above dam (L-1)	377-227	337-502	hard	Ca Mg HCO_3	yes (Aldrin)	yes (Cu)	9.9	0.55	yes
Berlin Lake above dam (L-1)	357-382	403-415	hard	Ca SO_4	no	yes (Cu)	1.7	0.08	yes
Buckeye Lake at midpoint (L-1)	320-310	285-287	hard	Ca HCO_3 SO_4	no	yes (Cu)	2.0	0.16	no
Clear Fork Reservoir above dam (L-1)	262-310	297-347	mod. hard	Ca HCO_3 SO_4	no	yes (Cu)	1.6	0.21	yes
Cowan Lake above dam (L-1)	358	311-458	hard	Ca HCO_3	no	no	7.0	0.24	yes
Deer Creek Lake above dam (L-1)	510	450-452	very hard	Ca HCO_3	no	no	2.9	0.12	no
Grand Lake St.Marys near midpoint (L-1)	304	311-508	mod. hard	Mg Ca SO_4 HCO_3	no	no	3.3	0.19	no
Guilford Lake above dam (L-1)	220-295	243-335	mod. hard	Ca HCO_3 SO_4	no	yes (Cu)	8.6	0.34	yes
Harrison Lake at east end (L-1)	405-336	435-465	very hard	Ca HCO_3	no	yes(Cu Hg Ag)	3.9	0.21	no
Hoover Reservoir above dam (L-1)	295-270	363-305	mod. hard	Ca HCO_3	no	yes (Cu)	2.3	0.10	no
Lake Hope above dam (L-1)	137-128	134-199	soft	Ca SO_4	no	no	2.4	0.03	yes
Lake Loramie above dam (L-1)	331-338	360-365	hard	Ca Mg SO_4 HCO_3	no	no	2.3	0.25	no
Lake Vesuvius above dam (L-1)	157-132	152-185	soft	Ca SO_4	no	yes (Cu)	0.61	0.05	no
Paint Creek Lake above dam (L-1)	410-460	390-450	very hard	Ca HCO_3	no	no	5.2	0.17	yes
Punderson Lake at midpoint (L-1)	355-365	330-375	hard	Ca HCO_3	no	yes (Cu)	3.2	0.55	yes
Rocky Fork Lake above dam (L-1)	335-360	305-407	very hard	Ca HCO_3	no	yes (Ag)	9.1	0.18	yes
Salt Fork Lake above dam (L-1)	235-255	250-287	mod. hard	Ca SO_4	no	yes (Cu)	1.8	0.13	yes

[a] Modified from Tobin and Youger, 1977.

Table VII-3C. Summary of biological characteristics of selected lakes in Ohio, 1975. [a]

Lake name and site location	Bacteria*				Phytoplankton			
					Composites from euphotic zone (spring)		Samples from zones of maximum dissolved oxygen (summer)	
	Fecal coliform (colonies per 100 ml)		Fecal streptococci (colonies per 100 ml)		Cells per ml	Dominant phylum and percent (%) of total cell count	Cells per ml	Dominant phylum and percent (%) of total cell count
	spring	summer	spring	summer				
Acton Lake above dam (L-1) -------	1900-12,500	3-<2	4050-12,500	2-5	1600	Chrysophyta (95)	660,000	Cyanophyta (99)
Berlin Lake above dam (L-1) -------	3-<3	<2-6	<3	<2-3	150	Chrysophyta (100)	2300	Cyanophyta (95)
Buckeye Lake at midpoint (L-1) --	4-6	29-48	2-<3	3-6	190,000	Cyanophyta (79)	1,200,000	Cyanophyta (94)
Clear Fork Reservoir above dam (L-1) ----------	<3	<2-3	3-<3	<2	12,000	Cyanophyta (64)	140,000	Cyanophyta (96)
Cowan Lake above dam (L-1) -------	500-600	2-8	170-300	<2	2700	Chrysophyta (100)	360,000	Cyanophyta (97)
Deer Creek Lake above dam (L-1) -	18-8	26-9	28-84	56-100	13,000	Chrysophyta (77)	48,000	Cyanophyta (78)
Grand Lake St. Marys near midpoint (L-1) --	<3-3	<3	<3	<3	2,830,000	Cyanophyta (99)	2,400,000	Cyanophyta (99)
Guilford Lake above dam (L-1) -	<3	4-8	<3-3	6-4	19,000	Cyanophyta (66)	160,000	Cyanophyta (85)
Harrison Lake at East end (L-1) --	16-400	100-152	20-1100	100-160	19,000	Chlorophyta (53)	130,000	Cyanophyta (97)
Hoover Reservoir at dam (L-1) ----	6-<3	2-168	3	<2-60	10,000	Chrysophyta (100)	3500	Cyanophyta (92)
Lake Hope above dam (L-1) -------	<3-12	2-3	<3-30	26-<3	2200	Chlorophyta (90)	4200	Chlorophyta (95)
Lake Loramie above dam (L-1) -------	<3	3-9	<3-3	320-328	46,000	Chrysophyta (49)	450,000	Cyanophyta (91)
Lake Vesuvius above dam (L-1) -	3-36	<2-5	<3-32	2-14	420	Cyanophyta (73)	13,000	Cyanophyta (80)
Paint Creek Lake above dam (L-1) -	3-36	2-72	<3-28	2-52	70,000	Chrysophyta (92)	420,000	Cyanophyta (97)
Punderson Lake at midpoint (L-1) --	24-2	2-<2	8-<3	2-<2	52,000	Cyanophyta (99)	300,000	Cyanophyta (100)
Rocky Fork Lake above dam (L-1) -	3	90-70	<3	40-24	14,000	Chrysophyta (84)	160,000	Cyanophyta (93)
Salt Fork Lake above dam (L-1) -	<2	<2-5	<2	2	21,000	Cyanophyta (81)	410,000	Cyanophyta (100)

* Water column data - near surface values shown first.

[a] Modified from Tobin and Youger, 1977.

Table VII-4A. Morphometric data for lakes sampled in Ohio, 1976. [a]

Type: Res - reservoir.
Use: FC - flood control; WS - water supply; Rec - recreation.
C/I: capacity divided by mean annual inflow - decreasing values indicate shorter hydraulic retention time.

Name and primary site identification number	Location (county)	Type (a)	Date of origin	Use (b)	Morphology: Surface area (acres)	Morphology: Depth: Maximum (feet)	Morphology: Depth: Mean (feet)	Morphology: Shore-line (miles)	Capacity (acre-feet)	Drain-age area (miles)	Mean annual inflow (acre-feet)	Capacity inflow ratio C/I (c)
Alum Creek Lake 401121082575100	Delaware	Res	1974	FC	4852	78	28		134,800	123	80,400	1.68
				Rec WS	3387	65	24		81,730			1.02
Atwood Lake 403141081165900	Tuscarawas Carroll	Res	1937	FC	2460	51	20		49,700	70	51,100	0.97
				Rec	1540	36	15	27.6	23,600			0.46
Burr Oak Res 393226082031900	Athens Morgan	Res	1952	FC	1192	57	23		26,900	33.1	23,900	1.13
				Rec WS	664	38	14	20	9,300			0.39
Clendening Lake 401612081164000	Harrison	Res	1937	FC	2620	52	21		54,000	69.3	52,200	1.03
				Rec	1800	40	15	43.6	26,500			0.51
Lake Logan 393208082270200	Hocking	Res	1955	Rec	342	24	9	10	3,080	14.8	10,800	0.29
Lake Rockwell 411059081194900	Portage	Res	1914	WS	769	25	9.2	10.6	7,060	208	157,000	0.04
Leesville Lake 402814081113500	Carroll	Res	1937	FC	1470	58	25		37,400	48.3	37,900	0.99
				Rec	1000	43	20	27.6	19,500			0.51
Mogadore Res 410331081223900	Portage	Res	1939	WS Rec	1000	25	6.9	19	6,900	13.2	9,090	0.76
Mosquito Creek Lake 411806080452800	Trumbull	Res	1943	FC	8900	34	12		104,100	97.5	71,600	1.45
				Rec WS	7850	31	10	39.9	82,400			1.15
Senecaville Lake 395530081255600	Guernsey Noble	Res	1937	FC	5170	39	17		88,500	118	94,800	0.93
				Rec	3550	29	12	47	43,500			0.46
Summit Lake 410323081324700	Summit	Res		WS	115	40	--	1.8	--	--	--	--
Tappan Lake 402129081133200	Harrison	Res	1936	FC	3100	44	20		61,600	71.1	54,200	1.14
				Rec	2350	34	15	41	35,100			0.65
Wills Creek Lake 400918081510200	Muskingum Coshocton	Res	1937	FC	11,450	59	17		196,000	842	657,000	0.30
				Rec	900	22	6.7	16.2	6,000			0.01
Wolf Run Lake 394727081324600	Noble	Res		WS Rec	220	55	33	8.5	7,200	5.7	4,290	1.68

[a] Modified from Tobin and Youger, 1979.

Table VII-4B. Summary of physical and chemical characteristics of selected lakes in Ohio, 1976. [a]

Lake name and site location	Maximum observed depth (feet)	Secchi disk transparency (feet)		Thermal stratification		Dissolved oxygen range [1] (mg/L)		pH range [1]		5-Day BOD range [1] (mg/L)		TOC range [1] (mg/L)	
		spring	summer	spring	summer	spring	summer	spring	summer	spring	summer	spring	summer
Alum Creek Lake above dam	60	8.5	11	no	yes	11.2-10.2	8.0-0.0	8.3-8.1	7.9-7.1	1.0-1.1	0.7-1.1	6.8-7.1	5.8-8.1
Atwood Lake above dam	30	4.1	3.0	slight	partial	10.2-4.3	8.1-0.0	8.0-6.6	8.0-6.7	1.6-2.4	2.5-1.9	6.2-5.3	6.1-10
Burr Oak Reservoir above dam	35	6.4	4.5	yes	partial	12.9-2.3	9.4-0.0	8.7-6.9	8.5-6.5	1.2	3.0-2.5	3.4-6.0	6.9-12
Clendening Lake above dam	35	3.3	3.3	slight	partial	11.7-1.5	8.0-0.0	8.6-7.2	8.3-7.1	2.7-1.7	2.5-0.8	6.9-10	6.1-12
Lake Logan above dam	34	3.7	2.0	yes	yes	10.9-8.0	9.3-0.0	8.0-7.0	8.2-6.8	1.9-1.5	4.0	5.4-2.5	7.9-11
Lake Rockwell above dam	23	4.1	3.5	slight	partial	10.4-7.2	12.3-0.0	8.1-7.4	8.7-6.9	2.0-1.6	3.0-2.2	7.4-7.9	7.2-7.6
Leesville Lake above dam	38	4.5	5.2	yes	partial	9.9-3.0	8.3-0.0	7.8-6.5	8.1-6.5	1.6-0.8	2.1-1.6	4.4-3.3	4.3-8.5
Mogadore Reservoir above dam	23	21	5.1	no	yes	8.8-8.6	12.4-0.0	7.8	9.0-7.1	0.6-0.6	2.0-0.8	3.8-4.1	7.3-8.1
Mosquito Creek Lake above dam	24	2.7	2.0	no	partial	10.3-10.0	9.1-0.0	7.9-7.8	8.4-6.6	1.8-1.0	4.0-1.8	7.3-7.0	7.8-8.0
Senecaville Lake above dam	22	3.2	2.6	yes	slight	14.6-5.7	10.2-0.0	8.7-7.7	8.4-7.1	2.2-1.9	2.7-1.8	4.6-7.0	4.7-6.8
Summit Lake near midpoint	38	2.8	2.1	yes	partial	10.5-0.0	17.8-0.0	8.4-7.3	8.8-7.1	3.8-4.2	6.2-8.1	6.8-6.0	---
Tappan Lake above dam	28	3.5	3.7	slight	partial	7.7-0.8	8.0-0.0	7.9-7.3	8.5-7.1	2.3-1.6	2.5-1.9	2.4-3.7	6.5-9.9
Wills Creek Lake above dam	15	1.5	1.5	partial	yes	13.6-11.0	12.5-2.4	8.6-7.9	8.5-7.1	4.0-4.6	4.0-2.2	11	5.8-7.1
Wolf Run Lake above dam	50	6.4	11	partial	yes	12.4-6.5	8.8-0.0	8.5-7.6	8.3-6.9	1.5-0.7	0.8-0.7	3.9-3.3	3.5-6.8

1 Water column data--near surface values shown first; single value used when near-surface and near-bottom values were equal.
2 Refer to table 3.
3 National Academy of Sciences, 1972.
4 Ohio EPA Regulation EP-1 Water Quality Standards.

Lake name and site location	Specific conductance range [1] (umhos)		Chemical typing (spring only) [2]		Substances at or above accepted limits		Total N (maximum concentration in mg/L)	Total P (maximum concentration in mg/L)	H_2S present
	spring	summer	hardness	major ions	pesticides [3]	metals [4]			
Alum Creek Lake above dam	435	460-492	hard	$CaHCO_3SO_4$	no	no	2.2	0.15	yes
Atwood Lake above dam	222-220	255-285	mod. hard	$CaMgSO_4Cl$	no	no	1.6	0.28	yes
Burr Oak Reservoir above dam	190-180	198-160	mod. hard	$CaSO_4HCO_3$	no	no	2.7	0.11	yes
Clendening Lake above dam	605-655	716-810	very hard	$CaSO_4$	no	no	3.2	0.42	yes
Lake Logan above dam	130	162-287	mod. hard	$CaHCO_3SO_4$	no	no	5.8	0.23	yes
Lake Rockwell above dam	300-295	288-345	mod. hard	$CaHCO_3Cl$	no	yes (Cu)	1.4	0.16	yes
Leesville Lake above dam	155-158	170-202	mod. hard	$CaHCO_3SO_4$	no	no	2.3	0.24	yes
Mogadore Reservoir above dam	318	265-320	hard	$CaHCO_3$	no	no	0.76	0.17	yes
Mosquito Creek Lake above dam	220	240-283	mod. hard	$CaNaHCO_3SO_4$	no	no	0.98	0.08	no
Senecaville Lake above dam	325-350	340-365	hard	$CaHCO_3$	no	no	1.1	0.11	yes
Summit Lake near midpoint	915-1250	850-1150	very hard	NaCl	no	no	12	0.74	yes
Tappan Lake above dam	620-635	625-668	very hard	CaSO4	no	no	1.7	0.26	yes
Wills Creek Lake above dam	590-620	522-557	very hard	CaSO4	no	no	0.91	0.12	no
Wolf Run Lake above dam	280-305	265-305	mod. hard	$CaHCO_3$	no	no	1.0	0.05	yes

[a] Modified from Tobin and Youger, 1979.

Table VII-4C. Summary of biological characteristics of selected lakes in Ohio, 1976. [a]

Lake name and site location	Bacteria[1]				Phytoplankton											
					Dominant phylum and genus, and percent of total cell count											
					Spring						Summer					
	Fecal coliform (colonies per 100 ml)		Fecal streptococci (colonies per 100 ml)		Cells per ml	Composites from euphotic zone		Cells per ml	Samples from zone of maximum dissolved oxygen		Cells per ml	Composites from euphotic zone		Cells per ml	Samples from zone of maximum dissolved oxygen	
	spring	summer	spring	summer												
Alum Creek Lake above dam ----------	<2	<2-2	<2	54-2	590	Chrysophyta Cyclotella	80% 40%				2,100	Chlorophyta Sphaerocystic	65% 42%	3,400	Cyanophyta Aphanizomenon	72% 18%
Atwood Lake above dam ----------	<2	<3	<2-4	<3-3	65,000	Cyanophyta Oscillatoria	77% 54%				190,000	Cyanophyta Oscillatoria	95% 52%	220,000	Cyanophyta Cylindrospermum	95% 40%
Burr Oak Reservoir above dam --------	<2-46	2-12	<2	<2-2	1,900	Cyanophyta Oscillatoria	46% 46%	1,600	Chrysophyta Melosira	47% 34%	130,000	Cyanophyta Lyngbya	> 99% 67%	120,000	Cyanophyta Aphanizomenon	100% 75%
Clendening Lake above dam ----------	<2	<2	<2	<2-2	210,000	Cyanophyta Oscillatoria	95% 95%				1,100,000	Cyanophyta Oscillatoria	> 99% 55%	340,000	Cyanophyta Cylindrospermum	98% 92%
Lake Logan above dam ----------	<2	3-6	<2	3-<3	11,000	Cyanophyta Arthrospira	60% 56%				270,000	Cyanophyta Agmenellum	99% 71%	64,000	Cyanophyta Cylindrospermum	98% 64%
Lake Rockwell above dam ----------	<2-2	<2-2	<2	<2	20,000	Chrysophyta Cyclotella	48% 18%				96,000	Cyanophyta Raphidiopsis	65% 36%	70,000	Cyanophyta Oscillatoria	65% 48%
Leesville Lake above dam ----------	<2-18	<3-3	2-4	<3	42,000	Cyanophyta Oscillatoria	94% 94%				73,000	Cyanophyta Oscillatoria	98% 69%	49,000	Cyanophyta Aphanizomenon	96% 48%
Mogadore Reservoir above dam --------	<2	<2-12	<2	<2-50	1,000	Chlorophyta Schroederia	83% 83%				22,000	Cyanophyta Aphanizomenon	89% 33%	54,000	Cyanophyta Anabaena	87% 29%
Mosquito Creek Lake above dam -------	<2-2	<2-2	<2	2-8	51,000	Cyanophyta Anacystis	50% 46%				230,000	Cyanophyta Oscillatoria	89% 53%	650,000	Cyanophyta Oscillatoria	96% 76%
Senecaville Lake above dam ----------	<2	8-18	<2-2	<2-18	66,000	Cyanophyta Oscillatoria	53% 31%	62,000	Cyanophyta Oscillatoria	68% 68%	630,000	Cyanophyta Oscillatoria	98% 71%	260,000	Cyanophyta Oscillatoria	95% 64%
Summit Lake near midpoint ----------	48-4	240-77	72-12	<2-72	440,000	Cyanophyta Oscillatoria	95% 94%				300,000	Cyanophyta Oscillatoria	94% 75%	550,000	Cyanophyta Oscillatoria	94% 65%
Tappan Lake above dam ----------	<2	2-<2	<2	2	110,000	Cyanophyta Oscillatoria	82% 81%				650,000	Cyanophyta Cylindrospermum	99% 70%	490,000	Cyanophyta Cylindrospermum	> 99% 56%
Wills Creek Lake above dam ----------	8	2-6	<2	2-12	72,000	Cyanophyta Oscillatoria	54% 43%				37,000	Cyanophyta Oscillatoria	92% 86%	95,000	Cyanophyta Oscillatoria	89% 65%
Wolf Run Lake above dam ----------	<2-2	2-12	<2	<2	2,500	Chrysophyta Dinobryon	100% 59%				8,700	Cyanophyta Aphanizomenon	83% 46%	4,100	Chrysophyta Fragilaria	59% 55%

[a] Modified from Tobin and Youger, 1979.

Table VII-5A. Morphometric data for lakes sampled in Ohio, 1977. [a]

Type: Res - reservoir; Lk - lake.
Use: FC - flood control; WS - water supply; Rec - recreation.
C/I: capacity divided by mean annual inflow - decreasing values indicate shorter hydraulic retention time.

Name and primary site identification number	Location (county)	Type (a)	Date of origin	Use (b)	Morphology: Surface area (acres)	Depth: Maximum (feet)	Depth: Mean (feet)	Shoreline (miles)	Capacity (acre-feet)	Drainage area (miles)	Mean annual inflow (acre-feet)	Capacity inflow ratio C/I (c)
C.J. Brown Res 395702083443800	Clark	Res	1974	FC	2,720	58	23		63,700	82	46,480	1.37
				Rec WS	2,120	47	17	11	36,900			0.79
Deer Creek Res 405815081071400	Stark	Res	1954	WS Rec	313	20	9.8	8	3,070	38	25,560	0.12
Dillon Lake 395939082050500	Muskingum	Res	1960	FC	10,280	69	27		274,000	742	567,600	0.48
				Rec	1,560	32	11	21.2	17,500			0.03
East Branch Res 413016081054200	Geauga	Res	1939	WS Rec	416	20	11	7.6	4,659	17.5	13,720	0.34
Indian Lake 402931083514700	Logan	Res	1853	WS Rec	6,130	12	7.6	29	46,300	99.8	61,540	0.75
Killdeer Res 404202083225800	Wyandot	Res	1972	WS Rec	253	38	26	2.4	6,670	--	--	--
Kiser Lake 401144083584700	Champaign	Res	1940	Rec	374	17	8.6	5.3	3,215	8.7	5,590	0.58
Knox Lake 402942082313100	Knox	Res	1954	Rec	474	25	6.9	12	3,280	31.4	23,900	0.14
Long Lake 410032081323000	Summit	Lk-Res	1830's	WS Rec	166	38	--	4.4	--	--	--	--
M.J. Kirwan Res 410921081045800	Portage	Res	1966	FC	3,240	57	24		78,700	80.5	77,460	1.02
				WS Rec	2,650	49	20	20	52,900			0.68
Nimisila Res 405544081313700	Summit	Res	1939	WS Rec	811	30	12	16	9,400	17.4	11,400	0.82
Piedmont Lake 401116081125500	Harrison Belmont Guernsey	Res	1937	FC	3,270	49	20		66,700	85.9	69,900	0.95
				Rec	2,270	38	15	36	34,500			0.49
Stonelick Lake 391258084045900	Clarmont	Res	1948	Rec	171	21	10	9.5	1,750	23.3	18,900	0.09
Turkeyfoot Lake 405747081321700	Summit	Lk-Res	1830's	WS Rec	450	60	--	6.1	--	--	--	--

[a] Modified from Tobin and Youger, 1979.

Table VII-5B. Summary of physical and chemical characteristics of selected lakes in Ohio, 1977. [a]

Lake name and site location	Maximum observed depth (feet)	Secchi disk transparency (feet)		Thermal stratification		Dissolved oxygen range [1] (mg/L)		pH range [1]		5-Day BOD range [1] (mg/L)		TOC range [1] (mg/L)	
		spring	summer	spring	summer	spring	summer	spring	summer	spring	summer	spring	summer
C.J. Brown Reservoir above dam	40	4.0	5.0	no	yes	11.3-10.9	7.2-0.0	8.3	8.0-7.1	2.1-1.8	4.2-7.5	6.0-4.1	4.2-7.7
Deer Creek Reservoir above dam	20	5.0	2.4	yes	slight	11.5-8.2	7.7-0.0	8.5-6.8	7.9-7.0	3.4-1.6	1.8-2.3	5.7-4.1	7.0-6.4
Dillon Lake above dam	46	1.5	2.2	slight	slight	8.7-7.8	10.1-0.8	7.5-7.3	8.2-6.9	1.0-1.4	4.0-3.6	4.6-5.2	7.3-8.1
East Branch Reservoir above dam	20	2.8	3.0	no	partial	9.1-0.0	10.5-0.0	7.1	8.4-6.6	2.0-1.6	3.3-6.8	2.1-5.7	8.2-9.1
Indian Lake near Shawee Island	16	1.8	1.5	no	slight	9.5-0.1	9.3-5.4	8.5-8.2	8.3-7.7	7.6-7.5	6.1-5.5	5.2-4.7	7.4-8.1
Killdeer Reservoir at southwest corner	35	19	6.5	slight	yes	9.5-2.3	8.2-0.0	8.0-7.6	8.2-7.1	0.7-1.0	1.3-2.3	4.2-3.6	5.0-8.4
Kiser Lake above dam	12	2.1	1.2	no	slight	12.8-12.7	10.9-4.2	8.5	8.4-7.5	6.3	8.8-7.6	4.2-4.4	7.9-10
Knox Lake above dam	25	2.9	2.0	yes	partial	12.2-0.8	12.5-0.0	8.7-6.7	8.7-7.0	4.0-3.2	4.8-4.2	6.3-8.2	6.0-8.1
Long Lake at midpoint	38	2.8	2.4	yes	yes	18.6-0.8	10.9-0.0	8.8-7.5	8.4-6.8	6.4-1.0	3.7-4.2	2.8-3.6	7.2-6.5
M.J. Kirwan Reservoir above dam	50	3.5	4.5	slight	yes	11.9-8.6	8.6-0.0	7.9-7.4	7.9-6.7	1.0	0.3	3.8-5.0	4.9-6.0
Nimisila Reservoir above dam (L-1)	30	2.2	3.0	slight	yes	10.8-8.0	8.7-0.0	8.3-7.1	8.5-6.7	3.9-5.0	3.4->17	5.9-9.1	6.9-7.4
Piedmont Lake above dam	32	4.5	2.8	slight	yes	12.4-9.8	10.2-0.0	8.5-8.1	8.6-7.1	1.8-1.7	3.3-6.9	6.0-4.9	7.3-6.2
Stonelick Lake above dam	21	0.8	3.5	yes	yes	11.5-2.0	13.2-0.0	8.1-6.9	9.0-6.6	4.7-2.4	3.6-4.0	7.3-6.4	7.3-6.2
Turkeyfoot Lake at midpoint	68	2.1	3.7	yes	yes	18.4-0.4	8.5-0.0	8.9-7.4	8.2-6.9	7.5-5.3	2.8-4.8	7.1-6.9	7.6-9.1

1 Water column data--near surface values shown first; single value used when near-surface and near-bottom values were equal.
2 Refer to table 3.
3 National Academy of Sciences, 1972.
4 Ohio EPA Regulation EP-1 Water Quality Standards.

Lake name and site location	Specific conductance range [1] (umhos)		Chemical typing (spring only) [2]		Substances at or above accepted limits		Total N (maximum concentration in mg/L)	Total P (maximum concentration in mg/L)	H_2S present
	spring	summer	hardness	major ions	pesticides [3]	metals [4]			
C.J. Brown Reservoir above dam	565	470-620	very hard	$CaHCO_3$	no	no	5.7	0.55	yes
Deer Creek Reservoir above dam	540-365	370-400	hard	$CaHCO_3SO_4$	no	no	3.3	0.06	yes
Dillon Lake above dam	320-295	475-598	hard	$CaHCO_3$	no	no	3.3	0.23	yes
East Branch Reservoir above dam	185	235-167	hard	$CaHCO_3SO_4$	no	no	2.3	0.33	yes
Indian Lake near Shawee Island	395	425-430	very hard	$CaMgHCO_3$	no	no	2.9	0.14	no
Killdeer Reservoir at southwest corner	480-498	473-510	very hard	$CaHCO_3SO_4$	no	no	2.0	0.02	yes
Kiser Lake above dam	370	368-380	very hard	$MgCaHCO_3$	no	no	4.3	0.12	no
Knox Lake above dam	240-222	275-350	mod. hard	$CaHCO_3$	no	no	11	0.85	yes
Long Lake at midpoint	475-555	470-595	very hard	$CaHCO_3$	no	no	5.7	0.77	yes
M.J. Kirwan Reservoir above dam	358-365	380-385	hard	$CaMgHCO_3SO_4$	no	no	1.2	0.04	yes
Nimisila Reservoir above dam (L-1)	390-420	355-480	hard	$CaHCO_3$	no	no	7.3	0.60	yes
Piedmont Lake above dam	990-1010	1000-1055	very hard	$CaSO_4$	no	no	1.7	0.29	yes
Stonelick Lake above dam	290-275	265-488	mod. hard	$CaHCO_3$	no	no	12	3.2	yes
Turkeyfoot Lake at midpoint	410-475	420-515	hard	$CaHCO_3$	no	no	4.2	0.71	yes

a Modified from Tobin and Youger, 1979.

Table VII-5C. Summary of biological characteristics of selected lakes in Ohio, 1977.[a]

Lake name and site location	Bacteria[1]				Phytoplankton															
					Dominant phylum and genus, and percent of total cell count															
					Spring								Summer							
	Fecal coliform (colonies per 100 ml)		Fecal streptococci (colonies per 100 ml)		Cells per ml	Chlorophyll a (ug/L)	Composites from euphotic zone		Cells per ml	Chlorophyll a (ug/L)	Samples from zone of maximum dissolved oxygen		Cells per ml	Chlorophyll a (ug/L)	Composites from euphotic zone		Cells per ml	Chlorophyll a (ug/L)	Samples from zone of maximum dissolved oxygen	
	spring	summer	spring	summer																
C.J. Brown Reservoir above dam -----	64-52	<2	20	<2	9,600	26	Chrysophyta Fragilaria	55% 35%	6,100	26	Euglenophyta Cryptomonas	55% 30%	130,000	--	Cyanophyta Aphanizomenon	100% 87%	290,000	32	Cyanophyta Aphanizomenon	100% 97%
Deer Creek Reservoir above dam -----	2	<2	<2	<2	8,200	28	Chrysophyta Cyclotella	47% 31%	18,000	38	Chrysophyta Cyclotella	34% 22%	460,000	22	Cyanophyta Anacystis	97% 43%	420,000	25	Cyanophyta Anacystis	98% 50%
Dillon Lake above dam ----------	10-54	<4-16	10-136	<4-120	1,900	2.7	Cyanophyta Oscillatoria	54% 42%	4,100	3.7	Cyanophyta Oscillatoria	50% 50%	160,000	41	Cyanophyta Oscillatoria	94% 93%	860,000	78	Cyanophyta Oscillatoria	99% 79%
East Branch Reservoir above dam ----	80-90	24-200	60-44	10-430	9,400	13	Chlorophyta Melosira (a Chrysophyta)	38% 19%	8,600	13	Chrysophyta Melosira	63% 27%	3,000,000	23	Cyanophyta Lyngbya	94% 46%	3,400,000	29	Cyanophyta Lyngbya	96% 70%
Indian Lake near Shawnee Island ----	<4	<3-3	2-<4	126-430	610,000	43	Cyanophyta Oscillatoria	92% 88%	730,000	72	Cyanophyta Oscillatoria	91% 87%	2,500,000	90	Cyanophyta Oscillatoria	97% 69%	1,500,000	93	Cyanophyta Oscillatoria	98% 80%
Killdeer Reservoir at SW corner ----	<2	<2-4	2	<2-6	180	3	Euglenophyta Cryptomonas	58% 48%	910	3	Chrysophyta Fragilaria	66% 44%	13,000	5.8	Cyanophyta Anacystis	78% 78%	12,000	8.4	Cyanophyta Anacystis	58% 58%
River Lake above dam ----------	<2	<2	2-<2	8	660,000	85	Cyanophyta Oscillatoria	90% 90%	560,000	39	Cyanophyta Oscillatoria	87% 73%	3,400,000	145	Cyanophyta Oscillatoria	97% 60%	4,200,000	149	Cyanophyta Oscillatoria	98% 84%
Knox Lake above dam ----------	3-<9	<3-58	<3-3	<2-8	46,000	30	Chrysophyta Melosira	54% 44%	49,000	23	Cyanophyta Oscillatoria	37% 31%	320,000	46	Cyanophyta Oscillatoria	90% 31%	450,000	38	Cyanophyta Oscillatoria	91% 45%
Long Lake at midpoint ----------	2-<2	36-12	<2	26-12	270,000	87	Cyanophyta Oscillatoria	85% 84%	280,000	77	Cyanophyta Oscillatoria	83% 83%	860,000	46	Cyanophyta Cylindrospermum	98% 85%	470,000	38	Cyanophyta Oscillatoria	98% 64%
M.J. Kirwan Reservoir above dam ----	<2	2	<2-4	<2-2	3,200	6.8	Cyanophyta Oscillatoria	56% 56%	4,800	4.6	Cyanophyta Oscillatoria	93% 93%	1,800	4.3	Cyanophyta Anacystis	46% 40%	1,800	6.4	Cyanophyta Oscillatoria	58% 36%
Kimsilla Reservoir above dam -------	2	72-12	2-<2	102-20	780,000	41	Cyanophyta Oscillatoria	100% 99%	390,000	31	Cyanophyta Oscillatoria	99% 97%	1,700,000	41	Cyanophyta Aphanizomenon	100% 89%	1,600,000	44	Cyanophyta Lyngbya	99% 69%
Piedmont Lake above dam ----------	<2-2	<2	2-<2	2-8	180,000	20	Cyanophyta Oscillatoria	90% 88%	210,000	16	Cyanophyta Oscillatoria	92% 91%	480,000	31	Cyanophyta Cylindrospermum	100% 82%	710,000	33	Cyanophyta Cylindrospermum	100% 57%
Stonelick Lake above dam ----------	3-24	4-8	6-9	12-14	8,000	38	Euglenophyta Cryptomonas	81% 52%	11,000	54	Euglenophyta Cryptomonas	77% 55%	89,000	24	Chlorophyta Sphaerocystis	93% 74%	91,000	21	Chlorophyta Sphaerocystis	83% 58%
Turkeyfoot Lake at midpoint --------	2-<2	12-<2	2	46-10	150,000	59	Cyanophyta Oscillatoria	84% 84%	890,000	82	Cyanophyta Oscillatoria	93% 93%	2,100,000	29	Cyanophyta Lyngbya	100% 71%	1,000,000	34	Cyanophyta Lyngbya	97% 55%

[1] Water column data - near surface values shown first; single value used when near-surface and near-bottom values were equal.

[a] Modified from Tobin and Youger, 1979.

3) Nutrients and Trophic Levels

Nutrient enrichment is widely recognized as a major contributor to problems in lakes. Research has demonstrated that phosphorus is the nutrient most frequently controlling primary production in north temperate lakes (Schindler, 1978). Lakes enriched with phosphorus typically develop high populations of algae or thick growths of aquatic weeds. Increased lake productivity can lead to ecological changes, such as dissolved oxygen depletion, and changes in the composition of the fish, algae, and invertebrate communities present in the lake. These changes, particularly abundant algae, can lower the aesthetic and recreational value of a lake.

An extreme example of the higher aquatic plant problem in Ohio was noted in Clark Lake (Clark Co.), during 1979, where *Ceratophyllum* sp. covered 80% of the lake's surface, severely impairing recreational use.

A method described by Carlson (1977) was used to determine the trophic status of Ohio's lakes and reservoirs. Any one of three parameters, chlorophyll *a*, secchi disc, or total phosphorus, can be used in a parameter specific equation to generate a trophic index from 0 to 100. The following equations (Carlson 1977) were used to calculate the Trophic State Index (TSI):

a. Chlorophyll *a* (mg/m^3)

$$TSI\ (Chl\ a) = 10\ (6 - (2.04 - 0.68\ \ln Chl\ a)/\ln 2)$$

b. Secchi Disc (meters)

$$TSI\ (SD) = 10\ (6 - \ln SD/\ln 2)$$

c. Total phosphorus (mg/m^3)

$$TSI\ (TP) = 10\ (6 - (\ln 48/TP/\ln 2))$$

Carlson's method for trophic evaluation is more sensitive and less subjective than the traditional oligo-meso-eutrophic method in which lakes having substantially different nutrient concentrations may be classified in the same trophic category.

Summer chlorophyll *a*, summer secchi disc transparency values, and spring total phosphorus were used to determine TSI values. TSI values were then used to classify lakes according to the traditional classification scheme listed in Table VII-7. All three TSI values were evaluated in classifying a lake when substantial differences in TSI values occurred. First priority was given to summer chlorophyll *a*, followed by summer secchi disc transparency values, and then spring total phosphorus.

Conditions existing in the lake at the time of sampling were also taken into consideration. The effect of color interference with secchi disc measurements was tested with a technique described by Brezonik and Chesney, (1976), and was found to be insignificant.

Table VII-7: A Comparison of Carlson's Trophic State Index (TSI) to Standard Trophic Terminology[a]

TSI Value	Trophic Classification
below 40	Oligotrophic
40 to 50	Mesotrophic
50 to 70	Eutrophic
greater than 70	Hypereutropic

[a] Carlson (1977, and personal communication, 1980); Trophic Classification Modifications from Garn and Parrott, (1977) using USEPA data (1978).

Eighty-three or 40% of the 210 lakes listed in the lake inventory have been classified according to trophic status. Seventy-eight percent of the 83 lakes were classified eutrophic, 13% mesotrophic and 9% hypereutrophic. The trophic classification and the Trophic State Index values, where available, are listed in Table VII-1B.

The following observations were made from a review of trophic level determinations:

- A lake's trophic level generally reflected the nature of the surrounding bedrock. In general, lakes and reservoirs in the glaciated and limestone bedrock regions of the state had higher TSI's than those lakes in the sandstone bedrock areas of the state.

- Upground, pumped storage reservoirs with regulated inflows had lower TSI values than nearby impoundments.

- The six canal feeder lakes as a group had the highest TSI's of all lakes surveyed. The four largest lakes, Buckeye Lake, Indian Lake, Lake Loramine and Grand Lake St. Marys, were classified as hypereutrophic. The two smaller lakes, Summit Lake and Turkey Foot Lake, were classified as eutrophic. The four larger lakes are shallow, easily mixed by the wind, did not undergo stratification and did not become anaerobic during the summer. The two smaller lakes, although less productive, were deeper, became stratified and developed anaerobic conditions during the summer.

B. Problem Areas

1. Resource Extraction

Several lakes have problems related to coal mining or oil drilling in their drainage basins. Piedmont Reservoir (Harrison County), the two New Lexington Reservoirs (Perry County) and Lake Hope (Vinton County) have been adversely affected by coal mining operations; Corning Reservoir (Perry County) has been affected adversely by drainage from oil wells.

Piedmont Reservoir has a high sulfate concentration (410 mg/l) (Tobin and Youger, 1979), attributed to active strip mining operations, which has prevented its use as a water supply reservoir. The "New" and "Old" New Lexington Reservoirs have high manganese concentrations also attributed to strip mining operations. The manganese must be removed from the reservoir water prior to its use for drinking water; this requires expensive supplemental treatment of the raw reservoir water (Heitz and Myers, 1980; Ohio EPA, 1979). Seepage from abandoned deep mines and runoff from refuse piles has lowered the pH of Lake Hope to less than pH 5.5 (Tobin and Youger, 1977; Tobin and Youger, 1979). This has lowered the productivity and adversely affected fish populations in the lake. The city of Corning is no longer using Corning Reservoir as a water supply due to high chloride concentrations that enter the reservoir from leaking oil wells in the basin (Heitz and Myers, 1980).

Coal mining and oil drilling are occurring in the drainage basins of other lakes and reservoirs in Ohio, the reader is referred to the mining section of this document (Volume V) for further information and references to further reading.

2) Urbanization

Two lakes, Summit Lake (Summit Co.) and Winton Lake (Hamilton Co.) had problems attributed to their proximity to urban development (Tobin and Youger, 1979).

Summit Lake water had high chloride levels apparently resulting from its use in industrial processes and from seepage of nearby salt wells. Refuse dumped into the lake along the shoreline was also evident. Winton Lake had high BOD, lead, and chloride levels and objectional odors emanating from the bottom waters. A layer of water immediately above the lake bottom had a high conductivity (3000 mhos) indicating the presence of pollution. Refuse was observed floating on the surface and drifting along the lake shoreline. Deteriorated and overloaded sanitary/storm sewer systems are the probable causes of the degraded water quality. Improvements are being made to the sewer systems which should alleviate some of the water quality problems in the near future.

IV. Restoration

Interest in lake restoration projects is increasing as a result of Section 314 of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500). The goal of the program is to protect at least one lake with water quality suitable for contact recreation, or to restore a degraded lake to that condition, within 25 miles of every major population center (Standard Metropolitan Statistical Area). The city of Akron has received a grant under Section 314 for restorative measures for Summit Lake. The cities of Aurora, Springfield, Stow and Youngstown have expressed interest in applying for lake restoration grants.

A USEPA funded program has been initiated in the Lake Hope Drainage Basin (Vinton Co.). The objective of this project is to prevent abandoned coal mine drainage with low pH from entering Lake Hope. This will be accomplished by sealing exposed coal seams and disposing of mine refuse.

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