Ohio Water Resource Inventory

Volume 3: Ohio's Public Lakes, Ponds, & Reservoirs

Division of Water Quality
Planning and Assessment
Ecological Assessment Section

Bob Davic
Jeff DeShon

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OhioEPA
State of Ohio Environmental Protection Agency

P.O. Box 1049
1800 WaterMark Drive
Columbus, Ohio 43266-0149

Introduction

Section 305(b) of the Clean Water Act (CWA) requires each state to report on the water quality of its lakes/ponds/reservoirs that are classified under State Water Quality Standards. In addition, Section 314 of the Act (Clean Lakes Program) requires each state to report on the overall condition of its public lakes including trophic state, impaired/threatened uses, impact from toxic chemicals, and status and trends of water quality. This report is submitted to fulfill these requirements and revises the 1980, 1982, 1988 and 1990 State of Ohio 305(b) lake water quality inventory reports. This report also summarizes data collected by the Ohio EPA in 1989 and 1990 for a Section 314 Lake Water Quality Assessment grant (see Appendix I).

This report also revises the Ohio Lake Condition Index (Ohio EPA 1988a, 1990b; Davic and DeShon, 1989). The Ohio Lake Condition Index (LCI) was developed by the Ohio EPA for the 1988 305(b) reporting cycle, and is used in this report to: 1) determine if Ohio's public lakes are meeting Clean Water Act goals of fishable and swimmable waters, (2) determine the extent that Ohio's lakes are meeting designated uses under Ohio Water Quality Standards, (3) document temporal changes in the status of lake water quality, and (4) classify the overall ecosystem condition of Ohio's inland lakes. Minor modifications to the original 1988 Ohio LCI have been made for this 1992 report in response to new federal 305(b) guidance. These 1992 revisions to the LCI are presented in Appendix A.

All lake data used to generate this volume of the 1992 305(b) Report are stored on computer diskettes that are available from the Ohio EPA, Division of Water Quality Planning and Assessment, 1800 Watermark Drive, Columbus, Ohio 43266-0149, (614) 777-6264.

B. Inventory of Ohio's Public Lakes

According to information provided by the Ohio Department of Natural Resources, there are approximately 50,000 lakes and small ponds in Ohio with a total surface area of about 200,000 acres (ODNR, unpubl.). About 2200 of these lakes are 5 acres or greater with a total surface area of 134,000 acres (ODNR, 1980). These 2,200 lakes include both public and private lakes. The USEPA estimated (from an electronic file generated from 1:100,000 scale maps) that Ohio has 5,130 lakes totaling 188,461 acres (USEPA 1991). The difference in number of lakes estimated by USEPA and ODNR is likely related to numerous small ponds (high number, small acreage) not detected on the 1:100,000 scale maps.

In the 1990 Ohio 305(b) Report, 417 public lakes over 5 acres were identified by the Ohio EPA. For this 1992 update, 7 lakes were deleted from the previous inventory and 40 lakes were added based on new information provided by the Ohio DNR, Division of Water. Thus, for this 1992 reporting

cycle, 450 public lakes over 5 acres have been identified. These 450 public lakes have a total surface area of 118,849 acres.

A summary of classified uses for all of Ohio's public and private lakes, ponds, and reservoirs is shown in Table 1. A complete listing of Ohio's 450 public lakes is provided in Appendix B of this report.

Private lakes and public lakes under 5 acres surface area are not included in this volume due to a general lack of information. It is anticipated that this list of 450 public lakes will be expanded in future 305(b) reports to include lakes less than 5 acres in surface area. The OLMS/CLIP citizen volunteer monitoring program is expected to significantly increase turbidity data for private lakes. These data will be incorporated into future 305(b) updates.

Table 1. Summary atlas of classified uses for Ohio's lakes, ponds, and reservoirs (includes public and private lakes of all sizes).

Classified Use	Size Classified for Use (acres)
REC	Primary Contact Use 200,000 [1]
EWH	Aquatic Life Uses 193,903 [2]
PWS	Public Water Supply 118,845 [3]
SRW	State Resource Water 118,845 [3]
ORW	Outstanding Resource Water 72 [4]

[1] Estimated from ODNR (1982), both public and private lakes, all sizes. Lakes are not specifically given a primary contact recreation use in OAC Chapter 3745-1, but this use is assumed.
[2] Does not include upground reservoirs, which are exempt from EWH use.
[3] Only includes public lakes over 5 acres.
[4] Lake Katherine and Stages Pond are Outstanding Resource waters in OAC Chapter 3745-1.

For the purposes of this report, public lakes are defined as those lakes/ponds/reservoirs, including upground reservoirs, where: (1) public access to the water is either owned, managed or leased by a public entity (i.e., federal, state, county, or municipal government agencies; park districts;

conservation districts), or (2) the lake water is regulated by the Ohio EPA as a primary or secondary public drinking water supply. For the purposes of the CWA Section 314 program, "Significant Public Lakes" are defined as those public lakes that are freely open to the public for recreation. Significant public lakes are eligible for possible funding under the Clean Water Act Section 314 Clean Lakes Program, which is administered in Ohio by the Ohio EPA, Division of Water Quality Planning and Assessment. For this 1992 update, 348 (112,324 Acres) of Ohio's 450 public lakes greater than 5 acres were identified as "significant public lakes". Significant public lakes are listed in Appendix B as recreational use lakes. As of 1992, 6 of Ohio's 348 significant public lakes have been involved in the Section 314 Clean Lakes Program.

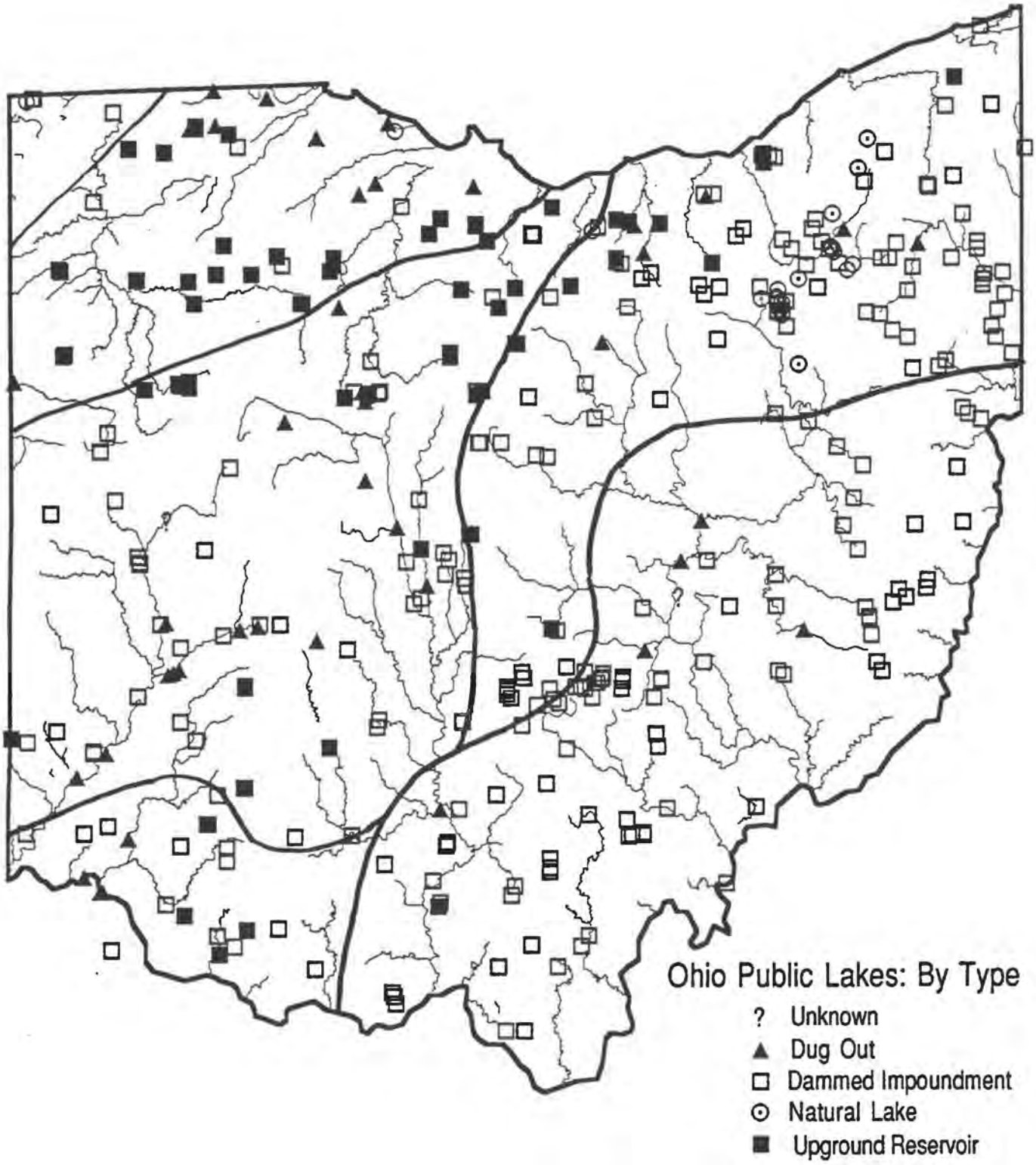
For the State of Ohio Water Inventory, stream impoundments not locally recognized as lakes (e.g. low head dams, locks), are classified under impounded stream segments. The condition of these impounded stream segments can be found in Appendix A of Volume I of the 1992 305(b) Report. An inventory of Ohio's wetlands, which often include open water, is being developed by the Ohio Department of Natural Resources.

Two-hundred eighty-two (63%) of Ohio's 450 public lakes are dammed impoundments, 85 (19%) are upground reservoirs, and 24 (5.3%) are natural glacial lakes (Map 1). The remainder are dug-out or of unknown origin.

Table 2 lists the number and total acres of Ohio's public lakes by size classes. Three lakes are over 5000 acres: Grand Lake St. Marys, Auglaize County (12,700 acres); Mosquito Creek Reservoir, Trumbull County (7,850 acres), and Indian Lake, Logan County (5,104 acres). An additional 27 lakes range between 1,000 and 5,000 acres. Together, the 30 lakes over 1000 acres represent 84,336 (71%) of the total acres of public lake water in Ohio. A large number of public lakes are between 5 and 50 acres in size (# = 284), but these lakes represent only 3.9 percent (4632 acres) of the total acres of public water.

C. Water Quality Assessment Process

In general, the overall condition of Ohio's lakes is not well known. The most extensive information available is for chemical water quality, especially those parameters related to nutrient enrichment or trophic state such as total phosphorus and chlorophyll-a, and Secchi disk transparency. Little quantitative information is available for biological communities (including fisheries, benthos, plankton, macrophytes), volume loss due to sedimentation, and fish tissue and bottom sediment contamination. Measured loadings of sediment, nutrients, and toxics from lake watersheds are known for only a few of Ohio's public lakes.



Map 1. Distribution of Ohio lakes by type of lake.

Table 2. Number and acres of Ohio's public lakes by size class.

Size (Acres)	Number (%)	Acres (%)
< 5†	Unknown	Unknown
5 to9.9	108 (24%)	718 (0.6%)
10 to 49.9	176 (39%)	3914 (3.3%)
50 to 99.9	49 (11%)	3476 (2.9%)
100 to 499.9	71 (16)	14978 (12.6%)
500 to 999.9	16 (3.5%)	11427 (9.6%)
1000 to 4999.9	27 (6.0%)	58682 (49.4%)
> 5000	3 (0.7%)	25654 (21.6%)

†No inventory exists for public lakes that have less than 5 acres surface area.

For this 1992 report, lakes were assessed using information from a number of sources including: (1) the 1982, 1988, and 1990 Ohio 305(b) Reports (Youger 1982; Ohio EPA 1988a, 1990b), (2) data collected in 1989 and 1990 by the Ohio EPA under a Section 314 Lake Water Quality Assessment grant (see Appendix I), (4) Secchi disk data collected in 1988, 1989, and 1990 by volunteers in the regional planning area of the Northeast Ohio Four County Regional Planning and Development Organization (NEFCO 1990), (5) data from Ohio's 1988 and 1990 Section 319 Nonpoint Source Assessment Reports (Ohio EPA 1988c, 1990a), (6) trophic state data collected by Fulmer and Cooke (1990) for 19 Ohio reservoirs, (7) 1991 Secchi disk data collected by volunteers in the newly established Citizen Lake Improvement Program, a citizen project coordinated by the Ohio Lake Management Society and funded by the US EPA and Ohio Department of Natural Resources, and (8) other sources of information (U.S. Geological Survey, Army Corps of Engineers, U.S. Soil Conservation Service, university studies, etc.).

Passage of the 1987 amendments to the Clean Water Act required each State to expand assessment of lake water quality beyond the concept of nutrient enrichment (i.e. trophic state) to include topics such as violations of water quality standards, attainment of designated uses, and identification of lakes threatened by nonpoint and point sources of pollution. In order to comply with these new federal mandates, the Ohio EPA developed a multiparameter lake assessment process called the Ohio Lake Condition Index (Ohio LCI, Davic and DeShon 1989). The Ohio LCI is used in this 305(b) to assess the overall ecosystem condition of Ohio's public lakes. The revised LCI uses information gathered from 14 different parameters to allow a holistic assessment of the overall condition of the lake ecosystem. The 1992 revisions to the LCI are found in Appendix A.

D. Trophic Classification

One of the requirements of the 305(b) process is for States to "classify according to trophic state" their public lakes. No federal guidance has been given on a standardized methodology to use, i.e., it

is not known if the classification should refer to the open water, the lake or ecosystem as a whole, or some combination of both concepts.

Lake eutrophication (i.e. the process of increasing primary production and decreasing lake depth) is a complex process and attempts to define it have a long history (see literature reviews in Hutchinson 1969; Reckhow and Chapra 1983). The term "trophic", derived from the Greek trophe, is defined by Webster as being "of or pertaining to nutrition; having to do with the process of nutrition". According to Reckhow and Chapra (1983), the terms "oligotrophic" and "eutrophic" were first used by Naumann in 1919 as synonyms for "poor in nutrients" and "rich in nutrients" in the open water of a lake. Thus the original use of the trophic concept in a limnological sense was to classify only the nutritional status of the open water of lakes, especially with respect to phosphorus and nitrogen.

A second concept of trophic state was developed by Thienemann in 1925 (see review in Hutchinson 1969) and was the first attempt to classify the trophic condition of the entire waterbody or ecosystem. Thienemann recognized "synthetic lake types" which were identified based on observed symptoms of the eutrophication process such as high vs low levels of oxygen, shallow vs deep, high vs low biotic diversity, etc. Value judgements were given to the different levels of "trophic state" such that oligotrophic lakes were viewed to be good lakes and eutrophic lakes impaired.

Hutchinson (1969) suggested a third concept such that a lake and its watershed form a "trophic system", which he defined as the total potential concentration of nutrients in the system. A lake may have low phosphorus in the open water but the lake system may be hypereutrophic because the total nutrient pool is locked up somewhere else in the system, perhaps as macrophyte biomass in the littoral zone, in animals, or in the sediment. Others (i.e., Wetzel 1983) define the trophy of a lake as a measure of the rate at which organic matter is supplied to the lake per unit time. Thus at least four different concepts of "trophic state" can be used to report the effects of nutrient enrichment on lake ecosystems.

For the 1992 Ohio 305(b) Report, a modificati of the original trophic concept of Naumann was used to classify the nutrient enrichment of the surface water of Ohio's lakes. Following the procedures used in the 1982 Ohio 305(b) lakes report (Youger 1982), total phosphorus, chlorophyll-a concentrations, and secchi disk measurements were converted to Carlson Trophic State Index (TSI) values (Carlson 1977). Calculation formulas from Reckhow and Chapra (1983) are as follows:

$$\text{Secchi Disk TSI} = 60 - 14.41 \ln(\text{SD meters})$$

$$\text{Chlorophyll-a TSI} = 9.81 \ln(\text{Chl-a ug/l}) + 30.6$$

$$\text{Total Phosphorus TSI} = 14.42 \ln(\text{TP ug/l}) + 4.15$$

Carlson TSI values for total phosphorus and chlorophyll-a provide a method to quantify the open water "nutrient enrichment" concept of Naumann. Lakes were considered assessed for the 1992 trophic classification if approved data were available for summer chlorophyll-a (July, August, September) or spring total phosphorus (April, May, June).

Carlson (1977) recommends that summer chlorophyll-a may be the best indicator of trophic state and that phosphorus may not be a good indicator in non-phosphorus limited lakes. He also recommends that consideration be given to using spring total phosphorus over summer total phosphorus to determine annual trophic state given a choice between the two types of data. Following these suggestions, the average summer chlorophyll-a TSI and/or the average spring total phosphorus TSI was reported as the Final TSI for any given year. When both sets of data were available, the average of these data was reported as the annual Final TSI. It was believed that use of both summer chlorophyll-a and spring total phosphorus would tend to lessen errors in trophic state determination due to the very small sample sizes that are available for most of Ohio's lakes.

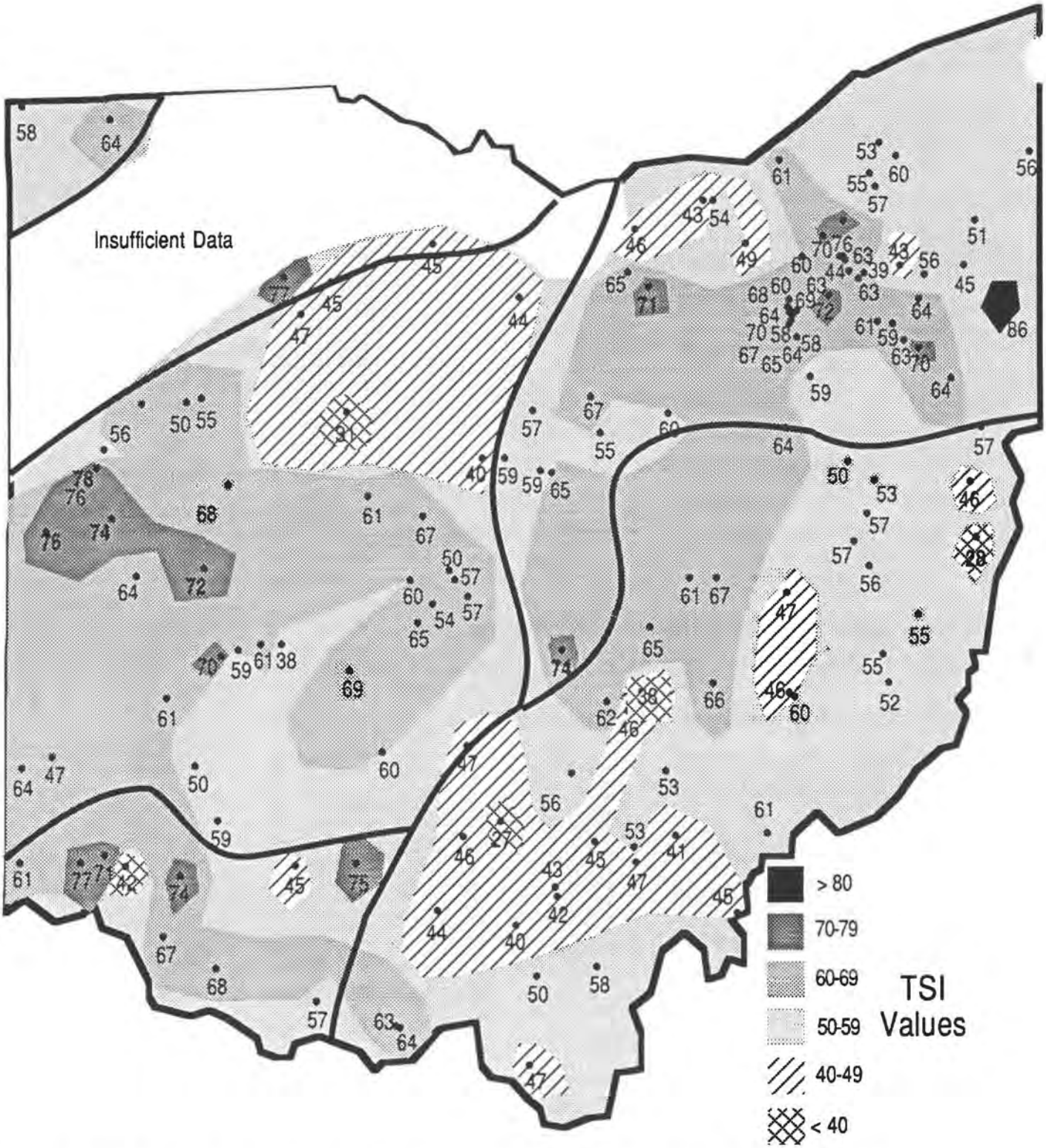
The following TSI ranges taken from the 1982 Ohio 305(b) Report were used to relate Carlson TSI values to standard trophic state terminology: oligotrophic (TSI points <38), mesotrophic (TSI points 38-47), eutrophic (TSI points 48-66), and hypereutrophic (TSI points >66). A summary of trophic state information for 148 (32.9%) of Ohio's 450 public lakes is provided in Table 3.

It is important to note that the above trophic classification scheme only measures nutrient presence in the water column and does not consider the contribution of nutrients potentially available in the sediment and/or in macrophyte biomass. Ideally, a comprehensive trophic classification protocol would include these other sources of nutrients following the ecosystem approach of Hutchinson (1969).

Table 3. Surface water trophic state classification for 148 public lakes in Ohio, 1992 update. Insufficient data to classify an additional 352 public lakes. Trophic state based on Carlson TP and/or Chl-a TSI values.

Trophic State	Number of Lakes Assessed	Percentage of # Assessed
Oligotrophic (<38 TSI)	4	2.7%
Mesotrophic (TSI 38-47)	31	20.9%
Eutrophic (TSI 48-66)	86	58.1%
Hypereutrophic (TSI >66)	27	18.2%

As more monitored data become available on nutrient concentrations in plant and animal biomass, and lake sediments, modifications to the above trophic classification may occur in future revisions to the Ohio 305(b) Report. Regional trophic classification by lake type and ecoregion (see literature review by Heiskary 1989) will also be considered.



Map 2. Distribution of TSI (Trophic State Index) values in 148 Ohio lakes, ponds, and reservoirs. Isopleths of TSI values were drawn by eye.

Map 2 provides a rough "TSI isopleth" map for Ohio. There is insufficient data to provide isopleths for most of the northwest Ohio HELP ecoregion. One pattern that emerges even from the limited data is the distribution of low TSI scores in the relatively nutrient poor WAP ecoregion. Other low TSI values are in upground reservoirs in other regions that, through their morphology, control runoff. Raw data and final trophic classifications for 148 of Ohio's public lakes are provided in Appendix C.

Trophic State vs Use Impairment. Table 4 shows the relationship between surface water trophic state as defined by Carlson TSI values and calculated probability of overall lake use impairment as measured by the Ohio Lake Condition Index.

Table 4. Relationship between surface water (0.5 m) trophic state and probability of lake impairment. N= Number of lakes.

Use Support	Probability
HYPEREUTROPHIC (N=24; TSI > 66	
Full Use	8.3 %
Partial Use	33.4 %
Impaired Use	58.3 %
EUTROPHIC (N=63; TSI 48-66)	
Full Use	15.9 %
Partial Use	45.8 %
Impaired Use	38.3 %
MESOTROPHIC/ OLIGOTROPHIC (N=31; TSI < 48)	
Full Use	61.3 %
Partial Use	22.6 %
Impaired Use	16.1 %

The most stringent use impairment for each assessed lake was used in the analysis. Although hypereutrophic lakes have a greater probability of having some impaired use than do mesotrophic/oligotrophic lakes, even the latter set of "low nutrient" lakes have a 39% probability of having either partial or impaired uses.

Thus the concept of "trophic state" should not be confused with the concept of "use impairment"--lakes can be impaired for reasons not associated with the concept of nutrient enrichment (e.g., due to toxic chemicals, volume loss, bacteria, acid mine runoff, etc.). Not all eutrophic lakes are impaired, nor are all oligotrophic lakes fully meeting uses. For example, the Ohio DNR has added nutrients to at least two "oligotrophic" lakes in an attempt to increase fish production.

Secchi Disk Information. In the 1982 305(b) "Ohio Lakes" report (Youger 1982), TSI values derived from summer chlorophyll-a, spring total phosphorus, and summer Secchi disk depths were summed to arrive at a final trophic state value. However, because Secchi depth readings may be a poor indicator of nutrient enrichment in Ohio's lakes due to non-algal turbidity, the use of Secchi data was eliminated from the "trophic state" assessment process in 1988.

Secchi disk turbidity, which is a measure of all algal and non-algal turbidity, is used in the Ohio LCI process to determine potential impairment of

recreational use. Lakes with Secchi disk readings less than 4 foot during the recreational season are judged to have threatened use for swimming. Summer Secchi depth TSI values are also useful if compared against summer chlorophyll-a TSI values. A higher TSI based on Secchi depth may indicate non-algal turbidity and possible light limitation of algal growth. Many lakes in Ohio show summer Secchi disk TSI values well above summer Chlorophyll-a TSI values, an indication that non-algal turbidity, and not nutrient enrichment, is the cause of elevated TSIs (see OEPA 1990b). In the volunteer Secchi disk program conducted by NEFCO, it was found that over 50% of observations on water color for lakes reported brown or green-brown water. Brown water caused by silt would tend to inflate TSI values calculated by Secchi disk.

NEFCO has developed a color strip for their citizen volunteer lake monitoring program that can be used to distinguish lakes that have green, yellow, and brown turbidity. In Ohio, the OLMS/CLIP volunteer program is also collecting lake color data using the NEFCO color strip. The use of the NEFCO color strip may provide a way of relating Secchi disk, lake water color, and TSI values in future 305(b) reports.

E. Monitored vs Evaluated Data

Federal EPA guidance for the 305(b) Report requires each state to distinguish between "monitored" and "evaluated" data used to assess the water quality of lakes. In general, monitored data (i.e., ambient physical/chemical measurements) are considered to be quantitative, and data collection follows established quality assurance methods. Evaluated data are more subjective and based on best professional judgement. Questionnaire data would be an example of commonly used evaluated data. Federal guidance also requires that historical monitored data (i.e. over five years old) be considered evaluated for the report process. However, adherence to the five year rule suggested by the USEPA was deemed to be overly restrictive for Ohio due to a general lack of recent monitored data.

For the 1992 305(b) update, monitored lake d. included all quantitative data collected by Ohio EPA, or other approved sources, from 1973 to 1992. Evaluated data included responses to a questionnaire distributed by the Ohio EPA in 1987 for the State's nonpoint assessment, and responses to a lake questionnaire distributed in 1989 and 1990 as part of Ohio's Section 314 Lake Water Quality Assessment surveys (Appendix D).

F. Historical Lake Monitoring

Twenty-one (21) Ohio lakes were sampled in the early 1970s as part of the National Eutrophication Survey (see literature summary in the 1982 305(b) Report). Prior to the 1970s, lake surveys were

generally restricted to university research or unpublished data collected by various local government agencies.

The first major survey of Ohio's lakes was the cooperative lake monitoring program between the Ohio EPA and the U.S. Geological Survey from 1975 to 1980. Eighty five (85) lakes were sampled to provide baseline data for selected chemical, physical, and biological parameters. The results of this program were published in three volumes (Tobin and Youger 1977, 1979; Angelo and Youger 1985), and also summarized in Youger, (1982). Also conducted in the 1970s were US EPA Clean Lakes Program Phase I Demonstration studies on two Summit County lakes (Summit Lake and Meadow Brook Lake); however, Phase II US EPA applications were not submitted. Meadowbrook Lake was dredged in the early 1980s.

Between 1980 and 1981, the Ohio EPA sampled 26 lakes as part of a Section 314 Clean Lakes Assessment Grant. These data are summarized in the 1982 305(b) Report. Between 1982 and 1989 a small number of lakes were sampled during comprehensive water quality surveys of major river basins. In 1989, Ohio EPA received a Section 314 Lake Water Quality Assessment grant to sample an additional 50 lakes in 1989 and 1990. These data are summarized in Appendix I.

Since 1987 the Ohio EPA has once again become active in the Section 314 Clean Lakes Program. Besides the 1989-1990 LWQA grant and one received for monitoring in 1992-1993, four Clean Lakes Program Phase I projects have been coordinated by the Ohio EPA (Winton Woods Lake, Hamilton County; Indian Lake, Logan County; Sippo Lake, Stark County, and Dillon Reservoir, Muskingum County). Phase I reports have been finalized for the Winton Woods Lake and Indian Lake projects. Indian Lake was the first lake in Ohio to receive Section 314 Phase II funding (1990). The Sippo Lake Phase I project will be completed in early 1992 and an application made for Phase II implementation funds. The Dillon Reservoir Phase I study is in progress. In 1990, the Ohio EPA also received a Clean Lake Program Phase III grant to study the long term effectiveness of alum treatment to control internal release of phosphorus from lake sediments. The grant was issued to Dr. G. Dennis Cooke at Kent State University, Institute of Limnology.

The US EPA Section 314 Phase I projects in Ohio have been among the most comprehensive lake and watershed surveys conducted in the State, pooling resources from numerous local, state, and federal government agencies, lake consultants, and universities. However, given the very small number of public lakes in Ohio that can be addressed by the US EPA Clean Lakes Program, alternative methods of providing diagnostic-feasibility data for lake restoration and protection must be developed.

Lake data available from other sources include the

Army Corps of Engineers, who has built 28 dams in Ohio and conducts water quality and sedimentation surveys. Sedimentation surveys have also been conducted by the U.S. Soil Conservation Service (SCS) and the Ohio Department of Natural Resources, Division of Water. Results of all sedimentation surveys in Ohio up to 1975 have been summarized by the U.S. Department of Agriculture (USDA 1975).

During the summer of 1988, the SCS conducted detailed sedimentation surveys of 47 lakes in Ohio (SCS 1990). Fulmer and Cooke (1990), working at the Kent State University Institute of Limnology, reported "trophic state" data collected for 19 Ohio Reservoirs. These data were used to update the trophic state assessment found in Appendix C of this report.

Table 5. Status of US EPA Section 314 Clean Lake Projects in Ohio.

Lake	Status
Summit Lake	(Summit County) — Phase I demonstration project. 1978. No Phase II application. Fish tissue advisory for PCB's in Carp. City of Akron lake. Urban lake watershed.
Meadowbrook Lake	(Summit County) — Phase I demonstration project. Lake dredged in early 1980's. Summit County SCS follow-up survey in 1991. City of Stow lake. Urban lake watershed.
Winton Woods Lake	(Hamilton County) — Phase I completed 1989, Phase II application not funded. Potential dredge project. Army Corps lake, managed by County Park District. Urban lake watershed.
Indian Lake	(Logan County) — Phase I completed 1989, Phase II granted in 1990 for watershed management. Ongoing dredging by Ohio DNR. Ohio DNR canal lake. Agricultural watershed.
Sippo Lake	(Stark County) — Phase I to be completed 1992. Phase II application submitted, in review. Potential dredge project. County Park District lake. Urban watershed.
Dillon Reservoir	(Muskingum County) — Phase I in progress, to be completed by 1993. Ohio DNR plans to dredge in 1992-1993. Ohio DNR lake. Mixed agriculture-urban watershed.

In 1988, the Northeast Ohio Four County Regional Planning and Development Organization (NEFCO) developed a volunteer Secchi depth monitoring program for both public and private lakes in a four county area of northeast Ohio. This was the first volunteer lake monitoring program for Ohio and included data collected by 42 volunteers on 55 lakes in 1989. Data collected for public lakes in 1988, 1989, and 1990 are summarized in Appendix C.

In 1991, the Ohio Lake Management Society (OLMS) developed a statewide Citizen Lake Improvement Program (OLMS/CLIP) that included the collection of Secchi disk data by citizen volunteers. This program was funded in part by a US EPA grant through the Ohio EPA, by the Ohio Department of Natural Resources, and the Gund Foundation. Secchi disk data collected on public lakes by the OLMS/CLIP volunteers in 1991 are also included in Appendix C.

The NEFCO and CLIP citizen volunteer Secchi depth programs have added new and useful information for over 100 public and private lakes in Ohio. It is anticipated that the type of data being collected by citizens will be expanded to other measures of lake condition and could provide a major source of both monitored and evaluated data for the Ohio LCI assessment process in future 305(b) reports.

G. Lake Pollution Control Procedures

All public and private lakes, except upground reservoirs, are designated as Exceptional Warmwater Habitat in Ohio's Water Quality Standards-Chapter 3745 of the Ohio Administrative Code. Publicly owned lakes are also designated State Resource Waters. All State Resource Waters are protected as potential public water supplies (PWS). In addition, the Ohio EPA Antidegradation Policy applies to State Resource Waters such that present ambient water quality and uses shall be maintained and protected without exception. All lakes have, at a minimum, a primary contact recreational use designation.

In addition to Water Quality Standards, the Ohio EPA has a States Lakes Policy which is used to establish effluent limitations for new or expanding point source discharges to lakes and reservoirs, and to prevent degradation of these multi-use waters. The most recent revision of the Ohio EPA State Lakes Policy is provided in Appendix E.

The Ohio EPA and county game wardens respond to citizen complaints of spills and fish kills in both public and private lakes in Ohio. Use of chemicals in public lakes to control aquatic plants requires prior approval of the Ohio EPA and the Ohio Department of Agriculture.

From 1981 through 1987, the Ohio EPA funded 33 nonpoint source pollution abatement education/demonstration projects (see OEPA 1991). These projects focused on the reduction of

nonpoint pollution from agriculture, mining, oil and gas production, urban runoff, and on-site sewage deposal systems. One of the primary goals of five of these projects was to reduce nonpoint source loadings to public lakes. Lakes effected by these watershed projects included Rocky Fork Lake, Highland County (soil erosion), Caesar Creek Reservoir, Warren Co.(sediment erosion), Acton Lake, Butler Co.(sediment and nutrient abatement), Clarence J. Brown Lake, Clark Co.(sediment and nutrient abatement), Beach City Lake, Tuscarawas Co. (sediment and nutrient abatement), Lake Hope, Vinton Co. (acid mine abatement).

H. Lake Restoration Procedures

Various lake restoration techniques have been used in Ohio's lakes, however, very little quantitative data has been collected to determine how successful the procedures have been in restoring uses. The Ohio Department of Natural Resources conducts an extensive game fish stocking program in numerous public lakes and reservoirs. Fisheries are managed to provide bass, sunfish, and salmonid recreation. Creel surveys, netting, and fish electroshocking techniques are used to track the status of fish populations over time. Ohio DNR has added nutrients to a few nutrient poor oligotrophic lakes in southeast Ohio in an attempt to stimulate game fish production. The Ohio DNR also conducts a sediment dredging program on a select number of state owned lakes each year. A three year dredging project at Madison Lake, Madison County, resulted in the creation of wetland areas adjacent to the lake. Lake Newport, a Township Park lake in Mahoning County, was drained in 1991 and is scheduled to be dredged.

The Army Corps of Engineers and the Ohio DNR use lake level drawdown on a number of lakes and reservoirs in Ohio, partly to control aquatic weed growth in shallow areas, and partly as a fish management technique (Cooke 1988, Ohio Shorelines). The use of triploid white amur (grass carp) was legalized in Ohio in September of 1987 as a method of controlling aquatic plants. The white amur has been added to numerous lakes and ponds throughout Ohio with unknown success. White amur are made available to the public through the County Extension Program and the Soil and Water Conservation Districts. Use of alum to control phosphorus release from la[illegible] sediments has been used with success in a natu[illegible] lake with a high rate of internal phosphorus loading (Twin Lakes, Portage County, Private Lake Association, see Cooke et al. 1986). Alum has also been added to Congress Lake, Stark County in 1991 to control algae and phosphorus release from lake sediments. Cooke et al. (1986) list six lakes in Ohio that have used artificial circulation to increase the oxygen of lake water. At least one lake (Silver Lake, Summit County, Private Lake Association) showed mixed success Hypolimnetic aeration has been used to reduced taste and odor problems and increase oxygen in a Lake Hodgson, a mixed use public water supply and recreational lake in Portage County. An unknown number of lake and pond owners use chemicals to treat algae and aquatic weeds, many of

industrial water supply. Aquatic weed harvesters are also used in an unknown number of lakes, both public and private. Conyers and Cooke (1983, reviewed in Cooke *et al.* 1986) compared the costs of harvesting and herbicide treatment in a private natural lake in Portage County (East Twin Lake). Cooke *et al.* (1986) report that polypropylene cover (Typar) was effective in preventing macrophyte growth in an Ohio lake. They also report that burlap was used with success in Lake Rockwell, Portage County, to control macrophyte growth, although the material decayed after one year. Many large reservoirs managed by the Army Corps of Engineers have summer hypolimnetic withdrawal of water. The effect on lake and downstream water quality is unknown.

NEFCO (1990) reported on lake management techniques used in a four county area in Ohio. Questionnaires were sent to 63 lake owners/managers. The results of the survey are shown in Table 6. A total of 9 lake management techniques were being used. Eighteen lakes (25%) used a combination of two or more techniques. The most common management technique was lake level drawdown (22% of all lakes), followed by addition of white amur (20.9%), dredging (14.3%), weed harvesting (14.3%) and application of chemicals to control aquatic algae and macrophytes (12.7%). It is clear from this NEFCO information that the legalization of white amur in 1987 has had a significant impact on efforts to restore lake uses in Ohio.

Table 6. Lake restoration management techniques used by 63 lakes in the four county NEFCO area in Ohio. 1990 data.

Management Technique	No. of Lakes	% of Lakes
None reported or known	19	30.1%
At least one technique used	44	69.9%
Lake level drawdown	14	22.2%
white amur (grass carp)	13	20.9%
Weed Harvesting	9	14.3%
Dredging	9	14.3%
Chemicals to control algal and aquatic weeds	8	12.7%
Fish removal, restocking	4	6.3%
Circulation	3	4.8%
Alum to remove phosphorus	1	1.6%
Hypolimnetic aeration	1	1.6%

In summary, most of the standard lake restoration techniques have been attempted in Ohio. However, whether or not these restoration measures have been successful in restoring lake uses is largely unknown due to lack of long term monitoring data.

I. Attainment of Designated Uses

Another requirement of the 305(b) report is for States to provide a list of public lakes for which designated uses are impaired, do not meet State water quality standards, or require implementation of lake and watershed management programs to maintain compliance with applicable standards.

Federal guidance for the 305(b) report requires that lakes be classified into one of five possible use

attainment categories: (1) insufficient data, (2) full use attainment, (3) full use attainment but threatened, (4) partial use, partial attainment, and (5) impaired use, non-attainment.

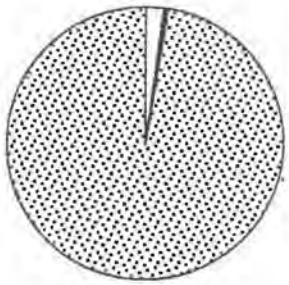
Many of Ohio's lakes have multiple uses and may show partial use support or impairment for one use but full use for another. For this report, each lake was assessed for all possible uses, whether or not those uses are currently being realized. For each of Ohio's 450 public lakes separate use assessments were made for: (1) aquatic life use support, (2) recreational use support, (3) public drinking water supply use support and (4) fish tissue consumption use support.

The Ohio LCI assessment process was used to determine use support and CWA goal attainment for Ohio's 450 publicly owned lakes (see Appendix A for details on use of the LCI assessment process and Appendix H for a summary of LCI parameters for each lake). Table 7 and figure 1 provide a summary of designated use support for Ohio's lakes based on data from the LCI assessment. As shown in Table 7, there is a general lack of sufficient information to assess the majority of Ohio's public lakes. This lack of information represents a deficiency in Ohio's surface water quality monitoring strategy. However, data does exist for most of Ohio's large recreational lakes over 1000 acres; thus, a large percentage of the total surface area of public lakes has been assessed for recreational, aquatic life, and public water supply uses. Fish tissue samples have only been collected from 11 of Ohio's 450 public lakes, thus it is not possible at this time to assess attainment of this Clean Water Act goal. Fish consumption advisories for elevated PCBs in carp do exist at 2 of the 11 public lakes that have been tested, Summit Lake and Nesmith Lake, both in Summit County.

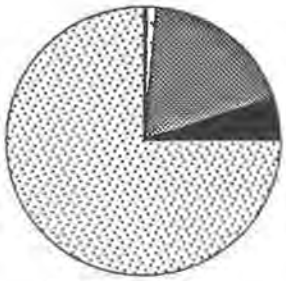
Data from Table 7 also show that the majority of Ohio's lakes that have been assessed fall into the "partial use-partial attainment" CWA category. This is due in part to the rather strict requirement in the LCI assessment process that in order for a lake to be judged meeting "full use" it may not show any "threatened (monitored)" [t(m)] conditions for any of the 14 LCI parameters. Thus, for example, any lake with summer hypolimnetic oxygen levels below 2.0 mg/l at a depth 0.5 m from the la bottom would be classified as a partial use lake because it would score a t(m) subindex condition for the non-priority pollutant (NP) parameter. Given this situation, lakes judged to be meeting "full use" using the LCI assessment process would represent very high quality lakes that should be given high priority for protection from future impacts.

Table 7. Summary of attainment of designated uses for Ohio's lakes, reservoirs, and ponds greater than 5 acres in surface area.

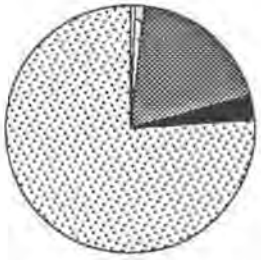
#/ acres	FISH TISSUE	PWS	EWH	REC
		Use Support		
		Use Support Unknown		
#	439	338	343	335
		Insufficient Data		
Acres	104,338	38,910	40,327	37,719
		Lakes Assessed		
#	11	112	107	115
		Data Available		
Acres	14,507	79,935	78,518	81,126
		Fully Supports Use		
#	9	1	2	7
Acres	14,337	128	259	1,633
		Supports Use but Threatened		
#	0	5	6	16
Acres	0	9,389	6,265	12,775
		Partially Supports Use		
#	2	83	85	56
Acre	180	60,748	66,835	44,859
		Does Not Support Use-Impaired		
#	0	23	14	36
Acres	0	9,679	5,168	21,868



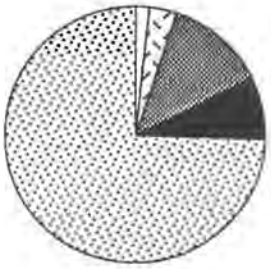
Fish Consumption



Public Water Supply



Aquatic Life



Recreation

Figure 1. Public water supply, recreation, fish consumption, and aquatic life use support status for Ohio's public lakes. Percentages in pie charts based on the number of lakes in each category.

- *Full Support*
- *Threatened*
- *Partial Support*
- *Impaired*
- *No Data*

Table 8. List of Ohio's public lakes with impaired designated uses as determined by the Ohio LCI process.

Lake	County	Impaired Uses
Acton Lake	Butler	REC; EWH
Baldwin Lake	Cuyahoga	REC, PWS
Buckeye Lake	Licking	REC
C.J. Brown Lake	Clark	REC
Charles Mill Lake	Ashland	REC, PWS
Clouse Pond	Perry	REC, PWS
Cowan Lake	Clinton	REC, PWS
Defiance Power Dam	Defiance	REC, PWS, EWH
Dillon Reservoir	Muskingum	PWS
East Fork Lake	Clermont	REC, PWS, EWH
East Branch Resv.	Geauga	REC, PWS
Essington Lake	Perry	PWS, EWH
Findley Lake	Lorain	REC
Fox Lake Strut. #6	Athens	PWS
Friendship Park Lk	Jefferson	PWS, EWH
Guilford Lake	Columbiana	REC
Harrison Lake	Fulton	PWS
Hinckley Lake	Medina	REC, EWH
Indian Lake	Logan	REC
J. Griggs Resv.	Franklin	EWH
Jackson Lake	Jackson	REC, PWS
Knox Lake	Knox	REC
Lake Aquilla	Geauga	REC, PWS, EWH
Lake Hope	Vinton	PWS, EWH
Lake Logan	Hocking	REC
Lake Rockwell	Portage	REC, PWS, EWH
Madison Lake	Madison	REC, PWS
Meadowbrook Lake	Portage	REC, PWS
Mogadore Reservoir	Portage	REC, PWS
Munroe Basin	Muskingum	REC, PWS
Newport Lake	Mahoning	REC, PWS, EWH
Paint Creek Lake	Highland	REC
Rush Run Lake	Preble	REC
Sharon Woods Lake	Hamilton	REC
Shreve Lake	Wayne	REC
Sippo Lake	Stark	REC, PWS
Spring Valley Lake	Warren	REC, EWH
Stonelick Lake	Clermont	REC, PWS
Sunny Lake	Portage	REC
Swift Run Lake	Miami	REC, PWS
Van Buren Lake	Hancock	PWS
Veto Lake	Washington	REC
Westville Lake	Columbiana	REC
Winton Woods Lake	Hamilton	REC, PWS, EWH

Impaired Lakes. Table 8 lists public lakes with at least one impaired use as judged by the Ohio LCI assessment process. These lakes represent high priority lakes for Section 314 CLP Phase I studies. The most significant problems with Ohio's lakes and those causing considerable non-support of beneficial uses continue to be volume loss due to sedimentation, aesthetics, nuisance growths of macrophytes, and organic and nutrient enrichment. Turbidity, as determined by Secchi disk transparency, is also a concern in numerous lakes and is probably a reflection of the other problem parameters. Major sources and causes of non-support are shown in Appendices F-1 and F-2.

Major and moderate sources of non-support are primarily nonpoint in origin. Agricultural nonpoint sources are by far having the greatest influence w. major and moderate effects on over 30,128 acres. Other nonpoint sources with moderate magnitude impacts include urban runoff (7,385 acres) and septic tanks (17,161 acres). Point sources (all categories) have moderate impacts on greater than 22,433 acres of Ohio lakes.

Ohio LCI Classification. One useful feature of the Ohio LCI is its ability to provide a final Lake Condition Index score that can be used to rank the relative resource condition or health of different lakes in Ohio. This aspect of the LCI was not used in previous 305(b) reports due to insufficient data. For this 1992 update, sufficient data were available to calculate and rank final LCI scores for 40 of Ohio's 450 public lakes as shown in Table 9.

Table 9. Final Lake Condition Index scores for 40 public lakes in Ohio. Only lakes assessed for at least 12 LCI parameters are included. Trophic state from Appendix C.

Lake	Final LCI Score	Lake Trophic State
100 % Impairment Probability		
Winton Woods Lake	56.92	H
Newport Lake	44.29	H
Indian Lake	39.29	E-H
Charles Mill Lake	37.69	H
Stonelick Lake	35.83	H
J. Griggs Reservoir	34.17	E
Lake Rockwell	34.17	E
Acton Lake	33.85	E
Findley Lake	33.33	E
Lake Loramie	33.08	H
Defiance Power Dam	33.08	E
Lake Nesmith	31.43	H
Meadowbrook Lake	30.83	E
Sippo Lake	30.77	M-E
Guilford Lake	30.77	E
Berlin Reservoir	30.00	E-H
Dillon Reservoir	30.00	E-H
Buckeye Lake	28.57	H
Lake Logan	28.33	E
Hinckley Lake	28.33	M
Summit Lake	27.86	E
Lake Hope	27.69	M
Lake Milton	27.50	E
Kiser Lake	26.15	H
0 % Impairment Probability		
Eastwood Lake	25.00	E
Rush Run Lake	25.00	M
Deer Creek Lake	24.17	E
Punderson Lake	24.16	E
Rocky Fork Lake	23.57	E
Lake La Su An	23.33	E
Bresler Reservoir	22.31	E
Jefferson Lake	21.67	M
Mosquito Creek Lake	21.43	E
Dow Lake	20.77	M
Metzger Reservoir	20.00	E
Oberlin Reservoir	18.33	M
Hargus Lake	15.71	M-E
Beaver Creek Reservoir	13.85	M
Killdeer Reservoir	13.33	O
Lake La Comte	13.33	M

Only those lakes with either monitored or evaluated data for at least 12 of the 14 total LCI parameters are included in Table 9. A slight modification was made in the method of calculating a final LCI score -- the mean coefficient of lake condition was multiplied by 10 to yield a scale ranging from 10 to 100, with a LCI value of 100 representing the highest level of overall lake impairment.

A discussion of the method used to calculate final LCI scores is found in Appendix A of this report. As additional information is made available it is anticipated that other lakes will be added to Table 9, with the ultimate goal of ranking the resource condition of all of Ohio's 450 public lakes. Preliminary data indicates that lakes in Table 9 with final LCI scores above 30.00 show 100.0% probability of having an impaired use for at least one of three designated uses (i.e., aquatic life, recreation, or public drinking water supply). Lakes with LCI scores below 25.00 show 0.0% probability of having an impaired use. Additional information on a wider range of lakes will be required to see if these relationships can be applied statewide.

J. Acid Mine Effected Lakes. Another requirement of the 305(b) report is for States to identify those lakes in which water quality has deteriorated as a result of high acidity that may be due to acid mine drainage. The Ohio LCI assessment uses the Acid Mine Drainage (M) parameter to identify lakes that are potentially impacted by acid mine chemicals such as low pH, high iron, sulfates, and manganese.

Water quality criteria for this parameter are found in Appendix A.

As shown in Table 12, 121 of Ohio's 450 public lakes have been assessed for potential acid mine effects with only 3 showing impaired chemical conditions; Friendship Park Lake, Jefferson Co.; Essington Lake, Perry Co.; and Lake Hope, Vinton Co. For the most part, lakes potentially affected by acid mine drainage in Ohio are found only in the unglaciated Western Allegheny Plateau ecoregion of southeast Ohio where extensive resource extraction (coal mining) occurs.

K. Status and Trends of Lake Water Quality. Tables 10, 11, and 12 provide a summary of the status and trends of water quality information for Ohio's public lakes from 1988, 1990, and 1992. The data for these tables were obtained using the Ohio LCI assessment process. The most significant increase in available information has been for the IBI, fish tissue, sediment contamination, and volume loss parameters. These increases in data were primarily the result of the Ohio EPA 1989 and 1990 Section 314 Lake Water Quality Assessment Grant and the 1988 SCS sedimentation survey. For the 1992 assessment, a significant number of lakes moved from full use to partial use for the non-priority pollutant (NP) LCI parameter due to the addition of a 2.0 mg/l hypolimnetic oxygen criterion. The inclusion of this oxygen criterion results in a more realistic assessment of the overall health of the lake resource.

Perhaps the most obvious conclusion from the data in Tables 10 through 12 and Figure 2 is the fact that a significant number of lakes have not been assessed for most of the 14 Ohio LCI parameters. This

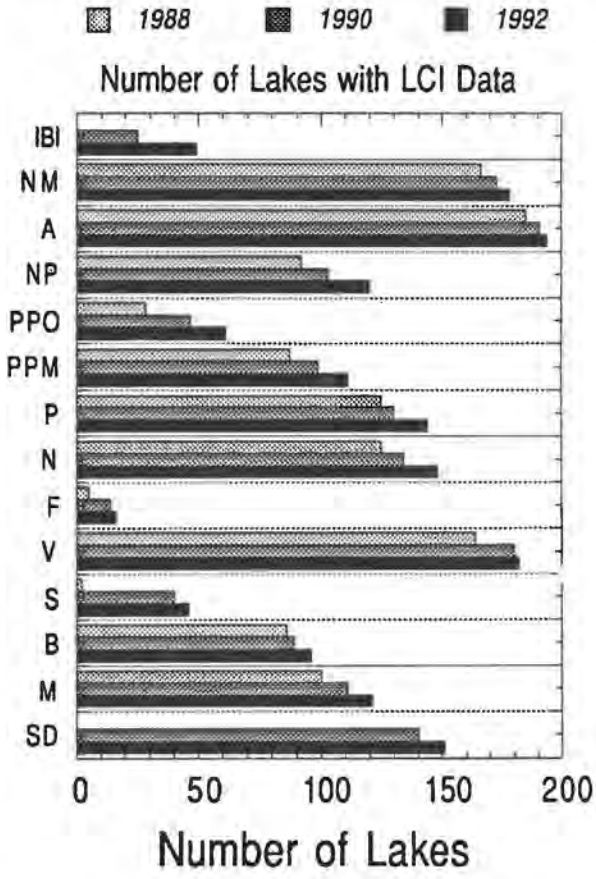


Figure 2. Increase in available information for calculation of the LCI between 1988 and 1992 305(b) cycles.

represents a deficiency in the Ohio's water quality assessment process. In addition, much of the assessed data are evaluated rather than monitored data. Evaluated data are the only type of data used to assess two LCI parameters– Index of Biotic Integrity (IBI) and nuisance growths of macrophytes.

Table 10. 1988 305(b) summary of Lake Condition Index (LCI) parameters for Ohio's 417 public lakes.

		IBI	NM	A	NP	PPO	PPM	P	N	F	V	S	B	M
Lakes	No.	—	166	185	92	28	97	125	125	5	164	2	86	100
Assessed	Acres	—	99,895	101,971	88,153	9,741	91,226	86,399	102,029	545	99,012	180	89,995	91,179
Not	No.	417	251	232	325	389	330	292	292	412	253	415	331	317
Assessed	Acres	117,323	17,428	15,353	29,170	107,852	26,097	30,924	15,295	116,778	18,311	117,143	27,328	26,144
Full Use	No.	—	—	33	67	1	56	15	29	3	—	1	75	98
Monitored	Acres	—	—	12,413	58,411	100	61,498	3,536	17,585	365	—	80	86,335	91,036
Full Use	No.	—	92	51	—	—	—	—	—	—	15	—	—	—
Evaluated	Acres.	—	60,110	19,352	—	—	—	—	—	—	5,828	—	—	—
Partial Use	No.	—	—	39	—	—	26	—	—	2	—	1	7	—
Monitored	Acres.	—	—	37,350	—	—	22,890	—	—	180	—	100	1,620	—
Partial Use	No.	—	74	60	3	27	—	19	34	—	149	—	2	—
Evaluated	Acres.	—	39,785	27,662	3,630	9,731	—	5,901	4,509	—	93,184	—	1,752	—
Impaired Use	No.	—	—	2	2	—	5	—	—	—	—	—	2	2
Monitored	Acres.	—	—	5,194	36	—	6,839	—	—	—	—	—	288	143
Eutrophic	No.	—	—	—	—	—	—	48	33	—	—	—	—	—
Monitored	Acres.	—	—	—	—	—	—	32,681	40,289	—	—	—	—	—
Hypereutrophic	No.	—	—	—	—	—	—	43	29	—	—	—	—	—
Monitored	Acres.	—	—	—	—	—	—	44,282	41,446	—	—	—	—	—

LCI parameter abbreviations: IBI = Ohio EPA Index of BIotic Integrity; NM = Nuisance growths of macrophytes; A = Aesthetics; NP = Non-priority pollutants; PPO = Priority organics (toxics); PPM - Priority metals (toxics); P = Productivity (summer chlorophyll-a); N = Nutrients (spring total phosphorus), F = Fish tissue contamination, V = Volume loss due to sedimentation; B = Fecal coliform bacteria, M = Acid mine drainage.

Table 11. 1990 305(b) summary of Lake Condition Index (LCI) parameters for Ohio's 417 public lakes.

		IBI	NM	A	NP	PPO	PPM	P	N	F	V	S	B	M	SD
Lakes	No.	25	173	191	103	47	99	130	134	14	180	40	89	111	140
Assessed	Acres	26,802	100,437	102,497	88,926	39,078	92,087	86,868	103,306	27,614	102,751	33,524	90,733	91,952	103,055
Not	No.	392	244	226	314	370	318	287	283	403	237	377	328	306	277
Assessed	Acres	90,559	16,924	14,864	28,435	82,283	25,274	30,493	14,055	89,747	14,610	83,837	26,628	25,409	14,306
Full Use	No.	—	—	37	74	5	75	16	36	12	12	34	78	109	26
Monitored	Acres	—	—	13,158	51,772	13,230	77,315	3,679	22,423	27,434	10,837	32,686	88,362	91,809	5,759
Full Use	No.	10	100	52	—	13	—	—	—	—	23	—	—	—	23
Evaluated	Acres.	17,007	70,839	21,472	—	8,117	—	—	—	—	13,880	—	—	—	13,456
Partial Use	No.	—	1	45	24	—	21	—	—	2	29	6	8	—	58
Monitored	Acres.	—	183	41,371	33,488	—	14,456	—	—	180	18,532	838	2,016	—	37,469
Partial Use	No.	10	68	51	3	29	—	17	31	—	113	—	1	—	33
Evaluated	Acres.	9,407	29,202	20,951	3,630	13,731	—	5,825	4,343	—	59,276	—	67	—	46,371
Impaired Use	No.	—	—	6	2	—	3	—	—	—	2	—	2	2	—
Monitored	Acres.	—	—	5,545	36	—	316	—	—	—	194	—	288	143	—
Eutrophic	No.	—	—	—	—	—	—	53	40	—	—	—	—	—	—
Monitored	Acres.	—	—	—	—	—	—	39,997	38,907	—	—	—	—	—	—
Hypereutr.	No.		—	—	—	—	—	44	27	—	—	—	—	—	—
Monitored	Acres.	—	—	—	—	—	—	37,367	37,633	—	—	—	—	—	—

LCI parameter abbreviations: IBI = Ohio EPA Index of BIotic Integrity; NM = Nuisance growths of macrophytes; A = Aesthetics; NP = Non-priority pollutants; PPO = Priority organics (toxics); PPM - Priority metals (toxics); P = Productivity (summer chlorophyll-a); N = Nutrients (spring total phosphorus), F = Fish tissue contamination, V = Volume loss due to sedimentation; B = Fecal coliform bacteria, M = Acid mine drainage; SD = Secchi disk.

Table 12. 1992 305(b) summary of Lake Condition Index (LCI) parameters for Ohio's 450 public lakes.

		IBI	NM	A	NP	PPO	PPM	P	N	F	V	S	B	M	SD
Lakes Assessed	No.	49	178	194	120	61	111	144	148	16	182	46	96	121	151
	Acres	34,774	102,562	103,542	94,804	41,387	94,424	89,284	105,701	27,838	103,611	36,177	94,023	95,399	105,223
Not Assessed	No.	401	272	255	330	389	338	306	302	434	268	404	354	329	299
	Acres	84,081	16,293	14,413	24.050	77,468	23,106	29,571	13,154	91,017	15,244	82,678	24,831	23,456	13,632
Full Use Monitored	No.	0	2	44	21	8	91	20	37	14	12	41	84	118	34
	Acres	0	764	16,923	17,754	14,611	81,196	2,695	22,317	27,658	10,837	35,159	89,512	95,170	7,437
Full Use Evaluated	No.	26	105	55	—	22	—	—	—	—	29	—	—	—	19
	Acres.	23,610	75,068	23,022	—	9,428	—	—	—	—	15,364	—	—	—	9,422
Partial Use Monitored	No.	—	1	45	96	—	18	—	—	2	30	5	9	—	77
	Acres.	—	183	38,415	76,595	—	13,116	—	—	180	18,631	1,018	4,157	—	51,662
Partial Use Evaluated	No.	17	66	44	1	31	—	12	28	—	108	—	1	—	21
	Acres.	10,671	26,334	18,377	420	17,348	—	2,332	2,558	—	58,553	—	67	—	36,701
Impaired Use Monitored	No.	—	1	6	2	—	2	—	—	—	2	—	2	23	—
	Acres.	—	88	6,805	36	—	112	—	—	—	194	—	288	228	—
Impaired Use Evaluated	No.	6	3	—	—	—	—	—	—	—	1	—	—	—	—
	Acres.	493	125	—	—	—	—±	—	—	—	32	—	—	—	—
Eutrophic Monitored	No.	—	—	—	—	—	—	72	56	—	—	—	—	—	—
	Acres.	—	—	—	—	—	—	47,605	45,222	—	—	—	—	—	—
Hypereutr. Monitored	No.	—	—	—	—		—	40	27	—	—	—	—	—	—
	Acres.	—	—	—	—	—	—	36,651	35,603	—	—	—	—	—	—

LCI parameter abbreviations: IBI = Ohio EPA Index of BIotic Integrity; NM = Nuisance growths of macrophytes; A = Aesthetics; NP = Non-priority pollutants; PPO = Priority organics (toxics); PPM - Priority metals (toxics); P = Productivity (summer chlorophyll-a); N = Nutrients (spring total phosphorus), F = Fish tissue contamination, V = Volume loss due to sedimentation; B = Fecal coliform bacteria, M = Acid mine drainage; SD = Secchi disk.

II. Nonpoint Source Lake Assessment

Section 319 of the Clean Water Act requires each state to report the extent that nonpoint sources of pollution effect waters of the State. The Ohio EPA completed a nonpoint source assessment in 1988, which was updated in 1989 (Ohio EPA 1988b,1990a). As part of this NPS assessment process, a procedure was developed to "target" public lakes with potential nonpoint source pollution problems. This procedure uses 8 of the 14 Ohio LCI parameters as being indicative of nonpoint source pollution: 1) productivity based on summer chlorophyll-a, 2) nutrients based on spring total phosphorus, 3) volume loss due to sedimentation, 4) fecal coliform bacteria, 5) acid mine drainage, 6) aesthetics (fish kills, algae blooms, etc.), 7) priority pollutant metals, and 8) presence of nuisance macrophytes. A lake was targeted as being NPS impacted if four or more of these eight parameters indicate that full use (fu) was not being attained, regardless of whether the data was monitored or evaluated.

A list of 69 NPS targeted lakes is provided in Appendix G. These lakes are associated with watersheds that have been given a high priority for nonpoint source implementation control measures. Additional details are given in the 1990 Nonpoint Source Assessment document.

III. 1992 Recommendations

Efforts since 1988 by the Ohio EPA and other agencies to assess the overall condition of Ohio's lakes should be continued and expanded. Additional data are needed on volume loss due to sedimentation, fish tissue and sediment contamination, and overall health of the biological resource (e.g. through development of biocriteria or assessment criteria for fish, plankton, macrophytes, etc.). Besides continuing to obtain Section 314 Phase I and II grants for intensive monitoring of specific lakes, a state funded inland lake monitoring program needs to be initiated to collect baseline and long-term chemical, physical, and biological data for all of Ohio's 450 public lakes. More lakes need to be sampled more often to determine trends in resource condition. A select set of ambient la. stations needs to be established to determine long term trends of lake ecosystem condition, both by ecoregion and lake type. Resources directed to development of lake wetland habitat monitoring procedures and assessment criteria should also be given a high priority.

The volunteer citizen monitoring program established by NEFCO and OLMS/CLIP should be continued and expanded. Resources should be made available to include chlorophyll-a and total phosphorus measurements along with Secchi depth as the minimum monitoring components.

APPENDIX A

1992 Revisions to the Ohio Lake Condition Index (LCI)

The Ohio Lake Condition Index (Ohio LCI) was developed by the Ohio EPA for the 1988 305(b) reporting cycle. The LCI is a multiparameter (14 metrics in the 1992 revision) lake classification scheme that is used to quantify the overall condition or ecosystem health of Ohio's public lakes, as required by Sections 305 and 314 of the Clean Water Act. Specifically, it is used to (1) determine if water quality standards are being realized in Ohio's public lakes, (2) to evaluate attainment of designated uses and the fishable and swimmable goals of the Clean Water Act, (3) to rank the relative condition or health of Ohio's public lakes, and (4) to "target" lakes potentially effected by nonpoint source pollutants as required by Section 319 of the Clean Water Act.

The Ohio LCI was developed with sufficient flexibility to meet expected revisions in federal EPA guidance for the 305(b) Report. The original 1988 Ohio LCI protocol (Ohio EPA 1988a) was revised and published in 1989 (Davic and DeShon 1989) and modifications were made for the 1990 Ohio 305(b) report cycle (Ohio EPA 1990b). Further revisions, in response to changes in federal EPA guidance, were subsequently made for the 1992 reporting cycle and are described below.

A. Revisions to the assessment of designated uses and level of lake impairment.

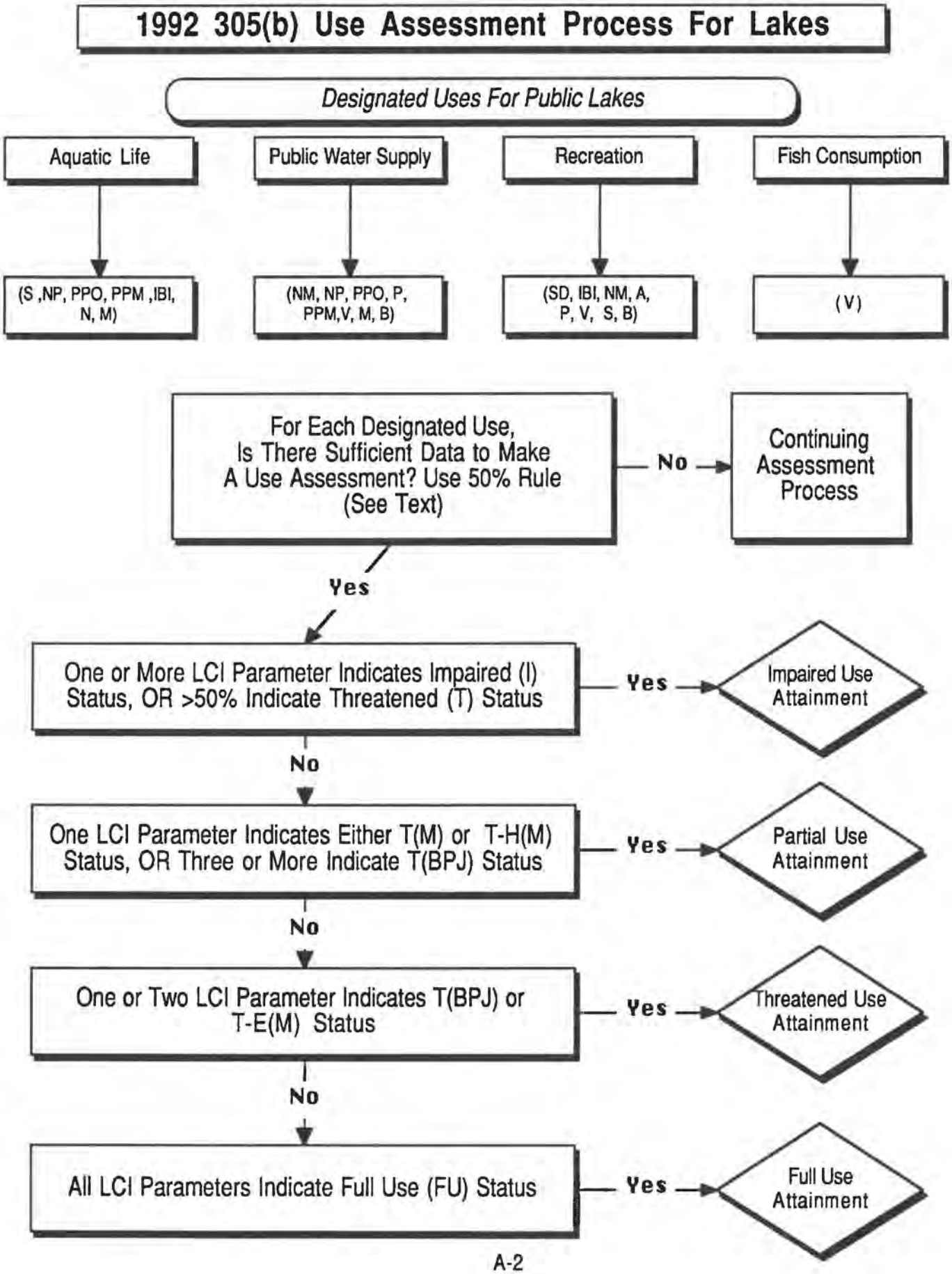
Federal guidance for the 1992 305(b) Report for lakes requires each State to summarize, at a minimum, the degree of impairment for the following designated uses: (1) aquatic life, (2) public drinking water, (3) recreation, i.e., the "swimmable goal of the Clean Water Act", and (4) fish consumption. For each designated use (EWH, REC, TISSUE, PWS), four levels of attainment are allowed as shown below:

Full Use, Full Attainment
Threatened Use, Attainment
Partial Use,Partial Attainment
Impaired Use, Non-Attainment

The Ohio LCI uses different sets of parameters or metrics to evaluate attainment of designated uses. For example, to determine attainment for "recreational use (REC)", eight LCI metrics are assessed (e.g., Secchi Disk (SD); Index of Biotic Integrity (IBI); Nuisance growths of Macrophytes (NM); Aesthetics (A); Algal Production (P); Volume loss due to sedimentation (V); Sediment contamination (S); and fecal coliform bacteria (B)). More than 50% of the required LCI metrics must have either monitored (m) or evaluated (bpj) data--this is called the 50% rule. If sufficient data are not available, then the lake is added to the State's continuing assessment process and it is reported in the 305(b) Report that the lake in question could not be assessed for that specific designated use due to lack of data.

For the 1992 305(b) Report, minor changes were made to the sets of LCI metrics that are used to determine attainment for each designated use. These 1992 revisions are shown in Figure 1, Appendix A. Changes in federal guidance also resulted in the use of both monitored and evaluated to determine attainment of designated uses for aquatic life and public drinking water supply, however, greater weight is given to monitored data in the assessment process and calculation of final LCI scores.

Appendix A. Figure 1



B. Calculation of final LCI scores.

Calculation of a final LCI score provides a method for ranking the relative condition or ecosystem health of different lakes. The protocol used to calculate a final LCI ranking is presented in Davic and DeShon (1989), with some minor modifications added for this 1992 report. The final LCI score is calculated as the sum of subindex points, divided by the total number of parameters assessed (either 12, 13, or 14), multiplied by a factor of 10. This results in a mean coefficient of lake condition with a potential range of values from 10 to 100, with 100 representing the highest level of ecosystem impairment. The following points are assigned to each subindex condition:

ne:	not assessed (0 subindex points)
t-bpj:	threatened condition, evaluated data (2 points)
t-m:	threatened condition, monitored data (5 points)
i-bpj:	impaired condition, evaluated data (5 points)
i-m:	impaired condition, monitored data (10 points)
f-bpj:	full use condition, evaluated data (1 point)
f-m:	full use condition, monitored data (1 point)
t-e(m):	monitored eutrophic condition (5 points)
t-h(m):	monitored hypereutrophic condition (10 points)

Because a single score can be ambiguous in a multiparameter index with missing data, it is recommended that final LCI scores only be calculated if data are available for at least 12 of the 14 total LCI parameters under consideration. Table 9 in this report lists final LCI scores for 40 public lakes. It is important to note that the long term goal of the Ohio EPA is to have monitored (m) data for all 14 parameters for all of Ohio's 450 public lakes greater than 5 acres, however, attainment of this goal will require a significant increase in the amount of funds spent on lake water quality assessments. Lack of monitored data that can be used in the LCI represents a deficiency in Ohio's surface water quality assessment process.

C. LCI parameter criteria.

The Ohio Lake Condition Index assessment process uses either monitored (m) or evaluated (bpj) data to measure the condition of 14 parameters or metrics. Raw data are converted into the following subindex conditions: f(m) = full use based on monitored data; f(bpj) = full use based on best professional judgement; t(m) = threatened use based on monitored data; t(bpj) = threatened use based on best professional judgement; i(bpj) = impaired use, best professional judgement, and i(m) = impaired use based on monitored data. Responses to a LCI questionnaire represent the (bpj) data for the 1992 assessment. A revised LCI questionnaire is provided in Appendix D. Where available, subindex determinations are based on state water quality standards or criteria.

I. BIOLOGICAL EVALUATION OF LAKE CONDITION

Index of Biotic Integrity-Fish (IBI)

a) Monitored data (m). The Ohio EPA developed an Index of Biotic Integrity to assess the overall health of fish communities in streams and rivers. The concept has not yet been adapted for lake habitats. The necessary developmental work will have to take place prior to any use of this index in the Ohio LCI assessment process.

b) Evaluated data (bpj). In the 1990 revision to the LCI, questionnaire data was used to evaluate the condition of fish communities in lakes. The following two questions are asked:

1. Does the lake support a well balanced mix of sport and forage fish, or do a few species dominate (circle one)?

Insufficient data; Well balanced fishery;
Partially balanced fishery; Impaired fishery

2. How would you rate the fishing in this lake?

Excellent; Good; Acceptable; Marginal; Poor

Responses to these questions were used to make an evaluated (bpj) assessment of the lake fishery for the 1992 LCI assessment process.

Nuisance Growths of Macrophytes (NM)

Based on potential impact on recreational boating, shoreline fishing, and decay to release organic matter. No standards or criteria exist. Data may be monitored (m) or evaluated (bpj).

Raw	DataCondition
< 25% lake area affected	f(m); f(bpj)
25% to 50% affected	t(m); t(bpj)
> 50% affected	i(m); i(bpj)

Fecal Coliform Bacteria Contamination (B)

Based on state water quality standards. Only monitored (m) data are used to assess this parameter.

Raw Data	Condition
< 200/100 ml	f(m)
Between 200-1000/100 ml	t(m)
>1000/100 ml	i(m)

Algal Production based on Chlorophyll-a (P)

Based on surface water samples (0.5 m depth). Only monitored (m) data are used.

Raw Data		Condition
0.3 - 2.0 ug/l	Oligotrophic	f(m)
2.0 - 6.0	Mesotrophic	f(m)
6.0 - 40.0	Eutrophic	t-e(m)
>40.0	Hypereutrophic	t-h(m)

Fish Tissue Contamination (F)

Raw Data	Condition
No fish consumption advisory issued	f(m)
Fish advisory for bottom feeders (carp, catfish).	t(m)
Fish advisory for game species	i(m)

II. CHEMICAL EVALUATION OF LAKE CONDITION

Nonpriority Pollutants (NP)

Based on State water quality standards. Only monitored (m) data are used.

Raw Data (surface or bootom)	# of Measures Above WQS	Condition
Any Nonpriority metals	0	f(m)
pH > 9.5	1 or 2	t(m)
Sulfates > 250 < 960 mg/l	> 2	i(m)
TDS > 1500 mg/l		
Ammonia, pH & Temp. Dependent		
D.O. < 6.0 mg/l (surface)		
D.O. < 2.0 mg/l (bottom)		

Priority Organics (PPO) and Priority Metals (PPM)

Based on U. S. EPA federal register list of 126 priority pollutants. Only monitored (m) data are used.

# Exceeding Chronic Criteria (surface or bottom)	Condition
0	f(m)
1	t(m)
> 1	i(m)

Nutrients based on Spring T-Phosphorus (N)

Based on surface water samples (0.5 m depth). Only monitored (m) data are used.

Raw Data	Trophic State	Condition
3 -9 ug/l	Oligotrophic	f(m)
9 - 24	Mesotrophic	f(m)
24 - 75	Eutrophic	e(m)
> 75	Hypereutrophic	t-h(m)

Sediment Contamination (S)

Metals based on Illinois EPA lake sediment criteria (Kelly *et al.*, 1984). Concentrations represent twice standard deviations from 273 individual lake sediment samples collected from 63 Illinois lakes. The following priority metals are used:Only monitored (m) data are used.

Raw Data	Criteria	Condition
Arsenic	> 41 (mg/kg)	None over criteria f(m)
Cadmium	> 2.6	1 over criteria ... t(m)
Chromium	> 38	2 over criteria ... i(m)
Copper	> 150	
Lead	> 150	
Mercury	> 0.40	
Zinc	> 250	
Oil-Grease	> 1000 (based on fed. crit)	
Total PCB's	> 50 (based on fed crit)	
TCLP (old EP Toxic) Waste		

Acid Mine Drainage (M)

pH from Ohio WQS. Other parameters from Ohio DNR, Division of Mine Reclamation criteria. Only monitored (m) data are used.

Raw Data	# of Violations	Conditions
pH < 6.5	0	f(m)
TDS > 1500 mg/l	1	t(m)
Mn > 4.0 mg/l	2	i(m)
Fe > 10.0 mg/l		
SO_4 > 960 mg/l		

Secchi Disk Transparency (SD)

Based on State of Illinois (Illinois EPA 1988) four foot minimum transparency recommended for bathing beaches. Only monitored (m) data are used.

Raw Data	Condition
Greater than 4 foot Secchi depth	f(m)
Less than 4 foot depth	t(m)

III. PHYSICAL EVALUATION OF LAKE CONDITION

Volume Loss Due To Sedimentation (V)

Based on an expected 40% reduction in useful life.Either monitored (m) or evaluated (bpj) data can be used.

Raw Data	Condition
< 10 % volume loss	f(m); f(bpj)
10% - 40 % loss	t(m); t(bpj)
> 40% loss	i(m); i(bpj)

IV. PUBLIC PERCEPTION OF LAKE CONDITION

Aesthetics (A)

Based on responses to the following question on the Ohio LCI questionnaire:

On a scale of 1 - 10 (1 = no problem, 10 = extreme problem),
please rank the following summer aesthetic conditions at this lake:

1. Algae blooms (pea green water)	1-2-3-4-5-6-7-8-9-10
2. Floating algae scums	1-2-3-4-5-6-7-8-9-10
3. Fish Kills (more than 200 fish at a time)	1-2-3-4-5-6-7-8-9-10
4. Odors	1-2-3-4-5-6-7-8-9-10
5. Duckweed	1-2-3-4-5-6-7-8-9-10
6. Muddy (brown) water	1-2-3-4-5-6-7-8-9-10
7 Taste and Odor Problems (if a water supply)	1-2-3-4-5-6-7-8-9-10
8. THM (Trihalomethane) Problems (if a water supply)	1-2-3-4-5-6-7-8-9-10
9. Other (name)	1-2-3-4-5-6-7-8-9-10

Responses to these questions were used to make a monitored (m) assessment of the public's overall perception of lake aesthetics.

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Typ
OH61 23- 48	ACTON LAKE	Butler	604	WS R	DPI
OH48 13- 1	ADAMS LAKE	Adams	37	R	DPI
OH88 1-369	ALDER POND	Summit	15	R	NL
OH78 4-336	ALDRICH POND	Sandusky	34	R	DO
OH38 5-102	ALUM CREEK LAKE	Delaware	3387	WS R FC	DPI
OH36 35-268	AMANN RESERVOIR	Morrow	24	WS R	DPI
OH36 35-269	AMICKS RESERVOIR	Morrow	51	WS R	UP
OH72 18-139	ARCHBOLD RESERVOIR #1	Fulton	20	WS R	UP
OH72 18-140	ARCHBOLD RESERVOIR #2	Fulton	49	WS R	UP
OH92 28- 16	ASTABULA CO. METRO PARKS LAKE #1	Ashtabula	6	R	DPI
OH92 28- 17	ASTABULA CO. METRO PARKS LAKE #2	Ashtabula	6	R	DPI
OH45 21-303	ATOMIC ENERGY COMM. LAKE #1	Pike	14	C	DPI
OH45 21-304	ATOMIC ENERGY COMM. LAKE #2	Pike	17	C	UP
OH81 18-344	ATTICA RESERVOIR	Seneca	5	WS	UP
OH12 5-383	ATWOOD RESERVOIR	Tuscarawas	1540	R FC	DPI
OH87 4- 88	BALDWIN LAKE	Cuyahoga	32	WS R	DPI
OH90 19- 95	BALDWIN RESERVOIR	Cuyahoga	6	WS	UP
OH82 1-337	BALLVILLE DAM	Sandusky	89	WS	DPI
OH 7 36- 36	BARNESVILLE RESERVOIR #1	Belmont	35	WS R	DPI
OH 7 36- 37	BARNESVILLE RESERVOIR #2	Belmont	11	WS R	DPI
OH 7 44- 35	BARNESVILLE RESERVOIR #3	Belmont	98	WS R	DPI
OH -418	BATAVIA WATER SUPPLY RESV.	Clermont	14	WS	DPI
OH13 1-384	BEACH CITY LAKE	Tuscarawas	420	R FC	DPI
OH82 2-342	BEAVER CREEK RESERVOIR	Seneca	110	WS R	UP
OH 2 5- 78	BEAVER LAKE	Columbiana	103	WS	DPI
OH84 25-194	BELLEVUE RESERVOIR #1,#2	Huron	14	WS R	UP
OH84 25-193	BELLEVUE RESERVOIR #3	Huron	14	WS R	UP
OH83 3-192	BELLEVUE RESERVOIR #4	Huron	31	WS R	UP
OH84 12-201	BELLEVUE RESERVOIR #5	Huron	87	WS R	UP
OH 6 19- 30	BELMONT LAKE	Belmont	117	R	DPI
OH84 24-110	BERLIN HEIGHTS RESERVOIR	Erie	5	WS	UP
OH 1 24-307	BERLIN RESERVOIR	Portage	3590	WS R FC	DPI
OH53 31- 60	BETHEL RESERVOIR	Clermont	6	WS	UP
OH -419	BETHEL UPGROUND RESV. #2	Clermont	6	WS	UP

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WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Type
OH 7 24- 32	BETHESDA RESERVOIR	Belmont	13	WS	DPI
OH -420	BIG ISL. WLDLF AREA UPGR RESV.	Marion	382	R	UP
OH52 4- 61	BLANCHESTER RESERVOIR #1	Clinton	7	WS	UP
OH52 4- 62	BLANCHESTER RESERVOIR #2	Clinton	7	WS	UP
OH52 4- 63	BLANCHESTER RESERVOIR #3	Clinton	11	WS	DPI
OH52 4- 64	BLANCHESTER RESERVOIR #4	Clinton	11	WS	UP
OH52 4- 65	BLANCHESTER RESERVOIR #5	Clinton	18	WS	UP
OH -421	BLUE LIMESTONE PARK QUARRY PIT	Delaware	7	R	DO
OH23 3-275	BLUE ROCK STATE PARK LAKE	Muskingum	18	WS R	DPI
OH -422	BOWLING GREEN G.C. LAKE	Wood	7	R	DO
OH -423	BOWLING GREEN UPGROUND RESV.	Wood	21	WS	DO
OH88 8-313	BRADY LAKE	Portage	70	R	NL
OH70 13- 4	BRESLER RESERVOIR	Allen	582	WS R	UP
OH22 59-212	BUCKEYE LAKE	Licking	3136	WS R	DPI
OH80 17- 83	BUCYRUS RESERVOIR #1	Crawford	36	WS R	DPI
OH80 17- 86	BUCYRUS RESERVOIR #2	Crawford	31	WS R	DPI
OH80 17- 87	BUCYRUS RESERVOIR #4	Crawford	150	WS	UP
OH 2 5-236	BURGESS LAKE	Mahoning	20	WS	DPI
OH26 20- 23	BURR OAK LAKE (T. JENKINS RESV.)	Athens	664	WS R FC	DPI
OH58 18- 55	C. J. BROWN LAKE	Clark	2120	R FC	DPI
OH51 1-393	CAESAR CREEK RESERVOIR	Warren	2830	WS R FC	DPI
OH 9 34-278	CALDWELL LAKE	Noble	51	WS R FC	DPI
OH -424	CALEY WOODS WILDLIFE LAKE	Lorain	9	R	DPI
OH21 43-158	CAMBRIDGE RESERVOIR	Guernsey	26	WS R	DPI
OH85 8-215	CAMDEN RESERVOIR	Lorain	9	R	NL
OH56 2-261	CARRIAGE HILL RESERVE LAKE	Montgomery	14	R	DPI
OH50 15-157	CEDARVILLE COLLEGE LAKE	Greene	6	R	DPI
OH50 15-155	CEDARVILLE RESERVOIR	Greene	5	WS R	UP
OH84 19- 82	CELERYVILLE RESERVOIR	Crawford	75	WS R	UP
OH16 21- 13	CHARLES MILL LAKE	Ashland	1350	R FC	DPI
OH10 16-242	CHIPPEWA CR CD STRUCTURE 7-C	Medina	23	FC	DPI
OH -425	CHIPPEWA CR. STRUCTURE 5-C	Wayne	9	FC	DPI
OH -426	CHIPPEWA CR. STRUCTURE 5-D	Wayne	7	R FC	DPI
OH10 19-398	CHIPPEWA CR. WATERSHED 7-C	Wayne	34	FC	DPI

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WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Typ
OH10 24-243	CHIPPEWA CREEK STRUCTURE 2-A	Medina	12	FC	DPI
OH10 22-244	CHIPPEWA CREEK STRUCTURE 3-A	Medina	20	R FC	DPI
OH54 1-163	CINCINNATI WATERWORKS LAKE #1	Hamilton	18	R	DO
OH54 1-164	CINCINNATI WATERWORKS LAKE #2	Hamilton	19	R	DO
OH17 10- 14	CINNAMON LAKE	Ashland	131	WS	DPI
OH17 23- 10	CITY OF ASHLAND LAKE	Ashland	6	R	DO
OH58 1-258	CITY OF DAYTON LAKE #1	Montgomery	10	R	DO
OH 1 20-373	CITY OF NEWTON FALLS LAKE	Trumbull	13	R	DO
OH76 20-404	CITY OF PERRYSBURG LAKE	Wood	7	R	DO
OH30 18-205	CITY OF WELLSTON LAKE	Jackson	11	WS	DPI
OH58 17- 54	CLARK LAKE	Clark	100	R	DPI
OH16 15-328	CLEAR FORK RESERVOIR	Richland	1010	WS R	DPI
OH14 20-182	CLENDENING LAKE	Harrison	1800	R FC	DPI
OH -427	CLINTON COUNTY DAM #1	Clinton	10	FC	DPI
OH25 21-292	CLOUSE POND (CLOUSE LAKE)	Perry	41	R C	DPI
OH87 5- 90	COE LAKE	Cuyahoga	23	WS R	DO
OH61 30-322	COLLEGE CORNER RESERVOIR	Preble	5	R	UP
OH26 23-296	CORNING RESERVOIR	Perry	16	WS R	DPI
OH52 11- 66	COWAN LAKE	Clinton	688	R	DPI
OH23 44-263	CROOKSVILLE LOWER RESERVOIR #1	Morgan	8	WS	DPI
OH23 45-286	CROOKSVILLE RESERVOIR #3	Perry	15	WS	DPI
OH23 44-264	CROOKSVILLE UPPER RESERVOIR #2	Morgan	5	WS R	DPI
OH 1 14-311	CRYSTAL LAKE	Portage	25	R	NL
OH23 2-270	CUTLER LAKE	Muskingum	18	WS R	DPI
OH 1 29-349	DALE WALBURN RESERVOIR	Stark	670	WS	DPI
OH57 24- 98	DARKE WILDLIFE AREA LAKE	Darke	21	R	DPI
OH41 16-297	DEER CREEK CAMPGROUND LAKE	Pickaway	8	R C	DPI
OH41 15-298	DEER CREEK LAKE	Pickaway	1277	R FC C	DPI
OH 1 24-348	DEER CREEK RESERVOIR	Stark	313	WS R	DPI
OH -417	DEFIANCE POWER DAM RESERVOIR	Defiance	679	R	DPI
OH36 1-103	DELAWARE LAKE	Delaware	1300	R FC	DPI
OH -428	DELCO UPGROUND RESV. #2	Delaware	31	WS R	UP
OH37 15-107	DELCO WATER COMPANY LAKE	Delaware	6	WS	UP
OH73 2-144	DELTA POND	Fulton	11	R	DO

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WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Type
OH73 2-142	DELTA RESERVOIR	Fulton	39	WS R	UP
OH73 2-145	DELTA RESERVOIR #2	Fulton	50	WS	UP
OH74 8-184	DESHLER RESERVOIR	Henry	23	WS R	UP
OH22 5-272	DILLON RESERVOIR	Muskingum	1325	R FC	DPI
OH27 49- 21	DOW LAKE	Athens	161	R	DPI
OH -429	DUGOUT POND (ODOT)	Wood	9	R	DO
OH88 18-152	EAST BRANCH RESERVOIR	Geauga	416	WS	DPI
OH -430	EAST FK. BUCK CR. STRUCT. 1-B	Champaign	6	FC	DPI
OH -431	EAST FK. BUCK CR. STRUCT. 4-A	Champaign	22	FC	DPI
OH53 20- 58	EAST FORK LAKE	Clermont	2160	WS R FC	DPI
OH 4 8- 72	EAST PALESTINE RESERVOIR	Columbiana	5	WS R	DPI
OH10 33-359	EAST RESERVOIR	Summit	201	R	NL
OH58 1-257	EASTWOOD LAKE	Montgomery	170	R	DO
OH56 14-252	ECHO LAKE	Miami	15	WS R	DPI
OH62 32-162	EDEN PARK POND	Hamilton	6	R	DO
OH23 45-285	ESSINGTON LAKE	Perry	16	R C	DPI
OH 2 5-239	EVANS LAKE	Mahoning	566	WS R	DPI
OH78 8-226	EVERGREEN LAKE	Lucas	9	R	DPI
OH90 20- 94	FAIRMOUNT RESERVOIR	Cuyahoga	8	WS	UP
OH43 48-188	FALLSVILLE WILDLIFE AREA LAKE	Highland	11	R C	DPI
OH68 18- 5	FERGUSON RESERVOIR	Allen	305	WS R	UP
OH66 13-170	FINDLAY RESERVOIR #1	Hancock	186	WS R	UP
OH66 13-171	FINDLAY RESERVOIR #2	Hancock	650	WS R	UP
OH86 16-217	FINDLEY LAKE	Lorain	83	R	DPI
OH10 33-354	FIRESTONE RESERVOIR	Summit	83	WS R	DPI
OH28 63-248	FORKED RUN LAKE	Meigs	104	R	DPI
OH64 18- 29	FORTY ACRE POND	Auglaize	70	R C	DPI
OH -432	FOSTORIA UPGROUND RESV. #6	Hancock	161	WS R	UP
OH26 5- 27	FOX LAKE STRUCTURE #6	Athens	47	R FC	DPI
OH56 14-253	FRANZ POND	Miami	6	WS R	DPI
OH 5 8-207	FRIENDSHIP PARK LAKE	Jefferson	85	R	DPI
OH75 11-138	FULTON POND	Fulton	15	R C	DO
OH49 48- 42	GEORGETOWN VILLAGE RESERVOIR	Brown	12	WS R	UP
OH 2 22-380	GIRARD LAKE	Trumbull	185	WS R	DPI

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WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Typ
OH86 8-221	GRAFTON WATER SUPPLY LAKE	Lorain	10	WS	DO
OH63 14- 28	GRAND LAKE ST. MARYS	Auglaize	12700	WS R	DPI
OH91 29-375	GRAND RIVER WILDLIFE AREA LAKE	Trumbull	11	R	DPI
OH -450	GRANGER POND	Lake	30	R	DO
OH49 55- 39	GRANT LAKE	Brown	181	R	DPI
OH50 7-156	GREENE CO.PARKS LAKE (FISH POND #2)	Greene	5	R	DPI
OH25 26-112	GREENFIELD LAKE (HUNTERS RUN #R-63)	Fairfield	14	R FC	DPI
OH85 14-191	GREENWICH RESERVOIR	Huron	7	WS R	DPI
OH 4 34- 74	GUILFORD LAKE	Columbiana	396	R	DPI
OH44 17-203	HAMMERTOWN LAKE (JACKSON CITY RESV.)	Jackson	186	WS R	DPI
OH41 40-299	HARGUS LAKE	Pickaway	130	R C	DPI
OH72 29-141	HARRISON LAKE	Fulton	96	R	DPI
OH22 59-213	HEBRON FISH HATCHERY LAKE	Licking	75	C	UP
OH78 5-335	HELENA LAKE	Sandusky	15	R	DO
OH 1 15-318	HICKORY LAKE	Portage	6	R	DPI
OH 5 84- 75	HIGHLANDTOWN LAKE	Columbiana	170	R	DPI
OH 5 85- 76	HIGHLANDTOWN WILDLIFE AREA POND	Columbiana	7	R C	DPI
OH43 49-187	HILLSBORO RESERVOIR	Highland	22	WS R	DPI
OH -433	HILLSBORO UPGROUND RESERVOIR	Highland	20	WS	UP
OH87 7-246	HINCKLEY LAKE	Medina	88	R	DPI
OH44 30-189	HOCKING HILLS RESERVOIR	Hocking	21	WS R	DPI
OH38 22-131	HOOVER RESERVOIR	Franklin	3000	WS R	DPI
OH58 11- 56	HOSTERMAN LAKE	Clark	9	R	DPI
OH -357	HOWER LAKE	Summit	23	R	DPI
OH25 27-116	HRCD STRUCTURE 1	Fairfield	5	FC	DPI
OH25 27-117	HRCD STRUCTURE 2	Fairfield	9	FC	DPI
OH25 26-114	HRCD STRUCTURE 5	Fairfield	7	FC	DPI
OH25 26-115	HRCD STRUCTURE 8	Fairfield	8	FC	DPI
OH25 27-118	HRCD STRUCTURE R-21	Fairfield	5	FC C	DPI
OH89 9-371	HUDSON SPRINGS LAKE	Summit	45	R	DPI
OH73 26-100	INDEPENDENCE DAM RESERVOIR	Defiance	605	R	DPI
OH53 50- 38	INDIAN CR. WILDLIFE AREA PONDS	Brown	56	R	DPI
OH55 40-214	INDIAN LAKE	Logan	5104	R	DPI
OH -434	ISMOND POND	Columbiana	8	R	DPI

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WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Type
OH37 19-132	J. GRIGGS RESERVOIR	Franklin	385	WS R	DPI
OH32 35-202	JACKSON LAKE	Jackson	243	R	DPI
OH 5 56-206	JEFFERSON LAKE	Jefferson	25	R	DPI
OH -416	JISCO LAKE	Jackson	54	R	DPI
OH89 9-320	KENT BOARD OF TRUSTEES LAKE	Portage	10	C	DPI
OH79 1-406	KILLDEER RESERVOIR	Wyandot	253	R C	UP
OH80 12-407	KILLDEER WILDLIFE POND #1	Wyandot	9	R C	DO
OH79 22-408	KILLDEER WILDLIFE POND #2	Wyandot	45	R C	DPI
OH80 12-409	KILLDEER WILDLIFE POND #3	Wyandot	9	R C	DPI
OH80 12-410	KILLDEER WILDLIFE POND #4	Wyandot	8	R C	DPI
OH79 24-411	KILLDEER WILDLIFE POND #5	Wyandot	18	R C	DO
OH80 12-412	KILLDEER WILDLIFE POND #6	Wyandot	15	R C	DO
OH80 11-413	KILLDEER WILDLIFE POND #7	Wyandot	225	R C	UP
OH80 11-414	KILLDEER WILDLIFE POND #8	Wyandot	373	R C	DPI
OH80 11-415	KILLDEER WILDLIFE POND #9	Wyandot	225	R C	UP
OH -435	KILLIANY LAKE	Guernsey	5	R	DPI
OH85 8-216	KIPTON RESERVOIR	Lorain	20	WS R	DPI
OH56 40- 52	KISER LAKE	Champaign	380	R	DPI
OH18 29-208	KNOX LAKE	Knox	474	R	DPI
OH30 17-391	LAKE ALMA	Vinton	63	WS R	DPI
OH10 28-351	LAKE ANNA	Summit	12	R	NL
OH88 16-151	LAKE AQUILLA	Geauga	27	R	NL
OH45 62-330	LAKE CALDWELL	Ross	10	R	DPI
OH 2 12-234	LAKE COHASSET	Mahoning	27	R	DPI
OH77 8-177	LAKE DAUGHTERY	Hancock	12	WS R	UP
OH88 11-315	LAKE GEORGE	Portage	12	R	NL
OH 2 12-233	LAKE GLACIER	Mahoning	43	R	DPI
OH 2 5-235	LAKE HAMILTON	Mahoning	104	WS R	DPI
OH88 8-310	LAKE HODGSON	Portage	190	WS R	DPI
OH30 56-390	LAKE HOPE	Vinton	127	WS R	DPI
OH54 7-168	LAKE ISABELLA	Hamilton	23	R	DO
OH - 96	LAKE ISSAC	Cuyahoga	11	R	DPI
OH44 15-204	LAKE KATHARINE	Jackson	42	R	DPI
OH65 38-399	LAKE LA SU AN	Williams	134	R	DPI

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Typ
OH77 8-176	LAKE LAMBERJACK	Hancock	45	WS R	UP
OH65 39-400	LAKE LAVERE	Williams	11	R	DPI
OH26 44-190	LAKE LOGAN (HOCKING LAKE)	Hocking	354	R	DPI
OH56 32-345	LAKE LORAMIE	Shelby	785	R	DPI
OH25 24-119	LAKE LORETTA	Fairfield	5	R	DPI
OH77 8-174	LAKE LaCOMTE (FOSTORIA RES. #5)	Hancock	128	WS R	UP
OH87 15-240	LAKE MEDINA	Medina	109	WS R	UP
OH 1 22-230	LAKE MILTON	Mahoning	1685	WS R	DPI
OH77 8-175	LAKE MOSIER	Hancock	88	WS R	UP
OH77 8-178	LAKE MOTRAM	Hancock	18	WS R	UP
OH10 33-355	LAKE NESMITH	Summit	80	R	NL
OH 1 30-231	LAKE PARK	Mahoning	20	R	DPI
OH88 11-314	LAKE PIPPEN	Portage	143	WS	NL
OH88 11-308	LAKE ROCKWELL	Portage	539	WS	DPI
OH25 7-120	LAKE ROMONA	Fairfield	5	R FC	DPI
OH30 17-392	LAKE RUPERT	Vinton	325	WS R	DPI
OH26 2- 22	LAKE SNOWDEN (MARGARET CR. STRUCTURE	Athens	131	WS R	DPI
OH45 62-331	LAKE STEWART	Ross	8	R	DPI
OH65 39-401	LAKE SUE	Williams	11	R	DPI
OH33 81-210	LAKE VESUVIUS	Lawrence	105	R	DPI
OH45 34-302	LAKE WHITE RESERVOIR	Pike	337	R	DPI
OH92 23- 19	LAMPSON RESV. (JEFFERSON RESV.)	Ashtabula	20	WS R	UP
OH -436	LARUE PARK POND	Marion	5	R	DO
OH12 16- 51	LEESVILLE LAKE	Carroll	1000	R FC	DPI
OH -437	LEIGHTY LAKE	Shelby	13	R	DPI
OH74 11-325	LEIPSIC RESERVOIR	Putnam	27	R	UP
OH 2 22-379	LIBERTY LAKE	Trumbull	99	WS R	DPI
OH68 17- 9	LIMA RESERVOIR	Allen	84	WS R	UP
OH -382	LIME KILN LAKE	Tuscarawas	29	R	DPI
OH -438	LITTLE PUNDERSON LAKE	Geauga	24	R	DPI
OH41 28-229	LONDON FISH HATCHERY LAKE	Madison	7	C	DO
OH10 33-358	LONG LAKE	Summit	180	WS R	NL
OH68 17- 6	LOST CREEK RESERVOIR	Allen	121	WS R	UP
OH90 19- 92	LOWER SHAKER LAKE	Cuyahoga	17	R	DPI

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Type
OH88 15-150	LaDUE RESERVOIR	Geauga	1500	WS R	DPI
OH86 15-223	LaGRANGE WATER WORKS LAKE	Lorain	6	WS	DO
OH41 30-228	MADISON LAKE	Madison	106	R	DPI
OH36 15-267	MAPLE GROVE LAKE	Morrow	5	WS R	DPI
OH - 26	MARGARET CR. CONS. DIST. #1	Athens	16	FC	DPI
OH26 2- 25	MARGARET CR. CONS. DIST. #4	Athens	28	FC	DPI
OH26 5- 24	MARGARET CR. CONS. DIST. #5	Athens	8	FC	DPI
OH23 22-274	MAYSVILLE REG. WATER DIST. LAKE	Muskingum	45	WS R	DO
OH89 30-368	MEADOWBROOK LAKE	Summit	24	R	DPI
OH 2 23-378	MEANDER CREEK RESERVOIR	Trumbull	2010	WS C	DPI
OH75 23-143	METAMORA RESERVOIR	Fulton	7	WS R	DO
OH -439	METAMORE RESERVOIR #1	Fulton	6	WS	DO
OH68 17- 3	METZGER RESERVOIR	Allen	157	WS R	UP
OH58 5-154	MIAMI CONS. DIST. LAKE (HUFFMAN POND)	Greene	43	R	DO
OH62 5-165	MIAMI WHITEWATER LAKE	Hamilton	85	R	DPI
OH 1 14-309	MICHAEL J. KIRWIN RESV. (WEST BR. RESV.)	Portage	2650	WS R FC	DPI
OH37 9-133	MILLER ANTRIM QUARRY	Franklin	37	R	DO
OH10 33-362	MILLER LAKE	Summit	28	R	DPI
OH -440	MILLER PARK LAKE	Williams	8	R	DO
OH -441	MINERVA PARK LAKE	Franklin	6	R	DPI
OH88 4-312	MOGADORE RESERVOIR	Portage	900	WS R	DPI
OH75 18-227	MOLANDER PARK LAKE	Lucas	20	R	DO
OH -67	MONROE FALLS LAKE DAM	Summit	13	R	DPI
OH 7 10-255	MONROE LAKE	Monroe	39	R C	DPI
OH 2 31-381	MOSQUITO CREEK RESERVOIR	Trumbull	7850	WS R FC	DPI
OH48 43- 45	MOUNT ORAB RESERVOIR #2	Brown	6	WS	UP
OH36 16-266	MT. GILEAD LAKE (LOWER)	Morrow	11	WS R	DPI
OH18 38-265	MT. GILEAD LAKE (UPPER)	Morrow	7	R	DPI
OH10 33-365	MUD LAKE	Summit	85	R	NL
OH15 1- 81	MUDPORT BASIN	Coshocton	9	R	DO
OH20 22-271	MUNROE BASIN	Muskingum	17	R	DO
OH88 8-319	MUZZY LAKE	Portage	82	WS	NL
OH77 5-172	McCOMB RESERVOIR #1	Hancock	6	WS R	UP
OH67 1-173	McCOMB RESERVOIR #2	Hancock	20	WS R	UP

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Typ
OH 2 9-238	McKELVEY LAKE	Mahoning	133	WS R	DPI
OH65 35-402	NETTLE LAKE	Williams	94	R	NL
OH21 36-273	NEW CONCORD RESERVOIR	Muskingum	10	WS R	DPI
OH25 20-283	NEW LEXINGTON RESERVOIR #1 New	Perry	44	WS R FC	DPI
OH25 20-284	NEW LEXINGTON RESERVOIR #2 Old	Perry	27	WS R	DPI
OH85 12-196	NEW LONDON RESERVOIR	Huron	221	WS R	UP
OH52 11- 68	NEW WILMINGTON RESERVOIR (RESV. #2)	Clinton	54	WS	UP
OH -442	NEWFIELDS DEVELOPMENT LAKE	Montgomery	7	R	DPI
OH 2 12-232	NEWPORT LAKE	Mahoning	105	R	DPI
OH10 12-360	NIMISILA RESERVOIR	Summit	825	WS R	DPI
OH77 4-403	NORTH BALTIMORE RESERVOIR	Wood	29	WS R	UP
OH18 27-209	NORTH BRANCH KOKOSING RIVER LAKE	Knox	154	R FC	DPI
OH93 5- 18	NORTH KINGSVILLE RESERVOIR	Ashtabula	7	R	DPI
OH10 33-356	NORTH RESERVOIR	Summit	160	R	NL
OH84 5-197	NORWALK LOWER RESERVOIR	Huron	31	WS R	DPI
OH84 5-199	NORWALK MEMORIAL RESERVOIR	Huron	97	WS R	DPI
OH84 5-198	NORWALK UPPER RESERVOIR	Huron	50	WS R	DPI
OH -443	NOVA FRANCE REC. CTR. LAKE	Lucus	12	R	DO
OH37 25-101	O'SHAUGHNESSY RESERVOIR	Delaware	920	WS R	DPI
OH -444	OAK HILL UPGROUND RESERVOIR	Jackson	20	WS	UP
OH25 17-124	OAK THORPE RESV.(RCCD STRUC. 6-D)	Fairfield	43	R FC C	DPI
OH86 14-224	OBERLIN OLD UPGROUND RESERVOIR	Lorain	10	WS	UP
OH86 16-218	OBERLIN RESERVOIR	Lorain	56	WS R	UP
OH -262	OHIO POWER REC. LAKES	Morgan	2000	R	DPI
OH58 16- 53	OLD REID PARK LAKE	Clark	15	R	DO
OH60 34-259	OPOSSUM CREEK LAKE #1	Montgomery	5	R	DPI
OH60 34-260	OPOSSUM CREEK LAKE #2	Montgomery	18	R	DPI
OH37 10-135	OSU GOLF COURSE LAKE	Franklin	9	WS R	DPI
OH76 11-279	OTTAWA NATIONAL WILDLIFE REFUGE LAKE	Ottawa	8	C	DO
OH67 6-324	OTTAWA RESERVOIR	Putnam	20	WS	UP
OH72 6- 99	OXBOW LAKE	Defiance	40	R	DPI
OH42 1-186	PAINT CREEK LAKE	Highland	1190	WS R FC	DPI
OH88 5-366	PARK LAKE	Summit	13	R	DPI
OH71 15-282	PAULDING PONDS	Paulding	6	R	UP

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Type
OH71 15-281	PAULDING RESERVOIR	Paulding	67	WS R	UP
OH -445	PEARSON PARK PONDS	Lucus	10	R	DO
OH -446	PERRY RECLAMATION DAM #3	Perry	8	R	DPI
OH23 31-291	PERRY RECLAMATION POND	Perry	6	R	DPI
OH11 6-350	PETROS LAKE	Stark	12	R	DO
OH14 33-181	PIEDMONT LAKE	Harrison	2310	R FC	DPI
OH45 13-301	PIKE LAKE RESERVOIR	Pike	13	R	DPI
OH33 56-211	PINE CREEK STRUCTURE #8	Lawrence	9	FC	DPI
OH 2 5-237	PINE LAKE	Mahoning	474	R	DPI
OH 2 5-329	PINE LAKE	Ross	14	R FC	DPI
OH16 1- 11	PLEASANT HILL LAKE	Ashland	850	R FC	DPI
OH47126-341	POND LICK LAKE	Scioto	5	R	DPI
OH88 11-317	PORTAGE CO. COMM. LAKE	Portage	5	C	DO
OH36 35- 85	POWERS RESERVOIR	Crawford	29	WS R	UP
OH88 13-153	PUNDERSON LAKE	Geauga	101	R	NL
OH 3 14- 15	PYMATUNING RESERVOIR	Ashtabula	3580	WS R FC	DPI
OH83 11-334	RACCOON CREEK RESERVOIR	Sandusky	34	WS R	UP
OH 1 7-316	RAVENNA ORD. PLANT POND	Portage	12	C	DPI
OH25 21-294	RCCD STRUCTURE 3-A	Perry	13	R FC	DPI
OH25 21-293	RCCD STRUCTURE 3-B	Perry	13	R FC C	DPI
OH25 20-288	RCCD STRUCTURE 4-C	Perry	49	R FC	DPI
OH25 20-125	RCCD STRUCTURE 5-A	Fairfield	20	FC	DPI
OH25 21-126	RCCD STRUCTURE 5-B	Fairfield	12	FC	DPI
OH25 21-127	RCCD STRUCTURE 5-C	Fairfield	13	FC	DPI
OH25 15-122	RCCD STRUCTURE 7-A	Fairfield	22	R FC	DPI
OH25 15-113	RCCD STRUCTURE 7-C	Fairfield	43	FC	DPI
OH25 15-123	RCCD STRUCTURE 7-D	Fairfield	15	R FC	DPI
OH25 15-128	RCCD STRUCTURE 7-E	Fairfield	10	FC	DPI
OH83 4-109	RESTHAVEN WILDLIFE AREA PONDS	Erie	200	R C	DO
OH10 33-363	REX LAKE	Summit	48	R	DPI
OH35 30-386	RICHWOOD PARK LAKE	Union	16	R	DO
OH80 20- 84	RILEY RESERVOIR (BUCYRUS RESV. #3)	Crawford	28	WS R	UP
OH31 51-148	RIO GRANDE RESERVOIR	Gallia	7	WS	DPI
OH91 1- 20	ROAMING ROCK LAKE	Ashtabula	464	WS	DPI

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Typ
OH25 27-111	ROCK MILL LAKE (HRCD STRUC. #9)	Fairfield	20	R FC C	DPI
OH43 44-185	ROCKY FORK LAKE	Highland	2080	R	DPI
OH47127-340	ROOSEVELT LAKE	Scioto	16	R	DPI
OH41 2-333	ROSS LAKE	Ross	140	R	DPI
OH -447	RUFF POND	Columbiana	6	R	DPI
OH25 16-289	RUSH CREEK LAKE (RCCD STRUC. 6-A)	Perry	300	R FC	DPI
OH61 14-321	RUSH RUN LAKE	Preble	54	R	DPI
OH47 45- 40	RUSSELLVILLE RESERVOIR	Brown	11	WS	DPI
OH 4 35- 70	SALEM RESERVOIR	Columbiana	97	WS R	DPI
OH21 19-159	SALT FORK RESERVOIR	Guernsey	2952	WS R	DPI
OH34 26-179	SAULIS BERRY PARK LAKE	Hardin	50	R	DO
OH68 17- 8	SCHOONOVER LAKE	Allen	22	WS R	DPI
OH38 4-134	SCHROCK LAKE	Franklin	12	R C	DPI
OH60 19- 46	SEBALD POND #1	Butler	6	R	DPI
OH60 19- 47	SEBALD POND #2	Butler	5	R	DPI
OH21 46-160	SENECAVILLE LAKE	Guernsey	3550	R FC C	DPI
OH21 46-161	SENECAVILLE NATIONAL FISH HATCHERY	Guernsey	20	C	DO
OH54 26-395	SHADOW LAKE	Warren	6	WS	DPI
OH62 29-167	SHARON WOODS LAKE	Hamilton	38	R	DPI
OH16 28-326	SHELBY RESERVOIR #1	Richland	29	WS R	UP
OH16 21-327	SHELBY RESERVOIR #2	Richland	12	WS R	UP
OH19 35-397	SHREVE LAKE	Wayne	56	R	DPI
OH -448	SILVER CREEK LAKE	Summit	47	R C	DPI
OH10 6-347	SIPPO LAKE	Stark	88	R	NL
OH -449	SITES LAKE	Richland	7	R	DO
OH60 20- 50	SMITH PARK LAKE	Butler	7	R	DO
OH91 6-372	SNIDER DITCH LAKE	Trumbull	245	R	DPI
OH58 15- 57	SNYDER PARK LAKE	Clark	6	R	DO
OH25 21-295	SOMERSET RESERVOIR	Perry	8	WS	DPI
OH33 10-338	SOUTH WEBSTER RESERVOIR	Scioto	6	WS	DPI
OH 6 71-183	SPARROW RESERVOIR	Harrison	17	WS	DPI
OH86 9-241	SPENCER LAKE	Medina	51	R	DPI
OH86 9-247	SPENCER RESERVOIR	Medina	9	WS	DPI
OH50 1-394	SPRING VALLEY LAKE	Warren	58	R	DPI

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Type
OH88 2-370	SPRINGFIELD LAKE	Summit	200	R	NL
OH61 11- 49	ST. CLAIR REC. AREA LAKE	Butler	10	R	DO
OH 6 5- 33	ST. CLAIRSVILLE RESERVOIR #1	Belmont	10	WS	DPI
OH 6 32- 34	ST. CLAIRSVILLE RESERVOIR #2	Belmont	6	WS	DPI
OH25 21-290	ST. JOSEPH'S LAKE (RCCD STRUC. 3-E)	Perry	60	WS R FC	DPI
OH53 53- 41	ST. MARTIN RESERVOIR	Brown	6	WS	DPI
OH40 2-300	STAGE'S POND	Pickaway	30	C	NL
OH -149	STATE FISH HATCHERY LAKE	Auglaize	52	C	DO
OH91 14-377	STATE OF OHIO LAKE (NO NAME)	Trumbull	35	C	DPI
OH91 14-374	STATE OF OHIO LAKE (NO NAME)	Trumbull	6	C	DPI
OH91 14-376	STATE OF OHIO LAKE (NO NAME)	Trumbull	21	C	DPI
OH66 14-343	STATE OF OHIO LAKE (NO NAME)	Seneca	5	C	DO
OH53 8- 59	STONELICK RESERVOIR	Clermont	160	R	DPI
OH10 33-352	SUMMIT LAKE	Summit	100	R	NL
OH38 30-104	SUNBURY RESERVOIR #1	Delaware	7	WS	UP
OH38 30-108	SUNBURY RESERVOIR #2	Delaware	19	WS	UP
OH90 10-305	SUNNY LAKE (HARMON'S POND)	Portage	63	R	NL
OH75 12-225	SWANTON RESERVOIR	Lucas	25	WS	UP
OH56 19-251	SWIFT RUN LAKE	Miami	40	WS R	DPI
OH14 2-180	TAPPAN LAKE	Harrison	2350	R FC	DPI
OH56 39-346	TAWAWA LAKE	Shelby	8	R	?
OH38 20-130	THOREAU POND (BLENDON WOODS)	Franklin	11	R C	DPI
OH89 9-306	TINKERS CREEK STATE PARK LAKE	Portage	5	R	DPI
OH76 4-280	TOUSSAINT CR. WILDLIFE AREA LAKE	Ottawa	5	R C	NL
OH47115-339	TURKEY CREEK LAKE	Scioto	51	R	DPI
OH10 33-364	TURKEYFOOT LAKE	Summit	318	R	NL
OH -254	TURNING BASIN LAKE	Coshocton	11	R	DO
OH68 17- 7	TWIN LAKES RESERVOIR	Allen	26	WS R	UP
OH31 49-147	TYCOON LAKE	Gallia	204	R	DPI
OH80 9-405	UPPER SANDUSKY RESERVOIR	Wyandot	36	WS R	DPI
OH90 19- 93	UPPER SHAKER LAKE	Cuyahoga	11	R	DPI
OH -80	UPPER WABASH STRUCT. #2	Mercer	6	FC	DPI
OH -12	UPPER WABASH STRUCT. #3	Mercer	78	FC	DPI
OH88 11-245	USA DEPT. LABOR LAKE	Medina	7	C	DPI

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Typ
OH89 21-353	VA. KENDALL PARK LAKE	Summit	14	R	DPI
OH77 4-169	VAN BUREN LAKE	Hancock	53	R	DPI
OH69 15-387	VAN WERT RESERVOIR #1	Van Wert	60	WS R	UP
OH69 15-388	VAN WERT RESERVOIR #2	Van Wert	60	WS R	UP
OH27 59-396	VETO LAKE	Washington	160	R	DPI
OH14 44- 31	VILLAGE OF BARNESVILLE LAKE	Belmont	8	R	DPI
OH70 2-323	VILLAGE OF CONTINENTAL LAKE	Putnam	5	R	UP
OH86 5-222	VILLAGE OF GRAFTON LAKE (#2)	Lorain	7	WS	UP
OH56 10-249	VILLAGE OF TIPP CITY LAKE #1	Miami	7	R	DPI
OH56 10-250	VILLAGE OF TIPP CITY LAKE #2	Miami	14	R	DO
OH63 19- 97	WABASH CONS. DIST. RESV. #1	Darke	57	R FC	DPI
OH87 5- 89	WALLACE LAKE	Cuyahoga	16	WS R	DPI
OH42 35-129	WASHINGTON COURTHOUSE RESERVOIR	Fayette	37	WS R	UP
OH73 16-136	WAUSEON RESERVOIR #1	Fulton	49	WS R	UP
OH73 11-137	WAUSEON RESERVOIR #2	Fulton	17	WS R	UP
OH32 36-146	WAYNE NATIONAL FOREST LAKE (CARTER	Gallia	7	R	DPI
OH -287	WAYNESFIELD UPGROUND RESERVOIR	Auglaize	5	WS	UP
OH49 69- 44	WAYNOKA RESERVOIR	Brown	12	WS	UP
OH49 69- 43	WAYNOKA RETENTION DAM	Brown	12	WS	DPI
OH86 18-220	WELLINGTON RESERVOIR (LOWER)	Lorain	160	WS	UP
OH86 18-219	WELLINGTON RESERVOIR (UPPER)	Lorain	21	WS R	DPI
OH 5 84- 73	WELLSVILLE RESERVOIR	Columbiana	25	WS R	DPI
OH10 33-361	WEST RESERVOIR	Summit	104	R	NL
OH38 4-105	WESTERVILLE RESERVOIR	Delaware	53	WS	DPI
OH 1 30- 71	WESTVILLE LAKE	Columbiana	90	WS R	DPI
OH35 12-106	WHITE SULPHUR LAKE	Delaware	39	WS R	DO
OH -121	WILDLIFE POND #2	Guernsey	10	R	DPI
OH84 18-195	WILLARD CITY RESERVOIR	Huron	200	WS R	UP
OH84 19-200	WILLARD MARSH AREA	Huron	6	R C	DPI
OH21 1- 79	WILLS CREEK RESERVOIR	Coshocton	900	R FC	DPI
OH64 2-389	WILLSHIRE QUARRY LAKE	Van Wert	7	WS	DO
OH52 13- 69	WILMINGTON RESERVOIR	Clinton	16	WS	UP
OH48 30- 2	WINCHESTER LAKE	Adams	10	WS R	DPI
OH62 26-166	WINTON WOODS LAKE (W.FK.MILL CK.)	Hamilton	183	R FC	DPI

Appendix B. List of Ohio's publicly owned lakes/reservoirs/ponds with greater than 5 acres surface area.

WaterBody ID #	Lake Name	County	Surface Area (acres)	Lake Uses	Lake Type
OH10 28-367	WOLF CREEK RESERVOIR	Summit	196	WS	DPI
OH 9 35-277	WOLF RUN RESERVOIR	Noble	209	WS R FC	DPI
OH89 2- 91	WOODLAND HILLS PARK LAKE	Cuyahoga	5	R	UP
OH 7 5-256	WOODSFIELD RESERVOIR	Monroe	7	WS R	DPI
OH41 2-332	YOUCTANGEE PARK LAKE	Ross	6	R	DO
OH23 50-276	ZANESVILLE STATE NURSERY LAKE	Muskingum	10	C	?
OH11 30- 77	ZEPPERNICK LAKE	Columbiana	41	R	DPI
OH15 32-385	ZOAR LAKE WILDLIFE AREA	Tuscarawas	28	R C	?

Summary: Total Number of Lakes: **450.00** Total Acreage: **118862**

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
ACTON LAKE (Butler)										
L-1	10-Jly-89	20.9	60	0.78	64	44	59	**62**	L1-Eutrophic	KSU-FULMER/CO
L-1	09-Aug-89	32.6	65	0.95	61	61	63			KSU-FULMER/CO
L-1	21-Aug-89	19.4	60	0.51	70	70	65			OEPA,314 GRANT
L-1	26-Apr-89			0.61	67					OEPA,314 GRANT
L-1	10-Aug-81	121.7	78	0.52	69	90	69			OEPA,1982 305(B)
L-1	09-Sep-75			0.71	65	60	63			OEPA,1982 305(B)
L-1	30-Apr-75			0.13	89	210	81			OEPA,1982 305(B)
L-1	18-Aug-60			0.51	70					OEPA,1982 305(B)
L-1	22-Apr-60			1.60	53					OEPA,1982 305(B)
L-3	10-Jly-89	34.5	65	0.24	81	116	73	**66**	L3-Eutrophic	KSU-FULMER/CO
L-3	09-Aug-89	41.5	67	0.38	74	94	70			KSU-FULMER/CO
S-1	SUM-91			(N=6)	71					CLIP/OLMS
S-2	SUM-91			(N=6)	79					CLIP/OLMS
ADAMS LAKE (Adams)										
L-1	18-Aug-80	9.3	52	0.76	64	40	57	**57**	Eutrophic	OEPA,1982 305(B)
L-1	01-May-80	8.2	51	0.33	76	60	63			OEPA,1982 305(B)
ALUM CREEK LAKE (Delaware)										
L-1	23-Aug-89	3.5	43	1.95	50	11	39	**44**	L1-Mesotrophic	OEPA,314 GRANT
L-1	03-May-89			0.75	64	16	44			OEPA,314 GRANT
L-1	13-Apr-76			2.60	46	30	53			OEPA,1982 305(B)
L-1	27-Aug-76			3.40	42	40	57			OEPA,1982 305(B)
L-2	03-May-89	5.3	47	0.70	65	60	63	**55**	L2-Eutrophic	OEPA,314 GRANT
L-2	23-Aug-89			2.02	50	9	36			OEPA,314 GRANT
S-3	SUM-91			(N=6)	63					CLIP/OLMS
ATWOOD RESERVOIR (Tuscarawas)										
L-1	17-May-76			1.20	57	30	53	**50**	Eutrophic	OEPA,1982 305(B)
L-1	30-Aug-76			0.91	61	40	57			OEPA,1982 305(B)
L-1	30-Jul-73	8.1	51	1.20	57	20	47			OEPA,1982 305(B)
L-1	20-Apr-73	10.3	53	1.70	52	20	47			OEPA,1982 305(B)
BALDWIN LAKE (Cuyahoga)										
L-1	23-Aug-77	10.9	54	0.10	93	340	88	**54**	Eutrophic	OEPA,1982 305(B)
BARNESVILLE RESERVOIR #3 (Belmont)										
L-1	21-Aug-80	17.1	58	1.20	57	40	57	**55**	Eutrophic	OEPA,1982 305(B)
L-1	15-May-80	8.5	52	0.96	61	30	53			OEPA,1982 305(B)
BEACH CITY LAKE (Tuscarawas)										
L-1	20-Apr-73	4.3	45	0.30	77	90	69	**64**	Eutrophic	OEPA,1982 305(B)

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	30-Jul-73	19.4	60	0.20	83	280	85			OEPA,1982 305(B)
BEAVER CREEK RESERVOIR (Seneca)										
L-1	15-May-90			3.00	44	13	41	**45**	Mesotrophic	OEPA,314 GRANT
L-1	23-Aug-90	6.3	49	2.50	47	130	74			OEPA,314 GRANT
BELMONT LAKE (Belmont)										
L-1	29-Jun-89	16.3	58	1.12	58	33	55	**54**	L1-Eutrophic	KSU-FULMER/CO
L-1	31-Jly-89	7.4	50	1.62	53	26	51			KSU-FULMER/CO
L-1	08-May-80	15.4	57	1.10	59	20	47			OEPA,1982 305(B)
L-1	07-Aug-80	49.7	69	0.86	62	90	69			OEPA,1982 305(B)
L-2	29-Jun-89	17.4	59	1.06	59	34	55	**56**	L2-Eutrophic	KSU-FULMER/CO
L-2	31-Jly-89	9.8	53	1.40	55	48	60			KSU-FULMER/CO
BERLIN RESERVOIR (Portage)										
L-1	13-Apr-89			1.03	60			**59**	L1-Eutrophic	OEPA,314 GRANT
L-1	10-Aug-89	18.8	59	0.90	62					OEPA,314 GRANT
L-1	02-Aug-89			0.75	64	24	50			OEPA,314 GRANT
L-1	28-May-75			0.49	70	20	47			OEPA,1982 305(B)
L-1	27-Aug-75			0.76	64	30	53			OEPA,1982 305(B)
L-1	20-Apr-73	14.7	57	0.94	61	30	53			OEPA,1982 305(B)
L-1	30-Jul-73	12.2	55	0.97	60	30	53			OEPA,1982 305(B)
L-2	02-Aug-89			0.90	61	33	55	**69**	L2-Hypereutrophic	OEPA,314 GRANT
L-2	13-Apr-89			0.83	63	90	69			OEPA,314 GRANT
S-1	SUM-91			(N=3)	66					CLIP/OLMS
S-2	SUM-91			(N=4)	64					CLIP/OLMS
S-3	SUM-91			(N=5)	66					CLIP/OLMS
BERLIN RESERVOIR (EAST BASIN) (Portage)										
VLMP	SPRSUM-89			(N=5)	62					NEFCO
VLMP	SPRSUM-88			(N=5)	63					NEFCO
BERLIN RESERVOIR (WEST BASIN) (Portage)										
VLMP				(N=7)	74					NEFCO
VLMP	SPRSUM-89			(N=9)	80					NEFCO
BRADY LAKE (Portage)										
L-1	08-Aug-80	98.5	76	0.91	61	150	76	**76**	Hypereutrophic	OEPA,1982 305(B)
BRESLER RESERVOIR (Allen)										
L-1	23-Apr-90			6.50	33	28	52	**56**	Eutrophic	OEPA,314 GRANT
L-1	20-Aug-90	18.4	59	2.00	50	60	63			OEPA,314 GRANT
BUCKEYE LAKE (Licking)										
L-1	24-Aug-89	274.3	86	0.30	77	170	78	**74**	Hypereutrophic	OEPA,314 GRANT

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	08-May-89			0.36	75	60	63			OEPA,314 GRANT
L-1	16-May-78	92.2	75	0.55	69	150	76			OEPA,1982 305(B)
L-1	22-Aug-78	60.8	71	1.10	59	100	71			OEPA,1982 305(B)
L-1	16-Aug-75			0.43	72	100	71			OEPA,1982 305(B)
L-1	02-May-75			1.50	54	100	71			OEPA,1982 305(B)
L-1	04-Apr-73	258.6	85	0.20	83	150	76			OEPA,1982 305(B)
L-1	07-Jul-73	161.9	81	0.30	77	150	76			OEPA,1982 305(B)
BURR OAK LAKE (T. JENKINS RESV.) (Athens)										
L-1	22-Apr-76			2.00	50	30	53	**53**	Eutrophic	OEPA,1982 305(B)
L-1	30-Sep-76			1.40	55	50	61			OEPA,1982 305(B)
C. J. BROWN LAKE (Clark)										
L-1	07-Apr-77			1.20	57	40	57	**61**	Eutrophic	OEPA,1982 305(B)
L-1	02-Aug-77	32.3	65	1.50	54	40	57			OEPA,1982 305(B)
S-1	SUM-91			(N=5)	59					CLIP/OLMS
S-2	SUM-91			(N=4)	62					CLIP/OLMS
S-3	SUM-91			(N=6)	59					CLIP/OLMS
CAESAR CREEK RESERVOIR (Warren)										
L-1	26-Aug-78	8.5	52	4.30	39	10	37	**62**	Eutrophic	OEPA,1982 305(1
L-1	25-Apr-78	5.1	47	1.50	54	120	73			OEPA,1982 305(B)
CALDWELL LAKE (Nobel)										
L-1	YOUGER		60		50			**60**	Eutrophic	OEPA, UNPUBL
CHARLES MILL LAKE (Ashland)										
L-1	21-May-90			0.50	70	60	63	**67**	L1-Hypereutrophic	OEPA,314 GRANT
L-1	11-Sep-90	61.6	71	0.25	80	80	67			OEPA,314 GRANT
L-1	08-Aug-78	68.8	72	0.34	76	140	75			OEPA,1982 305(B)
L-1	12-May-78	90.2	75	0.46	71	110	72			OEPA,1982 305(B)
L-1	20-Apr-73	41.7	67	0.61	67	60	63			OEPA,1982 305(B)
L-1	27-Jul-73	85.5	74	0.30	77	170	78			OEPA,1982 305(B)
L-2	21-May-90			0.25	80	60	63	**66**	L2-Hypereutrophic	OEPA,314 GRANT
L-2	11-Sep-90	43.3	68	0.25	80	80	67			OEPA,314 GRANT
CINNAMON LAKE (Ashland)										
S-1	SUM-91			(N=6)	49				Insuff. Data	CLIP/OLMS
S-2	SUM-91			(N=6)	50					CLIP/OLMS
S-3	SUM-91			(N=6)	48					CLIP/OLMS
S-4	SUM-91			(N=6)	48					CLIP/OLMS
CLARK LAKE (Clark)										
L-1	29-May-79	11.2	54	1.70	52	10	37	**38**	Mesotrophic	OEPA,1982 305(b,

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	13-Aug-79	2.4	39	2.10	49	10	37			OEPA,1982 305(B)
CLEAR FORK RESERVOIR (Richland)										
L-1	20-Aug-75			1.00	60	30	53	**57**	Eutrophic	OEPA,1982 305(B)
L-1	23-May-75			1.00	60	40	57			OEPA,1982 305(B)
S-1	SUM-91			(N=5)	65					CLIP/OLMS
CLENDENING LAKE (Harrison)										
L-1	27-Apr-76			1.00	60	40	57	**57**	Eutrophic	OEPA,1982 305(B)
L-1	03-Sep-76			1.00	60	60	63			OEPA,1982 305(B)
CLOUSE POND (Perry)										
L-1	29-May-80	20.3	60	0.86	62	40	57	**62**	Eutrophic	OEPA,1982 305(B)
L-1	05-Aug-80	46.6	68	0.41	73	70	65			OEPA,1982 305(B)
COWAN LAKE (Clinton)										
L-1	11-Jly-89	10.5	54	0.79	63	45	59	**58**	L1-Eutrophic	KSU-FULMER/CO
L-1	08-Aug-89	21.9	61	0.93	61	38	56			KSU-FULMER/CO
L-1	10-Sep-75			0.58	68	60	63			OEPA,1982 305(B)
L-1	29-Apr-75			0.28	78	120	73			OEPA,1982 305(B)
L-2	11-Jly-89	13.5	56	0.80	63	63	64	**60**	L2-Eutrophic	KSU-FULMER/CO
L-2	08-Aug-89	33.4	65	0.74	64	75	66			KSU-FULMER/CO
L-3	11-Jly-89	15.0	57	0.38	74	65	64	**60**	L2-Eutrophic	KSU-FULMER/CO
L-3	08-Aug-89	29.9	64	0.61	67	73	66			KSU-FULMER/CO
S-1	SUM-91			(N=3)	69					CLIP/OLMS
S-2	SUM-91			(N=2)	70					CLIP/OLMS
S-3	SUM-91			(N=2)	70					CLIP/OLMS
CRYSTAL LAKE (RAVENNA) (Portage)										
VLMP	09-Jun-90	1.1	32	2.74	46	25	42	**39**	Mesotrophic	NEFCO/KSU
VLMP	28-Jun-90	2.0	38	4.27	39	25	47			NEFCO/KSU
VLMP	18-Jly-90	2.0	38	3.66	41	42	56			NEFCO/KSU
VLMP	09-Aug-90	2.4	39	3.81	41	15	44			NEFCO/KSU
VLMP	30-Aug-90	1.1	32	3.76	41	22	49			NEFCO/KSU
VLMP	21-Sep-90	1.8	37	4.65	38	15	43			NEFCO/KSU
VLMP	SPRSUM-90			(N=8)	41					NEFCO
VLMP	SPRSUM-89			(N=6)	43					NEFCO
CUTLER LAKE (Muskingum)										
L-1	22-Jul-81	35.9	66	0.55	69	40	57	**66**	Eutrophic	OEPA,1982 305(B)
DALE WALBURN RESERVOIR (Stark)										
L-1	03-May-89			0.74	64	50	61	**61**	Eutrophic	OEPA,314 GRANT
VLMP	SPRSUM-89			(N=4)	72					NEFCO

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
DEER CREEK LAKE (Pickaway)										
L-1	27-Apr-90			1.00	60	22	49	**57**	L1-Eutrophic	OEPA,314 GRANT
L-1	20-Aug-90	34.3	65	1.20	57	50	61			OEPA,314 GRANT
L-1	12-Sep-75			0.46	71	60	63			OEPA,1982 305(B)
L-1	25-Apr-75			0.48	71	70	65			OEPA,1982 305(B)
L-1	28-Apr-73	14.4	57	0.45	72	100	71			OEPA,1982 305(B)
L-1	01-Aug-73	9.9	53	1.20	57	40	57			OEPA,1982 305(B)
L-2	27-Apr-90			1.05	59	58	63	**63**	L2-Eutrophic	OEPA,314 GRANT
L-2	20-Aug-90	28.5	63	0.85	62	29	53			OEPA,314 GRANT
DEER CREEK RESERVOIR (Stark)										
L-1	23-Apr-77			0.91	61	40	57	**59**	Eutrophic	OEPA,1982 305(B)
L-1	16-Aug-77	25.0	62	0.73	65	30	53			OEPA,1982 305(B)
VLMP	SPRSUM-90			(N=7)	68					NEFCO
VLMP	SPRSUM-89			(N=7)	66					NEFCO
DEFIANCE POWER DAM RESERVOIR (Defiance)										
L-1	26-Apr-90			0.25	80	60	63	**58**	L1-Eutrophic	OEPA,314 GRANT
L-1	12-Sep-90	9.9	53	0.10	93	1340	**			OEPA,314 GRAN
L-2	26-Apr-90			0.25	80	70	65	**56**	L2-Eutrophic	OEPA,314 GRA
L-2	12-Sep-90	5.4	47	0.10	93	990	**			OEPA,314 GRANT
DELAWARE LAKE (Delaware)										
L-1	26-Apr-90			0.35	75	80	67	**66**	L1-Eutrophic	OEPA,314 GRANT
L-1	22-Aug-90	38.5	66	0.90	62	40	57			OEPA,314 GRANT
L-1	11-Jly-89	35.1	66	0.70	65	57	62			KSU-FULMER/CO
L-1	14-Aug-89	32.1	65	0.71	65	51	61			KSU-FULMER/CO
L-1	26-Apr-73	14.9	57	0.61	67	80	67			OEPA,1982 305(B)
L-1	01-Aug-73	4.1	44	0.46	71	70	65			OEPA,1982 305(B)
L-2	11-Jly-89	34.0	65	0.68	66	72	66	**67**	L2-Hypereutrophic	KSU-FULMER/CO
L-2	14-Aug-89	55.1	70	0.70	65	73	66			KSU-FULMER/CO
S-1	SUM-91				69					CLIP/OLMS
DILLON RESERVOIR (Muskingum)										
L-1	14-May-90			0.50	70	80	67	**61**	L1-Eutrophic	OEPA,314 GRANT
L-1	11-Sep-90	12.5	55	0.70	65	60	63			OEPA,314 GRANT
L-1	12-Aug-77	40.9	67	0.67	66	70	65			OEPA,1982 305(B)
L-1	11-Apr-77			0.46	71	90	69			OEPA,1982 305(B)
L-1	30-Jul-73	20.0	60	0.61	67	110	72			OEPA,1982 305(B)
L-1	26-Apr-73	25.9	63	0.51	70	120	73			OEPA,1982 305(
L-2	14-May-90			0.20	83	140	75	**69**	L2-Hypereutrophic	OEPA,314 GRA

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-2	11-Sep-90	25.9	63	0.50	70					OEPA,314 GRANT
DOW LAKE (Athens)										
L-1	27-Apr-90			2.25	48	10	37	**38**	L1-Mesotrophic	OEPA,314 GRANT
L-1	22-Aug-90	6.2	48	2.50	47	7	32			OEPA,314 GRANT
L-1	19-Jun-89	1.6	35	2.76	45	27	52			KSU-FULMER/CO
L-1	04-Aug-89	1.0	31	3.16	43	11	39			KSU-FULMER/CO
L-1	31-Aug-78	6.2	48	3.00	44					OEPA,1982 305(B)
L-1	08-May-78	9.9	53	1.70	52	10	37			OEPA,1982 305(B)
L-2	19-Jun-89	3.2	42	2.51	47	32	54	**43**	L2-Mesotrophic	KSU-FULMER/CO
L-2	04-Aug-89	1.2	32	3.10	44	33	54			KSU-FULMER/CO
L-3	19-Jun-89	2.1	38	2.14	49	20	47	**42**	L3-Mesotrophic	KSU-FULMER/CO
L-3	04-Aug-89	2.0	37	2.68	46	19	46			KSU-FULMER/CO
EAST BRANCH RESERVOIR (Geauga)										
L-1	26-Apr-77			0.85	62	40	57	**60**	Eutrophic	OEPA,1982 305(B)
L-1	15-Aug-77	28.8	64	0.91	61	50	61			OEPA,1982 305(B)
EAST FORK LAKE (Clermont)										
L-1	21-Aug-79	47.0	68	1.10	59	40	57	**67**	Hypereutrophic	OEPA,1982 305(B)
L-1	01-Jun-79	8.5	52	1.20	57	80	67			OEPA,1982 305(B)
EAST RESERVOIR (Summit)										
L-1	23-May-80	85.0	74	0.76	64	60	63	**65**	Eutrophic	OEPA,1982 305(B)
L-1	02-Sep-80	46.9	68	1.00	60	140	75			OEPA,1982 305(B)
VLMP	10-Jun-90	22.0	61	0.91	61	79	65	**62**	Eutrophic	NEFCO/KSU
VLMP	03-Jly-90	6.6	49	1.22	57	25	47			NEFCO/KSU
VLMP	12-Aug-90	19.3	60	0.94	61	82	68			NEFCO/KSU
VLMP	18-Aug-90	12.1	55	0.71	65	72	66			NEFCO/KSU
VLMP	31-Aug-90	58.3	71	0.91	61	89	69			NEFCO/KSU
VLMP	22-Sep-90	57.8	70	0.91	61	81	68			NEFCO/KSU
VLMP	SPRSUM-90			(N=18	60					NEFCO
VLMP	SPRSUM-89			(N=21	59					NEFCO
VLMP	SPRSUM-88			(N=6)	58					NEFCO
EASTWOOD LAKE (Montgomery)										
L-1	14-Aug-89	46.4	68	0.46	71	35	55	**61**	Eutrophic	OEPA,314 GRANT
L-1	24-Apr-89					32	54			OEPA,314 GRANT
ESSINGTON LAKE (Perry)										
L-1	23-Jul-81	2.1	38	3.50	42	20	47	**38**	Mesotrophic	OEPA,1982 305(B)
FERGUSON RESERVOIR (Allen)										
L-1	24-Apr-90			6.50	33	24	50	**50**	Eutrophic	OEPA,314 GRANT

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	22-Aug-90	6.9	49	2.50	47	200	81			OEPA,314 GRANT
FINDLAY RESERVOIR #2 (Hancock)										
L-1	31-Aug-79	18.3	59	1.50	54	30	53	**47**	Mesotrophic	OEPA,1982 305(B)
L-1	27-Jun-79	3.9	44	3.40	42	10	37			OEPA,1982 305(B)
FINDLEY LAKE (Lorain)										
L-1	30-Aug-89	267.3	85	0.46	71	67	65	**66**	L1-Eutrophic	OEPA,314 GRANT
L-1	08-May-89			2.82	45	16	44			OEPA,314 GRANT
L-1	19-Jly-89	20.0	60	1.28	56	33	55			KSU-FULMER/CO
L-1	21-Aug-89	58.5	71	0.91	61	59	63			KSU-FULMER/CO
L-1	03-Jun-80	4.2	45	3.40	42	70	65			OEPA,1982 305(B)
L-1	12-Aug-80	33.8	65	1.50	54	30	53			OEPA,1982 305(B)
L-1	16-Aug-77	44.6	68	1.20	57	70	65			OEPA,1982 305(B)
L-2	19-Jly-89	23.8	62	1.21	57	87	69	**65**	L2-Eutrophic	KSU-FULMER/CO
L-2	21-Aug-89	45.6	68	0.90	62	74	66			KSU-FULMER/CO
L-3	19-Jly-89	23.7	62	1.05	59	87	69	**65**	L3-Eutrophic	KSU-FULMER/CO
L-3	21-Aug-89	48.0	69	0.76	64	153	77			KSU-FULMER/CO
FIRESTONE RESERVOIR (Summit)										
L-1	14-Jul-81	55.2	70	0.70	65	10	37	**70**	Hypereutrophic	OEPA,1982 305(.
FORKED RUN LAKE (Meigs)										
L-1	19-Jun-89	2.3	39	2.02	50	33	55	**43**	L1-Mesotrophic	KSU-FULMER/CO
L-1	24-Jly-89	1.0	31	2.59	46	6	30			KSU-FULMER/CO
L-1	25-Aug-78			2.30	48	10	37			OEPA,1982 305(B)
L-1	04-May-78	3.7	43	1.40	55	10	37			OEPA,1982 305(B)
L-2	19-Jun-89	2.7	40	1.88	51	38	57	**45**	L2-Mesotrophic	KSU-FULMER/CO
L-2	24-Jly-89	1.3	33	1.73	52	7	33			KSU-FULMER/CO
L-3	19-Jun-89	3.8	44	1.52	54	30	53	**47**	L3-Mesotrophic	KSU-FULMER/CO
L-3	24-Jly-89	2.9	41	1.43	55	9	35			KSU-FULMER/CO
FORTY ACRE POND (Auglaize)										
L-1	29-Jul-81	127.6	78			30	53	**78**	Hypereutrophic	OEPA,1982 305(B)
FOX LAKE STRUCTURE #6 (Athens)										
L-1	19-Aug-80	17.5	59	1.60	53	100	71	**53**	Eutrophic	OEPA,1982 305(B)
L-1	02-May-80	3.3	42	2.10	49	20	47			OEPA,1982 305(B)
FRIENDSHIP PARK LAKE (Jefferson)										
L-1	16-May-90			2.25	48	5	27	**28**	Oligotrophic	OEPA,314 GRANT
L-1	12-Sep-90	.7	28	6.00	34					OEPA,314 GRANT
GRAND LAKE ST. MARYS (Auglaize)										
L-1	16-May-75			0.43	72	150	76	**76**	Hypereutrophic	OEPA,1982 305(B)

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	12-Aug-75			0.33	76	130	74			OEPA,1982 305(B)
L-1	04-May-73	127.3	78	0.08	96	300	86			OEPA,1982 305(B)
L-1	01-Aug-73	69.7	72	0.46	71	130	74			OEPA,1982 305(B)
GRANT LAKE (Brown)										
L-1	01-Aug-73	45.2	68	0.45	72	130	74	**68**	Hypereutrophic	OEPA,1982 305(B)
GRIGGS RESERVOIR (Franklin)										
S-1	SUM-91			(N=2)	66					CLIP/OLMS
GUILFORD LAKE (Columbiana)										
L-1	08-Aug-89	60.7	71	0.69	65	60	63	**65**	L1-Eutrophic	OEPA,314 GRANT
L-1	17-Mar-89			0.86	62	50	61			OEPA,314 GRANT
L-1	07-Jun-89	33.7	65	0.68	66	52	61			KSU-FULMER/CO
L-1	16-Aug-89	42.0	67	0.66	66	59	63			KSU-FULMER/CO
L-1	24-Aug-81	62.9	71	0.73	65	50	61			OEPA,1982 305(B)
L-1	26-Aug-75			0.91	61	50	61			OEPA,1982 305(B)
L-1	21-May-75			0.86	62	40	57			OEPA,1982 305(B)
L-2	07-Jun-89	37.8	66	0.62	67	44	59	**64**	L2-Eutrophic	KSU-FULMER/CO
L-2	16-Aug-89	52.6	69	0.68	66	65	64			KSU-FULMER/CO
L-3	07-Jun-89	36.0	66	0.62	67	60	63	**65**	L3-Eutrophic	KSU-FULMER/CO
L-3	16-Aug-89	47.0	68	0.73	65	82	68			KSU-FULMER/CO
L-4	07-Jun-89	33.6	65	0.72	65	46	59	**63**	L4-Eutrophic	KSU-FULMER/CO
L-4	16-Aug-89	46.3	68	0.89	62	51	61			KSU-FULMER/CO
S-1	SUM-91			(N=6)	68					CLIP/OLMS
S-2	SUM-91			(N=6)	77					CLIP/OLMS
S-3	SUM-91			(N=6)	71					CLIP/OLMS
HAMMERTON LAKE (JACKSON CITY R.) (Jackson)										
L-1	14-Jun-79	3.2	42	4.90	37			**40**	Mesotrophic	OEPA,1982 305(B)
L-1	06-Aug-79	2.7	40	4.80	37	10	37			OEPA,1982 305(B)
HARGUS LAKE (Pickaway)										
L-1	24-Apr-90			1.75	52	18	46	**44**	L1-Mesotrophic	OEPA,314 GRANT
L-1	23-Aug-90	2.9	41	1.20	57	110	72			OEPA,314 GRANT
L-1	22-Jun-89	9.6	53	1.66	53	19	46			KSU-FULMER/CO
L-1	27-Jly-89	3.0	41	2.20	49	12	40			KSU-FULMER/CO
L-1	04-Aug-78	3.6	43	1.80	52	10	37			OEPA,1982 305(B)
L-1	20-Apr-78	8.6	52	1.10	59	50	61			OEPA,1982 305(B)
L-2	22-Jun-89	12.5	55	1.24	57	37	56	**49**	L2-Eutrophic	KSU-FULMER/CO
L-2	27-Jly-89	2.9	41	1.93	51	14	42			KSU-FULMER/CO
L-3	22-Jun-89	10.0	53	1.47	54	40	57			KSU-FULMER/CO

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-3	27-Jly-89	3.3	42	1.85	51	11	39	**49**	L3-Eutrophic	KSU-FULMER/CO
HARRISON LAKE (Fulton)										
L-1	25-Apr-90			0.50	70	60	63	**64**	Eutrophic	OEPA,314 GRANT
L-1	10-Sep-90	30.8	64	0.50	70	60	63			OEPA,314 GRANT
L-1	19-Aug-81	23.9	62	0.55	69	80	67			OEPA,1982 305(B)
L-1	22-Aug-75			0.51	70	50	61			OEPA,1982 305(B)
L-1	30-May-75			0.64	66	90	69			OEPA,1982 305(B)
HIGHLANDTOWN LAKE (Columbiana)										
L-1	15-May-78	7.5	50	1.80	52	20	47	**57**	Eutrophic	OEPA,1982 305(B)
L-1	21-Aug-78	42.5	67	1.80	52	10	37			OEPA,1982 305(B)
HILLSBORO RESERVOIR (Highland)										
L-1	28-Aug-89	9.5	53	0.81	63	17	45	**45**	Mesotrophic	OEPA,314 GRANT
L-1	17-May-89			0.91	61	10	37			OEPA,314 GRANT
HINCKLEY LAKE (Medina)										
L-1	20-Apr-89			0.51	70	18	46	**49**	Eutrophic	OEPA,314 GRANT
L-1	12-Jul-89	8.0	51	0.72	65	50	61			OEPA,314 GRANT
L-1	19-Aug-77	30.8	64	0.30	77	180	79			OEPA,1982 305(
HOOVER RESERVOIR (Franklin)										
L-1	04-May-89			0.50	70	24	50	**50**	L1-Eutrophic	OEPA,314 GRANT
L-1	25-Aug-89	7.8	51	1.30	56	17	45			OEPA,314 GRANT
L-1	09-May-75			0.46	71	100	71			OEPA,1982 305(B)
L-1	29-Aug-75			1.20	57	30	53			OEPA,1982 305(B)
L-1	01-Aug-73	7.6	50	0.93	61	30	53			OEPA,1982 305(B)
L-1	26-Apr-73	36.3	66	0.91	61	50	61			OEPA,1982 305(B)
L-2	25-Aug-89	33.9	65	0.65	66	56	62	**63**	L2-Eutrophic	OEPA,314 GRANT
L-2	04-May-89			0.30	77	47	60			OEPA,314 GRANT
HOSTERMAN LAKE (Clark)										
L-1	17-Jul-81	58.1	70	0.70	65	80	67	**70**	Hypereutrophic	OEPA,1982 305(B)
HOWER LAKE (Summit)										
VLMP	SPRSUM-90			(N=10	58				Insuff. Data	NEFCO
VLMP	SPRSUM-89			(N=7)	50					NEFCO
VLMP	SPRSUM-88			(N=6)	50					NEFCO
HUDSON SPRINGS LAKE (Summit)										
VLMP	11-Jun-90	9.9	53	1.07	59	58	60	**60**	Eutrophic	NEFCO/KSU
VLMP	29-Jun-90	22.5	61	0.84	63	46	58			NEFCO/KSU
VLMP	18-Jly-90	5.5	47	1.50	54	45	58			NEFCO/KSU
VLMP	09-Aug-90	30.8	64	1.55	54	62	64			NEFCO/KSU

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
VLMP	30-Aug-90	28.0	63	0.99	60	33	55			NEFCO/KSU
VLMP	20-Sep-90	49.5	69	1.27	57	59	63			NEFCO/KSU
VLMP	SPRSUM-90			(N=39	58					NEFCO
VLMP	SPRSUM-89			(N=33	60					NEFCO
INDIAN LAKE (Logan)										
L-1	27-Sep-89					70	65	**70**	Hypereutrophic	OEPA, PHASE I
L-1	24-Aug-89	74.3	73	0.25	80	50	61			OEPA, PHASE I
L-1	10-Jul-89					90	69			OEPA, PHASE I
L-1	21-Jun-89			0.36	75	70	65			OEPA, PHASE I
L-1	07-Jun-89			0.32	77					OEPA, PHASE I
L-1	24-May-89			0.23	81	76	67			OEPA, PHASE I
L-1	20-Apr-89			0.25	80					OEPA, PHASE I
L-1	22-Nov-88			0.34	76					OEPA, PHASE I
L-1	09-Nov-88			0.43	72					OEPA, PHASE I
L-1	27-Oct-88			0.34	76					OEPA, PHASE I
L-1	13-Oct-88			0.31	77	70	65			OEPA, PHASE I
L-1	29-Sep-88			0.15	87	80	67			OEPA, PHASE I
L-1	13-Sep-88			0.24	80					OEPA, PHASE I
L-1	30-Aug-88			0.21	82	100	71			OEPA, PHASE I
L-1	18-Aug-88			0.15	87	130	74			OEPA, PHASE I
L-1	02-Aug-88			0.15	87	120	73			OEPA, PHASE I
L-1	21-Jul-88	107.4	76	0.24	80	170	78			OEPA, PHASE I
L-1	06-Jul-88			0.31	77	110	72			OEPA, PHASE I
L-2	27-Sep-89					97	70			OEPA, PHASE I
L-2	24-Aug-89	77.3	73	0.31	77	90	69	**65**	Eutrophic	OEPA, PHASE I
L-2	10-Jul-89					43	58			OEPA, PHASE I
L-2	21-Jun-89			0.48	70	66	65			OEPA, PHASE I
L-2	07-Jun-89			0.32	77	59	63			OEPA, PHASE I
L-2	24-May-89			0.28	78	58	63			OEPA, PHASE I
L-2	20-Apr-89			0.25	80					OEPA, PHASE I
L-2	22-Nov-88			0.46	71	70	65			OEPA, PHASE I
L-2	09-Nov-88			0.46	71					OEPA, PHASE I
L-2	29-Sep-88			0.24	80					OEPA, PHASE I
L-2	27-Oct-88			0.31	77					OEPA, PHASE I
L-2	13-Oct-88			0.34	76	50	61			OEPA, PHASE I
L-2	13-Sep-88			0.24	80					OEPA, PHASE I
L-2	30-Aug-88			0.21	82	80	67			OEPA, PHASE I

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-2	18-Aug-88					120	73			OEPA, PHASE I
L-2	02-Aug-88			0.24	80	50	61			OEPA, PHASE I
L-2	21-Jul-88	72.1	73	0.24	80	70	65			OEPA, PHASE I
L-2	06-Jul-88			0.37	74	60	63			OEPA, PHASE I
L-3	27-Sep-89					50	61	**63**	Eutrophic	OEPA, PHASE I
L-3	24-Aug-89	79.2	73	0.36	75	80	67			OEPA, PHASE I
L-3	10-Jul-89					70	65			OEPA, PHASE I
L-3	21-Jun-89			0.46	71	35	55			OEPA, PHASE I
L-3	07-Jun-89			0.32	77					OEPA, PHASE I
L-3	24-May-89			0.28	78	52	61			OEPA, PHASE I
L-3	20-Apr-89			0.25	80	59	63			OEPA, PHASE I
L-3	22-Nov-88			0.43	72					OEPA, PHASE I
L-3	09-Nov-88			0.43	72	170	78			OEPA, PHASE I
L-3	27-Oct-88			0.31	77					OEPA, PHASE I
L-3	29-Sep-88			0.24	80					OEPA, PHASE I
L-3	13-Sep-88			0.24	80	200	81			OEPA, PHASE I
L-3	30-Aug-88			0.21	82	90	69			OEPA, PHASE I
L-3	18-Aug-88					60	63			OEPA, PHASE I
L-3	02-Aug-88			0.27	79					OEPA, PHASE I
L-3	21-Jul-88	73.0	73	0.24	80	90	69			OEPA, PHASE I
L-3	06-Jul-88			0.31	77	120	73			OEPA, PHASE I
L-4	18-Aug-77	92.5	75	0.46	71	100	71	**74**	Hypereutrophic	OEPA,1982 305(B)
L-4	21-Apr-77	71.6	72	0.55	69	120	73			OEPA,1982 305(B)
L-4	02-Aug-73	114.2	77	0.43	72	150	76			OEPA,1982 305(B)
L-4	04-May-73	59.4	71	0.22	82	50	61			OEPA,1982 305(B)
S-10	SUM-91				78					CLIP/OLMS
S-14	SUM-91				81					CLIP/OLMS
S-5	SUM-91				77					CLIP/OLMS
S-9	SUM-91				77					CLIP/OLMS
J. GRIGGS RESERVOIR (Franklin)										
L-1	26-Apr-90			0.40	73	100	71	**65**	Eutrophic	OEPA,314 GRANT
L-1	24-Aug-90	9.1	52	0.50	69	90	69			OEPA,314 GRANT
L-1	29-Aug-89	61.7	71							OEPA,314 GRANT
L-1	24-May-79			0.91	61					OEPA,1982 305(B)
L-1	06-Aug-79			0.66	66					OEPA,1982 305(B)
JACKSON LAKE (Jackson)										
L-1	20-Jun-89	18.6	59	1.49	54	18	46	**47**	L1-Mesotrophic	KSU-FULMER/

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	Final TSI	Trophic Classification	Data Source
L-1	25-Jly-89	5.9	48	1.65	53	11	39			KSU-FULMER/CO
L-1	18-Aug-78	10.2	53	1.10	59	30	53			OEPA,1982 305(B)
L-1	01-May-78	15.8	58	1.50	54	20	47			OEPA,1982 305(B)
L-2	20-Jun-89	11.1	54	1.23	57	34	55	**52**	L2-Eutrophic	KSU-FULMER/CO
L-2	25-Jly-89	6.4	49	1.53	54	20	47			KSU-FULMER/CO
JEFFERSON LAKE (Jefferson)										
L-1	16-May-90			1.15	58	10	37	**46**	Mesotrophic	OEPA,314 GRANT
L-1	12-Sep-90	10.6	54	1.50	54	360	89			OEPA,314 GRANT
L-1	09-May-80	3.4	43	1.70	52	10	37			OEPA,1982 305(B)
L-1	08-Aug-80	10.6	54	1.50	54	30	53			OEPA,1982 305(B)
S-1	SUM-91			(N=6)	47					CLIP/OLMS
JISCO LAKE (Jackson)										
L-1	26-Apr-90			3.25	43	6	30	**32**	Oligotrophic	OEPA,314 GRANT
L-1	23-Aug-90	1.3	33	3.25	43	6	30			OEPA,314 GRANT
KILLDEER RESERVOIR (Wyandot)										
L-1	14-May-90			1.50	54	8	34	**31**	Oligotrophic	OEPA,314 GRANT
L-1	13-Sep-90	.8	28	3.00	44					OEPA,314 GRANT
L-1	05-May-77			5.80	35	10	37			OEPA,1982 305(B)
L-1	04-Aug-77	5.4	47	1.90	51	10	37			OEPA,1982 305(B)
KISER LAKE (Champaign)										
L-1	20-Apr-89			0.31	77	36	56	**69**	L1-Hypereutrophic	OEPA,314 GRANT
L-1	17-Aug-89	79.1	73	0.33	76	60	63			OEPA,314 GRANT
L-1	14-Jun-89	20.6	60	0.56	68	106	71			KSU-FULMER/CO
L-1	08-Aug-89	109.4	77	0.51	70	128	74			KSU-FULMER/CO
L-1	22-Apr-77	39.0	67	0.64	66	70	65			OEPA,1982 305(B)
L-1	19-Aug-77	149.0	80	0.37	74	120	73			OEPA,1982 305(B)
L-2	14-Jun-89	26.6	63	0.57	68	107	72	**75**	L2-Hypereutrophic	KSU-FULMER/CO
L-2	08-Aug-89	122.4	78	0.39	74	157	77			KSU-FULMER/CO
KNOX LAKE (Knox)										
L-1	21-Aug-89	54.1	70	0.60	67	90	69	**61**	L1-Eutrophic	OEPA,314 GRANT
L-1	11-May-89			0.62	67	29	53			OEPA,314 GRANT
L-1	30-Aug-77	35.3	66	0.61	67	80	67			OEPA,1982 305(B)
L-1	03-May-77			0.88	62	30	53			OEPA,1982 305(B)
L-2	11-May-89			0.40	73	47	60	**68**	L2-Hypereutrophic	OEPA,314 GRANT
L-2	21-Aug-89	99.2	76	0.37	74	120	73			OEPA,314 GRANT
S-1	SUM-91			(N=5)	61					CLIP/OLMS
S-2	SUM-92			(N=4)	67					CLIP/OLMS

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
LAKE ALMA (Vinton)										
L-1	18-Aug-80	6.2	48	2.00	50	20	47	**42**	Mesotrophic	OEPA,1982 305(B)
L-1	01-May-80	9.6	53	4.40	39	10	37			OEPA,1982 305(B)
LAKE AQUILLA (Geauga)										
L-1	27-Apr-89			2.81	45	16	44	**53**	Eutrophic	OEPA,314 GRANT
L-1	23-Aug-89	27.7	63	2.08	49	25	51			OEPA,314 GRANT
L-1	23-Aug-77			0.10	93					OEPA,1982 305(B)
LAKE HODGSON (Portage)										
L-1	12-Aug-77	5.8	48	1.90	51	120	73			OEPA,1982 305(B)
VLMP	09-Jun-90	24.8	62	1.02	60	68	62	**63**	Eutrophic	NEFCO/KSU
VLMP	28-Jun-90	29.2	64	0.76	64	40	56			NEFCO/KSU
VLMP	19-Jly-90	29.2	64	0.94	61	58	62			NEFCO/KSU
VLMP	09-Aug-90	33.0	65	1.09	59	50	61			NEFCO/KSU
VLMP	30-Aug-90	20.3	60	1.32	56	45	59			NEFCO/KSU
VLMP	21-Sep-90	20.3	60	1.37	55	44	59			NEFCO/KSU
VLMP	SPRSUM-90			(N=27	58					NEFCO
VLMP	SPRSUM-89			(N=12	59					NEFCO
VLMP	SPRSUM-88			(N=8)	61					NEFCO
LAKE HOPE (Vinton)										
L-1	25-Apr-90			1.80	52	9	36	**43**	L1-Mesotrophic	OEPA,314 GRANT
L-1	22-Aug-90	6.6	49	2.60	46	12	40			OEPA,314 GRANT
L-1	21-Jun-89	8.0	51	0.87	62	21	48			KSU-FULMER/CO
L-1	26-Jly-89	1.9	37	1.65	53	5	27			KSU-FULMER/CO
L-1	27-Apr-78	2.3	39	2.70	46					OEPA,1982 305(B)
L-1	01-Aug-78	30.1	64	0.76	64	10	37			OEPA,1982 305(B)
L-1	03-Sep-75			2.90	45	30	53			OEPA,1982 305(B)
L-1	14-May-75			1.00	60	10	37			OEPA,1982 305(B)
L-2	21-Jun-89	8.4	51	0.81	63	25	50	**46**	L2-Mesotrophic	KSU-FULMER/CO
L-2	26-Jly-89	3.8	43	1.73	52	5	27			KSU-FULMER/CO
LAKE ISABELLA (Hamilton)										
L-1	08-Jul-81	3.3	42	4.80	37	30	53	**42**	Mesotrophic	OEPA,1982 305(B)
LAKE KATHARINE (Jackson)										
L-1	22-Mar-79	6.1	48	1.20	57				Insuff. Data	OEPA,1982 305(B)
LAKE LA SU AN (Williams)										
L-1	25-Apr-90					22	49	**51**	Eutrophic	OEPA,314 GRANT
L-1	10-Sep-90	9.4	53	1.00	60	70	65			OEPA,314 GRA'
LAKE LOGAN (HOCKING LAKE) (Hocking)										

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	24-Apr-90			0.75	64	29	53	**56**	L1-Eutrophic	OEPA,314 GRANT
L-1	20-Aug-90	32.5	65	0.70	65	60	63			OEPA,314 GRANT
L-1	21-Jun-89	31.6	64	0.67	66	20	47			KSU-FULMER/CO
L-1	26-Jly-89	20.1	60	0.77	64	21	48			KSU-FULMER/CO
L-1	15-Apr-76			1.10	59	40	57			OEPA,1982 305(B)
L-1	14-Sep-76			0.61	67	110	72			OEPA,1982 305(B)
L-2	24-Apr-90			0.70	65	19	47			OEPA,314 GRANT
L-2	20-Aug-90	25.1	62	0.55	69	34	55	**55**	L2-Eutrophic	OEPA,314 GRANT
L-2	21-Jun-89	33.7	65	0.64	66	28	52			KSU-FULMER/CO
L-2	26-Jly-89	20.8	60	0.76	64	25	51			KSU-FULMER/CO
L-3	21-Jun-89	40.5	67	0.58	68	32	54	**58**	L3-Eutrophic	KSU-FULMER/CO
L-3	26-Jly-89	25.6	62	0.62	67	37	56			KSU-FULMER/CO
LAKE LORAMIE (Shelby)										
L-1	25-Apr-89			0.38	74	44	59	**71**	L1-Hypereutrophic	OEPA,314 GRANT
L-1	29-Aug-89			0.28	78	190	80			OEPA,314 GRANT
L-1	10-Jly-89	96.2	75	0.30	77	200	81			KSU-FULMER/CO
L-1	08-Aug-89	146.7	80	0.24	81	166	78			KSU-FULMER/CO
L-1	29-Jul-81	71.2	72	0.27	79	170	78			OEPA,1982 305(B)
L-1	13-Aug-75			0.20	83	230	83			OEPA,1982 305(B)
L-1	17-May-75			0.28	78	240	83			OEPA,1982 305(B)
L-1	04-May-73	50.6	69	0.15	87	180	79			OEPA,1982 305(B)
L-1	01-Aug-73	104.2	76	0.15	87	210	81			OEPA,1982 305(B)
L-2	10-Jly-89	95.5	75	0.31	77	231	83	**76**	L2-Hypereutrophic	KSU-FULMER/CO
L-2	08-Aug-89	131.1	78	0.30	77	189	80			KSU-FULMER/CO
S-1	SUM-91			(N=6)	81					CLIP/OLMS
LAKE LaCOMTE (Hancock)										
L-1	15-May-90			1.50	54	18	46	**45**	Mesotrophic	OEPA,314 GRANT
L-1	23-Aug-90	3.4	43	0.75	64	13	41			OEPA,314 GRANT
LAKE MILTON (Mahoning)										
L-1	25-Jul-89			1.00	60	35	55	**59**	L1-Eutrophic	OEPA,314 GRANT
L-1	04-May-89			1.27	57	27	52			OEPA,314 GRANT
L-1	10-Aug-89	41.9	67	0.94	61	35	55			OEPA,314 GRANT
L-1	16-Aug-79	15.4	57	1.10	59	20	47			OEPA,1982 305(B)
L-1	21-Jun-79	9.3	52	1.60	53	20	47			OEPA,1982 305(B)
L-2	04-May-89			1.13	58	28	52	**52**	L2-Eutrophic	OEPA,314 GRANT
L-2	25-Jul-89			0.98	60	60	63			OEPA,314 GRANT
LAKE NESMITH (Summit)										

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	30-Jul-86			0.75	64	170	78			OEPA, UNPUBL
L-1	14-Aug-86			0.70	65	140	75			OEPA, UNPUBL
L-1	04-Nov-86			0.65	66	240	83			OEPA, UNPUBL
L-1	26-Sep-79	83.0	74	0.82	63	20	47	**68**	Hypereutrophic	OEPA,1982 305(B)
L-1	11-Apr-79	63.9	71	0.82	63	60	63			OEPA,1982 305(B)
VLMP	SPRSUM-90			(N=12	69					NEFCO
LAKE PARK (Mahoning)										
L-1	15-Jul-81	26.0	63	0.34	76	160	77	**63**	Eutrophic	OEPA,1982 305(B)
LAKE PIPPEN (Portage)										
L-1	18-May-89			3.71	41	14	42	**44**	Mesotrophic	OEPA,314 GRANT
L-1	09-Aug-89	5.0	46	3.54	42	13	41			OEPA,314 GRANT
LAKE ROCKWELL (Portage)										
L-1	Sum-1984	26.9	63	1.20	57			**63**	Eutrophic	KSU, CITY
L-1	Sum-1983	21.0	60	1.70	52					KSU, CITY
L-1	Sum-1981	18.1	59	1.30	56					KSU, CITY
L-1	11-May-76			1.20	57	50	61			OEPA,1982 305(B)
L-1	20-Aug-76			1.00	60	60	63			OEPA,1982 305(P'
LAKE RUPERT (Vinton)										
L-1	15-Jun-79	3.5	43	2.10	49	10	37	**43**	Mesotrophic	OEPA,1982 305(B)
L-1	04-Sep-79	7.3	50	1.60	53	10	37			OEPA,1982 305(B)
LAKE SNOWDEN (Structure #2) (Athens)										
L-1	05-Sep-79	17.0	58	1.80	52	20	47	**47**	Mesotrophic	OEPA,1982 305(B)
L-1	08-Jun-79			3.20	43	10	37			OEPA,1982 305(B)
LAKE VESUVIUS (Lawrence)										
L-1	13-May-75			0.81	63	20	47	**47**	Mesotrophic	OEPA,1982 305(B)
L-1	02-Sep-75			2.80	45	20	47			OEPA,1982 305(B)
LAKE WHITE RESERVOIR (Pike)										
L-1	20-Jun-89	1.7	36			10	37	**39**	L1-Mesotrophic	KSU-FULMER/CO
L-1	25-Jly-89	2.8	41	2.24	48	10	37			KSU-FULMER/CO
L-1	20-Aug-79	10.3	53	1.60	53	10	37			OEPA,1982 305(B)
L-1	31-May-79	3.9	44	1.30	56	10	37			OEPA,1982 305(B)
L-2	20-Jun-89	3.2	42	1.05	59	14	42	**45**	L2-Mesotrophic	KSU-FULMER/CO
L-2	25-Jly-89	6.0	48	0.87	62	14	42			KSU-FULMER/CO
L-3	20-Jun-89	5.5	47			15	43			KSU-FULMER/CO
L-3	25-Jly-89	9.8	53	0.50	70	24	50	**48**	L3-Eutrophic	KSU-FULMER/CO
LEESVILLE LAKE (Carroll)										
L-1	31-Aug-76			1.60	53	40	57	**53**	Eutrophic	OEPA,1982 305(B)

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	Final TSI	Trophic Classification	Data Source
L-1	18-May-76			1.40	55	30	53			OEPA,1982 305(B)
LONG LAKE (Summit)										
L-1	19-Apr-77	77.3	73	0.85	62	70	65			OEPA,1982 305(B)
L-1	09-Aug-77	62.7	71	0.73	65	60	63			OEPA,1982 305(B)
VLMP	30-Jun-90	20.9	60	0.94	61	57	62			NEFCO/KSU
VLMP	22-Jly-90	47.9	69	0.61	67	89	69			NEFCO/KSU
VLMP	12-Aug-90	48.9	69	0.58	68	74	66			NEFCO/KSU
VLMP	03-Sep-90	11.0	54	0.66	66	97	70			NEFCO/KSU
VLMP	23-Sep-90	16.0	58	0.58	68	89	69			NEFCO/KSU
VLMP	SPRSUM-90			(N=27	72					NEFCO
VLMP	SPRSUM-89			(N=11	63					NEFCO
VLMP	SPRSUM-88			(N=5)	69					NEFCO
LONG LAKE (PORTAGE LAKE) (Summit)										
VLMP	10-Jun-90	45.1	68	0.58	68	100	69	**64**	Eutrophic	NEFCO/KSU
LOWER SHAKER LAKE (Cuyahoga)										
L-1	17-Aug-77	21.6	61	0.60	67	170	78	**61**	Eutrophic	OEPA,1982 305(B)
LaDUE RESERVOIR (Geauga)										
L-1	07-Aug-78	11.1	54	1.80	52	20	47	**57**	Eutrophic	OEPA,1982 305(B)
L-1	11-May-78	7.6	50	1.70	52	50	61			OEPA,1982 305(B)
MADISON LAKE (Madison)										
L-1	14-Jun-89	46.3	68	0.39	74	109	72	**68**	L1-Hypereutrophic	KSU-FULMER/CO
L-1	08-Aug-89	28.6	63	0.49	70	66	65			KSU-FULMER/CO
L-1	05-Jun-79	47.3	68	0.36	75	90	69			OEPA,1982 305(B)
L-1	07-Aug-79	26.3	63	0.51	70	80	67			OEPA,1982 305(B)
L-2	14-Jun-89	38.7	66	0.37	74	97	70	**67**	L2-Hypereutrophic	KSU-FULMER/CO
L-2	08-Aug-89	34.6	65	0.49	70	78	67			KSU-FULMER/CO
L-3	14-Jun-89	8.3	51	0.23	81	194	80	**72**	L3-Hypereutrophic	KSU-FULMER/CO
L-3	08-Aug-89	32.8	65	0.28	78	114	72			KSU-FULMER/CO
MEADOWBROOK LAKE (Summit)										
L-1	29-Aug-80	58.9	71	1.20	57	130	74			OEPA,1982 305(B)
L-1	02-Jun-80	25.0	62	1.20	57	110	72			OEPA,1982 305(B)
VLMP	11-Jun-90	10.4	54	0.36	75	106	70	**60**	Eutrophic	NEFCO/KSU
VLMP	29-Jun-90	11.0	54	0.64	67	59	62			NEFCO/KSU
VLMP	07-Jly-90	7.7	51	0.84	63	71	65			NEFCO/KSU
VLMP	09-Aug-90	6.1	48	0.30	77	79	67			NEFCO/KSU
VLMP	30-Aug-90	20.9	60	0.79	63	40	57			NEFCO/KSU
VLMP	20-Sep-90	51.7	69	0.36	75	73	66			NEFCO/KSU

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
VLMP	SPRSUM-90			(N=34	76					NEFCO
VLMP	SPRSUM-89			(N=4)	66					NEFCO
MEANDER CREEK RESERVOIR (Trumbull)										
L-1	17-Aug-79	9.7	53	1.70	52	10	37	**45**	Mesotrophic	OEPA,1982 305(B)
L-1	22-Jun-79	3.9	44	2.10	49	10	37			OEPA,1982 305(B)
METZGER RESERVOIR (Allen)										
L-1	24-Apr-90			2.00	50	36	56	**55**	Eutrophic	OEPA,314 GRANT
L-1	22-Aug-90	9.8	53	3.50	42	80	67			OEPA,314 GRANT
MIAMI WHITEWATER LAKE (Hamilton)										
L-1	07-Jul-81	21.5	61	0.73	65	70	65	**61**	Eutrophic	OEPA,1982 305(B)
MICHAEL J. KIRWIN RESERVOIR (Portage)										
L-1	29-Aug-77	6.4	49	1.40	55	10	37			OEPA,1982 305(B)
L-1	18-Apr-77	4.6	46	1.10	59	10	37	**43**	Mesotrophic	OEPA,1982 305(B)
VLMP	SPRSUM-89			(N=1)	63					NEFCO
MILLER ANTRIM QUARRY LAKE (Franklin)										
L-1	YOUGER-87		54		43			**54**	Eutrophic	OEPA, UNPUBL
MOGADORE RESERVOIR (Portage)										
L-1	23-Aug-76			1.60	53	30	53			OEPA,1982 305(B)
L-1	04-May-76			6.40	33	30	53			OEPA,1982 305(B)
VLMP	10-Jun-90	20.3	60	1.83	51	75	64	**72**	Hypereutrophic	NEFCO/KSU
VLMP	01-Jly-90	19.8	60	0.53	69	54	61			NEFCO/KSU
VLMP	22-Jly-90	212.3	83	0.41	73	184	80			NEFCO/KSU
VLMP	13-Aug-90	106.2	76	0.36	75	134	75			NEFCO/KSU
VLMP	03-Sep-90	62.7	71	0.46	71	105	71			NEFCO/KSU
VLMP	20-Sep-90	104.5	76	0.97	61	133	75			NEFCO/KSU
VLMP	SPRSUM-90			(N=16	59					NEFCO
VLMP	SPRSUM-89			(N=22	56					NEFCO
MONROE LAKE (Monroe)										
L-1	22-Aug-80	16.0	58	1.80	52	20	47	**52**	Eutrophic	OEPA,1982 305(B)
L-1	16-May-80	4.9	46	1.50	54	20	47			OEPA,1982 305(B)
MOSQUITO CREEK RESERVOIR (Trumbull)										
L-1	10-Jul-89			0.65	66	32	54			OEPA,314 GRANT
L-1	10-Aug-89	28.8	64	0.67	66	37	56	**55**	L1-Eutrophic	OEPA,314 GRANT
L-1	25-Apr-89			0.71	65	18	46			OEPA,314 GRANT
L-1	24-Aug-76			0.61	67	70	65			OEPA,1982 305(B)
L-1	12-May-76			0.82	63	60	63			OEPA,1982 305
L-1	30-Jul-73	40.2	67	0.81	63	50	61			OEPA,1982 305(B)

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	21-Apr-73	25.7	62	0.99	60	30	53			OEPA,1982 305(B)
L-2	25-Apr-89			0.61		70	47	**47**	L2-Mesotrophic	OEPA,1982 305(B)
MT. GILEAD LAKE #1 (UPPER) (Morrow)										
L-1	04-Aug-80	17.6	59			270	85	**59**	Eutrophic	OEPA,1982 305(B)
MT. GILEAD LAKE #2 (LOWER) (Morrow)										
L-1	04-Aug-80	2.6	40	0.12	91	220	82	**40**	Mesotrophic	OEPA,1982 305(B)
MUD LAKE (Summit)										
VLMP	SPRSUM-89			(N=10	57				Insuff. Data	NEFCO
VLMP	SPRSUM-88			(N=3)	56					NEFCO
MUNROE BASIN (Muskingum)										
L-1	14-May-90			0.62	67	35	55	**61**	Eutrophic	OEPA,314 GRANT
L-1	13-Sep-90	35.9	66	0.30	77	50	61			OEPA,314 GRANT
MUZZY LAKE (Portage)										
S-1	SUM-91			(N=6)	64					CLIP/OLMS
VLMP	11-Jun-90	39.0	67	0.66	66	112	71	**63**	Eutrophic	NEFCO/KSU
VLMP	02-Jly-90	23.8	62	1.19	57	61	63			NEFCO/KSU
VLMP	23-Jly-90	42.4	67	0.74	64	190	81			NEFCO/KSU
VLMP	12-Aug-90	36.3	66	0.76	64	100	71			NEFCO/KSU
VLMP	03-Sep-90	12.3	55			105	71			NEFCO/KSU
VLMP	22-Sep-90	17.6	59	0.91	61	88	69			NEFCO/KSU
VLMP	SPRSUM-90			(N=7)	63					NEFCO
VLMP	SPRSUM-89			(N=10	62					NEFCO
VLMP	SPRSUM-88			(N=7)	60					NEFCO
NETTLE LAKE (Williams)										
L-1	22-May-78	19.5	60	1.10	59	40	57	**58**	Eutrophic	OEPA,1982 305(B)
L-1	14-Aug-78	19.5	60	1.20	57	40	57			OEPA,1982 305(B)
NEW LEXINGTON RESERVOIR #2 Old (Perry)										
L-1	06-May-80	6.8	49	1.40	55	20	47	**46**	Mesotrophic	OEPA,1982 305(B)
L-1	04-Aug-80	4.3	45	1.20	57	30	53			OEPA,1982 305(B)
NEWPORT LAKE (Mahoning)										
L-1	28-Aug-80	155.2	80	0.56	68	230	83	**86**	Hypereutrophic	OEPA,1982 305(B)
L-1	22-May-80	73.2	73	0.41	73	430	92			OEPA,1982 305(B)
NIMISILA RESERVOIR (Summit)										
L-1	06-Jly-89	8.7	52	1.35	56	36	56	**57**	L1-Eutrophic	KSU-FULMER/CO
L-1	06-Sep-89	21.8	61	1.09	59	56	62			KSU-FULMER/CO
L-1	02-May-77	41.4	67	0.67	66	50	61			OEPA,1982 305(B)

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	08-Aug-77	43.6	68	0.91	61	50	61			OEPA,1982 305(B)
L-2	06-Jly-89	8.5	52	1.25	57	42	58	**59**	L2-Eutrophic	KSU-FULMER/CO
L-2	06-Sep-89	37.1	66	1.09	59	69	65			KSU-FULMER/CO
L-3	06-Jly-89	8.3	51	1.46	55	43	58	**57**	L3-Eutrophic	KSU-FULMER/CO
L-3	06-Sep-89	26.9	63	1.05	59	59	63			KSU-FULMER/CO
VLMP	SPRSUM-90			(N=6)	65					NEFCO
VLMP	SPRSUM-88			(N=6)	60					NEFCO
NORTH BRANCH KOKOSING RIVER LAKE (Knox)										
L-1	25-Apr-90			0.50		80	67	**59**	Eutrophic	OEPA,314 GRANT
L-1	22-Aug-90	7.8	51	0.50	70	70				OEPA,314 GRANT
L-1	14-Aug-79	48.4	69	0.51	70	60	63			OEPA,1982 305(B)
L-1	12-Jun-79	14.1	57	0.51	70	40	57			OEPA,1982 305(B)
NORTH RESERVOIR (Summit)										
L-1	06-Jly-89	25.1	62	0.84	63	82	68	**69**	L1-Hypereutrophic	KSU-FULMER/CO
L-1	06-Sep-89	88.2	75	0.51	70	127	74			KSU-FULMER/CO
L-2	06-Jly-89	27.0	63	0.83	63	75	66	**69**	L2-Hypereutrophic	KSU-FULMER/CO
L-2	06-Sep-89	91.8	75	0.48	71	140	75			KSU-FULMER/CO
L-3	06-Jly-89	30.8	64	0.83	63	95	70	**69**	L3-Hypereutrophic	KSU-FULMER/
L-3	06-Sep-89	90.5	75	0.50	70	140	75			KSU-FULMER/CO
VLMP	SPRSUM-90			(N=20	66					NEFCO
VLMP	SPRSUM-89			(N=7)	66					NEFCO
VLMP	SPRSUM-88			(N=6)	69					NEFCO
O'SHAUGHNESSY RESERVOIR (Delaware)										
L-1	26-Apr-73	9.6	53	0.46	71	170	78	**60**	Eutrophic	OEPA,1982 305(B)
L-1	02-Aug-73	3.5	43	0.46	71	220	82			OEPA,1982 305(B)
S-1	SUM-91			(N=5)	67					CLIP/OLMS
S-2	SUM-91			(N=4)	67					CLIP/OLMS
OBERLIN RESERVOIR (Lorain)										
L-1	30-May-89			2.74	45	18	46	**46**	Mesotrophic	OEPA,314 GRANT
L-1	06-Sep-89			1.16	58	70	65			OEPA,314 GRANT
PAINT CREEK LAKE (Highland)										
L-1	06-May-75			0.66	66	140	75	**75**	Hypereutrophic	OEPA,1982 305(B)
L-1	02-Oct-75			0.91	61	40	57			OEPA,1982 305(B)
PETROS LAKE (Stark)										
VLMP	SPRSUM-89			(N=2)	63				Insuff. Data	NEFCO
VLMP	SPRSUM-88			(N=6)	53					NEFCO
PIEDMONT LAKE (Harrison)										

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	12-Apr-77	16.1	58	1.40	55	20	47	**56**	Eutrophic	OEPA,1982 305(B)
L-1	11-Aug-77	33.3	65	0.85	62	20	47			OEPA,1982 305(B)
PINE LAKE (Ross)										
L-1	12-Mar-80	1.6	35			5	27	**27**	Oligotrophic	OEPA,1982 305(B)
PLEASANT HILL LAKE (Ashland)										
L-1	30-Jul-73	10.0	53	1.10	59	20	47	**55**	Eutrophic	OEPA,1982 305(B)
L-1	20-Apr-73	41.7	67	1.40	55	40	57			OEPA,1982 305(B)
S-1	SUM-91				63					CLIP/OLMS
PUNDERSON LAKE (Geauga)										
L-1	19-Apr-89			2.13	49	42	58	**56**	L1-Eutrophic	OEPA,314 GRANT
L-1	29-Aug-89	11.7	55	1.44	55	60	63			OEPA,314 GRANT
L-2	07-Jul-80	9.8	53	2.10	49	40	57	**53**	L2-Eutrophic	OEPA,1982 305(B)
L-2	19-Aug-75			1.30	56	30	53			OEPA,1982 305(B)
L-2	27-May-75			2.30	48	30	53			OEPA,1982 305(B)
PYMATUNING RESERVOIR (Ashtabula)										
L-1	31-Jul-73	43.1	68	0.61	67	50	61	**56**	Eutrophic	OEPA,1982 305(B)
L-1	21-Apr-73	7.7	51	1.70	52	20	47			OEPA,1982 305(B)
RICHWOOD PARK LAKE (Union)										
L-1	31-Jul-80	21.8	61	0.91	61	60	63	**61**	Eutrophic	OEPA,1982 305(B)
ROAMING ROCK LAKE (Ashtabula)										
S-1	SUM-91			(N=6)	54				Insuff. Data	CLIP/OLMS
S-2	SUM-91			(N=6)	55					CLIP/OLMS
ROCKY FORK LAKE (Highland)										
L-1	01-May-89			0.41	73	60	63	**66**	L1-Eutrophic	OEPA,314 GRANT
L-1	22-Aug-89	46.2	68	0.71	65	38	57			OEPA,314 GRANT
L-1	12-Aug-81	83.9	74	0.79	63	40	57			OEPA,1982 305(B)
L-1	07-May-75			0.64	66	40	57			OEPA,1982 305(B)
L-1	06-Sep-75			0.86	62	50	61			OEPA,1982 305(B)
L-1	01-Aug-73	41.6	67	0.86	62	60	63			OEPA,1982 305(B)
L-1	28-Apr-73	74.4	73	0.71	65	60	63			OEPA,1982 305(B)
L-2	22-Aug-89	37.3	66	0.51	70	50	61	**59**	L2-Eutrophic	OEPA,314 GRANT
L-2	01-May-89			0.10	93	25	51			OEPA,314 GRANT
ROOSEVELT LAKE (Scioto)										
L-1	YOUGER-87		64		56			**64**	Eutrophic	OEPA, UNPUBL
S-1	SUM-91			(N=6)	55					CLIP/OLMS
ROSS LAKE (Ross)										

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	10-Aug-79	4.4	45	3.10	44	10	37	**46**	Mesotrophic	OEPA,1982 305(B)
L-1	07-Jun-79			2.00	50	20	47			OEPA,1982 305(B)
RUSH RUN LAKE (Preble)										
L-1	21-Aug-89	6.1	48	1.02	60	50	61	**47**	Mesotrophic	OEPA,314 GRANT
L-1	26-Apr-89			1.37	55	19	47			OEPA,314 GRANT
SALT FORK RESERVOIR (Guernsey)										
L-1	20-May-75			1.60	53	20	47	**47**	Mesotrophic	OEPA,1982 305(B)
L-1	15-Aug-75			0.91	61	30	53			OEPA,1982 305(B)
SENECAVILLE RESERVOIR (Guernsey)										
L-1	20-Apr-76			0.98	60	40	57	**57**	Eutrophic	OEPA,1982 305(B)
L-1	17-Aug-76			0.79	63	40	57			OEPA,1982 305(B)
SHARON WOODS LAKE (Hamilton)										
L-1	08-Jul-81	64.6	71	0.53	69	660	98	**71**	Hypereutrophic	OEPA,1982 305(B)
SHREVE LAKE (Wayne)										
L-1	11-May-89			0.84	63	28	52	**59**	L1-Eutrophic	OEPA,314 GRANT
L-1	28-Aug-89	23.2	61	1.08	59	48	60			OEPA,314 GRANT
L-1	19-Jly-89	38.7	66			59	63			KSU-FULMER/
L-1	21-Aug-89	15.4	57	0.97	60	59	63			KSU-FULMER/
L-2	19-Jly-89	34.0	65			64	64	**60**	L2-Eutrophic	KSU-FULMER/CO
L-2	21-Aug-89	12.8	56	1.08	59	32	54			KSU-FULMER/CO
SIPPO LAKE (Stark)										
L-1	18-Apr-90				55		53	**60**	L1-Eutrophic	PHASE I GRANT
L-1	24-May-90				51		63			PHASE I GRANT
L-1	13-Jun-90				48		69			PHASE I GRANT
L-1	18-Jly-90				48		57			PHASE I GRANT
L-1	22-Aug-90				60		61			PHASE I GRANT
L-1	31-Aug-90									PHASE I GRANT
L-1	26-Sep-90				51		58			PHASE I GRANT
L-1	12-Jul-89			1.52	54	43	58			OEPA,314 GRANT
L-1	05-Sep-89	13.5	56	1.47	54	70	65			OEPA,314 GRANT
L-1	15-Jul-81	23.3	61	0.82	63	80	67			OEPA,1982 305(B)
L-2	18-Apr-90				58		57	**58**	L2-Eutrophic	PHASE I GRANT
L-2	24-May-90				47		65			PHASE I GRANT
L-2	13-Jun-90				48		67			PHASE I GRANT
L-2	18-Jly-90				50		65			PHASE I GRANT
L-2	22-Aug-90		61		64		65			PHASE I GRAN
L-2	31-Aug-90				54					PHASE I GRAN

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-2	26-Sep-90		52		54		60			PHASE I GRANT
L-2	05-Sep-89	4.9	46	2.46	47	32	54			OEPA,314 GRANT
VLMP	SPRSUM-90				52					NEFCO
VLMP	SPRSUM-89			(N=6)	58					NEFCO
VLMP	SPRSUM-88			(N=4)	54					NEFCO
SNYDER PARK LAKE (Clark)										
L-1	10-Jul-81	17.5	59	0.61	67	50	61	**59**	Eutrophic	OEPA,1982 305(B)
SPENCER RESERVOIR (Medina)										
L-1	29-Aug-77	58.9	71	0.40	73	310	87	**71**	Hypereutrophic	OEPA,1982 305(B)
SPRING VALLEY LAKE (Warren)										
L-1	08-May-89			1.22	57	29	53	**50**	Eutrophic	OEPA,314 GRANT
L-1	14-Aug-89	6.1	48	1.37	55	26	51			OEPA,314 GRANT
SPRINGFIELD LAKE (Summit)										
L-1	04-Aug-81	50.4	69	0.82	63	40	57			OEPA,1982 305(B)
VLMP	10-Jun-90	26.4	63	1.09	59	62	61	**56**	Eutrophic	NEFCO/KSU
VLMP	01-Jly-90	13.8	56	1.52	54	33	52			NEFCO/KSU
VLMP	22-Jly-90	4.4	45	1.02	60	40	56			NEFCO/KSU
VLMP	08-Aug-90	23.1	61	1.22	57	39	57			NEFCO/KSU
VLMP	01-Sep-90	5.6	49	0.86	62	40	57			NEFCO/KSU
VLMP	23-Sep-90	28.1	63	0.86	62	38	57			NEFCO/KSU
VLMP	SPRSUM-90			(N=16	56					NEFCO
VLMP	SPRSUM-89			(N=21	48					NEFCO
VLMP	SPRSUM-88			(N=7)	54					NEFCO
STONELICK RESERVOIR (Clermont)										
L-1	14-Apr-77	53.7	70	0.24	81	130	74			OEPA,1982 305(B)
L-1	01-Sep-77	21.2	61	1.10	59	60	63			OEPA,1982 305(B)
L-3	10-May-89			0.15	87	130	74	**74**	Hypereutrophic	OEPA,314 GRANT
L-3	30-Aug-89			0.36	75	150	76			OEPA,314 GRANT
S-1	SUM-91			(N=5)	70					CLIP/OLMS
S-2	SUM-91			(N=5)	73					CLIP/OLMS
S-3	SUM-91			(N=5)	74					CLIP/OLMS
S-4	SUM-91			(N=5)	81					CLIP/OLMS
SUMMIT LAKE (Summit)										
L-1	24-Apr-86			0.65	66	80	67	**67**	L-1 Hypereutrophic	OEPA, UNPUBL
L-1	30-Jul-86			1.00	60	70	65			OEPA, UNPUBL
L-1	14-Aug-86			0.60	67	50	61			OEPA, UNPUBL
L-2	24-Apr-86			0.65	66	80	67	**67**	L-2 Hypereutrophic	OEPA, UNPUBL

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-2	30-Jul-86			1.00	60	50	61			OEPA, UNPUBL
L-2	14-Aug-86			0.60	67					OEPA, UNPUBL
L-2	05-Aug-81	36.8	66	0.82	63	70	65			OEPA,1982 305(B)
L-2	19-Aug-76			0.64	66	90	69			OEPA,1982 305(B)
L-2	03-May-76			0.85	62	70	65			OEPA,1982 305(B)
L-3	14-Aug-86			0.80	63	80	67	**61**	L-3 Eutrophic	OEPA, UNPUBL
L-3	30-Jul-86			0.90	62	80	67			OEPA, UNPUBL
L-3	24-Apr-86			0.65	66	50	61			OEPA, UNPUBL
SUNNY LAKE (HARMON'S POND) (Portage)										
L-1	07-Aug-80	54.1	70	0.61	67	240	83	**70**	Hypereutrophic	OEPA,1982 305(B)
VLMP	SPRSUM-90			(N=10	74					NEFCO
VLMP	SPRSUM-89			(N=9)	74					NEFCO
SWIFT RUN LAKE (Miami)										
L-1	25-Apr-89			0.56	68	50	61	**64**	Eutrophic	OEPA,314 GRANT
L-1	17-Aug-89	40.5	67	0.41	73	70	65			OEPA,314 GRANT
TAPPAN LAKE (Harrison)										
L-1	02-Sep-76			1.10	59	50	61	**57**	Eutrophic	OEPA,1982 305(P
L-1	26-Apr-76			1.10	59	40	57			OEPA,1982 305(
L-1	21-Apr-73	28.3	63	0.97	60	20	47			OEPA,1982 305(B)
L-1	30-Jul-73	27.4	63	0.99	60	30	53			OEPA,1982 305(B)
TINKERS CREEK ST PK LAKE (VLMP)										
SPRSU				(N=11	48					NEFCO
SPRSU				(N=8)	47				Insuff. Data	NEFCO
TURKEY CREEK LAKE (Scioto)										
L-1	YOUGER-87		63		42			**63**	Eutrophic	OEPA, UNPUBL
S-1	SUM-91			(N=6)	46					CLIP/OLMS
S-2	SUM-92			(N=6)	46					CLIP/OLMS
TURKEYFOOT LAKE (Summit)										
L-1	19-Apr-77	62.1	71	0.64	66	90	69	**67**	Hypereutrophic	OEPA,1982 305(B)
L-1	09-Aug-77	33.6	65	1.10	59	50	61			OEPA,1982 305(B)
VLMP	SPRSUM-90			(N=18	60					NEFCO
VLMP	SPRSUM-89			(N=21	60					NEFCO
VLMP	SPRSUM-88			(N=6)	58					NEFCO
TYCOON LAKE (Gallia)										
L-1	26-Apr-90			1.33	56	50	61	**58**	Eutrophic	OEPA,314 GRANT
L-1	24-Aug-90	11.1	54	1.70	52	23	49			OEPA,314 GRA
L-1	24-Aug-78	10.1	53	1.80	52	20	47			OEPA,1982 305(

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
L-1	02-May-78	6.7	49	2.00	50	20	47			OEPA,1982 305(B)
VAN BUREN LAKE (Hancock)										
L-1	08-Jun-89	69.3	72	0.30	77	144	76	**76**	L1-Hypereutrophic	KSU-FULMER/CO
L-1	07-Aug-89	108.8	77	0.28	78	110	72			KSU-FULMER/CO
L-1	29-Apr-80	76.0	73	0.33	76	80	67			OEPA,1982 305(B)
L-1	11-Aug-80	6.4	49	0.10	93	210	81			OEPA,1982 305(B)
L-2	08-Jun-89	84.2	74	0.21	82	228	82	**80**	L2-Hypereutrophic	KSU-FULMER/CO
L-2	07-Aug-89	132.6	79	0.22	82	189	80			KSU-FULMER/CO
L-3	08-Jun-89	27.7	63	0.10	93	144	76	**76**	L3-Hypereutrophic	KSU-FULMER/CO
L-3	07-Aug-89	106.4	76	0.21	82	189	80			KSU-FULMER/CO
VETO LAKE (Washington)										
L-1	15-May-90			0.70	65	27	52	**61**	Eutrophic	OEPA,314 GRANT
L-1	10-Sep-90	51.1	69	0.60	67	60	63			OEPA,314 GRANT
L-1	17-Aug-78	14.4	57	0.46	71	50	61			OEPA,1982 305(B)
L-1	09-May-78	20.1	60	0.46	71	50	61			OEPA,1982 305(B)
VIRGINIA KENDALL LAKE (Summit)										
VLMP	SPRSUM-88			(N=7)	55				Insuff. Data	NEFCO
WABASH CONS. DIST. RESV. #1 (Darke)										
L-1	29-Aug-89			0.20	83	90	69	**76**	Hypereutrophic	OEPA,314 GRANT
L-1	25-Apr-89			0.15	87	150	76			OEPA,314 GRANT
WALLACE LAKE (Cuyahoga)										
L-1	29-Aug-77	3.5	43	2.00	50	22	49	**43**	Mesotrophic	OEPA,1982 305(B)
WEST RESERVOIR (Summit)										
VLMP	09-Jun-90	6.1	48	1.17	58	77	64	**58**	Eutrophic	NEFCO/KSU
VLMP	29-Jun-90	5.5	47	1.07	59	48	59			NEFCO/KSU
VLMP	21-Jly-90	25.3	62	1.22	57	73	66			NEFCO/KSU
VLMP	09-Aug-90	24.8	62	0.81	63	74	66			NEFCO/KSU
VLMP	31-Aug-90	6.3	49	0.91	61	64	64			NEFCO/KSU
VLMP	15-Sep-90	10.5	54	0.74	64	72	65			NEFCO/KSU
VLMP	SPRSUM-90			(N=16	61					NEFCO
VLMP	SPRSUM-89			(N=19	60					NEFCO
VLMP	SPRSUM-88			(N=8)	60					NEFCO
WESTERVILLE RESERVOIR (Delaware)										
L-1	01-Apr-80	17.6	59	0.91	61	40	57	**57**	Eutrophic	OEPA,1982 305(B)
WESTVILLE LAKE (Columbiana)										
L-3	20-Jly-87	53.7	70	0.50	70			**70**	Hypereutrophic	OEPA, NEDO

Appendix C. Trophic state classification, TSI data, and trends in trophic state for publicly owned lakes greater than 5 acres.

Site	Date	CH-a (µg)	TSI CH-a	SD(m) Raw Data	TSI SD	TP (µg/l)	TSI TP	**Final TSI**	Trophic Classification	Data Source
WILLARD CITY RESERVOIR (Huron)										
L-1	30-Aug-79	8.8	52	1.60	53	10	37	**44**	Mesotrophic	OEPA,1982 305(B)
L-1	22-Jun-79	1.9	37	6.50	33	10	37			OEPA,1982 305(B)
WILLS CREEK RESERVOIR (Coshocton)										
L-1	06-May-76			0.46	71	80	67	**67**	Hypereutrophic	OEPA,1982 305(B)
L-1	07-Sep-76			0.46	71	80	67			OEPA,1982 305(B)
WINTON WOODS LAKE (L-1 AT DAM) (Hamilton)										
L-1	13-May-87	32.4	65	0.40	73	754	**			PHASE I GRANT
WINTON WOODS LAKE (W.FK.MILL CK.) (Hamilton)										
L-1	29-Apr-87	25.8	62	0.41	73	32	54	**77**	Hypereutrophic	PHASE I GRANT
L-1	27-May-87	55.2	70	0.33	76	167	78			PHASE I GRANT
L-1	10-Jun-87	27.0	63	0.30	77	169	78			PHASE I GRANT
L-1	24-Jun-87	22.7	61	0.30	77	129	74			PHASE I GRANT
L-1	01-Jul-87	119.8	78							PHASE I GRANT
L-1	08-Jul-87	64.6	71	0.35	75	116	73			PHASE I GRANT
L-1	22-Jul-87	26.9	63	0.35	75					PHASE I GRANT
L-1	29-Jul-87	56.9	70							PHASE I GRANT
L-1	05-Aug-87	63.0	71	0.34	76					PHASE I GRAN
L-1	12-Aug-87	43.7	68							PHASE I GRANT
L-1	19-Aug-87	50.9	69	0.40	73					PHASE I GRANT
L-1	26-Aug-87	60.2	71							PHASE I GRANT
L-1	02-Sep-87	72.7	73							PHASE I GRANT
L-1	09-Sep-87	33.4	65							PHASE I GRANT
L-1	16-Sep-87	48.4	69	0.40	73					PHASE I GRANT
L-1	24-Apr-78	62.2	71	0.61	67	110	72			OEPA,1982 305(B)
L-1	25-Jul-78	35.7	66	0.56	68	160	77			OEPA,1982 305(B)
WOLF RUN RESERVOIR (Noble)										
L-1	29-Jun-89	2.0	37	2.60	46	16	44	**40**	L1-Mesotrophic	KSU-FULMER/CO
L-1	31-Jly-89	1.5	35	3.31	43	11	38			KSU-FULMER/CO
L-1	13-Aug-81	2.9	41	2.90	45	20	47			OEPA,1982 305(B)
L-1	19-Apr-76			2.00	50	20	47			OEPA,1982 305(B)
L-1	16-Aug-76			3.40	42	10	37			OEPA,1982 305(B)
L-2	29-Jun-89	3.5	43	1.02	60	23	49	**48**	L2-Eutrophic	KSU-FULMER/CO
L-2	31-Jly-89	5.2	47	2.50	47	26	51			KSU-FULMER/CO
L-3	29-Jun-89	6.3	49	0.55	69	53	61	**49**	L3-Eutrophic	KSU-FULMER/CO
L-3	31-Jly-89	2.1	38	1.15	58	26	51			KSU-FULMER/CO

APPENDIX D

Lake Water Quality Assessment Survey Ques;tionnaire

State of Ohio Environmental Protection Agency
Division of Water Quality Planning and Assessment
Lake Condition Questionnaire

Lake Name _____ County _____

Date_____ Lake Owner _____

This questionnaire should be completed by someone who is familiar with lake conditions over the past two years. If monitored data are not available, please use your best judgement. Please attach a copy of any raw data that were collected over the past two years. Thank you for your time; this information will be used by the Ohio EPA to update the State of Ohio's 305(b) Lake Water Quality Inventory Report that is submitted to the US EPA. If you have any questions or suggestions for improvement please contact: Bob Davic, Ohio EPA, Northeast District Office, 2110 E. Aurora Rd., Twinsburg, Ohio 44087. (216) 425-9171. Please return to the above address.

1. Inlake Conditions

a. Does the lake support a well balanced mix of sport and forage fish, or do a few species dominate? (Circle one).

Insufficient Data	Well Balanced Fishery	Partially Balanced	Impaired Fishery

b. How would you rate the fishing in this lake?
_____ Excellent, _____ Good, _____ Acceptable
_____ Marginal, _____ Very Poor

c. If 'marginal' or 'very poor', please indicate why?

_____ Water quality problems
_____ Overfishing
_____ Stunted growth within fish populations
_____ Physical characteristics of the lake
_____ Other (please specify) _____

d. Please list the types and numbers of fish that have been stocked in this lake during over the past two years.

_____

_____

e. What type of fish were most frequently caught in this lake?

_____ Largemouth Bass, _____ Crappie, _____ Bluegill,
_____ Other Sunfish, _____ Catfish, _____ Other (specify) _____

f. Are fish tissue data available? Yes _____ No _____. If yes, please attach a copy of the raw data.

g. Has the bottom sediment been chemically tested? Yes _____ No _____. If yes, please attach a copy of the raw data.

h. Has any bottom sediment been dredged or removed from the lake? Yes _____ No _____.

i. Have any chemical tests (nutrients, fecal bacteria, metals, ect.) been conducted on the lake water during the past two years? Yes _____ No _____. If yes, please attach a copy of raw data.

j. During the summer months, to what extent do aquatic weeds cover the shoreline of the lake?

<10% 10-25% 25-50% 50-75% >75%

k. Has a survey of the types and abundance of aquatic weeds been conducted for the lake? Yes _____ No _____. If yes, attach a copy of the raw data.

l. Based on your best judgement, how much of the original lake volume has been lost due to sedimentation from the upstream watershed?

<10% 10-25% 25-40% 40-60% >60%

m. Has a survey been conducted since 1980 to document the extent of volume loss? Yes _____ No _____. If yes, what is the (%) loss of capacity _____%.

n. During the past two summers, how would you rate the water quality of this lake?

Excellent,_____ Good,_____ Acceptable,_____ Marginal,_____ Poor, _____

o. On a scale of 1-10 (1=no problem, 10=extreme problem), please rank the following summer conditions at this lake:

1. Algae blooms (pea green water)
   1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

2. Floating scums
   1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

3. Fish kills (more than 200 fish at one time)
   1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

4. Odors
   1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

5. Duckweed
   1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

6. Muddy (brown) water
   1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

7. Taste and Odors Problems (If used as water supply)
   1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

8. THM (Trihalomethane) Problems (If used as a water supply)
   1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

2. Lake Uses.

Please indicate all of the types of uses supported by the lake.

_____	Public water supply (primary)	_____	Industrial water supply
_____	Public water supply (back-up)	_____	Flood Control
_____	Agricultural water supply	_____	Fishing (from shore)
_____	Stormwater management	_____	Fishing (from boats)
_____	Boating-nonmotorized	_____	Boating-motorized
_____	Water skiing	_____	Swimming
_____	Camping/Picnicking	_____	Others (Name) _____
_____	Conservation		

3. Inlake Treatments.

Please indicate the types of lake management techniques that have been used at the lake over the past two years.

_____	Weed (Macrophyte) Harvesting	_____	Sediment covers
_____	Nutrient inactivation (Alum)	_____	Fish removal
_____	Copper Sulfate treatment	_____	Dilution/flushing
_____	Circulation/aeration	_____	Lake level drawdown
_____	Hypolimnetic aeration	_____	Dredging
_____	Grass Carp (White Amur)	_____	Others

_____ Herbicides/algacides other than Copper Sulfate, name
_____, _____, _____

4. Mics. Information.

a. Would local funds (either in dollars or manhours) be available in the next two years to match a potential $50,000 federal EPA Clean Lake Program lake grant to conduct a detailed study of lake and watershed conditions?
Not sure _____, No _____, Yes _____

b. In the space below, please indicate your general impressions of the overall health or condition of this lake, and what steps you feel are necessary to protect and/or restore lake uses.

5. Causes of Lake Problems.

On a scale of 1 to 4 (1=very high magnitude, 2=moderate, 3=slight, 4=no problem), please rank the importance of the following causes of potential problems in this lake.

Code	Cause	Rank			
01	Unknown Toxicity	1	2	3	4
02	Pesticides	1	2	3	4
03	Priority Organics (i.e., PCB,s)	1	2	3	4
04	Nonpriority Organics	1	2	3	4
05	Metals	1	2	3	4
06	Ammonia	1	2	3	4
07	Chlorine	1	2	3	4
08	Other Inorganics	1	2	3	4
09	Nutrients (TP, Nitrogen)	1	2	3	4
10	pH	1	2	3	4
11	Siltation/sedimentation	1	2	3	4
12	Organic Enrichment/low D.O.	1	2	3	4
13	Salinity	1	2	3	4
14	Thermal Modifications	1	2	3	4
15	Flow Alterations	1	2	3	4
16	Habitat Alterations	1	2	3	4
17	Pathogens (fecal bacteria)	1	2	3	4
18	Radiation	1	2	3	4
19	Oil and Grease	1	2	3	4
20	Taste and Odor (if water supply)	1	2	3	4
21	Nitrite	1	2	3	4
22	Unknown	1	2	3	4

Which NPS Control and Lake Restoration Efforts have been used at this lake or in its basin?

Control Activities

____	10	POINT SOURCE CONTROLS
____	11	INDUSTRIAL POINT SOURCE PERMIT
____	12	MUNICIPAL POINT SOURCE PERMIT
____	13	POINT SOURCE DIVERSION
____	14	OTHER POINT SOURCE CONTROLS
____	20	NONPOINT SOURCE CONTROLS - BMP
____	21	CONSERVATION TILLAGE
____	22	INTEGRATED PEST MANAGEMENT
____	23	ANIMAL WASTE MANAGEMENT
____	24	POROUS PAVEMENT
____	25	ROAD/SKID TRAIL MANAGEMENT
____	26	LAND SURFACE ROUGHENING
____	27	STORMWATER MANAGEMENT
____	28	BANK STABILIZATION
____	29	RIPRAPPING
____	30	DETENTION/SEDIMENTATION BASINS
____	31	RUNOFF DIVERSIONS
____	32	REDESIGNED STREETS / PARKING
____	33	OTHER BMP'S
____	40	NPS LAND USE ORD. OR REGS
____	50	FUNCTIONAL NPS SOURCE CONTROL
____	60	FUNCTIONAL STATE LAKE MNGT PRG
____	70	EMISSION CONTROL PROGRAMS
____	80	OTHER NPS CONTROLS

Restoration Activities

____	01	PHOSPHORUS PRECIP/INACTIVATION
____	02	SEDIMENT REMOVAL / DREDGING
____	03	DILUTION / FLUSHING
____	04	BIOLOGICAL CONTROLS
____	05	AQUATIC MACROPHYTE HARVESTING
____	06	ARTIFICIAL CIRCULATION
____	07	HYPOLIMNETIC AERATION
____	08	FOOD CHAIN MANIPULATION
____	09	CHEMICAL CONTROLS
____	10	DIVERSION
____	11	SEDIMENT BASIN / TRAPS
____	12	DRAWDOWN
____	13	SHADING / SEDIMENT COVER
____	14	SEDIMENT OXIDATION
____	15	HYPOLIMNETIC WITHDRAWAL
____	16	INTRO OF NON-NATIVE SPECIES
____	17	OTHER

6. Sources of Lake Pollution.

On a scale of 1 to 4 (1= very high magnitude, 2= moderate, 3 = slight, 4= no problem), please rank the importance of the following sources of pollution loading to this lake.

Code		Source	Rank			
00		Point Sources:				
	01	Industrial	1	2	3	4
	02	Municipal	1	2	3	4
	03	Municipal Pre-treatment	1	2	3	4
	04	Combined Sewer Overflows	1	2	3	4
	05	Storm Sewers	1	2	3	4
10		Agriculture:				
	11	Non-irrigated Crop Production	1	2	3	4
	12	Irrigated Crop Production	1	2	3	4
	13	Truck Farming, Orchards	1	2	3	4
	14	Pasture Lands	1	2	3	4
	15	Range Land	1	2	3	4
	16	Feedlots	1	2	3	4
	17	Aquaculture	1	2	3	4
	18	Animal Holding Areas	1	2	3	4
20		Silviculture:				
	21	Tree Harvesting	1	2	3	4
	22	Forest Management	1	2	3	4
	23	Road Construction	1	2	3	4
30		Construction:				
	31	Highway Construction	1	2	3	4
	32	Land Development	1	2	3	4
40		Urban Runoff:				
	41	Storm Sewers	1	2	3	4
	42	Combined Sewer Overflows	1	2	3	4
	43	Surface Runoff (paved areas)	1	2	3	4
50		Mining:				
	51	Surface Mining	1	2	3	4
	52	Subsurface Mining	1	2	3	4
	53	Placer Mining	1	2	3	4
	54	Dredge Mining	1	2	3	4
	55	Petroleum Activities	1	2	3	4
	56	Mill Tailings	1	2	3	4
	57	Mine Tailings	1	2	3	4

60		Land Disposal:				
	61	Sludge ----------	1	2	3	4
	62	Wastewater ----------	1	2	3	4
	63	Landfills ----------	1	2	3	4
	64	Industrial ----------	1	2	3	4
	65	Septic Tanks ----------	1	2	3	4
	66	Hazardous Waste ----------	1	2	3	4
70		Habitat Degradation:				
	71	Stream Channelization ----------	1	2	3	4
	72	In-lake Dredging ----------	1	2	3	4
	73	Dam Construction ----------	1	2	3	4
	74	Flow Regulation (drawdown) ----------	1	2	3	4
	75	Bridge Construction ----------	1	2	3	4
	76	Riparian (shoreline) removal ---------	1	2	3	4
	77	Streambank Modification ----------	1	2	3	4
80		Other:				
	81	Atmospheric Deposition ----------	1	2	3	4
	84	Spills ----------	1	2	3	4
	85	In-place Contaminants (sediment) -----	1	2	3	4
	86	Natural Aging ----------	1	2	3	4
90		Source Unknown : ----------	1	2	3	4

Respondent Identification:

Name _____

Title _____

Address _____

City _____ Zip _____

Telephone ( ) -

THANK YOU FOR YOUR ASSISTANCE !

APPENDIX E

Ohio EPA State Lakes Policy

Policy No. 1.05
Effictive: August 1, 1988
Revised: Feb. 22, 1989

Subject: National Pollutant Discharge Elimination System; State Lakes

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The State Lakes Policy applies to point source discharges to all publicly owned lakes and reservoirs and tributary streams within three miles of lakes or reservoirs and establishes effluent limitations for new, existing, or expanded wastewater treatment facilities. This policy is not applicable to upground storage reservoirs, point source dischargers into Lake Erie or privately owned lakes.

Discharges into streams tributary to lakes and reservoirs shall have limitations as stringent as if the discharge were occurring directly into the lake or reservoir except where a stream assimilation study has been done. For lakes whose depth is varied seasonally, such as for flood control purposes, the lake boundary shall be taken at the water surface of the summer low water level.

This policy is to be applied to three different categories of discharge.

Category 1. All new point sources discharging directly into a lake, reservoir, or into streams tributary (within three stream miles) to the lake or reservoir will be assigned the following effluent limitations:

Total discharge volume of facility greater than or equal to 0.1 MGD

$CBOD_5$		3.0 mg/l
NH_3-N	(Summer)	1.5 mg/l or present ambient standard for toxicity, whichever is more stringent.
	(Winter)	Present ambient standard for toxicity.
T-Phosphorus		1.0 mg/l
Dissolved Oxygen		6.0 mg/l
TRC	(Summer Only)	11.0 ug/l
Fecal Coliform	(Summer Only)	Bathing waters 200/100 ml Other areas 1000/100 ml

Total discharge volume of facility less than 0.1 MGD

$CBOD_5$		8.0 mg/l
NH_3-N	(Summer)	1.5 mg/l or present ambient standard for toxicity, whichever is less stringent.
	(Winter)	Present ambient standard for toxicity.
T-Phosphorus		0.83 lbs/day
Dissolved Oxygen		6.0 mg/l
TRC	(Summer Only)	11.0 ug/l
Fecal Coliform	(Summer Only)	Bathing waters 200/100 ml Other areas 1000/100 ml

Category 2. All existing point source discharges directly into a lake, reservoir, or into streams tributary (within three stream miles) to the lake or reservoir will be assigned the following effluent limitations:

$CBOD_5$		10.0 mg/l
NH_3-N	(Summer)	2.0 mg/l or present ambient standard for toxicity, whichever is less stringent; if discharge is into a tributary stream, a wasteload allocation may be considered.
	(Winter)	Monitor. Note: If design flow is less than 0.01 MGD, neither monitoring nor a NH_3N limitation is required.
T-Phosphorus		If less than 0.2 MGD design flow, no limit or monitoring required. If greater than or equal to 0.2 MGD design flow, use 8.34 lbs/day or 1 mg/l, whichever is less stringent.
Dissolved Oxygen		6.0 mg/l
TRC	(Summer Only)	0.5 ug/l
Fecal Coliform	(Summer Only)	Bathing waters 200/100 ml Other areas 1000/100 ml

Category 3. All point source discharges from expanded facilities discharging directly into a lake, reservoir, or stream tributary (within three stream miles) to the lake or reservoir will be asigned limitations using the following formula in combination with limitations listed to applicable parts of Category 1. The formula develops limitations for Category 3 dischargers by prorating the existing and additional design flows and existing and more stringent effluent limitations. The existing permit limits or the existing effluent quality 95 percent confidenct interval, whichever is most stringent, along with the limitations shown in Category 1 which are applicable to the additional flow, should b eused when developing limitations for Category 3 discharges.

*

$$L_N = \frac{(PF_o \times L_o) + (PF_1 \times L_1)}{PF_o + PF_1}$$

L_N = new permit limit
L_o = The limits from Category 2 or existing permit limit/ existing effluent quality 95 percent confidence interval when these are more stringent than Category 2 limits
L_1 = limits for expanded capacity as taken from this policy
PF_o = design flow of existing portion of the WWTP
PF_1 = design flow of expanded portion of the WWTP

* This formula should not be applied to fecal coliform, TRC, or D.O.

All other possible alternatives should be considered prior to approving a new direct discharge to a lake or reservoir. On-lot wastewater disposal may be feasible where suitable subsoils exist. In some cases, it may be possible to direct the discharge to a stream not tributary to the lake or reservoir. If a direct discharge to a lake or reservoir is the only viable alternative, the Ohio EPA will require public ownership of the treatment facility.

NOTE:

The feasibility of a controlled discharge lagoon discharge to a lake, reservoir, or stream tributary (within three stream miles) to the lake or reservoir that is included in the criteria described above will be assessed on a case-by-case basis. If approved, effluent limitations will be set based upon the Ohio EPA Lagoons Policy. Additional effluent limitations (i.e., phosphorus) may be required as necessary to assure continued high water quality.

Appendix F-1. Relative assessment of causes of impairment (i.e., acres[1]) causing partial and non - support of desingated uses in lakes, ponds, and reservoirs in Ohio.

Causes	1988-1992 305(b) Cycles Major Cause	Moderate Cause	Minor Cause
Organic enrich./DO	50,589	2,160	822
Nutrients	7,408	24,138	1,561
Siltation	3,378	19,577	—
Turbidity[1]	679	7,986	710
Pesticides	604	1,547	7,187
Taste and odor	539	—	127
Metals	307	4,767	—
Ammonia	157	336	1,277
Other inorganics	85	1,480	250
pH		83	154—
Flow Alteration	—	8,008	809
Noxious aquatic plants[1]	—	1,893	354
Salinity/TDS/Chlorides	—	1,768	—
Suspended solids	—	1,350	—
Pathogens	—	672	1,350
Habitat modification	—	452	775
Oil and grease	—	271	8,529
Thermal modifications	—	189	—
Priority organics	—	72	2,004
Nonpriority organics	—	72	679
Chlorine	—	32	130
Unknown toxicity	—	—	3,686
Unknown cause	—	—	679

[1] These are "new" cause categories for the 1992 cycle of the report, past impairments that may fit in these categories may be classified under other cause categories.

Appendix F-2. Relative assessment of sources of impacts (i.e., acres[1]) causing non-support of aquatic life uses in Ohio lakes, ponds, and reservoirs. Major, moderate, and minor impacts refer to the high, moderate, and slight magnitude codes of the U.S. EPA guidance for the 305(b) report.

Sources	Major Source	Moderate Source	Minor Source
I. Point Sources	*3,136*	*22,433*	*3,484*
	Industrial	—	13,0023,354
Municipal	—	11,145	2,004
Combined Sewers	3,136.0	—	1,350
II. Nonpoint Sources			
Agriculture	*2,956*	*27,172*	*6,707*
Gen. Agriculture	1,429	21,621	2,679
Non-irrigated Crops	2,075	9,733	1,690
Irrigated Crops	1,350	3,785	1,427
Specialty Crops	—	—	363
Pasture Land	1,431	4,312	1,839
Range Land	—	416	—
Feedlots	2,739	775	2,688
Animal Holding	1,954	396	1,039
Silviculture	—	*4,845*	*606*
Gen. Silviculture	—	4,845	250
Harvesting, Res. Mgmt	—	—	356
Road Construction	—	—	96
Forest Mgmt	—	—	427
Construction	*3,136*	*3,632*	*2,353*
Gen. Construction	3,136	5,060	1,578
Highway Constr.	—	127	679
Land Development	—	130	96
Urban Sources	*3,306*	*7,385*	*3,211*
Urban Runoff	3,136	6,822	2,621
Storm Sewers			
Sanitary Sewers			
Surface Runoff			
Mining	*212*	*2,710*	*1,846*
Gen. Mining	85	568	—
Surface Mining	212	602	361
Subsurface Mining	127	325	—
Petroleum Activities	—	1,540	1,485

Appendix F-2. continued

Sources	Major Source	Moderate Source	Minor Source
Land Disposal	*1,995*	*17,173*	*4,577*
Gen. Land Disposal	—	354	—
Sludge	—	—	157
Landfills	—	3,873	2,974
Industrial Land Treat.	—	—	1,507
Septic Tanks	1,995	15,166	2,974
III. *Habitat Modification*	—	*7,591*	*4,875*
Gen. Hydromodification	—	9,411	690
Channelization	—	1,259	2,391
Dredging	—	—	704
Dam Construction	—	—	157
Flow Regulation	—	511	2,029
Riparian Destruction	—	—	2,707
Bank Disturb.	—	—	2,382
IV. *Other*	*302*	*21,387*	*1,847*
Atmospheric Deposition	—	8,841	—
Natural Sources	334	24,610	237
In-place contaminants	25	7,347	1,610
Spills	—	7,281	—
Recreational Activities	—	396	—
V. Unknown	120.7	14.3	8.3

[1] Acres counted add to more than total acres because more than one source can be major, moderate, or minor in a segment.

Appendix G

List of Nonpoint Source Targeted Lakes

Lake	Acres	County (at dam)
Acton Lake	604	Butler
Berlin Reservoir	3590	Portage
Brady Lake	70	Portage
Buckeye Lake	3136	Licking
C. J. Brown Lake	2120	Clark
Celeryville Reservoir	75	Crawford
Cinnamon Lake	131	Ashland
Clouse Pond	41	Perry
Cowan Lake	688	Clinton
Cutler Lake	18	Muskingum
Deer Creek Lake	1277	Pickaway
Deer Creek Reservoir	313	Stark
Dillon Reservoir	1325	Muskingum
Dow Lake	161	Athens
East Branch Reservoir	416	Geauga
East Fork Lake	2160	Clermont
Findley Lake	83	Lorain
Fox Lake Structure #6	47	Athens
Fulton Pond	15	Fulton
Girard Lake	185	Trumbull
Grand Lake St. Marys	12700	Auglaize
Guilford Lake	396	Columbiana
Harrison Lake	96	Fulton
Highlandtown Lake	170	Columbiana
Hinckley Lake	88	Medina
Hoover Reservoir	3000	Franklin
Indian Lake	5104	Logan
Jackson Lake	243	Jackson
Jefferson Lake	25	Jefferson
Knox Lake	474	Knox
Lake Alma	63	Vinton
Lake Aquilla	27	Geauga
Lake Hope	127	Vinton
Lake Logan (Hocking Lake)	354	Hocking
Lake Loramie	785	Shelby

Lake	Acres	County (at dam)
Lake Nesmith	80	Summit
Lake Rockwell	539	Portage
Lake Rupert	325	Vinton
Liberty Lake	99	Trumbull
LaDue Reservoir	1500	Geauga
Madison Lake	106	Madison
Meadow Brook Lake	24	Summit
Metzger Reservoir	157	Allen
Miami Whitewater Lake	85	Hamilton
Mogadore Reservoir	900	Portage
Monroe Lake	39	Monroe
Mt Gilead Lake (Upper)	11	Morrow
Nettle Lake	94	Williams
Newport Lake	105	Mahoning
Paint Creek Lake	1190	Highland
Punderson Lake	101	Geauga
Pymatuning Reservoir	3580	Ashtabula
Riley Reservoir	28	Crawford
Roaming Rock Lake	464	Ashtabula
Sharon Woods Lake	38	Hamilton
Shreve Lake	58	Wayne
Springfield Lake	200	Summit
Spring Valley Lake	58	Warren
Stonelick Lake	160	Clermont
Sunny Lake (Harmons Pond)	63	Portage
Swanton Reservoir	25	Lucus
Swift Run Lake	40	Miami
Van Buren Lake	53	Hancock
Veto Lake	160	Washington
Wauseon Reservoir #1	49	Fulton
Wellington Reservoir (Upper)	21	Lorain
Westville Lake	90	Columbiana
Willard Marsh Area Lake	6.3	Huron
Winton Woods Lake	183	Hamilton

[1]Lakes were targeted if they indicated less than full use (fu) attainment for 4 or more of the following Ohio LCI parameters: productivity (P); nutrients (N); volume loss (V); fecal coliform bacteria (B); acid mine drainage (M); aesthetics (A); priority metals (PPM); nuisance levels of macrophytes (NM). See Appendix F for targeted parameters.

[2]Lakes not included in this list either had insufficient data to be assessed or did not meet the targeting criteria.

Appendix H. Summary of the LCI parameters for Ohio's 450 public lakes. See text for explanation of parameters.

Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
ACTON LAKE (Butler)														
1988		ne	ne	t(bpj)	t(m)	t(m)	t(bpj)	t(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	t(bpj)	fu(bpj)	t(m)	fu(m)	t(bpj)	fu(m)	t-e(m)	t-h(m)	ne	fu(m)	fu(m)	fu(m)
1992	604.00	t(m)	t(bpj)	fu(bpj)	t(m)	t(m)	t(bpj)	fu(m)	t-e(m)	t-h(m)	ne	fu(m)	fu(m)	fu(m)
ADAMS LAKE (Adams)														
1988	37.00	t(m)	ne	fu(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
ALDER POND (Summit)														
1988	15.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ALDRICH POND (Sandusky)														
1988	34.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ALUM CREEK LAKE (Delaware)														
1988		ne	ne	fu(bpj)	fu(bpj)	fu(m)	ne	i(m)	ne	t-e(m)	ne	ne	fu(m)	fu(m)
1990		fu(m)	ne	fu(bpj)	fu(bpj)	fu(m)	fu(bpj)	fu(m)	ne	t-e(m)	fu(m)	ne	fu(m)	fu(m)
1992	3387.00	fu(m)	ne	fu(bpj)	fu(bpj)	t(m)	fu(bpj)	fu(m)	ne	t-e(m)	fu(m)	ne	fu(m)	fu(m)
AMANN RESERVOIR (Morrow)														
1988	24.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
AMICKS RESERVOIR (Morrow)														
1988	51.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ARCHBOLD RESERVOIR #1 (Fulton)														
1988	20.00	ne	ne	fu(bpj)	fu(bpj)	ne	t(bpj)	ne	ne	t(bpj)	ne	ne	ne	ne
ARCHBOLD RESERVOIR #2 (Fulton)														
1988	49.00	ne	ne	fu(bpj)	fu(bpj)	ne	t(bpj)	ne	ne	t(bpj)	ne	ne	ne	ne
ASTABULA CO. METRO PARKS LAKE #1 (Ashtabula)														
1988	5.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ASTABULA CO. METRO PARKS LAKE #2 (Ashtabula)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ATOMIC ENERGY COMM. LAKE #1 (Pike)														
1988	13.80	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ATOMIC ENERGY COMM. LAKE #2 (Pike)														
1988	17.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ATTICA RESERVOIR (Seneca)														
1988	5.20	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ATWOOD RESERVOIR (Tuscarawas)														
1988		t(bpj)	ne	fu(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(bpj)	ne	fu(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)

Appendix H. Summary of the LCI parameters for Ohio's 450 public lakes. See text for explanation of parameters.

Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1992	1540.00	t(m)	ne	fu(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
BALDWIN LAKE (Cuyahoga)														
1988		t(bpj)	ne	fu(bpj)	fu(m)	ne	ne	ne	t-e(m)	ne	ne	ne	ne	ne
1990	32.00	t(bpj)	i(bpj)	fu(bpj)	t(m)	ne	ne	ne	t-e(m)	ne	ne	ne	ne	ne
BALDWIN RESERVOIR (Cuyahoga)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BALLVILLE DAM (Sandusky)														
1988	89.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BARNESVILLE RESERVOIR #1 (Belmont)														
1988	35.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BARNESVILLE RESERVOIR #2 (Belmont)														
1988	11.30	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BARNESVILLE RESERVOIR #3 (Belmont)														
1988		fu(m)	ne	ne	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	ne	fu(m)
1992	98.00	fu(m)	ne	ne	t(m)	t(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	ne	fu(m)
BATAVIA WATER SUPPLY RESERVOIR (Clermont)														
1992	14.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BEACH CITY LAKE (Tuscarawas)														
1988	420.00	t(bpj)	ne	fu(bpj)	t(bpj)	t(bpj)	ne	ne	t-e(m)	t-h(m)	ne	ne	ne	ne
BEAVER CREEK RESERVOIR (Seneca)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	110.00	fu(m)	fu(bpj)	fu(bpj)	fu(m)	t(m)	t(bpj)	fu(m)	fu(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)
BEAVER LAKE (Columbiana)														
1988	103.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BELLEVUE RESERVOIR #1,#2 (Huron)														
1988	14.20	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
BELLEVUE RESERVOIR #3 (Huron)														
1988	14.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
BELLEVUE RESERVOIR #4 (Huron)														
1988	31.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
BELLEVUE RESERVOIR #5 (Huron)														
1988	87.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BELMONT LAKE (Belmont)														
1988		t(m)	ne	fu(bpj)	t(m)	ne	ne	ne	t-h(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	117.00	t(m)	ne	fu(bpj)	t(m)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)

Appendix H. Summary of the LCI parameters for Ohio's 450 public lakes. See text for explanation of parameters.

Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
BERLIN HEIGHTS RESERVOIR (Erie)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BERLIN RESERVOIR (Portage)														
1988		ne	ne	t(bpj)	t(bpj)	fu(m)	ne	t(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	fu(bpj)	fu(bpj)	t(m)	fu(m)	t(bpj)	fu(m)	t-e(m)	t-h(m)	fu(m)	ne	fu(m)	fu(m)
1992	3590.00	t(m)	fu(bpj)	fu(bpj)	t(m)	t(m)	t(bpj)	fu(m)	t-e(m)	t-h(m)	fu(m)	ne	fu(m)	fu(m)
BETHEL RESERVOIR (Clermont)														
1988	5.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BETHEL UPGROUND RESV #2 (Clermont)														
1992	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BETHESDA RESERVOIR (Belmont)														
1988	13.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BIG ISL. WLDLF. AREA UPGR. RES. (Marion)														
1992	382.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BLANCHESTER RESERVOIR # 1 (Clinton)														
1988	7.10	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BLANCHESTER RESERVOIR # 2 (Clinton)														
1988	7.10	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BLANCHESTER RESERVOIR # 3 (Clinton)														
1988	11.40	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BLANCHESTER RESERVOIR # 4 (Clinton)														
1988	11.40	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BLANCHESTER RESERVOIR # 5 (Clinton)														
1988	17.90	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BLUE LIMESTONE PARK QUARRY PIT (Delaware)														
1992	6.80	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BLUE ROCK STATE PARK LAKE (Muskingum)														
1988	18.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BOWLING GREEN G. C. LAKE (Wood)														
1992	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BOWLING GREEN UPGROUND RESERVOIR (Wood)														
1992	20.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BRADY LAKE (Portage)														
1988		t(m)	ne	t(bpj)	t(bpj)	ne	ne	ne	t-h(m)	t(bpj)	ne	ne	ne	fu(m)
1992	70.00	t(m)	ne	t(bpj)	t(bpj)	t(m)	ne	ne	t-h(m)	t(bpj)	ne	ne	ne	fu(m)

Appendix H. Summary of the LCI parameters for Ohio's 450 public lakes. See text for explanation of parameters.

Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
BRESLER RESERVOIR (Allen)														
1988		ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	t(bpj)	ne	ne	ne	ne	ne
1992	582.00	t(m)	fu(bpj)	fu(bpj)	fu(m)	t(m)	t(bpj)	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
BUCKEYE LAKE (Licking)														
1988		ne	ne	t(bpj)	t(m)	fu(m)	ne	i(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990	3136.00	t(m)	t(bpj)	fu(bpj)	t(m)	fu(m)	fu(bpj)	fu(m)	t-h(m)	t-e(m)	fu(m)	fu(m)	fu(m)	fu(m)
BUCYRUS RESERVOIR # 4 (Crawford)														
1988	150.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BUCYRUS RESERVOIR #1 (Crawford)														
1988	36.00	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	t(bpj)	ne	ne	ne	ne	ne
BUCYRUS RESERVOIR #2 (Crawford)														
1988	31.00	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	t(bpj)	ne	ne	ne	ne	ne
BURGESS LAKE (Mahoning)														
1988	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
BURR OAK LAKE (T. JENKINS RESV.) (Athens)														
1988		fu(bpj)	ne	t(bpj)	fu(bpj)	fu(m)	ne	fu(m)	ne	t-e(m)	ne	ne	fu(m)	fu(m)
1992	664.00	fu(bpj)	ne	t(bpj)	fu(bpj)	t(m)	ne	fu(m)	ne	t-e(m)	ne	ne	fu(m)	fu(m)
CAESAR CREEK RESERVOIR (Warren)														
1988		fu(bpj)	ne	fu(bpj)	fu(m)	fu(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1992	2830.00	fu(bpj)	ne	fu(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
CALDWELL LAKE (Noble)														
1988	51.00	fu(m)	ne	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CALEY WOODS WILDLIFE LAKE (Lorain)														
1992	8.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CAMBRIDGE RESERVOIR (Guernsey)														
1988	26.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CAMDEN RESERVOIR (Lorain)														
1988	9.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CARRIAGE HILL RESERVOIR (Montgomery)														
1988	14.10	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CEDARVILLE COLLEGE LAKE (Greene)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CEDARVILLE RESERVOIR (Greene)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CELERYVILLE RESERVOIR (Crawford)														

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1988	75.10	ne	ne	t(bpj)	fu(bpj)	ne	t(bpj)	ne	ne	ne	ne	ne	ne	ne
CHARLES MILL LAKE (Ashland)														
1988		t(bpj)	ne	t(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1992	1350.00	t(m)	fu(bpj)	fu(bpj)	i(m)	t(m)	t(bpj)	fu(m)	t-h(m)	t-e(m)	ne	fu(m)	t(m)	fu(m)
CHIPPEWA CREEK STRUCTURE 2-A (Medina)														
1988	12.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CHIPPEWA CREEK STRUCTURE 3-A (Medina)														
1988	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CHIPPEWA CREEK STRUCTURE 5-C (Wayne)														
1992	8.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CHIPPEWA CREEK STRUCTURE 5-D (Wayne)														
1992	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CHIPPEWA CREEK STRUCTURE 7-C (Wayne)														
1988	34.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CINCINNATI WATERWORKS LAKE #1 (Hamilton)														
1988	18.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CINCINNATI WATERWORKS LAKE #2 (Hamilton)														
1988	19.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CINNAMON LAKE (Ashland)														
1988		ne	ne	t(bpj)	t(bpj)	ne	ne	ne	t(bpj)	ne	ne	ne	ne	ne
1992	131.00	fu(m)	ne	t(bpj)	t(bpj)	ne	ne	ne	t(bpj)	ne	ne	ne	ne	ne
CITY OF ASHLAND LAKE (Ashland)														
1988	6.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
CITY OF DAYTON LAKE #1 (Montgomery)														
1988	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CITY OF NEWTON FALLS LAKE (Trumbull)														
1988	12.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CITY OF PERRYSBURG LAKE (Wood)														
1988	6.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CITY OF WELLSTON LAKE (Jackson)														
1988	11.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
CLARK LAKE (Clark)														
1988		fu(bpj)	ne	t(bpj)	fu(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	100.00	fu(bpj)	ne	t(bpj)	fu(m)	t(m)	ne	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
CLEAR FORK RESERVOIR (Richland)														

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1988		t(bpj)	ne	fu(bpj)	fu(bpj)	ne	ne	t(m)	ne	t-e(m)	ne	ne	fu(m)	fu(m)
1992	1010.00	t(m)	ne	fu(bpj)	fu(bpj)	ne	ne	t(m)	ne	t-e(m)	ne	ne	fu(m)	fu(m)
CLENDENING LAKE (Harrison)														
1988		t(bpj)	ne	fu(bpj)	fu(bpj)	fu(m)	ne	fu(m)	ne	t-e(m)	ne	ne	fu(m)	fu(m)
1992	1800.00	t(bpj)	ne	fu(bpj)	fu(bpj)	fu(m)	ne	fu(m)	ne	t-e(m)	ne	ne	fu(m)	fu(m)
CLINTON COUNTY TRIB #1 LAKE (Clinton)														
1988	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CLOUSE POND (Perry)														
1988		t(m)	ne	t(bpj)	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	t(m)	fu(m)
1992	41.50	t(m)	ne	t(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	t(m)	fu(m)
COE LAKE (Cuyahoga)														
1988	23.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
COLLEGE CORNER RESERVOIR (Preble)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CORNING RESERVOIR (Perry)														
1988	15.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
COWAN LAKE (Clinton)														
1988		t(bpj)	ne	t(bpj)	fu(bpj)	fu(m)	t(bpj)	fu(m)	ne	t-h(m)	ne	ne	t(m)	fu(m)
1992	688.00	t(m)	ne	t(bpj)	fu(bpj)	t(m)	t(bpj)	fu(m)	t-e(m)	t-h(m)	ne	ne	t(m)	fu(m)
CROOKSVILLE LOWER RESERVOIR (Morgan)														
1988	7.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CROOKSVILLE RESERVOIR # 3 (Perry)														
1988	15.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CROOKSVILLE UPPER RESERVOIR (Morgan)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
CRYSTAL LAKE (Portage)														
1988		fu(m)	ne	t(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	25.00	fu(m)	ne	t(bpj)	fu(bpj)	ne	ne	ne	fu(m)	fu(m)	ne	ne	ne	ne
CUTLER LAKE (Muskingum)														
1988		t(m)	ne	t(bpj)	fu(m)	ne	ne	ne	t-e(m)	t(bpj)	ne	ne	ne	fu(m)
1992	18.20	t(m)	ne	t(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t(bpj)	ne	ne	ne	fu(m)
C. J. BROWN LAKE (Clark)														
1988		fu(bpj)	ne	t(bpj)	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	2120.00	t(m)	ne	t(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
DALE WALBURN RESERVOIR (Stark)														

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1988		t(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	670.00	t(m)	ne	ne	ne	ne	ne	ne	ne	t-e(m)	ne	ne	ne	ne
DARKE WILDLIFE AREA LAKE (Darke)														
1988	21.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
DEER CREEK CAMPGROUND LAKE (Pickaway)														
1988	8.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
DEER CREEK LAKE (Pickaway)														
1988		t(bpj)	ne	fu(bpj)	t(bpj)	t(m)	ne	t(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1992	1277.00	t(m)	fu(bpj)	fu(bpj)	fu(m)	t(m)	fu(m)	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
DEER CREEK RESERVOIR (Stark)														
1988	313.00	t(m)	ne	fu(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
DEFIANCE POWER DAM RESERVOIR (Delaware)														
1992	679.00	t(m)	t(bpj)	fu(m)	t(m)	t(m)	t(bpj)	fu(m)	t-e(m)	t-e(m)	ne	fu(m)	t(m)	fu(m)
DELAWARE LAKE (Delaware)														
1988		t(bpj)	ne	fu(bpj)	t(bpj)	ne	ne	ne	fu(m)	t-h(m)	ne	ne	ne	ne
1990		t(bpj)	ne	fu(bpj)	t(bpj)	ne	ne	ne	fu(m)	t-h(m)	ne	fu(m)	ne	ne
1992	1300.00	t(m)	ne	fu(bpj)	t(bpj)	ne	ne	ne	t-e(m)	t-h(m)	ne	fu(m)	ne	ne
DELCO UPGROUND RESV. #2 (Delaware)														
1992	30.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
DELCO WATER COMPANY LAKE (Delaware)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
DELTA POND (Fulton)														
1988	11.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
DELTA RESERVOIR (Fulton)														
1988	39.00	ne	ne	fu(bpj)	fu(bpj)	ne	t(bpj)	ne	ne	t(bpj)	ne	ne	ne	ne
DELTA RESERVOIR # 2 (Fulton)														
1988	50.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
DESHLER RESERVOIR (Henry)														
1988	23.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
DILLON RESERVOIR (Muskingum)														
1988		t(bpj)	ne	t(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990		t(bpj)	ne	t(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	fu(m)	fu(m)	fu(m)
1992	1325.00	t(m)	fu(bpj)	fu(bpj)	fu(m)	t(m)	t(bpj)	t-e(m)	t-h(m)	t-h(m)	ne	fu(m)	fu(m)	fu(m)
DOW LAKE (Athens)														
1988														

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1990		fu(bpj)	ne	t(bpj)	fu(m)	fu(m)	ne	t(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)
1992	161.00	fu(m)	t(bpj)	t(bpj)	fu(m)	t(m)	fu(bpj)	fu(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)
DUGOUT POND (ODOT) (Wood)														
1992	8.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
EAST BRANCH RESERVOIR (Geauga)														
1988		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
1992	416.00	t(bpj)	ne	t(bpj)	t(bpj)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
EAST FORK BUCK CREEK STRUC. 1-B (Champaign)														
1992	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
EAST FORK BUCK CREEK STRUC. 4-A (Champaign)														
1992	22.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
EAST FORK LAKE (Clermont)														
1988		t(bpj)	ne	t(bpj)	t(m)	fu(m)	t(bpj)	t(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1992	2160.00	t(bpj)	ne	t(bpj)	t(m)	t(m)	t(bpj)	t(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
EAST PALESTINE RESERVOIR (Columbiana)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
EAST RESERVOIR (Summit)														
1988		ne	ne	ne	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	ne	ne	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	201.00	t(m)	ne	ne	t(m)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
EASTWOOD LAKE (Montgomery)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990		t(m)	t(bpj)	fu(bpj)	fu(m)	fu(m)	fu(bpj)	fu(m)	t-h(m)	t-e(m)	ne	ne	ne	fu(m)
1992	170.00	t(m)	t(bpj)	fu(bpj)	fu(m)	fu(m)	fu(bpj)	fu(m)	t-h(m)	t-e(m)	fu(m)	ne	ne	fu(m)
ECHO LAKE (Miami)														
1988	14.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
EDEN PARK POND (Hamilton)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ESSINGTON LAKE (Perry)														
1988	16.00	fu(m)	ne	ne	fu(m)	i(m)	ne	i(m)	fu(m)	ne	ne	ne	ne	i(m)
EVANS LAKE (Mahoning)														
1988	566.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
EVERGREEN LAKE (Lucas)														
1988	8.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

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FAIRMOUNT RESERVOIR (Cuyahoga)														
1988	8.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
FALLSVILLE WILDLIFE AREA LAKE (Highland)														
1988	11.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
FERGUSON RESERVOIR (Allen)														
1988	305.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
FINDLAY RESERVOIR #1 (Hancock)														
1988	186.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
FINDLAY RESERVOIR #2 (Hancock)														
1988	650.00	fu(bpj)	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
FINDLEY LAKE (Lorain)														
1988		ne	ne	t(bpj)	t(m)	fu(m)	t(bpj)	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	t(bpj)	t(bpj)	i(m)	t(m)	fu(bpj)	fu(m)	t-h(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	83.00	t(m)	t(bpj)	t(bpj)	i(m)	t(m)	fu(bpj)	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
FIRESTONE RESERVOIR (Summit)														
1988		t(m)	ne	ne	t(m)	fu(m)	ne	ne	t-h(m)	ne	ne	ne	ne	ne
1992	83.00	t(m)	ne	ne	t(m)	t(m)	ne	ne	t-h(m)	ne	ne	ne	ne	ne
FORKED RUN LAKE (Meigs)														
1988		fu(bpj)	ne	fu(bpj)	fu(bpj)	ne	ne	t(m)	ne	fu(m)	ne	ne	fu(m)	fu(m)
1990		fu(bpj)	ne	fu(bpj)	fu(bpj)	ne	ne	t(m)	ne	fu(m)	ne	fu(m)	fu(m)	fu(m)
1992	104.00	fu(bpj)	ne	fu(bpj)	fu(bpj)	t(m)	ne	t(m)	fu(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
FOSTORIA UPGROUND RESV. #6 (Hancock)														
1992	161.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
FORTY ACRE POND (Auglaize)														
1988	70.00	ne	ne	fu(bpj)	t(m)	ne	ne	ne	t-h(m)	ne	ne	ne	ne	fu(m)
FOX LAKE STRUCTURE #6 (Athens)														
1988		fu(m)	ne	t(bpj)	fu(m)	fu(m)	ne	t(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	47.50	fu(m)	ne	t(bpj)	fu(m)	t(m)	ne	t(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
FRANZ POND (Miami)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
FRIENDSHIP PARK (Jefferson)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	85.40	fu(m)	ne	fu(m)	fu(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)	ne	ne	ne	i(m)
FULTON POND (Fulton)														
1988	15.00	ne	ne	t(bpj)	t(bpj)	ne	t(bpj)	ne	t(bpj)	t(bpj)	ne	ne	ne	ne

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GEORGETOWN VILLAGE RESERVOIR (Brown)														
1988	11.80	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
GIRARD LAKE (Trumbull)														
1988	185.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
GRAFTON WATER SUPPLY LAKE (Lorain)														
1988	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
GRAND LAKE ST. MARYS (Auglaize)														
1988	12700.00	t(bpj)	ne	fu(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
GRAND RIVER WILDLIFE AREA LAKE (Trumbull)														
1988	11.20	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
GRANGER POND (Lake)														
1992	30.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
GRANT LAKE (Brown)														
1988		t(bpj)	ne	fu(bpj)	t(m)	ne	ne	ne	t-h(m)	ne	ne	ne	ne	ne
1990	181.00	t(bpj)	ne	fu(bpj)	t(m)	ne	ne	ne	t-h(m)	ne	ne	fu(m)	ne	ne
GREENE COUNTY PARKS LAKE (Greene)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
GREENFIELD LAKE (Fairfield)														
1988	13.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
GREENWICH RESERVOIR (Huron)														
1988	6.50	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
GUILFORD LAKE (Columbiana)														
1988		ne	ne	t(bpj)	t(m)	fu(m)	ne	t(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	fu(bpj)	t(bpj)	t(m)	fu(m)	fu(bpj)	fu(m)	t-h(m)	t-e(m)	ne	fu(m)	t(m)	fu(m)
1992	396.00	t(m)	fu(bpj)	t(bpj)	t(m)	t(m)	fu(bpj)	fu(m)	t-h(m)	t-e(m)	ne	fu(m)	t(m)	fu(m)
HAMMERTOWN LAKE (JACKSON CITY RESV.) (Jackson)														
1988		fu(bpj)	ne	ne	fu(m)	fu(m)	ne	t(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	186.00	fu(bpj)	ne	ne	fu(m)	t(m)	ne	t(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
HARGUS LAKE (Pickaway)														
1988		fu(bpj)	ne	fu(bpj)	fu(m)	fu(m)	ne	t(m)	fu(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		fu(bpj)	ne	fu(bpj)	fu(m)	fu(m)	ne	t(m)	fu(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
1992	130.00	fu(bpj)	ne	fu(bpj)	fu(m)	fu(m)	ne	t(m)	fu(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
HARRISON LAKE (Fulton)														
1988		t(m)	ne	t(bpj)	t(bpj)	t(m)	t(bpj)	i(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990	96.00	t(m)	ne	t(bpj)	t(bpj)	t(m)	t(bpj)	i(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)

Appendix H. Summary of the LCI parameters for Ohio's 450 public lakes. See text for explanation of parameters.

Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
HEBRON FISH HATCHERY LAKE (Licking)														
1988	75.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HELENA LAKE (Sandusky)														
1988	15.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HICKORY LAKE (Portage)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HIGHLANDTOWN LAKE (Columbiana)														
1988		fu(bpj)	ne	t(bpj)	t(m)	fu(m)	ne	fu(m)	t-h(m)	fu(m)	fu(m)	ne	fu(m)	fu(m)
1992	170.00	fu(bpj)	ne	t(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	fu(m)	fu(m)	ne	fu(m)	fu(m)
HIGHLANDTOWN WILDLIFE AREA POND (Columbiana)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HILLSBORO RESERVOIR (Highland)														
1988		ne	ne	t(bpj)	t(bpj)	ne	t(bpj)	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
1990		t(m)	t(bpj)	fu(bpj)	t(m)	fu(m)	fu(bpj)	t(m)	t-e(m)	fu(m)	ne	ne	ne	fu(m)
1992	22.00	t(m)	t(bpj)	fu(bpj)	t(m)	t(m)	fu(bpj)	t(m)	t-e(m)	fu(m)	ne	ne	ne	fu(m)
HILLSBORO UPGROUND RESERVOIR (Highland)														
1992	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HINCKLEY LAKE (Medina)														
1988		ne	ne	fu(bpj)	t(m)	ne	t(bpj)	ne	t-e(m)	t(bpj)	ne	ne	ne	ne
1990	88.00	t(m)	t(bpj)	fu(bpj)	t(m)	fu(m)	fu(m)	fu(m)	t-e(m)	fu(m)	ne	fu(m)	ne	fu(m)
HOCKING HILLS RESERVOIR (Hocking)														
1988	21.10	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
HOOVER RESERVOIR (Franklin)														
1988		ne	ne	fu(bpj)	t(bpj)	fu(m)	ne	t(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	ne	fu(bpj)	t(bpj)	fu(m)	ne	t(m)	t-e(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
1992	3000.00	t(m)	ne	fu(bpj)	t(bpj)	t(m)	ne	t(m)	t-e(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
HOSTERMAN LAKE (Clark)														
1988	9.20	t(m)	ne	ne	t(m)	fu(m)	ne	ne	t-h(m)	ne	ne	ne	ne	fu(m)
HOWER RESERVOIR (Summit)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990		fu(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	23.00	fu(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HRCD STRUCTURE 1 (Fairfield)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HRCD STRUCTURE 2 (Fairfield)														

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1988	8.90	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HRCD STRUCTURE 5 (Fairfield)														
1988	7.10	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HRCD STRUCTURE 8 (Fairfield)														
1988	7.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HRCD STRUCTURE R-21 (Fairfield)														
1988	5.30	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
HUDSON SPRINGS LAKE (Summit)														
1988		ne	ne	t(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990		t(m)	ne	t(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	45.00	t(m)	ne	t(bpj)	t(bpj)	ne	ne	ne	t-e(m)	t-e(m)	ne	ne	ne	ne
INDEPENDENCE DAM (Defiance)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	605.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
INDIAN CR. WILDLIFE AREA PONDS (Brown)														
1988	56.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
INDIAN LAKE (Logan)														
1988		ne	ne	t(bpj)	i(m)	t(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990	5104.00	t(m)	t(bpj)	t(bpj)	i(m)	t(m)	fu(m)	fu(m)	t-h(m)	t-h(m)	fu(m)	fu(m)	fu(m)	fu(m)
ISMOND POND (Columbiana)														
1992	8.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
JACKSON LAKE (Jackson)														
1988		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	t(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1990		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	t(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)
1992	243.00	t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	t(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)
JEFFERSON LAKE (Jefferson)														
1988		fu(m)	ne	t(bpj)	t(bpj)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	t(m)	fu(m)
1990		fu(m)	ne	t(bpj)	t(bpj)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	t(m)	t(m)	fu(m)
1992	25.00	fu(m)	t(bpj)	t(bpj)	t(m)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)
JISCO LAKE (Jackson)														
1992	54.00	fu(m)	fu(bpj)	fu(bpj)	fu(m)	t(m)	ne	fu(m)	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)
J. GRIGGS RESERVOIR (Franklin)														
1990		t(bpj)	ne	fu(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	385.00	t(m)	fu(bpj)	fu(bpj)	fu(m)	t(m)	ne	t(m)	t-e(m)	t-h(m)	ne	t(m)	fu(m)	fu(m)
KENT BOARD OF TRUSTEES LAKE (Portage)														

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1988	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER RESERVOIR (Wyandot)														
1988		fu(bpj)	ne	fu(bpj)	t(bpj)	fu(m)	ne	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	253.00	fu(m)	fu(bpj)	fu(bpj)	fu(bpj)	fu(m)	fu(bpj)	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
KILLDEER WILDLIFE POND #1 (Wyandot)														
1988	9.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER WILDLIFE POND #2 (Wyandot)														
1988	45.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER WILDLIFE POND #3 (Wyandot)														
1988	9.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER WILDLIFE POND #4 (Wyandot)														
1988	8.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER WILDLIFE POND #5 (Wyandot)														
1988	18.00	ne	ne	fu(bpj)	t(bpj)	ne.	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER WILDLIFE POND #6 (Wyandot)														
1988	15.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER WILDLIFE POND #7 (Wyandot)														
1988	225.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER WILDLIFE POND #8 (Wyandot)														
1988	373.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLDEER WILDLIFE POND #9 (Wyandot)														
1988	225.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
KILLIANY LAKE (Guernsey)														
1992	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
KIPTON RESERVOIR (Lorain)														
1988	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
KISER LAKE (Champaign)														
1988		t(m)	ne	t(bpj)	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990	380.00	t(m)	fu(bpj)	fu(bpj)	fu(m)	fu(m)	fu(bpj)	fu(m)	t-h(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
KNOX LAKE (Knox)														
1988		ne	ne	fu(bpj)	t(bpj)	fu(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	t(m)	fu(m)
1990	474.00	t(m)	ne	fu(bpj)	t(bpj)	fu(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	fu(m)	t(m)	fu(m)
LaDUE RESERVOIR (Geauga)														
1988		fu(bpj)	ne	t(bpj)	t(bpj)	ne	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
1992	1500.00	fu(m)	ne	t(bpj)	t(bpj)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
LaGRANGE WATER WORKS LAKE (Lorain)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LARUE PARK POND (Marion)														
1992	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE ALMA (Vinton)														
1988		fu(m)	ne	t(bpj)	fu(m)	fu(m)	ne	t(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1990		fu(m)	ne	t(bpj)	fu(m)	fu(m)	ne	t(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)
1992	63.00	fu(m)	ne	t(bpj)	fu(m)	t(m)	ne	t(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)
LAKE ANNA (Summit)														
1988	12.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE AQUILLA (Geauga)														
1988		ne	ne	t(bpj)	t(bpj)	ne	ne	ne	t-e(m)	ne	ne	ne	ne	ne
1990		fu(m)	i(bpj)	i(bpj)	i(m)	fu(m)	fu(bpj)	fu(m)	t-e(m)	fu(m)	ne	ne	ne	fu(m)
1992	27.00	fu(m)	i(bpj)	i(bpj)	i(m)	t(m)	fu(bpj)	fu(m)	t-e(m)	fu(m)	ne	ne	ne	fu(m)
LAKE CALDWELL (Ross)														
1988	9.60	ne	ne	ne	t(m)	ne	ne	ne	t-h(m)	ne	ne	ne	ne	ne
LAKE COHASSET (Mahoning)														
1988	27.00	ne	ne	fu(bpj)	fu(bpj)	t(m)	ne	t(m)	ne	ne	ne	ne	fu(m)	fu(m)
LAKE DAUGHTERY (Hancock)														
1988	12.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE GEORGE (Portage)														
1988	12.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE GLACIER (Mahoning)														
1988	43.00	ne	ne	fu(bpj)	fu(bpj)	t(m)	ne	fu(m)	ne	ne	ne	ne	t(m)	fu(m)
LAKE HAMILTON (Mahoning)														
1988	104.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE HODGSON (Portage)														
1988		ne	ne	t(bpj)	t(bpj)	ne	t(bpj)	ne	fu(m)	ne	ne	ne	ne	ne
1990		t(m)	ne	t(bpj)	t(bpj)	ne	t(bpj)	ne	fu(m)	ne	ne	ne	ne	ne
1992	190.00	t(m)	ne	t(bpj)	fu(bpj)	ne	fu(bpj)	ne	t-e(m)	t-e(m)	ne	ne	ne	ne
LAKE HOPE (Vinton)														
1988		t(bpj)	ne	t(bpj)	fu(m)	t(m)	ne	t(m)	t-e(m)	fu(m)	ne	ne	fu(m)	i(m)
1990		t(bpj)	ne	t(bpj)	fu(m)	t(m)	ne	t(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	i(m)
1992	127.00	fu(m)	t(bpj)	t(bpj)	fu(m)	t(m)	fu(bpj)	fu(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)	i(m)
LAKE ISABELLA (Hamilton)														

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1988	23.00	fu(m)	ne	t(bpj)	fu(m)	ne	ne	ne	fu(m)	ne	ne	ne	ne	fu(m)
LAKE ISSAC (Cuyahoga)														
1988	15.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE KATHARINE (Jackson)														
1988	42.00	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE LA SU AN (Williams)														
1988		ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	134.00	t(m)	fu(bpj)	fu(bpj)	fu(bpj)	t(m)	fu(bpj)	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
LAKE LaCOMTE (FOSTORIA RES. #5) (Hancock)														
1988		ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
1992	128.00	t(m)	fu(bpj)	fu(bpj)	fu(bpj)	fu(m)	fu(bpj)	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
LAKE LAMBERJACK (Hancock)														
1988	45.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
LAKE LAVERE (Williams)														
1988	11.10	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE LOGAN (HOCKING LAKE) (Hocking)														
1988		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	fu(m)	t(bpj)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	fu(m)	t(bpj)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
1992	354.00	t(m)	fu(bpj)	t(bpj)	t(bpj)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
LAKE LORAMIE (Shelby)														
1988		ne	ne	t(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990	785.00	t(m)	fu(bpj)	fu(bpj)	t(m)	t(m)	t(bpj)	fu(m)	t-h(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
LAKE LORETTA (Fairfield)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE MEDINA (Medina)														
1988	109.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE MILTON (Mahoning)														
1988		ne	ne	fu(bpj)	fu(bpj)	fu(m)	ne	t(m)	t-e(m)	fu(m)	ne	ne	t(bpj)	fu(m)
1990		t(m)	fu(bpj)	fu(bpj)	fu(bpj)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)
1992	1685.00	t(m)	fu(bpj)	fu(bpj)	fu(bpj)	t(m)	ne	fu(m)	t-h(m)	t-e(m)	fu(m)	ne	fu(m)	fu(m)
LAKE MOSIER (Hancock)														
1988	88.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
LAKE MOTRAM (Hancock)														
1988	18.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE NESMITH (Summit)														

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1988		t(m)	ne	fu(bpj)	t(m)	fu(m)	ne	ne	t-h(m)	t-e(m)	t(m)	fu(m)	ne	fu(m)
1992	80.00	t(m)	fu(bpj)	fu(bpj)	t(m)	t(m)	fu(m)	fu(m)	t-h(m)	t-e(m)	t(m)	fu(m)	ne	fu(m)
LAKE PARK (Mahoning)														
1988	20.00	t(m)	ne	ne	fu(m)	i(m)	ne	ne	t-e(m)	ne	ne	ne	ne	fu(m)
LAKE PIPPEN (Portage)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990		fu(m)	ne	t(bpj)	fu(m)	fu(m)	fu(bpj)	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	143.00	fu(m)	ne	t(bpj)	fu(m)	t(m)	fu(bpj)	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
LAKE ROCKWELL (Portage)														
1988		t(m)	ne	t(bpj)	t(bpj)	fu(m)	t(bpj)	t(m)	t-h(m)	t-h(m)	ne	ne	ne	fu(m)
1990		t(m)	ne	t(bpj)	t(m)	fu(m)	t(bpj)	t(m)	t-e(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
1992	539.00	t(m)	ne	t(bpj)	t(m)	t(m)	t(bpj)	t(m)	t-e(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
LAKE ROMONA DAM (Fairfield)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE RUPERT (Vinton)														
1988		fu(bpj)	ne	t(bpj)	fu(m)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	t(m)	fu(m)
1990		fu(bpj)	ne	t(bpj)	fu(m)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	fu(m)	t(m)	fu(m)
1992	325.00	fu(bpj)	ne	t(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	fu(m)	ne	fu(m)	t(m)	fu(m)
LAKE SNOWDEN (STRUCTURE #2) (Athens)														
1988	131.30	fu(bpj)	ne	fu(bpj)	fu(m)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
LAKE STEWART (Ross)														
1988		ne	ne	ne	t(m)	ne	ne	ne	t-h(m)	ne	ne	ne	ne	ne
1992	7.50	ne	ne	ne	t(m)	t(m)	ne	ne	t-h(m)	ne	ne	ne	ne	ne
LAKE SUE (Williams)														
1988	10.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LAKE VESUVIUS (Lawrence)														
1988		fu(bpj)	ne	ne	ne	t(m)	ne	t(m)	ne	fu(m)	ne	ne	fu(m)	fu(m)
1990	105.00	fu(bpj)	ne	ne	ne	t(m)	ne	t(m)	ne	fu(m)	ne	fu(m)	fu(m)	fu(m)
LAKE WHITE RESERVOIR (Pike)														
1988		fu(bpj)	ne	fu(bpj)	fu(bpj)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1990		fu(bpj)	ne	fu(bpj)	fu(bpj)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	t(m)	fu(m)	fu(m)
1992	337.00	fu(bpj)	ne	fu(bpj)	fu(bpj)	t(m)	ne	fu(m)	t-e(m)	fu(m)	ne	t(m)	fu(m)	fu(m)
LAMPSON RESV. (JEFFERSON RESV.) (Ashtabula)														
1988	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LEESVILLE LAKE (Carroll)														

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1988		fu(bpj)	ne	ne	ne	fu(m)	ne	fu(m)	ne	t-e(m)	ne	ne	fu(m)	fu(m)
1990		fu(bpj)	ne	ne	ne	fu(m)	ne	fu(m)	ne	t-e(m)	ne	fu(m)	fu(m)	fu(m)
1992	1000.00	fu(bpj)	ne	fu(bpj)	fu(bpj)	fu(m)	ne	fu(m)	ne	t-e(m)	ne	fu(m)	fu(m)	fu(m)
LEIGHTY LAKE (Shelby)														
1992	13.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LEIPSIC RESERVOIR (Putnam)														
1988	27.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LIBERTY LAKE (Trumbull)														
1988	99.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LIMA RESERVOIR (Allen)														
1988	84.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LIME KILN LAKE (Tuscarawas)														
1988	28.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LITTLE PUNDERSON LAKE (Geauga)														
1992	24.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LONDON FISH HATCHERY LAKE (Madison)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LONG LAKE (Summit)														
1988		ne	ne	ne	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	ne	ne	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	t(m)	fu(m)	fu(m)
1992	180.00	t(m)	ne	fu(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
LOST CREEK RESERVOIR (Allen)														
1988	121.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
LOWER SHAKER LAKE (Cuyahoga)														
1988	16.70	t(bpj)	ne	ne	fu(bpj)	ne	ne	ne	t-e(m)	ne	ne	ne	ne	ne
MADISON LAKE (Madison)														
1988		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	t(m)	fu(m)	fu(m)
1992	106.00	t(bpj)	ne	t(bpj)	t(bpj)	t(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	t(m)	fu(m)	fu(m)
MAPLE GROVE LAKE (Morrow)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MARGARET CR. CONS. DIST. #1 (Athens)														
1988	16.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MARGARET CR. CONS. DIST. #4 (Athens)														
1988	28.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
MARGARET CR. CONS. DIST. #5 (Athens)														
1988	8.30	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MAYSVILLE REG. WATER DIST. LAKE (Muskingum)														
1988	45.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
McCOMB RESERVOIR #1 (Hancock)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
McCOMB RESERVOIR #2 (Hancock)														
1988	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
McKELVEY LAKE (Mahoning)														
1988	133.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MEADOW BROOK LAKE (Summit)														
1988		ne	ne	t(bpj)	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	t(m)	fu(m)
1990		t(m)	ne	t(bpj)	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-h(m)	ne	ne	t(m)	fu(m)
1992	23.80	t(m)	t(bpj)	t(bpj)	t(m)	t(m)	fu(m)	fu(m)	t-e(m)	t-e(m)	ne	fu(m)	fu(m)	fu(m)
MEANDER CREEK RESERVOIR (Trumbull)														
1988		fu(bpj)	ne	fu(bpj)	fu(bpj)	ne	ne	t(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	2010.00	fu(bpj)	ne	fu(bpj)	fu(bpj)	t(m)	ne	t(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
METAMORA RESERVOIR #2 (Fulton)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
METAMORA RESERVOIR #1 (Fulton)														
1992	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
METZGER RESERVOIR (Allen)														
1988		ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
1992	157.00	fu(m)	fu(bpj)	fu(bpj)	fu(m)	t(m)	fu(bpj)	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
MIAMI CONS. DIST. LAKE (HUFFMAN POND) (Greene)														
1988	43.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MIAMI WHITEWATER LAKE (Hamilton)														
1988		t(m)	ne	fu(bpj)	t(bpj)	fu(m)	ne	ne	t-e(m)	t(bpj)	ne	ne	ne	fu(m)
1992	85.00	t(m)	ne	fu(bpj)	t(bpj)	t(m)	ne	ne	t-e(m)	t(bpj)	ne	ne	ne	fu(m)
MICHAEL J. KIRWIN RESERVOIR (Portage)														
1988		ne	ne	t(bpj)	fu(m)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	ne	t(bpj)	fu(m)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	2650.00	t(m)	ne	t(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
MILLER ANTRIM QUARRY (Franklin)														
1988	37.00	fu(m)	ne	ne	fu(bpj)	ne	ne	ne	t-h(m)	ne	ne	ne	ne	ne

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
MILLER LAKE (Summit)														
1988	28.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MILLER PARK LAKE (Williams)														
1992	8.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MINERVA PARK LAKE (Franklin)														
1992	8.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MONROE FALLS LAKE (Summit)														
1992	13.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MOGADORE RESERVOIR (Portage)														
1988		ne	ne	t(bpj)	t(m)	fu(m)	t(bpj)	fu(m)	t(bpj)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		fu(m)	ne	t(bpj)	0.00	fu(m)	t(bpj)	fu(m)	t(bpj)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	900.00	t(m)	ne	t(bpj)	0.00	t(m)	t(bpj)	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
MONROE LAKE (Monroe)														
1988	39.00	fu(m)	ne	t(bpj)	t(bpj)	ne	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	ne
MOSQUITO CREEK RESERVOIR (Trumbull)														
1988		ne	ne	fu(bpj)	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990	7850.00	t(m)	fu(bpj)	fu(bpj)	t(m)	t(m)	fu(m)	fu(m)	t-e(m)	fu(m)	fu(m)	fu(m)	fu(m)	fu(m)
MOUNT ORAB RESERVOIR # 2 (Brown)														
1988	5.60	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MT. GILEAD LAKE (LOWER) (Morrow)														
1988	11.00	t(m)	ne	ne	fu(m)	ne	ne	ne	fu(m)	ne	ne	ne	ne	fu(m)
MT. GILEAD LAKE (UPPER) (Morrow)														
1988	7.00	ne	ne	t(bpj)	t(bpj)	t(m)	ne	ne	t-e(m)	ne	ne	ne	ne	fu(m)
MUD LAKE (Summit)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	85.00	fu(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	fu(m)	ne	ne
MUDPORT BASIN (Coshocton)														
1988	9.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
MUNROE BASIN (Muskingum)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	17.00	t(m)	ne	t(bpj)	t(bpj)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	ne	fu(m)
MUZZY LAKE (Portage)														
1988		ne	ne	t(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990		t(m)	ne	t(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	82.00	t(m)	ne	t(bpj)	fu(bpj)	ne	ne	ne	t-e(m)	t-h(m)	ne	ne	ne	ne

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
MWCD STRUCTURE 7-C (Medina)														
1988	23.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
M. OLANDER PARK LAKE (Lucas)														
1988	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
NETTLE LAKE (Williams)														
1988		fu(bpj)	ne	t(bpj)	fu(m)	fu(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	94.00	fu(bpj)	ne	t(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
NEW CONCORD RESERVOIR (Muskingum)														
1988	9.60	ne	ne	t(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
NEW LEXINGTON RESERVOIR #1, NEW (Perry)														
1988	44.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
NEW LEXINGTON RESERVOIR #2, OLD (Perry)														
1988		fu(m)	ne	fu(bpj)	fu(m)	fu(m)	ne	t(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	27.00	fu(m)	ne	fu(bpj)	fu(m)	t(m)	ne	t(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
NEW LONDON RESERVOIR (Huron)														
1988	221.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
NEW WILMINGTON RESERVOIR (#2) (Clinton)														
1988	54.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
NEWFIELDS DEVELOPMENT LAKE (Montgomery)														
1992	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
NEWPORT LAKE (Mahoning)														
1988		t(m)	ne	fu(bpj)	t(m)	ne	ne	t(m)	t-h(m)	t-h(m)	fu(m)	ne	i(m)	fu(m)
1992	105.00	t(m)	i(bpj)	fu(bpj)	t(m)	t(m)	fu(bpj)	t(m)	t-h(m)	t-h(m)	fu(m)	fu(m)	i(m)	fu(m)
NIMISILA RESERVOIR (Summit)														
1988		ne	ne	ne	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	ne	ne	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	825.00	t(m)	ne	ne	t(m)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
NORTH BALTIMORE RESERVOIR (Wood)														
1988	29.00	ne	ne	fu(bpj)	fu(bpj)	ne	t(bpj)	ne	ne	t(bpj)	ne	ne	ne	ne
NORTH BRANCH KOKOSING LAKE (Knox)														
1988		t(bpj)	ne	fu(bpj)	t(m)	fu(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	154.00	t(m)	fu(bpj)	t(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
NORTH KINGSVILLE RESERVOIR (Ashtabula)														
1988	7.30	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
NORTH RESERVOIR (Summit)														

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1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1992	160.00	t(m)	ne	ne	ne	ne	ne	ne	t-h(m)	ne	ne	ne	ne	ne
NORWALK LOWER RESERVOIR (Huron)														
1988	30.70	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
NORWALK MEMORIAL RESERVOIR (Huron)														
1988	97.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
NORWALK UPPER RESERVOIR (Huron)														
1988	50.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
NOVA FRANCE REC. CTR. LAKE (Lucus)														
1992	12.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OAK HILL UPGROUND RESERVOIR (Jackson)														
1992	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OAK THORPE RESERVOIR (RCCD #6D) (Fairfield)														
1988	43.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OBERLIN OLD UPGROUND RESERVOIR (Lorain)														
1988	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OBERLIN RESERVOIR (Lorain)														
1988		ne	ne	fu(bpj)	t(bpj)	ne	t(bpj)	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
1990		t(m)	ne	fu(bpj)	fu(bpj)	fu(m)	t(bpj)	fu(m)	t(bpj)	fu(m)	ne	ne	fu(m)	fu(m)
1992	56.00	t(m)	fu(bpj)	fu(bpj)	fu(bpj)	t(m)	fu(bpj)	fu(m)	t(bpj)	fu(m)	ne	ne	fu(m)	fu(m)
OHIO POWER REC. LAKE (Morgan)														
1988	2000.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OLD REID PARK LAKE (Clark)														
1988	15.00	ne	ne	ne	fu(m)	fu(m)	ne	ne	fu(m)	ne	ne	ne	ne	ne
OPOSSUM CREEK LAKE #1 (Montgomery)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OPOSSUM CREEK LAKE #2 (Montgomery)														
1988	18.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OSU GOLF COURSE LAKE (Franklin)														
1988	8.60	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OTTAWA NATIONAL WILDLIFE REFUGE LAKE (Ottawa)														
1988	8.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OTTAWA RESERVOIR (Putnam)														
1988	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
OXBOW LAKE (Defiance)														

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1988	40.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
O'SHAUGHNESSY RESERVOIR (Delaware)														
1988		t(bpj)	ne	fu(bpj)	t(bpj)	ne	ne	ne	fu(m)	t-h(m)	ne	ne	ne	ne
1990	920.00	t(bpj)	ne	fu(bpj)	t(bpj)	ne	ne	ne	fu(m)	t-h(m)	ne	fu(m)	ne	ne
PAINT CREEK LAKE (Highland)														
1988		t(bpj)	ne	t(bpj)	t(bpj)	fu(m)	t(bpj)	fu(m)	t(bpj)	t-h(m)	ne	ne	fu(m)	fu(m)
1992	1190.00	t(bpj)	ne	t(bpj)	t(bpj)	t(m)	t(bpj)	fu(m)	t(bpj)	t-h(m)	ne	ne	fu(m)	fu(m)
PARK LAKE (Summit)														
1988	13.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
PAULDING PONDS (Paulding)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
PAULDING RESERVOIR (Paulding)														
1988	67.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	t(bpj)	ne
PEARSON PARK PONDS (Lucus)														
1992	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
PERRY RECLAMATION POND (Perry)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
PERRY RECLAMATION DAM #3 (Perry)														
1992	8.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
PETROS LAKE (Stark)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	12.00	t(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
PIEDMONT LAKE (Harrison)														
1988		t(bpj)	ne	fu(bpj)	t(bpj)	t(bpj)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	2310.00	t(bpj)	ne	fu(bpj)	t(bpj)	t(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
PIKE LAKE RESERVOIR (Pike)														
1988	13.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
PINE CREEK STRUCTURE # 8 (Lawrence)														
1988	8.80	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
PINE LAKE (Mahoning)														
1988	474.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1988		ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	fu(m)	ne	ne	ne	ne
1990	14.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	fu(m)	ne	fu(m)	ne	ne
PLEASANT HILL LAKE (Ashland)														
1988		t(bpj)	ne	fu(bpj)	fu(bpj)	ne	ne	fu(m)	t-e(m)	fu(m)	ne	ne	ne	ne

Appendix H. Summary of the LCI parameters for Ohio's 450 public lakes. See text for explanation of parameters.

Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1990	850.00	t(bpj)	ne	fu(bpj)	fu(bpj)	ne	ne	fu(m)	t-e(m)	fu(m)	ne	fu(m)	ne	ne
POND LICK LAKE (Scioto)														
1988	5.40	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
PORTAGE CO. COMM. LAKE (Portage)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
POWERS RESERVOIR (Crawford)														
1988	29.00	ne	ne	t(bpj)	fu(bpj)	ne	t(bpj)	ne	ne	ne	ne	ne	ne	ne
PUNDERSON LAKE (Geauga)														
1988		ne	ne	t(bpj)	fu(m)	fu(m)	ne	t(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990		fu(m)	fu(bpj)	t(bpj)	t(m)	fu(m)	fu(bpj)	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	101.00	fu(m)	fu(bpj)	t(bpj)	t(m)	t(m)	fu(bpj)	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
PYMATUNING RESERVOIR (Ashtabula)														
1988	3580.00	t(bpj)	ne	fu(bpj)	t(bpj)	ne	ne	ne	t-e(m)	t-e(m)	ne	ne	ne	ne
RACCOON CREEK RESERVOIR (Sandusky)														
1988	34.40	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RAVENNA ORD. PLANT LAKE (Portage)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 3-B (Perry)														
1988	13.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 4-C (Perry)														
1988	49.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 5-A (Fairfield)														
1988	20.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 5-B (Fairfield)														
1988	12.10	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 5-C (Fairfield)														
1988	13.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 7C (Fairfield)														
1988	42.50	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 7-A (Fairfield)														
1988	22.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 7-D (Fairfield)														
1988	15.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RCCD STRUCTURE 7-E (Fairfield)														
1988	9.90	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
RCCD STRYCTURE 3-A (Perry)														
1988	13.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RESTHAVEN WILDLIFE AREA PONDS (Erie)														
1988	200.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
REX LAKE (Summit)														
1988	48.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RICHWOOD PARK LAKE (Union)														
1988		t(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	16.00	t(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RILEY RESERVOIR (BUCYRUS RESV. #3) (Crawford)														
1988	28.00	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	t(bpj)	ne	ne	ne	ne	ne
RIO GRANDE RESERVOIR (Gallia)														
1988	7.20	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ROAMING ROCK LAKE (Ashtabula)														
1988	464.00	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
ROCK MILL LAKE IX (HRCD STRUCTURE 9) (Fairfield)														
1988	19.80	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ROCKY FORK LAKE (Highland)														
1988		ne	ne	t(bpj)	t(bpj)	fu(m)	t(bpj)	t(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1990	2080.00	t(m)	fu(bpj)	fu(bpj)	fu(bpj)	fu(m)	t(bpj)	fu(m)	t-h(m)	t-e(m)	fu(m)	fu(m)	fu(m)	fu(m)
ROOSEVELT LAKE (Scioto)														
1988	16.00	fu(m)	ne	fu(bpj)	t(m)	ne	ne	ne	t-h(m)	ne	ne	ne	ne	ne
ROSS LAKE (Ross)														
1988		fu(bpj)	ne	t(bpj)	fu(m)	fu(m)	ne	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	140.00	fu(bpj)	ne	t(bpj)	fu(m)	t(m)	ne	fu(m)	fu(m)	fu(m)	ne	ne	fu(m)	fu(m)
RUFF POND (Columbiana)														
1992	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RUSH CREEK LAKE (RCCD #6A) (Perry)														
1988	300.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
RUSH RUN LAKE (Preble)														
1988		ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	t(bpj)	ne	ne	ne	ne	ne
1990		t(m)	t(bpj)	t(bpj)	t(m)	fu(m)	fu(bpj)	fu(m)	t-e(m)	fu(m)	fu(m)	ne	ne	fu(m)
1992	54.00	t(m)	t(bpj)	t(bpj)	t(m)	t(m)	fu(bpj)	fu(m)	t-e(m)	fu(m)	fu(m)	ne	ne	fu(m)
RUSSELLVILLE RESERVOIR (Brown)														
1988	11.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

Appendix H. Summary of the LCI parameters for Ohio's 450 public lakes. See text for explanation of parameters.

Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1988	35.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
STONELICK RESERVOIR (Clermont)														
1988		ne	ne	t(bpj)	t(bpj)	t(m)	t(bpj)	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990		t(m)	t(bpj)	t(bpj)	fu(m)	fu(m)	fu(bpj)	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1992	160.00	t(m)	t(bpj)	t(bpj)	fu(m)	t(m)	fu(bpj)	fu(m)	t-e(m)	t-h(m)	ne	ne	t(m)	fu(m)
ST. CLAIR REC. AREA LAKE (Butler)														
1988	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ST. CLAIRSVILLE RESERVOIR #1 (Belmont)														
1988	10.00	ne	ne	fu(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
ST. CLAIRSVILLE RESERVOIR #2 (Belmont)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ST. JOSEPH'S LAKE (RCCD #3E) (Perry)														
1988	60.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
ST. MARTIN RESERVOIR (Brown)														
1988	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
SUMMIT LAKE (Summit)														
1988		t(m)	ne	fu(bpj)	fu(bpj)	fu(m)	fu(m)	fu(m)	t-e(m)	t-e(m)	t(m)	t(m)	fu(m)	fu(m)
1992	100.00	t(m)	fu(bpj)	fu(bpj)	fu(bpj)	t(m)	fu(m)	fu(m)	t-e(m)	t-e(m)	t(m)	t(m)	fu(m)	fu(m)
SUNBURY RESERVOIR # 2 (Delaware)														
1988	18.80	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
SUNBURY RESERVOIR #1 (Delaware)														
1988	6.90	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
SUNNY LAKE (HARMONS POND) (Portage)														
1988		ne	ne	t(bpj)	t(m)	ne	ne	ne	t-h(m)	t(bpj)	ne	ne	ne	ne
1990	63.00	t(m)	ne	t(bpj)	t(m)	ne	ne	ne	t-h(m)	t(bpj)	ne	ne	ne	ne
SWANTON RESERVOIR (Lucas)														
1988	25.00	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	ne	t(bpj)	ne	ne	ne	ne
SWIFT RUN LAKE (Miami)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	40.00	t(m)	fu(bpj)	i(bpj)	fu(m)	t(m)	t(bpj)	fu(m)	t-h(m)	t-e(m)	ne	ne	ne	fu(m)
TAPPEN LAKE (Harrison)														
1988	2350.00	t(bpj)	ne	fu(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
TAWAWA LAKE (Shelby)														
1988	8.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
THOREAU POND (BLENDON WOODS) (Franklin)														

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1988	10.70	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
TINKERS CREEK STATE PARK LAKE (Portage)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	5.00	fu(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
TOUSSAINT CR. WILDLIFE AREA LAKE (Ottawa)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
TURKEY CREEK LAKE (Scioto)														
1988	51.00	fu(m)	ne	fu(bpj)	t(m)	ne	ne	ne	t-h(m)	ne	ne	ne	ne	ne
TURKEY FOOT LAKE (Summit)														
1988		ne	ne	ne	fu(m)	fu(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1990	318.00	t(m)	ne	ne	fu(m)	t(m)	ne	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
TURNING BASIN LAKE (Coshocton)														
1992	11.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
TWIN LAKES RESERVOIR (Allen)														
1988	26.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
TYCOON LAKE (Gallia)														
1988		fu(bpj)	ne	t(bpj)	fu(m)	fu(m)	ne	i(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	204.00	fu(bpj)	fu(bpj)	fu(bpj)	t(m)	fu(m)	ne	fu(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
UPPER SANDUSKY RESERVOIR (Wyandot)														
1988	36.00	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
UPPER SHAKER LAKE (Cuyahoga)														
1988	11.40	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
UPPER WABASH STRUCTURE #2 (Mercer)														
1992	6.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
UPPER WABASH STRUCTURE #3 (Mercer)														
1992	78.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
USA DEPT. LABOR LAKE (Medina)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
VAN BUREN LAKE (Hancock)														
1988		t(m)	ne	t(bpj)	fu(m)	t(m)	t(bpj)	fu(m)	t-e(m)	t-h(m)	ne	ne	fu(m)	fu(m)
1992	53.00	t(m)	ne	t(bpj)	fu(m)	t(m)	t(bpj)	fu(m)	t-h(m)	t-h(m)	ne	ne	fu(m)	fu(m)
VAN WERT RESERVOIR #1 (Van Wert)														
1988	60.00	ne	ne	fu(bpj)	t(bpj)	ne	t(bpj)	ne	ne	ne	ne	ne	ne	ne
VAN WERT RESERVOIR #2 (Van Wert)														
1988	60.00	ne	ne	fu(bpj)	t(bpj)	ne	t(bpj)	ne	ne	ne	ne	ne	ne	ne

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
VA. KENDALL PARK LAKE (Summit)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	14.00	fu(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
VETO LAKE (Washington)														
1988		t(bpj)	ne	t(bpj)	fu(m)	fu(m)	ne	t(m)	t-e(m)	t-e(m)	ne	ne	fu(m)	fu(m)
1992	160.00	t(m)	t(bpj)	fu(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	t-e(m)	ne	ne	fu(m)	fu(m)
VILLAGE OF BARNESVILLE LAKE (Belmont)														
1988	7.70	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
VILLAGE OF CONTINENTAL LAKE (Putnam)														
1988	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
VILLAGE OF GRAFTON LAKE (#2) (Lorain)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
VILLAGE OF TIPP CITY LAKE #1 (Miami)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
VILLAGE OF TIPP CITY LAKE #2 (Miami)														
1988	14.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WABASH CONS. DIST. RESV. #1 (Darke)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	57.00	t(m)	ne	t(bpj)	fu(m)	t(m)	t(bpj)	fu(m)	ne	t-h(m)	ne	ne	ne	fu(m)
WALLACE LAKE (Cuyahoga)														
1988		t(bpj)	ne	ne	fu(bpj)	ne	ne	ne	fu(m)	ne	ne	ne	ne	ne
1990	15.80	t(bpj)	t(bpj)	fu(bpj)	fu(m)	ne	ne	ne	fu(m)	ne	ne	ne	ne	ne
WASHINGTON C.H. RESERVOIR (Fayette)														
1988	37.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WAUSEON RESERVOIR #1 (Fulton)														
1988	49.00	ne	ne	t(bpj)	t(bpj)	ne	t(bpj)	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
WAUSEON RESERVOIR #2 (Fulton)														
1988	17.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WAYNE NATIONAL FOREST LAKE (Gallia)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WAYNESFIELD UPGROUND RESERVOIR (Auglaize)														
1992	5.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WAYNOKA RESERVOIR (Brown)														
1988	11.80	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WAYNOKA RETENTION DAM (Brown)														

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Year Assessed	Surface Area	SD	IBI	NM	A	NP	PPO	PPM	P	N	F	S	B	M
1988	11.60	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WELLINGTON RESERVOIR (LOWER) (Lorain)														
1988	160.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WELLINGTON RESERVOIR (UPPER) (Lorain)														
1988	21.00	ne	ne	ne	t(bpj)	ne	t(bpj)	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
WELLSVILLE RESERVOIR (Columbiana)														
1988	25.00	ne	ne	t(bpj)	fu(bpj)	ne	ne	ne	ne	ne	ne	ne	ne	ne
WEST RESERVOIR (Summit)														
1988		ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1990	104.00	t(m)	ne	ne	ne	ne	ne	ne	t-e(m)	t-e(m)	ne	ne	ne	ne
WESTERVILLE RESERVOIR (Delaware)														
1988	52.70	t(m)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WESTVILLE LAKE (Columbiana)														
1988		ne	ne	t(bpj)	i(m)	fu(m)	ne	fu(m)	t-h(m)	ne	fu(m)	ne	fu(m)	fu(m)
1990		ne	ne	t(bpj)	i(m)	fu(m)	ne	fu(m)	t-h(m)	ne	fu(m)	t(m)	fu(m)	fu(m)
1992	90.00	t(m)	ne	t(bpj)	t(m)	t(m)	ne	fu(m)	t-h(m)	ne	fu(m)	t(m)	fu(m)	fu(m)
WHITE SULPHUR LAKE (Delaware)														
1988	39.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WILDLIFE POND #2 (Guernsey)														
1992	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WILLARD CITY RESERVOIR (Huron)														
1988		fu(bpj)	ne	fu(bpj)	fu(m)	fu(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
1992	200.00	fu(bpj)	ne	fu(bpj)	fu(m)	t(m)	ne	fu(m)	t-e(m)	fu(m)	ne	ne	fu(m)	fu(m)
WILLARD MARSH AREA (Huron)														
1988	6.30	ne	ne	fu(bpj)	t(bpj)	ne	ne	ne	t(bpj)	t(bpj)	ne	ne	ne	ne
WILLS CREEK RESERVOIR (Coshocton)														
1988		t(bpj)	ne	fu(bpj)	fu(bpj)	t(bpj)	ne	fu(m)	ne	t-h(m)	ne	ne	fu(m)	fu(m)
1992	900.00	t(bpj)	ne	fu(bpj)	fu(bpj)	fu(m)	ne	fu(m)	ne	t-h(m)	ne	ne	fu(m)	fu(m)
WILLSHIRE QUARRY LAKE (Van Wert)														
1988	7.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WILMINGTON RESERVOIR (Clinton)														
1988	16.00	ne	ne	fu(bpj)	fu(bpj)	ne	t(bpj)	ne	ne	t(bpj)	ne	ne	ne	ne
WINCHESTER LAKE (Adams)														
1988	10.00	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
WINTON WOODS LAKE (W.FK.MILL CK.) (Hamilton)														

Methods

Each lake listed in Table 1 was sampled at one or more locations (based on lake size) two times during the sampling season, once in the spring and once in midsummer. At each location, water column samples were collected at the surface and near the bottom and were analyzed for nutrients, heavy metals, and miscellaneous other parameters. Additionally, full water column profiles of basic field parameters were collected on each visit. Sediment grab samples were collected at twelve of the lakes while fish tissue samples (one game and one forage fish sample) were collected at 16 highly fished recreational lakes. Sediment samples were analyzed for nutrients (phosphorus), metals, priority pollutant organochlorine pesticides, and PCBs. Additionally, at each sediment location, a lower water column sample from near the bottom was analyzed for organochlorine pesticides. Fish tissue samples (game - skin on fillet composites, forage - whole body composites) were analyzed for priority pollutant organochlorine pesticides and PCBs. Parametric coverage for all types of chemical sampling is listed in Tables 2 (conventionals) and 3 (organics). In addition to the chemical sampling listed above, duplicate samples for plankton chlorophyll-a were collected at each surface location during the summer sampling run and Secchi depth measurements were taken during both visits. All chemical, physical, and biological field, laboratory, data processing, and data analysis methods and procedures adhered to those specified in the *Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices* (Ohio EPA 1989).

Results

Summary information for the 52 subject lakes with regards to lake sizes, lake types, geographic location (i.e., by ecoregion) and lake uses is listed in Table 1 and depicted in Figures 1 and 2. An attempt was made to sample a wide variety of lake sizes and types in the different ecoregions of Ohio. With some exceptions, most notably lakes in the Interior Plateau ecoregion and natural and dugout lakes, the lake selection procedure was successful, although the overall size of the database was too small for sophisticated data analysis procedures. Raw water column chemical data collected from all 52 lakes are tabulated in Appendix Tables I-1 (field parameter profiles), I-2 (nutrients and other parameters), and I-3 (heavy metals and other ions). Important results are summarized in Tables 4 and 5. Lower water column sampling results from 12 lakes analyzed for priority pollutant organochlorine pesticides are compiled in Table 6. Sediment data from the 12 lakes are compiled in Tables 7 (total phosphorus, heavy metals, and other ions) and 8 (organics). Available fish tissue sampling results from 16 lakes analyzed for priority pollutant organochlorine pesticides and polychlorinated biphenyls are tabulated in Table 9. Results of chlorophyll-a analyses and tabulation of the Trophic State Index (TSI) (Carlson 1977) for summer chlorophyll-a, spring total phosphorus, and summer Secchi depth at each of the 52 lakes are compiled in Table 10. The breakdown of new or reevaluated trophic state assessments for the 52 lakes is depicted in Figure 3.

Water Column Sampling

◊ Water column samples collected near the surface were used to compare results with Ohio's Water Quality Standards (WQS) criteria (OAC 3745-1) for the protection of the EWH aquatic life use assigned to all Ohio public lakes. One of the most commonly occurring violations was dissolved oxygen at levels less than the EWH minimum of 6.0 mg/l (Table 4). Surface water violations of this criterion during midsummer were recorded in nine lakes: Charles Mill Lake, Deer Creek Lake, Defiance Power Dam Reservoir, J. Griggs Reservoir, Mosquito Creek Reservoir, Munroe Basin, North Branch Kokosing River Lake, Spring Valley Lake, and Swift Run Lake. Violations at six of the nine lakes were fairly minor where D.O. levels greater than 5.0 mg/l were maintained at the surface. Levels in Defiance Power Dam Reservoir and Swift Run Lake fell below 5.0 mg/l but stayed above 4.0 mg/l, while D.O. in Spring Valley Lake dropped to 3.5 mg/l.

◊ Exceedences of heavy metal criteria for prevention of chronic toxicity to aquatic life were recorded in surface water samples from 15 lakes. By far, iron exceedences (>1000 ug/l) were most prevalent and were detected in samples from 13 lakes. Violations of iron in Ohio surface waters are very common because of high naturally occurring levels found in Ohio soils. Only two other metals, lead and zinc, exceeded the EWH criteria. Lead was exceeded in two lakes, Hargus Lake and Knox Lake, and zinc was exceeded in one lake, Hoover Reservoir. In all three cases, the exceedences were just above the established criteria as determined by water hardness. It must be emphasized that these metal exceedences may not be actual violations of the criteria since violations are based on 30-day average concentrations which should be determined by more than just one sample collected in the spring and one in the summer.

◊ Other elevated concentrations of note included nitrate (>10.0 mg/l) in the spring Wabash Conservation District Reservoir #1 and sulfate (>800 mg/l) in both spring and summer Friendship Park Lake samples. In water supply lakes, these concentrations would be exceedences of the 30-day average criteria for the protection of human health. Though neither lake is now being used as a source of drinking water, concentrations of these parameters at these levels would be an important consideration for any such use in the future. As an example, nitrate advisories for potable water supplies are usually issued for young children and individuals on nitrate restricted diets when finished water concentrations exceed 10.0 mg/l for two consecutive samples.

◊ Another elevated parameter of some importance was summer ammonia in the lower water column of several lakes. Ammonia concentrations around 3.0 mg/l were recorded in Acton Lake, Ferguson Reservoir, Findley Lake, Guilford Lake, and Metzger Reservoir. Ammonia at this concentration was an exceedence of the chronic aquatic life criterion as determined by each lakes' pH and temperature near the bottom. During the summer, each of these lakes was thermally stratified and exhibited hypolimnions with near anoxic conditions. Under these conditions, the elevated ammonia levels were probably not a serious concern to aquatic life and, at fall turnover, would have been rapidly nitrified into nitrite and nitrate. Of more importance was the high ammonia concentration recorded during the summer near the bottom in Knox Lake (7.64 mg/l).

Knox Lake was different from the other lakes with high ammonia concentrations because, although fairly deep (>7.0 m) and thermally stratified, it maintained dissolved oxygen levels greater than 3.0 mg/l through the water column. Thus, the potential to be detrimental to aquatic life existed since the ammonia at the measured concentration was an exceedence of the 30-day average criterion for the prevention of chronic toxicity.

◊ Many of the 52 lakes exhibited some degree of thermal stratification during the summer. Of these, 32 lakes suffered severe oxygen depletion (i.e., D.O. <2.0 mg/l) in the hypolimnion with some having significant zones of D.O. levels less than 0.5 mg/l (Table 5). Percent of total lake depth affected by the low D.O. levels ranged from about 20% in lakes that were shallow (Harrison Lake, North Branch Kokosing River Lake) or deep but unproductive (Killdeer Reservoir, Lake Pippen) to over 75% in some of the deeper more productive lakes (Deer Creek Lake, Lake La Su An, Lake Milton, Punderson Lake).

Lower Water Column Organics Sampling

◊ Summer sampling of priority pollutant organochlorine pesticides in 12 lakes revealed the presence of a number of compounds in the lower water column in close proximity to the sediment/water interface (Table 6). Compounds detected included aldrin (3 lakes), dieldrin (5 lakes), endosulfan sulfate and endosulfan II (5 lakes), endrin aldehyde (1 lake), and isomers of hexachlorocyclohexane - a-BHC and y-BHC (7 lakes). Lakes with the most recorded detections included Charles Mill Lake and Rocky Fork Lake with 5 compounds each and Dillon Reservoir and Harrison Lake with 4 compounds each. Only in Hinckley Lake were there no pesticides recorded above detection limits. The presence of some of the compounds in the lower water column correlated well with the same or similar compounds in the sediments from the same lake. For instance, most lakes with aldrin and/or dieldrin in the sediments had measurable amounts of one or the other in the lower water column. Since dieldrin can be formed by the photochemical oxidation of aldrin, it would not be unusual to have one or the other present in the water column and sediments, especially in the more shallow lakes where sunlight and oxygen are more likely to be available throughout the water column. Conversely, there were a few other pesticides (i.e., endrin and the hexachlorocyclohexane isomers) in the lower water column that were not detected in the sediment.

◊ Comparison of the concentrations of the detected pesticides with Ohio WQS revealed that many of the recorded values for aldrin, dieldrin, endosulfan, and, to a lesser extent, endrin and hexachlorocyclohexane, were exceedences of the 30-day average aquatic life criterion and/or the 30-day average human health criterion. However, as with the metal exceedences, these should not be construed as violations but should be used to flag lakes that need more intensive sampling throughout the water column to more adequately define the situation. Follow-up is especially necessary since the pesticides were detected in the summer, lower water column samples from near the sediment surface. Some of the lakes were thermally stratified and exhibited near anoxic conditions in the hypolimnion while others were shallow reservoirs that did not stratify and

maintained adequate levels of dissolved oxygen. The relationship between ambient environmental conditions and the observed pesticide concentrations and the risk, if any, to human health and aquatic life are not well documented for Ohio lakes.

Sediment Sampling

◊ Of the 14 heavy metals and other ions analyzed, only three were detected in concentrations considered elevated or highly elevated based on a surficial lake sediment classification system described by Kelly, Hite, and Rogers (1984) for Illinois lakes (Table 7). Chromium was highly elevated in three lakes - Hargus Lake, J. Griggs Reservoir, and Jisco Lake; iron was elevated in two lakes - Hinckley Lake and Mosquito Creek Reservoir; and zinc was elevated in one lake - Acton Lake. All other parameter concentrations were classified as normal or below normal in sediments of each lake.

◊ The importance of the higher than normal results for chromium, iron, and zinc was not readily apparent and probably will not be until sediment criteria are promulgated. However, all but one elevated or highly elevated measurement were at the low end of the specific assessment category and not too far removed from "normal" measurements. The exception was the chromium in Jisco Lake which was nearly twice as high as the two other highly elevated chromium measurements. Jisco Lake has just recently been acquired by a public entity and was previously owned by a scrap iron company. This situation lends itself to an obvious cause and source identification; however, no other metal concentration in Jisco Lake sediment was classified as exceeding normal ranges. If a serious problem existed as a result of activities by the prior owners, it would seem highly probable that other heavy metals would also be present in excessive concentrations in the sediment.

◊ Sediment phosphorus results from 9 of the 12 lakes indicated most had normal or below normal concentrations, but two lakes, Harrison Lake and J. Griggs Reservoir, fell into the elevated range based on the Illinois classification (Table 7). These results suggested that inlake phosphorus recycling may be a serious problem in these two waterbodies and should be a major consideration in any future restoration plans.

◊ Sediment organic sampling detected six priority pollutant organochlorine pesticides and one PCB (arochlor 1245), one or more of which were present in the sediments of 11 of the 12 lakes sampled (Table 8). Only Rocky Fork Lake had sediment concentrations below detection limits for all analyzed compounds. The six pesticides included aldrin, dieldrin, heptachlor epoxide, endosulfan II, and two DDT degradation products, DDD and DDE. Concentrations were generally less than 10 micrograms per kilogram (ug/kg) and were not considered to be at significant levels. PCB-1245 was detected in only one lake, Dillon Reservoir, at a concentration of about 70 ug/kg. Dillon Reservoir is currently the subject of a Phase I Diagnostic and Feasibility study that has included an intensive sediment sampling component. The need for this sampling was driven by the results of the 1990 lake assessment and imminent plans for dredging and disposing of sediments potentially impacted by urban/industrial sources in the upland watershed.

oligotrophic counterparts (60 to 150 ug/l). This translated into summer chlorophyll concentrations from over 50 to nearly 400 times higher than the oligotrophic lakes (38.5 to 274.3 ug/l). The hypereutrophic lakes as a group had much more variable phosphorus and chlorophyll concentrations which is probably an additional indication of the highly productive, but unstable nature of these lakes.

◊ An attempt was made to determine the major nutrient that would limit the growth of algae in the sampled lakes. Knowledge of the limiting nutrient can be an important factor in the final selection of possible lake restoration techniques (i.e., use of alum to bind phosphorus). Two methods that are commonly used to determine limiting nutrients in lakes are the ratio of total nitrogen to total phosphorus (TN/TP) and algal bioassays using the green alga Selenastrum capricornutum. As a preliminary screening process, only summer TN/TP ratios were used to determine the limiting nutrient for the 1989-90 lakes. Smith (1982) reports that TN/TP ratios above 17:1 usually indicate that phosphorus is the important nutrient limiting the growth of algae. Others have suggested that ratios less than 7:1 suggest nitrogen limitation. For the 52 lakes sampled during 1989 and 1990, 33 (63.5%) had TN/TP ratios ranging between 18 and 275 which suggested these lakes are limited by phosphorus. Only 5 lakes (9.6%) had ratios less than 7:1. These lakes, Defiance Power Dam Reservoir, Friendship Park Lake, Jefferson Lake, Stonelick Reservoir, and Veto Lake are lakes that appear to be limited by total nitrogen. The remaining 14 lakes (26.9%) had ratios falling between 7:1 and 17:1 and, thus, some uncertainty exists as to the limiting nutrient. Prior to any restoration activities on these lakes and perhaps some of the others with ratios close to either limit, algal bioassay procedures should be used to verify the limiting nutrient.

◊ Considerable lake sampling was undertaken in the late 70s and early 80s by the Ohio EPA and the U.S. Geological Survey. Over this time frame, well over 100 lakes were monitored with a sampling intensity much like that allocated to the 1989-90 program. Results of that monitoring have been reported in several publications (Tobin and Youger 1977, Tobin and Youger 1979, Angelo and Youger 1985) and summarized in the 1982 305(b) Report in the volume titled *Ohio's Lakes* (Youger 1982). Based on this monitoring, 119 Ohio lakes were classified according to trophic state using Carlson's TSI values. Of these lakes, 16% were classified as mesotrophic, 73% as eutrophic, and 11% as hypereutrophic. As mentioned earlier, there were no lakes classified as oligotrophic. Compared with this data, monitoring results from the 52 lakes sampled in 1989 and 1990 were fairly similar. With the exception of determining three lakes to be oligotrophic, percentages of the other trophic levels were not substantially different from those determined 10 years ago.

Analysis of Lake Classification by Ecoregion

◊ One of the objectives of this Lake Water Quality Assessment program was to gather a preliminary data set to determine if physical/chemical characteristics of Ohio's lakes are influenced by regional patterns in terrestrial characteristics such as land surface form, land use, soil type, and potential natural vegetation. The ultimate goal would be to derive performance expectations for lakes in a given ecoregion of Ohio. To this end, data from the lakes monitored in 1989 and 1990

were used to test the applicability of this objective using the five established ecoregions in Ohio delineated by Omernik (1988): the Huron-Erie Lake Plain in northwest Ohio, the Erie-Ontario Lake Plain in northeast Ohio, the Eastern Corn Belt Plains in west central Ohio, the Interior Plateau in southwest Ohio, and the Western Allegheny Plateau in southeast Ohio. Chlorophyll-a and phosphorus data from the 52 lakes were plotted versus ecoregion using notched box and whisker plots to see if relationships existed. Results of this analysis were inconclusive. With the size of the available database, the within ecoregion variability was as great or greater than the between ecoregion variability. Similar analyses using the two parameters versus lake type, lake acreage, and lake watershed size were equally inconclusive. The best correlation occurred with the chlorophyll and phosphorus concentrations plotted versus the lake watershed size although even this relationship was not strong.

◊ It was apparent from the results that a larger database will be needed before any relationships among the different chemical and physical parameters can be extracted. As the database size increases with ongoing LWQA efforts or if data become available from other sources, more success may be forthcoming. A future goal envisions the same types of analyses but will focus on changes within biological communities (e.g., fish, macroinvertebrates, phytoplankton, zooplankton, periphyton) as they are influenced by the different physical parameters across the various ecoregions of the state. Since biological communities generally tend to integrate the effects of the various physical attributes of their environment and display these effects in their structure and function, their use to define the quality of lake resources in Ohio may have a better resolution capability than chemical parameters alone.

Table 2. List of conventional parameters (nutrients, metals, *etc.*) collected from Ohio public lakes, 1989-90[1].

Field Parameter Profiles	Metals
Conductivity	Arsenic
Dissolved Oxygen	Barium
pH	Cadmium
Temperature	Calcium
	Chromium
Nutrients, *etc.*	Copper
	Iron
Alkalinity	Lead
Biological Oxygen Demand	Magnesium
Chemical Oxygen Demand	Manganese
Chlorides	Nickel
Dissolved Phosphorus	Potassium
Total Phosphorus	Selenium
Fecal Coliform Bacteria	Sodium
Hardness	Strontium
Sulfates	Zinc
Total Suspended Solids	
Ammonia	Other
Nitrate-Nitrite	
Nitrite	Chlorophyll a
Total Kjeldahl Nitrogen	Secchi Depth

[1] Water column surface and bottom grabs - all parameters.
Sediment grabs - metals and phosphorus only.

Table 3. List of priority pollutant organochlorine pesticides and polychlorinated biphenyls (PCBs) analyzed in fish tissue, sediment, and lower water column samples collected from Ohio public lakes, 1989-90[1,2]. Also listed is the Food and Drug Administration (FDA) Action Level for fish tissue consumption, if available.

Chemical Abstracts Service (CAS) No.	Compound	FDA Action Level (ug/kg)
319-84-6	a-BHC	
319-85-7	b-BHC	
58-89-9	y-BHC	
319-86-8	d-BHC	
309-00-2	Aldrin	Aldrin+Dieldrin:
60-57-1	Dieldrin	300
76-44-8	Heptachlor	
1024-57-3	Heptachlor epoxide	300
959-98-8	Endosulfan I	
33212-65-9	Endosulfan II	
1031-07-8	Endosulfan sulfate	
72-20-8	Endrin	300
7421-93-4	Endrin aldehyde	
72-54-8	4,4'-DDD	Total DDTs:
72-55-9	4,4'-DDE	5000
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
2385-85-5	Mirex	100
118-74-1	Hexachlorobenzene[3]	
57-74-9	Chlordane[3]	300
8001-35-2	Toxaphene[3]	5000
12674-11-2	PCB-1016	
11104-28-2	PCB-1221	
11141-16-5	PCB-1232	Total PCBs:
53469-21-9	PCB-1242	2000
12672-29-6	PCB-1248	
11097-69-1	PCB-1254	
11096-82-5	PCB-1260	

[1] As of the preparation date of this report, only partial fish tissue data from 1990 lakes were available. The remainder of the 1990 data will be included in future State of Ohio Water Resource Inventory reports when available.

[2] Parameter coverage of lower water column samples included priority pollutant pesticides only.

[3] Analyzed in fish tissue samples only.

Table 4. Exceedences of Ohio EPA Exceptional Warmwater Habitat criteria (OAC 3745-1) for chemical/physical parameters measured in surface samples from 52 Ohio lakes, 1989-90 (units are µg/l for metals and mg/l for D.O. and ammonia).

Lake Name	Season (Sp,Su,Both)	Violation: Parameter (value)
Charles Mill Lake	Su	D.O. (5.6‡‡)
	Both	Iron (1570*, 1050*, 1560*, 1840*)
Deer Creek Lake	Su	D.O. (5.4‡‡)
Defiance Power Dam Resvervoir	Su	D.O. (4.7‡‡,4.9‡‡)
	Both	Iron (1620*, 5840*, 2000*, 4980*)
Delaware Lake	Both	Iron (1370*, 1380*)
Dillon Reservoir	Both	Iron (3960*, 5000*)
Hargus Lake	Sp	Lead (20*)
Harrison Lake	Sp	Iron (1200*)
Hillsboro Reservoir	Sp	Copper (48*)
Hoover Reservoir	Sp	Iron (1330*)
	Su	Zinc (140*)
J. Griggs Reservoir	Sp	Iron (1270*)
	Su	D.O. (5.6‡‡)
Knox Lake	Su	Lead (16*)
Lake Loramie	Su	Iron (1190*)
Mosquito Creek Reservoir	Su	D.O. (5.0‡‡)
Munroe Basin	Su	D.O. (5.9‡‡), Iron (1540*)
N. Branch Kokosing River Lake	Su	D.O. (5.6‡‡)
	Both	Iron (2180*, 1080*)
Rocky Fork Lake	Sp	Iron (2940*)
Spring Valley Lake	Su	D.O. (3.5‡‡)
Stonelick Reservoir	Sp	Iron (4730*)
Swift Run Lake	Su	D.O. (4.2‡‡)
Veto Lake	Su	Iron (4020*)
Wabash Cons. Dist. Resv. #1	Both	Iron (1740*, 1630*)

* indicates an exceedence of numerical criteria for prevention of chronic toxicity (CAC).

‡‡ violation of the minimum dissolved oxygen (D.O.) criterion.

Table 5. Lakes with hypolimnetic dissolved oxygen (D.O.) levels falling below 2.0 mg/l during summer sampling, 1989-90.

Lake	Minimum D.O. Recorded (mg/l)	Lake Depth <2.0 mg/l (m)	Total Lake Depth (m)
Acton Lake	0.0	1.8	7.3
Alum Creek Lake	0.6	6.0	15.0
Beaver Creek Reservoir	0.6	5.0	10.0
Berlin Reservoir	0.1	6.5	12.5
Bresler Reservoir	0.5	5.0	11.0
Dale Walburn Reservoir[1]	1.0	0.2	5.2
Deer Creek Lake	0.4	10.0	14.0
Dow Lake	0.0	5.0	10.0
Ferguson Reservoir	0.5	4.0	11.0
Findley Lake	0.3	3.5	6.5
Guilford Lake	0.2	2.5	7.0
Hargus Lake	0.3	8.0	13.0
Harrison Lake	0.3	1.0	4.5
Hillsboro Reservoir[2]	0.0	3.7	6.7
Hoover Reservoir	0.6	6.0	15.0
J. Griggs Reservoir	0.4	2.0	7.0
Jisco Lake	0.0	5.0	12.0
Killdeer Reservoir	0.2	2.0	11.0
Lake Aquilla	0.2	2.0	4.5
Lake Hope	0.1	1.0	5.0
Lake La Su An[2]	0.2	10.0	13.0
Lake Milton	0.2	7.5	11.0
Lake Pippen	0.3	2.7	12.7
Metzger Reservoir	0.3	3.0	9.0
Mosquito Creek Reservoir	0.6	3.5	7.0
North Branch Kokosing River Lake	0.3	0.5	3.5
Oberlin Reservoir[2]	0.2	1.0	6.0
Punderson Lake	0.2	8.7	12.7
Rush Run Lake	0.0	2.7	7.0
Shreve Lake[2]	0.2	2.3	4.8
Stonelick Reservoir	0.4	0.6	2.4
Veto Lake	0.1	0.9	3.9

[1] Spring sample only. Lake drained during summer.

[2] Spring sample also with low hypolimnetic D.O. levels.

Table 6. Concentrations (ug/l = ppb) of priority pollutant organochlorine pesticides detected in lower water column samples collected from Ohio public lakes, 1989-90. Compounds listed are those that were measured above corrected method detection limits in at least one sample.

Lake		Concentration (ug/l)						
	Depth (m)	Aldrin	Dieldrin	Endosulfan sulfate	Endosulfan II	Endrin aldehyde	a-BHC	y-BHC
Acton Lake	6.7	**	0.0612	**	**	**	**	**
Buckeye Lake	4.5	0.0098	**	**	**	**	**	**
Charles Mill Lake	1.7	**	0.0029	0.172	0.0040	**	0.0023	0.0039
Dillon Reservoir	2.0	**	**	0.248	0.0041	**	0.0028	0.0050
Hargus Lake				No Sample				
Harrison Lake	3.5	**	0.0073	0.194	0.0089	**	**	0.0024
Hinckley Lake	4.5	**	**	**	**	**	**	**
Hoover Reservoir	15.0	**	**	**	**	**	**	0.0122
J. Griggs Reservoir	7.0	**	0.0090	**	**	**	**	**
Jisco Lake	12.0	**	**	0.110	**	**	**	**
Mosquito Creek Resv.	7.0	0.0110	**	**	**	**	**	0.0048
Rocky Fork Lake (L-1)	7.3	0.0068	0.0023	**	0.0035	0.0077	**	0.0035
Rocky Fork Lake (L-2)	6.1	0.0060	**	**	**	**	**	0.0037

** Concentration less than corrected method detection limit.

Table 7. Concentrations of total phosphorus, heavy metals, and other ions in surficial sediment samples collected from selected Ohio public lakes, 1989-90.[1]

	Sediment Concentration (mg/kg dry weight)														
Lake	P	Ar	Ba	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Ni	K	Na	Zn
Acton Lake		13.60		1.100		<22.4	50.3		32.5	4000	1590	45.9			**178.0**
Buckeye Lake	119	12.50	156	0.637	11800	<49.3	28.7	24200	32.8	3280	883	27.9	1400	805	118.0
Charles Mill Lake	746	8.15	133	0.446	22800	13.5	20.4	21600	30.8	2660	668	21.1	773	213	83.0
Dillon Reservoir	706	4.92	122	0.729	21800	12.9	27.1	20200	32.0	9560	618	24.8	811	216	89.9
Hargus Lake	682	11.60	135	0.490	20100	**43.6**	24.7	25100	18.6	81500	606	28.0	1250	<260	97.6
Harrison Lake	**1390**	9.09	204	0.519	13100	24.6	26.0	28600	32.5	5240	583	32.4	1680	130	103.0
Hinckley Lake		11.90	127	0.409	14000	<25.6	33.2	**38000**	22.2	6820	1060	39.7	1770	384	126.0
Hoover Reservoir	266	11.10	173	0.334	37700	<19.9	24.0	24300	21.6	6620	697	23.7	1650	291	97.6
J. Griggs Reservoir	**1320**	10.70	176	0.531	28700	**58.3**	29.4	24000	33.0	7320	608	26.3	1410	<275	125.0
Jisco Lake	579	8.79	141	0.220	24600	**107.0**	17.2	28800	25.8	1930	1520	23.2	949	<440	88.8
Mosquito Creek Res.		17.30	134	0.293	2700	23.6	26.7	**38300**	31.0	4890	1050	30.3	3090	<520	114.0
Mosquito Creek Res.		10.00	104	0.258	2130	<45.4	20.7	28000	25.1	3240	803	23.1	1090	373	96.8
Rocky Fork Lake	298	12.10		0.271		<23.6	20.6		20.8	5520	662	18.8			75.1

1 Parameter concentrations, excluding barium, calcium, magnesium, nickel, potassium, and sodium, are ranked based on a surficial lake sediment classification system described by Kelly, Hite, and Rogers (1984). Sediment results are classified as:

Below Normal,
Normal,
Elevated, or
Highly Elevated.

Table 8. Concentrations (ug/kg = ppb) of priority pollutant organochlorine pesticides and polychlorinated biphenyls (PCBs) detected in surficial sediment samples collected from Ohio public lakes, 1989-90. Compounds listed are those that were measured above corrected method detection limits in at least one sample.

Lake	Concentration (ug/kg)						
	Aldrin	Dieldrin	Heptachlor epoxide	Endosulfan II	4,4'-DDD	4,4'-DDE	PCB-1245
Acton Lake	8.18	33.20	5.52	**	**	**	**
Buckeye Lake	**	5.43	**	**	**	**	**
Charles Mill Lake	2.12	**	**	2.48	**	**	**
Dillon Reservoir	0.79	2.38	1.44	**	**	**	70.53
Hargus Lake	**	1.47	**	**	**	2.58	**
Harrison Lake	1.33	4.62	**	3.52	**	1.61	**
Hinckley Lake	2.06	**	**	1.38	**	1.77	**
Hoover Reservoir	**	4.07	**	3.82	6.35	9.70	**
J. Griggs Reservoir	1.54	7.04	**	3.67	**	1.29	**
Jisco Lake	**	**	**	2.30	**	0.94	**
Mosquito Creek Reservoir	**	**	**	3.96	**	**	**
Rocky Fork Lake	**	**	**	**	**	**	**

** Concentration less than corrected method detection limit.

Table 9. Concentrations (ug/kg = ppb) of priority pollutant organochlorine pesticides and polychlorinated biphenyls (PCBs) detected from skin on fillet (SOF) and whole body (WB) composite fish tissue samples collected from Ohio public lakes, 1989 (all) and 1990 (part). Compounds listed are those that were measured above corrected method detection limits in at least one sample.

Lake	Concentration (ug/kg)				
Species/#/Type/%Lipids	a-BHC	y-BHC	Heptachlor epoxide	Dieldrin	Endrin
Alum Creek Lake					
Chan.Cat/1/SOF/9.3	**	**	3.89	26.70	**
Carp/3/WB/3.6	0.55	0.52	4.65	14.40	4.70
Berlin Reservoir					
Lm.Bass/4/SOF/0.4	**	**	**	**	**
Carp/3/WB/2.9	**	**	2.62	4.30	0.94
Buckeye Lake					
Lm.Bass/4/SOF/0.4	**	**	**	0.60	**
Carp/3/WB/2.0	**	**	**	2.44	**
Charles Mill Lake					
Lm.Bass/2/SOF/0.35	**	**	**	**	**
Dillon Reservoir					
Lm.Bass/5/SOF/0.3	**	**	**	**	**
Dow Lake					
Bluegill/13/SOF/0.3	**	**	**	**	**
Eastwood Lake					
Lm.Bass/5/SOF/0.2	**	**	**	0.64	**
Carp/2/WB/7.9	**	**	**	17.80	0.46
Lake Logan					
Lm.Bass/3/SOF/0.4	**	**	**	**	**
Lake Milton					
Lm.Bass/1/SOF/1.0	**	**	**	2.59	**
Mosquito Creek Reservoir					
Lm.Bass/2/SOF/0.3	**	**	**	**	**
Carp/2/WB/3.0 (East Shore)	**	**	1.65	8.40	8.00
Carp/2/WB/1.5 (West Shore)	**	**	**	2.06	0.83
Rocky Fork Lake					
Lm.Bass/5/SOF/0.5	**	**	**	1.29	**
Carp/4/WB/6.8	**	**	**	7.90	5.20
Rush Run Lake					
Lm.Bass/5/SOF/0.3	**	**	**	3.20	0.90

** Concentration less than corrected method detection limit.

Table 9. (continued)

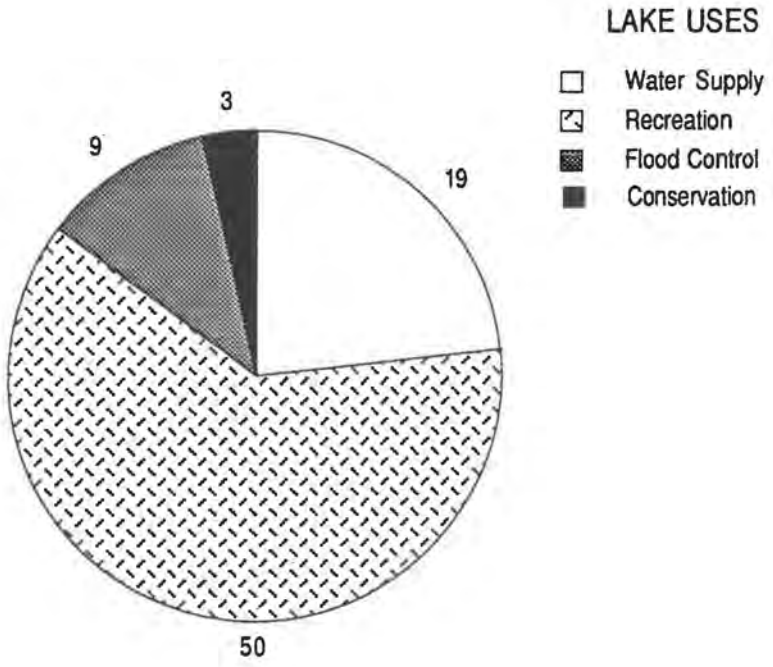
Lake	Concentration (ug/kg)					
Species/#/Type/%Lipids	4,4'-DDE	4,4'-DDD	4,4'-DDT	Endosulfan sulfate	PCB-1254	PCB-1260
Alum Creek Lake						
Chan.Cat/1/SOF/9.3	52.80	5.59	6.83	**	**	**
Carp/3/WB/3.6	42.80	6.70	1.66	**	**	25.60
Berlin Reservoir						
Lm.Bass/4/SOF/0.4	1.10	**	**	1.40	**	**
Carp/3/WB/2.9	47.00	9.20	**	**	**	**
Buckeye Lake						
Lm.Bass/4/SOF/0.4	2.33	0.60	**	**	**	**
Carp/3/WB/2.0	**	**	**	**	**	**
Charles Mill Lake						
Lm.Bass/2/SOF/0.35	**	**	**	**	**	**
Dillon Reservoir						
Lm.Bass/5/SOF/0.3	2.40	**	**	**	41.83	11.54
Dow Lake						
Bluegill/13/SOF/0.3	**	**	**	**	**	**
Eastwood Lake						
Lm.Bass/5/SOF/0.2	1.19	**	**	1.09	**	**
Carp/2/WB/7.9	24.70	7.97	8.70	**	**	211.00
Lake Logan						
Lm.Bass/3/SOF/0.4	**	**	**	**	**	12.93
Lake Milton						
Lm.Bass/1/SOF/1.0	**	2.07	**	**	**	**
Mosquito Creek Reservoir						
Lm.Bass/2/SOF/0.3	1.60	**	**	1.70	**	**
Carp/2/WB/3.0 (East Shore)	27.00	6.80	7.60	**	**	**
Carp/2/WB/1.5 (West Shore)	13.20	3.12	3.76	**	**	35.10
Rocky Fork Lake						
Lm.Bass/5/SOF/0.5	1.12	**	**	**	**	**
Carp/4/WB/6.8	37.50	**	**	1.83	**	148.00
Rush Run Lake						
Lm.Bass/5/SOF/0.3	0.84	**	**	1.58	**	**

** Concentration less than corrected method detection limit.

Table 10. Results of chlorophyll-a analyses and tabulation of Carlson's Trophic State Index (TSI) using summer chlorophyll-a (Chl-a), spring total phosphorus (TP), and summer Secchi depth (SD) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Chl-a Replicates 1	2 (ug/l)	3	Mean Chl-a (ug/l)	TSI Chl-A	TSI SD	TSI TP	Final TSI	Trophic State
ACTON LAKE	L-1	04/26/89	0.3							61		
		08/21/89	0.3	21.7	26.4	10.0	19.44	60	70		61	E
ALUM CREEK LAKE	L-1	05/03/89	0.5							44		
		08/23/89	0.5	3.6	3.3		3.51	43	50		44	M
	L-2	05/03/89	0.5							63		
		08/23/89	0.5	4.8	5.7		5.31	47	50		55	E
BEAVER CREEK RESERVOIR	L-1	05/15/90	0.5							41		
		08/23/90	0.5	5.9	6.5		6.27	49	47		45	M
BERLIN RESERVOIR	L-1	04/13/89	0.5							61		
		08/02/89	0.5						64			
		08/10/89	0.5	17.5	20.1		18.84	59			60	E
	L-2	04/13/89	0.5							69		
		08/02/89	0.5						62		69	H
BRESLER RESERVOIR	L-1	04/23/90	0.5							52		
		08/20/90	0.5	18.1	18.7		18.43	59	50		56	E
BUCKEYE LAKE	L-1	05/08/89	0.3							63		
		08/24/89	0.5	269.0	279.5		274.30	86	77		74	H
CHARLES MILL LAKE	L-1	05/21/90	0.5							63		
		09/11/90	0.5	58.4	64.8		61.61	71	80		67	H
	L-2	05/21/90	0.5							63		
		09/11/90	0.5	54.1	32.4		43.31	68	80		66	E
DALE WALBURN RESERVOIR	L-1	05/03/89	0.5							61	61	E
DEER CREEK LAKE	L-1	04/27/90	0.5							49		
		08/20/90	0.5	33.9	34.6		34.32	65	57		57	E
	L-2	04/27/90	0.5							63		
		08/20/90	0.5	25.4	31.4		28.47	63	62		63	E
DEFIANCE POWER DAM RESERVOIR	L-1	04/26/90	0.5							63		
		09/12/90	0.5	11.2	8.4		9.86	53	93		58	E
	L-2	04/26/90	0.5							65		
		09/12/90	0.5	5.5	5.3		5.44	47	93		56	E
DELAWARE LAKE	L-1	04/26/90	0.5							67		
		08/22/90	0.5	52.0	24.9		38.49	66	62		66	E
DILLON RESERVOIR	L-1	05/14/90	0.5							67		
		09/11/90	0.5	12.9	11.9		12.46	55	65		61	E

(O: Oligotrophic - TSI <38; M: Mesotrophic - TSI 38-47; E: Eutrophic - TSI 48-66; H: Hypereutrophic - TSI >66)



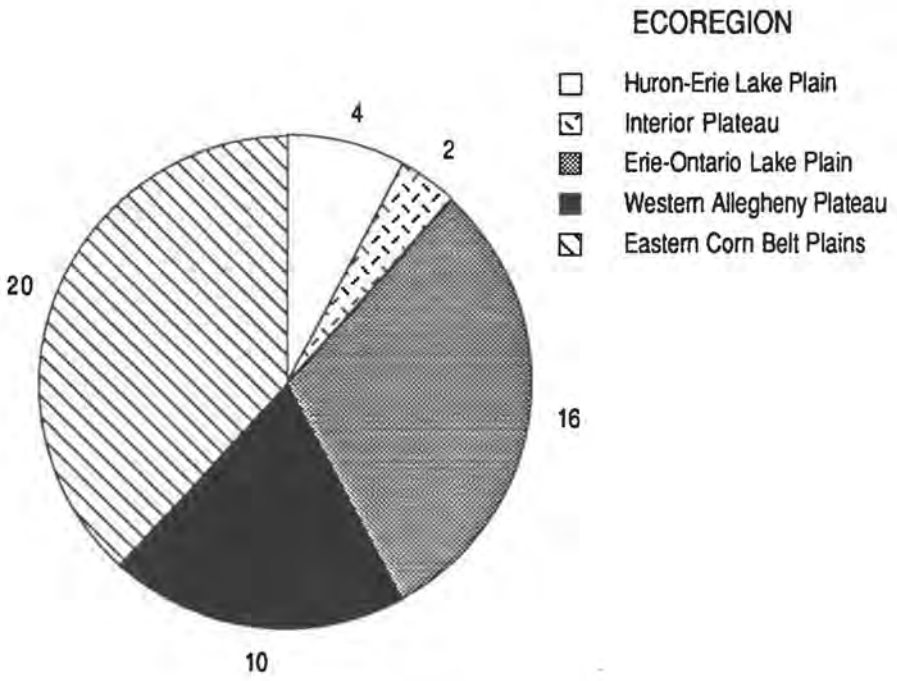


Figure 2. Breakdown by use and geographic location (ecoregion) of the 52 lakes sampled by the Ohio EPA, 1989-90. Each lake may have more than one use.

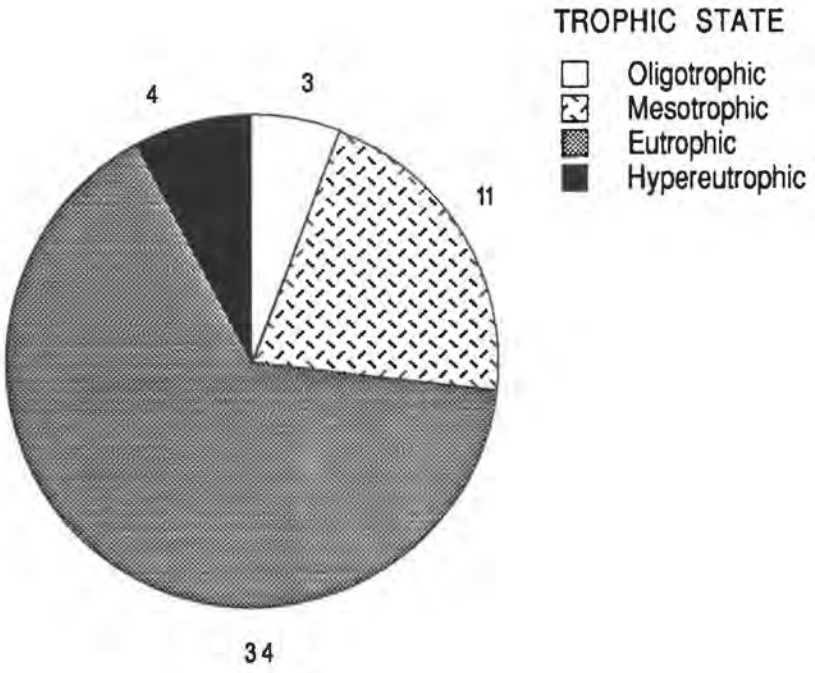


Figure 3. Breakdown by trophic state of the 52 lakes sampled by the Ohio EPA, 1989-90.

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
ACTON LAKE	L-1	04/26/89	0.3	18.0	16.8		410	0.61
			0.6	18.0	16.8		405	
			1.2	17.5	17.2		400	
			1.8	17.0	17.2		400	
			2.4	15.0	13.1		395	
			3.0	14.0	12.8		395	
			3.7	13.5	11.2		395	
			4.3	13.0	9.7		395	
			4.9	11.8	7.8		395	
			5.5	10.2	6.4		380	
			6.1	9.8	5.3		380	
			6.7	9.2	4.5		370	
			7.3	9.0	4.3		370	
		08/21/89	0.3	23.8	6.1			0.51
			0.6	23.8	6.0			
			1.2	23.5	5.5			
			1.8	23.5	5.3			
			2.4	23.5	5.0			
			3.0	23.5	4.8			
			3.7	23.5	4.4			
			4.3	23.5	3.8			
			4.9	23.5	3.5			
			5.5	22.0	0.4			
			6.1	20.0	0.2			
			6.7	18.8	0.1			
			7.3	18.2	0.0			
ALUM CREEK LAKE	L-1	05/03/89	0.5	14.3	10.8	8.78	315	0.75
			1.0	14.5	11.0	8.79	316	
			2.0	14.3	10.9	8.78	320	
			3.0	14.2	10.7	8.72	320	
			4.0	12.7	9.9	8.20	310	
			5.0	12.3	9.7	8.12	310	
			6.0	11.9	9.6	8.07	309	
			7.0	11.8	9.5	8.05	309	
			8.0	11.5	9.4	8.03	310	
			9.0	11.4	9.0	8.02	310	
			10.0	11.0	9.3	8.01	309	
			11.0	11.0	9.1	7.98	307	
			12.0	11.0	9.0	7.98	306	
			13.0	11.0	9.0	7.98	307	
			14.0	11.0	9.0	7.98	307	
			15.0	10.8	8.9	7.97	305	
		08/23/89	0.5	22.2	6.3	8.00	370	1.95
			1.0	22.0	6.6	8.00	379	
			2.0	21.7	6.5	8.00	380	
			3.0	21.7	6.5	8.00	380	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
ALUM CREEK LAKE	L-1	08/23/89	4.0	21.6	6.2	7.95	380	
			5.0	21.5	6.0	7.90	380	
			6.0	21.7	6.0	7.90	380	
			7.0	21.0	4.7	7.80	378	
			8.0	20.0	2.2	7.50	370	
			9.0	18.6	1.3	7.45	363	
			10.0	15.7	1.2	7.40	370	
			11.0	13.9	0.6	7.50	349	
			12.0	13.0	0.6	7.50	344	
			13.0	12.5	0.6	7.50	343	
			14.0	12.3	0.6	7.50	343	
			15.0	12.0	0.5	7.50	343	
	L-2	05/03/89	0.5	14.4	10.8	8.76	310	0.70
			1.0	14.4	10.8	8.76	310	
			2.0	14.3	10.7	8.76	310	
			3.0	14.2	10.7	8.75	310	
			4.0	14.2	10.7	8.75	310	
			5.0	14.3	10.7	8.75	310	
			6.0	14.3	10.7	8.75	310	
			7.0	14.3	10.7	8.75	310	
			8.0	14.3	10.6	8.75	310	
			9.0	14.3	10.6	8.74	310	
			10.0	13.9	10.5	8.27	310	
			11.0	11.5	8.0	7.92	299	
			12.0	11.3	8.0	7.81	298	
			13.0	11.0	7.7	7.70	295	
		08/23/89	0.5	23.4	7.7	8.20	390	2.02
			1.0	23.0	7.8	8.30	387	
			2.0	22.9	7.7	8.30	386	
			3.0	22.8	7.5	8.30	385	
			4.0	22.6	7.5	8.30	386	
			5.0	22.6	7.3	8.20	387	
			6.0	22.3	7.2	8.20	388	
			7.0	20.5	1.5	7.60	380	
			8.0	19.0	0.7	7.50	372	
			9.0	18.0	0.6	7.50	368	
			10.0	17.2	0.6	7.50	365	
			11.0	16.0	0.6	7.40	362	
			12.0	14.0	0.6	7.50	358	
			13.0	13.5	0.7	7.50	355	
			13.5	13.6	0.7	7.50	350	
BEAVER CREEK RESERVOIR	L-1	05/15/90	0.5	15.0	9.8	8.50	290	3.00
			1.0	14.5	9.8	8.40	290	
			2.0	14.5	9.8	8.30	290	
			3.0	14.0	9.8	8.30	285	
			4.0	13.5	9.6	8.20	280	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
BEAVER CREEK RESERVOIR	L-1	05/15/90	5.0	13.5	9.5	8.20	280	
			6.0	13.0	9.5	8.10	280	
			7.0	13.0	9.4	8.10	280	
			8.0	13.0	9.2	8.00	280	
			9.0	12.5	8.6	7.90	275	
			10.0	9.0	4.2	7.10	260	
		08/23/90	0.5	23.5	8.0	9.30	260	2.50
			1.0	23.5	8.0	9.30	265	
			2.0	23.5	8.0	9.30	265	
			3.0	23.5	8.1	9.30	265	
			4.0	23.5	8.1	9.30	265	
			5.0	22.5	0.7	7.50	290	
			6.0	21.5	1.6	7.40	300	
			7.0	20.0	3.6	7.60	300	
			8.0	18.5	0.7	7.40	310	
			9.0	16.0	0.5	7.40	310	
			10.0	14.0	0.6	7.30	305	
BERLIN RESERVOIR	L-1	04/13/89	0.5	7.0	11.3	8.20	282	1.03
			2.0	7.0	11.3		282	
			3.0	7.0	11.3		282	
			4.0	7.0	11.3		282	
			5.0	7.0	11.3		282	
			6.0	7.0	11.3		282	
			7.0	7.0	11.3		280	
			8.0	7.0	11.0		280	
			9.0	7.0	11.0		280	
			10.0	7.0	11.0		280	
			11.0	7.0	10.9	8.60	280	
			12.0	7.0	10.8		280	
		08/02/89	0.5	24.3	7.6		308	0.75
			1.0	24.3	7.6	8.20	308	
			2.0	24.0	7.4		308	
			3.0	24.0	6.7		308	
			4.0	23.9	5.1		302	
			5.0	23.7	3.8		302	
			6.0	23.1	0.6		302	
			7.0	21.9	0.1		291	
			8.0	20.9	0.1		286	
			9.0	19.5	0.1		280	
			10.0	18.2	0.1		275	
			11.0	17.5	0.1	7.30	275	
			12.0	16.3	0.1		275	
			12.5	16.1	0.1		275	
	L-2	04/13/89	0.5	7.5	10.2	7.70	264	0.83
			2.0	7.5	10.0		264	
			3.0	7.5	10.0		258	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
BERLIN RESERVOIR	L-2	04/13/89	4.0	7.5	10.0		255	
			5.0	7.5	9.9		253	
			6.0	7.5	9.8		253	
			7.0	7.5	9.8		253	
			8.0	7.5	9.8		253	
			9.0	7.5	9.8		253	
			10.0	7.0	10.0		254	
			11.0	7.0	10.2		264	
			11.5	7.0	6.2		270	
		08/02/89	0.5	24.9	9.7		319	0.90
			1.0	24.9	9.6	8.20	319	
			2.0	24.3	8.1		319	
			3.0	24.1	6.8		319	
			4.0	23.9	4.7		319	
			5.0	23.5	3.8		319	
			6.0	23.0	0.6		313	
			7.0	20.5	0.1		313	
			8.0	19.3	0.1		346	
			9.0	18.8	0.1	7.20	319	
			10.0	17.2	0.1		319	
BRESLER RESERVOIR	L-1	04/23/90	0.5	13.5	10.1	7.90	400	6.50
			1.0	13.5	10.1	8.05	450	
			2.0	11.0	10.3	8.10	450	
			3.0	10.0	10.5	8.10	420	
			4.0	10.0	10.4	8.15	410	
			5.0	9.5	10.4	8.15	410	
			6.0	9.5	10.0	8.15	410	
			7.0	9.5	10.1	8.15	410	
			8.0	9.0	10.1	8.10	405	
			9.0	9.0	10.0	8.15	405	
			10.0	9.0	9.8	8.10	400	
			11.0	9.0	9.5	8.10	400	
			12.0	9.0	8.6	8.05	400	
		08/20/90	0.5	25.5	12.2	9.00	480	2.00
			1.0	25.5	12.2	9.00	480	
			2.0	25.5	12.2	9.00	480	
			3.0	25.5	12.1	9.00	480	
			4.0	25.0	11.4	8.90	485	
			5.0	23.5	6.2	8.10	550	
			6.0	23.0	1.3	7.60	550	
			7.0	22.0	0.7	7.50	550	
			8.0	21.5	0.6	7.50	575	
			9.0	20.5	0.5	7.50	550	
			10.0	19.5	0.6	7.50	550	
			11.0	18.5	0.7	7.50	575	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
BUCKEYE LAKE	L-1	05/08/89	0.3	13.5	11.2	9.32	230	0.35
			1.0	13.5	11.1	9.33	250	
			2.0	13.5	10.8	9.29	250	
			3.0	13.0	10.4	9.26	249	
		08/24/89	0.5	22.0	6.8	8.60	285	0.30
			1.0	22.0	6.8	8.60	288	
			2.0	22.0	6.7	8.60	288	
			3.0	22.0	6.7	8.60	288	
			3.5	22.0	6.5	8.50	288	
			4.0	22.0	5.1	8.10	291	
			4.5	22.0	4.8	8.00	293	
CHARLES MILL LAKE	L-1	05/21/90	0.5	17.0	7.8	8.00	375	0.50
			1.0	17.0	7.8	8.00	375	
			1.5	17.0	7.8	8.00	375	
			2.0	17.0	7.7	8.00	375	
			2.5	17.0	7.7	8.00	370	
			3.0	17.0	7.6	7.90	370	
		09/11/90	0.5	22.5	5.6	8.10	385	0.25
			1.0	22.5	5.5	8.10	385	
			1.5	22.5	5.6	8.10	385	
			2.0	22.5	5.4	8.10	385	
			2.5	22.5	5.4	8.10	385	
	L-2	05/21/90	0.5	16.5	7.9	7.90	390	0.25
			1.0	16.5	7.8	7.90	390	
			1.5	16.5	7.8	7.90	390	
			2.0	16.5	7.7	7.90	390	
			2.5	16.5	7.7	7.80	390	
		09/11/90	0.5	22.0	8.7	8.20	450	0.25
			1.0	22.0	9.3	8.20	460	
			1.5	22.0	9.0	8.20	460	
			2.0	21.0	7.1	7.90	465	
			2.5	21.0	6.7	7.80	465	
DALE WALBURN RESERVOIR	L-1	05/03/89	0.5	12.0	9.4		275	0.74
			1.0	12.0	9.4	8.35	275	
			1.5	12.0	9.4		275	
			2.0	12.0	9.4		275	
			2.5	11.5	8.9		267	
			3.0	11.1	5.0		264	
			3.5	11.0	3.9		264	
			4.0	10.9	3.3		258	
			4.5	10.9	2.3		258	
			5.0	10.5	1.9	7.49	258	
			5.2	10.1	1.0		258	
DEER CREEK LAKE	L-1	04/27/90	0.5	19.7	16.4	8.90	420	1.00

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
DEER CREEK LAKE	L-1	04/27/90	1.0	19.6	16.2	8.90	419	
			2.0	19.0	15.2	8.70	420	
			3.0	17.0	14.6	8.50	420	
			4.0	12.7	9.5	8.20	410	
			4.5	12.0	9.0	8.20	409	
			5.0	12.0	9.1	8.20	422	
			7.0	12.0	8.9	8.20	419	
			8.0	11.9	9.0	8.20	418	
			9.0	11.8	8.8	8.20	419	
			10.0	11.7	8.6	8.20	417	
			10.5	11.6	8.4	8.10	419	
		08/20/90	0.5	26.3	5.4	8.17	415	1.20
			1.0	26.3	5.4	8.14	415	
			2.0	25.9	4.7	7.95	420	
			3.0	25.7	3.0	7.80	421	
			4.0	25.2	1.2	7.68	425	
			5.0	24.9	1.1	7.59	428	
			6.0	24.7	1.0	7.56	428	
			7.0	24.4	1.0	7.53	432	
			8.0	24.1	0.8	7.49	430	
			9.0	23.4	0.8	7.38	435	
			10.0	23.1	0.8	7.33	437	
			11.0	22.9	0.4	7.29	438	
			12.0	22.8	0.4	7.27	439	
			13.0	22.6	0.4	7.26	443	
			14.0	22.5	0.5	7.26	440	
	L-2	04/27/90	0.5	18.9	14.5	8.70	468	1.05
			1.0	18.8	14.5	8.70	460	
			2.0	18.5	14.4	8.70	459	
			3.0	17.9	14.7	8.60	465	
			4.0	12.5	10.1	8.30	434	
			4.5	12.3	8.4	8.20	425	
		08/20/90	0.5	26.9	8.2	8.54	410	0.85
			1.0	26.9	8.2	8.52	410	
			2.0	26.9	7.7	8.44	410	
			3.0	26.8	7.6	8.42	411	
			4.0	26.6	6.0	8.17	420	
DEFIANCE POWER DAM RESERVOIR	L-1	04/26/90	0.5	20.0	9.8	7.85	600	0.25
			1.0	20.0	9.8	7.80	600	
			2.0	20.0	9.7	7.80	600	
			3.0	19.5	9.7	7.75	600	
			4.0	19.5	9.8	7.75	600	
			5.0	19.5	9.7	7.70	600	
			6.0	19.5	9.6	7.70	600	
		09/12/90	0.5	22.0	4.7	7.50	400	0.10
			1.0	22.0	4.7	7.50	400	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
DEFIANCE POWER DAM RESERVOIR	L-1	09/12/90	2.0	22.0	4.7	7.50	400	
			3.0	22.0	4.7	7.50	400	
			4.0	22.0	4.7	7.50	400	
			5.0	22.0	4.7	7.50	400	
			6.0	22.0	4.7	7.60	405	
	L-2	04/26/90	0.5	19.0	9.1	7.85	600	0.25
			1.0	19.0	9.2	7.70	550	
			2.0	19.0	8.9	7.65	550	
			3.0	18.5	8.6	7.60	550	
			4.0	17.5	7.1	7.40	550	
		09/12/90	0.5	22.0	4.9	7.50	420	0.10
			1.0	22.0	4.8	7.50	425	
			2.0	22.0	4.8	7.50	425	
			3.0	22.0	4.7	7.50	420	
			4.0	22.0	4.7	7.50	415	
DELAWARE LAKE	L-1	04/26/90	0.5	17.2	10.8	8.40	390	0.35
			1.0	17.0	10.2	8.30	390	
			2.0	16.8	9.8	8.20	392	
			3.0	16.2	9.3	8.10	391	
			4.0	14.5	8.6	8.00	380	
			5.0	14.7	8.2	7.90	371	
			6.0	12.8	7.9	7.80	358	
			7.0	12.0	7.5	7.80	350	
			8.0	11.6	7.1	7.80	342	
			9.0	11.4	6.9	7.70	340	
		08/22/90	0.5	25.0	7.2	8.35	420	0.90
			1.0	25.1	7.2	8.34	420	
			2.0	25.0	7.0	8.34	420	
			3.0	25.0	6.7	8.31	420	
			4.0	25.0	6.9	8.31	419	
			5.0	24.9	6.6	8.29	418	
			6.0	24.8	6.5	8.25	419	
			7.0	24.8	6.2	8.20	419	
			8.0	24.2	4.4	7.96	421	
			9.0	22.5	1.0	7.52	434	
DILLON RESERVOIR	L-1	05/14/90	0.5	17.0	8.6	8.03	289	0.50
			1.0	16.2	8.5	8.05	285	
			2.0	15.4	7.9	8.03	293	
			3.0	15.4	7.8	8.05	290	
			4.0	15.3	7.7	8.02	290	
			5.0	15.3	7.8	8.03	290	
			6.0	15.3	7.6	7.99	295	
			7.0	15.4	7.1	7.97	291	
			8.0	15.3	6.4	7.91	285	
		09/11/90	0.5	25.8	6.5	8.12	600	0.70

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
DILLON RESERVOIR	L-1	09/11/90	1.0	25.2	6.4	8.10	600	
			2.0	24.8	5.1	7.92	600	
			3.0	24.7	3.8	7.86	600	
			4.0	24.6	4.4	7.89	600	
			5.0	24.5	3.7	7.80	625	
			6.0	24.3	1.1	7.48	650	
	L-2	05/14/90	0.5	14.9	8.6	7.86	232	0.20
			1.0	13.6	8.6	7.83	220	
			1.5	13.5	8.6	7.75	208	
		09/11/90	0.5	25.2	12.0	8.61	615	0.50
			1.0	25.0	10.8	8.19	615	
			2.0	22.8	8.1	8.11	700	
DOW LAKE	L-1	04/27/90	0.5	20.4	10.6	8.24	179	2.25
			1.0	20.2	10.8	8.23	175	
			2.0	14.9	13.0	8.26	151	
			3.0	12.8	12.9	8.18	142	
			4.0	11.6	12.2	8.08	138	
			5.0	10.6	11.5	8.00	135	
			6.0	10.0	10.9	7.98	131	
			7.0	9.7	9.7	7.96	131	
			8.0	9.4	8.4	7.97	130	
			9.0	9.1	6.2	7.95	131	
			10.0	8.9	4.8	8.00	131	
			11.0	8.9	4.0	8.05	131	
			12.0	8.8	4.0	8.10	130	
		08/22/90	0.5	26.5	8.5	7.83	142	2.50
			1.0	26.2	8.4		163	
			2.0	26.1	8.5	7.91	162	
			3.0	25.8	8.3		161	
			4.0	23.1	5.5		150	
			5.0	18.8	1.6	6.68	138	
			6.0	14.2	0.2		122	
			7.0	11.7	0.1		120	
			8.0	10.5	0.1		120	
			9.0	9.9	0.1	7.29	120	
			10.0	9.6	0.0	7.33	120	
EASTWOOD LAKE	L-1	04/24/89	0.3	13.8	15.4		390	
			0.6	13.7	15.5		392	
			0.9	13.5	15.5		392	
			1.2	13.5	15.6		392	
			1.5	13.5	14.7		390	
			1.8	13.5	14.6		390	
			2.1	13.5	14.4		390	
			2.4	13.3	14.4		390	
			2.7	13.0	14.1		388	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
EASTWOOD LAKE	L-1	04/24/89	3.3	12.5	13.3		388	
			4.0	12.0	12.4		385	
			4.6	11.8	10.4		385	
			5.2	11.8	10.0		385	
			5.8	11.8	10.0		385	
			6.4	11.8	9.8		385	
			7.0	11.8	10.2		385	
			7.3	11.8	10.0		385	
		08/14/89	0.3	26.2	10.5	8.92		0.46
			0.6	26.0	11.4	8.98		
			1.2	25.8	11.7	8.97		
			1.8	25.2	10.3	8.90		
			2.4	25.0	9.3	8.81		
			3.0	24.9	9.0	8.78		
			3.7	24.9	7.9	8.70		
			4.3	24.9	6.9	8.57		
			4.6	24.9	6.2	8.57		
FERGUSON RESERVOIR	L-1	04/24/90	0.5	13.0	10.7	8.00	410	6.50
			1.0	13.0	10.8	8.15	410	
			2.0	11.0	10.1	8.15	390	
			3.0	10.5	10.9	8.20	385	
			4.0	10.0	10.8	8.20	380	
			5.0	9.5	10.7	8.20	380	
			6.0	9.5	10.5	8.20	375	
			7.0	9.5	10.3	8.20	370	
			8.0	9.0	10.0	8.15	365	
			9.0	9.0	9.9	8.15	370	
			10.0	9.0	9.5	8.15	370	
			11.0	9.0	9.5	8.15	370	
		08/22/90	0.5	24.5	8.6	8.80	415	2.50
			1.0	24.5	8.6	8.80	415	
			2.0	24.5	8.6	8.80	415	
			3.0	24.5	8.6	8.90	415	
			4.0	24.5	8.6	8.90	415	
			5.0	24.5	8.6	8.80	415	
			6.0	24.0	7.6	8.60	425	
			7.0	22.0	0.7	7.50	470	
			8.0	20.5	0.5	7.50	470	
			9.0	19.0	0.5	7.30	435	
			10.0	18.0	0.5	7.20	445	
			11.0	17.5	0.5	7.20	455	
FINDLEY LAKE	L-1	05/08/89	0.5	12.5	10.0		275	2.82
			1.0	12.5	10.0	7.61	275	
			1.5	12.5	9.8		275	
			2.0	12.5	9.8		270	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
FINDLEY LAKE	L-1	05/08/89	2.5	12.4	9.8		270	
			3.0	12.3	9.8		270	
			3.5	12.2	9.9		270	
			4.0	12.0	9.0	7.66	270	
			4.5	11.5	2.8		265	
			5.0	9.9	0.1		265	
		08/30/89	0.1	25.8	16.2		242	
			0.5	25.2	15.9		242	0.46
			1.0	25.0	15.0	9.70	242	
			1.5	24.0	8.6		242	
			2.0	23.0	6.6		240	
			2.5	22.8	2.9		236	
			3.0	21.8	0.3		236	
			3.5	19.4	0.3		236	
			4.0	17.9	0.3		231	
			4.5	15.5	0.3		233	
			5.0	14.0	0.3		264	
			5.5	13.0	0.3	7.30	291	
			6.0	12.1	0.3		295	
			6.5	11.8	0.3		302	
FRIENDSHIP PARK LAKE	L-1	05/16/90	0.5	17.3	10.5	7.94	1190	2.25
			1.0	17.3	10.5	7.91	1200	
			2.0	17.2	10.5	7.86	1200	
			3.0	17.1	10.5	7.85	1200	
			4.0	15.2	11.1	7.82	1100	
			5.0	14.7	11.2	7.79	1100	
			6.0	14.7	11.5	7.79	1100	
			6.5	13.9	11.6	7.75	1050	
		09/12/90	0.5	23.8	8.6	7.99	1650	6.00
			1.0	23.8	8.6	7.99	1700	
			2.0	23.7	8.7	7.97	1680	
			3.0	23.7	8.7	7.96	1650	
			4.0	23.6	8.5	7.96	1650	
			5.0	23.3	8.4	7.83	1700	
			6.0	22.9	9.2	7.73	1700	
			7.0	20.3	9.9	7.59	1600	
			8.0	16.9	10.5	7.62	1500	
			9.0	14.6	10.1	7.68	1400	
GUILFORD LAKE	L-1	03/17/89	0.5	13.0	11.2		198	0.86
			1.0	12.8	11.1	8.60	198	
			1.5	12.8	11.1		198	
			2.0	12.5	11.0		201	
			2.5	12.0	10.6		200	
			3.0	12.0	10.4		200	
			3.5	12.0	10.3		200	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
GUILFORD LAKE	L-1	03/17/89	4.0	12.0	10.1		198	
			4.5	12.0	10.1		198	
			5.0	12.0	10.1		198	
			5.5	12.0	9.8		198	
			6.0	11.8	9.8	8.40	198	
			6.5	11.5	8.4		198	
			7.0	11.5	8.0		200	
			7.2	11.3	7.4		200	
		08/08/89	0.1	22.8	7.2		231	
			0.5	23.0	7.1		231	0.69
			1.0	23.0	7.1	8.50	231	
			1.5	23.0	7.1		231	
			2.0	22.8	7.1		231	
			2.5	22.7	7.0		231	
			3.0	22.7	6.8		231	
			3.5	22.7	6.3		231	
			4.0	22.0	4.9		231	
			4.5	20.4	0.3		231	
			5.0	17.0	0.2		242	
			5.5	15.4	0.2		247	
			6.0	14.5	0.2		247	
			6.5	13.6	0.2	7.90	247	
			7.0	13.2	0.2		341	
HARGUS LAKE	L-1	04/24/90	0.5	17.6	11.0	8.60	330	1.75
			1.0	15.8	11.8	8.60	316	
			2.0	14.0	12.2	8.60	300	
			3.0	12.3	11.4	8.50	293	
			4.0	11.5	10.2	8.30	290	
			5.0	10.5	8.8	8.00	283	
			6.0	10.0	8.4	8.00	280	
			7.0	9.3	7.7	7.90	276	
			8.0	9.1	7.3	7.90	275	
			9.0	8.9	6.6	7.80	273	
			10.0	8.6	5.2	7.70	271	
			11.0	8.4	5.0	7.70	270	
			12.0	8.2	4.1	7.70	270	
			13.0	8.0	2.9	7.50	274	
			14.0	8.0	2.6	7.50	274	
		08/23/90	0.5	25.6	6.9	8.68	323	1.20
			1.0	25.6	7.0	8.68	323	
			2.0	25.4	6.9	8.68	323	
			3.0	25.3	6.8	8.68	322	
			4.0	22.0	4.0	7.72	309	
			5.0	17.5	1.6	7.53	279	
			6.0	13.8	0.6	7.44	277	
			7.0	11.5	0.3	7.45	281	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
HARGUS LAKE	L-1	08/23/90	8.0	10.2	0.5	7.47	280	
			9.0	9.8	0.3	7.48	280	
			11.0	9.1	0.5	7.48	283	
			12.0	9.0	0.4	7.43	291	
			13.0	9.0	0.5	7.29	319	
HARRISON LAKE	L-1	04/25/90	0.5	18.5	15.6	8.40	420	0.50
			1.0	18.0	15.7	9.55	425	
			2.0	11.0	9.6	9.15	365	
			3.0	9.0	8.9	8.80	345	
			4.0	8.0	7.8	8.40	335	
		09/10/90	0.5	24.0	9.2	8.80	375	0.50
			1.0	24.0	8.7	8.80	375	
			1.5	23.5	8.3	8.70	380	
			2.0	23.5	6.2	8.40	380	
			2.5	23.5	3.8	8.00	385	
			3.0	23.0	2.7	7.80	385	
			3.5	22.5	1.4	7.60	385	
			4.0	20.5	0.3	7.20	390	
			4.5	19.0	0.3	7.20	385	
HILLSBORO RESERVOIR	L-1	05/17/89	0.3	16.0	10.6	7.87		0.91
			0.6	15.0	11.0	8.46		
			1.2	15.0	11.0	8.46		
			1.8	14.2	10.6	8.37		
			2.4	14.0	9.8	8.29		
			3.0	12.2	7.6	8.01		
			3.7	12.0	7.0	7.99		
			4.3	11.0	5.0	7.86		
			4.9	9.5	2.4	7.67		
			5.5	7.0	1.0	7.65		
			6.1	7.0	0.5	7.62		
			6.7	7.0	0.4	7.60		
			7.3	7.0	0.2	7.60		
		08/28/89	0.3	26.2	8.8			0.81
			0.6	26.0	9.0			
			1.2	25.5	8.8			
			1.8	25.0	7.4			
			2.4	24.5	4.6			
			3.0	23.5	1.2			
			3.7	22.0	0.4			
			4.3	19.0	0.2			
			4.9	14.5	0.2			
			5.5	12.0	0.0			
			6.1	10.0	0.0			
			6.7	9.5	0.0			

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
HINCKLEY LAKE	L-1	04/20/89	0.5	10.0	10.6	7.70	270	0.51
			1.0	10.0	10.6		270	
			1.5	10.0	10.5		265	
			2.0	10.0	10.4		260	
			2.5	10.0	10.4		260	
			3.0	10.0	10.3		260	
			3.5	9.0	8.9		260	
			4.0	8.5	8.4		260	
			4.5	8.5	8.0		270	
			5.0	8.0	7.8	7.70	270	
		07/12/89	0.1	27.0	7.5		400	
			0.5	27.0	7.5		400	0.72
			1.0	26.5	7.0	8.24	400	
			1.5	26.5	7.0		377	
			2.0	25.0	7.0		354	
			2.5	24.0	6.1		320	
			3.0	21.0	5.7		251	
			3.5	20.0	4.8		251	
			4.0	18.0	4.8		240	
			4.5	17.0	4.7	7.56	240	
			5.0	17.0	4.5		240	
HOOVER RESERVOIR	L-1	05/04/89	0.5	15.1	10.7	8.87	272	0.50
			1.0	15.0	10.7	8.86	273	
			2.0	15.0	10.5	8.84	274	
			3.0	15.0	10.4	8.82	275	
			4.0	14.1	9.3	8.33	270	
			5.0	13.8	9.2	8.24	267	
			6.0	13.5	9.2	8.18	263	
			7.0	13.0	9.1	8.10	261	
			8.0	12.6	9.0	8.06	262	
			9.0	11.3	9.2	8.04	265	
			10.0	11.2	9.4	8.06	265	
			11.0	11.0	9.2	8.05	263	
			12.0	11.0	9.5	8.08	263	
			13.0	10.8	9.7	8.12	263	
			14.0	10.8	9.7	8.12	262	
			15.0	10.7	9.6	8.10	262	
		08/25/89	0.5	22.0	7.6	8.20	303	1.30
			1.0	21.9	7.9	8.30	300	
			2.0	21.9	7.4	8.20	300	
			3.0	21.9	7.3	8.20	300	
			4.0	21.8	7.3	8.10	300	
			5.0	21.8	6.9	8.10	300	
			6.0	21.8	6.9	8.10	300	
			7.0	21.7	6.2	8.00	300	
			8.0	21.4	3.7	7.70	302	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
HOOVER RESERVOIR	L-1	08/25/89	9.0	21.0	1.1	7.50	302	
			10.0	19.0	0.7	7.40	300	
			11.0	18.0	0.7	7.40	290	
			12.0	16.3	0.7	7.40	288	
			13.0	15.3	0.7	7.40	288	
			14.0	15.0	0.6	7.40	290	
			15.0	13.5	0.6	7.40	292	
	L-2	05/04/89	0.5	15.1	11.3	8.47	272	0.30
			1.0	14.7	11.4	8.54	270	
			2.0	14.1	10.1	8.32	266	
			3.0	13.9	9.5	8.21	265	
			4.0	13.7	9.2	8.12	266	
			5.0	13.6	7.7	7.90	265	
			6.0	12.3	7.4	7.86	265	
			7.0	11.9	6.7	7.81	263	
			8.0	11.6	6.7	7.76	260	
			9.0	11.3	6.7	7.75	259	
		08/25/89	0.5	22.7	9.3	8.70	300	0.65
			1.0	22.2	8.1	8.60	308	
			2.0	22.0	7.2	8.30	310	
			3.0	21.8	6.8	8.20	310	
			4.0	21.7	5.8	8.00	310	
			5.0	21.7	5.0	8.00	310	
			6.0	21.3	0.6	7.60	316	
			7.0	21.0	0.6	7.50	316	
			8.0	21.0	0.6	7.50	318	
			9.0	20.8	0.6	7.50	318	
			10.0	19.8	0.6	7.40	320	
J. GRIGGS RESERVOIR	L-1	04/26/90	0.5	19.8	8.8	8.10	590	0.40
			1.0	18.9	8.8	8.10	580	
			2.0	14.8	7.8	7.90	510	
			3.0	13.8	7.7	7.90	510	
			4.0	13.2	7.6	7.90	510	
			5.0	12.9	7.6	7.90	520	
			6.0	12.0	7.1	7.70	500	
			7.0	10.7	4.5	7.50	430	
		08/24/90	0.5	24.2	5.6	7.89	550	0.55
			1.0	24.2	5.5	7.89	550	
			2.0	24.2	5.3	7.87	540	
			3.0	24.1	5.1	7.85	540	
			4.0	23.7	2.5	7.59	560	
			5.0	23.1	0.5	7.51	580	
			6.0	21.8	0.4	7.47	590	
			7.0	20.6	0.4	7.36	600	
JEFFERSON LAKE	L-1	05/16/90	0.5	19.0	12.0	8.57	370	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
JEFFERSON LAKE	L-1	05/16/90	1.0	17.8	12.1	8.55	360	
			2.0	14.1	13.7	8.50	355	
			3.0	12.3	11.6	8.50	342	
			4.0	10.1	8.8	8.47	300	
		09/12/90	0.5	20.5	7.7	7.60	415	1.50
			1.0	19.5	6.5	7.32	400	
			2.0	18.3	5.2	7.20	390	
			3.0	17.2	4.0	7.20	400	
JISCO LAKE	L-1	04/26/90	0.5	21.5	10.4	7.54	137	3.25
			1.0	21.0	10.4	7.45	134	
			2.0	15.5	12.3	7.40	116	
			3.0	13.2	13.3	8.77	110	
			4.0	12.0	14.0	8.64	107	
			5.0	10.5	14.0	8.40	101	
			6.0	9.3	13.0	7.76	98	
			7.0	8.2	10.0	7.71	90	
			8.0	7.5	8.2	7.72	89	
			9.0	7.0	7.3	7.74	85	
			10.0	6.7	6.4	7.83	85	
			11.0	6.5	6.4	7.80	81	
			12.0	6.4	6.0	7.90	80	
		08/23/90	0.5	25.8	7.9	8.51	133	3.25
			1.0	25.7	7.9	8.27	133	
			2.0	25.6	7.9	8.04	132	
			3.0	25.2	7.8	7.75	132	
			4.0	23.4	7.4	7.61	129	
			5.0	18.2	9.0	7.62	122	
			6.0	13.4	4.8	7.46	112	
			7.0	10.1	0.1	7.40	102	
			8.0	8.9	0.1	7.22	105	
			9.0	8.4	0.0	7.25	109	
			10.0	8.0	0.1	7.17	110	
			11.0	7.8	0.1	7.41	100	
			12.0	7.6	0.1	6.43	90	
KILLDEER RESERVOIR	L-1	05/14/90	0.5	14.0	9.7	8.10	350	1.50
			1.0	14.0	9.9	8.30	350	
			2.0	14.0	9.9	8.50	350	
			3.0	14.0	10.0	8.50	350	
			4.0	14.0	10.0	8.40	350	
			5.0	14.0	10.0	8.40	350	
			6.0	14.0	10.0	8.20	350	
			7.0	14.0	10.0	8.40	350	
			8.0	14.0	10.0	8.30	350	
			9.0	14.0	9.9	8.30	345	
			10.0	13.5	9.7	8.20	345	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
KILLDEER RESERVOIR	L-1	05/14/90	11.0	13.5	9.6	8.20	345	
		09/13/90	0.5	24.5	8.5	8.50	420	3.00
			1.0	24.5	8.0	8.50	425	
			2.0	24.5	8.0	8.50	425	
			3.0	24.5	7.9	8.50	425	
			4.0	24.5	7.9	8.50	425	
			5.0	24.5	7.9	8.50	425	
			6.0	24.5	8.0	8.50	425	
			7.0	24.5	7.9	8.50	425	
			8.0	24.5	7.9	8.50	425	
			9.0	21.5	0.3	7.40	440	
			10.0	19.0	0.2	7.30	420	
			11.0	17.5	0.2	7.20	410	
KISER LAKE	L-1	04/20/89	0.3	12.0	11.5			0.31
			0.6	11.5	12.0			
			1.2	11.0	12.0			
			1.8	11.0	12.0			
			2.4	11.0	11.7			
			3.0	10.5	11.0			
		08/17/89	0.3	25.5	9.6			0.[illegible]
			0.6	25.5	10.2			
			1.2	24.2	7.4			
			1.8	23.5	5.4			
			2.4	23.5	3.8			
			3.0	23.0	2.5			
KNOX LAKE	L-1	05/11/89	0.5	12.9	9.6	9.05	208	0.62
			1.0	12.9	9.6	9.06	208	
			2.0	12.8	9.5	9.03	208	
			3.0	12.6	9.3	8.97	208	
			4.0	12.6	9.3	8.95	208	
			5.0	12.5	9.2	8.95	207	
			6.0	12.5	9.2	8.93	206	
			7.0	11.2	6.9	7.74	205	
			7.5	9.2	6.1	7.49	200	
		08/21/89	0.5	24.7	6.4	8.20	254	0.60
			1.0	23.7	6.2	8.10	250	
			2.0	23.4	4.9	7.90	250	
			3.0	23.3	3.6	7.70	255	
			4.0	22.0	3.2	7.50	265	
			5.0	17.0	3.3	7.30	260	
			6.0	15.0	3.3	7.20	260	
			7.0	13.5	3.3	7.20	272	
			8.0	13.0	3.3	7.00	282	
			9.0	12.9	3.3	7.10	280	
	L-2	05/11/89	0.5	10.0	11.7	9.24	200	[illegible]

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
KNOX LAKE	L-2	05/11/89	1.0	10.1	11.7	9.24	200	
			2.0	10.1	11.6	9.25	198	
			3.0	10.1	11.7	9.25	198	
		08/21/89	0.5	24.5	8.8	8.70	265	0.37
			1.0	23.8	7.9	8.50	263	
			2.0	23.3	5.8	8.10	262	
			2.5	23.2	6.0	8.10	260	
LAKE AQUILLA	L-1	04/27/89	0.5	13.2	9.6		139	2.81
			1.0	13.1	9.7	7.40	131	
			1.5	13.0	9.7		131	
			2.0	13.0	9.0		131	
			2.5	12.9	8.6		132	
			3.0	11.1	8.8		129	
			3.5	10.0	8.1		126	
			4.0	9.4	7.9		125	
			4.5	9.2	7.8	7.70	122	
		08/23/89	0.1	23.0	9.7		209	
			0.5	23.0	9.5		209	2.08
			1.0	23.0	9.4	8.40	209	
			1.5	22.2	6.4		209	
			2.0	21.2	2.4		209	
			2.5	20.2	0.5		209	
			3.0	18.8	0.7		203	
			3.5	17.2	0.2		200	
			4.0	14.2	0.2	7.70	263	
			4.5	13.2	0.2		306	
LAKE HOPE	L-1	04/25/90	0.5	18.8	9.7	6.20	100	1.80
			1.0	18.6	9.7	6.10	100	
			2.0	15.4	11.2	5.80	100	
			3.0	13.3	11.1	6.00	95	
			4.0	11.7	10.6	5.80	90	
			5.0	11.2	9.9	5.60	88	
			6.0	10.4	5.5	5.00	85	
		08/22/90	0.5	26.2	7.9	7.16	99	2.60
			1.0	26.2	7.9	7.15	98	
			2.0	26.1	7.8	7.10	97	
			3.0	22.9	2.1	6.12	90	
			4.0	17.9	0.1	6.02	60	
			5.0	13.3	0.1	6.65	70	
LAKE LA SU AN	L-1	04/25/90	0.5	18.5	13.2	9.25	195	
			1.0	15.0	16.5	9.30	175	
			2.0	12.5	16.1	9.25	165	
			3.0	10.5	14.6	9.10	160	
			4.0	9.5	13.2	8.95	160	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
LAKE LA SU AN	L-1	04/25/90	5.0	8.5	12.1	8.80	160	
			6.0	7.5	10.9	8.60	155	
			7.0	6.5	9.8	8.45	150	
			8.0	6.0	8.1	8.20	150	
			9.0	5.5	6.2	8.00	150	
			10.0	5.0	2.4	7.80	155	
			11.0	4.5	0.6	7.65	150	
			12.0	4.5	0.3	7.45	160	
			13.0	4.5	0.4	7.30	165	
		09/10/90	0.5	24.5	8.9	9.00	205	1.00
			1.0	24.5	9.1	9.00	205	
			2.0	24.0	7.1	8.80	210	
			3.0	21.5	0.3	7.10	235	
			4.0	16.0	0.2	6.70	265	
			5.0	12.0	0.2	7.10	200	
			6.0	9.5	0.3	7.10	180	
			7.0	7.5	0.3	7.00	175	
			8.0	6.5	0.3	7.00	175	
			9.0	6.0	0.3	6.90	180	
			10.0	5.5	0.3	6.90	185	
			11.0	5.5	0.3	6.80	200	
			12.0	5.5	0.3	6.70	220	
			13.0	5.5	0.3	6.60	235	
LAKE LOGAN (HOCKING LAKE)	L-1	04/24/90	0.5	19.4	12.3	9.00	122	0.75
			1.0	18.0	12.4	8.80	122	
			2.0	16.8	13.4	8.60	112	
			3.0	13.1	11.2	8.70	108	
			3.7	11.6	8.0	8.15	102	
		08/20/90	0.5	26.8	11.2	9.26	150	0.70
			1.0	26.3	10.5	9.15	145	
			2.0	24.8	6.4	7.37	135	
			3.0	24.0	0.3	6.77	130	
	L-2	04/24/90	0.5	18.0	13.4	9.00	128	0.70
			1.0	17.2	13.1	8.95	128	
			2.0	13.3	12.4	7.80	112	
			2.5	12.8	9.4	7.23	115	
		08/20/90	0.5	26.4	10.5	9.15	150	0.55
			1.0	26.3	10.0	9.09	150	
			2.0	26.1	8.8	8.91	140	
LAKE LORAMIE	L-1	04/25/89	0.3	16.0			335	0.38
			0.6	16.0			335	
			1.2	16.0			338	
			1.7	15.0			338	
		08/29/89	0.3	24.5	7.4			0.28
			0.6	24.5	7.3			

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
LAKE LORAMIE	L-1	08/29/89	1.2	24.5	6.7			
			1.5	24.5	6.5			
			1.8	24.5	5.8			
LAKE LaCOMTE (FOSTORIA RES. #5)	L-1	05/15/90	0.5	15.5	9.4	8.30	400	1.50
			1.0	15.0	9.4	8.20	395	
			2.0	15.0	9.4	8.20	400	
			3.0	15.0	9.4	8.10	400	
			4.0	14.5	9.1	8.00	390	
			5.0	14.0	9.0	8.00	390	
			6.0	14.0	8.7	7.80	430	
		08/23/90	0.5	23.5	7.2	8.40	450	0.75
			1.0	23.5	7.3	8.40	455	
			1.5	23.5	7.3	8.40	455	
			2.0	23.5	7.3	8.40	455	
			2.5	23.5	7.3	8.40	455	
			3.0	23.5	7.3	8.40	455	
			3.5	23.5	7.4	8.40	455	
			4.0	23.5	7.4	8.40	455	
			4.5	23.5	7.4	8.40	455	
			5.0	23.5	7.2	8.40	455	
			5.5	22.5	2.7	7.60	470	
LAKE MILTON	L-1	05/04/89	0.5	11.0	10.8	7.83	345	1.27
			2.0	11.0	11.0		345	
			3.0	10.5	10.5		335	
			4.0	10.5	10.5		335	
			5.0	10.5	10.5		335	
			6.0	10.5	10.4		335	
			7.0	10.0	10.2	7.64	335	
			8.0	9.0	8.0		335	
		07/25/89	0.1	27.2	10.0		341	
			0.5	27.0	10.4	8.50	341	1.00
			1.0	26.8	10.2		341	
			1.5	26.8	10.2		341	
			2.0	26.5	9.9		341	
			2.5	26.0	8.5		341	
			3.0	25.2	2.7		330	
			3.5	24.5	0.5		325	
			4.0	23.0	0.2		308	
			4.5	22.0	0.2		313	
			5.0	21.5	0.2		313	
			5.5	20.0	0.2		319	
			6.0	19.5	0.2		319	
			6.5	18.0	0.2		319	
			7.0	17.5	0.2		319	
			7.5	17.0	0.2		319	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
LAKE MILTON	L-1	07/25/89	8.0	16.5	0.2		319	
			8.5	16.0	0.2		319	
			9.0	16.0	0.2	7.20	319	
			9.5	16.0	0.2		319	
			10.0	15.7	0.2		319	
			10.5	15.5	0.2		319	
			11.0	15.5	0.4		319	
	L-2	05/04/89	0.5	12.0	11.0	7.60	385	1.13
			2.0	12.0	10.8		375	
			3.0	11.5	10.7		375	
			4.0	11.0	10.2		370	
			5.0	9.5	7.7	7.31	360	
			6.0	9.0	5.0		350	
		07/25/89	0.1	29.0	12.3		374	
			0.5	29.0	12.2	8.90	374	0.98
			1.0	28.5	12.3		374	
			1.5	28.0	12.0		363	
			2.0	27.5	11.4		360	
			2.5	26.8	6.0		352	
			3.0	24.5	2.6		341	
			3.5	24.0	0.6		335	
			4.0	23.0	0.3		330	
			4.5	22.5	0.3		330	
			5.0	21.8	0.3		330	
			5.5	18.2	2.7		330	
			6.0	16.8	3.6		330	
			6.5	16.0	3.5	7.50	325	
			7.0	15.5	3.2		325	
			7.5	15.2	3.5		325	
LAKE PIPPEN	L-1	05/18/89	0.5	15.0	9.8	8.30	135	3.71
			2.0	13.4	10.2		130	
			3.0	12.5	10.0		129	
			4.0	12.0	10.0		129	
			5.0	11.8	9.8		126	
			6.0	10.0	10.6		123	
			7.0	8.5	10.8		118	
			8.0	7.5	9.5		115	
			9.0	7.0	8.0		110	
			10.0	6.5	5.8		110	
			11.0	6.2	5.2	7.70	110	
			12.0	6.5	5.0		110	
			12.5	6.1	4.8		110	
		08/09/89	0.1	23.2	8.0		174	
			0.5	22.2	8.1	8.40	174	3.54
			2.0	23.1	8.1		174	
			3.0	23.0	8.0		174	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
LAKE PIPPEN	L-1	08/09/89	4.0	22.9	7.8		154	
			5.0	17.8	2.3		154	
			6.0	13.8	2.3		156	
			7.0	10.0	4.3		137	
			8.0	8.5	3.3		137	
			9.0	7.2	2.0		129	
			10.0	6.5	1.1		122	
			11.0	6.0	0.3		122	
			12.0	6.0	0.3	7.60	129	
			12.7	5.5	0.3		129	
METZGER RESERVOIR	L-1	04/24/90	0.5	14.5	10.9	8.60	410	2.00
			1.0	13.0	11.2	8.65	400	
			2.0	10.5	12.0	8.70	380	
			3.0	10.0	11.4	8.70	370	
			4.0	9.5	10.5	8.65	370	
			5.0	9.0	10.2	8.65	365	
			6.0	9.0	10.0	8.65	365	
			7.0	9.0	9.7	8.60	360	
			8.0	8.5	8.7	8.55	360	
			9.0	8.5	8.3	8.50	360	
			10.0	8.5	5.0	8.35	365	
		08/22/90	0.5	24.0	8.2	9.00	390	3.50
			1.0	24.0	8.2	9.00	390	
			2.0	24.0	8.2	9.00	390	
			3.0	24.0	8.2	9.00	395	
			4.0	24.0	8.2	9.00	395	
			5.0	22.5	3.9	7.60	430	
			6.0	22.5	0.6	7.40	440	
			7.0	21.5	0.4	7.40	455	
			8.0	20.5	0.4	7.30	470	
			9.0	19.0	0.3	7.20	475	
MOSQUITO CREEK RESERVOIR	L-1	04/25/89	0.5	12.5	11.9	8.50	180	0.71
			1.0	12.0	11.8		180	
			1.5	12.0	11.8		180	
			2.0	12.0	11.8		180	
			2.5	12.0	11.4		180	
			3.0	12.0	11.4		180	
			3.5	11.5	11.3		180	
			4.0	11.3	10.9		180	
			4.5	11.0	10.8		175	
			5.0	10.5	10.8		175	
			5.5	10.5	10.5		175	
			6.0	10.3	10.2		175	
			6.5	10.0	9.8		175	
			7.0	10.0	9.7		175	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
MOSQUITO CREEK RESERVOIR	L-1	04/25/89	7.5	10.0	9.5	8.00	175	
		07/10/89	0.1	24.0	5.0		240	
			0.5	24.0	4.9		240	0.65
			1.0	24.0	4.9	7.46	240	
			1.5	24.0	4.4		242	
			2.0	24.0	3.8		242	
			2.5	24.0	3.5		240	
			3.0	23.0	2.8		240	
			3.5	22.0	1.3		240	
			4.0	22.0	0.8		234	
			4.5	21.0	0.7		234	
			5.0	21.0	0.7		234	
			5.5	21.0	0.7		234	
			6.0	21.0	0.7	7.40	234	
			6.5	21.0	0.6		234	
			7.0	20.0	0.6		234	
		08/10/89	0.1	21.9	7.8			
			0.5	21.9	8.0			0.67
			1.0	21.7	8.0			
			1.5	21.5	7.8			
			2.0	21.5	7.7			
			2.5	21.5	7.3			
			3.0	21.5	7.2			
			3.5	21.5	7.0			
			4.0	21.5	7.0			
			4.5	21.5	7.0			
			5.0	21.5	7.1			
			5.5	21.5	6.9			
			6.0	21.2	4.9			
			6.5	21.0	4.7			
			7.0	21.0	3.1			
	L-2	04/25/89	0.5	11.0	12.6	7.80	175	
			1.0	11.0	12.6		175	
			1.5	10.5	12.4		170	
			2.0	10.0	11.8		170	
			2.5	10.0	11.4		170	
			3.0	10.0	11.2		170	
			3.5	9.8	10.6		170	
			4.0	9.5	10.0		170	
			4.5	9.5	9.8		170	
			5.0	9.3	9.8		170	
MUNROE BASIN	L-1	05/14/90	0.5	18.1	12.1	8.46	330	0.62
			1.0	15.4	11.0	8.35	302	
			1.5	15.0	9.0	8.28	300	
		09/13/90	0.5	23.6	5.9	7.93	710	0.30
			1.0	23.5	5.3	7.78	710	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
MUNROE BASIN	L-1	09/13/90	1.7	23.4	4.7	7.50	700	
NORTH BRANCH KOKOSING RIVER LAKE	L-1	04/25/90	0.5	19.2	11.4	8.60	308	0.50
			1.0	19.1	11.2	8.60	309	
			1.5	18.5	10.6	8.50	305	
			2.0	13.8	7.9	7.80	265	
			2.5	12.0	7.4	7.70	265	
			3.0	11.3	7.2	7.70	270	
			3.5	11.2	6.6	7.70	272	
		08/22/90	0.5	22.9	5.6	7.93	390	0.50
			1.0	23.0	5.0	7.95	390	
			1.5	23.0	4.6	7.92	390	
			2.0	23.0	3.8	7.81	391	
			2.5	22.8	3.1	7.66	375	
			3.0	21.5	0.5	7.40	385	
			3.5	20.7	0.3	7.32	382	
OBERLIN RESERVOIR	L-1	05/30/89	0.5	19.0	12.0		407	2.74
			1.0	19.0	11.9	8.71	407	
			1.5	19.0	11.9		410	
			2.0	19.0	12.0		418	
			2.5	19.0	12.0		415	
			3.0	19.0	12.0		415	
			3.5	19.0	12.0		418	
			4.0	19.0	11.8		418	
			4.5	13.5	2.0		423	
			5.0	13.0	1.4		423	
			5.5	12.0	0.4		415	
			6.0	11.0	0.4		415	
			6.5	11.0	0.4	7.72	415	
			7.0	10.5	0.4		415	
		09/06/89	0.1	22.9	8.6		448	
			0.5	22.9	8.7		440	1.16
			1.0	22.9	8.5	8.14	440	
			1.5	22.8	8.2		436	
			2.0	22.8	8.1		436	
			2.5	22.8	7.7		435	
			3.0	22.7	7.2		435	
			3.5	22.6	7.1		435	
			4.0	22.5	5.8		434	
			4.5	22.2	4.4		434	
			5.0	21.8	1.2	7.72	432	
			5.5	18.1	0.3		424	
			6.0	16.8	0.2		417	
PUNDERSON LAKE	L-1	04/19/89	0.5	8.5	10.5	7.80	250	2.13
			2.0	8.5	10.5		250	

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
PUNDERSON LAKE	L-1	04/19/89	3.0	8.2	10.5		250	
			4.0	8.2	10.5		250	
			5.0	8.0	10.0		250	
			6.0	7.2	9.2		245	
			7.0	7.0	9.5		240	
			8.0	7.0	9.4		240	
			9.0	6.2	9.0		238	
			10.0	6.2	8.7		235	
			11.0	6.0	8.0		235	
			12.0	6.0	8.0		232	
			13.0	5.8	7.9		232	
			14.0	5.0	6.9		230	
			15.0	5.0	5.6		230	
			15.5	4.8	5.0	7.60	228	
		08/29/89	0.1	24.0	9.5		335	
			0.5	24.0	9.4	8.70	341	1.43
			2.0	23.1	9.0		341	
			3.0	21.9	7.3		335	
			4.0	17.0	1.7		341	
			5.0	12.1	2.1		308	
			6.0	9.0	0.3		286	
			7.0	7.5	0.2		273	
			8.0	6.8	0.2		264	
			9.0	6.0	0.2		261	
			10.0	5.2	0.2		253	
			11.0	5.0	0.3		253	
			12.0	4.8	0.3	7.50	253	
			12.7	4.8	0.3		319	
ROCKY FORK LAKE	L-1	05/01/89	0.3	16.0	12.3		290	0.41
			0.6	16.0	12.4		290	
			1.2	15.5	11.4		285	
			1.8	15.5	11.0		285	
			2.4	14.9	8.6		265	
			3.0	14.2	8.6		265	
			3.7	13.5	6.7		260	
			4.3	13.2	6.3		262	
			4.9	13.0	6.2		262	
			5.5	12.9	6.1		260	
			6.1	12.9	6.0		255	
			6.7	12.5	5.9		265	
			7.3	12.5	5.7		275	
		08/22/89	0.3	25.0	7.1			0.71
			0.6	25.0	7.2			
			1.2	25.0	7.2			
			1.8	25.0	6.9			
			2.4	25.0	6.5			

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
ROCKY FORK LAKE	L-1	08/22/89	3.0	24.0	6.0			
			3.7	24.0	5.6			
			4.3	24.0	5.2			
			4.9	24.0	5.2			
			5.5	24.0	4.7			
			6.1	24.0	4.1			
			6.7	24.0	3.4			
			7.3	23.0	0.2			
	L-2	05/01/89	0.3	15.5	8.8		250	0.10
			0.6	15.8	8.8		250	
			1.2	15.8	9.0		252	
			1.8	15.8	9.0		255	
			2.4	15.8	8.8		255	
			3.0	15.8	8.6		255	
			3.7	15.8	8.6		252	
			4.3	15.8	8.6		252	
			4.9	15.8	8.5		249	
			5.5	15.5	8.4		247	
		08/22/89	0.3	25.0	6.2			0.51
			0.6	25.0	6.8			
			1.2	25.0	6.6			
			1.8	24.5	5.8			
			2.4	24.0	5.5			
			3.0	24.0	4.8			
			3.7	24.0	4.8			
			4.3	24.0	4.6			
			4.9	24.0	3.5			
			5.5	24.0	2.2			
			6.1	24.0	0.3			
RUSH RUN LAKE	L-1	04/26/89	0.3	18.0	12.5		260	1.37
			0.6	17.5	12.5		275	
			1.2	16.5	14.4		270	
			1.8	15.5	15.2		270	
			2.4	14.8	15.2		270	
			3.0	13.0	13.7		265	
			3.7	11.0	12.0		260	
			4.3	9.0	8.2		250	
			4.9	8.5	6.4		250	
			5.5	8.0	4.8		250	
			6.1	7.0	3.2		250	
			6.7	6.5	2.0		255	
			7.3	6.5	1.6		255	
		08/21/89	0.3	23.5	6.0			1.02
			0.6	23.5	6.0			
			1.2	23.5	5.8			
			1.8	23.2	5.8			

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
RUSH RUN LAKE	L-1	08/21/89	2.4	23.2	5.7			
			3.0	23.0	5.2			
			3.7	23.0	4.2			
			4.3	19.5	0.0			
			4.9	14.5	0.0			
			5.5	11.5	0.0			
			6.1	10.0	0.0			
			6.7	9.0	0.0			
			7.0	9.0	0.0			
SHREVE LAKE	L-1	05/11/89	0.5	12.0	10.2		180	0.84
			1.0	11.0	10.4	8.68	178	
			1.5	11.0	10.4		178	
			2.0	11.5	10.5		178	
			2.5	11.5	10.4		178	
			3.0	11.5	10.2		178	
			3.5	11.5	10.4		178	
			4.0	11.5	10.2		179	
			4.5	11.5	10.3	8.69	179	
			5.0	11.0	5.5		178	
			5.5	11.0	0.0		178	
		08/28/89	0.1	24.7	10.1		285	
			0.5	24.2	10.1		283	1.08
			1.0	24.0	10.1	8.40	283	
			1.5	24.0	9.6		284	
			2.0	23.4	7.6		285	
			2.5	22.8	1.3		281	
			3.0	21.9	0.3		284	
			3.5	19.2	0.3		298	
			4.0	18.1	0.3	7.50	308	
			4.5	16.5	0.3		313	
			4.8	15.9	0.2		319	
SPRING VALLEY LAKE	L-1	05/08/89	0.3	16.0	11.0		300	1.22
			0.6	15.0	14.0		300	
			1.2	14.0	9.6		290	
		08/14/89	0.3	25.0	3.5	7.49		1.37
			0.6	25.0	3.3	7.45		
			0.9	24.0	2.5	7.88		
STONELICK RESERVOIR	L-3	05/10/89	0.3	12.0	7.2		160	0.15
			0.6	12.0	7.2		160	
			1.2	12.0	7.2		160	
			1.8	11.5	7.8		140	
			2.4	11.0	8.0		130	
		08/30/89	0.3	26.2	7.6			0.36
			0.6	26.0	7.0			

Appendix Table I-1. Results of chemical/physical sampling (field parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Temp (C)	DO (mg/l)	pH (SU)	Conductivity (umhos/cm)	Secchi Depth (m)
STONELICK RESERVOIR	L-3	08/30/89	1.2	25.5	6.2			
			1.8	25.0	1.0			
			2.4	23.5	0.4			
SWIFT RUN LAKE	L-1	04/25/89	0.3	14.0	14.5		360	0.56
			0.6	13.5	14.2		360	
			1.2	13.2	13.8		360	
			1.8	12.5	12.6		350	
			2.4	11.0	9.0		335	
			3.0	9.5	4.8		330	
		08/17/89	0.3	24.7	4.2	7.97		0.41
			0.6	24.7	4.8			
			1.2	24.7	3.7			
			1.8	24.7	2.9			
			2.4	24.5	2.5			
			2.7	24.5	1.4			
TYCOON LAKE	L-1	04/26/90	0.5	20.0	10.2	7.89	90	1.33
			1.0	19.4	10.8	7.88	90	
			2.0	16.5	11.4	7.81	81	
			3.0	14.5	10.3	7.73	75	
			4.0	13.1	6.5	7.80	75	
			4.4	12.9	5.5	8.08	72	
		08/24/90	0.5	26.1	6.0	8.41	105	1.70
			1.0	26.1	6.0	8.29	110	
			2.0	26.1	6.0	8.17	110	
			3.0	26.1	6.1	8.08	110	
			4.0	25.2	0.0	6.81	110	
VETO LAKE	L-1	05/15/90	0.5	18.1	11.5	7.71	180	0.70
			1.0	17.8	11.2	7.85	170	
			2.0	16.2	7.3	7.90	170	
			2.7	16.2	6.4	7.86	170	
		09/10/90	0.5	25.0	6.9	7.55	180	0.60
			1.0	24.5	4.6	7.28	180	
			2.0	24.0	2.2	7.18	180	
			3.0	21.0	0.1	7.02	165	
			3.9	19.8	0.2	6.93	170	
WABASH CONS. DIST. RESV. #1	L-1	04/25/89	0.3	22.0			380	0.15
			1.4				360	
		08/29/89	0.3	25.0	8.6			0.20
			0.6	24.9	8.3			
			1.2	24.0	5.6			
			1.8	23.2	1.4			

Appendix Table I-2. Results of chemical/physical sampling (nutrients and other parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Fecal Coliform (#/100 ml)	Total P (mg/l)	Diss. P (mg/l)	TKN (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD5 (mg/l)	COD (mg/l)	Alkalinity (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Hardness (mg/l)	TSS (mg/l)	TDS (mg/l)	Lab Cond (umhos/cm)	Lab pH (SU)
ACTON LAKE	L-1	04/26/89	0.3		<0.050	<0.050	1.0	<0.05	0.06	9.20	5.4		146	42	25	247	8		442	8.71
			7.3		0.080	0.060	1.8	0.50	0.09	9.50	1.5		167	42	25	275	10		517	7.85
		08/21/89	0.3		0.070	0.050	0.8	0.25	0.11	2.52	2.4	21	133	28	18		8		314	8.20
			7.3		0.120	0.015	3.8	3.60	0.03	<0.10	7.8	25	234	17	14		42		410	7.41
ALUM CREEK LAKE	L-1	05/03/89	0.5	<10	0.016	0.014	0.5	<0.05	0.02	2.52	1.8	<20	91	71	26	178	5			
			15.0		0.031	0.008	0.6	0.05	0.02	2.39	1.3	<20	94	75	27	189	<5			
		08/23/89	0.5	70	0.011	<0.005	0.4	<0.05	0.04	<0.10	1.0	<20	97	63	22	166	<5			
			15.0		0.016	<0.005	1.0	0.54	0.05	0.81	2.4	<20	117	68	26	180	9			
	L-2	05/03/89	0.5	<10	0.060	0.009	0.6	<0.05	0.02	2.77	2.3	<20	94	68	25	177	5			
			12.0		0.023	0.009	0.6	<0.05	0.02	2.47	1.0	<20	93	73	26	186	6			
		08/23/89	0.5		0.009	<0.005	0.4	<0.05	0.05	0.75	1.1	<20	96	63	22	161	<5			
			13.5		0.210	0.025	1.2	0.67	0.06	1.62	4.0	92	115	67	25	191	184			
BEAVER CREEK RESERVOIR	L-1	05/15/90	0.5	< 1	0.013		0.5	<0.05	0.02	2.86	1.2	<20	88	47	20	158	<5		352	
			10.0		0.016		0.7	0.16	0.03	2.04	1.2	<20	96	48	20	166	<5		352	
		08/23/90	0.5	< 1	0.130		0.4	<0.05	0.04	1.80	1.1	24	52	42	19	121	<5		301	
			9.5		0.023		1.0	0.54	0.10	0.90	2.2	27	116	39	20	178	<5		412	
BERLIN RESERVOIR	L-1	04/13/89	0.5		<0.050	<0.050	0.6	<0.05	0.02	2.54	1.0	<20	75	99	48	216	8		527	
			12.0		0.060	0.050	0.7	<0.05	0.03	2.56	1.4	20	79	103	48	204	11		528	
		08/02/89	0.5		0.024	0.005	0.8	0.09	0.05	0.63	2.0	24	77	63	21	143	6	239	326	
			12.0		0.050		1.2	0.51	<0.02	0.38	1.7	29	71	67	23	150	7	250	336	
		08/10/89	0.5		0.015												<5			
	L-2	04/13/89	0.5		0.090	0.060		0.10				21				166				
		08/02/89	0.5		0.033	0.007	0.9	0.07		0.42		26				153				
BRESLER RESERVOIR	L-1	04/23/90	0.5	< 2	0.028		0.5	<0.05	0.04	2.67	<1.0	<20	150	83	44	254	<5		574	
			12.0		0.043		0.5	<0.05	0.04	2.59	1.0	<20	151	83	44	254	<5		568	
		08/20/90	0.5	2	0.060		0.5	<0.05	0.08	1.17	2.3	<20	121	76	36	210	<5		491	8.69
			10.0		0.440		1.7	1.42	<0.02	<0.10	3.2	<20	206	66	39	276	8		610	7.49
BUCKEYE LAKE	L-1	05/08/89	0.3	<10	0.060	0.006	1.5	<0.05	0.04	0.57	7.7	30	89	44	24	144	22			
			3.0		0.070	0.009	1.3	<0.05	0.05	0.59	7.4	36	83	41	24	148	38			
		08/24/89	0.5	50	0.140	0.060	2.5	0.19	<0.02	<0.10	4.6	45	82	43	22	112	28			
			4.5				3.1	0.34	<0.02	<0.10	5.6	56	81	37	23	114	42			
CHARLES HILL LAKE	L-1	05/21/90	0.5	34	0.060		0.9	0.11	0.11	6.40	2.8	30	106	50	25	195	23		430	
			2.3		0.085		1.0	0.12	0.12	6.62	3.1	30	108	42	25	195	32		433	

Appendix Table I-2. Results of chemical/physical sampling (nutrients and other parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Fecal Coliform (#/100 ml)	Total P (mg/l)	Diss. P (mg/l)	TKN (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD5 (mg/l)	COD (mg/l)	Alkalinity (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Hardness (mg/l)	TSS (mg/l)	TDS (mg/l)	Lab Cond (umhos/cm)	Lab pH (SU)
CHARLES MILL LAKE	L-1	09/11/90	0.5	3	0.080		0.5	<0.05	<0.02	<0.10	4.0	<20	147	46	18	187	11		382	8.07
			1.7		0.080		0.4	<0.05	0.03	0.11	3.1	<20	156	70	23	235	36		456	8.18
	L-2	05/21/90	0.5	300	0.060		1.0	0.06	0.11	5.11	4.1	31	113	52	26	213	49		446	
			2.0		0.060		0.9	0.07	0.10	5.24	3.6	36	117	46	26	207	41		450	
		09/11/90	0.5	590	0.080		0.5	<0.05	0.02	<0.10	3.1	<20	165	68	23	223	34		453	8.24
			1.5		0.080		0.5	<0.05	<0.02	<0.10	3.2	<20	141	54	19	232	12		382	8.16
DALE WALBURN RESERVOIR	L-1	05/03/89	0.5		0.050	0.018	0.7	<0.05	0.03	0.87	3.4	22	69	46	31	127	6	236	336	
			5.0		0.060	0.012	0.9	0.25	0.03	0.82	2.4	22	80	48	32	129	12	234	345	
DEER CREEK LAKE	L-1	04/27/90	0.5	<10	0.022		0.3	<0.05	0.04	4.00	2.9	<20	182	53	24	271	<5		504	
			10.5		0.052		0.4	<0.05	0.04	4.25	3.5	<20	208	50	23	306	16		541	
		08/20/90	0.5	<10	0.050		0.6	<0.05	0.07	3.17	3.2	<20	162	34	13	200	7		261	
			14.0		0.170		1.8	1.65	0.07	0.24	5.1	<20	201	32	13	258	126		297	
	L-2	04/27/90	0.5	<10	0.058		0.6	<0.05	0.04	3.96	5.3	<20	156	52	22	247	<5		480	
			4.5		0.054		0.4	<0.05	0.05	4.03	3.3	<20	205	52	24	306	27		552	
		08/20/90	0.5	<10	0.029		0.5	<0.05	0.10	2.91	2.5	<20	149	33	13	194	7		254	
			4.5		0.060		0.6	<0.05	0.14	2.32	1.3	<20	171	36	14	223	54		281	
DEFIANCE POWER DAM RESERVOIR	L-1	04/26/90	0.5	10	0.060		0.5	0.18	0.07	7.81	2.7	<20	159	104	40	316	28		646	
			5.0		0.070		0.5	<0.05	0.07	8.00	2.4	25	160	104	39	316	15		653	
		09/12/90	0.5	170	1.340		0.5	0.12	0.05	1.99		<20	102	64	26	174	9		890	7.70
			5.0		0.950		0.5	0.14	0.04	1.94		<20	106	72	27	174	42		395	7.71
	L-2	04/26/90	0.5	26	0.070		0.7	<0.05	0.07	8.33	2.0	22	149	160	37	303	31		634	
			3.0		0.090		0.6	<0.05	0.07	7.95	1.6	23	158	102	38	311	41		641	
		09/12/90	0.5	280	0.990		0.5	0.13	0.05	2.57		<20	119	71	26	188	26		410	7.69
			3.0		0.230		0.7	0.14	0.05	2.52		<20	113	69	26	188	37		406	7.58
DELAWARE LAKE	L-1	04/26/90	0.5	10	0.080		0.6	<0.05	0.05	6.28	2.7	<20	128	68	26	225	10			
			9.0		0.180		1.0	0.24	0.08	6.43	2.0	103	114	63	25	222	73			
		08/22/90	0.5	<10	0.040		0.6	0.06	0.17	2.51	1.9	<20	132	50	21	201	34		431	
			9.0		0.035		0.6	<0.05	0.11	2.63	3.7	20	137	49	20	196	6		407	
DILLON RESERVOIR	L-1	05/14/90	0.5		0.080		0.7	0.29	0.08	3.48	1.8	<20	129	39	25	182	8		420	
			8.0		0.110		0.7	0.34	0.10	3.61	2.3	31	137	41	27	196	43		432	
		09/11/90	0.5		0.060		0.3	<0.05	0.06	0.60	5.8	<20	177	73	62	75	5		600	
			6.0		0.100		0.2	<0.05	0.08	1.10	1.9	<20	208	70	70	249	48		663	
	L-2	05/14/90	0.5		0.140		0.8	0.21	0.09	3.89	2.9	46	118	33	20	168	58		369	

Appendix Table I-2. Results of chemical/physical sampling (nutrients and other parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Fecal Coliform (#/100 ml)	Total P (mg/l)	Diss. P (mg/l)	TKN (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD5 (mg/l)	COD (mg/l)	Alkalinity (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Hardness (mg/l)	TSS (mg/l)	TDS (mg/l)	Lab Cond (umhos/cm)	Lab pH (SU)
DILLON RESERVOIR	L-2	05/14/90	1.5		0.140		0.7	0.22	0.09	4.04	3.1	39	119	33	20	172	61		370	
		09/11/90	0.5		<0.050	0 .048	0.4	0.11	0.08	0.24	6.3	<20	166	62	57	297	<5		559	
			2.0		0.080		0.6	0.44	0.07	0.12	2.6	<20	176	76	61	252	25		595	
DOW LAKE	L-1	04/27/90	0.5		0.010		<0.2	<0.05	<0.02	<0.10	1.2	<20	68	53	<5	106	<5		233	
			12.0		0.015		0.3	0.15	<0.02	<0.10	1.4	<20	67	52	<5	109	7		241	
		08/22/90	0.5		0.007		<0.2	<0.05	<0.02	<0.10	1.2	<20	60	40	<5	87	<5		198	
			10.0		0.050		1.1	1.27	<0.02	<0.10	3.4	<20	102	32	<5	111	30		271	
EASTWOOD LAKE	L-1	04/24/89	0.3		0.032	<0.005	0.6	<0.05	<0.02	0.11	6.0			77	38	232	10		506	8.60
			7.3		0.051	<0.005	0.7	0.15	<0.02	0.23	6.1			74	38	251	28		521	8.22
		08/14/89	0.3		0.035	0.006	0.6	<0.05	<0.02		3.0			60	38	202	9		446	9.00
			4.6		0.036	<0.005	0.7	<0.05	<0.02	<0.10	2.6			60	38	203	13		457	8.60
FERGUSON RESERVOIR	L-1	04/24/90	0.5	< 1	0.024		0.6	0.05	0.07	6.04	1.3	<20	108	84	40	231	<5		515	
			10.5		0.031		0.7	<0.05	0.06	5.76	1.0	<20	118	82	38	236	<5		519	
		08/22/90	0.5	< 2	0.200		0.3	<0.05	0.03	2.44	1.2	<20	74	75	34	178	<5		420	
			11.0		0.390		3.3	3.44	<0.02	<0.10	21.6	32	186	55	35	251	<5		550	
FINDLEY LAKE	L-1	05/08/89	0.5		0.016	0.008	0.5	<0.05	<0.02	0.87	1.2	<20	75	108	22	186	<5	298	422	
			4.0		0.017	0.013	0.5	<0.05	0.02	0.89	1.4	21	76	109	22	183	<5	300	423	
		08/30/89	0.5		0.067	0.019	1.6		<0.02		3.7	54	92	32	10	111	7	190	248	
			5.5		0.630		5.7	5.00	<0.02	<0.10	9.0	47	175	15	11	157	6	222	285	
FRIENDSHIP PARK LAKE	L-1	05/16/90	0.5		<0.005		<0.2	<0.05	<0.02	<0.10	<1.0	<20	242	848	16	927	<5		1670	
			6.5		0.005		<0.2	<0.05	<0.02	<0.10	<1.0	21	247	871	17	952	<5		1700	
		09/12/90	0.5		<0.050	0.012	<0.2	<0.05	<0.02	<0.10		<20	257	1030	15	1020	<5		1630	
			9.0		<0.050		<0.2	<0.05	<0.02	<0.10		<20	223	1010	14	940	<5		1550	
GUILFORD LAKE	L-1	05/17/89	0.5		0.050	0.008	0.9	<0.05	0.03	0.57	3.2	<20	77	45	19	125	8	206	320	
			6.0		0.060	0.007	0.9	<0.05	0.04	0.69	3.5	<20	76	49	19	128	9	208	328	
		08/08/89	0.5		0.060		0.9	<0.05	<0.02	<0.10	3.2	31	109	24	15	105	11	174	251	
			6.5		0.160		3.3	3.13	<0.02	0.16	6.3	32	60	38	15	130	9	188	313	
HARGUS LAKE	L-1	04/24/90	0.5	<10	0.018		0.3	<0.05	0.04	0.83	1.5	<20	146	46	12	190	<5		375	
			14.0		0.060		0.8	0.58	0.08	0.70	4.2	36	145	47	11	208	5		382	
		08/23/90	0.5	<10	0.110		3.1	3.26	<0.02	<0.10	16.2	32	205	14	11	158	6		433	
			13.0		0.009		0.4	<0.05	0.03	0.74	1.3	<20	119	28	8	218	<5		312	

Appendix Table I-2. Results of chemical/physical sampling (nutrients and other parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Fecal Coliform (#/100 ml)	Total P (mg/l)	Diss. P (mg/l)	TKN (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD5 (mg/l)	COD (mg/l)	Alkalinity (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Hardness (mg/l)	TSS (mg/l)	TDS (mg/l)	Lab Cond (umhos/cm)	Lab pH (SU)
HARRISON LAKE	L-1	04/25/90	0.5	7	0.060		0.8	<0.05	0.07	4.78	4.9	36	149	67	25	245	20		482	
			4.0		0.100		1.0	0.28	0.08	5.10	1.1	28	147	62	23	236	10		487	
		09/10/90	0.5	< 2	0.060		1.2	0.05	0.21	2.83	5.2	25	117	35	19	184	8		367	8.69
			3.5		0.080		1.4	0.82	0.16	2.09	4.5	20	128	31		182	20		371	7.70
HILLSBORO RESERVOIR	L-1	05/17/89	0.3		0.010	0.008	0.3	0.07	0.02	0.56	2.0		173	21	13	216	<5		408	8.41
			7.3		0.013	0.007	0.7	0.69	0.02	0.42	<1.0		201	29	17	253	<5		470	7.68
		08/28/89	0.3		0.017	0.007	0.5	<0.05	0.02	<0.10	2.3	20	203	21	16	220	<5		370	8.77
			6.7		0.200	0.001	2.3	2.28	<0.02	<0.10	5.0	22	223	13	16	243	8		474	7.70
HINCKLEY LAKE	L-1	04/20/89	0.5		0.018	0.006	0.4	0.05	0.02	0.39	1.1	<20	100	56	56	158	7		452	
			4.0		0.023	0.005	0.4	<0.05	0.02	0.37	1.0	<20	102	57	58	164	15		469	
		07/12/89	0.5		0.050	0.009	0.5	<0.05	<0.02	0.29	1.6	<20	121	34	32	171	<5	256	404	
			4.5		0.050		1.5	0.67	<0.02	<0.10	3.5	27	114	28	22	129	35	221	307	
HOOVER RESERVOIR	L-1	05/04/89	0.5		0.024	0.011	0.5	<0.05	0.03	2.43	2.1	21	89	48	19	152	6			
			15.0		0.056	0.010	0.6	0.06	0.04	2.79	1.2	20	101	48	22	161	<5			
		08/25/89	0.5		0.017	0.010	0.6	<0.05	0.06	1.06	<1.0	20	90	35	12	138	<5		259	
			15.0		0.048	0.014	0.9	0.54	0.06	0.71	1.7	20	109	40	16	152	20		311	
	L-2	05/04/89	0.5		0.047	0.015	0.6	<0.05	0.04	2.16	3.4	28	104	46	17	149	20			
			9.0		0.060	0.013	0.7	0.16	0.05	2.40	1.2	23	90	49	19	158	27			
		08/25/89	0.5		0.056	0.010	0.6	<0.05	0.06	0.74	3.6	<20		34		140	6			
			10.0		0.150	0.015	1.4	0.96	0.11	0.10	3.2	46	113	34	13		124		298	
J. GRIGGS RESERVOIR	L-1	04/26/90	0.5	30	0.100		0.6	<0.05	0.06	6.86	2.0	20	165	96	29	303	10			
			7.0		0.460		1.1	0.31	0.22	6.95	4.2	216	156	93	26	361	294			
		08/24/90	0.5	30	0.090		0.6	<0.05	0.14	2.75	1.9	<20	158	99	23	273	13			
			7.0		0.170		1.8	1.54	0.11	0.91	3.6	21	246	82	32		97			
JEFFERSON LAKE	L-1	05/16/90	0.5		0.010		<0.2	<0.05	<0.02	0.24	2.4	<20	79	168	9	253	<5		505	
			4.0		0.013		0.3	0.15	<0.02	0.30	1.5	<20	89	182	10	274	5		532	
		09/12/90	0.5		0.360		0.3	0.09	0.04	1.12		<20	77	133	9	212	<5		411	
			3.7		0.060		0.6	0.57	0.03	0.87		<20	97	140	9	238	<5		454	
JISCO LAKE	L-1	04/26/90	0.5		0.006		0.2	<0.05	<0.02	0.26	1.2	<20	25	50	5	68	<5		117	
			12.0		0.010		0.5	0.24	<0.02	0.30	1.1	<20	30	44	6	61	<5		172	
		08/23/90	0.5		0.006		0.2	<0.05	<0.02	<0.10	<1.0	<20	26	36	5	59	8		158	
			12.0		0.070		2.7	2.70	<0.02	<0.10	9.8	29	67	31	7	70	<5		216	

Appendix Table I-2. Results of chemical/physical sampling (nutrients and other parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Fecal Coliform (#/100 ml)	Total P (mg/l)	Diss. P (mg/l)	TKN (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD5 (mg/l)	COD (mg/l)	Alkalinity (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Hardness (mg/l)	TSS (mg/l)	TDS (mg/l)	Lab Cond (umhos/cm)	Lab pH (SU)
KILLDEER RESERVOIR	L-1	05/14/90	0.5	< 2	0.008		0.2	<0.05	<0.02	0.36	<1.0	<20	108	89	18	208	<5		432	
			11.0		0.010		0.2	<0.05	<0.02	0.30	1.1	<20	114	84	18	213	14		433	
		09/13/90	0.5	< 2	<0.050	0.005	0.2	<0.05	<0.02	<0.10		<20	104	100	18	201	<5		396	8.48
			11.0		<0.050	0.019	1.1	1.12	<0.02	<0.10		<20	171	67	18	227	8		434	7.44
KISER LAKE	L-1	04/20/89	0.3		0.036	0.005	0.8	<0.05	0.07	1.38	4.2			36	12	218	7		413	8.75
			3.0		0.041	<0.005	1.1	<0.05	0.07	1.36	4.7			35	12	220		292	410	8.69
		08/17/89	0.3		0.060	0.010	1.2		<0.02		7.0		156	14	11	174	14		324	8.93
			3.0		0.100	0.011	1.0		<0.02		5.9		170	16	12	179	21		338	7.99
KNOX LAKE	L-1	05/11/89	0.5		0.029	0.010	0.5	<0.05	0.04	1.49	4.1	<20	88	27	12	127	6			
			7.5		0.067	0.010	1.7	1.75	0.04	0.83	4.2	<20	93	25	12	123	18			
		08/21/89	0.5		0.090	0.006	0.9	0.05	0.02	<0.10	3.0	20	93	21	10	117	7	177		
			8.0		0.670	0.160	8.6	7.64	0.02	<0.10	14.0	52	167	<10	13	143	72	176		
	L-2	05/11/89	0.5		0.047	0.012	0.4	<0.05	0.03	0.88	6.2	<20	98	31	11	134	23			
			3.0		0.045	0.009	0.6	<0.05	0.03	0.86	6.1	22	93	27	12	134	22			
		08/21/89	0.5		0.120	0.009	1.0	0.07	<0.02	<0.10	6.0	35	110	20	10	123	18	188		
			2.5		0.100	0.002	0.9	<0.05	<0.02	0.10	4.5	31	115	20	10	129	42	182		
LAKE AQUILLA	L-1	04/27/89	0.5		0.016	0.008	0.3	<0.05	<0.02	<0.10	2.0	<20	42	22	17	62	<5	108	171	
			4.0		0.019	0.015	0.3	<0.05	<0.02	<0.10	1.7	<20	43	24	18	66	<5	108	173	
		08/23/89	0.5		0.025	0.011	0.8	<0.05	<0.02	<0.10	1.6		82	17	14	88	<5	152	221	
			4.5		0.180		1.8	0.81	<0.02	<0.10	5.1		90	14	16	93	10	186	235	
LAKE HOPE	L-1	04/25/90	0.5		0.009		<0.2	<0.05	<0.02	0.17	<1.0	<20	<5	57	<5	48	<5		144	
			6.0		0.017		0.4	0.27	<0.02	0.10	<1.0	<20	<5	61	<5	48	6		148	
		08/22/90	0.5		0.012		<0.2	<0.05	<0.02	<0.10	<1.0	<20	11	32	<5	39	<5		115	
			5.0		0.015		0.9	0.68	<0.02	<0.10	2.3	<20	33	23	<5	39	42		44	
LAKE LA SU AN	L-1	04/25/90	0.5	< 2	0.022		0.6	<0.05	<0.02	<0.10	2.3	22	90	28	<5	108	<5		213	
			13.0		0.200		2.5	1.86	<0.02	<0.10	3.5	29	109	24	<5	119	5		259	
		09/10/90	0.5	2	0.070		0.9	<0.05	<0.02	0.10	3.2	26	84	13	<5	103	<5		202	8.88
			12.5		0.840		7.7	7.74	<0.02	<0.10	14.0	37	172	17	<5	162	<5		336	7.03
LAKE LOGAN (HOCKING LAKE)	L-1	04/24/90	0.5		0.029		0.3	<0.05	0.03	0.16	3.0	<20	44	31	9	67	5		170	
			3.7		0.028		0.4	<0.05	0.03	0.20	3.4	<20	44	31	8	65	13		169	
		08/20/90	0.5		0.060		0.6	<0.05	<0.02	<0.10	2.9	22	56	21	6	72	8		164	
			3.0		0.060		0.7	0.06	<0.02	<0.10	2.1	<20	54	19	6	67	10		165	
	L-2	04/24/90	0.5		0.019		0.2	<0.05	0.03	0.12	3.2	<20	43	30	8	65	<5		166	

Appendix Table I-2. Results of chemical/physical sampling (nutrients and other parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Fecal Coliform (#/100 ml)	Total P (mg/l)	Diss. P (mg/l)	TKN (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD5 (mg/l)	COD (mg/l)	Alkalinity (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Hardness (mg/l)	TSS (mg/l)	TDS (mg/l)	Lab Cond (umhos/cm)	Lab pH (SU)
LAKE LOGAN (HOCKING LAKE)	L-2	04/24/90	2.5		0.026		0.3	<0.05	0.02	0.34	2.2	<20	41	32	8	65	5		168	
		08/20/90	0.5		0.034		0.6	<0.05	<0.02	<0.10	3.2	<20	59	21	6	70	10		170	
			2.0		0.039		0.5	<0.05	<0.02	<0.10	2.6	<20	61	21	6	72	20		173	
LAKE LORAMIE	L-1	04/25/89	0.3		0.044	0.013	1.1	<0.05	0.12	5.86	11.0		112	66	27	222	17		443	9.10
			1.7		0.070	0.013	1.3	0.05	0.29	6.27	7.5		116	70	28	222	32		465	8.74
		08/29/89	0.3		0.140	0.050	1.4	0.15	0.05		7.3	42	139	46	25	164	37		320	8.50
			1.8		0.150	0.027	1.4	0.34	0.05		10.0	45	129	45	24	181	130		341	8.03
LAKE LaCONTE (FOSTORIA RES. #5)	L-1	05/15/90	0.5	1	0.018		0.6	<0.05	0.03	4.74	1.0	<20	112	65	30	224	<5		477	
			6.0		0.056		0.7	<0.05	0.06	7.33	<1.0	<20	125	74	30	248	11		526	
		09/23/90	0.5	< 2	0.013		0.4	<0.05	0.03	3.17	<1.0	<20	120	68	27	221	8		501	
			5.0		0.450		0.3	<0.05	0.04	3.01	<1.0	<20	116	69	28	224	38		503	
LAKE MILTON	L-1	05/04/89	0.5		0.027	0.014	0.6	<0.05	0.04	2.27	1.7	<20	80	107	46	197	<5		513	
			7.0		<0.050	0.012	0.7	<0.05	0.03	2.13	1.4	<20	79	105	46	194	<5		511	
		07/25/89	0.5		0.035	0.008	0.8	<0.05	0.07	0.35	3.8	26	73	65	26	150	6	280	371	
			10.5		0.080		0.9	0.33	0.07	0.62	1.4	21	85	83	35	180	8	324	443	
		08/10/89	0.5		0.035												<5			
	L-2	05/04/89	0.5		0.028	0.016	0.7	<0.05	0.04	1.72	2.6	<20	83	104	46	192	<5		514	
			5.0		0.026	0.013	0.7	0.05	0.03	2.16	<1.0	<20	77	106	47	199	<5		511	
		07/25/89	0.5		0.060	0.008	0.8	<0.05	0.06	0.30	3.8	31	78	67	25	150	<5	272	372	
			6.5		0.060		0.9	0.27	0.06	0.57	2.3	20	89	81	34	176	11	322	438	
LAKE PIPPEN	L-1	05/18/89	0.5		0.014	0.007	0.4	<0.05	0.02	<0.10	1.2	<20	69	<10	<5	86	<5	112	174	
			11.5		0.015	0.012	0.5	<0.05	<0.02	<0.10	<1.0	<20	64	12	<5	79	<5	286	172	
		08/09/89	0.5		0.013	0.011	0.5	<0.05	<0.02	<0.10	1.3	21	63	16	<5	76	<5	118	162	
			12.0		0.100		0.5	0.13	0.02	<0.10	<1.0		71	16	<5	34	<5	128	176	
METZGER RESERVOIR	L-1	04/24/90	0.5	9	0.036		0.6	<0.05	0.05	6.38	2.0	<20	108	80	38	232	<5		516	
			10.0		0.053		0.6	<0.05	0.04	6.10	1.4	<20	110	76	38	230	6		512	
		08/22/90	0.5	2	0.080		0.5	<0.05	0.05	3.42	1.2	<20	81	63	32	101	<5		407	
			9.0		0.300		3.5	3.29	<0.02	<0.10	21.0	40	194	54	34	257	5		558	
MOSQUITO CREEK RESERVOIR	L-1	04/25/89	0.5		0.018	0.015	0.5	<0.05	<0.02	0.26	2.9	21	52	35	32	89	7	172	272	
			7.3		<0.050	0.011	0.6	<0.05	<0.02	0.28	2.5		56	36	35	89	10	198	280	
		07/10/89	0.5		0.032	0.006	0.9	0.25	0.02	0.18	1.2	24	55	32	24	85	8	168	220	
			7.0		0.070		1.1	0.58	0.03	<0.10	1.3	27	58	30	24	85	36	160	242	
		08/10/89	0.5		0.037												9			

Appendix Table I-2. Results of chemical/physical sampling (nutrients and other parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Fecal Coliform (#/100 ml)	Total P (mg/l)	Diss. P (mg/l)	TKN (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD5 (mg/l)	COD (mg/l)	Alkalinity (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Hardness (mg/l)	TSS (mg/l)	TDS (mg/l)	Lab Cond (umhos/cm)	Lab pH (SU)
MOSQUITO CREEK RESERVOIR	L-2	04/25/89	0.5		0.019	0.014	0.6	<0.05	<0.02	0.29	3.6	24	55	34	32	87	6	168	268	
MUNROE BASIN	L-1	05/14/90	0.5		0.035		0.3	<0.05	0.03	0.78	4.3	<20	77	172	10	256	5		510	
			1.5		0.036		0.3	<0.05	0.03	0.74	2.5	<20	80	173	10	256	12		513	
		09/13/90	0.5		0.050		0.4	0.09	0.03	0.28		<20	102	149	87	308	18		704	
			1.5		0.060		0.5	0.12	0.02	0.26		<20	110	147	87	312	36		701	
NORTH BRANCH KOKOSING RIVER LAKE	L-1	04/25/90	0.5	30	0.080		0.6	0.17	0.06	2.16	1.5	<20	130	37	15	175	16		365	
			3.5		0.050		0.4	<0.05	0.04	2.30	3.1	<20	127	36	15	168	7		352	
		08/22/90	0.5	50	0.070		0.9	0.42	0.03	0.11	3.6	<20	171	37	16	212	51		412	
			2.5		0.070		0.6	0.08	0.03	0.26	3.7	<20	155	38	17	200	19		397	
OBERLIN RESERVOIR	L-1	05/30/89	0.5		0.018	0.011	0.3	<0.05	0.02	0.58	1.8	29	109	136	43	256	<5	474	541	
			6.5		0.038	0.013	0.7	0.19	0.02	0.50	1.9	26	105	143	43	261	27	482	602	
		09/06/89	0.5		0.070	0.015	1.2	0.07	<0.02	2.98	4.3	28	96	132	44	244	<5	442	569	
			5.0				1.0	0.11	<0.02	0.35	3.4	28	100	141	45	250	12	440	575	
PUNDERSON LAKE	L-1	04/19/89	0.5		0.042	0.016	0.6	<0.05	<0.02	<0.10	1.9	27	98	32	66	139	<5			
			15.0		0.100	0.071	1.0	0.36	<0.02	0.10	1.1	21	100		64	139	<5	282		
		08/29/89	0.5		0.060	0.007	0.7	<0.05	<0.02	0.30	2.3	<20	92	22	57	110	<5	236	394	
			12.0		0.290		2.0	1.62	0.03	1.01	3.4		121	24	65	132	<5	284	464	
ROCKY FORK LAKE	L-1	05/01/89	0.3		0.025	0.018	0.5	<0.05	0.02	0.96	3.2		131	29	11	181	13		353	8.89
			7.3		0.100	0.050	0.6	0.19	0.03	1.09	1.2			27	12	184	26		355	7.98
		08/22/89	0.3		0.038	0.007	0.6	<0.05	<0.02	>5.00	4.0	<20	132	36	14	166	<5		326	8.45
			7.3		0.048	0.008	10.0	0.63	0.02	<0.10	3.5	<20	140	25	12	177	9		342	7.78
	L-2	05/01/89	0.3		0.060	0.009	0.5	<0.05	0.03	0.98	2.6		125	29	10	166	40		320	8.42
			5.5		0.089	0.014	0.4	<0.05	0.04	0.94	2.5		116	24	9	157	78		303	8.27
		08/22/89	0.3		0.050	0.013	0.7	<0.05	0.02	0.10	4.5	<20	144	32	12	162	8		323	8.42
			6.1		0.130	0.008	0.7	0.26	0.02	<0.10	2.7	<20	138	27		163	10		319	7.82
RUSH RUN LAKE	L-1	04/26/89	0.3		0.019	0.005	0.6	<0.05	0.03	0.28	2.7		128	37	11	178	<5		323	8.89
			7.0		0.020	<0.005	0.8	0.38	0.02	0.70	1.9		161	38	13	208	<5		378	7.65
		08/21/89	0.3		0.050	0.006	0.6	0.12	<0.02	<0.10	1.5	<20	139	15	6		<5		254	8.16
			7.0		0.070	0.030	1.8	1.55	<0.02	<0.10	7.2	24	199	18	12	202	5		332	7.61
SHREVE LAKE	L-1	05/11/89	0.5		0.028	0.008	0.4	<0.05	<0.02	<0.10	1.6	<20	95	46	12	149	6	194	269	
			4.5		0.023	0.010	0.3	<0.05	<0.02	<0.10	1.7	<20	98	41	13	152	7	200	286	
		08/28/89	0.5		0.048	0.018	0.9	<0.05	<0.02	<0.10	3.8	30	131	29	14	157	7	212	327	

Appendix Table I-2. Results of chemical/physical sampling (nutrients and other parameters) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Fecal Coliform (#/100 ml)	Total P (mg/l)	Diss. P (mg/l)	TKN (mg/l)	Ammonia (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD5 (mg/l)	COD (mg/l)	Alkalinity (mg/l)	Sulfate (mg/l)	Chloride (mg/l)	Hardness (mg/l)	TSS (mg/l)	TDS (mg/l)	Lab Cond (umhos/cm)	Lab pH (SU)
SHREVE LAKE	L-1	08/28/89	4.0		0.100		1.8	0.89	<0.02	0.16	4.1	25	148	24	17	167	12	222		
SPRING VALLEY LAKE	L-1	05/08/89	0.3		0.029	0.015	0.8	<0.05	<0.02	<0.10	3.2			48	7	208	<5		370	8.58
			0.5		0.035	0.018	0.8	<0.05	<0.02	<0.10	2.6			48	7	206	<5		369	8.63
		08/14/89	0.3		0.026	.0.009	0.9	<0.05	<0.02	0.11	2.3		196	20	10	252	<5		427	7.99
			0.9		0.033	0.012	0.9	<0.05	0.02	<0.10	3.0			20	10	252	6		433	7.82
STONELICK RESERVOIR	L-3	05/10/89	0.3		0.130	0.071	0.6	0.09	0.04	0.22	3.0		76	22	9	103	54		236	7.48
			2.4		0.140	0.060	0.6	0.10	0.09	0.24	4.2		60	17	8	86	125		195	7.52
		08/30/89	0.3		0.150	0.026	0.9	<0.05	<0.02	<0.10	3.8	38	96	19	15	113	14		325	8.09
			2.4		0.190	0.050	1.5		<0.02		3.9	31	104	15	15	115	38		245	7.97
SWIFT RUN LAKE	L-1	04/25/89	0.3		0.050	0.010	0.7	<0.05	0.06	3.72	4.5		159	47	23	239	9		469	8.72
			3.0		0.100	0.008	0.9	0.32	0.12	4.22	2.7		162	45	23	238	33		468	7.76
		08/17/89	0.3		0.070	0.012	0.8		<0.02		4.5		172	25	21	204	9		401	8.23
			2.7		0.100	0.050	0.9		0.02		2.9		173	26	23	209	35		.366	7.89
TYCOON LAKE	L-1	04/26/90	0.5		0.050		0.4	<0.05	<0.02	<0.10	1.4	<20	18	33	<5	40	<5		116	
			4.4		0.036		0.3	<0.05	<0.02	<0.10	1.4	<20	19	33	<5	40	<5		119	
		08/24/90	0.5		0.023		0.4	<0.05	<0.02	<0.10	1.1	<20	28	26	<5	40	<5		116	
			4.0		0.060		0.6	0.48	0.02	<0.10	1.8	<20	37	24	<5	45	16		138	
VETO LAKE	L-1	05/15/90	0.5		0.027		0.4	<0.05	<0.02	0.46	2.4	21	70	43	<5	98	<5		241	
			2.7		0.034		0.4	0.06	<0.02	0.29	1.5	<20	70	42	5	98	12		244	
		09/10/90	0.5		0.060		0.3	<0.05	<0.02	<0.10		<20	59	32	6	68	6		176	
			3.5		0.140		1.4	1.12	0.02	<0.10		28	71	20	<5	438	20		183	
WABASH CONS. DIST. RESV. #1	L-1	04/25/89	0.3		0.150	0.090	1.5	<0.05	0.16	10.50	9.9		130	79	27	257	48		507	9.37
			1.4		0.230	0.150	1.6	<0.05	0.14	10.70	3.5		113	69	24	234	52		479	8.33
		08/29/89	0.3		0.090	0.027	1.1	0.16	0.20	1.05	6.0	42	104	46	27	191	38		410	8.56
			1.8		0.140	0.060	1.5	0.68	0.18		4.3	40	110	44	25	190	36		365	7.90

Appendix Table I-3. Results of chemical/physical sampling (heavy metals and other ions) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Calcium (mg/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (mg/l)	Manganese (ug/l)	Nickel (ug/l)	Potassium (mg/l)	Selenium (ug/l)	Sodium (mg/l)	Strontium (ug/l)	Zinc (ug/l)
ACTON LAKE	L-1	04/26/89	0.3	<2		<0.2	58	<30	<2.0	90	<2	25		<40		<2			<10
			7.3	<2		<0.2	69	<30	1.0	400	<2	25		<40		<2			<10
		08/21/89	0.3	2	40	<0.2	37	<30	<2.0	370	<2	21	65	<40	4.2	<2	6		<10
			7.3	13	60	<0.2	61	<30	2.0	3020	2	19	3460	<40	4.7	<2	5		<10
ALUM CREEK LAKE	L-1	05/03/89	0.5	<2	40	<0.2	48	<30	1.5	260	4	14	30	<40	1.7	<2	11		<10
			15.0	<2	45	<0.2	51	<30	1.1	250	4	15	50	<40	3.5	<2	12		<10
		08/23/89	0.5	2	40	0.3	45	<30	4.0	180	11	13	30	<40	3.8	<2	10		100
			15.0	3	55	<0.2	49	<30	3.0	610	4	14	1610	<40	3.6	<2	11		70
	L-2	05/03/89	0.5	<2	40	<0.2	48	<30	1.4	350	4	14	30	<40	3.3	<2	11		<10
			12.0	<2	45	<0.2	50	<30	<0.5	270	7	15	25	<40	3.6	<2	13		<10
		08/23/89	0.5	<2	40	<0.2	45	<30	3.0	60	3	13	25	<40	3.5	<2	10		25
			13.5	10	110	0.3	50	<30	10.0	11000	11	16	2130	<40	4.9	<2	11		60
BEAVER CREEK RESERVOIR	L-1	05/15/90	0.5	<2	30	<0.2	42	<30	<2.0	120	<2	13	15	<40	4.2	<2	6	110	<10
			10.0	<2	35	<0.2	45	<30	<2.0	260	<2	13	125	<40	3.1	<2	6	110	<10
		08/23/90	0.5	<2	20	<0.2	27	<30	<2.0	<50	<2	13	<10	<40	4.0	<2	5	90	<10
			9.5	4		<0.2	48	<30	<2.0	100	<2	14	1230	<40	4.1	<2	5		<10
BERLIN RESERVOIR	L-1	04/13/89	0.5	<2	30	<0.2	58	<30	3.8	340	<2	16	25	<40	4.7	<2	23		<10
			12.0	<2	30	0.7	57	<30	3.8	400	<2	15	25	<40	4.7	<2	24		15
		08/02/89	0.5	<2	25	<0.2	41	<30		308	<2	10	15	<40	5.8	<2	13		<10
			12.0	<2	25	<0.2	42	<30		680	<2	11	800	<40	5.2	<2	14		<10
	L-2	04/13/89	0.5			<0.2	47	<30	3.0		<2	12		<40					<10
		08/02/89	0.5	<2	25	<0.2	43	<30		180	<2	11	35	<40	6.1	<2	13		<10
BRESLER RESERVOIR	L-1	04/23/90	0.5	<2	40	<0.2	59	<30	<2.0	70	<2	26	<10	<40	3.3	<2	20	1730	<10
			12.0	<2	40	<0.2	59	<30	<2.0	160	<2	26	20	<40	3.3	<2	19	1730	<10
		08/20/90	0.5	<2	40	<0.2	43	<30	<2.0	<50	14	25	<10	<40	3.3	<2	16	1620	<10
			10.0	8	40	<0.2	66	<30	<2.0	790	<2	27	1310	<40	3.7	<2	18	1900	<10
BUCKEYE LAKE	L-1	05/08/89	0.3	<2	50	<0.2	38	<30	<0.5	370	<2	12	125	<40	2.8	<2	10		<10
			3.0	<2	55	<0.2	38	<30	0.6	820	<2	13	150	<40	2.9	<2	10		<10
		08/24/89	0.5	9	55	<0.2	25	<30	2.0	310	<2	12	125	<40	4.9	<2	10		15
			4.5	10	60	<0.2	26	<30	4.0	1000	6	12	235	<40	5.1	<2	11		110
CHARLES MILL LAKE	L-1	05/21/90	0.5	<2	55	<0.2	55	<30	2.0	1570	<2	14	60	<40	3.8	<2	11	270	<10
			2.5	<2	50	<0.2	55	<30	2.0	1750	<2	14	70	<40	4.0	<2	11	270	<10
		09/11/90	0.5	3	70	<0.2	52	<30	4.0	1050	<2	14	125	<40	4.7	<2	13	290	<10

Appendix Table I-3. Results of chemical/physical sampling (heavy metals and other ions) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Calcium (mg/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (mg/l)	Manganese (ug/l)	Nickel (ug/l)	Potassium (mg/l)	Selenium (ug/l)	Sodium (mg/l)	Strontium (ug/l)	Zinc (ug/l)
CHARLES MILL LAKE	L-1	09/11/90	1.7	<2	75	<0.2	58	<30	2.0	530	<2	22	100	<40	4.9	<2	12	470	<10
	L-2	05/21/90	0.5	<2	65	<0.2	59	<30	2.0	1560	<2	16	110	<40	3.3	<2	14	300	<10
			2.0	<2	65	<0.2	58	<30	2.0	2500	<2	15	105	<40	4.5	<2	12	280	<10
		09/11/90	0.5	<2	75	<0.2	63	<30	2.0	1840	2	16	165	<40	5.0	<2	16	350	<10
			1.5	<2	80	<0.2	65	<30	<2.0	1800	<2	17	165	<40	4.8	<2	16	360	<10
DALE WALBURN RESERVOIR	L-1	05/03/89	0.5	<2	35	<0.2	36	<30	2.1	290	4	9	345	<40	3.8	<2	16		<10
			5.0	<2	45	0.2	37	<30	2.6	660	4	9	970	<40	3.7	<2	17		<10
DEER CREEK LAKE	L-1	04/27/90	0.5	<2	55	<0.2	54	<30	<10.0	130	<2	33	<10	<40	1.6	<2	11	2380	<10
			10.5	<2	75	<0.2	68	<30	<10.0	1470	<2	33	55	<40	2.0	<2	10	2420	<10
		08/20/90	0.5	<2	60	<0.2	42	<30	<2.0	180	3	23	15	<40	2.7	<2	6	1800	<10
			14.0	6	155	<0.2	59	<30	9.0	16400	7	27	1110	<40	4.9	<2	6	2150	60
	L-2	04/27/90	0.5	<2	50	<0.2	46	<30	<10.0	90	<2	32	<10	<40	1.7	<2	12	2180	<10
			4.5	<2	75	<0.2	68	<30	<10.0	2400	3	33	65	<40	2.1	<2	11	2460	<10
		08/20/90	0.5	<2	60	<0.2	40	<30	<2.0	300	<2	23	25	<40	2.6	<2	6	1870	<10
			4.5	<2	80	<0.2	48	<30	<2.0	1520	<2	25	80	<40	2.9	<2	8	2210	<10
DEFIANCE POWER DAM RESERVOIR	L-1	04/26/90	0.5	<2	50	<0.2	82	<30	2.0	1620	<2	27	35	<40	3.0	<2	19	1490	10
			5.0	<2	50	<0.2	82	<30	2.0	2090	<2	27	40	<40	3.1	<2	18	1520	<10
		09/12/90	0.5	<2	75	<0.2	45	<30	7.0	5840	5	15	85	<40	6.8	<2	20	1000	25
			5.0	<2	65	0.3	45	<30	6.0	6700	4	15	100	<40	6.8	<2	20	1000	35
	L-2	04/26/90	0.5	<2	45	<0.2	80	<30	2.0	2000	<2	25	40	<40	3.1	<2	17	1380	<10
			3.0	<2	60	<0.2	80	<30	3.0	2550	4	27	50	<40	3.1	<2	18	1490	10
		09/12/90	0.5	<2	65	<0.2	49	<30	6.0	4980	3	16	70	<40	6.8	<2	19	1080	15
			3.0	<2	60	<0.2	49	<30	7.0	6010	5	16	85	<40	6.9	<2	19	1070	25
DELAWARE LAKE	L-1	04/26/90	0.5	<2	55	<0.2	62		<10.0	1370	6	17	20	<40	2.9	<2	11	530	<10
			9.0	<2	80	<0.2	61		<10.0	6490	8	17	190	<40	3.7	<2	10	480	10
		08/22/90	0.5	<2	55	<0.2	54	<30	4.0	1380	<2	16	90	<40	3.7	<2	11	580	10
			9.0	<2	45	<0.2	52	<30	<2.0	360	<2	16	20	<40	3.4	<2	10	570	<10
DILLON RESERVOIR	L-1	05/14/90	0.5	<2	45	<0.2	48	<30	<2.0	700	<2	15	50	<40	4.1	<2	12	370	<10
			8.0	<2	65	<0.2	52	<30	3.0	3610	2	16	180	<40	5.1	<2	13	390	10
		09/11/90	0.5	<2	35	<0.2	20	<30	<2.0	430	4	6	470	<40	12.9	<2	33	130	<10
			6.0	3	80	<0.2	60	<30	4.0	590	8	24	60	<40	15.6	<2	36	490	<10
	L-2	05/14/90	0.5	<2	50	<0.2	44	<30	4.0	3960	2	14	75	<40	3.3	<2	10	410	15
			1.5	<2	55	<0.2	44	<30	4.0	4350	4	15	85	<40	3.7	<20	10	410	15

Appendix Table I-3. Results of chemical/physical sampling (heavy metals and other ions) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Calcium (mg/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (mg/l)	Manganese (ug/l)	Nickel (ug/l)	Potassium (mg/l)	Selenium (ug/l)	Sodium (mg/l)	Strontium (ug/l)	Zinc (ug/l)
DILLON RESERVOIR	L-2	09/11/90	0.5	2	100	<0.2	76	<30	<2.0	5000	3	26	160	<40	12.3	<2	30	530	15
			2.0	4	215	<0.2	63	<30	<10.0	3630	7	23	505	<40	13.2	<2	32	490	15
DOW LAKE	L-1	04/27/90	0.5	<2	25	<0.2	31	<30	<2.0	120	<2	7	35	<40	1.3	<2	5	140	<10
			12.0	<2	50	<0.2	32	<30	<2.0	620	<2	7	1380	<40	1.4	<2	5	140	<10
		08/22/90	0.5	<2	30	<0.2	25	<30	<2.0	<50	<2	6	20	<40	1.4	<2	5	110	<10
			10.0	18	70	<0.2	33	<30	<10.0	4400	<2	7	6250	<40	1.7	<2	5	150	<10
EASTWOOD LAKE	L-1	04/24/89	0.3			<0.2	42	<30	0.7		<2	31		<40					<10
			7.3			<0.2	48	<30	0.8		<2	32		<40					<10
		08/14/89	0.3			<0.2	28	<30	<2.0		<2	32		<40					<10
			4.6			<0.2	30	<30	<2.0		<2	31		<40					<10
FERGUSON RESERVOIR	L-1	04/24/90	0.5	<2	25	<0.2	58	<30	<2.0	<50	<2	21	<10	<40	3.2	<2	15	700	<10
			10.5	<2	25	<0.2	60	<30	<2.0	140	<2	21	<10	<40	3.1	<2	15	730	<10
		08/22/90	0.5	<2	20	<0.2	40	<30	<2.0	50	<2	19	<10	<40	3.1	<2	13	660	<10
			11.0	6	20	<0.2	66	<30	<2.0	170	<4	21	960	<40	3.9	<2	14	850	<10
FINDLEY LAKE	L-1	05/08/89	0.5	<2	25	<0.2	48	<30	3.1	110	<2	16	30	<40	3.8	<2	16		<10
			4.0	<2	30	<0.2	47	<30	3.4	130	<2	16	30	<40	3.7	<2	16		<10
		08/30/89	0.5	11	<15	<0.2	28	<30		131	<2	10	58	<40	5.3	<2	8		<10
			5.5	15	28	<0.2	43	<30		1560	<2	12	2770	<40	5.4	<2	9		<10
FRIENDSHIP PARK LAKE	L-1	05/16/90	0.5	<2	25	<0.2	190	<30	<2.0	<50	<2	110	20	<40	5.5	<2	43	3010	<10
			6.5	<2	25	<0.2	200	<30	<2.0	60	<10	110	20	<40	5.4	<2	43	3140	<10
		09/12/90	0.5	<2	30	<0.2	210	<30	<2.0	210	2	120	25	<40	6.6	<2	47	3210	<10
			9.0	<2	40	<0.2	195	<30	<2.0	<50	3	110	<10	<40	6.3	<2	46	2970	<10
GUILFORD LAKE	L-1	05/17/89	0.5	<2	25	<0.2	37	<30	5.2	170	8	8	130	<40	2.4	<2	11		10
			6.0	<2	30	<0.2	38	<30	7.8	190	<2	8	140	<40	2.4	<2	11		10
		08/08/89	0.5	2	25	<0.2	29	<30		150	<2	8	210	<40	3.0	<2	10		<10
			6.5	4	65	<0.2	39	<30		670	<2	8	3680	<40	3.6	<2	9		10
HARGUS LAKE	L-1	04/24/90	0.5	<2	45	<0.2	48	<30	<2.0	300	20	17	65	<40	3.7	<2	6	540	<10
			14.0	10		<0.2	52	<30	5.0	12030	16	19	1080	<40	5.1	<2	6		40
		08/23/90	0.5	3	40	<0.2	40	<30	<2.0	<50	2	14	<10	<40	4.1	<2	5	460	<10
			13.0	16	60	<0.2	56	<30	<10.0	2470	<2	19	3220	<40	4.2	<2	6	660	<10
HARRISON LAKE	L-1	04/25/90	0.5	<2	40	<0.2	67	<30	<10.0	1200	<2	19	40	<40	3.8	<2	10	340	<10

Appendix Table I-3. Results of chemical/physical sampling (heavy metals and other ions) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Calcium (mg/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (mg/l)	Manganese (ug/l)	Nickel (ug/l)	Potassium (mg/l)	Selenium (ug/l)	Sodium (mg/l)	Strontium (ug/l)	Zinc (ug/l)
HARRISON LAKE	L-1	04/25/90	4.0	<2	35	<0.2	65	<30	<10.0	1480	<2	18	40	<40	4.0	<2	9	310	<10
		09/10/90	0.5	<2	30	<0.2	49	<30	2.0	520	5	15	50	<40	6.3	<2	10	400	<10
			3.5	<2	85	<0.2	50	<30	3.0	1100	2	14	340	<40	6.5	<2	10	380	<10
HILLSBORO RESERVOIR	L-1	05/17/89	0.3	2		<0.2	47	<30	48.0	120	4	24		<40		<2			<10
			7.3	<2		<0.2	55	<30	37.0	130	5	28		<40		<2			<10
		08/28/89	0.3	<2	30	<0.2	42	<30	35.0	90	<2	28	15	<40	2.7	<2	8		<10
			6.7	<2	45	<0.2	51	<30	20.0	780	<4	28	1940	<40	3.2	<2	7		<10
HINCKLEY LAKE	L-1	04/20/89	0.5	<2	35	<0.2	47	<30	4.5	750	<2	10	100	<40	2.0	<2	33		15
			4.0	<2	40	<0.2	49	<30	3.1	1550	<2	10	145	<40	2.4	<2	36		<10
		07/12/89	0.5	<2	45	<0.2	52	<30		270	4	10	55	<40	2.9	<2	22		55
			4.5	7	50	<0.2	40	<30		2730	5	7	1420	<40	3.2	<2	17		40
HOOVER RESERVOIR	L-1	05/04/89	0.5	<2	45	<0.2	41	<30	2.2	810	3	12	25	<40	3.4	<2	9		<10
			15.0	<2	45	<0.2	43	<30	2.0	600	<2	13	20	<40	3.6	<2	10		35
		08/25/89	0.5	<2	55	<0.2	37	<30	4.0	170	<2	11	20	<40	4.0	<2	7		140
			15.0	2	60	<0.2	41	<30	4.0	1460	2	12	900	<40	4.0	<2	8		115
	L-2	05/04/89	0.5	<2	50	<0.2	40	<30	2.4	1330	<2	12	40	<40	3.5	<2	8		<10
			9.0	<2	55	<0.2	42	<30	2.8	2010	<2	13	65	<40	3.8	<2	9		<10
		08/25/89	0.5	3	60	<0.2	38	<30	3.0	470	<2	11	50	<40	4.8	<2	7		50
			10.0	9	90	<0.2	41	<30	7.0	6870	<2	12	1230	<40	4.8	<2	7		55
J. GRIGGS RESERVOIR	L-1	04/26/90	0.5	<2	50	<0.2	82		<10.0	1270	4	25	30	<40	3.1	<2	13	1670	<10
			7.0	11	180	0.2	95		25.0	26700	19	30	660	<40	6.4	<2	12	1660	100
		08/24/90	0.5	<2	50	<0.2	73	<30	<10.0	640	2	22	40	<40	4.3	<2	14	1950	15
			7.0	5	105	<0.2	88	<30	4.0	4970	4	25	1430	<40	6.8	<2	19	1810	20
JEFFERSON LAKE	L-1	05/16/90	0.5	<2	30	<0.2	75	<30	<2.0	120	<2	16	340	<40	1.8	<2	7	230	<10
			4.0	<2	40	<0.2	80	<30	<2.0	260	<2	18	1230	<40	2.2	<2	7	240	<10
		09/12/90	0.5	14	45	<0.2	62	<30	<2.0	290	<2	14	375	<40	3.8	<2	8	200	15
			3.7	<2	60	<0.2	69	<30	<2.0	230	<2	16	2730	<40	3.0	<2	9	240	<10
JISCO LAKE	L-1	04/26/90	0.5	<2	15	<0.2	14	<30	<2.0	70	<2	8	40	<40	1.8	<2	9	60	<10
			12.0	<2	<15	<0.2	13	<30	<2.0	70	<2	7	440	<40	1.9	<2	8	60	<10
		08/23/90	0.5	<2	<15	<0.2	12	<30	<2.0	290	<2	7	50	<40	1.6	<2	5	60	<10
			12.0	<2	55	<0.2	15	<30	<2.0	510	<2	8	5840	<40	2.2	<2	6	70	30
KILLDEER RESERVOIR	L-1	05/14/90	0.5	<2	50	<0.2	52	<30	<2.0	190	<2	19	<10	<40	1.3	<2	9	1090	<10

Appendix Table I-3. Results of chemical/physical sampling (heavy metals and other ions) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Calcium (mg/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (mg/l)	Manganese (ug/l)	Nickel (ug/l)	Potassium (mg/l)	Selenium (ug/l)	Sodium (mg/l)	Strontium (ug/l)	Zinc (ug/l)
KILLDEER RESERVOIR	L-1	05/14/90	11.0	<2	60	<0.2	54	<30	<2.0	620	<2	19	15	<40	1.2	<2	9	1080	<10
		09/13/90	0.5	<2	65	<0.2	49	<30	<2.0	70	<2	19	<10	<40	1.8	<2	10	1140	<10
			11.0	11		<0.2	58	<30	<2.0	1140	<2	20	1680	<40	2.1	<2	10		<10
KISER LAKE	L-1	04/20/89	0.3			<0.2	46	<30	<0.5		<2	25		<40					<10
			3.0			<0.2	47	<30	<0.5		<2	25		<40					40
		08/17/89	0.3	6		<0.2	30	<30	<2.0	280	<2	24		<40		<2			<10
			3.0	7		<0.2	32	<30	<2.0	550	<2	24		<40		<2			<10
KNOX LAKE	L-1	05/11/89	0.5	<2	35	<0.2	36	<30	0.9	200	<2	9	160	<40	2.1	<2	7		<10
			7.5	4	95	<0.2	36	<30	<0.5	1040	<2	8	2090	<40	2.6	<2	7		<10
		08/21/89	0.5	5	35	<0.2	32	<30	2.0	200	16	9	250	<40	4.0	<2	6		55
			8.0	13	105	<0.2	41	<30	4.0	8480	5	10	4290	<40	4.4	<2	6		240
	L-2	05/11/89	0.5	<2	35	<0.2	37	<30	1.2	770	<2	10	175	<40	1.8	<2	7		<10
			3.0	<2	35	<0.2	37	<30	0.5	870	<2	10	185	<40	1.9	<2	7		<10
		08/21/89	0.5	5	45	<0.2	33	<30	2.0	740	4	10	225	<40	4.0	<2	6		30
			2.5	6	65	<0.2	35	<30	2.0	1270	4	10	285	<40	3.9	<2	5		25
LAKE AQUILLA	L-1	04/27/89	0.5	<2	20	<0.2	20	<30	2.7	230	3	3	60	<40	1.0	<2	11		<10
			4.0	<2	25	0.2	20	<30	2.5	330	3	4	75	<40	1.1	<2	11		<10
		08/23/89	0.5	<2	30	<0.2	27	<30		160	<2	5	125	<40	1.5	<2	10		<10
			4.5	9	95	<0.2	29	<30		8850	<2	5	4820	<40	2.3	<2	11		<10
LAKE HOPE	L-1	04/25/90	0.5	<2	40	<0.2	11	<30	<2.0	270	<2	5	500	<40	1.4	<2	<5	60	<10
			6.0	<2	55	<0.2	11	<30	<2.0	1180	2	5	590	<40	1.7	<2	<5	60	<10
		08/22/90	0.5	<2	30	<0.2	9	<30	<2.0	420	<2	4	55	<40	1.6	<2	<5	40	<10
			5.0	<2	85	<0.2	9	<30	2.0	13000	<2	4	2540	<40	2.2	<2	<5	50	120
LAKE LA SU AN	L-1	04/25/90	0.5	<2	<15	<0.2	25	<30	<2.0	70	<2	11	25	<40	1.8	<2	<5	80	<10
			13.0	<2	15	<0.2	31	<30	<2.0	140	<2	10	1140	<40	2.5	<2	<5	110	<10
		09/10/90	0.5	<2	<15	<0.2	23	<30	<2.0	<50	<2	11	55	<40	3.0	<2	<5	90	<10
			12.5	<2	50	<0.2	40	<30	<2.0	170	<2	15	3270	<40	3.2	<2	<5	190	<10
LAKE LOGAN (HOCKING LAKE)	L-1	04/24/90	0.5	<2	25	<0.2	17	<30	<10.0	340	<2	6	90	<40	1.6	<2	7	<50	<10
			3.7	<2	25	<0.2	16	<30	<10.0	530	3	6	160	<40	1.8	<2	7	<50	<10
		08/20/90	0.5	<2	<15	<0.2	19	<30	2.0	140	<2	6	55	<40	2.1	<2	5	50	<10
			3.0	4	175	<0.2	17	<30	<10.0	500	2	6	590	<40	2.2	<2	<5	60	15
	L-2	04/24/90	0.5	<2	20	<0.2	16	<30	<10.0	190	<2	6	60	<40	1.8	<2	6	<50	<10
			2.5	<2	30	<0.2	16	<30	<10.0	310	2	6	110	<40	1.8	<10	6	<50	<10

Appendix Table I-3. Results of chemical/physical sampling (heavy metals and other ions) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Calcium (mg/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (mg/l)	Manganese (ug/l)	Nickel (ug/l)	Potassium (mg/l)	Selenium (ug/l)	Sodium (mg/l)	Strontium (ug/l)	Zinc (ug/l)
LAKE LOGAN (HOCKING LAKE)	L-2	08/20/90	0.5	2	15	<0.2	18	<30	<2.0	280	<2	6	105	<40	2.2	<2	5	50	20
			2.0	3	30		19	<30	<2.0	780	<2	6	210	<40	2.3	<2	5	60	15
LAKE LORAMIE	L-1	04/25/89	0.3	2		<0.2	56	<30	2.4	400	<2	20		<40		<2			<10
			1.7	2		<0.2	56	<30	1.9	970	<2	20		<40		<2			<10
		08/29/89	0.3	3	55	<0.2	36	<30	<2.0	1190	<2	18	117	<40	6.5	<2	11		<10
			1.8	6	80	<0.2	41	<30	4.0	4550	<2	19	244	<40	7.1	<2	11		11
LAKE LaCOMTE (FOSTORIA RES. #5)	L-1	05/15/90	0.5	<2	45	<0.2	60	<30	2.0	270	<2	18	<10	<40	2.9	<2	10	590	<10
			6.0	<2	40	<0.2	68	<30	3.0	870	<2	19	15	<40	2.9	<2	10	540	<10
		08/23/90	0.5	<2	50	<0.2	59	<30	2.0	400	<2	18	<10	<40	3.1	<2	10	670	<10
			5.0	<2	60	<0.2	60	<30	5.0	2010	<2	18	65	<40	3.5	<2	10	670	<10
LAKE MILTON	L-1	05/04/89	0.5	<2	25	<0.2	54	<30	2.7	<50	<2	15	110	<40	5.1	<4	26		<10
			7.0	<2	30	0.2	53	<30	3.2	<50	<2	15	120	<40	5.0	<4	26		<10
		07/25/89	0.5	2	<15	<0.2	42	<30		180	<2	11	40	<40	5.9	<2	15		<10
			10.5	2	30	<0.2	49	<30		420	<2	14	1810	<40	5.9	<2	20		<10
	L-2	05/04/89	0.5	<2	30	<0.2	52	<30	2.4	70	<2	15	145	<40	5.1	<2	26		<10
			5.0	<2	25	<0.2	55	<30	2.6	70	<2	15	200	<40	4.9	<2	26		<10
		07/25/89	0.5	<2	15	<0.2	42	<30		160	<2	11	45	<40	6.2	<2	16		<10
			6.5	3	30	<0.2	49	<30		780	<2	13	1300	<40	5.5	<2	19		<10
LAKE PIPPEN	L-1	05/18/89	0.5	<2	15	<0.2	28	<30	1.9	<50	<2	4	35	<40	1.0	<2	<5		<10
			11.5	<2	15	<0.2	25	<30	3.1	70	<2	4	140	<40	1.1	<2	<5		<10
		08/09/89	0.5	<2	<15	0.5	24	<30		<50	<2	4	30	<40	1.2	<2	<5		<10
			12.0	<2	25	<0.2	27	<30		<50	<2	4	910	<40	1.1	<2	<5		<10
METZGER RESERVOIR	L-1	04/24/90	0.5	<2	30	<0.2	60	<30	2.0	170	<2	20	<10	<40	3.8	<2	14	700	<10
			10.0	<2		<0.2	59	<30	<2.0	360	<2	20	<10	<40	3.9	<2	15		<10
		08/22/90	0.5	<2	25	<0.2	39	<30	<2.0	<50	2	18	<10	<40	3.7	<2	13	670	<10
			9.0	7	20	<0.2	70	<30	<2.0	260	<2	20	890	<40	4.4	<2	13	850	<10
MOSQUITO CREEK RESERVOIR	L-1	04/25/89	0.5	<2	20	<0.2	26	<30	2.2	380	<2	6	55	<40	3.4	<2	18		<10
			7.3	<2	25	<0.2	26	<30	3.3	530	<2	6	100	<40	3.4	<2	18		<10
		07/10/89	0.5	<2	20	0.2	24	<30		440	4	6	375	<40	3.1	<2	14		60
			7.0	4	30	0.3	24	<30		2760	5	6	1440	<40	3.3	<2	14		65
	L-2	04/25/89	0.5	<2	20	<0.2	25	<30	2.1	250	<2	6	45	<40	3.3	<2	18		<10

Appendix Table I-3. Results of chemical/physical sampling (heavy metals and other ions) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Calcium (mg/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (mg/l)	Manganese (ug/l)	Nickel (ug/l)	Potassium (mg/l)	Selenium (ug/l)	Sodium (mg/l)	Strontium (ug/l)	Zinc (ug/l)
MUNROE BASIN	L-1	05/14/90	0.5	<2	60	<0.2	63	<30	<2.0	420	<2	24	365	<40	1.5	<2	8	170	<10
			1.5	<2	65	<0.2	63	<30	<2.0	1020	<2	24	530	<40	2.7	<2	8	180	<10
		09/13/90	0.5	2	105	<0.2	77	<30	<2.0	1540	2	28	715	<40	6.1	<2	32	410	<10
			1.5	2	105	<0.2	77	<30	<2.0	2380	3	29	770	<40	6.4	<2	32	410	<10
NORTH BRANCH KOKOSING RIVER LAKE	L-1	04/25/90	0.5	<2	60	<0.2	47	<30	<2.0	2180	6	14	95	<40	2.7	<2	8	170	<10
			3.5	<2	45	<0.2	44	<30	<2.0	880	7	14	50	<40	2.6	<2	7	160	<10
		08/22/90	0.5	3	85	<0.2	52	<30	3.0	1080	<2	20	810	<40	3.3	<2	7	260	30
			2.5	<2	60	<0.2	47	<30	<2.0	800	4	20	160	<40	3.0	<2	7	250	<10
OBERLIN RESERVOIR	L-1	05/30/89	0.5	<2	35	<0.2	68	<30	10.6	<50	2	21	15	<40	6.2	<2	26		<10
			6.5	<2	40	<0.2	70	<30	35.0	1200	<2	21	160	<40	6.6	<2	26		<10
		09/06/89	0.5	<2	20	<0.2	60	<30		110	<2	23	55	<40	5.9	<2	26		<10
			5.0	2	85	<0.2	62	<30		350	<2	23	260	<40	5.8	<2	26		<10
PUNDERSON LAKE	L-1	04/19/89	0.5	2	20	<0.2	41	<30	2.6	<50	<2	9	40	<40	1.8	<2	40		<10
			15.0	2	25	<0.2	41	<30	2.9	<50	<2	9	420	<40	1.9	<2	37		<10
		08/29/89	0.5	<2	25	<0.2	31	<30		<50	<2	8	30	<40	2.5	<2	32		20
			12.0	2	30	<0.2	38	<30		60	<2	9	1470	<40	2.3	<2	36		<10
ROCKY FORK LAKE	L-1	05/01/89	0.3	<2		<0.2	43	<30	0.9	630	4	18		<40		<2			10
			7.3	2		<0.2	44	<30	1.3	2110	3	18		<40		<2			<10
		08/22/89	0.3	4	20	<0.2	33	<30	<2.0	70	<2	19	50	<40	3.5	<2	7		<10
			7.3	7	130	0.3	38	<30	<2.0	220	2	20	1870	<40	3.2	<2	5		<10
	L-2	05/01/89	0.3	2		<0.2	40	<30	3.0	2940	5	16		<40		<2			<10
			5.5	4		<0.2	38	<30	3.9	5060	6	15		<40		<2			10
		08/22/89	0.3	3	20	<0.2	32	<30	<2.0	250	<2	20	105	<40	3.5	<2	6		<10
			6.1	4	200	<0.2	34	<30	<2.0	530	<2	19	625	<40	3.6	<2	5		<10
RUSH RUN LAKE	L-1	04/26/89	0.3	<2		<0.2	40	<30	0.5	100	<2	19		<40		<2			<10
			7.0	2		<0.2	49	<30	<0.5	170	<2	21		<40		<2			<10
		08/21/89	0.3	3	20	<0.2	38	<30	<2.0	90	<2	13	75	<40	3.9	<2	<5		<10
			7.0	6	40	<0.2	48	<30	<2.0	530	<2	20	1940	<40	3.9	<2	6		<10
SHREVE LAKE	L-1	05/11/89	0.5	<2	30	<0.2	30	<30	2.7	300	<2	18	90	<40	2.1	<2	6		<10
			4.5	<2	30	<0.2	31	<30	3.3	320	<2	18	90	<40	2.0	<2	6		<10
		08/28/89	0.5	4	40	<0.2	33	<30		160	<2	18	110	<40	4.2	<2	5		<10
			4.0	8	95	<0.2	37	<30		1020	<2	18	1530	<40	4.3	<2	5		<10

Appendix Table I-3. Results of chemical/physical sampling (heavy metals and other ions) in selected Ohio public lakes, 1989-90.

Lake	Location	Date	Depth (m)	Arsenic (ug/l)	Barium (ug/l)	Cadmium (ug/l)	Calcium (mg/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (mg/l)	Manganese (ug/l)	Nickel (ug/l)	Potassium (mg/l)	Selenium (ug/l)	Sodium (mg/l)	Strontium (ug/l)	Zinc (ug/l)
SPRING VALLEY LAKE	L-1	05/08/89	0.3			<0.2	47	<30			<2	22		<40					<10
			0.5			<0.2	48	<30			<2	21		<40					<10
		08/14/89	0.3	5		<0.2	48	<30	<2.0	<50	<2	32	40	<40	0.7	<2	6		<10
			0.9	5		<0.2	48	<30	<2.0	<50	<2	32	40	<40	<0.7	<2	6		<10
STONELICK RESERVOIR	L-3	05/10/89	0.3	2		<0.2	28	<30	3.5	4730	5	8		<40		<2			25
			2.4	2		<0.2	23	<30	4.7	7290	6	7		<40		<2			20
		08/30/89	0.3	3	34	<0.2	32	<30	<2.0	555	<2	8	172	<40	9.0	<2	6		<10
			2.4	8	83	<0.2	33	<30	<2.0	2630	<2	8	2370	<40	7.0	<2	6		<10
SWIFT RUN LAKE	L-1	04/25/89	0.3	<2		<0.2	61	<30	2.3	330	<2	21		<40		<2			<10
			3.0	2		<0.2	61	<30	5.6	2350	<2	21		<40		<2			<10
		08/17/89	0.3	4		<0.2	47	<30	2.0	370	<2	21		<40		<2			<10
			2.7	5		<0.2	49	<30	4.0	1530	<2	21		<40		<2			15
TYCOON LAKE	L-1	04/26/90	0.5	<2	30	<0.2	11	<30	<2.0	160	<2	3	65	<40	2.1	<2	<5	50	30
			4.4	<2	35	<0.2	11	<30	<2.0	270	4	3	95	<40	2.3	<2	<5	60	<10
		08/24/90	0.5	<2	25	<0.2	11	<30	<2.0	110	<2	3	50	<40	2.2	<2	5	40	<10
			4.0	4	70	<0.2	13	<30	<2.0	580	<2	3	1300	<40	2.5	<2	5	60	<10
VETO LAKE	L-1	05/15/90	0.5	<2	40	<0.2	26	<30	<2.0	380	<2	8	160	<40	2.0	<2	10	180	<10
			2.7	<2	55	<0.2	26	<30	<2.0	950	<2	8	430	<40	1.2	<2	10	170	<10
		09/10/90	3.5	8	70	<0.2	116	<30	<10.0	2600	<2	36	90	<40	4.6	<2	6	4730	10
			0.5	<2	90	<0.2	19	<30	2.0	4020	<2	5	6160	<40	3.9	<2	8	130	<10
WABASH CONS. DIST. RESV. #1	L-1	04/25/89	0.3	2		<0.2	70	<30	5.2	1740	<2	20		<40		<2			<10
			1.4	<2		<0.2	64	<30	5.1	2590	<2	18		<40		<4			<10
		08/29/89	0.3	4	44	<0.2	50	<30	3.0	1630	<2	16	184	<40	8.5	<2	10		<10
			1.8	7	50	<0.2	50	<30	3.0	2130	<2	16	494	<40	8.8	<2	10		10

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