

REPORT ON CRITERIA AND METHODOLOGY USED TO DERIVE THE INFORMATION PROVIDED TO RESIDENTS IN THE ANNUAL MICHIGAN FISH ADVISORY

(FY2012 Appropriation Bill - Public Act 63 of 2011)

April 1, 2012

Section 650: The department shall report to the senate and house appropriations subcommittees on community health by April 1 of the current fiscal year on its criteria and methodology used to derive the information provided to residents in the annual Michigan fish advisory.

*Michigan Department
of Community Health*



Rick Snyder, Governor
Olga Dazzo, Director

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
FISH CONTAMINANT MONITORING PROGRAM**

2010 ANNUAL EDIBLE PORTION REPORT

**RECOMMENDATIONS FOR CHANGES TO THE
2011**

**MICHIGAN DEPARTMENT OF COMMUNITY HEALTH
FISH CONSUMPTION ADVISORY**

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LIST OF ACRONYMS

%	Percent
DDD	1,1-bis(4-chlorophenyl)-2,2-dichloroethane
DDE	Dichlorodiphenyl dichloroethane
DDT	Dichlorodiphenyl trichloroethane
DL	Detection Level
FAWCAC	Fish and Wildlife Contaminant Advisory Committee
FCMP	Fish Contaminant Monitoring Program
Hg	Hg
MDARD	Michigan Department of Agriculture and Rural Development
MDCH-ACL	Michigan Department of Community Health-Analytical Chemistry Lab
MDEQ-WRD	Michigan Department of Environmental Quality-Water Resources Division
MDNR-FD	Michigan Department of Natural Resources-Fisheries Division
PBDE	Polybrominated diphenyl ether
PCB	Polychlorinated biphenyl
PPM	Parts per million
PPT	Parts per trillion
QL	Quantification Level
Se	Se
TCDD	Total 2,3,7,8-tetrachlorodibenzo-p-dioxin
TEQ	Toxic equivalent
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
WQS	Water Quality Standards

SECTION 1.0

INTRODUCTION

The Michigan Department of Environmental Quality-Water Resources Division (MDEQ-WRD) has analyzed over 17,000 fish tissue samples collected since 1980. The MDEQ-WRD conducts fish contaminant monitoring to address four goals. The first goal is to support the development of the Michigan Department of Community Health (MDCH) *Michigan Fish Advisory*. Edible portion sample results are used by the MDCH to issue general and specific advisories against eating certain sport fish from Michigan's surface waters. The second goal is to support the regulation of commercial fisheries in the waters of the state. The Michigan Department of Agriculture and Rural Development (MDARD) uses edible portion monitoring results to regulate sales of the commercial catch. The third goal of the fish contaminant monitoring is to identify spatial differences and temporal trends in the quality of Michigan's surface waters. Temporal trends and spatial differences are examined by collecting whole fish and caged fish samples in addition to the edible portion samples. Finally, the fourth goal is to evaluate whether existing pollution prevention, regulatory, and remedial programs are effectively reducing chemical contamination in the aquatic environment. To achieve this goal, fish tissue samples are used to identify waters that are attaining or not attaining the designated uses described in Michigan's Water Quality Standards (WQS), identify sources of pollutants, and track the effectiveness of remedial actions. Fish contaminant analyses are limited to chemicals with high bioaccumulation potential in fish tissue. The presence of even extremely low concentrations of some bioaccumulative pollutants in surface water can result in fish tissue concentrations that pose a human or wildlife health risk.

Several state and federal agencies and tribal organizations assist with the MDEQ-WRD fish contaminant monitoring efforts by collecting or analyzing samples and data. These include the Michigan Department of Natural Resources-Fisheries Division (MDNR-FD), MDCH, MDARD, United States Environmental Protection Agency (USEPA), United States Fish and Wildlife Service, Grand Traverse Bay Band of Chippewa and Ottawa, Chippewa Ottawa Resource Authority, Keweenaw Bay Indian Community, and the Great Lakes Indian Fish and Wildlife Commission. In addition, sample collection plans and analytical results are reviewed by Michigan's Fish and Wildlife Contaminant Advisory Committee (FAWCAC). The FAWCAC members include representatives from all Michigan agencies involved in fish and wildlife contaminant monitoring (MDEQ-WRD, MDCH, MDARD, and MDNR). The primary role of the FAWCAC is to coordinate fish and wildlife monitoring conducted by state agencies. Also, the FAWCAC reviews fish and wildlife consumption advisories proposed by state agencies in Michigan.

Fish contaminant data are presented annually in staff reports. The objectives of this report are to:

- Summarize the results of the available edible portion fish tissue analyses.
- Identify sites where modifications to the MDCH *Michigan Fish Advisory* should be considered.
- Identify water bodies monitored in 2009 that are supporting and not supporting the fish consumption designated use described in the WQS.

Results of temporal trend analysis, caged fish studies, and special projects will be analyzed and discussed in separate staff reports.

Prior to 1986, Michigan conducted fish contaminant studies on an as needed basis primarily to address specific problems. In 1986, a comprehensive program was initiated to assess the

degree of chemical contamination in fish from the surface waters of the state. Michigan's fish contaminant data have been compiled into a large database and are available online at www.deq.state.mi.us/fcmp. The Fish Contaminant Monitoring Program (FCMP) database, along with several other Michigan water quality databases, is also available online through the Michigan Surface Water Information Management System at http://www.michigan.gov/deq/0,1607,7-135-3313_3686_43375---,00.html. Contaminant data are also available in staff reports (MDNR, 1986a, 1986b, and 1989; Duling, 1988; Duling and Benzie, 1989 and 1990; Saalfeld et al., 1991; Waggoner, 1992; Wood, 1993 and 1994; Wood et al., 1995; Day and Holden, 1996; Day, 1997, 1998, 1999, and 2002; Day and Walsh, 2000 and 2001; Day et al., 2004; Day and Bohr, 2005; Bohr and Zbytowski, 2006, 2007, 2008, and Bohr and VanDusen, 2009 and 2011). In addition, an inventory of contaminant monitoring locations sampled between 1980 and 2009 with fish analyzed as edible portion samples is provided in Appendix A.

SECTION 2.0

METHODS

The FCMP 2010 Annual Edible Portion Report includes the analytical results available by December 31, 2010, which were not presented in earlier annual reports. A list of water bodies and species included in this annual report is provided in Appendix B. Raw data from these sites are included in Appendix C (available upon request).

2.1 FISH COLLECTION AND EDIBLE PORTION PROCESSING

The MDNR-FD and the MDEQ-WRD collected the majority of the fish using standard fish sampling techniques determined to be appropriate for individual water bodies. These techniques included electrofishing, trap nets, gill nets, and trawling. In addition, private consultants and tribal organizations collected samples for the program.

The MDEQ-WRD processed fish in accordance with the Great Lakes and Environmental Assessment Section Procedure 31 (available upon request). Each fish was measured (total length) and weighed. Fish were prepared as standard edible portions (Table 1). Each sample was individually wrapped in aluminum foil, placed in a plastic bag, appropriately labeled, and frozen until analyzed.

A total of 546 fish were collected from inland lakes, rivers, and the Great Lakes and connecting channels and analyzed for this report. The report summarizes the analyses of edible portion samples of 293 fish collected from 28 locations in 2009, 145 fish collected from 13 locations in 2008, 39 fish collected from 4 locations in 2007, and 89 fish collected from 8 locations in 2006. In all, 14 species of fish were analyzed as edible portion samples for this report. The edible portion sample locations are illustrated in Figure 1. Edible portion sampling was often targeted toward sites of known or suspected contamination, sites popular with sport anglers, and sites with public access.

2.2 CHEMICAL ANALYSES

Analytical results for this report were produced by the MDCH-Analytical Chemistry Laboratory (ACL) and by Pace Laboratories. Both of these analytical laboratories have quality assurance programs and use peer-reviewed methods of digestion, extraction, and quantification.

A total of 566 samples collected for this report were submitted to the MDCH-ACL for analysis. Of those, 135 edible portion samples were analyzed for total Hg (Hg) only, and a total of 208 samples were analyzed for Hg and Se (Se) only. The remaining fish tissue samples submitted to the MDCH-ACL were analyzed for Hg, percent lipids, 25 organic chemicals (Table 2), and polychlorinated biphenyl (PCB) congeners (Table 3). A total of 19 samples were analyzed for dioxins, furans, and dioxin-like PCB congeners. The results are summarized in Section 3.0.

In 2007, the MDCH-ACL began analyzing samples for polybrominated diphenyl ether (PBDE) congeners in selected fish tissue samples. Those analyses were conducted, in part, as a test of methodology; the results were not quantified since the lab did not have suitable quality control material. The MDCH-ACL has since developed in-house PBDE quality control materials and has the capability to report quantified results. A total of 43 edible portion samples were analyzed for PBDE in fiscal year 2010. The samples were analyzed for 8 PBDE congeners (BZ# 28, 47, 66, 77, 99, 100, 153, and 154). For purposes of between species and between site comparisons, total PBDE for these samples was estimated by summing the 8 congeners. Since the MDCH does not have human health screening values for PBDE at this time, no

recommendations for fish consumption advisories will be based on PBDE concentrations. A separate staff report summarizing PBDE is planned.

Analyses of chlorinated dioxin, dibenzofuran (Table 4a), and coplanar PCB congeners (Table 4b) were performed on a subset of edible portion samples. Pace Laboratories, under a subcontract with the MDCH-ACL, analyzed these dioxin-like congeners in 19 samples; the results are summarized in Section 3.0.

Total Hg is referred to as "Hg" throughout the report. In addition, the MDCH screening values for Hg (Section 2.4.3) are based on total Hg concentrations.

Se samples were analyzed by the MDCH-ACL using techniques based on the USEPA Method 200.11 and reported as wet weight concentrations.

Toxaphene is referred to as "apparent toxaphene" throughout the report. The MDCH-ACL analytical method can identify a residue with chromatographic characteristics similar to toxaphene. However, the method cannot specifically identify the residue as the pesticide toxaphene.

Finally, the MDCH-ACL does not report concentrations below the quantification level (QL), but above the detection level (DL) for Hg, Se, and the organic parameters listed in Table 2. As a result, concentrations of these parameters that are below the QL are coded with a "K" in Appendix C. In these cases, the "K" coded concentrations represent the MDCH-ACL QLs. However, "K" codes assigned to dioxin, furan, and PCB congeners indicate that concentrations were below the DL while "J" or "NQ" codes indicate that concentrations were above the DL, but did not meet all of the quantification requirements. The "J" code was used when analytical laboratory scientists decided the divergence from quantification requirements was not significant; in these cases, the "J" coded concentrations are treated the same as uncoded results. The "NQ" coded concentrations are treated as null results.

2.3 SUMMARY STATISTICS

Total PCB concentration was estimated by summing the concentrations of PCB congeners. Individual congeners below the DL were assigned a concentration equal to 0 for the purpose of calculating a total PCB concentration. Also, congener analyses that did not meet retention time criteria or were subject to analytical interference were assigned a concentration equal to 0 for the purpose of calculating a total PCB concentration. If the results of an individual congener analysis did not meet all other quantification requirements, then the congener was assigned a concentration equal to the estimated concentration for the purpose of calculating a total PCB concentration. If all of the congeners were below the DL, then the total PCB concentration was reported as less than the highest DL of the individual congeners (1 part per billion).

Total chlordane concentration was estimated by summing the concentrations of 5 isomers: *alpha*-chlordane, *gamma*-chlordane, *cis*-nonachlor, *trans*-nonachlor, and oxychlordane. In some cases, individual isomers were below the QL. Individual isomers below the QL were assigned a concentration equal to 0 for the purpose of calculating a total chlordane concentration. If all 5 isomers were below the QL, then the total chlordane concentration was reported as less than the QL of the individual isomers.

Total dichlorodiphenyl trichloroethane (DDT) concentrations were calculated by summing concentrations of the para, para' and ortho, para' forms of the following chemicals: DDT, dichlorodiphenyl dichloroethane (DDE), and 1,1-bis(4-chlorophenyl)-2,2-dichloroethane (DDD). Individual chemicals below the QL were assigned a concentration equal to 0 for the purpose of

calculating a total DDT concentration. If all 6 components were below the QL, then the total DDT concentration was reported as less than the lowest QL of the metabolites.

Total 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalents (TEQs) were calculated using the USEPA recommended toxic equivalency factors for 7 dioxin, 10 dibenzofuran, and 12 dioxin-like PCB congeners (USEPA, 2010). The concentrations of individual dioxin, dibenzofuran, and dioxin-like PCB congeners in a fish sample were multiplied by toxic equivalency factors; the resulting products were summed to calculate a 2,3,7,8-TCDD TEQ concentration. Any individual congener concentrations less than the DL were assigned a value of 0 for the purpose of calculating the dioxin TEQ. Beginning with the 2008 Fish Consumption Advisory, the MDCH included the 12 dioxin-like PCB congeners in the calculation of TEQs.

The average and median contaminant concentrations were calculated for each species from each site (Appendix C). In some cases, one or more samples from a particular site had contaminant concentrations that were less than the QL (DL for dioxin TEQ and total PCBs). In these cases, calculating the true average contaminant concentration was not possible. Therefore, average contaminant concentrations were calculated using half of the QL (DL for dioxin TEQ and total PCBs) in place of the sample concentrations that were below the QL (or DL). The calculated average was then marked with a footnote to indicate that estimated values were used when quantitative concentrations were not available. If all of the concentrations were below the QL (DL for dioxin TEQ and total PCBs) the mean was reported as half of the QL (DL for dioxin TEQ and total PCBs) and the median was reported as less than the QL (DL for dioxin TEQ and total PCBs).

Summary statistics were not generated for individual dioxin, furan, or PCB congeners.

Calculated values presented in Appendix C were not rounded to significant figures. All calculated values are identified in Appendix C.

2.4 FISH CONSUMPTION ADVISORY SCREENING VALUES

The MDCH is responsible for establishing, modifying, or removing sport fish consumption advisories in Michigan. The MDCH uses fish consumption advisory “screening values” to assess the need for advisories (Table 5). These screening values have a variety of origins. The United States Food and Drug Administration developed most of the screening values for chlorinated organic chemicals. Dioxin TEQ, Hg, and Se screening values were developed by the MDCH. Finally, the Great Lakes states and the USEPA developed the total PCB screening values used to establish advisories for women of childbearing age and children less than 15 years of age. The underlying risk assumptions used to develop each of these screening values are different, and the criteria used to determine consumption advisories vary with the contaminant and segment of population covered by the advisory.

The fish consumption advisories are developed based on an evaluation of the relationship between contaminant concentrations and screening values across all size ranges of fish of a given species taken from specific locations. Where possible, linear regression analyses are used to predict lengths at which the concentrations in fish species are likely to exceed screening values. However, contaminant concentrations and fish total length data either do not often conform to the underlying assumptions of this statistical method, or the method does not produce a statistically significant line. In these cases, the appropriate advisory is determined using either median concentrations or the percentage of samples exceeding the screening value, depending on the contaminant being considered.

The MDCH prefers a data set with a minimum of 10 samples before establishing or modifying fish consumption advisories. However, best professional judgment is applied when evaluating smaller data sets.

The MDCH screening values and procedures are described in further detail below.

2.4.1 Fish Consumption Advisory Screening Values for Chlorinated Organic Contaminants other than PCBs

The MDCH issues fish consumption advisories based on either linear regression analyses or the percentage of samples that exceed the screening values presented in Table 5. The general population is advised to eat no more than 1 meal per week when concentrations in more than 10% of the samples from a particular species of fish of a given length range exceed the screening value. A “no consumption” advisory is issued if concentrations in 50% or more of the fish sampled exceed the screening value. In addition, the MDCH advises children under 15 years old and women of childbearing age (15 to 45 years old) against eating any fish when concentrations in more than 10% of a particular species of fish of a given length range exceed the screening value.

Either linear regression analyses or percentages were used to make recommendations to the MDCH regarding specific changes to the *Michigan Fish Advisory*. When linear regression analysis was not appropriate, the percentages of samples exceeding screening values were calculated. The results are presented in Section 3.0.

2.4.2 Fish Consumption Advisory Screening Values for Total PCBs

The MDCH uses the United States Food and Drug Administration's 2.0 parts per million (ppm) screening value for total PCB concentrations when developing advisories for the general population. The MDCH advises the general population to eat no more than 1 meal per week when concentrations in more than 10% of the samples from a particular species of fish of a given length range exceed the screening value. In addition, the MDCH advises the general population against eating any fish when concentrations in 50% or more of the samples exceed the screening value. Fish are placed into the general population consumption advisory categories according to species and size based on linear regression analyses when appropriate, otherwise the percentage of samples exceeding the screening values was calculated.

In 1998, the MDCH adopted a new advisory protocol for women of child bearing age and children less than 15 years old. The protocol includes 5 consumption advisory categories based on concentrations of total PCBs. Fish are placed into the consumption advisory categories according to species and size, based on linear regression analyses or median total PCB concentrations.

The results and recommendations are presented in Section 3.0.

2.4.3 Fish Consumption Advisory Screening Values for Hg

The MDCH uses 2 screening values to assess the need for fish consumption advisories based on Hg (Table 5). Hg concentrations are plotted with respect to length. A “restrict consumption” advisory is issued for lengths above which the Hg concentrations exceed the 0.5 ppm screening value. A “no consumption” advisory is issued for lengths above which the Hg concentrations exceed 1.5 ppm. When linear regression analysis was not appropriate, median concentrations

were used to place species and size classes into appropriate advisory categories. The results are presented in Section 3.0.

The MDCH advises the general population to eat no more than 1 meal per week of fish covered by a “restrict consumption” advisory. Women of child bearing age and children less than 15 years old are advised against eating more than 1 meal per month of fish covered by a “restrict consumption” screening value.

In 1988, the MDCH issued a statewide advisory covering certain predator species from all inland lakes and reservoirs, based on a preponderance of data indicating Hg concentrations were elevated in those species in most lakes and impoundments. According to the MDCH, no one should eat more than 1 meal per week of fish of the following species and sizes: rock bass, yellow perch, or crappies over 9 inches in length; and largemouth bass, smallmouth bass, walleye, northern pike, or muskellunge of any size. Also, the MDCH advises mothers who are breast feeding, pregnant women, women who intend to have children, and children under age 15 against eating more than 1 meal per month of these fish.

Lastly, the MDCH is planning to revise the protocol for determining fish consumption advisories based on Hg concentrations. The revision will most likely result in changes in advice for all water bodies, and most of the changes will result in more restrictive advice for women of child bearing age and children under age 15. Since this revision will be implemented in the near future, the MDCH decided not to institute any relaxations of the current advice based on elevated Hg concentrations. The decision was made in order to avoid possible confusion resulting from relaxing advisories in 2010 only to provide more restrictive advice in following advisories. For this reason, recommendations for advisory changes made in this report do not include suggestions for the relaxation of Hg-based advisories where such changes would be indicated under the existing protocol. However, recommendations for advisory changes were made when Hg concentrations indicated more restrictive advice was appropriate.

2.4.4 Fish Consumption Advisory Screening Values for Se

The MDCH uses 4 screening values to assess the need for fish consumption advisories based on Se (Table 5). Se concentrations are plotted with respect to length. When statistical requirements were met, linear regression analysis was used to determine the appropriate advisory category for given size classes of fish. If regression analysis was not statistically valid, median concentrations were used to place species and size classes into appropriate advisory categories. The results are presented in Section 3.0.

SECTION 3.0

RESULTS AND DISCUSSION

The FCMP 2010 Annual Edible Portion Report includes the analytical results available by December 31, 2010, for edible portion fish samples collected primarily in 2008 and 2009. A total of 546 edible portion fish tissue samples are summarized in this report. This includes samples of 14 species from 51 locations (Figure 1).

3.1 General Highlights

- Several chemicals analyzed were below the limits of quantification in all of the fish samples, including aldrin, heptachlorostyrene, lindane, pentachlorostyrene, terphenyl, and toxaphene. However, dieldrin, a breakdown product of aldrin, was quantified in fish tissue samples from 16 of 20 locations where chlorinated organic compounds were analyzed (Table 6).
- Hg was quantified in every sample analyzed (Table 6). The highest concentrations were found in top predator species from inland lakes and impoundments.
- Dioxin TEQ concentrations were quantified in every sample from the 2 locations where samples were analyzed for dioxin-like compounds (Table 6).
- The maximum concentrations of most chlorinated organic contaminants were found in fish from the Great Lakes or locations with access to the Great Lakes (Table 6). Lake Michigan, Grand Traverse Bay lake trout had the highest concentrations of several organic contaminants.
- Sampling results indicate that total PCB concentrations may be declining in fish from several water bodies, and additional sampling may lead to the relaxation of consumption advisories for those locations.

3.2 General Highlights of the Screening Value Comparisons

General highlights of the screening value comparisons are presented below, followed by site-specific evaluations and recommendations:

- Total DDT, chlordane, dieldrin, heptachlor/heptachlor epoxide, mirex, and Se screening values were not exceeded in any samples analyzed for this report.
- Total PCB concentrations were greater than or equal to the women and children screening value in 86 of 195 (44%) samples. Concentrations were greater than or equal to the women and children screening values in fish from 11 of 20 (60%) locations (Table 7). The 2010 MDCH *Fish Consumption Advisory* includes women and children advisories due to elevated PCBs for 9 of the 11 locations.
- Hg concentrations were greater than or equal to the “restrict consumption” screening value in 145 of 546 (25%) samples from 33 of 52 (63%) locations (Table 8). The 2010 MDCH *Fish Consumption Advisory* includes either statewide or specific advisories due to elevated Hg concentrations for all 33 locations.

- A total of 8 samples from 7 locations had an Hg concentration greater than or equal to the “no consumption” screening value (Table 8).
- Dioxin TEQ concentrations were assayed in lake trout taken from Lake Michigan and Glen Lake in 2009. The TEQ concentrations exceeded the “no consumption” screening value in 12 of 19 (63%) samples at 2 of 2 (100%) locations (Table 9). The 2010 MDCH *Fish Consumption Advisory* includes an advisory due to elevated dioxin TEQ concentrations for 1 of the 2 locations.
- Based on the following site-specific screening value comparisons, the MDCH should consider relaxing fish consumption advisories at 2 sites and adding or expanding advisories at 6 sites. Also, additional monitoring is recommended for 5 water bodies.

3.3 Screening Value Comparisons by Great Lake Watershed

3.3.1 Lake Erie Watershed

Baseline Lake, Livingston/Washtenaw County (ID 2009201) *Carp and Largemouth Bass*

Existing MDCH Advisory: Baseline Lake carp are not covered by an advisory. Largemouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Four carp ranging in length from 24 to 35 inches were collected from Baseline Lake in 2009. The total PCB concentration in 1 carp exceeded women and children screening values and was in the “1 meal per week” range (Table 7; Figure 2). The median total PCB concentration was 0.035 ppm.

Ten largemouth bass ranging in length from 11 to 17 inches were collected from Baseline Lake in 2009 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening value in 1 fish (Table 8; Figure 3); the median Hg concentration in the 5 legal size largemouth bass was 0.36 ppm.

Recommendations: No change to the advisory is recommended and additional monitoring is not needed at this time.

Detroit River, Michigan Waters (ID 2009400) *Lake Sturgeon*

Existing MDCH Advisory: No one should eat any lake sturgeon of any size from the Detroit River due to elevated levels of Hg and PCBs.

Comparison to Screening Values: One lake sturgeon was found dead on the shore of the Detroit River in 2009 and analyzed as a skin-off steak. No weight or length measurement was available. Total PCB concentration was in the women and children “1 meal per week” range with a total PCB concentration of 0.135 ppm (Table 7). Three Detroit River lake sturgeon have been analyzed since 1993 and the median total PCB concentration was 1.83 ppm.

Hg concentration in the lake sturgeon collected in 2009 was 0.23 ppm; the median Hg concentration in the 3 fish collected since 1993 was 0.53 ppm.

Recommendations: No change to the advisory is recommended.

Currently it is illegal to possess lake sturgeon from the Detroit River. At the request of the MDNR, Fisheries Division, the WRD will continue to analyze samples from lake sturgeon that are found dead.

Lake Orion, Oakland County (ID 2009220)
Carp

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per week of Lake Orion carp between 18 and 26 inches and no one should eat any carp larger than 26 inches due to elevated levels of chlordane and PCBs.

Comparison to Screening Values: Nine carp ranging in length from 16 to 29 inches were collected from Lake Orion in 2009. Total PCB concentrations exceeded the women and children screening values in 3 fish; concentrations in all 3 fish were in the women and children “1 meal per week” range (Table 7; Figure 4). The median total PCB concentration was 0.03 ppm. A total of 18 carp were collected from Lake Orion since 2001 and the median total PCB concentration was 0.03 ppm.

Total chlordane values were below the MDCH “restrict consumption” screening value in all 9 carp collected in 2009 from Lake Orion (Figure 5). A total of 18 carp were collected from Lake Orion since 2001. Total chlordane values exceeded the MDCH “restrict consumption” screening value in 2 of the 18 (11%) fish collected and the median total chlordane concentration was 0.03 ppm.

Recommendations: The MDCH should consider removing chlordane from the list of contaminants causing the fish consumption advisory for Lake Orion carp. No additional monitoring is necessary at this time.

Portage Lake, Livingston/Washtenaw County (ID 2009225)
Carp and Walleye

Existing MDCH Advisory: Portage Lake carp are not covered by an advisory. Walleye are covered by the statewide Hg advisory.

Comparison to Screening Values: Six carp ranging in length from 21 to 33 inches were collected from Portage Lake in 2009. Total PCB concentration exceeded women and children screening values in 3 fish (Table 7; Figure 6). The concentration in 1 fish was in the women and children “1 meal per week” range and 2 were in the “1 meal per month” range. The median total PCB concentration was 0.07 ppm. The median total PCB concentration in carp larger than 26 inches was 0.22 ppm.

Seven walleye ranging in length from 14 to 25 inches were collected from Portage Lake in 2009 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening value in 5 fish (Table 8; Figure 7). The median Hg concentration for the 6 legal size walleye was 1.1 ppm. A total of 17 walleye were collected from Portage Lake since 1989 and the overall median Hg concentration was 0.32 ppm.

Recommendations: The MDCH should consider advising children and women of child bearing age to eat no more than 1 meal per month of Portage Lake carp larger than 26 inches due to elevated levels of PCB. No additional monitoring is necessary at this time.

South Lake, Washtenaw County (ID 2008250)
Northern Pike

Existing MDCH Advisory: South Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 17 to 32 inches were collected from South Lake in 2008 and analyzed for Hg only. Hg concentration exceeded the MDCH “no consumption” screening value in 1 fish and the “restrict consumption” screening value in 5 fish (Table 8; Figure 8). The median Hg concentration in the 3 legal size fish was 1.3 ppm. A total of 22 northern pike were collected from South Lake since 1987. Regression analysis indicates that northern pike larger than 32 inches are likely to have Hg concentrations greater than 1.5 ppm.

Recommendations: The MDCH should consider recommending that no one eat South Lake northern pike larger than 30 inches due to elevated levels of Hg. Additional monitoring is not needed at this time.

St. Clair River, Marine City (ID 2006076)
Carp and Walleye

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per week of St. Clair River carp between 12 and 14 inches, no more than 1 meal per month of carp between 14 and 22 inches, no more than 6 meals per year of carp between 22 and 26 inches and no carp larger than 26 inches. The general population should eat no more than 1 meal per week of carp between 22 and 30 inches and no carp larger than 30 inches due to elevated levels of Hg and PCBs. Children and women of child bearing age should eat no more than 1 meal per month of St. Clair River walleye and the general population should eat no more than 1 meal per week of walleye larger than 22 inches due to elevated levels of PCBs and Hg.

Comparison to Screening Values: Eight carp ranging in length from 21 to 26 inches were collected from the St. Clair River in 2006. Total PCB concentrations exceeded women and children screening values in 2 carp (Table 7; Figure 9). Total PCB concentration in 1 fish was in the “1 meal per week” range and 1 fish was in the “1 meal per month” range. The median PCB concentration was 0.03 ppm. A total of 18 carp were collected from the St. Clair River since 1994 and the median total PCB concentration was 0.09 ppm.

Hg concentrations were below the MDCH “restrict consumption” screening value in all 8 carp collected from the St. Clair River in 2006 (Figure 10). The median Hg concentration was 0.01 ppm. A total of 28 carp were collected from the St. Clair River since 1986 and analyzed for Hg. The overall median Hg concentration was 0.2 ppm.

Ten walleye ranging in length from 14 to 28 inches were collected from the St. Clair River in 2006. Total PCB concentrations exceeded women and children screening values in all 10 fish (Table 7; Figure 11). The concentrations in 7 fish were in the women and children “1 meal per week” range and 3 were in the “1 meal per month” range. The median total PCB concentration in legal size walleye less than 22 inches was 0.10; in walleye larger than 22 inches the median

concentration was 0.18 ppm. A total of 24 walleye were collected from the St. Clair River since 1991 and the median total PCB concentration was 0.18 ppm.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 6 walleye collected from the St. Clair River in 2006; the median Hg concentration in the 9 walleye larger than the 15-inch legal size limit was 0.55 ppm (Table 8; Figure 12). The median Hg concentration in the 24 walleye collected since 1991 was 0.3 ppm. Regression analysis indicates that walleye larger than 23 inches are likely to have Hg concentrations greater than 0.5 ppm.

Recommendations: No changes to the advisory are recommended. Additional carp and walleye should be collected from the St. Clair River to evaluate the possibility of relaxing the advisory based on PCBs and Hg.

3.3.2 Lake Huron Watershed

Lake Huron, Black River (ID 2009217), and Swan River (ID 2009310) *Chinook Salmon*

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per month of Lake Huron chinook salmon due to elevated levels of PCBs.

Comparison to Screening Values: Twenty chinook salmon ranging in length from 21 to 36 inches were collected from the Black and Swan Rivers in 2009 (Table 7; Figure 13). Total PCB concentration exceeded women and children screening values in all but 1 fish. Thirteen chinook were in the women and children “1 meal per week” range and 6 were in the “1 meal per month” range. The median total PCB concentration was 0.16 ppm. A total of 35 chinook were collected from Lake Huron since 1998, including 15 fish collected in 1998 and analyzed as 3 composite samples. The median total PCB concentration for the samples analyzed since 1998 was 0.20 ppm.

Hg, total DDT, and total chlordane concentrations were below MDCH screening values in all 20 chinook collected from the Black and Swan Rivers in 2009.

Recommendations: No changes to the advisory are recommended. Additional Lake Huron chinook salmon should be collected to evaluate the possibility of relaxing the consumption advisory based on total PCBs.

Au Sable River, Mio Dam Pond (ID 2009200) *Northern Pike*

Existing MDCH Advisory: Mio Dam Pond northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 14 to 24 inches were collected from the Au Sable River, Mio Dam Pond, in 2009 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening value in 2 fish (Table 8; Figure 14). All 10 northern pike were below the 24-inch legal size limit. The median Hg concentration was 0.3 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Avery Lake, Montmorency County (ID 2009234)
Largemouth Bass

Existing MDCH Advisory: Avery Lake largemouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Thirteen largemouth bass ranging in length from 10 to 20 inches were collected from Avery Lake in 2009 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening value in 8 fish (Table 8; Figure 15). The median Hg concentration in the 6 legal size fish was 0.81 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Bad River, Saginaw County (ID 2008203)
Northern Pike

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per week of Bad River northern pike due to elevated levels of PCBs.

Comparison to Screening Values: Eight northern pike ranging in length from 15 to 28 inches were collected from the Bad River in 2008. Total PCB concentrations exceeded the women and children screening value in 1 fish (Table 7; Figure 16); the concentration in the 1 fish was in the women and children “1 meal per week” range. The median total PCB concentration in the 2 northern pike larger than the 24-inch legal size limit was 0.05 ppm. A total of 15 northern pike were analyzed for total PCBs from the Bad River since 2004 and the median total PCB concentration in the 5 legal size fish was 0.03 ppm.

Hg, total DDT, and total chlordane concentrations were below MDCH screening values in all 8 northern pike collected in 2008.

Recommendations: No changes to the advisory are recommended. Additional Bad River northern pike should be collected to evaluate the possibility of relaxing the consumption advisory based on total PCBs.

Crooked Lake, Alcona County (ID 2009210)
Walleye

Existing MDCH Advisory: Crooked Lake walleye are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten walleye ranging in length from 16 to 20 inches were collected from Crooked Lake in 2009 and analyzed for Hg only. Hg concentrations were below the MDCH “restrict consumption” screening value in all 10 fish (Figure 17). The median Hg concentration was 0.23 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Horseshoe Lake, Ogemaw County (ID 2009235)
Largemouth Bass

Existing MDCH Advisory: Horseshoe Lake largemouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten largemouth bass ranging in length from 11 to 16 inches were collected from Horseshoe Lake in 2009 and analyzed for Hg only. Hg concentrations were below the MDCH “restrict consumption” screening value in all 10 fish (Figure 18). The median Hg concentration in the 3 legal size largemouth bass was 0.37 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Mullet Lake, Cheboygan County (ID 2009238)
Smallmouth Bass

Existing MDCH Advisory: Mullet Lake smallmouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Nine smallmouth bass ranging in length from 14 to 18 inches were collected from Mullet Lake in 2009 and analyzed for Hg only. Hg concentrations were below the MDCH “restrict consumption” screening value in all 9 fish (Figure 19) and the median Hg concentration was 0.26 ppm. A total of 11 smallmouth bass were collected from Mullet Lake since 1989 and the overall median Hg concentration was 0.24 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Rifle River, Arenac County (ID 2009229)
Redhorse Sucker and Rock Bass

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per week of Rifle River redhorse sucker larger than 8 inches due to elevated levels of PCBs. Children and women of child bearing age should eat no more than 1 meal per week of Rifle River rock bass due to elevated levels of PCBs.

Comparison to Screening Values: Ten redhorse sucker ranging in length from 12 to 17 inches were collected from the Rifle River in 2009. Total PCB concentrations were below women and children screening values in all 10 fish (Table 7; Figure 20). The median total PCB concentration was 0.005 ppm. A total of 18 redhorse sucker were collected from the Rifle River since 1988 and the median total PCB concentration was 0.025 ppm.

Ten rock bass ranging in length from 4 to 9 inches were collected from the Rifle River in 2009. Total PCB concentrations were below women and children screening values in all 10 fish (Table 7; Figure 21). One rock bass sample had a total PCB concentration of 0.003 ppm; the remaining 9 had concentrations below the quantitation limit, and the median total PCB concentration was 0.001 ppm. A total of 20 rock bass were collected from the Rifle River since 1988 with an overall median PCB concentration of 0.14 ppm.

Recommendations: The MDCH should consider removing the advisory on Rifle River rock bass. Additional suckers should be collected from the Rifle River during a spawning run to evaluate the possibility of relaxing the advisory based on PCBs.

Tawas Lake, Iosco County (ID 2006500)
Black Crappie

Existing MDCH Advisory: Tawas Lake black crappie are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten black crappie ranging in length from 9 to 12 inches were collected from Tawas Lake in 2006 and analyzed for the standard suite of contaminants. Concentrations of all contaminants (including Hg; Figure 22) were below MDCH screening values in all 10 black crappie collected from Tawas Lake in 2006. The median Hg concentration was 0.3 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Thunder Bay River, Seven Mile Pond, Alpena County (ID 2009231)
Smallmouth Bass

Existing MDCH Advisory: Seven Mile Pond smallmouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten smallmouth bass ranging in length from 12 to 19 inches were collected from the Thunder Bay River, Seven Mile Pond, in 2009 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening value in 4 fish (Table 8; Figure 23). The median Hg concentration in the 8 legal size smallmouth bass was 0.52 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

3.3.3 Lake Michigan Watershed

Lake Michigan, Grand Traverse Bay (ID 2009309)
Lake Trout

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per month of Lake Michigan lake trout less than 22 inches, no more than 6 meals per year of lake trout between 22 and 26 inches, and no one should eat any Lake Michigan lake trout larger than 26 inches due to elevated levels of PCBs and chlordane.

Comparison to Screening Values: Ten lake trout ranging in length from 19 to 30 inches were collected from Lake Michigan, Grand Traverse Bay, in 2009. Total PCB concentrations exceeded women and children screening values in all 10 fish (Table 7; Figure 24). Concentrations in 5 fish were in the women and children “1 meal per week” range and 5 were in the “1 meal per month” range. The median total PCB concentration for the 10 lake trout collected from Grand Traverse Bay in 2009 was 0.3 ppm. A total of 34 lake trout were collected since 1997 and all fish exceeded women and children screening values for total PCB. The

overall median total PCB concentration was 1.22 ppm. Nine of the 34 (28%) lake trout collected since 1997 exceeded the general population “no consumption” screening value.

Chlordane concentrations were below MDCH “restrict consumption” screening values in all 10 lake trout (Figure 25); the median chlordane concentration was 0.04 ppm. Of the 34 lake trout collected since 1997, a total of 11 (32%) had chlordane concentrations exceeding the MDCH “restrict consumption” screening value.

Dioxin, furan, and dioxin-like PCB congeners were analyzed in 10 lake trout collected in 2009. Dioxin TEQ concentrations exceeded the MDCH screening value in 8 (80%) fish (Table 9; Figure 26) and the median concentration was 19.8 ppm.

Recommendations: The MDCH should consider advising that no one eat lake trout from Lake Michigan due to elevated concentration of dioxin and PCBs.

**Lake Michigan, Platte River (ID 2009218) and St. Joseph River (ID 2009219)
*Chinook Salmon and Coho Salmon***

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per week of Lake Michigan chinook salmon less than 26 inches and no more than 6 meals per year of chinook salmon larger than 26 inches due to elevated levels of PCBs. Children and women of child bearing age should eat no more than 1 meal per week of Lake Michigan coho salmon less than 30 inches and no more than 6 meals per year of coho salmon larger than 30 inches due to elevated levels of PCBs.

Comparison to Screening Values: Ten chinook salmon ranging in length from 18 to 38 inches were collected from Lake Michigan, Platte River, at the Platte River hatchery, and 10 ranging in length from 25 to 35 inches were collected from the St. Joseph River at Berrien Springs in 2009. Total PCB concentration exceeded women and children screening values in 19 fish (Table 7; Figure 27). Concentrations in 12 fish were in the women and children “1 meal per week” range and 7 were in “1 meal per month” range. The median total PCB concentration was 0.15 ppm. A total of 33 samples were analyzed since 1997 (1997 samples were analyzed as composites). The overall median total PCB concentration was 0.32 ppm.

Hg, total DDT, and total chlordane concentrations were below MDCH screening values in all 20 chinook salmon collected from Lake Michigan in 2009.

Ten coho salmon ranging in length from 13 to 31 inches were collected from Lake Michigan, Platte River, in 2009. Total PCB concentrations exceeded MDCH women and children screening values in 8 fish (Table 7; Figure 28). Concentrations in 7 fish were in the women and children “1 meal per week” range and 1 was in the “1 meal per month” range; the median total PCB concentration was 0.1 ppm. A total of 20 coho salmon were collected from the Platte River since 1998 (1998 samples were analyzed composite samples). The overall median total PCB concentration of the coho salmon collected since 1998 was 0.13 ppm.

Hg, total DDT, and total chlordane concentrations were below MDCH screening values in all 10 coho salmon collected from Lake Michigan in 2009.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Big Crooked Lake, Van Buren County (ID 2009203)
Largemouth Bass

Existing MDCH Advisory: Big Crooked Lake largemouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten largemouth bass ranging in length from 13 to 16 inches were collected from Big Crooked Lake in 2009 and analyzed for the standard suite of contaminants and Se.

Total PCB, total DDT, total chlordane, and Se concentrations were below MDCH screening values in all 10 largemouth bass.

Hg concentrations were below the MDCH “restrict consumption” screening value in all 10 largemouth bass collected from Big Crooked Lake in 2009 (Figure 29). The median Hg concentration in the 7 largemouth bass larger than the 14-inch legal size limit was 0.15 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Boardman River, Brown Bridge Pond (ID 2007301)
Northern Pike and White Sucker

Existing MDCH Advisory: Boardman River, Brown Bridge Pond, northern pike are covered by the statewide Hg advisory. White sucker are not covered by an advisory.

Comparison to Screening Values: Six northern pike ranging from 18 to 25 inches were collected from the Boardman River, Brown Bridge Pond, in 2007 and analyzed for Hg only. Hg concentration exceeded the MDCH “restrict consumption” screening value in 2 fish (Table 8; Figure 30). The median Hg concentration was 0.47 ppm. Only 1 of the northern pike collected was of legal size.

Ten white sucker ranging in length from 17 to 21 inches were collected from the Boardman River, Brown Bridge Pond, in 2007 and analyzed for the standard suite of contaminants. Hg, total PCB, total DDT, and total chlordane concentrations were below MDCH screening values in all 10 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Campbell Lake, Kent County (ID 2006005)
Largemouth Bass

Existing MDCH Advisory: Campbell Lake largemouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten largemouth bass ranging in length from 12 to 19 inches were collected from Campbell Lake in 2006 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening value in 6 fish (Table 8; Figure 31). The median total Hg concentration in the 5 legal size fish was 0.60 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Chicagon Lake, Iron County (ID 2008208)

Walleye

Existing MDCH Advisory: Chicagon Lake walleye are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten walleye ranging in length from 15 to 25 inches were collected from Chicagon Lake in 2008 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 5 walleye collected from Chicagon Lake in 2008 (Table 8; Figure 32) and the median Hg concentration was 0.52 ppm. A total of 17 walleye were collected from Chicagon Lake since 1994 and the overall median Hg concentration was 0.63 ppm.

Se concentrations were below the MDCH screening value in all 10 walleye collected from Chicagon Lake in 2008.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Clear Lake, St. Joseph County (ID 2009208)

Northern Pike

Existing MDCH Advisory: Clear Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 19 to 33 inches were collected from Clear Lake in 2009 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening value in 2 fish (Table 8; Figure 33). The median Hg concentration in the 7 northern pike larger than the 24-inch legal size limit was 0.40 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Crooked Lake, Baraga County (ID 2006120)

Largemouth Bass

Existing MDCH Advisory: Crooked Lake largemouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Four largemouth bass ranging in length from 13 to 14 inches were collected from Crooked Lake in 2006 and analyzed for Hg and Se.

Hg concentrations in 1 largemouth bass exceeded the MDCH “restrict consumption” screening value (Table 8; Figure 34). The median Hg concentration was 0.48 ppm. All 4 largemouth bass were smaller than the 14-inch legal size limit.

Se concentrations were below the MDCH screening values in all 4 largemouth bass collected from Crooked Lake in 2006.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Deer Lake, Iron County (ID 2006011)
Northern Pike

Existing MDCH Advisory: Deer Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 20 to 28 inches were collected from Deer Lake in 2006 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 7 fish (Table 8; Figure 35); the median Hg concentration in the 5 northern pike larger than the 24-inch legal size limit was 0.50 ppm.

Se concentrations were below the MDCH screening value in all 10 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Dodge Lake, Schoolcraft County (ID 2006121)
Largemouth Bass

Existing MDCH Advisory: Dodge Lake largemouth bass and northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten largemouth bass ranging in length from 11 to 17 inches were collected from Dodge Lake in 2006 and analyzed for Hg and Se.

Hg concentrations were below the MDCH “restrict consumption” screening value in all 10 largemouth bass collected in 2006 (Figure 36). The median Hg concentration in the 3 largemouth bass larger than the 14-inch legal size limit was 0.4 ppm.

Se concentrations were below the MDCH screening values in all 10 largemouth bass collected in 2006.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Eel Lake, Gogebic County (ID 2009211)
Black Crappie

Existing MDCH Advisory: Eel Lake black crappie are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten black crappie ranging in length from 8 to 13 inches were collected from Eel Lake in 2009 and analyzed for Hg and Se.

Hg concentrations were below the MDCH “restrict consumption” screening value in all 10 fish (Figure 37). The median Hg concentration was 0.1 ppm.

Se concentrations were below the MDCH screening values in all 10 black crappie collected from Eel Lake in 2009.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Fish Lake, Marquette County (ID 2009212)
Northern Pike

Existing MDCH Advisory: Fish Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 18 to 35 inches were collected from Fish Lake in 2009 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “no consumption” screening value in 1 fish and the “restrict consumption” screening value in 4 fish (Table 8; Figure 38). The median Hg concentration of the 5 legal sized fish was 0.7 ppm. A total of 21 northern pike were collected from Fish Lake since 1988 and the median Hg concentration was 0.34 ppm.

Se concentrations were below the MDCH screening value in all 10 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Glen Lake, Leelanau County (ID 2009236)
Lake Trout

Existing MDCH Advisory: No one should eat Glen Lake lake trout larger than 30 inches due to elevated levels of Hg, PCBs, and chlordane. Children and women of child bearing age should eat no more than 1 meal per week of Glen Lake lake trout less than 18 inches, and no more than 1 meal per month of lake trout between 18 and 30 inches. The general population should not eat more than 1 meal per week of lake trout between 22 and 30 inches.

Comparison to Screening Values: Nine lake trout ranging in length from 17 to 27 inches were collected from Glen Lake in 2009. Total PCB concentrations exceeded women and children screening values in 7 fish (Table 7; Figure 39). Concentrations in 5 fish were in the “1 meal per week” range and 2 fish were in the “1 meal per month” range. The median total PCB concentration was 0.114 ppm. A total of 19 lake trout were collected from Glen Lake since 1990 with a median total PCB concentration of 0.19 ppm.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 3 lake trout collected in 2009 (Table 8; Figure 40). The median Hg concentration was 0.44 ppm. A total of 19 lake trout were collected from Glen Lake since 1990 with a median Hg concentration of 0.19 ppm.

Total chlordane concentrations were below the MDCH “restrict consumption” screening value in all 9 lake trout collected from Glen Lake in 2009 (Figure 41). Since 1990, 4 of the 19 (21%) exceeded the “restrict consumption” screening value and the overall median total chlordane concentration was 0.06 ppm.

Dioxin, furan, and dioxin-like PCB congeners were analyzed in 9 lake trout. Dioxin TEQ concentrations exceeded the MDCH screening value in 4 of the 9 (44%) fish (Table 9; Figure 42). Four of 8 (50%) lake trout larger than 22 inches had dioxin TEQ concentrations exceeding the MDCH screening value.

Recommendations: The MDCH should consider advising children and women of child bearing age not to eat Glen Lake lake trout of any size, and the general population should not eat any Glen Lake lake trout larger than 22 inches due to elevated concentrations of dioxins.

Indian Lake, Iron County (ID 2008224)
Northern Pike

Existing MDCH Advisory: Indian Lake northern pike are covered the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 14 to 24 inches were collected from Indian Lake in 2008 and analyzed Hg and Se. There is no size limit on northern pike from Indian Lake.

Hg concentrations in 1 northern pike exceeded the MDCH “restrict consumption” screening value (Table 7; Figure 43). The median Hg concentration was 0.16 ppm.

Se concentrations were below the MDCH screening value in all 10 northern pike.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Mary Lake, Dickinson County (ID 2008236)
Largemouth Bass

Existing MDCH Advisory: Mary Lake largemouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten largemouth bass ranging in length from 11 to 16 inches were collected from Mary Lake in 2008 and analyzed for Hg and Se.

Hg concentration in 6 largemouth bass exceeded the MDCH “restrict consumption” screening value (Table 8; Figure 44). The median Hg concentration in the 5 largemouth bass larger than the 14-inch legal size limit was 0.7 ppm.

Se concentrations were below the MDCH screening values in all 10 largemouth bass.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Michigamme River, Michigamme Reservoir (ID 2008237)
Northern Pike and Walleye

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per month and the general population should eat no more than 1 meal per week of Michigamme Reservoir northern pike due to elevated levels of Hg. Children and women of child bearing age should eat no more than 1 meal per month and the general population should eat

no more than 1 meal per week of Michigamme Reservoir walleye less than 18 inches and no one should eat any walleye larger than 18 inches due to elevated levels of Hg.

Comparison to Screening Values: Ten northern pike ranging in length from 18 to 32 inches were collected from the Michigamme Reservoir in 2008 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 5 northern pike collected from the Michigamme Reservoir in 2008 and the median Hg concentration was 0.5 ppm (Table 8; Figure 45). The single northern pike larger than the 24-inch legal size limit had an Hg concentration of 1.2 ppm. A total of 21 northern pike were collected from the Michigamme Reservoir since 1995; the median Hg concentration in the 7 legal size northern pike was 1.07 ppm.

Se concentrations were below the MDCH screening value in all 10 northern pike collected from the Michigamme Reservoir in 2008.

Ten walleye ranging in length from 14 to 18 inches were collected from the Michigamme Reservoir in 2008 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 6 walleye collected from the Michigamme Reservoir in 2008 (Table 8; Figure 46). The median Hg concentration was 0.5 ppm. A total of 32 walleye were collected from the Michigamme Reservoir since 1995; the median Hg concentration in the 29 walleye larger than the 15-inch legal size limit was 0.56 ppm. The median Hg concentration in walleye greater than 18 inches was 0.64 ppm.

Se concentrations were below the MDCH screening value in all 10 walleye collected from the Michigamme Reservoir in 2008.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Payne Lake, Barry County (ID 2009223)
Northern Pike

Existing MDCH Advisory: Payne Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Eight northern pike ranging in length from 19 to 28 inches were collected from Payne Lake in 2009 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening values in all 8 fish (Table 8; Figure 47). The median Hg concentration in the 5 northern pike larger than the 24-inch legal size limit was 0.8 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Pere Marquette Lake, Mason County (ID 2007245)
Northern Pike

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per month of Pere Marquette Lake northern pike due to elevated levels of PCBs.

Comparison to Screening Values: Ten northern pike ranging in length from 13 to 33 inches were collected from Pere Marquette Lake in 2007. Total PCB concentrations in 2 fish exceeded women and children screening values (Table 7; Figure 48). The concentration in 1 northern pike was in the “1 meal per week” range and 1 fish had a concentration in the “1 meal per month” range. The median total PCB concentration in the 3 northern pike larger than the 24-inch legal size was 0.06 ppm. A total of 20 northern pike were collected from Pere Marquette Lake since 2003; the median total PCB concentration in the 7 legal size northern pike was 0.07 ppm.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 1 northern pike collected from Pere Marquette Lake. The median Hg concentration in the 3 legal size fish collected in 2007 was 0.2 ppm (Table 8; Figure 49). The median Hg concentration in the 7 legal size northern pike collected since 2003 was 0.24 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Thumb Lake, Charlevoix County (ID 2008257)
Largemouth and Smallmouth Bass

Existing MDCH Advisory: Thumb Lake largemouth and smallmouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Nine largemouth bass and 3 smallmouth bass ranging in length from 13 to 16 inches were collected in 2008 and analyzed for Hg only. Hg concentrations exceeded the MDCH “restrict consumption” screening values in 2 fish (Table 8; Figure 50). The median Hg concentration in the 9 bass larger than the 14-inch legal size limit was 0.36 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Twin Lake, Luce County (ID 2009233)
Northern Pike

Existing MDCH Advisory: Twin Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 19 to 25 inches were collected from Twin Lake in 2009 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “no consumption” screening value in 1 fish and exceeded the MDCH “restrict consumption” in 9 fish (Table 8; Figure 51). The median Hg concentration in the 2 northern pike larger than the 24-inch legal size limit was 1.20 ppm.

Se concentrations were below the MDCH screening value in all 10 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Wells Lake, Osceola County (ID 2006088)
Northern Pike

Existing MDCH Advisory: Wells Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Seven northern pike ranging in length from 10 to 22 inches were collected from Wells Lake in 2006 and analyzed for Hg only. Hg concentrations were below the MDCH “restrict consumption” screening value in all 7 fish. There is no size limit on Wells Lake northern pike and the median Hg concentration was 0.25 ppm (Table 8; Figure 52).

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

3.3.4 Lake Superior Watershed

Lake Superior, Tahquamenon River (ID 2008254)
Walleye

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per month and the general population should eat no more than 1 meal per week of Lake Superior walleye larger than 22 inches due to elevated levels of Hg.

Comparison to Screening Values: Ten walleye ranging in length from 15 to 23 inches were collected from the Tahquamenon River between the river mouth and the Tahquamenon Falls in 2008 and analyzed for the standard suite of contaminants. Total PCB, total DDT, and total chlordane concentrations were below MDCH screening values in all 10 fish.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 1 walleye collected from the Tahquamenon River in 2008 (Figure 53). The median total Hg concentration was 0.23 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Bobcat Lake, Gogebic County (ID 2009204)
Northern Pike

Existing MDCH Advisory: Bobcat Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Six northern pike ranging in length from 23 to 28 inches were collected from Bobcat Lake in 2009 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “no consumption” screening value in 1 fish and exceeded the “restrict consumption” screening value in 5 fish (Table 8; Figure 54). The median Hg concentration in the 3 northern pike larger than the 24-inch legal size limit was 1.1 ppm.

Se concentrations were below the MDCH screening value in all 6 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Bodi Lake, Luce County (ID 2009205)
Northern Pike

Existing MDCH Advisory: Bodi Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 20 to 29 inches were collected from Bodi Lake in 2009 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 4 fish (Table 8; Figure 55). The overall median Hg concentration was 0.39 ppm, and the median concentration in the 2 northern pike larger than the 24-inch legal size limit was 0.5 ppm.

Se concentrations were below the MDCH screening values in all 10 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Chaney Lake, Gogebic County (ID 2009206)
Northern Pike

Existing MDCH Advisory: Children and women of child bearing age should eat no more than 1 meal per month and the general population should eat no more than 1 meal per week of Chaney Lake northern pike less than 26 inches and no one should eat any northern pike larger than 26 inches due to elevated levels of Hg.

Comparison to Screening Values: Ten northern pike ranging in length from 20 to 28 inches were collected from Chaney Lake in 2009 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “no consumption” screening value in 2 northern pike and exceeded the “restrict consumption” screening value in 8 fish (Table 8; Figure 56). The median Hg concentration was 1.1 ppm. A total of 22 northern pike were collected from Chaney Lake since 1998. The median Hg concentration in the 15 northern pike larger than the 24-inch legal size limit was 1.26 ppm.

Se concentrations were below the MDCH screening values in all 10 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Clearwater Lake, Gogebic County (ID 2009209)
Northern Pike

Existing MDCH Advisory: Clearwater Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Four northern pike ranging in length from 20 to 29 inches were collected from Clearwater Lake in 2009 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 2 northern pike (Table 8; Figure 57). There is no size limit for northern pike taken from Clearwater Lake, and the median Hg concentration was 0.5 ppm.

Se concentrations were below the MDCH screening values in all 4 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Engman Lake, Marquette County (ID 2006013)
Northern Pike

Existing MDCH Advisory: Engman Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 11 to 25 inches were collected from Engman Lake in 2006 and analyzed for the standard suite of contaminants.

Total PCB, total DDT, and total chlordane concentrations were at or below detection or quantification limits in all 10 northern pike.

Hg concentration exceeded the MDCH “restrict consumption” screening value in 2 northern pike collected from Engman Lake in 2006 (Table 8; Figure 58). There is no size limit for northern pike taken from Engman Lake. The median Hg concentration was 0.39 ppm and regression analysis indicates that northern pike larger than 22 inches are likely to have Hg concentrations exceeding the MDCH “restrict consumption” screening value.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Johnson Lake, Marquette County (ID 2008225)
Northern Pike

Existing MDCH Advisory: Johnson Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten northern pike ranging in length from 18 to 25 inches were collected from Johnson Lake in 2008 and analyzed for Hg and Se.

Hg concentrations were below the MDCH “restrict consumption” screening value in all 10 northern pike collected from Johnson Lake (Figure 59). The median Hg concentration in the 4 northern pike larger than the 24-inch legal size limit was 0.30 ppm.

Se concentrations were below the MDCH screening values in all 10 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Kingston Lake, Alger County (ID 2008750)
Largemouth Bass

Existing MDCH Advisory: Kingston Lake largemouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten largemouth bass ranging in length from 13 to 16 inches were collected from Kingston Lake in 2008 and analyzed for Hg and Se.

Hg concentrations were below the MDCH “restrict consumption” screening value in all 10 largemouth bass collected from Kingston Lake in 2008 (Figure 60), and the median Hg concentration was 0.3 ppm. A total of 12 largemouth bass and 1 smallmouth bass were collected from Kingston Lake since 2003; the median Hg concentration in the 10 fish larger than the 14-inch legal size limit was 0.3 ppm.

Se concentrations were below the MDCH screening values in all 10 fish.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Lake Fannie Hooe, Keweenaw County (ID 2007225)
Smallmouth Bass

Existing MDCH Advisory: Lake Fannie Hooe smallmouth bass are covered by the statewide Hg advisory.

Comparison to Screening Values: Seven smallmouth bass ranging in length from 11 to 14 inches were collected from Lake Fannie Hooe in 2007 and analyzed for Hg and Se.

Hg concentrations were above the MDCH “restrict consumption” screening value in 1 smallmouth bass collected from Lake Fannie Hooe in 2007 (Table 8; Figure 61). One smallmouth bass was larger than the 14-inch legal size limit and it had an Hg concentration of 0.66 ppm.

Se concentrations were below MDCH screening values in all 7 smallmouth bass collected from Lake Fannie Hooe.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Monacle Lake, Chippewa County (ID 2009222)
Walleye

Existing MDCH Advisory: Monacle Lake walleye are covered by the statewide Hg advisory.

Comparison to Screening Values: Seven walleye ranging in length from 11 to 19 inches were collected from Monacle Lake in 2009 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “restrict consumption” screening value in 1 fish (Table 8; Figure 62). The median Hg concentration in the 5 walleye larger than the 15-inch legal size limit was 0.39 ppm.

Se concentrations were below the MDCH screening values in all 10 walleye collected from Monacle Lake.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Muskallonge Lake, Luce County (ID 2008751)

Walleye

Existing MDCH Advisory: Muskallonge Lake walleye are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten walleye ranging in length from 15 to 22 inches were collected from Muskallonge Lake in 2008 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “no consumption” screening value in 1 walleye and exceeded the MDCH “restrict consumption” screening value in 6 walleye collected from Muskallonge Lake (Table 8; Figure 63). All 10 walleye were of legal size and the median Hg concentration was 0.65 ppm.

Se concentrations were below the MDCH screening values in all 9 fish analyzed for Se.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Nawakwa Lake, Alger County (ID 2008241)

Rock Bass and Walleye

Existing MDCH Advisory: Nawakwa Lake rock bass and walleye are covered by the statewide Hg advisory.

Comparison to Screening Values: Ten rock bass ranging in length from 7 to 11 inches were collected from Nawakwa Lake in 2008 and analyzed for Hg and Se.

Hg concentrations were below the MDCH “restrict consumption” screening value in all 10 fish and the median Hg concentration was 0.3 ppm (Table 8; Figure 64).

Se concentrations were below the MDCH screening values in all 10 rock bass collected from Nawakwa Lake.

Five walleye ranging in length from 15 to 20 inches were collected from Nawakwa Lake in 2008 and analyzed for Hg and Se.

Hg concentrations were above the MDCH “restrict consumption” screening value in 3 walleye collected from Nawakwa Lake (Table 8; Figure 65). All 5 walleye were of legal size and the median Hg concentration was 0.57 ppm. A total of 25 walleye were collected from Nawakwa Lake since 1999 and had a median Hg concentration of 0.7 ppm.

Se concentrations were below the MDCH screening values in all 5 walleye collected from Nawakwa Lake.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Pike Lake, Houghton County (ID 2007246)
Northern Pike

Existing MDCH Advisory: Pike Lake northern pike are covered by the statewide Hg advisory.

Comparison to Screening Values: Six northern pike ranging in length from 18 to 25 inches were collected from Pike Lake in 2007 and analyzed for Hg and Se.

Hg concentrations exceeded the MDCH “no consumption” screening value in 1 fish and exceeded the MDCH “restrict consumption” screening value in 5 fish (Table 8; Figure 66). One northern pike was larger than the 24-inch legal size limit and had an Hg concentration of 1.6 ppm.

Se concentrations were below the MDCH screening values in all 6 northern pike collected from Pike Lake.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

Tank Lake, Luce County (ID 2008255)
Splake

Existing MDCH Advisory: Tank Lake splake are not covered by an advisory.

Comparison to Screening Values: Ten splake ranging in length from 10 to 18 inches were collected from Tank Lake in 2008. Total PCB concentrations were below women and children screening values in all 10 fish collected and the median total PCB concentration was 0.001 ppm.

Hg concentrations were below the MDCH “restrict consumption” screening value in all splake collected from Tank Lake in 2008. The median Hg concentration in the 9 splake larger than the 12-inch legal size limit was 0.11 ppm.

Recommendations: No changes to the advisory are recommended and additional monitoring is not needed at this time.

3.3.5 Special Monitoring

Lange/Revere Canals, Lake St. Clair (ID 2010303)
Carp and Largemouth Bass

In 2001 high levels of PCBs were discovered in sediments in the Lange/Revere canals on Lake St. Clair in the city of St. Clair Shores. Additional monitoring has indicated that the problem persists even after the removal of significant amounts of contaminated sediments from the canals and the storm drain system that discharges into the canals.

The 2010 MDCH fish consumption advisory recommends that children and women of childbearing age should not eat more than 1 meal per month, and the general population should not eat more than 1 meal per week of carp from Lake St. Clair due to elevated levels of PCBs. Also, children and women of childbearing age should not eat more than 1 meal per month, and the general population should not eat more than 1 meal per week of largemouth bass from

Lake St. Clair due to elevated levels of Hg and PCBs. This advice is based on samples collected in the northern part of Lake St. Clair in Anchor Bay, roughly 12 miles northeast of the Lange/Revere canals. Lake St. Clair carp were sampled most recently in 2001; largemouth bass were last sampled in 1994 but smallmouth bass, which generally have contaminant concentrations equivalent to largemouth bass, were sampled in 2003.

At the request of the MDCH and the Macomb County Health Department, samples of black crappie, carp, largemouth bass, and pumpkinseed were collected from the canals to evaluate the potential risk to human health caused by fish consumption. Samples were analyzed for the standard suite of contaminants. Preliminary results for the carp and for 1 largemouth bass were available for this report.

Results indicate that total PCB concentrations in the 12 carp collected from the Lange/Revere canals ranged from 13 to 215 ppm, with a median concentration of 88 ppm. Results were available for 1 of 13 largemouth bass collected; the total PCB concentration in that fish was 3.9 ppm. These results will be verified through reruns of a subset of samples and by analysis of the remaining samples of largemouth bass, black crappie, and pumpkinseed. However, given the high concentrations observed, we recommend that the MDCH consider advising that no one eat any species of fish from the Lange/Revere canals. As a further precaution, we recommend that the MDCH consider advising that no one eat carp caught in Lake St. Clair; we also recommend that the same advice be extended to channel catfish since that species generally has PCB concentrations similar to carp from the same waters.

Escanaba River, East and Middle Branches, Marquette County ***Brook Trout and White Sucker***

Cliffs Natural Resources operates the Empire and Tilden mining facilities in the Marquette Iron Range near the town of Palmer (Marquette County). Concerns about Se in facility effluents, waste rock seeps, and nearby surface waters led to a series of monitoring efforts to evaluate both potential ecological impacts and human health risks due to consumption of fish from affected water bodies.

Analysis of fillets of fish collected from Goose Lake in 2008 prompted the MDCH to advise that no one eat more than 1 meal per month of northern pike or white sucker from the lake due to elevated levels of Se. Analysis of whole fish samples of brook trout and white sucker collected from the same stream reach in 2008 indicate that the two species have similar Se concentrations where they coexist (Kohlhepp, 2009 and 2010). The whole fish samples from streams in the watershed affected by the mining facility (Table 10; Figure 67) also indicate that advisories for the consumption of stream fish might also be appropriate.

In 2010, Cliffs Natural Resources collected and analyzed brook trout as fillet samples from 7 stream sites potentially impacted by facility discharges and from 1 reference site upstream of the facility influence (Table 11; Figure 67). The samples were collected, processed, and analyzed using protocols and procedures equivalent to those used for the MDEQ, FCMP.

The Se concentrations in brook trout fillets from the impacted stream sites were consistently well above the concentrations measured at the reference site (Figure 68). There was no correlation between fish length and Se concentration. With one exception, the median Se concentration at each of the impacted sites was in the 1 meal per week consumption advice range (between 2.5 and 7.4 ppm). The one exception was in the Goose Lake outlet downstream of the Tilden outfall 002 (GL2) where the median Se concentration was in the

1 meal per month range at 7.6 ppm. The overall median Se concentration in all brook trout from the 7 impacted sites was 5.4 ppm. The median concentration in legal size brook trout (minimum size 7 inches) was 5.8 ppm.

It is apparent that Se concentrations in brook trout are highest near the Empire and Tilden mining and ore processing facilities and that the concentrations decline further downstream. Whole fish samples of 3 brook trout collected in 2008 from the East Branch Escanaba River at the city of Gwinn had a median Se concentration of 2.1 ppm. Samples of pumpkinseed, white sucker, common shiner, and blacknose dace were collected in 2008 from the Escanaba River immediately downstream of Boney Falls Dam (Delta County, approximately 32 river miles downstream of Gwinn); these were composited by species and analyzed as whole samples. The Se concentrations were low, ranging from 1.1 to 1.5 ppm with a median concentration of 1.2 ppm. These data indicate that fish from the Escanaba River downstream of Gwinn probably have Se concentrations below the MDCH screening levels.

We recommend that the MDCH consider advising that no one eat more than 1 meal per week of brook trout or white sucker from the Middle and East Branches of the Escanaba River, or their tributaries, upstream of the confluence of the 2 branches near Gwinn, Michigan, due to elevated levels of Se. Additional brook trout should be collected near Gwinn, from both the Middle Branch Escanaba River and the Escanaba River, in order to verify the downstream extent of elevated Se concentrations in fish.

3.4 Summary of Recommendations

The MDCH should consider relaxing fish consumption advisories at 2 sites and adding or expanding advisories at 6 sites. Also, additional monitoring is recommended for 5 water bodies.

3.4.1 Summary of Recommendations for Relaxed Advisories

The MDCH should consider removing chlordane from the list of contaminants causing the fish consumption advisory for Lake Orion carp.

The MDCH should consider removing the PCB advisory on Rifle River rock bass.

3.4.2 Summary of Recommendations for Expanded Advisories

The MDCH should consider advising children and women of child bearing age to eat no more than 1 meal per month of Portage Lake (Livingston and Washtenaw Counties) carp larger than 26 inches due to elevated levels of PCBs.

The MDCH should consider recommending that no one eat South Lake (Washtenaw County) northern pike larger than 30 inches due to elevated levels of Hg.

The MDCH should consider advising that no one eat lake trout from Lake Michigan due to elevated concentrations of dioxin and PCBs.

The MDCH should consider advising children and women of child bearing age not to eat Glen Lake lake trout of any size, and the general population should not eat any Glen Lake lake trout larger than 22 inches due to elevated concentrations of dioxins.

The MDCH should consider advising that no one eat any species of fish from the Lange/Revere canals in St. Clair Shores. The MDCH should also consider advising that no one eat carp or channel catfish caught in the vicinity of the city of St. Clair Shores due to elevated levels of PCBs.

The MDCH should consider advising that no one eat more than 1 meal per week of brook trout or white sucker from the Middle and East Branches of the Escanaba River or their tributaries, upstream of the confluence of the 2 branches near Gwinn, Michigan, due to elevated levels of Se.

3.4.3 Summary of Recommendations for Additional Monitoring

Additional carp and walleye should be collected from the St. Clair River to evaluate the possibility of relaxing the advisory based on PCBs and Hg.

Additional Lake Huron chinook salmon should be collected to evaluate the possibility of relaxing the consumption advisory based on total PCBs.

Additional Bad River northern pike should be collected to evaluate the possibility of relaxing the consumption advisory based on total PCBs.

Additional redhorse suckers or white suckers should be collected from the Rifle River during a spawning run to evaluate the possibility of relaxing the advisory based on PCBs.

Additional brook trout should be collected from both the Middle Branch Escanaba River and the Escanaba River near Gwinn in order to verify the downstream extent of elevated Se concentrations in fish.

3.5 Summary of WQS Attainment Status

The MDEQ-WRD is required by the federal Clean Water Act to describe the water quality of all navigable waters of the state and to provide an analysis of the extent to which these waters support designated uses. Designated uses are set forth in Rule 100 (R 323.1100) of the Part 4 Rules, WQS, promulgated under Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Michigan Compiled Laws). States are required by the Clean Water Act to develop a list of water bodies that do not support designated uses or do not attain WQS, and therefore require the development of a Total Maximum Daily Load (TMDL). The MDEQ-WRD compiles a biennial integrated report, which includes that list, in order to satisfy Clean Water Act requirements.

Water bodies are evaluated and placed into at least one reporting category for each of 10 designated uses. A water body is placed in Category 1 if all designated uses are supported and no use is threatened and in Category 2 if some designated uses are supported. Category 3 indicates that there is not sufficient data to determine if any of the designated uses are met. Category 4 includes water bodies that have a threatened or impaired designated use, but do not need a TMDL developed because either: (a) a TMDL has been approved or established by the USEPA; (b) an impairment caused by a pollutant is being addressed through other pollution control requirements; or (c) an impairment is not caused by a pollutant. Lastly, if a water body does not attain WQS and is in need of TMDL development, it is listed in Category 5.

The fish consumption designated use protects a water body's ability to provide a fishery for human consumption. Attainment status of the fish consumption designated use is determined for water bodies with site-specific data, water column concentrations of Bioaccumulative Chemicals of Concern, fish tissue concentrations of Bioaccumulative Chemicals of Concern, and/or Fish Consumption Advisories issued by the MDCH. Details of the methods used to make attainment status determinations as well as changes in attainment status are subject to biennial review, and are presented in the 2010 Sections 303(d), 305(b), and 314 Integrated Report (LeSage and Smith, 2010).

The sites assessed for the FCMP 2010 Annual Edible Portion Report represented 51 water bodies of which 30 had not been previously assessed for the fish consumption designated use (Table 12). Pending review by MDEQ staff and the public, as well as approval by the USEPA, 16 of the previously unassessed water bodies will be designated as Category 5; 4 as Category 2; and 10 as Category 3 for fish consumption. In addition, 4 previously assessed water bodies will have the fish consumption attainment status changed as follows: 1 water body will be changed from Category 3 to Category 5; 1 from Category 3 to Category 2; 1 from Category 5 to Category 2; and 1 from Category 2 to Category 5. Final water body record modifications will be presented in the 2012 Integrated Report.

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SECTION 4.0

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Table 1. Standard edible portions of Michigan's sport and commercial fishes.

Standard Edible Portion	Common Name	Scientific Name
Skin-on Fillet	Yellow Perch	<i>Perca flavescens</i>
	Walleye	<i>Sander vitreus</i>
	Sauger	<i>Sander canadense</i>
	Largemouth Bass	<i>Micropterus salmonids</i>
	Smallmouth Bass	<i>Micropterus dolomieu</i>
	Bluegill	<i>Lepomis macrochirus</i>
	Pumpkinseed	<i>Lepomis gibbosus</i>
	Rock Bass	<i>Ambloplites rupestris</i>
	White Bass	<i>Morone chrysops</i>
	Black Crappie	<i>Pomoxis nigromaculatus</i>
	White Crappie	<i>Pomoxis annularis</i>
	Green Sunfish	<i>Lepomis cyanellus</i>
	Longear Sunfish	<i>Lepomis megalotis</i>
	Warmouth	<i>Lepomis gulosus</i>
	White Sucker	<i>Catostomus commersonii</i>
	Redhorse Sucker	<i>Moxostoma</i> spp.
	Lake Whitefish	<i>Coregonus clupeaformis</i>
	Lake Trout (lean & ciscowet)	<i>Salvelinus namaycush</i>
	Rainbow Trout (Steelhead)	<i>Oncorhynchus mykiss</i>
Brown Trout	<i>Salmo trutta</i>	
Brook Trout	<i>Salvelinus fontinalis</i>	
Splake	<i>Salvelinus fontinalis</i> X <i>Salvelinus namaycush</i>	
	Atlantic Salmon	<i>Salmo salar</i>
	Coho Salmon	<i>Oncorhynchus kisutch</i>
	Chinook Salmon	<i>Oncorhynchus tshawytscha</i>
	Pink Salmon	<i>Oncorhynchus gorbuscha</i>
Skin-off Fillet	Black Bullhead	<i>Ameiurus melas</i>
	Brown Bullhead	<i>Ameiurus nebulosus</i>
	Yellow Bullhead	<i>Ameiurus natalis</i>
	Channel Catfish	<i>Ictalurus punctatus</i>
	Muskellunge	<i>Esox masquinongy</i>
	Northern Pike	<i>Esox lucius</i>
	Round Whitefish (Menominee)	<i>Prosopium cylindraceum</i>
	Lake Herring	<i>Coregonus artedii</i>
	Chubs	<i>Coregonus</i> sp
	Carp	<i>Cyprinus carpio</i>
	Freshwater Drum (Sheepshead)	<i>Aplodinotus grunniens</i>
Buffalo	<i>Ictiobus cyprinellus</i>	
Burbot	<i>Lota lota</i>	
Quillback	<i>Carpiodes cyprinus</i>	
Skin-off Steak	Sturgeon	<i>Acipenser fulvescens</i>
Headless, Gutted	Rainbow Smelt	<i>Osmerus mordax</i>

Table 2. Contaminants quantified in edible portion fish tissue samples.

<u>Standard Analyses</u>	<u>Level of Quantification</u>
Hexachlorobenzene	0.001 ppm
<i>gamma</i> -BHC (Lindane)	0.001 ppm
Aldrin	0.001 ppm
Dieldrin	0.001 ppm
4,4'-DDE	0.001 ppm
4,4'-DDD	0.001 ppm
4,4'-DDT	0.001 ppm
2,4'-DDE	0.001 ppm
2,4'-DDD	0.001 ppm
2,4'-DDT	0.001 ppm
Heptachlor Epoxide	0.001 ppm
Hg	0.010 ppm
Se	0.010 ppm
Oxychlordane	0.001 ppm
<i>gamma</i> -Chlordane	0.001 ppm
<i>trans</i> -Nonachlor	0.001 ppm
<i>alpha</i> -Chlordane	0.001 ppm
<i>cis</i> -Nonachlor	0.001 ppm
Octachlorostyrene	0.001 ppm
Hexachlorostyrene	0.001 ppm
Heptachlorostyrene	0.001 ppm
Pentachlorostyrene	0.001 ppm
Heptachlor	0.001 ppm
Terphenyl	0.250 ppm
Toxaphene	0.050 ppm
Mirex	0.001 ppm
PBB (FF-1, BP-6)	0.001 ppm
Total PCB (congener method)	0.001 ppm

Table 3. PCB structure and corresponding identification number of congeners quantified in fish tissue samples.

BZ#	Structure	BZ#	Structure
	TRICHLOROBIPHENYLS		HEXACHLOROBIPHENYLS
17	2,2',4	128	2,2',3,3',4,4'
18	2,2',5	130	2,2',3,3',4,5'
22	2,3,4'	132	2,2',3,3',4,6'
25	2,3',4	135	2,2',3,3',5,6'
26	2,3',5	136	2,2',3,3',6,6'
28	2,4,4'	137	2,2',3,4,4',5
31	2,4',5	138	2,2',3,4,4',5'
32	2,4',6	141	2,2',3,4,5,5'
33	2',3,4	144	2,2',3,4,5',6
37	3,4,4'	146	2,2',3,4',5,5'
	TETRACHLOROBIPHENYLS	149	2,2',3,4',5',6
40	2,2',3,3'	151	2,2',3,5,5',6
42	2,2',3,4'	153	2,2',4,4',5,5'
44	2,2',3,5'	156	2,3,3',4,4',5
45	2,2',3,6	157	2,3,3',4,4',5'
47	2,2',4,4'	158	2,3,3',4,4',6
49	2,2',4,5'	163	2,3,3',4',5,6
52	2,2',5,5'	167	2,3',4,4',5,5'
56	2,3,3',4'		HEPTACHLOROBIPHENYLS
60	2,3,4,4'	170	2,2',3,3',4,4',5
63	2,3',4',5	171	2,2',3,3',4,4',6
64	2,3,4',6	172	2,2',3,3',4,5,5'
66	2,3',4,4'	174	2,2',3,3',4,5,6'
70	2,3',4',5	175	2,2',3,3',4,5',6
71	2,3',4',6	177	2,2',3,3',4',5,6
74	2,4,4',5	178	2,2',3,3',5,5',6
77	3,3',4,4'	179	2,2',3,3',5,6,6'
	PENTACHLOROBIPHENYLS	180	2,2',3,4,4',5,5'
82	2,2',3,3',4	182	2,2',3,4,4',5,6'
84	2,2',3,3',6	183	2,2',3,4,4',5',6
87	2,2',3,4,5'	185	2,2',3,4,5,5',6
90	2,2',3,4',5	187	2,2',3,4',5,5',6
91	2,2',3,4',6	190	2,3,3',4,4',5,6
92	2,2',3,5,5'	193	2,3,3',4',5,5',6
95	2,2',3,5',6		OCTACHLOROBIPHENYLS
97	2,2',3',4,5	194	2,2',3,3',4,4',5,5'
99	2,2',4,4',5	195	2,2',3,3',4,4',5,6
100	2,2',4,4',6	196	2,2',3,3',4,4',5,6'
101	2,2',4,5,5'	198	2,2',3,3',4,5,5',6
105	2,3,3',4,4'	199	2,2',3,3',4,5,6,6'
110	2,3,3',4',6	201	2,2',3,3',4,5,5',6'
118	2,3',4,4',5	203	2,2',3,4,4',5,5',6
126	3,3',4,4',5	205	2,3,3',4,4',5,5',6
			NONACHLOROBIPHENYLS
		206	2,2',3,3',4,4',5,5',6

BZ# = identification numbers adopted by the International Union of Pure and Applied Chemists.

Table 4a. Chlorinated dibenzo-p-dioxin (CDD) and chlorinated dibenzofuran (CDF) congeners quantified in fish tissue samples.

<u>CDD</u>	<u>Level of Quantification</u>
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1.0 ppt
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PCDD)	1.0 ppt
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.0 ppt
1,2,3,6,7,8-HxCDD	1.0 ppt
1,2,3,7,8,9-HxCDD	1.0 ppt
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.0 ppt
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	1.0 ppt
<u>CDF</u>	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1.0 ppt
1,2,3,7,8-Pentachlorodibenzofuran (PCDF)	1.0 ppt
2,3,4,7,8-PCDF	1.0 ppt
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1.0 ppt
1,2,3,6,7,8-HxCDF	1.0 ppt
1,2,3,7,8,9-HxCDF	1.0 ppt
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1.0 ppt
1,2,3,4,7,8,9-HpCDF	1.0 ppt
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.0 ppt

Table 4b. Coplanar PCB congeners analyzed for Michigan's FCMP.

<u>BZ#</u>	<u>Structure</u>	<u>Quantification Limit (ppt)</u>	
	TETRACHLOROBIPHENYLS		
077		3,3',4,4'	50.0
081		3,4,4',5	50.0
	PENTACHLOROBIPHENYLS		
105		2,3,3',4,4'	50.0
114		2,3,4,4',5	50.0
118		2,3',4,4',5	50.0
123		2',3,4,4',5	50.0
126		3,3',4,4',5	50.0
	HEXACHLOROBIPHENYLS		
156		2,3,3',4,4',5	50.0
157		2,3,3',4,4',5'	50.0
167		2,3',4,4',5,5'	50.0
169		3,3',4,4',5,5'	50.0
	HEPTACHLOROBIPHENYLS		
189		2,3,3',4,4',5,5'	50.0

BZ# = identification numbers adopted by the International Union of Pure and Applied Chemists.

Table 5. Screening values used by the MDCH to establish sport fish consumption advisories.

Chemical	MDCH Trigger Level
Total Chlordane	0.3 ppm (= mg/kg)
Total DDT	5.0 ppm
Dieldrin	0.3 ppm
Dioxin Toxic Equivalents#	10.0 ppt (= ng/kg)
Heptachlor (+Heptachlor Epoxide)	0.3 ppm
Hg	
Restrict Consumption	0.5 ppm
No Consumption	1.5 ppm
Mirex	0.1 ppm
Se	
1 Meal Per Week	2.5 ppm
1 Meal Per Month	16.0 ppm
6 Meals Per Year	32.0 ppm
No Consumption	64.0 ppm
Total PCB	
General Population	2.0 ppm
Women of Child Bearing Age and Children Under 15 Years	
1 Meal Per Week	0.05 ppm
1 Meal Per Month	0.2 ppm
6 Meals Per Year	1.0 ppm
No Consumption	1.9 ppm
Toxaphene	5.0 ppm

The MDCH advisory screening value for dioxin applies to total 2,3,7,8-TCDD toxic equivalent concentrations.

Table 6. Summary of chemicals quantified in edible portion fish tissue samples.

Chemical*	# of Sites Monitored	# of Sites Quantified	Concentration Range (ppm)	Location and Species with Maximum Concentration
Total Chlordane	20	19	K0.001-0.5	Tawas Lake, Iosco County- Black Crappie
Total DDT	20	20	0.001-2.978	Lake Michigan, Platte River- Coho
Dieldrin	20	16	K0.0001-0.033	Lake Michigan, Grand Traverse Bay- Lake Trout
Heptachlor Epoxide	20	11	K0.0005-0.0056	Lake Michigan, Grand Traverse Bay- Lake Trout
Hexachlorobenzene	20	14	K0.0002-0.0055	Lake Michigan, Grand Traverse Bay- Lake Trout
Mirex	20	14	K0.0002-0.003	St. Clair River, Marine City- Walleye
Hg	53	53	0.017-1.9	Fish Lake, Marquette County- Northern Pike
Octachlorostyrene	20	14	K0.0002-0.0042	Bad River, Saginaw County- Northern Pike
PBB	20	12	K0.0005-0.0033	Portage Lake, Livingston/Washtenaw County- Carp
Se	24	24	0.12-2.0	Deer Lake, Iron County- Northern Pike
Total PCB	20	19	K0.001-0.9398	Portage Lake, Livingston/Washtenaw County- Carp
Total PBDE				
Dioxin TEQ	2	2	5.57-49.12	Lake Michigan, Grand Traverse Bay- Lake Trout

K = Unquantified at the level shown.

* Aldrin, Beta-BCH, Heptachlor, Heptachlorostyrene, Hexachlorostyrene, Lindane, Pentachlorostyrene, Terphenyl, and Toxaphene were not quantified at any of the sites monitored.

Table 7. Edible portion fish tissue samples with total PCB concentrations exceeding the MDCH's sport fish consumption advisory screening values.

				Number of Fish in Each Consumption Advisory Category*				General Population Screening Value	Current Advisory	
3.3.5.1 <u>Site ID</u> Location		3.3.5.2 <u>Specie</u>		Median Conc. ppm	Women and Children Consumption Advisory Categories					
					1 meal/week 0.05-0.2 ppn	1 meal/month 0.2-1.0 ppm	6 meals/year 1.0-1.9 ppm	No Cons. > 1.9 ppm	2.0 ppm	
Lake Erie Watershed										
2009201	Baseline Lake Livingston/Washtenaw County	Carp		0.035	1/4					No
2009400	Detroit River Michigan Waters	Lake Sturgeon		0.135	1/1					Yes
2009220	Lake Orion Oakland County	Carp		0.03	3/9					Yes
2009225	Portage Lake Washtenaw County	Carp		0.07	1/6	2/6				No
2006076	St. Clair River Marine City	Carp Walleye		0.03 0.15	1/8 7/10	1/8 3/10				Yes Yes
Lake Huron Watershed										
2009217 & 2009310	Lake Huron Black River & Swan River	Chinook		0.16	13/20	6/20				Yes
2008203	Bad River Saginaw County	Northern Pike		0.05	1/8					Yes
Lake Michigan Watershed										
2009309	Lake Michigan Grand Traverse Bay	Lake Trout		0.3	5/10	5/10				Yes
2009218 & 2009219	Lake Michigan Platte & St. Joseph Rivers	Chinook Salmon Coho Salmon		0.15 0.1	12/20 7/10	7/20 1/10				Yes Yes
2009236	Glen Lake Leelanau County	Lake Trout		0.114	5/9	2/9				Yes
2007245	Pere Marquette Lake Mason County	Northern Pike		0.06	1/10	1/10				

* Number of samples exceeding screening values/number of samples analyzed.

Table 8. Edible portion fish tissue samples with Hg concentrations exceeding the MDCH's sport fish consumption advisory screening values.

Site ID	Location	Species	Species Median Concentration (ppm) [†]	Range (ppm)	Exceedance* Rate	Current Advisory
Lake Erie Watershed						
2009201	Baseline Lake Livingston/Washtenaw County	Largemouth Bass	0.36	0.23-0.50	1/10	Yes (a)
2009225	Portage Lake Livingston/Washtenaw County	Walleye	1.1	0.32-1.2	5/7	Yes (a)
2008250	South Lake Washtenaw County	Northern Pike	1.3	0.34-1.7	6/10	Yes (a)
2006076	St. Clair River Marine City	Walleye	0.55	0.11-1.08	6/10	Yes
Lake Huron Watershed						
2009200	Au Sable River Mio Dam Pond	Northern Pike	0.30	0.1-0.55	2/10	Yes (a)
2009234	Avery Lake Montmorency County	Largemouth Bass	0.81	0.26-1.1	8/13	Yes (a)
2009231	Thunder Bay River Seven Mile Pond	Smallmouth Bass	0.52	0.25-0.84	4/10	Yes (a)
Lake Michigan Watershed						
2007301	Boardman River Brown Bridge Pond	Northern Pike	0.47	0.28-0.6	2/6	Yes (a)
2006005	Campbell Lake Kent County	Largemouth Bass	0.60	0.27-0.74	6/10	Yes (a)
2008208	Chicagon Lake Iron County	Walleye	0.52	0.43-0.96	5/10	Yes (a)

[†] Median is based on legal size fish.

* Number of samples exceeding screening values/number of samples analyzed.

a The species and water body are covered by the statewide Hg advisory.

Covered by an advisory based on contaminants other than Hg.

Table 8. continued.

Site ID	Location	Species	Species Median Concentration (ppm) †	Range (ppm)	Exceedance* Rate	Current Advisory
2009208	Clear Lake St. Joseph County	Northern Pike	0.40	0.21-0.88	2/10	Yes (a)
2006120	Crooked Lake Baraga County	Largemouth Bass	0.48	0.27-0.5	1/4	Yes (a)
2006011	Deer Lake Iron County	Northern Pike	0.50	0.24-0.8	7/10	Yes (a)
2009212	Fish Lake Marquette County	Northern Pike	0.70	0.24-1.9	5/10	Yes (a)
2009236	Glen Lake Leelanau County	Lake Trout	0.44	0.18-0.68	3/10	Yes
2008224	Indian Lake Iron County	Northern Pike	0.16	0.097-0.87	1/10	Yes (a)
2008236	Mary Lake Dickinson County	Largemouth Bass	0.70	0.29-0.83	6/10	Yes (a)
2008237	Michigamme River Michigamme Reservoir	Northern Pike Walleye	0.50 0.51	0.3-1.2 0.42-0.84	5/10 6/10	Yes Yes
2009223	Payne Lake Barry County	Northern Pike	0.80	0.5-0.92	8/8	Yes (a)
2007245	Pere Marquette Lake Mason County	Northern Pike	0.20	0.11-0.52	1/10	Yes (#)
2008257	Thumb Lake Charlevoix County	Largemouth Bass/ Smallmouth Bass	0.36	0.18-0.51	2/12	Yes (a)
2009233	Twin Lake Luce County	Northern Pike	1.20	0.62-1.5	10/10	Yes (a)

† Median is based on legal size fish.

* Number of samples exceeding screening values/number of samples analyzed.

a The species and water body are covered by the statewide Hg advisory.

Covered by an advisory based on contaminants other than Hg.

Table 8. continued.

Site ID	Location	Species	Species Median Concentration (ppm) †	Range (ppm)	Exceedance* Rate	Current Advisory
Lake Superior Watershed						
2008254	Lake Superior Tahquamenon River	Walleye	0.23	0.18-0.88	1/10	Yes
2009204	Bobcat Lake Gogebic County	Northern Pike	1.1	0.58-1.7	6/6	Yes (a)
2009205	Bodi Lake Luce County	Northern Pike	0.5	0.26-0.63	4/10	Yes (a)
2009206	Chaney Lake Gogebic County	Northern Pike	1.1	0.62-1.7	10/10	Yes
2009209	Clearwater Lake Gogebic County	Northern Pike	0.5	0.32-0.62	2/4	Yes (a)
2006013	Engman Lake Marquette County	Northern Pike	0.39	0.053-0.82	2/10	Yes (a)
2007225	Lake Fannie Hooe Keweenaw County	Smallmouth Bass	0.66	0.21-0.66	1/7	Yes (a)
2009222	Monacle Lake Chippewa County	Walleye	0.39	0.13-0.58	1/7	Yes (a)
2008751	Muskallonge Lake Luce County	Walleye	0.65	0.3-1.5	7/10	Yes (a)
2008241	Nawakwa Lake Alger County	Walleye	0.57	0.39-0.65	3/10	Yes (a)
2007246	Pike Lake Houghton County	Northern Pike	1.60	0.66-1.6	6/6	Yes (a)

† Median is based on legal size fish.

* Number of samples exceeding screening values/number of samples analyzed.

a The species and water body are covered by the statewide Hg advisory.

Covered by an advisory based on contaminants other than Hg.

Table 9. Dioxin TEQ concentrations in edible portion samples.

Site ID	Location	Species	Species Median Concentration (ppt)	Range (ppt)	Exceedance* Rate	Current Advisory
2009309	Lake Michigan Grand Traverse Bay	Lake Trout	19.78	9.19-49.12	8/10	Yes (#)
2009236	Glen Lake Leelanau County	Lake Trout	9.11	5.57-19.18	4/9	Yes (#)

* Number of samples exceeding screening values/number of samples analyzed.

Covered by an advisory based on contaminants other than dioxin.

Table 10. Summary of sites sampled and Se results for whole body samples of brook trout collected from the upper Escanaba River watershed in 2008 by the MDEQ.

Sample Site	Abbrev.	N of Samples	Se Concentration (ppm)		
			Minimum	Median	Maximum
Bear Creek at CR 565	BC	5	0.5	1.1	1.4
Ely Creek	EPI	8	1.7	3.8	7.4
Escanaba River, E. Br., West of Sawyer	EBE	10	1.8	6.1	9
Escanaba River, East Branch at Gwinn	EBEG	3	0.8	2.1	2.9
Goose Lake Outlet at North Bridge	GLNB	6	10	13.1	15.6
Green Creek at MQ Rd	GC	7	2.6	4.3	6
Warner Creek at Tilden Tailings Rd	WCTTL	10	2	9.8	19.9

Table 11. Summary of sites sampled and Se results for fillets of brook trout collected in 2010 by Cliffs Natural Resources.

Sample Site	Abbrev.	N of Samples	Se Concentration (ppm)		
			Minimum	Median	Maximum
Escanaba River, East Branch	ESC	3	3.4	3.5	5.3
Green Creek (near E001)	GC1	5	5.3	5.8	6.8
Green Creek downstream	GCD	12	1	4.4	7.4
Goose Lake Outlet (downstream of outfall T 002)	GL2	10	3.1	7.6	10.4
Goose Lake Outlet (downstream of GL2)	GLD	10	2.1	6.7	13.1
Goose Lake Inlet	GLI	5	4.3	5.3	9.7
Warner Creek	WAC	5	4.8	7.2	9.9
Green Creek Reference (near Greenwood Reservoir outlet)	GCR	5	0.4	0.6	0.9

Table 12. Fish consumption water quality attainment categories for water bodies assessed for the 2010 report.

Location	Present Category	Proposed Category	Impairment	Species Sampled
Lake Erie Watershed				
Baseline Lake, Livingston/Washtenaw County	None	5	Fish Tissue-Hg	Carp Largemouth Bass
Detroit River, Michigan Waters	5	5	FCA PCB, Dioxins, DDT, Fish Tissue-Hg	Lake Sturgeon
Lake Orion, Oakland County	5	5	FCA PCB, Fish Tissue-Hg	Carp
Portage Lake, Livingston/Washtenaw County	3	5	FCA PCB Fish Tissue-Hg	Carp Walleye
South Lake, Washtenaw County	5	5	Fish Tissue-Hg	Northern Pike
St. Clair River, Marine City	5	5	FCA PCB, Fish Tissue-Hg	Carp Walleye
Lake Huron				
Lake Huron, Black & Swan Rivers	5	5	FCA PCB	Chinook Salmon
Au Sable River, Mio Dam Pond	None	3		Northern Pike
Avery Lake, Montmorency County	None	5	Fish Tissue-Hg	Largemouth Bass
Bad River, Saginaw County	5	5	FCA PCB	Northern Pike
Crooked Lake, Alcona County	None	2		Walleye
Horseshoe Lake, Ogemaw County	None	3		Largemouth Bass
Mullet Lake, Cheboygan County	5	2	Fish Tissue-Hg	Smallmouth Bass
Rifle River, Arenac County	5	5	FCA PCB, Fish Tissue-Hg	Redhorse Sucker Rock Bass
Tawas Lake, Iosco County	None	2		Black Crappie

Table 12. continued.

Location	Present Category	Proposed Category	Impairment	Species Sampled
Thunder Bay River, Seven Mile Pond, Alpena County	None*	5	Fish Tissue-Hg	Smallmouth Bass
Lake Michigan Watershed				
Lake Michigan, Grand Traverse Bay	5	5	FCA PCB, Chlordane, Dioxins,	Lake Trout
Lake Michigan, Platte & St. Joseph Rivers	5	5	FCA PCB	Chinook Salmon Coho Salmon
Big Crooked Lake, Van Buren County	None	2		Largemouth Bass
Boardman River, Brown Bridge Pond	None	3		Northern Pike White Sucker
Campbell Lake, Kent County	None	5	Fish Tissue-Hg	Largemouth Bass
Chicagon Lake, Iron County	5	5	Fish Tissue-Hg	Walleye
Clear Lake, St. Joseph County	None	5	Fish Tissue-Hg	Northern Pike
Crooked Lake, Baraga County	None	3		Largemouth Bass
Deer Lake, Iron County	None	5	Fish Tissue-Hg	Northern Pike
Dodge Lake, Schoolcraft County	None	3		Largemouth Bass Northern Pike
Eel Lake, Gogebic County	None	3		Black Crappie
Fish Lake, Marquette County	2	5	Fish Tissue-Hg	Northern Pike
Glen Lake, Leelanau County	5	5	FCA PCB, Chlordane, Fish Tissue-Hg	Lake Trout
Indian Lake, Iron County	None	3		Northern Pike
Mary Lake, Dickinson County	None	5	Fish Tissue-Hg	Largemouth Bass
Michigamme River, Michigamme Reservoir	5	5	Fish Tissue-Hg	Northern Pike Walleye

Table 12. continued.

Location	Present Category	Proposed Category	Impairment	Species Sampled
Payne Lake, Barry County	None	5	Fish Tissue-Hg	Northern Pike
Pere Marquette Lake, Mason County	5	5	FCA PCB	Northern Pike
Thumb Lake, Charlevoix County	None	5	Fish Tissue-Hg	Largemouth and Smallmouth Bass
Twin Lake, Luce County	None	5	Fish Tissue-Hg	Northern Pike
Wells Lake, Osceola County	None	3		Northern Pike
Lake Superior Watershed				
Lake Superior, Tahquamenon River	5	5	Fish Tissue-Hg	Walleye
Bobcat Lake, Gogebic County	None	5	Fish Tissue-Hg	Northern Pike
Bodi Lake, Luce County	None	5	Fish Tissue-Hg	Northern Pike
Chaney Lake, Gogebic County	5	5	Fish Tissue-Hg	Northern Pike
Clearwater Lake, Gogebic County	None	3		Northern Pike
Engman Lake, Marquette County	None	5	Fish Tissue-Hg	Northern Pike
Johnson Lake, Marquette County	None	3		Northern Pike
Kingston Lake, Alger County	3	2		Largemouth Bass
Lake Fannie Hooe, Keweenaw County	None	5	Fish Tissue-Hg	Smallmouth Bass
Monacle Lake, Chippewa County	None	5	Fish Tissue-Hg	Walleye
Muskallonge Lake, Luce County	5	5	Fish Tissue-Hg	Walleye
Nawakwa Lake, Alger County	5	5	Fish Tissue-Hg	Rock Bass Walleye
Pike Lake, Houghton County	None	5	Fish Tissue-Hg	Northern Pike
Tank Lake, Luce County	None	2		Splake

* - Non attaining status based on concentrations of PCBs in the water column.

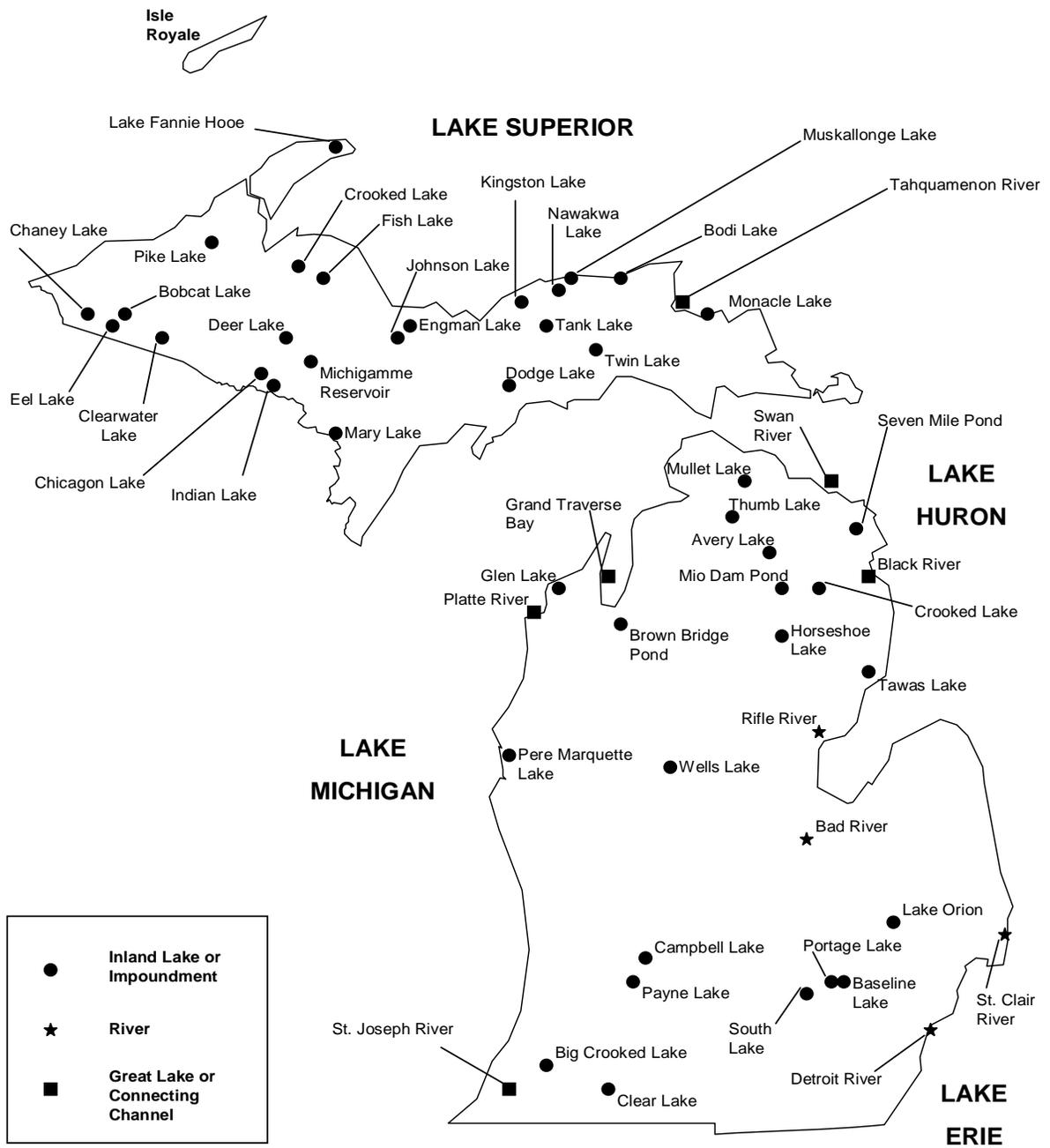


Figure 1. Sites sampled for the 2010 FCMP Annual Edible Portion Report.

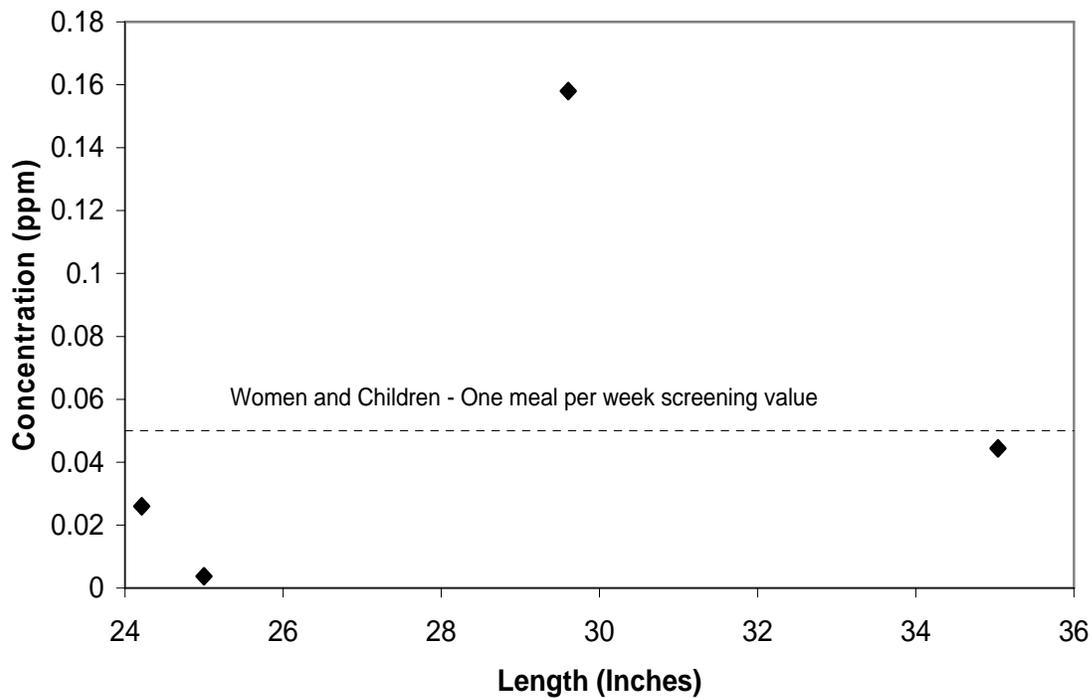


Figure 2. Total length versus total PCB concentration in carp collected from Baseline Lake, Livingston and Washtenaw Counties, in 2009 (ID 2009201).

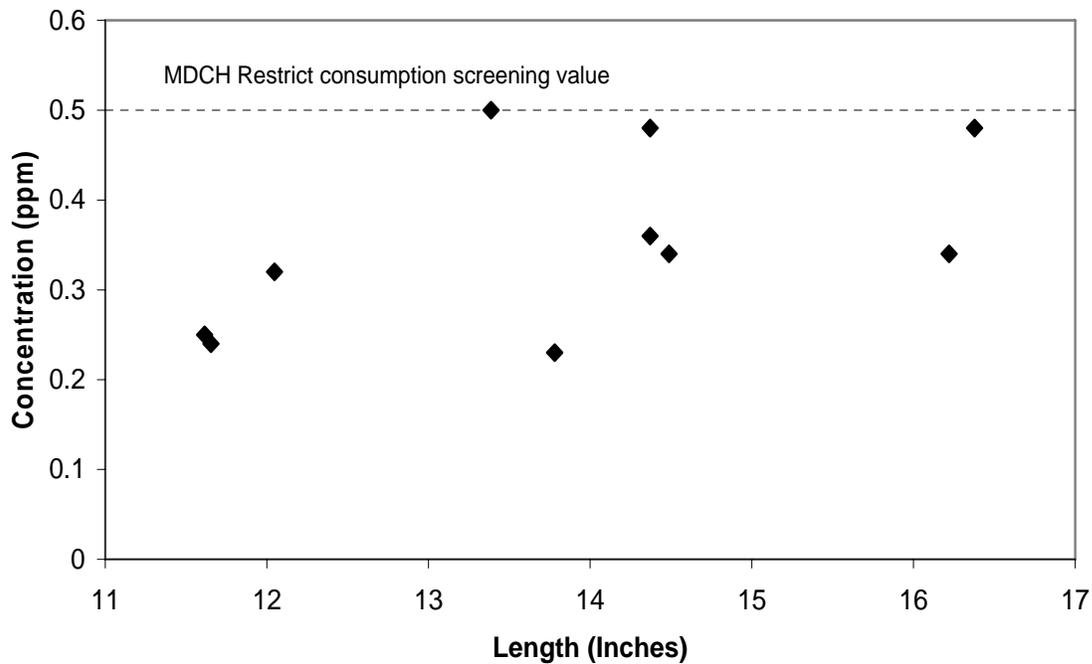


Figure 3. Total length versus total mercury concentration in largemouth bass collected from Baseline Lake, Livingston and Washtenaw Counties, in 2009 (ID 2009201).



Figure 4. Total length versus total PCB concentration in carp collected from Lake Orion, Oakland County, in 2001 (ID 2001071) and 2009 (ID 2009220).

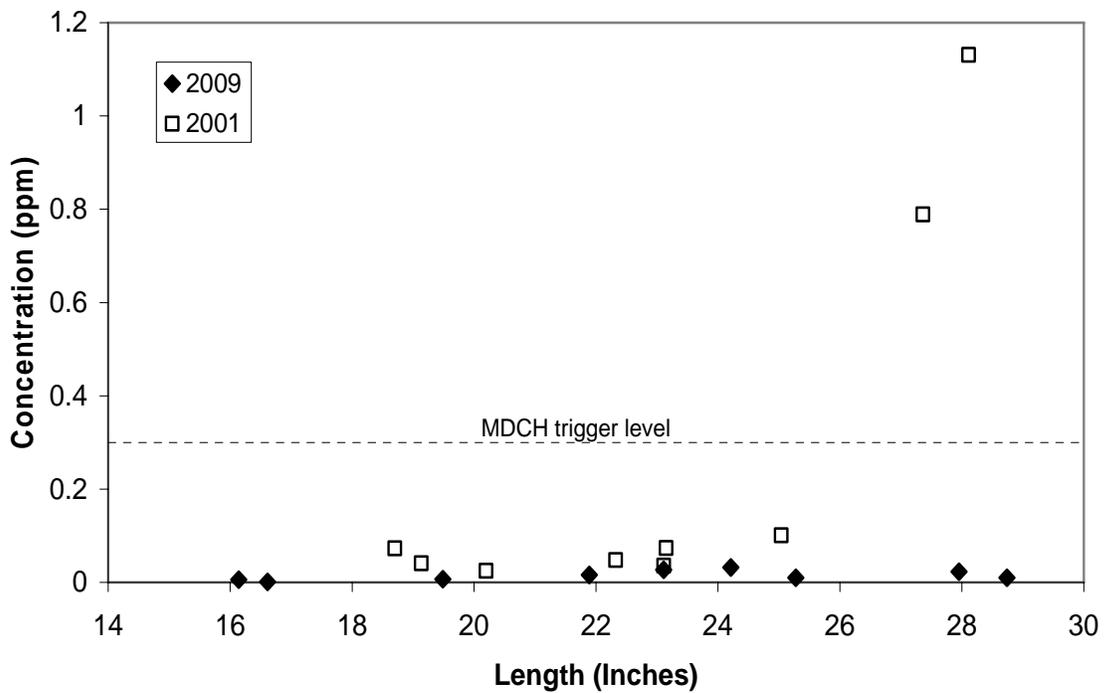


Figure 5. Total length versus total chlordane concentration in carp collected from Lake Orion, Oakland County, in 2001 (ID 2001071) and 2009 (ID 2009220).



Figure 6. Total length versus total PCB concentration in carp collected from Portage Lake, Washtenaw and Livingston Counties, in 2009 (ID 2009225).

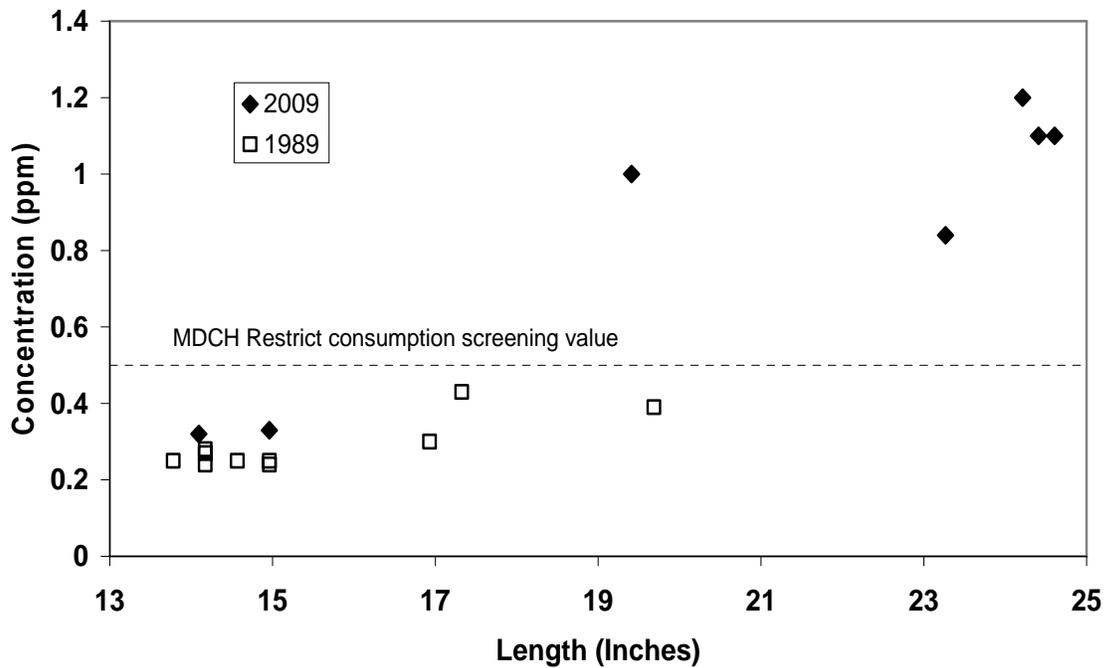


Figure 7. Total length versus total mercury concentration in walleye collected from Portage Lake, Washtenaw and Livingston Counties, in 1989 (ID 89009) and 2009 (ID 2009225).

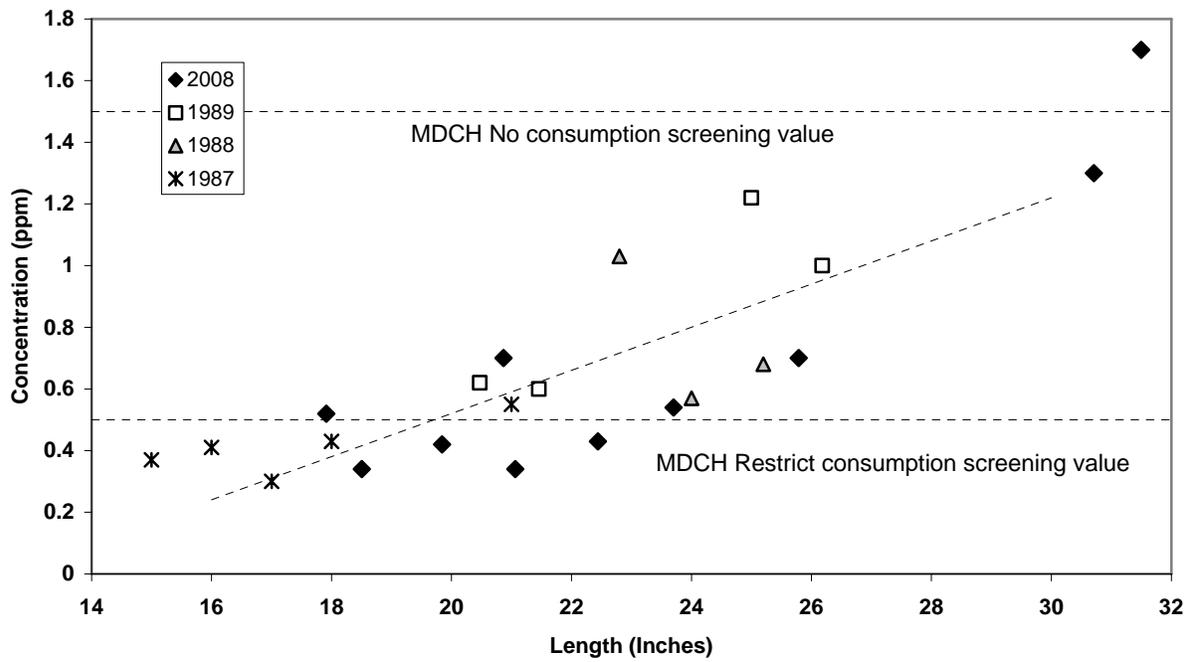


Figure 8. Total length versus total mercury concentration in northern pike collected from South Lake, Washtenaw County, in 1989 (ID 89008) and 2008 (ID 2009250).

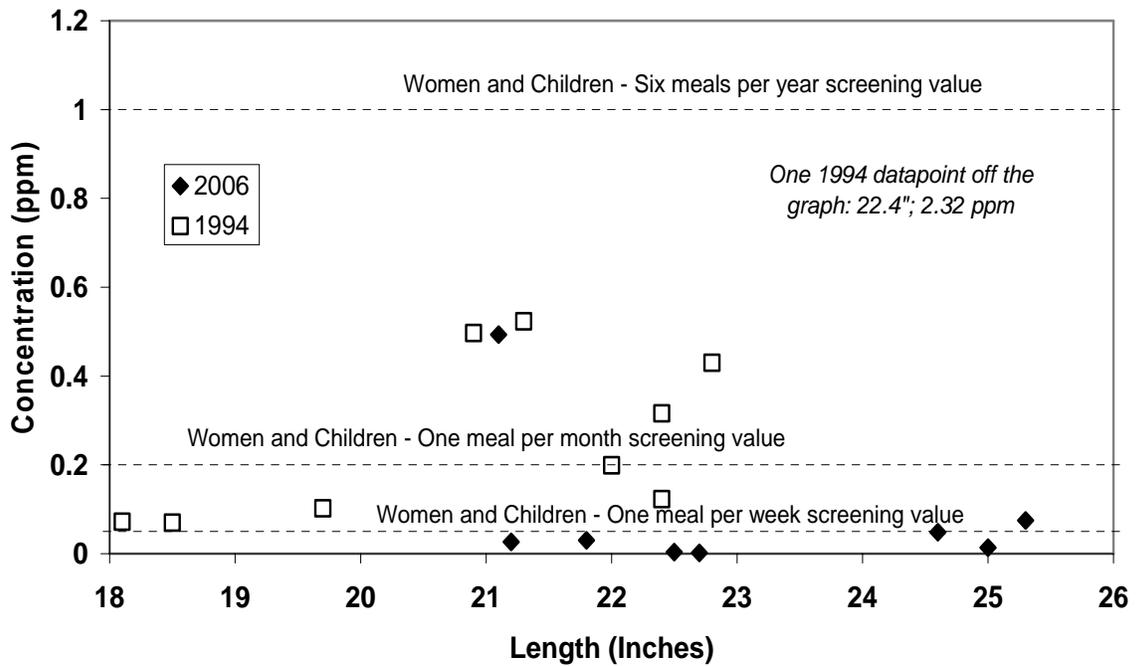


Figure 9. Total length versus total PCB concentration in carp collected from the St. Clair River, Marine City, in 2006 (ID 2006076).

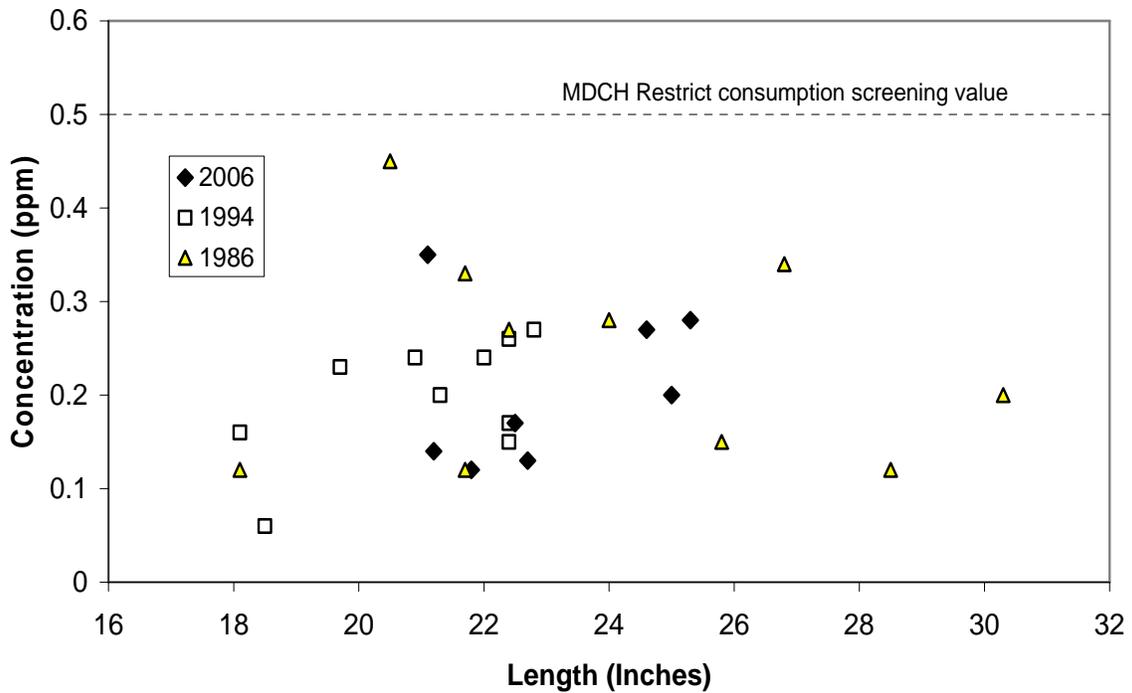


Figure 10. Total length versus total mercury concentration in carp collected from the St. Clair River, Marine City, in 2006 (ID 2006076).

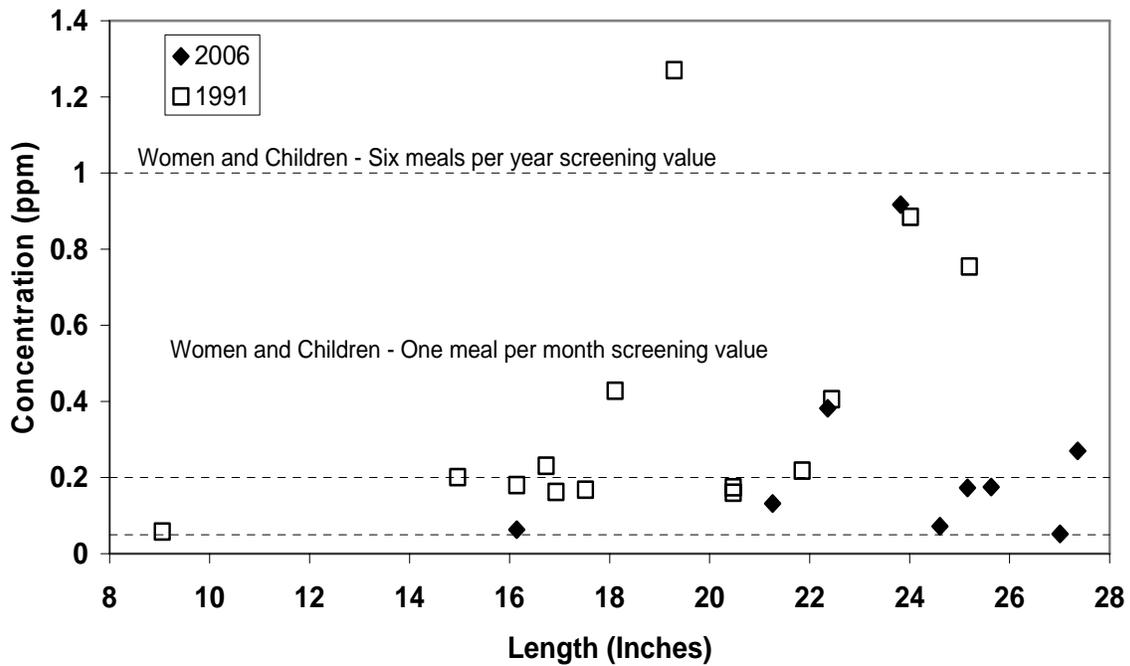


Figure 11. Total length versus total PCB concentration in walleye collected from the St. Clair River, Marine City, in 1991 (ID 91031) and 2006 (ID 2006076).

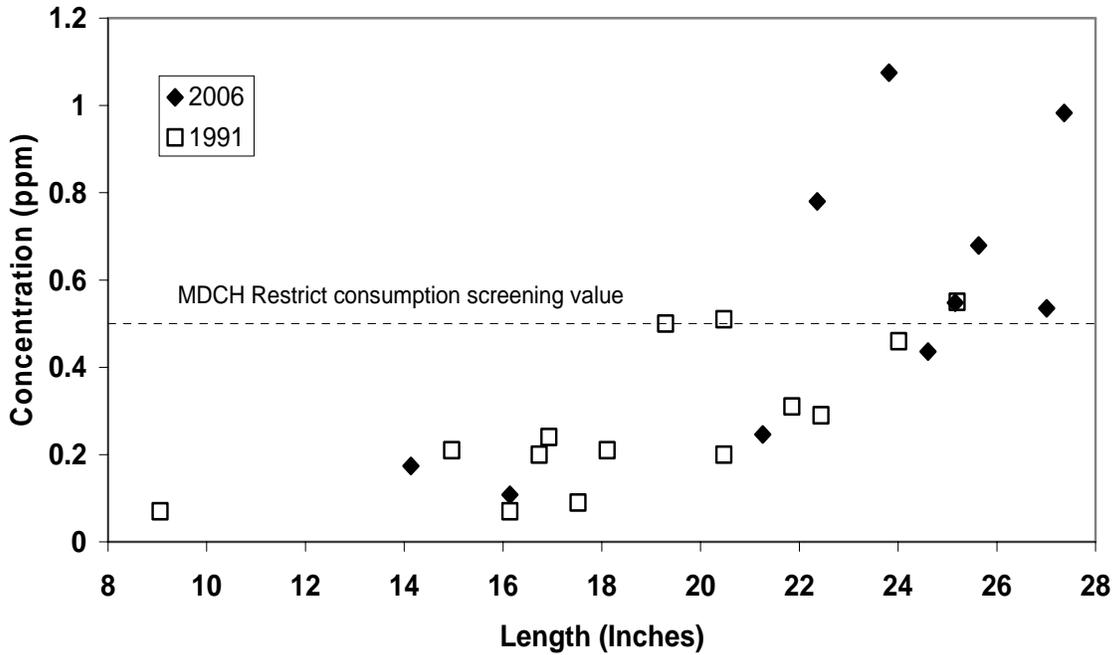


Figure 12. Total length versus total mercury concentration in walleye collected from the St. Clair River, Marine City, in 1991 (ID 91031) and 2006 (ID 2006076).

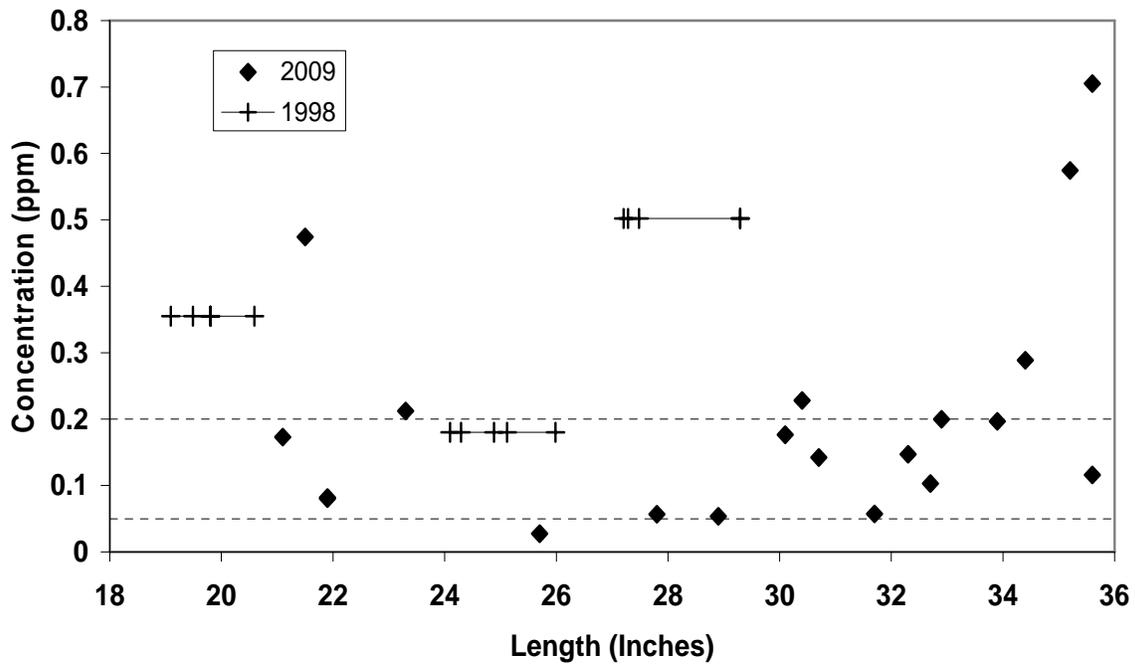


Figure 13. Total length versus total PCB concentration in chinook salmon collected from Lake Huron, Black River, in 2009 (ID 2009217) and Swan River in 1998 (ID 1998053) and 2009 (ID 2009310).

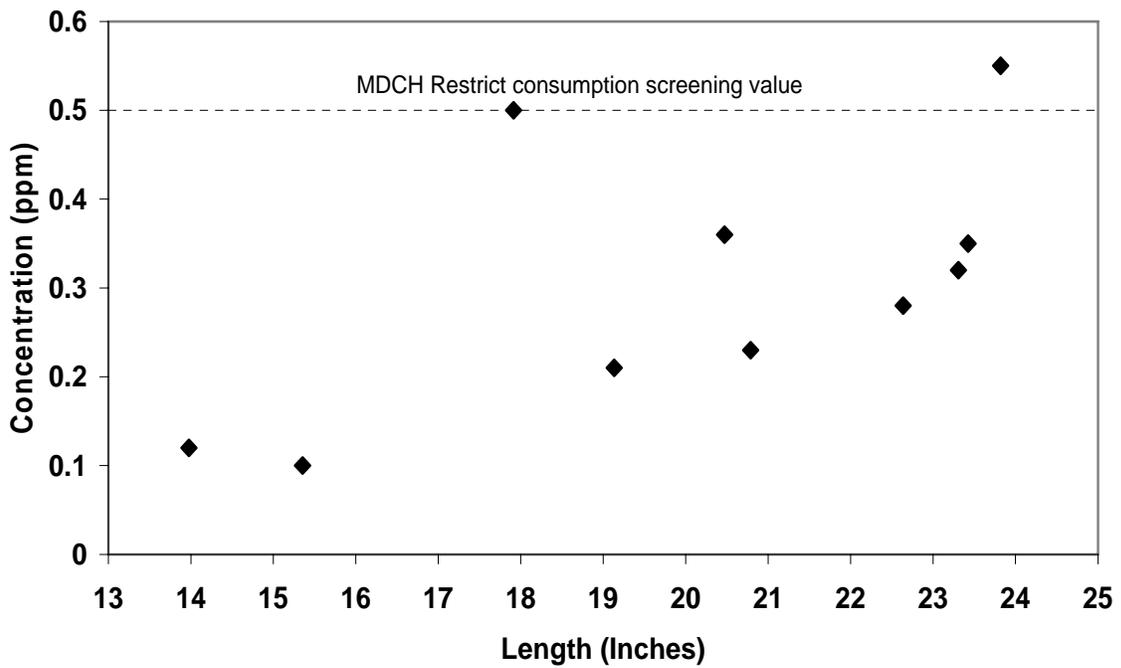


Figure 14. Total length versus total mercury concentration in northern pike collected from the Au Sable River, Mio Dam Pond, in 2009 (ID 2009200).

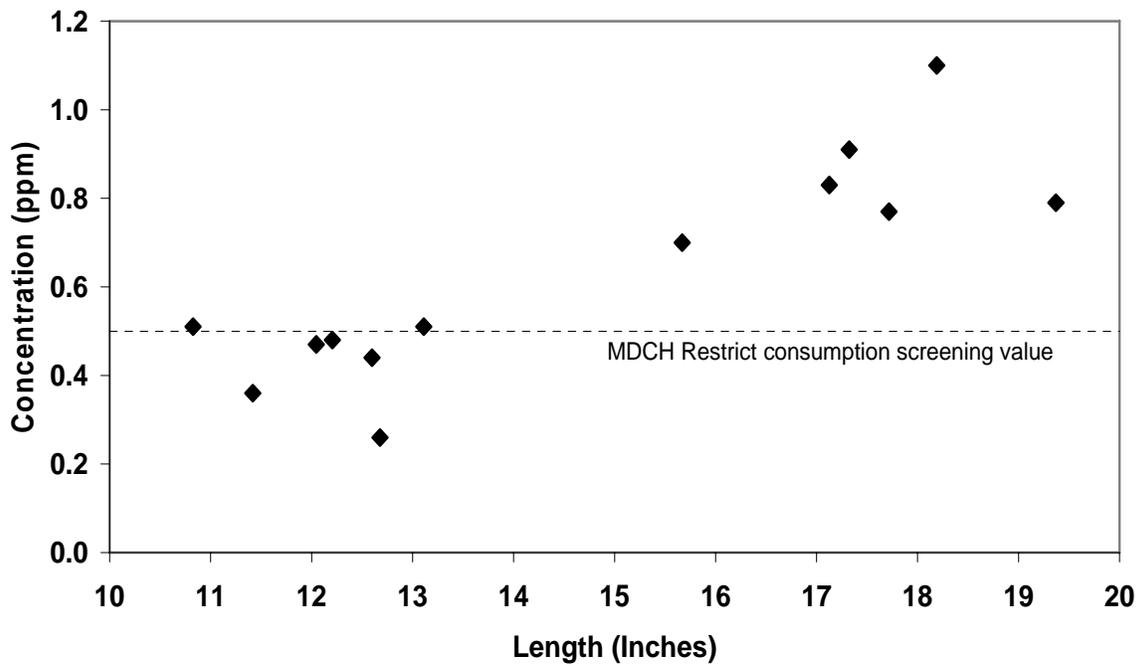


Figure 15. Total length versus total mercury concentration in largemouth bass collected from Avery Lake, Montmorency County, in 2009 (ID 2009234).

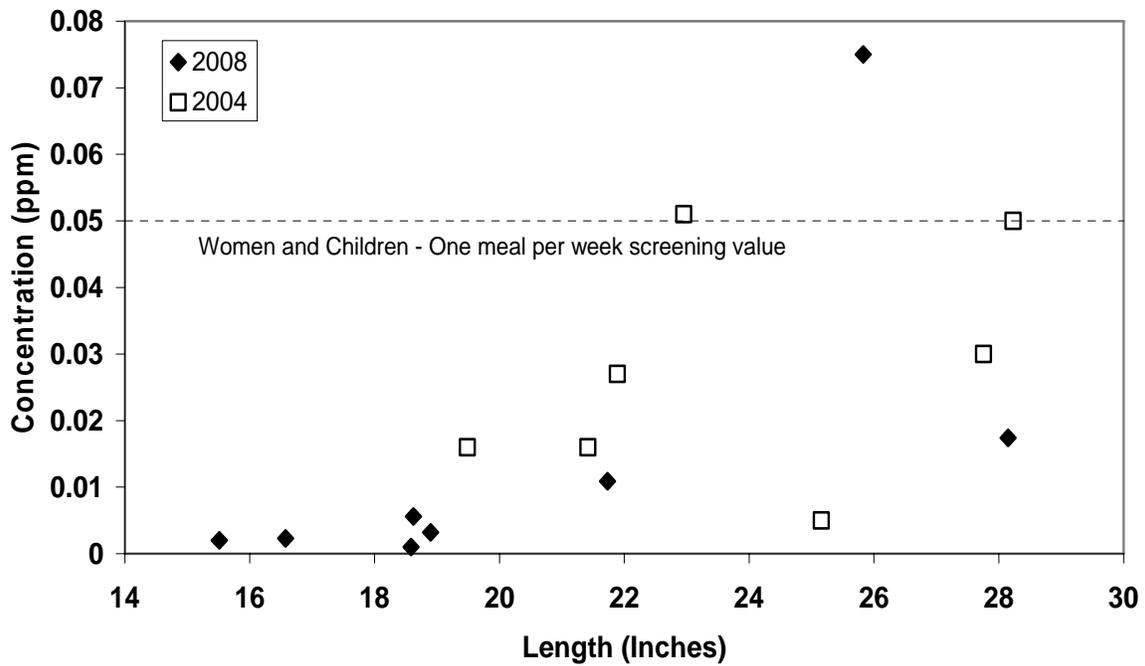


Figure 16. Total length versus total PCB concentration in northern pike collected from the Bad River, Saginaw County, in 2004 (ID 2004003) and 2008 (ID 2008203).

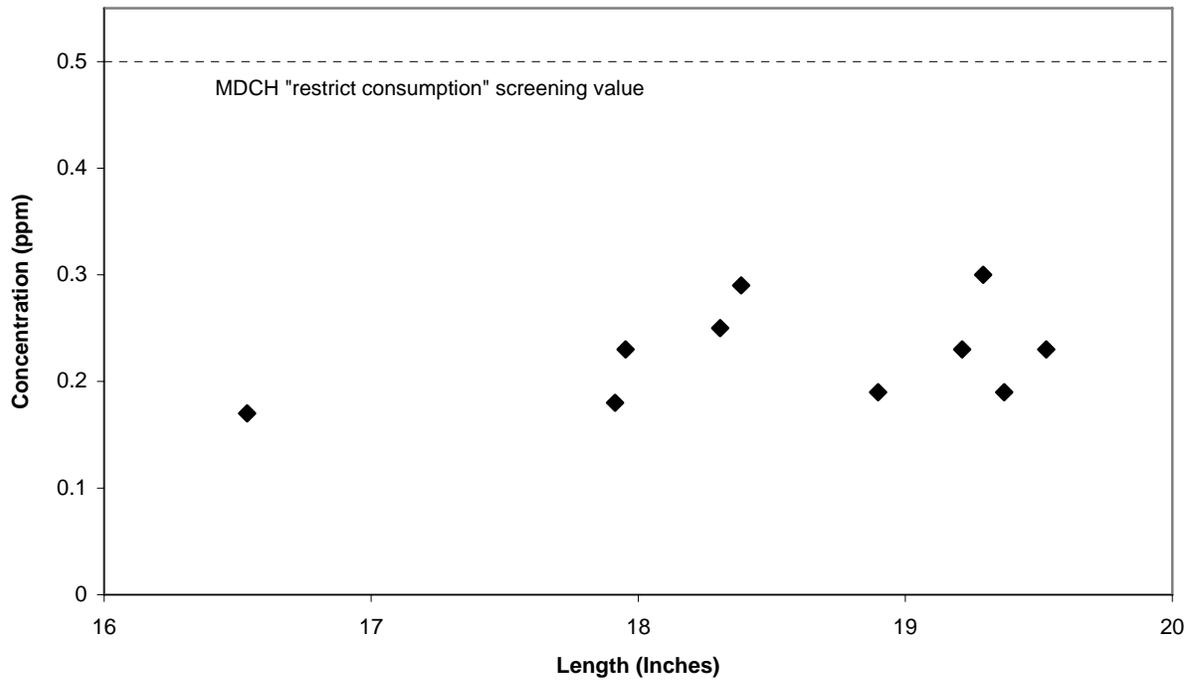


Figure 17. Total length versus total mercury concentration in walleye collected from Crooked Lake, Alcona County, in 2009 (ID 2009210).

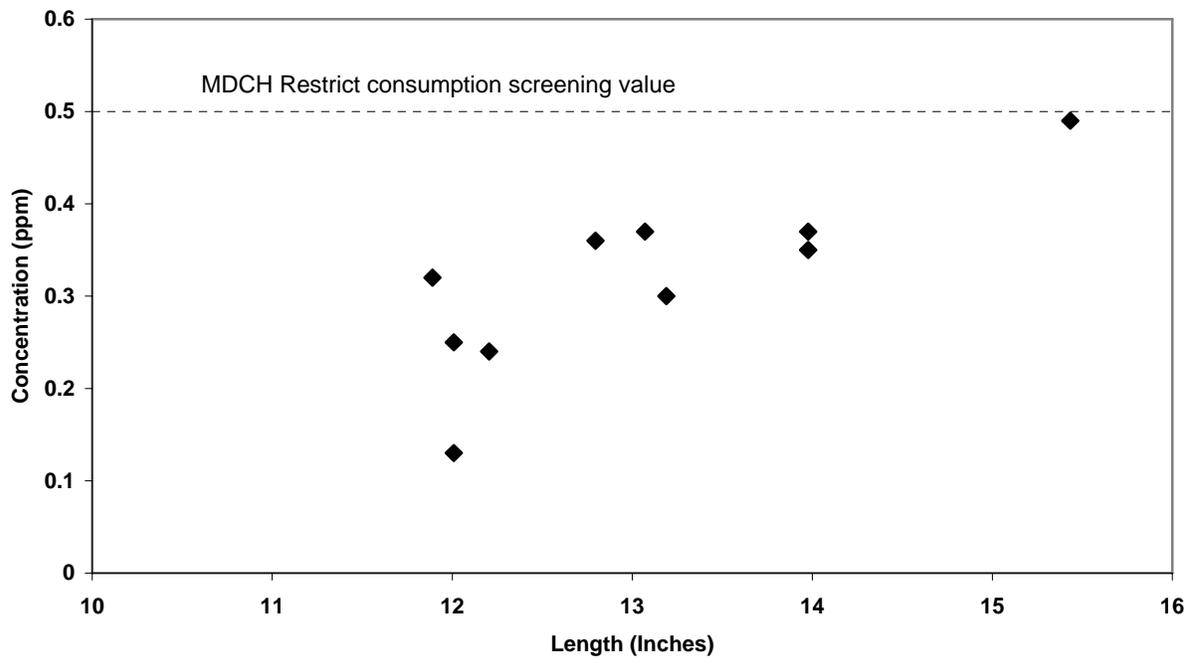


Figure 18. Total length versus total mercury concentration in largemouth bass collected from Horseshoe Lake, Ogemaw County, in 2009 (ID 2009235).

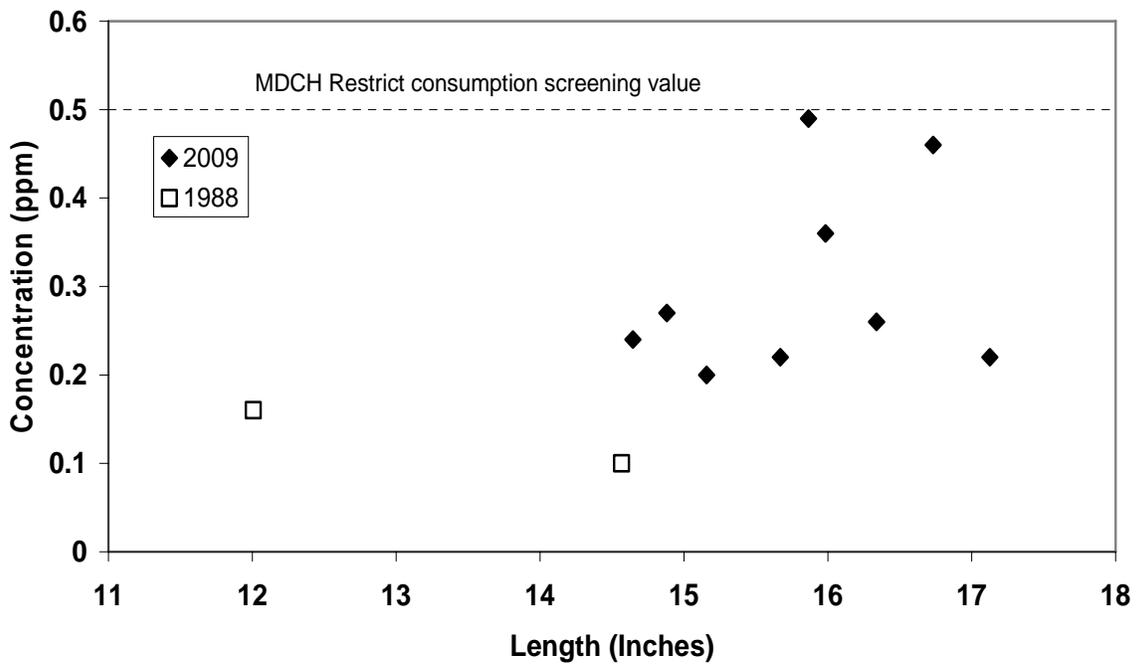


Figure 19. Total length versus total mercury concentration in smallmouth bass collected from Mullett Lake, Cheboygan County, in 1988 (ID 88035) and 2009 (ID 2009238).

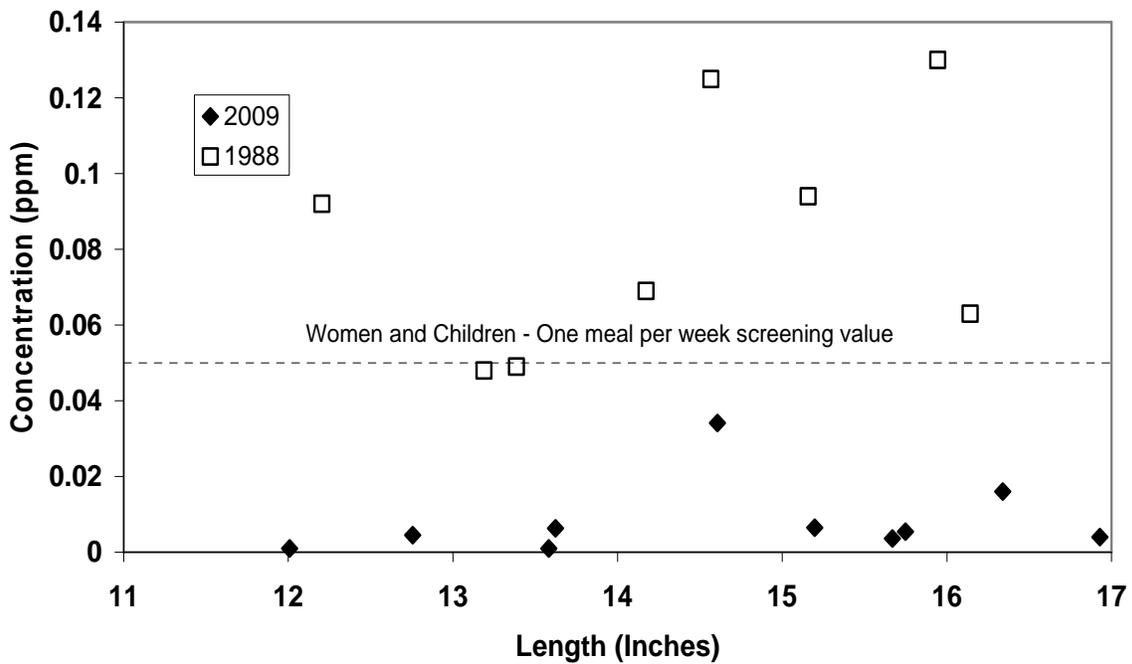


Figure 20. Total length versus total PCB concentration in redhorse sucker collected from the Rifle River, Arenac County, in 1988 (ID 88040) and 2009 (ID 2009229).

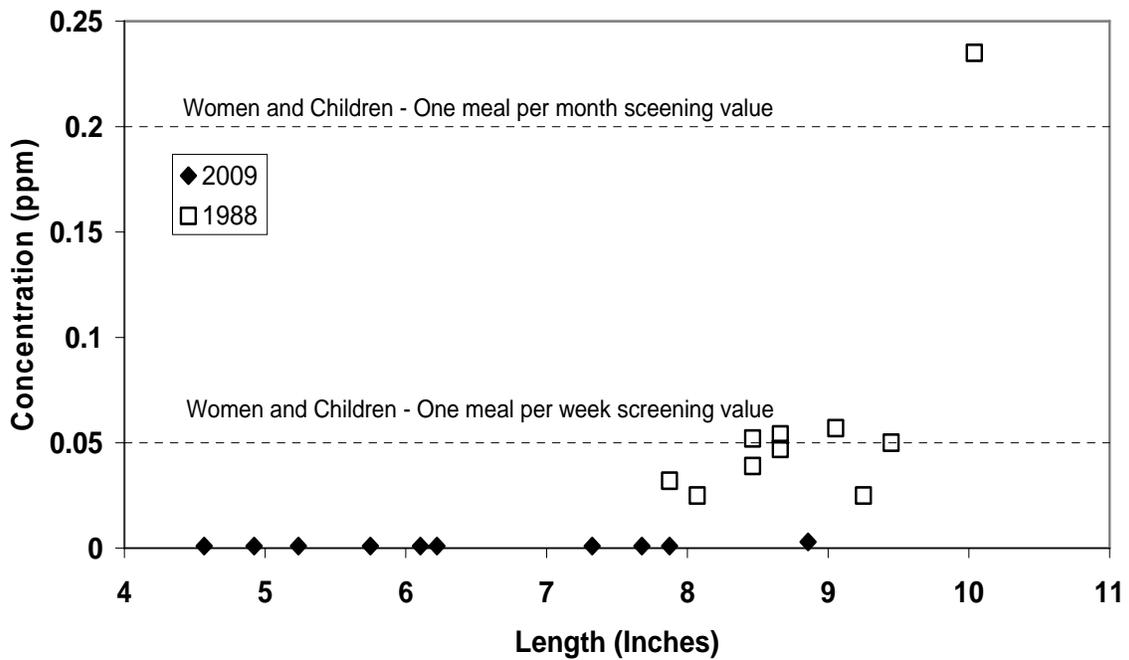


Figure 21. Total length versus total PCB concentration in rock bass collected from the Rifle River, Arenac County, in 1988 (ID 88040) and 2009 (ID 2009229).

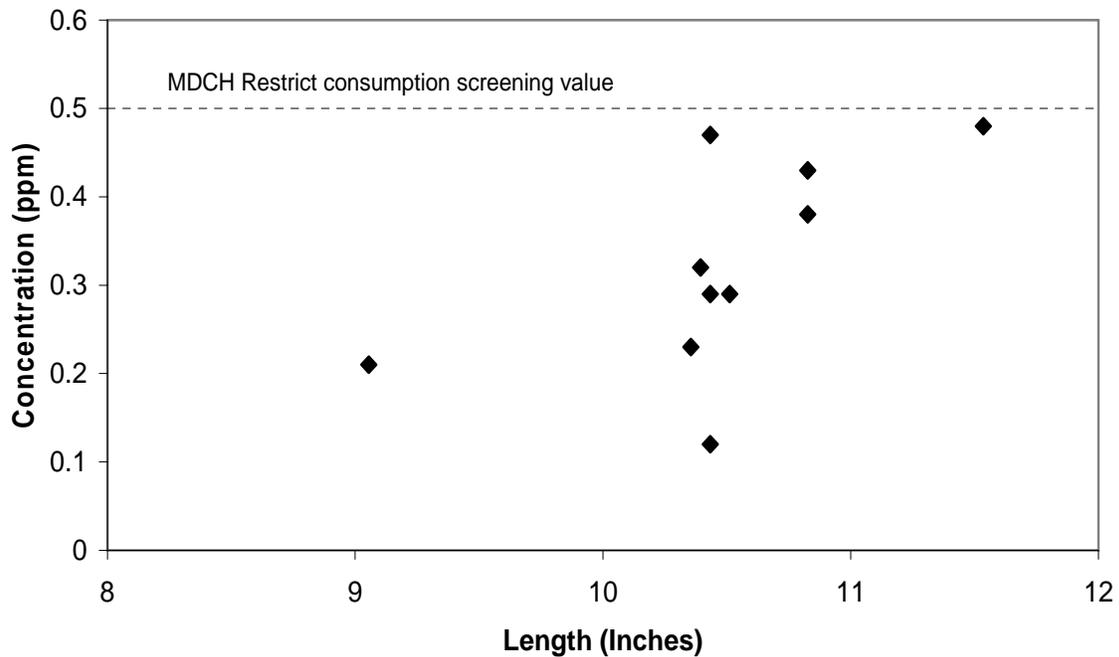


Figure 22. Total length versus total mercury concentration in black crappie collected from Tawas Lake, Iosco County, in 2006 (ID 2006500).

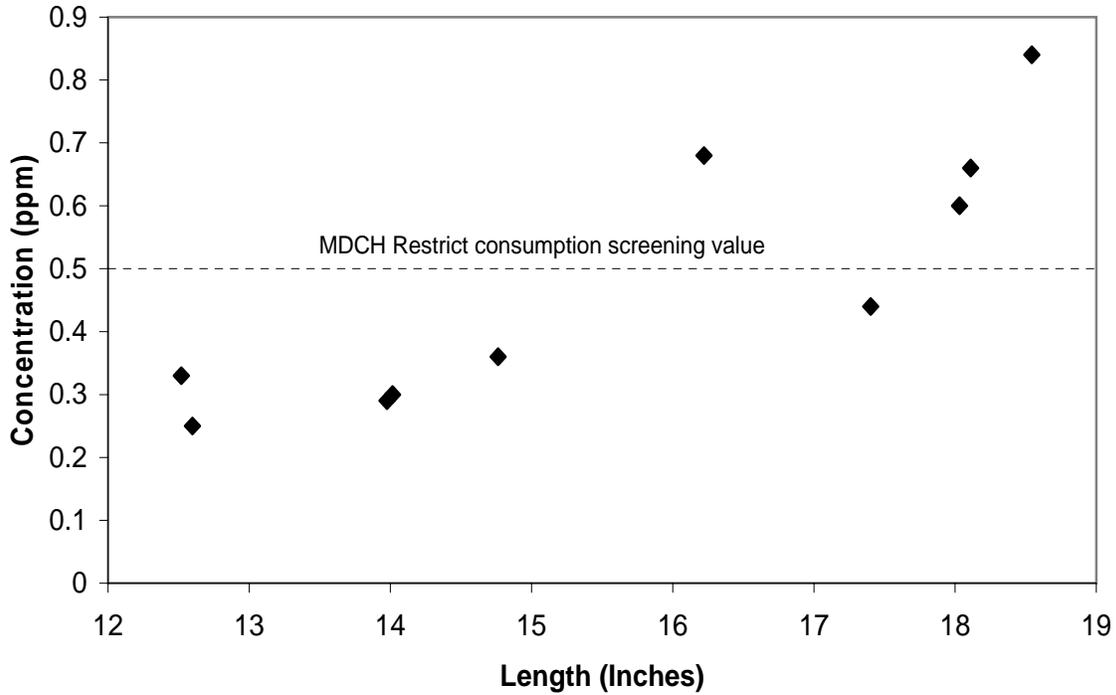


Figure 23. Total length versus total mercury concentration in smallmouth bass collected from the Thunder Bay River, Seven Mile Pond, in 2009 (ID 2009231).

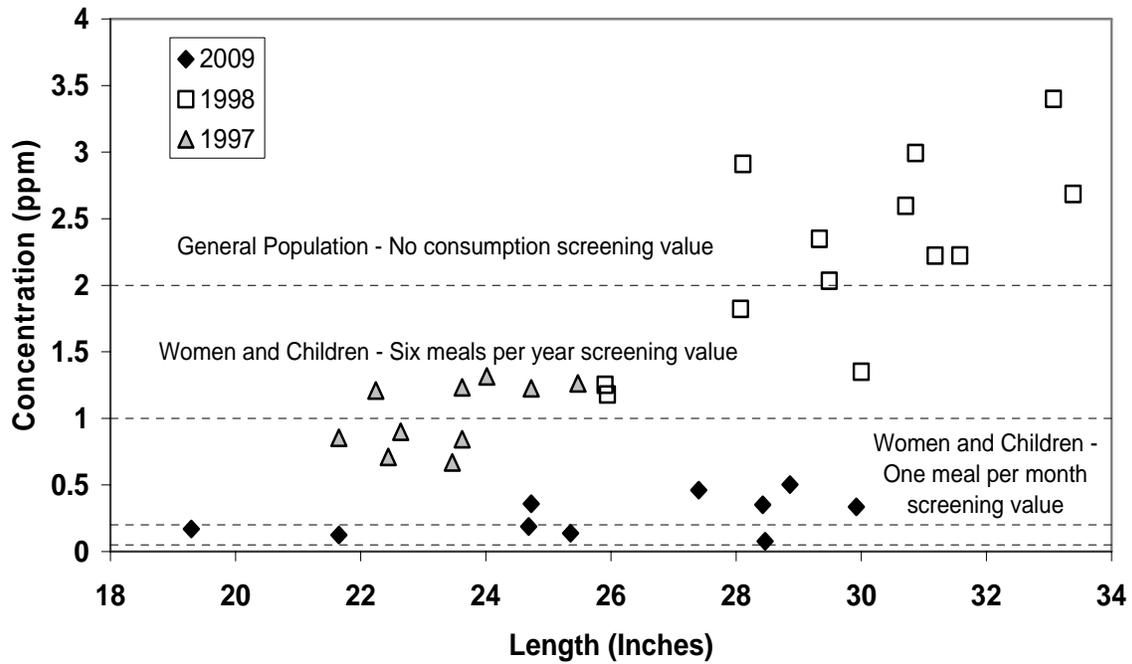


Figure 24. Total length versus total PCB concentration in lake trout collected from Lake Michigan, Grand Traverse Bay, in 1997 (ID 97025), 1998 (ID 1998141), and 2009 (ID 2009309).

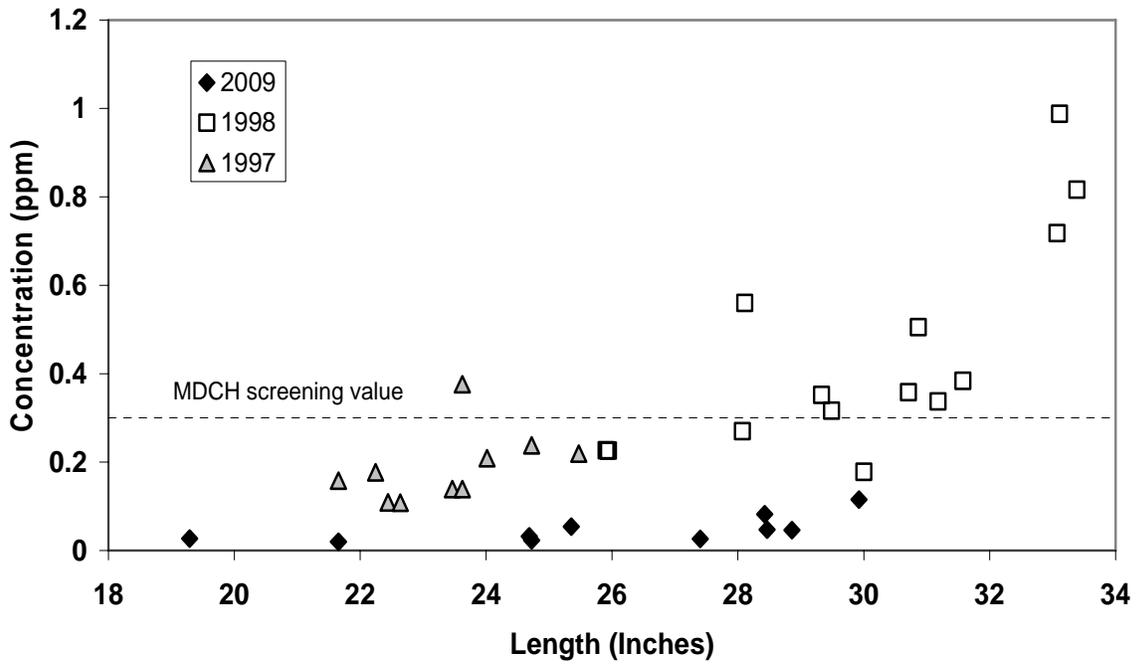


Figure 25. Total length versus total chlordane concentration in lake trout collected from Lake Michigan, Grand Traverse Bay, in 1997 (ID 97025), 1998 (ID 1998141), and 2009 (ID 2009309).

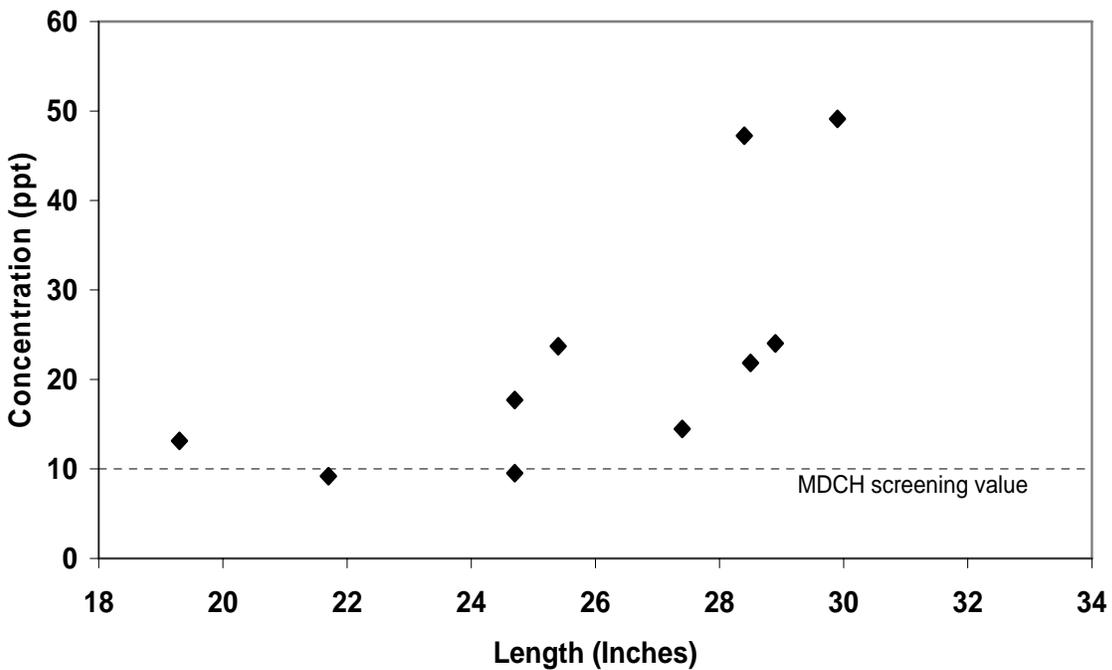


Figure 26. Total length versus 2,3,7,8,TCDD TEQ concentration in lake trout collected from Lake Michigan, Grand Traverse Bay, in 2009 (ID 2009309).

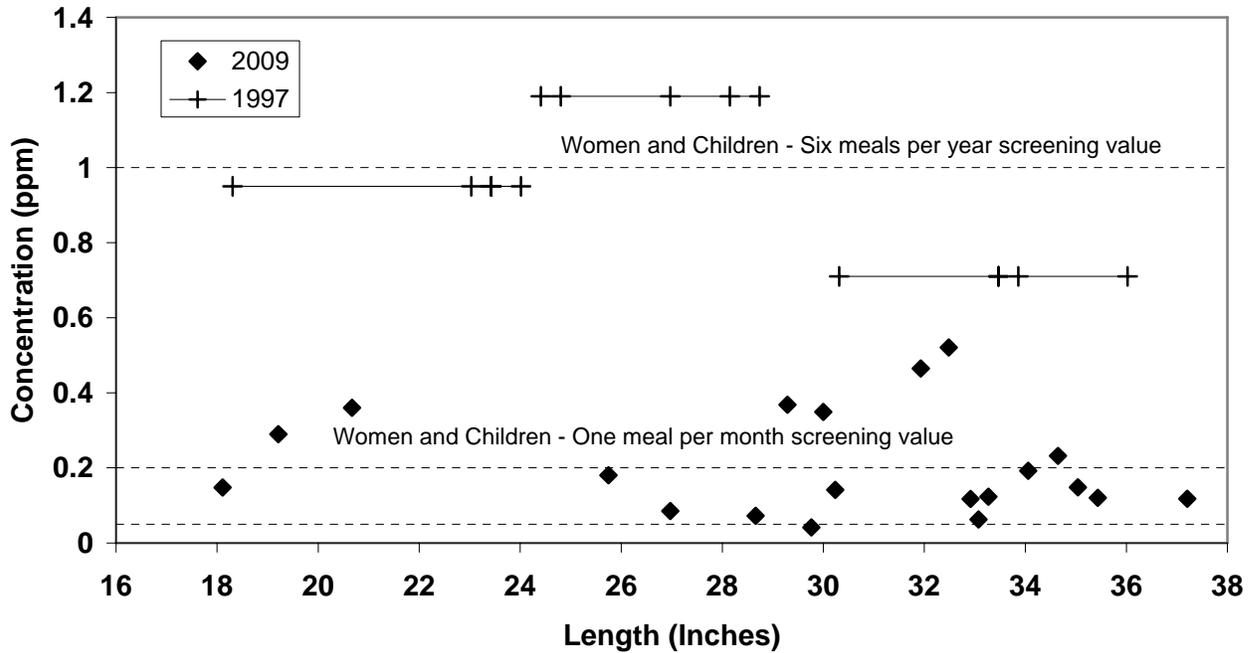


Figure 27. Total length versus total PCB concentration in chinook salmon collected from Lake Michigan, Platte River, in 1997 (ID 97029) and 2009 (ID 2009218), and St. Joseph River in 2009 (ID 2009219).

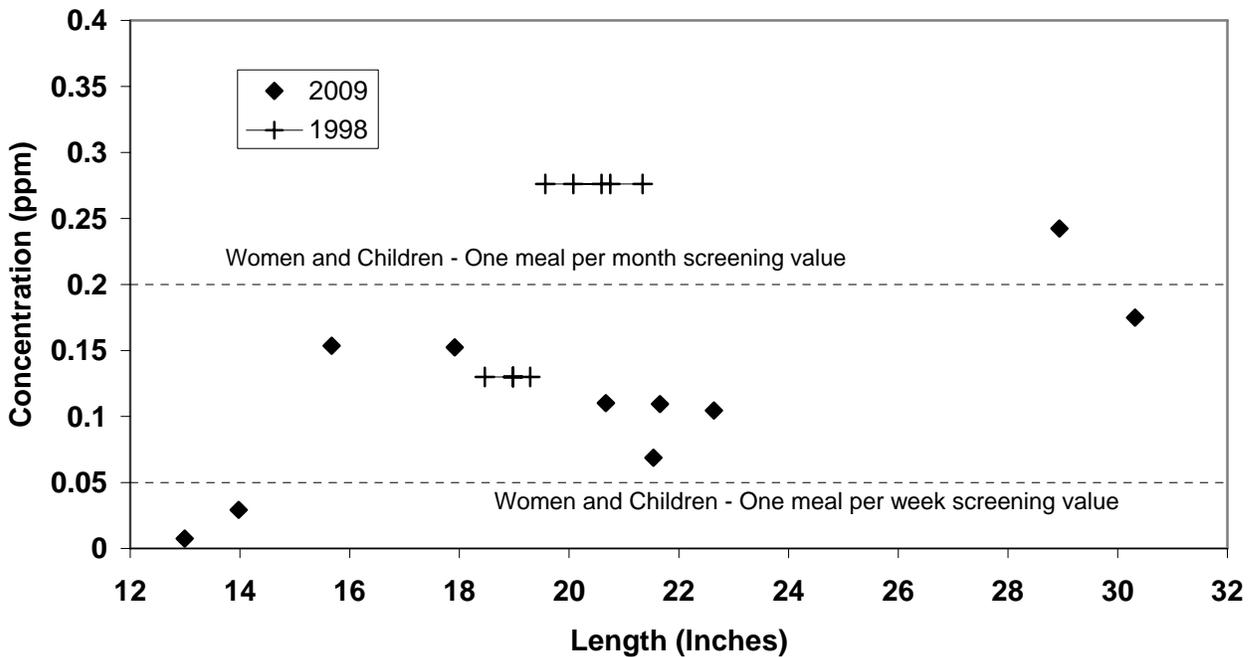


Figure 28. Total length versus total PCB concentration in chinook salmon collected from Lake Michigan, Platte River, in 1997 (ID 97029) and 2009 (ID 2009218), and St. Joseph River in 2009 (ID 2009219).

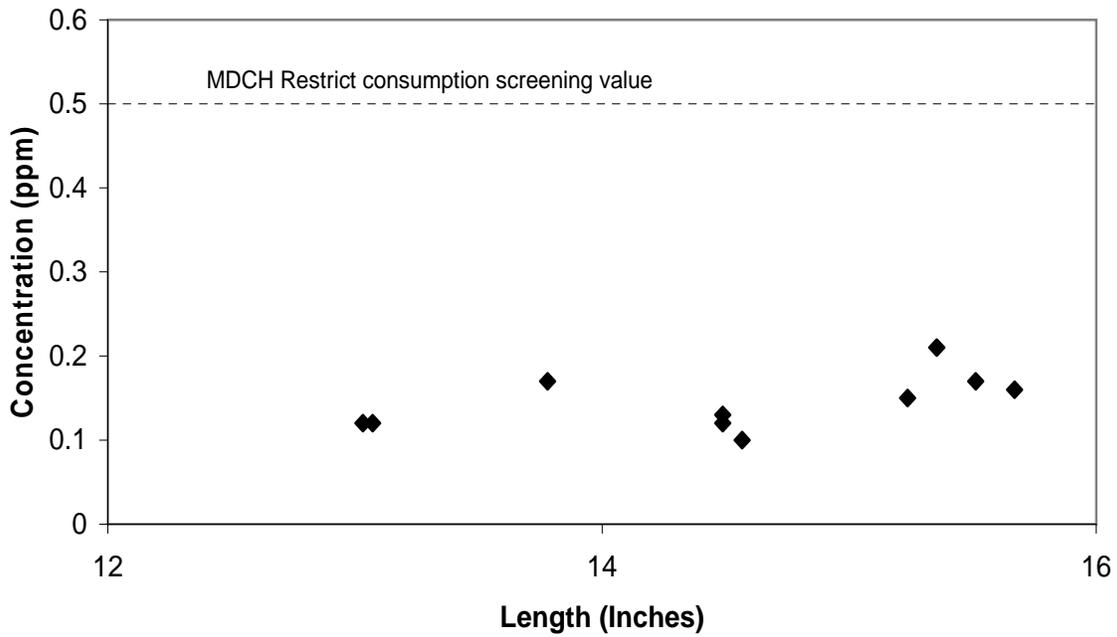


Figure 29. Total length versus total mercury concentration in largemouth bass collected from Big Crooked Lake, Van Buren County, in 2009 (ID 2009203).

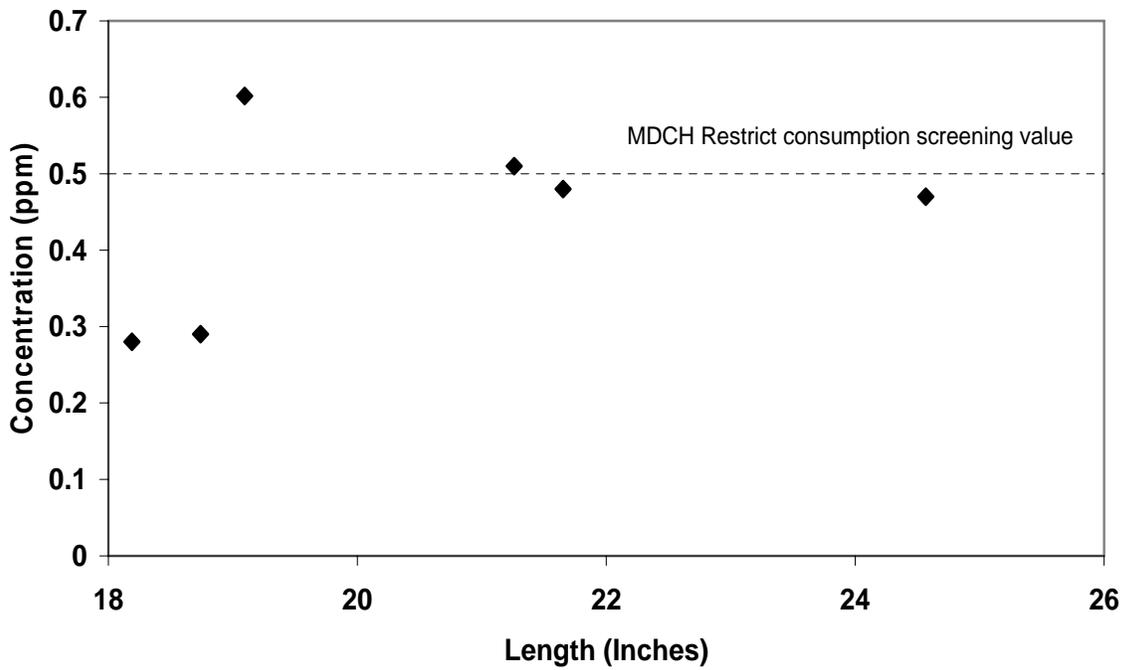


Figure 30. Total length versus total mercury concentration in northern pike collected from the Boardman River, Brown Bridge Pond, in 2007 (ID 2007301).

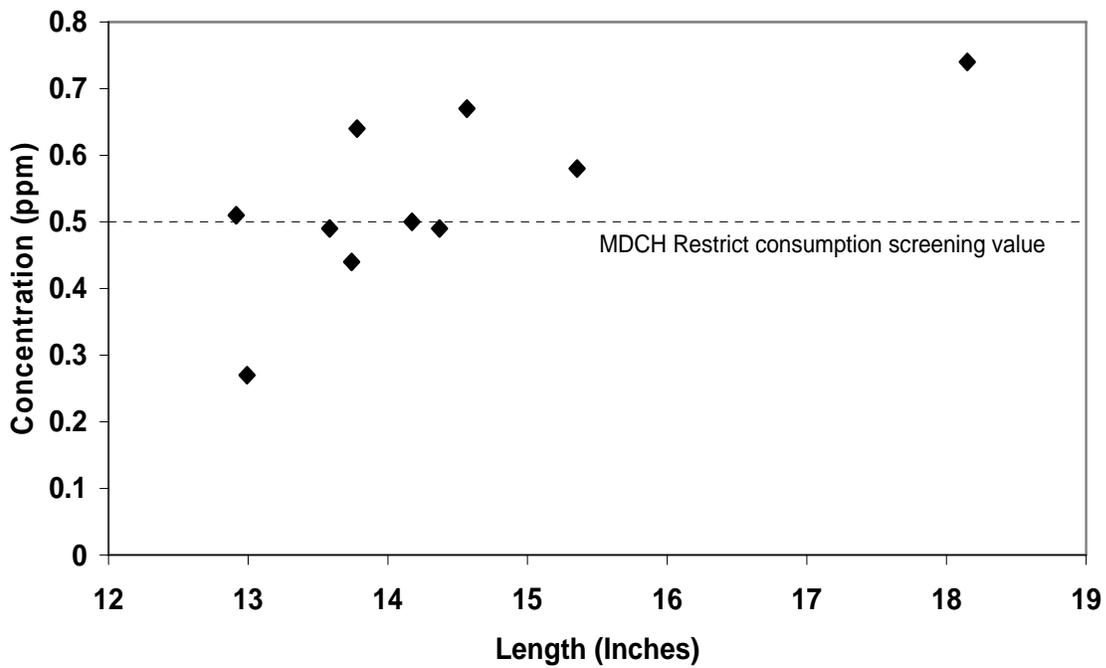


Figure 31. Total length versus total mercury concentration in largemouth collected from Campbell Lake, Kent County, in 2006 (ID 2006005).

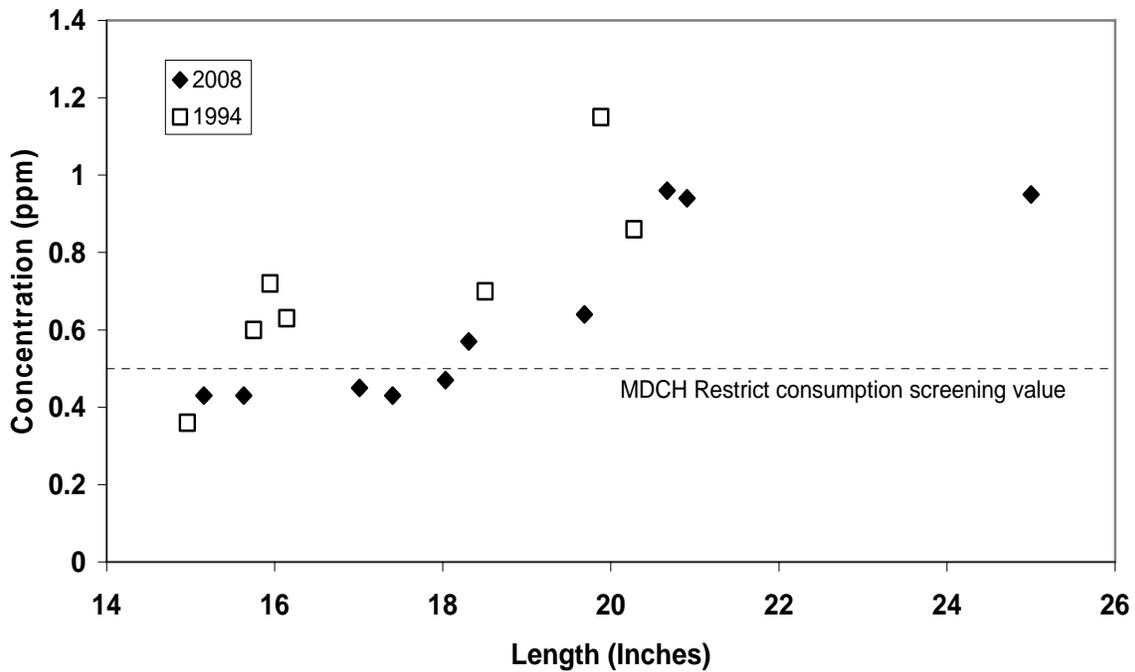


Figure 32. Total length versus total mercury concentration in walleye collected from Chicagon Lake, Iron County, in 1994 (ID 94022) and 2008 (ID 200208).

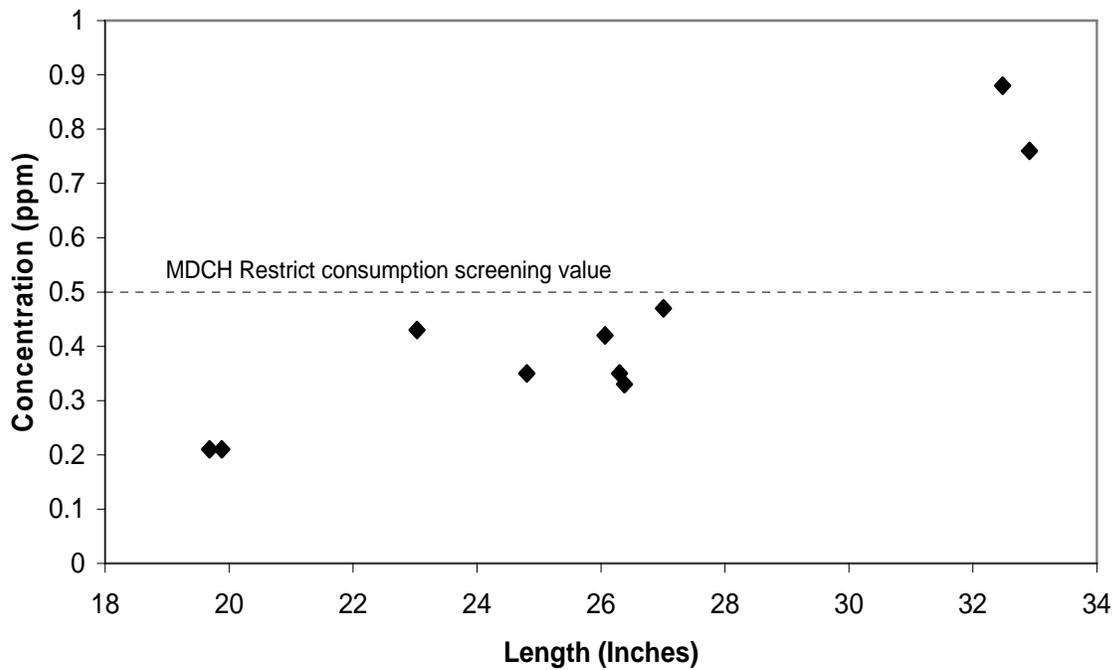


Figure 33. Total length versus total mercury concentration in northern pike collected from Clear Lake, St. Joseph County, in 2009 (ID 2009208).

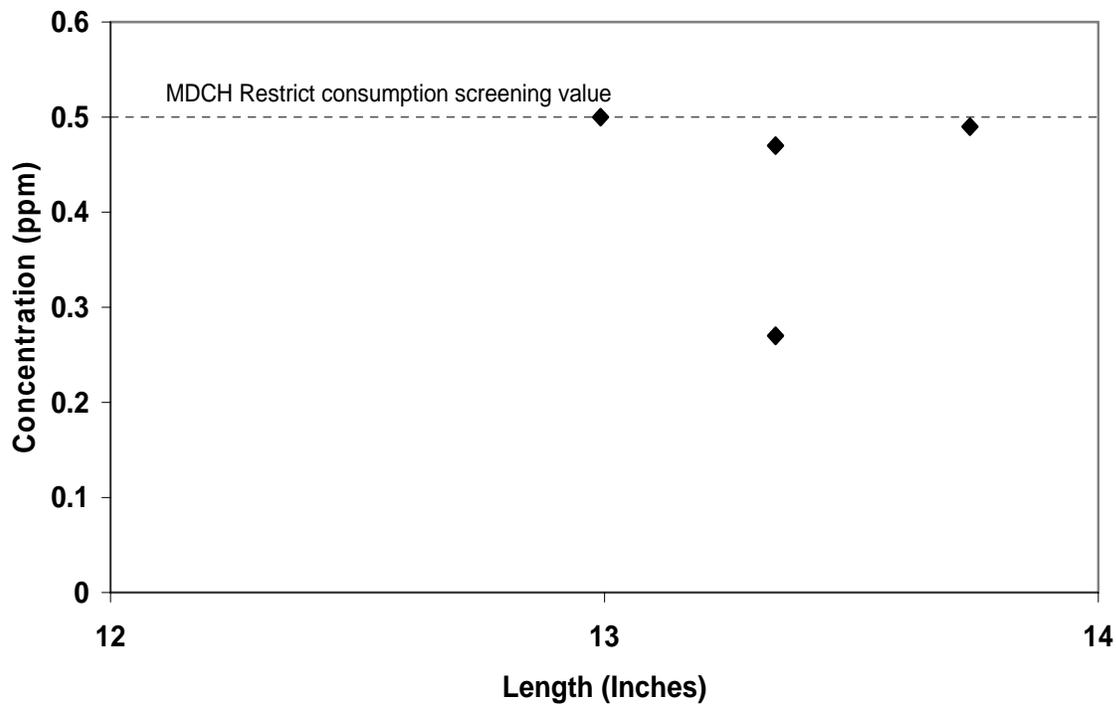


Figure 34. Total length versus total mercury concentration in largemouth bass collected from Crooked Lake, Baraga County, in 2006 (ID 2006120).

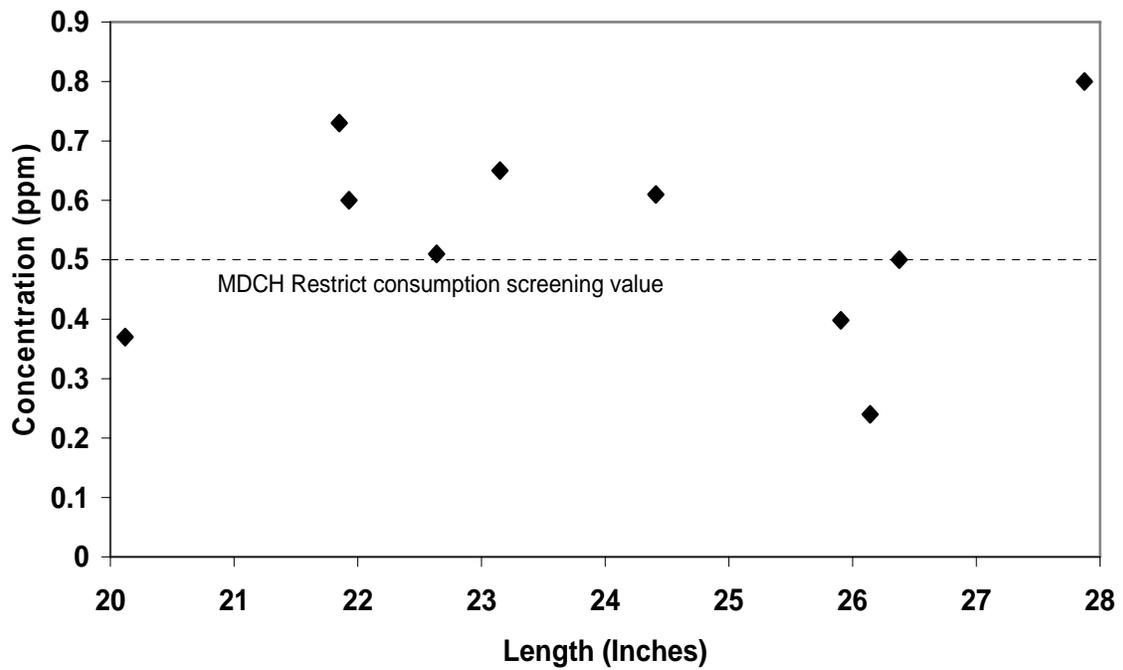


Figure 35. Total length versus total mercury concentration in northern pike collected from Deer Lake, Iron County, in 2006 (ID 2006011).

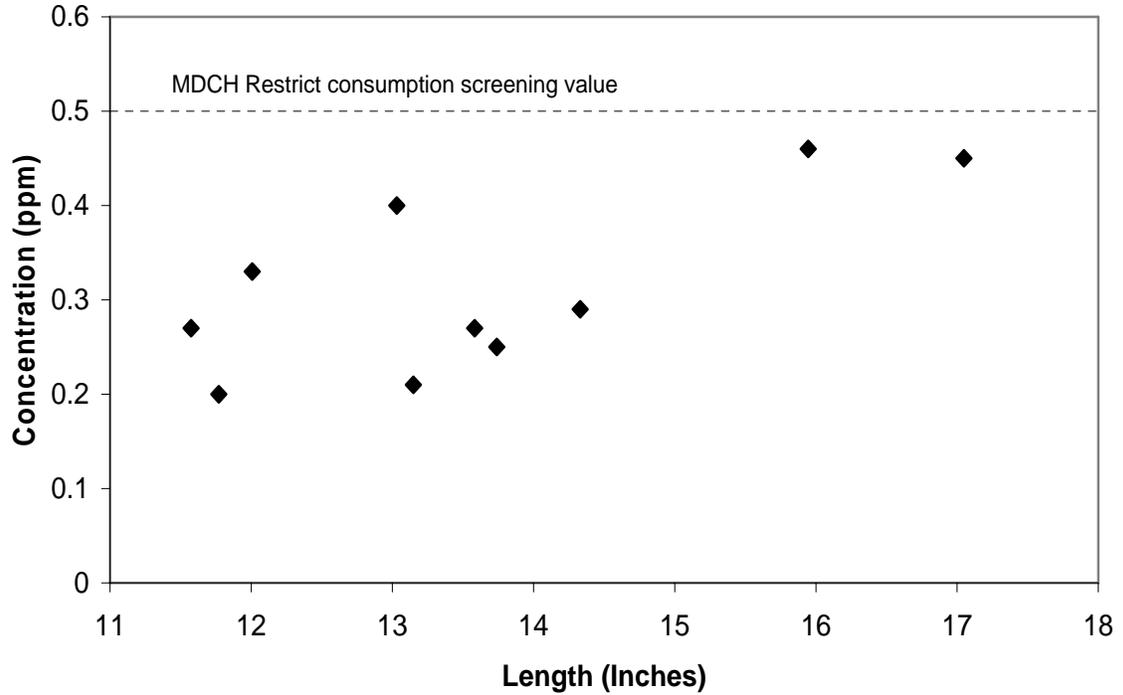


Figure 36. Total length versus total mercury concentration in largemouth bass collected from Dodge Lake, Schoolcraft County, in 2006 (ID 2006121).

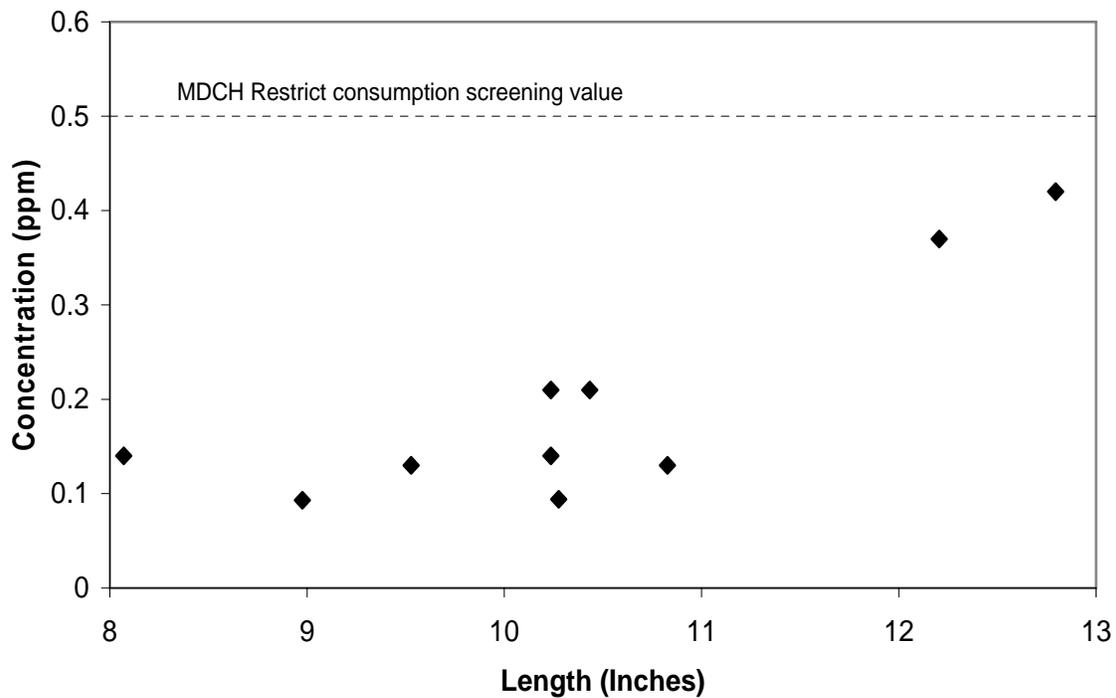


Figure 37. Total length versus total mercury concentration in black crappie collected from Eel Lake, Gogebic County, in 2009 (ID 2009211).

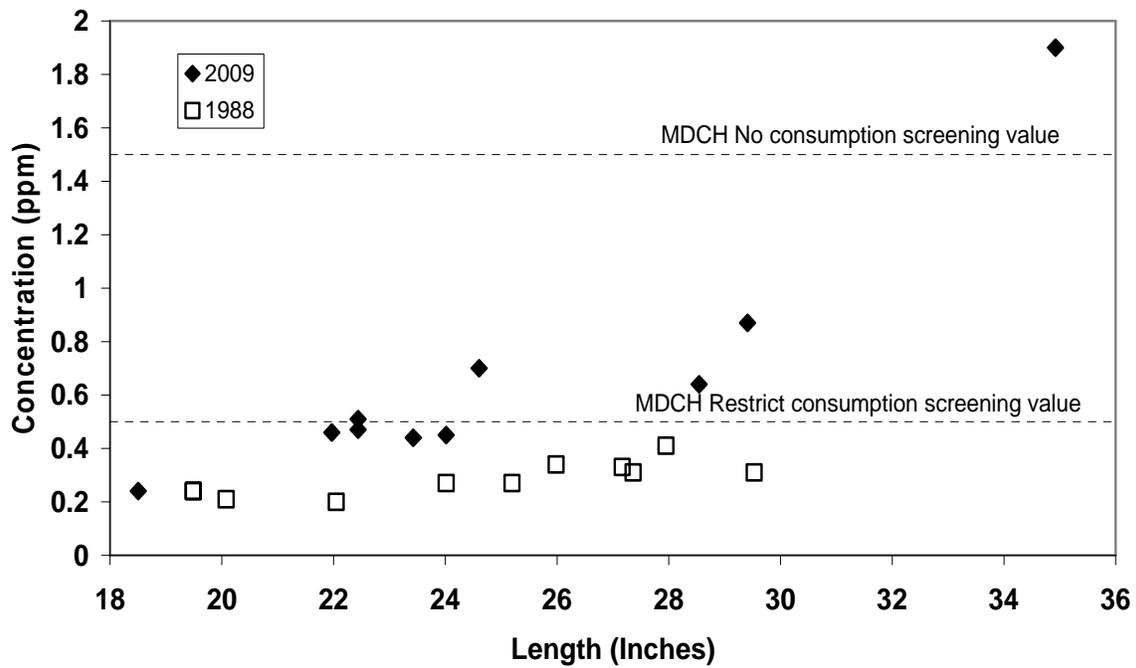


Figure 38. Total length versus total mercury concentration in northern pike collected from Fish Lake, Marquette County, in 1988 (ID 88046) and 2009 (ID 2009212).

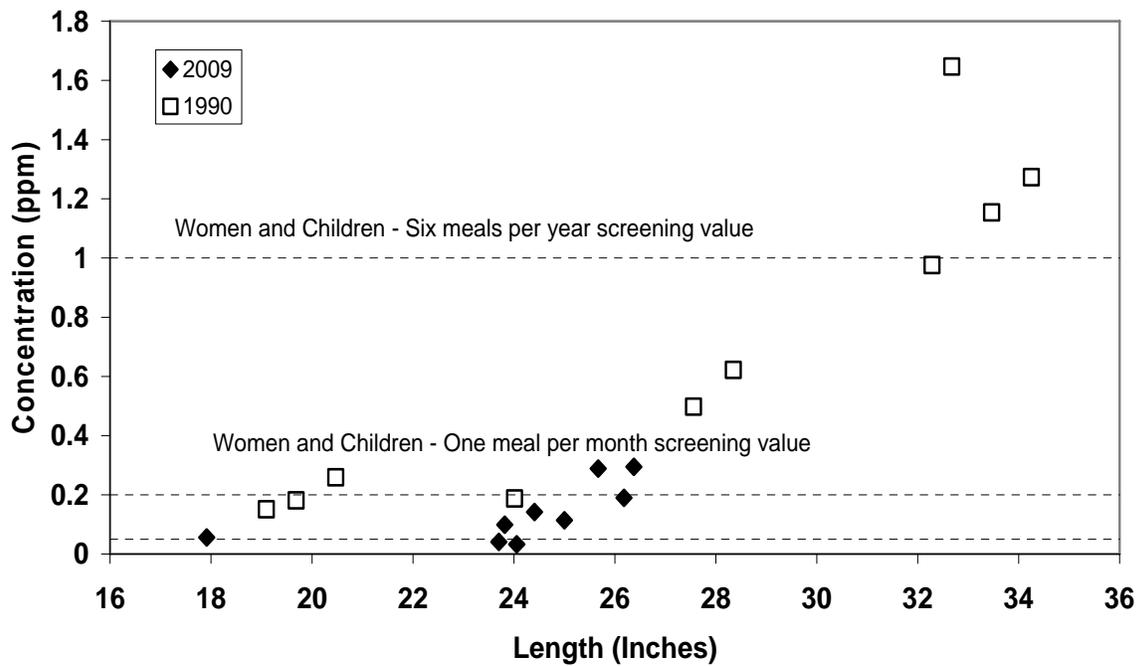


Figure 39. Total length versus total PCB concentration in lake trout collected from Glen Lake, Leelanau County, in 1990 (ID 90053) and 2009 (ID 2009236).

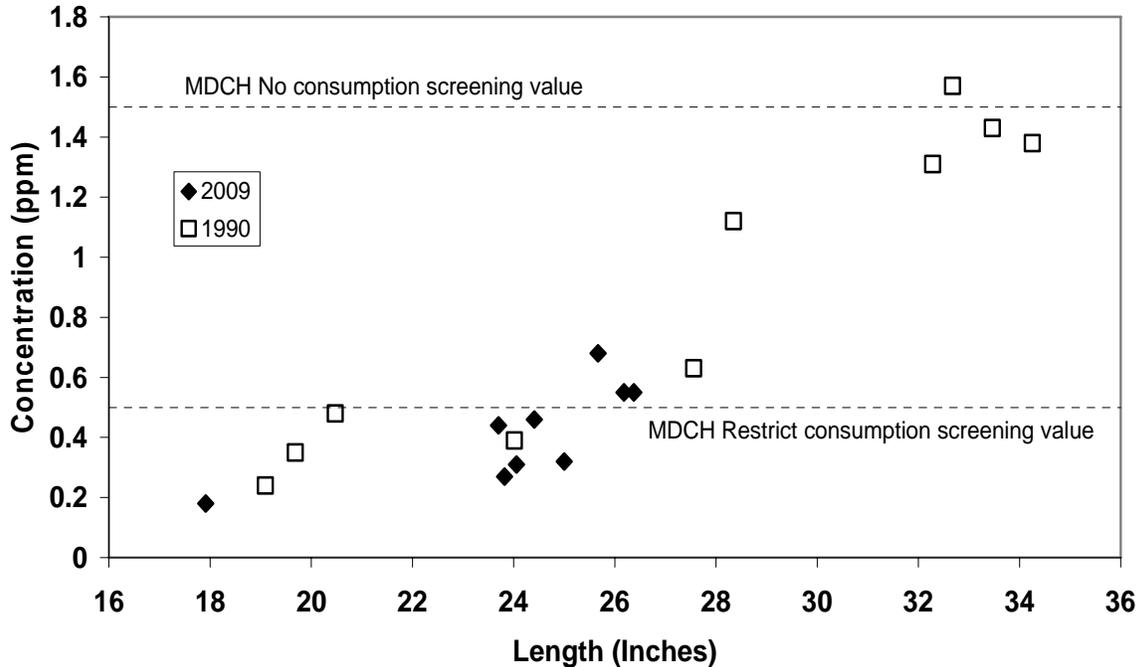


Figure 40. Total length versus total mercury concentration in lake trout collected from Glen Lake, Leelanau County, in 1990 (ID 90053) and 2009 (ID 2009236).

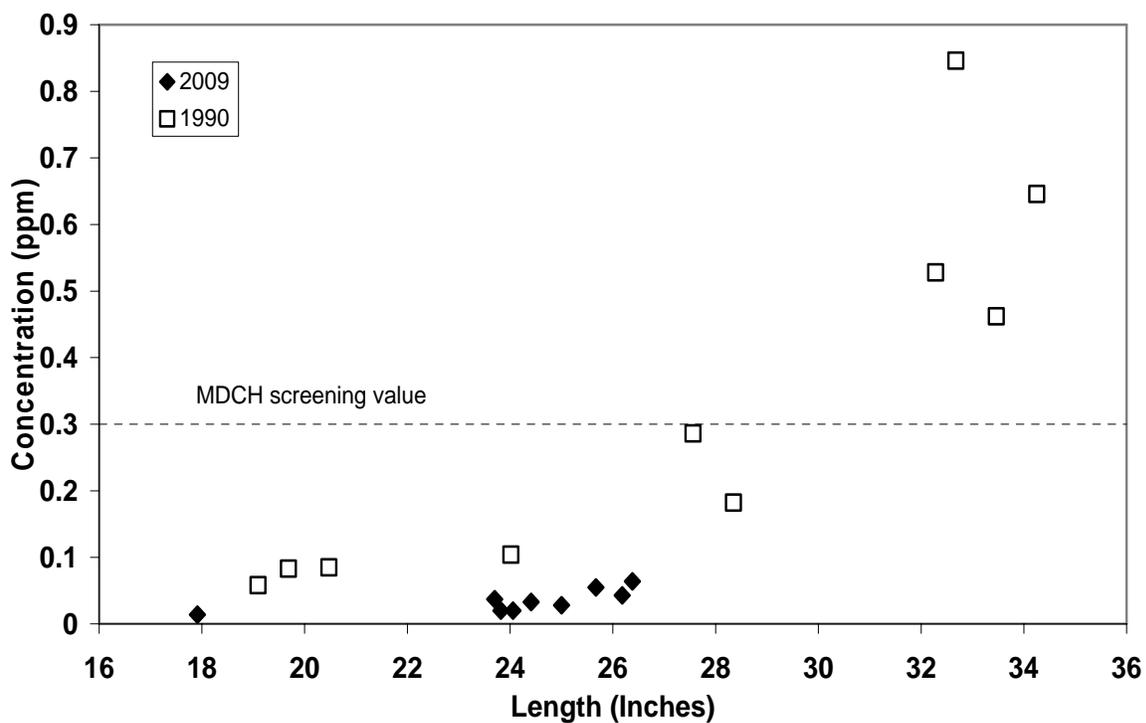


Figure 41. Total length versus total chlordane concentration in lake trout collected from Glen Lake, Leelanau County, in 1990 (ID 90053) and 2009 (ID 2009236).

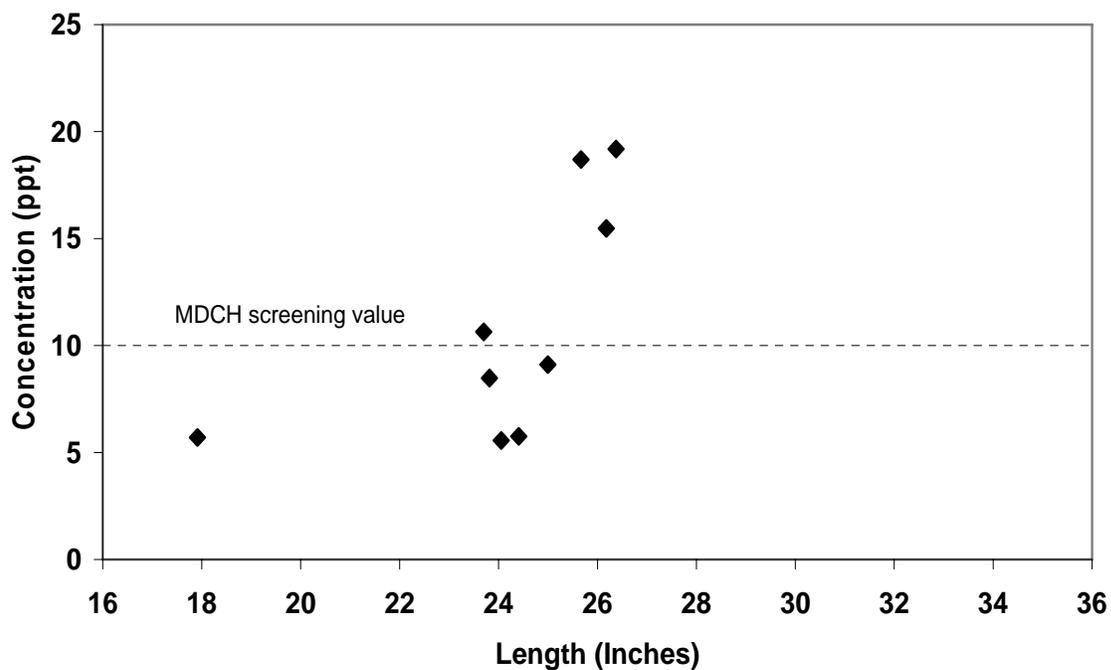


Figure 42. Total length versus dioxin TEQ concentration in lake trout collected from Glen Lake, Leelanau County, in 2009 (ID 2009236).

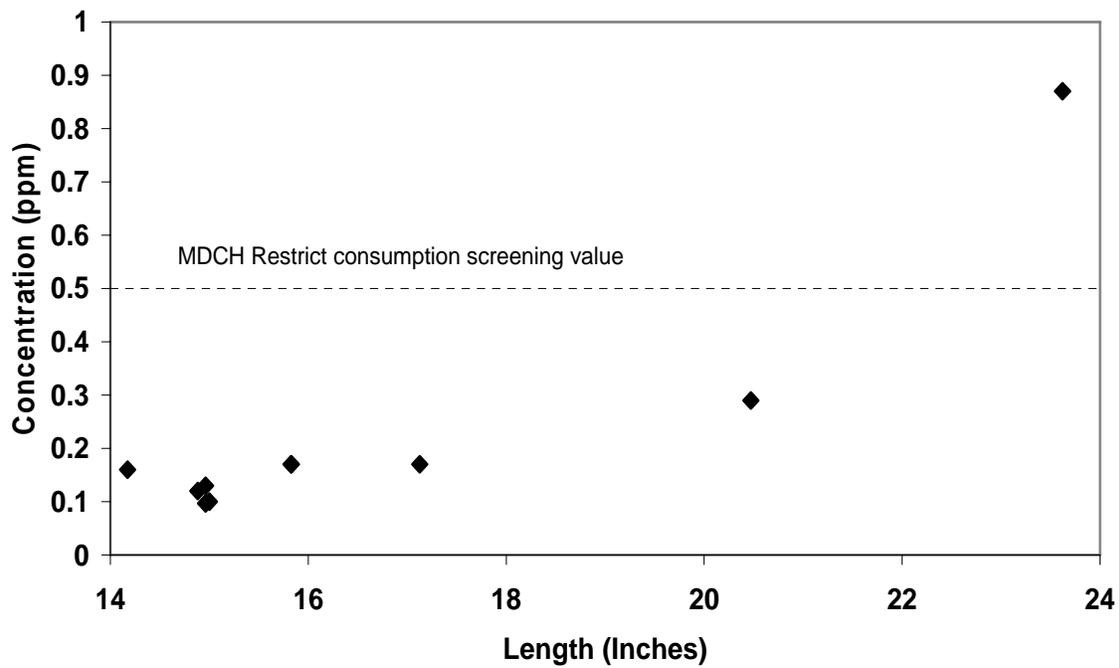


Figure 43. Total length versus total mercury concentration in northern pike collected from Indian Lake, Iron County, in 2008 (ID 2009224).

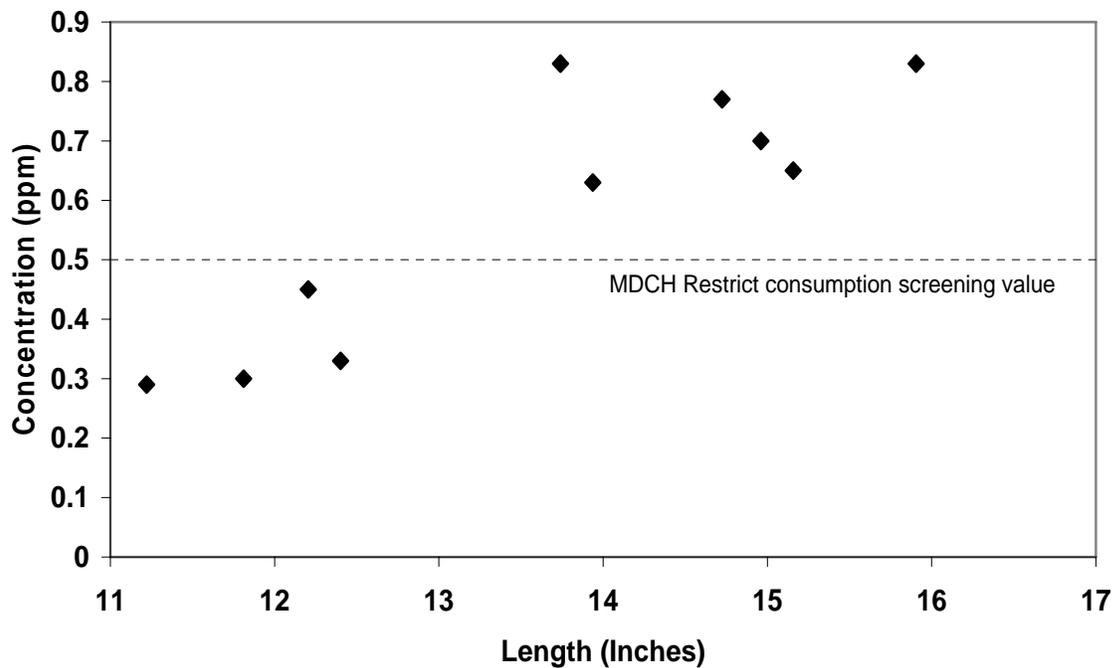


Figure 44. Total length versus total mercury concentration in largemouth bass collected from Mary Lake, Dickinson County, in 2008 (ID 2008236).

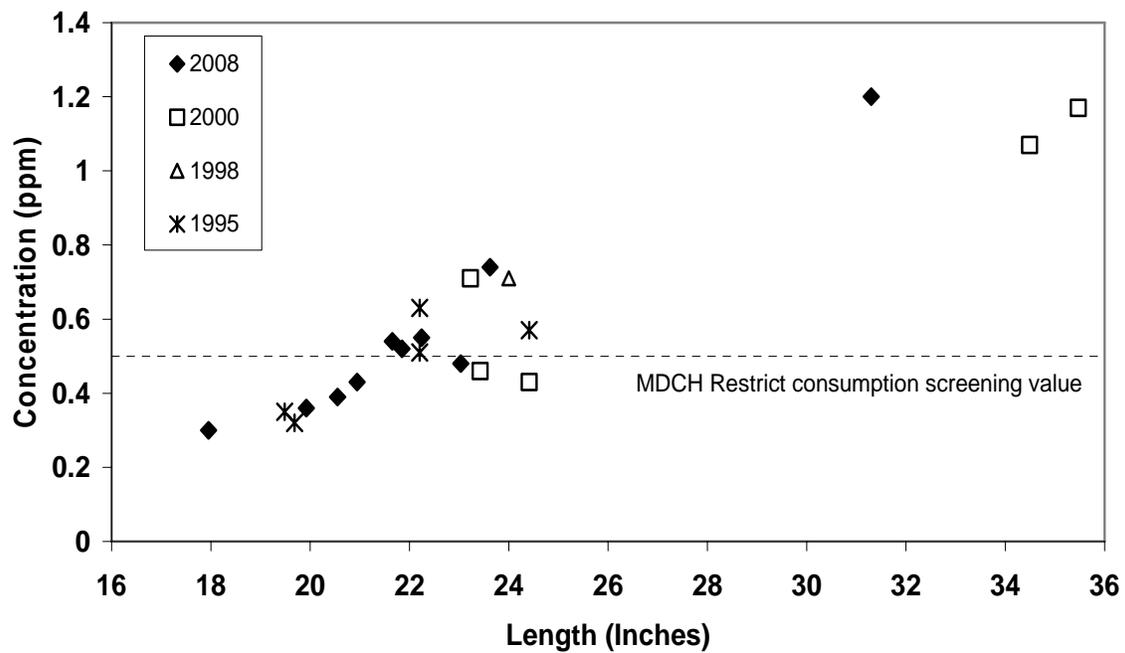


Figure 45. Total length versus total mercury concentration in northern pike collected from the Michigamme Reservoir in 1995 (95061), 1998 (ID 1998072), 2000 (ID 2000052), and 2008 (ID 2008237).

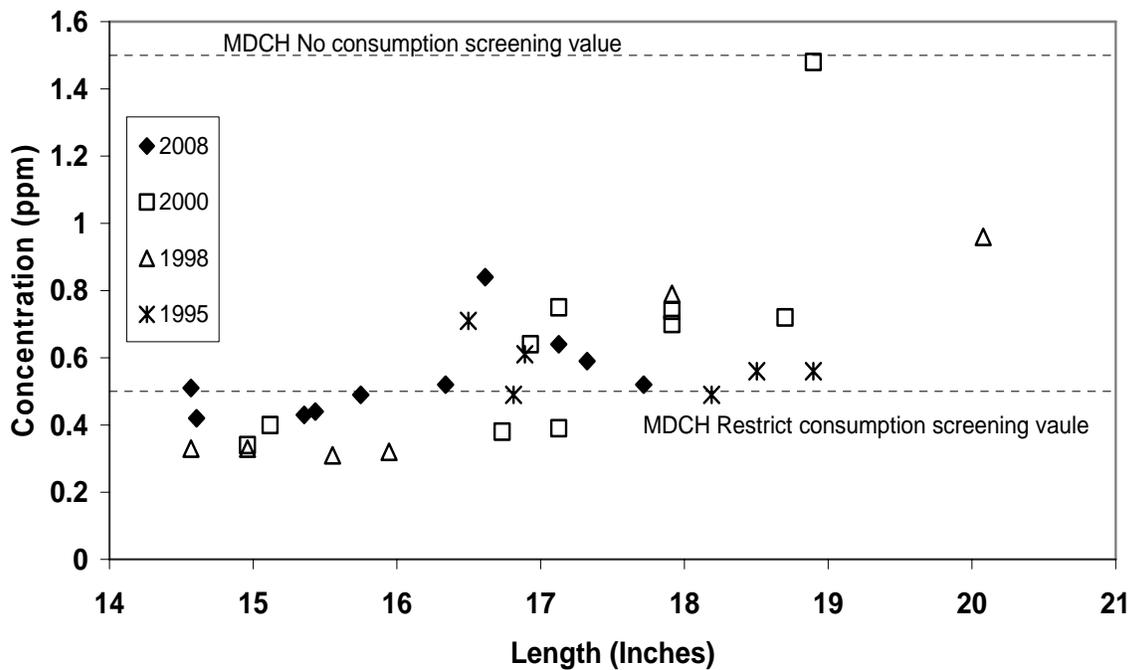


Figure 46. Total length versus total mercury concentration in walleye collected from the Michigamme Reservoir in 1995 (95061), 1998 (ID 1998072), 2000 (ID 2000052), and 2008 (ID 2008237).

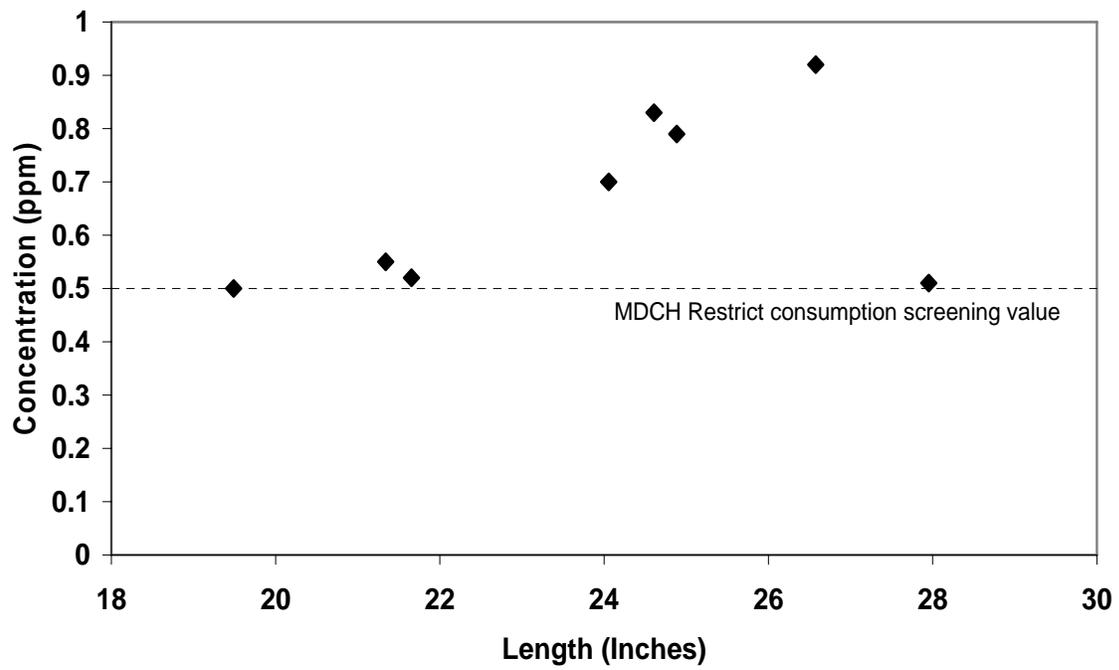


Figure 47. Total length versus total mercury concentration in northern pike collected from Payne Lake, Barry County, in 2009 (ID 2009223).

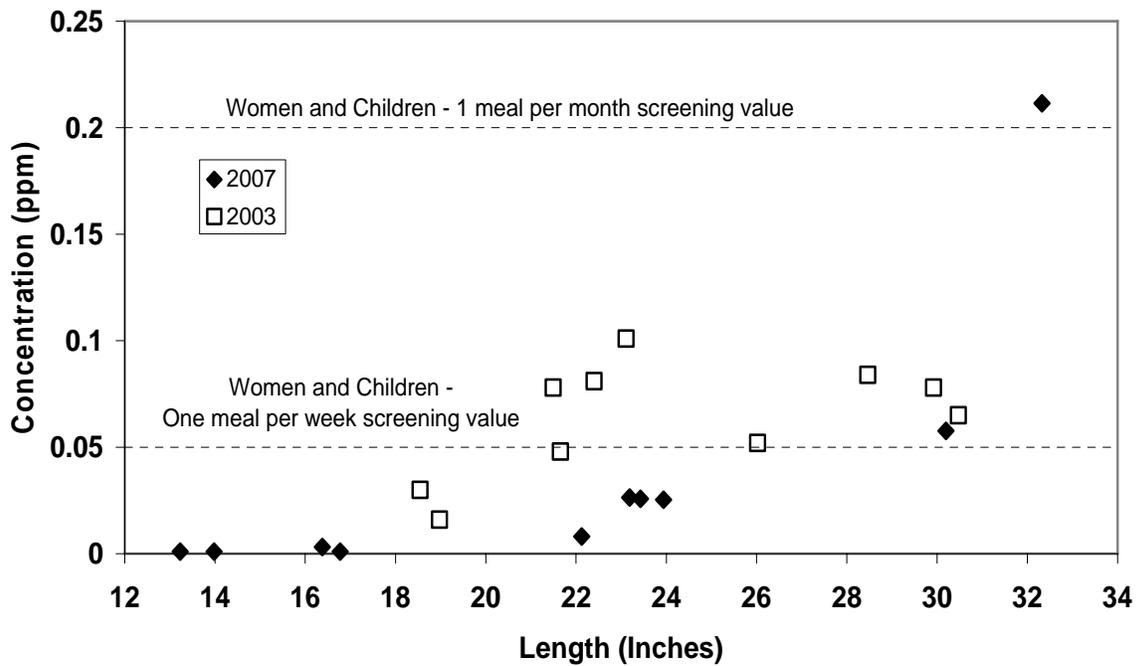


Figure 48. Total length versus total PCB concentration in northern pike collected from Pere Marquette Lake, Mason County, in 2003 (ID 2003086) and 2007 (ID 2009245).

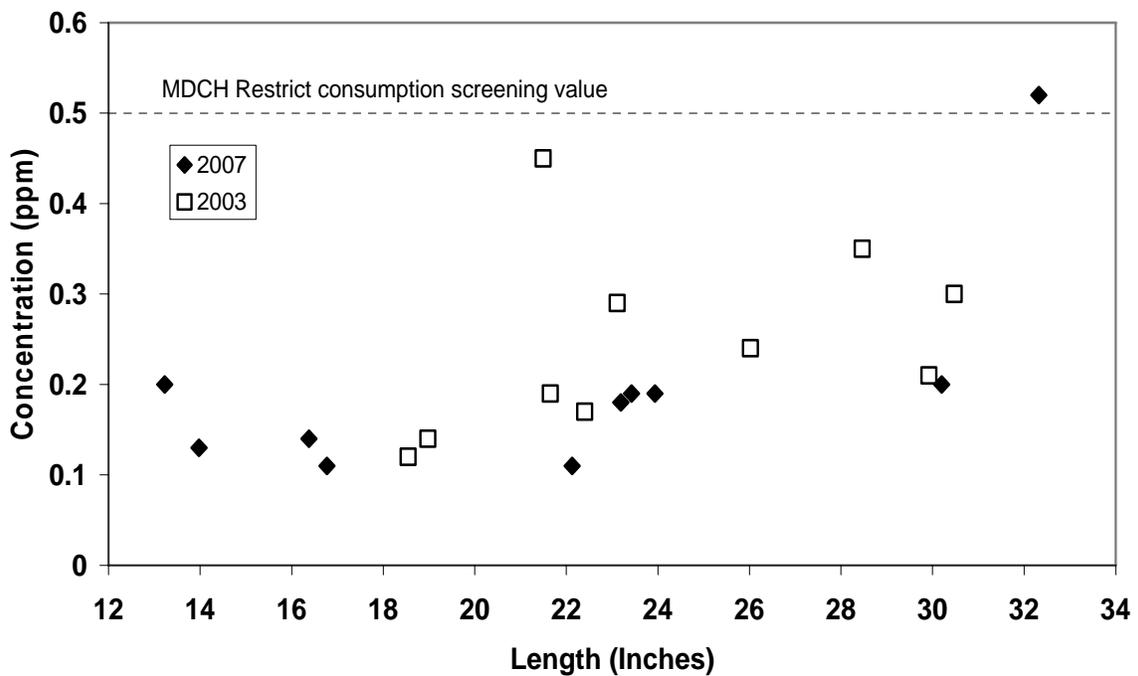


Figure 49. Total length versus total mercury concentration in northern pike collected from Pere Marquette Lake, Mason County, in 2003 (ID 2003086) and 2007 (ID 2007245).

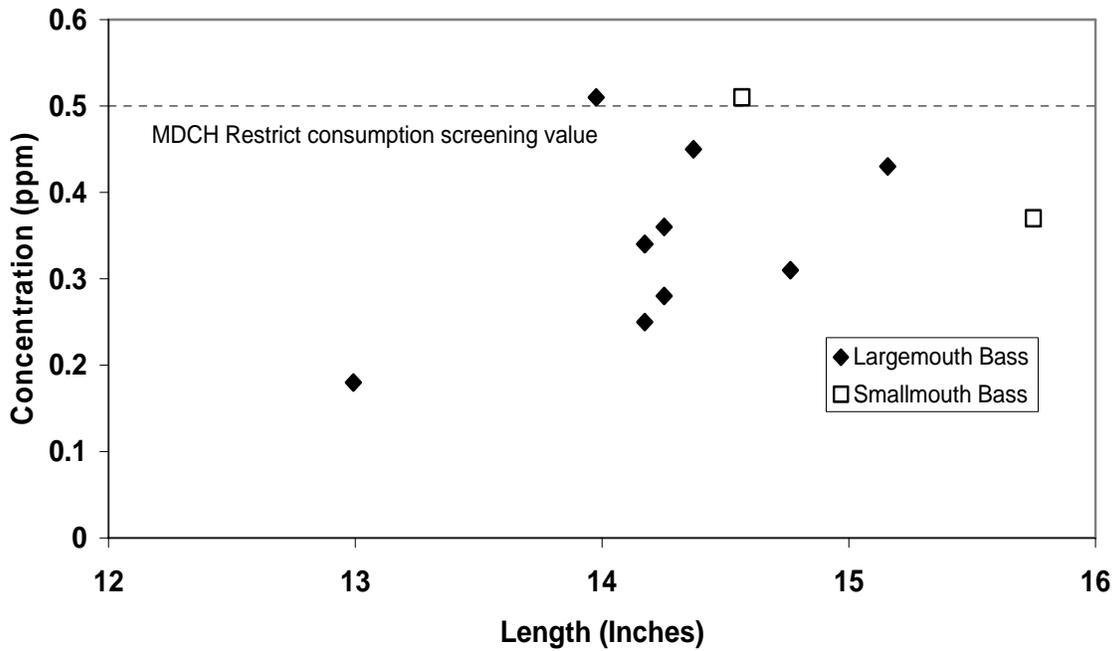


Figure 50. Total length versus total mercury concentration in largemouth and smallmouth bass collected from Thumb Lake, Charlevoix County, in 2008 (ID 2008257).

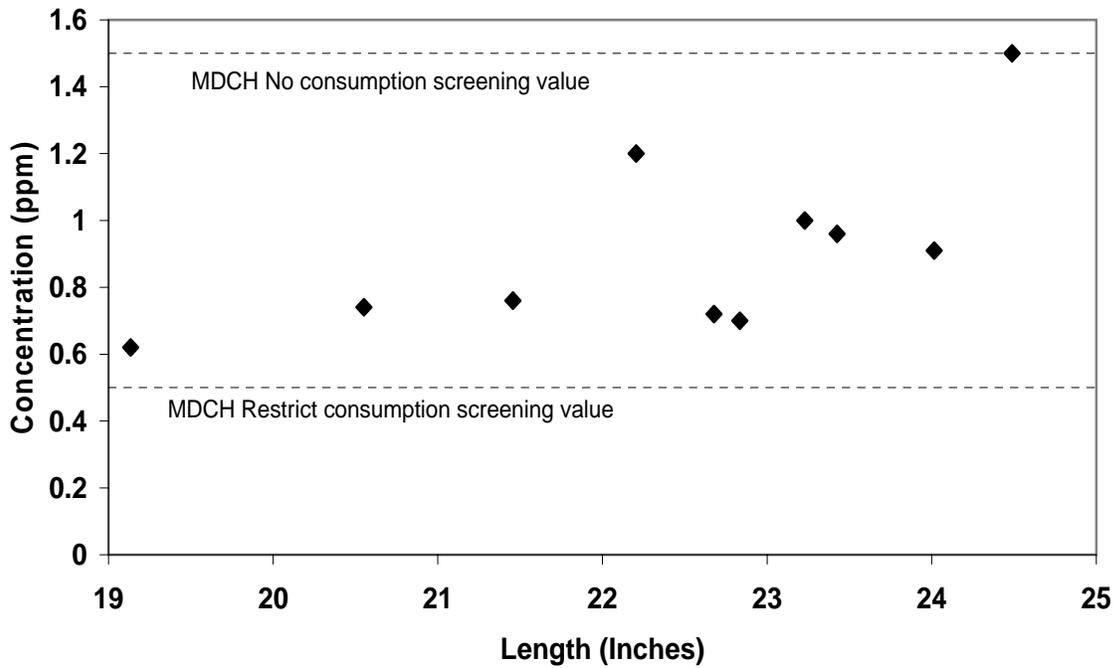


Figure 51. Total length versus total mercury concentration in northern pike collected from Twin Lake, Luce County, in 2009 (ID 2009233).

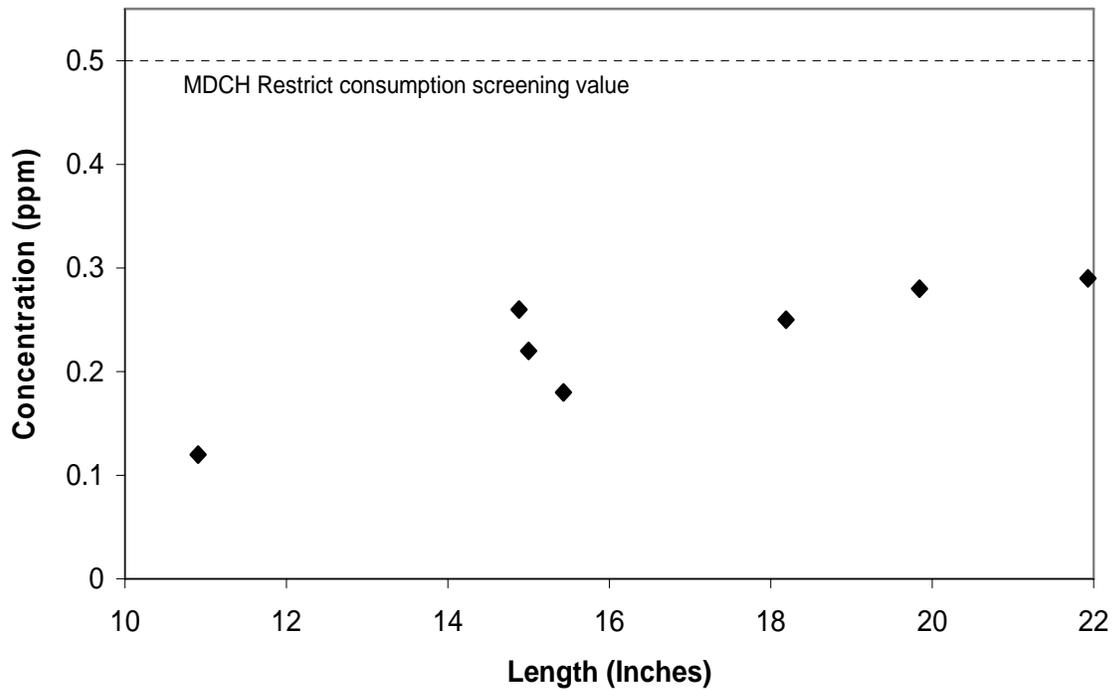


Figure 52. Total length versus total mercury concentration in northern pike collected from Wells Lake, Osceola County, in 2006 (ID 2006088).

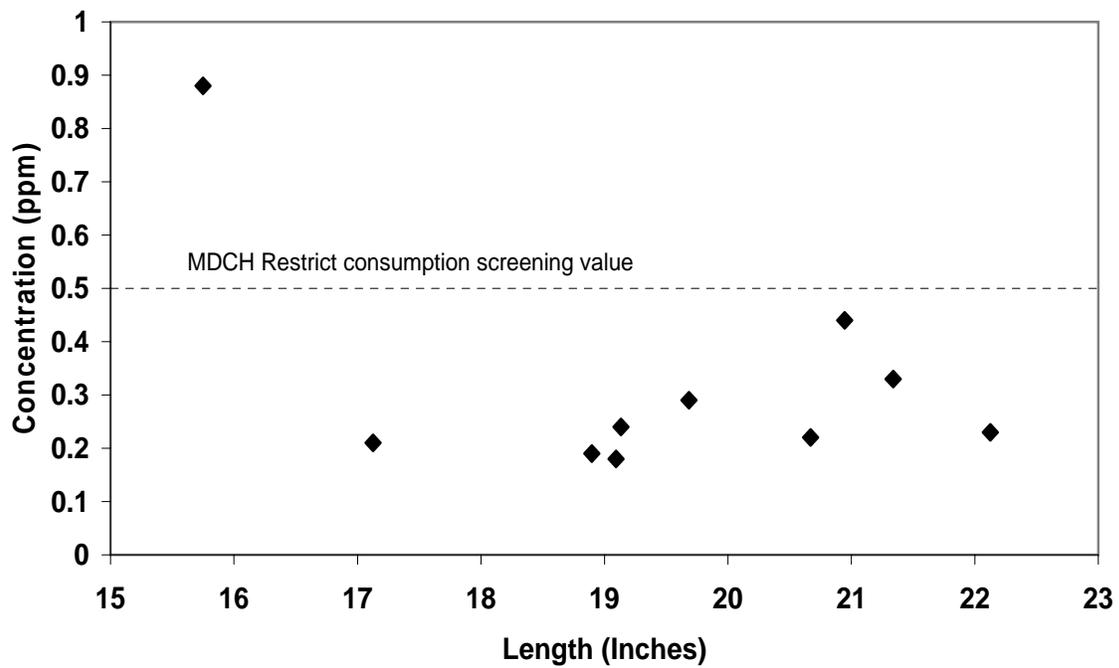


Figure 53. Total length versus total mercury concentration in walleye collected from Lake Superior, Tahquamenon River, in 2008 (ID 2008254).

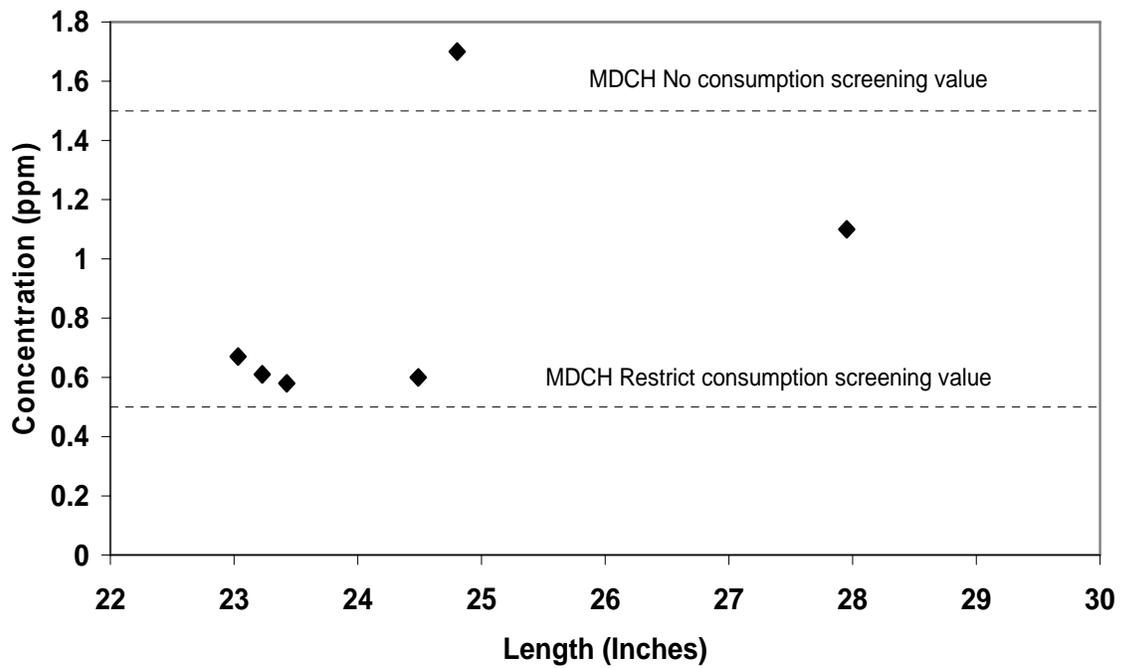


Figure 54. Total length versus total mercury concentration in northern pike collected from Bobcat Lake, Gogebic County, in 2009 (ID 2009204).

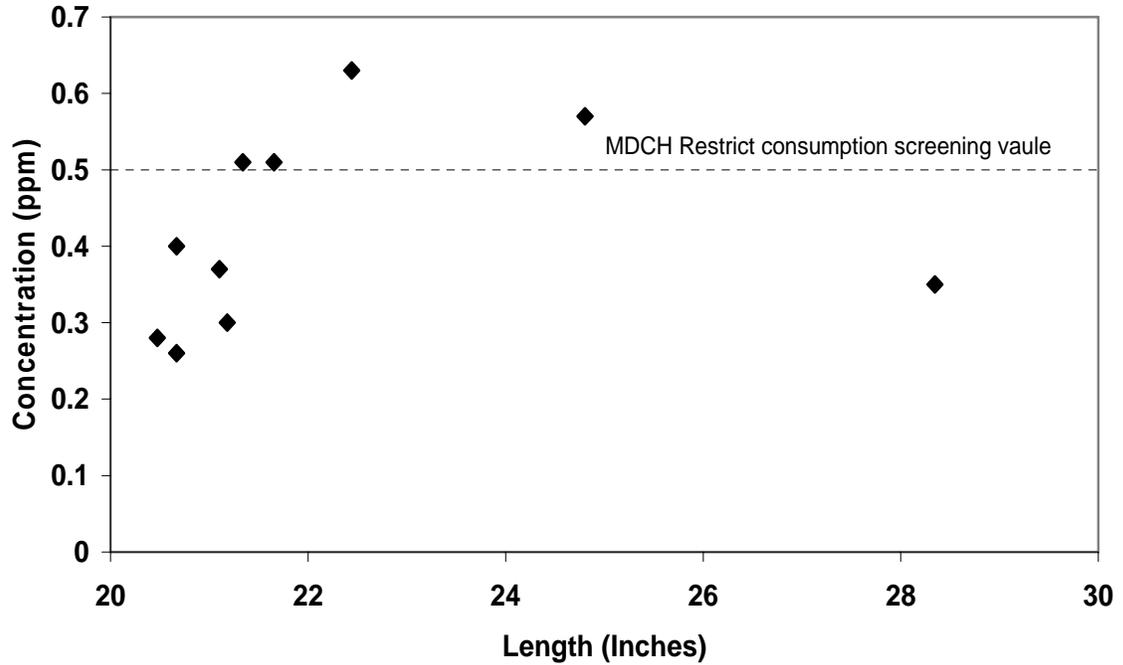


Figure 55. Total length versus total mercury concentration in northern pike collected from Bodi Lake, Luce County, in 2009 (ID 2009205).

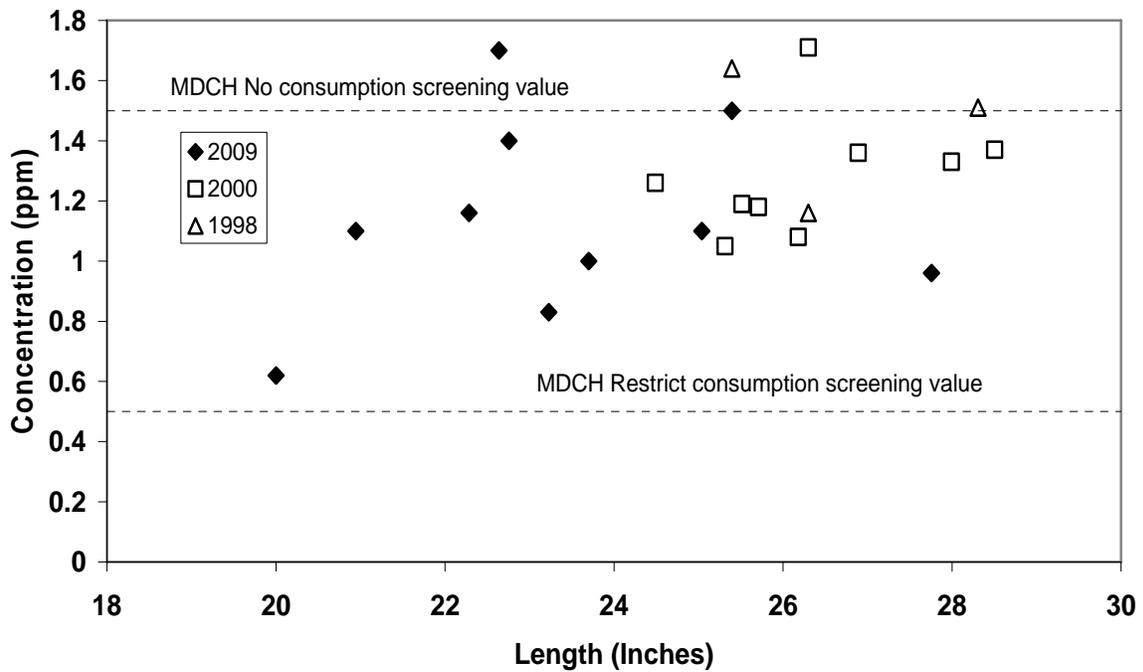


Figure 56. Total length versus total mercury concentration in northern pike collected from Chaney Lake, Gogebic County, in 1998 (ID 1998147), 2000 (2000003), and 2009 (ID 2009206).

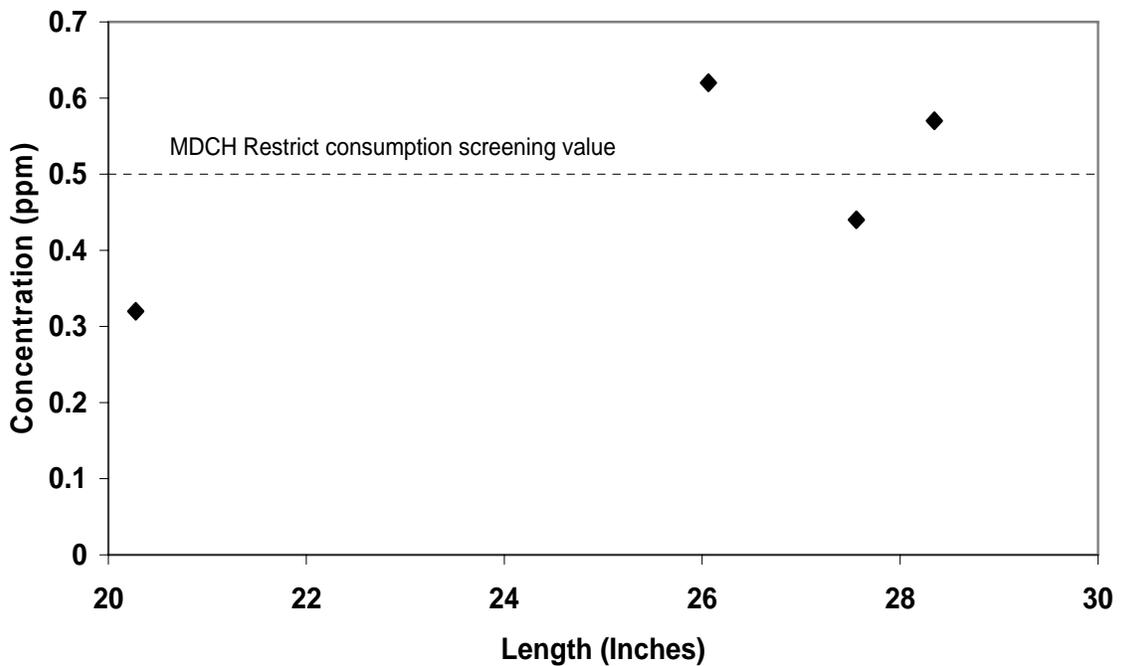


Figure 57. Total length versus total mercury concentration in northern pike collected from Clearwater Lake, Gogebic County, in 2009 (ID 2009209).

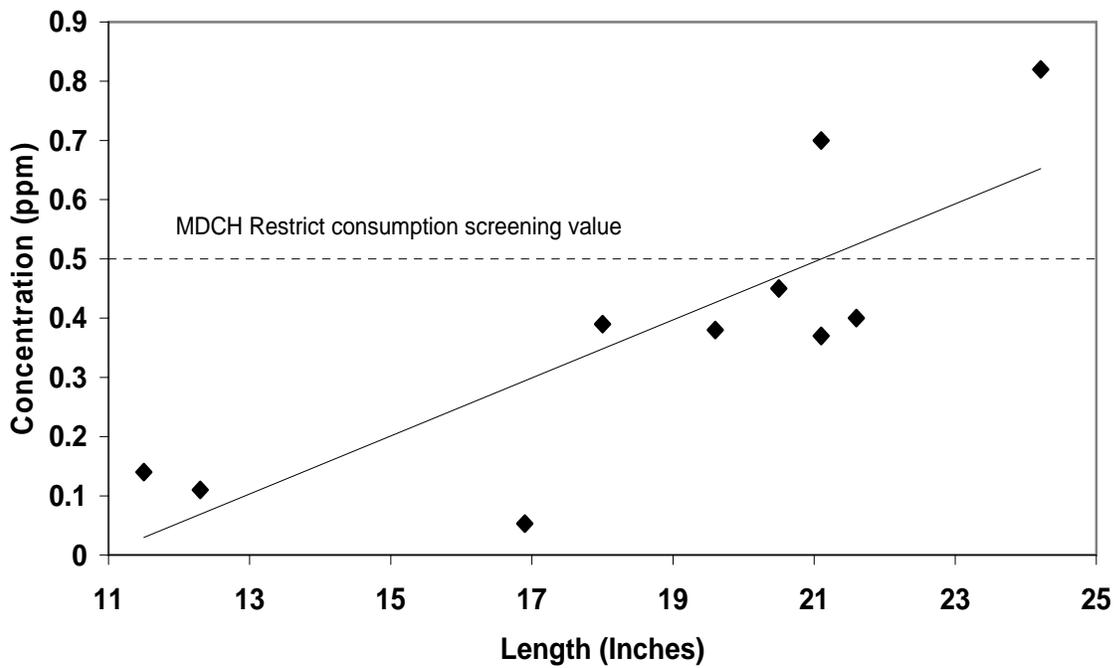


Figure 58. Total length versus total mercury concentration in northern pike collected from Engman Lake, Marquette County, in 2006 (ID 2006013).

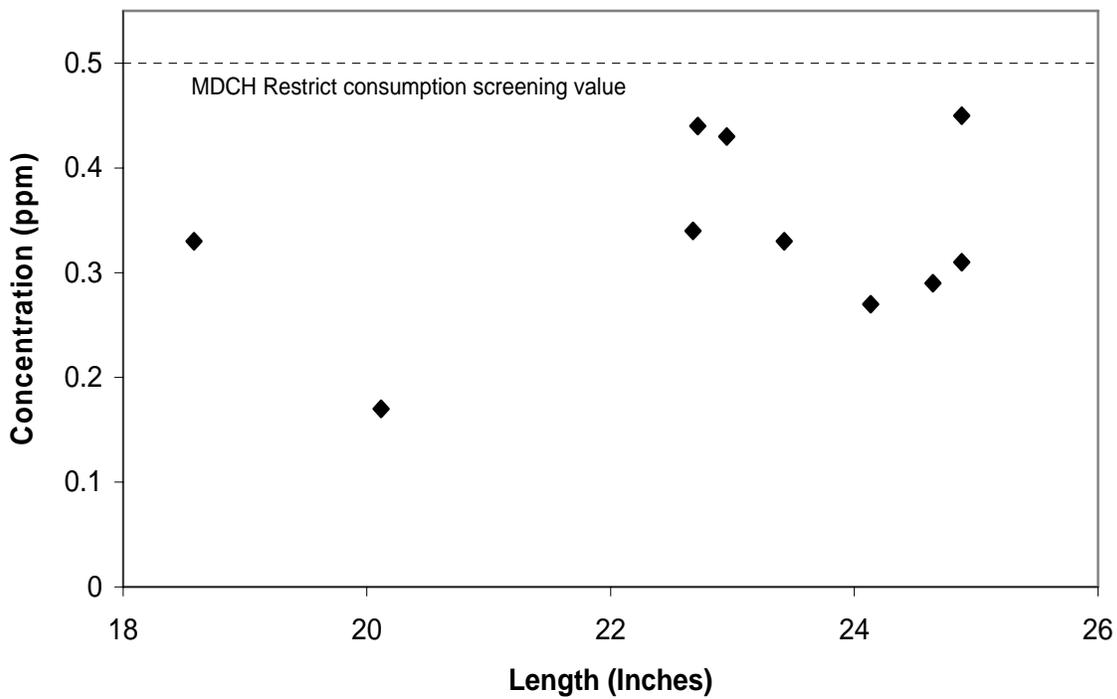


Figure 59. Total length versus total mercury concentration in northern pike collected from Johnson Lake, Marquette County, in 2008 (ID 2008225).

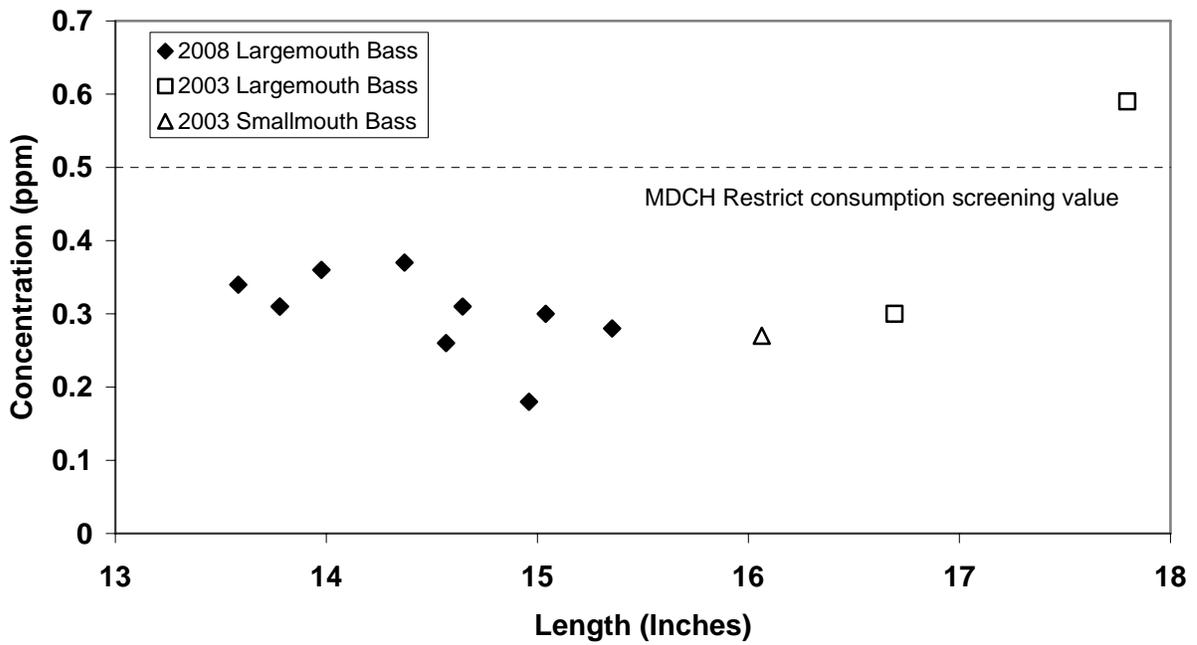


Figure 60. Total length versus total mercury concentration in largemouth and smallmouth bass collected from Kingston Lake, Alger County, in 2003 (ID 2003047) and 2008 (ID 2008750).

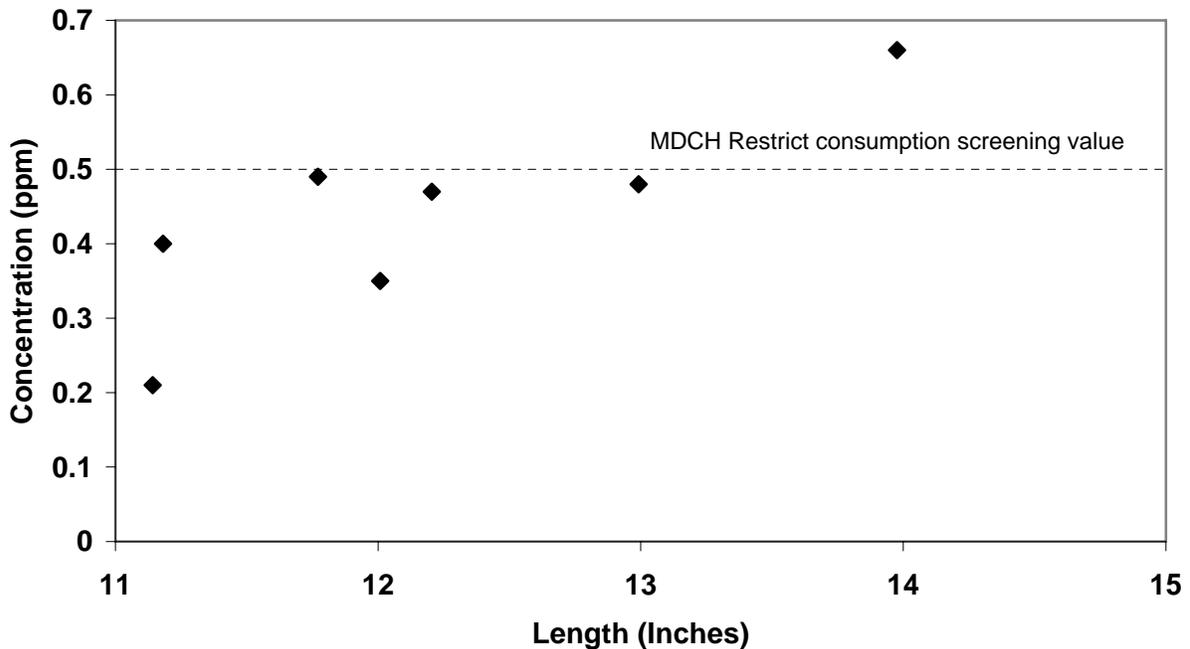


Figure 61. Total length versus total mercury concentration in smallmouth bass collected from Lake Fannie Hooe, Keweenaw County, in 2007 (ID 2007225).

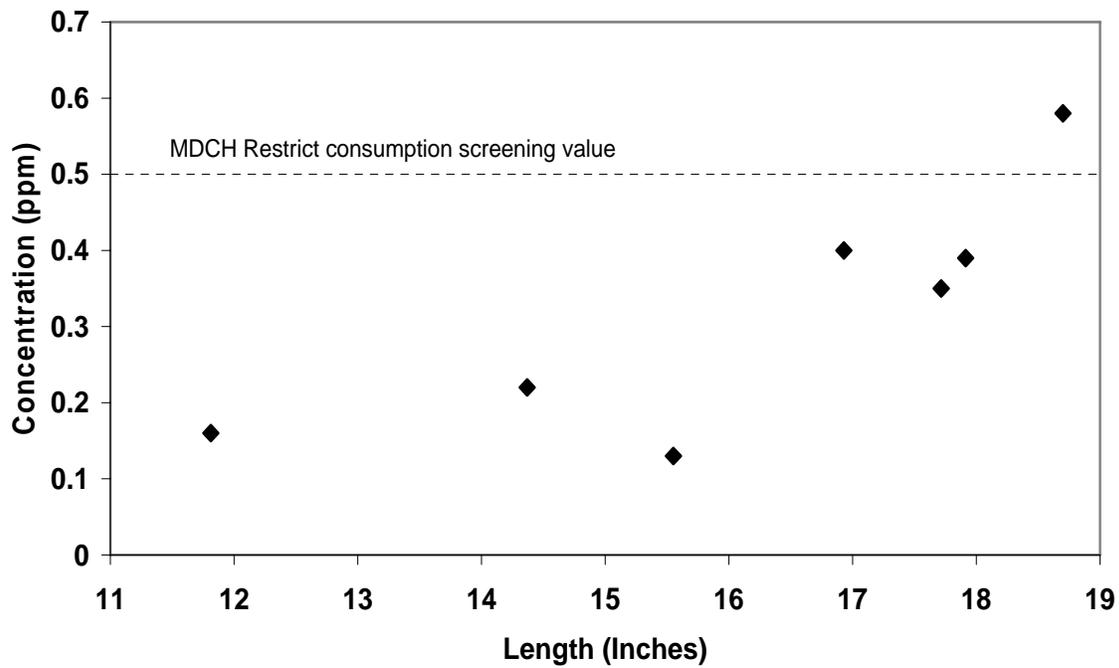


Figure 62. Total length versus total mercury concentration in walleye collected from Monacle Lake, Chippewa County, in 2009 (ID 2009222).

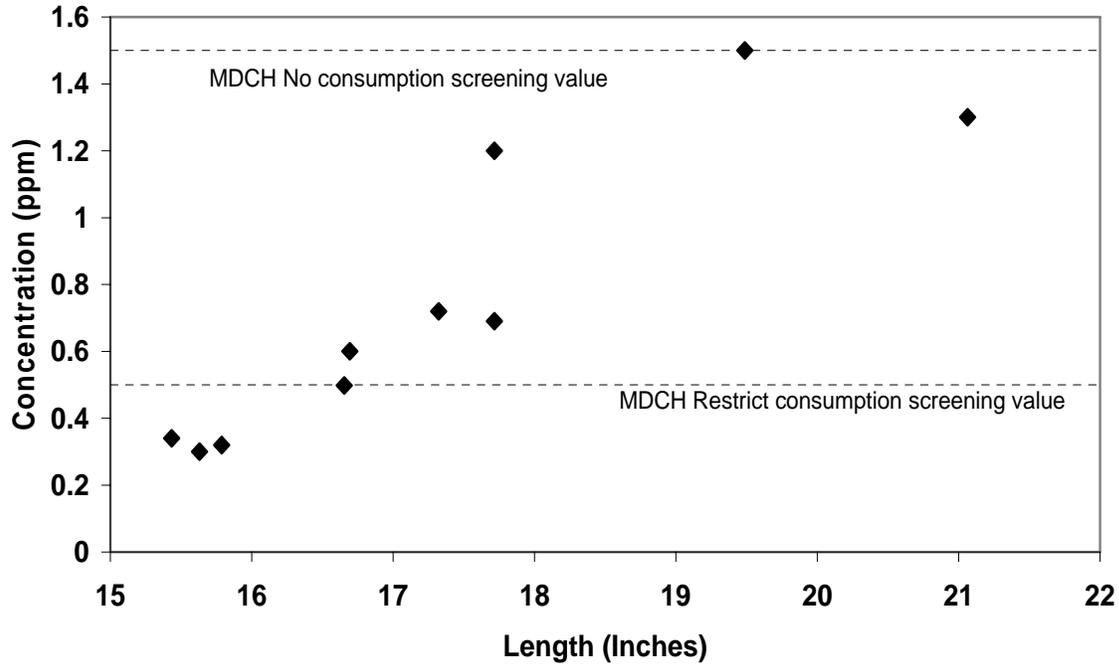


Figure 63. Total length versus total mercury concentration in walleye collected from Muskallonge Lake, Luce County, in 2008 (ID 2008751).

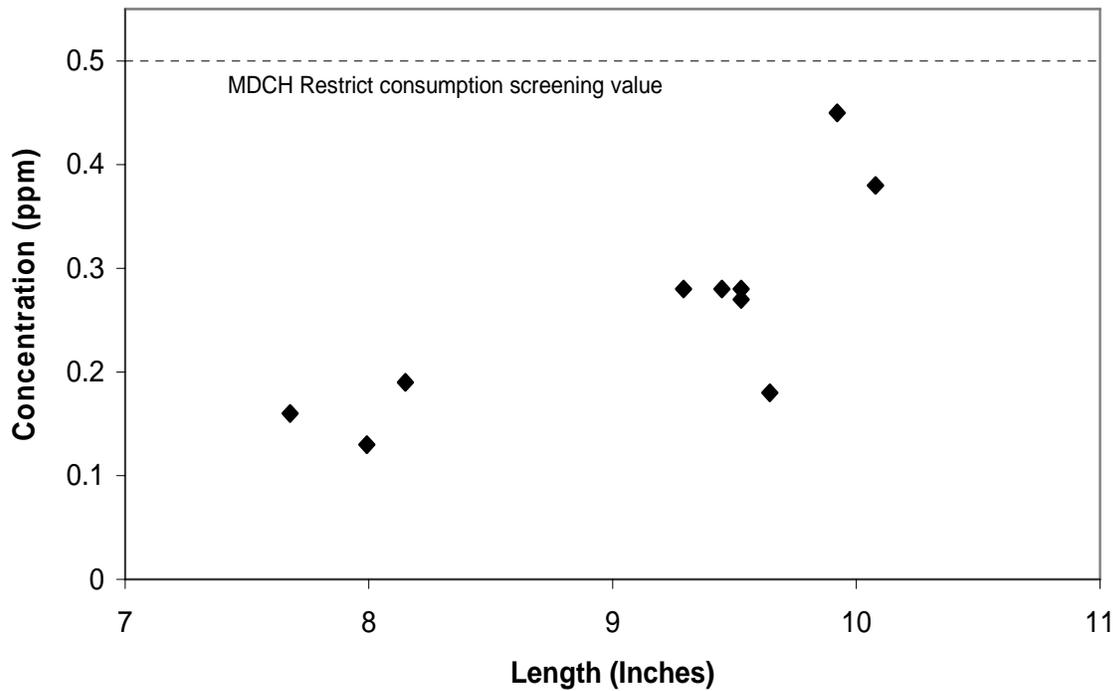


Figure 64. Total length versus total mercury concentration in rock bass collected from Nawakwa Lake, Alger County, in 2008 (ID 2008241).

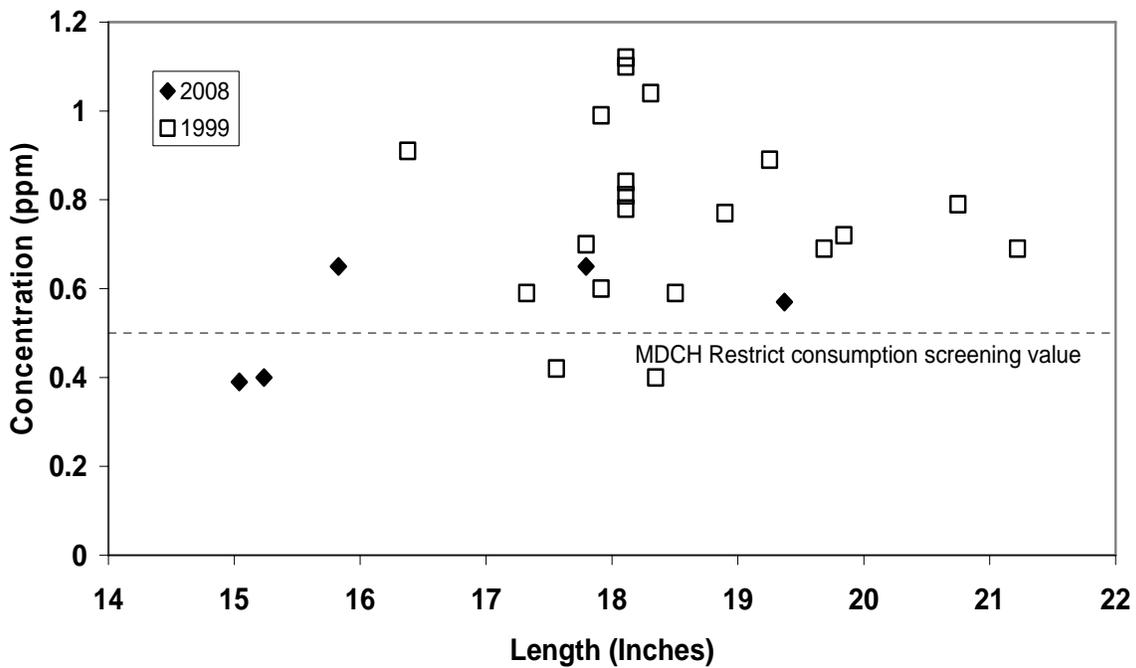


Figure 65. Total length versus total mercury concentration in walleye collected from Nawakwa Lake, Alger County, in 1999 (ID 1999076) and 2008 (ID 2008241).

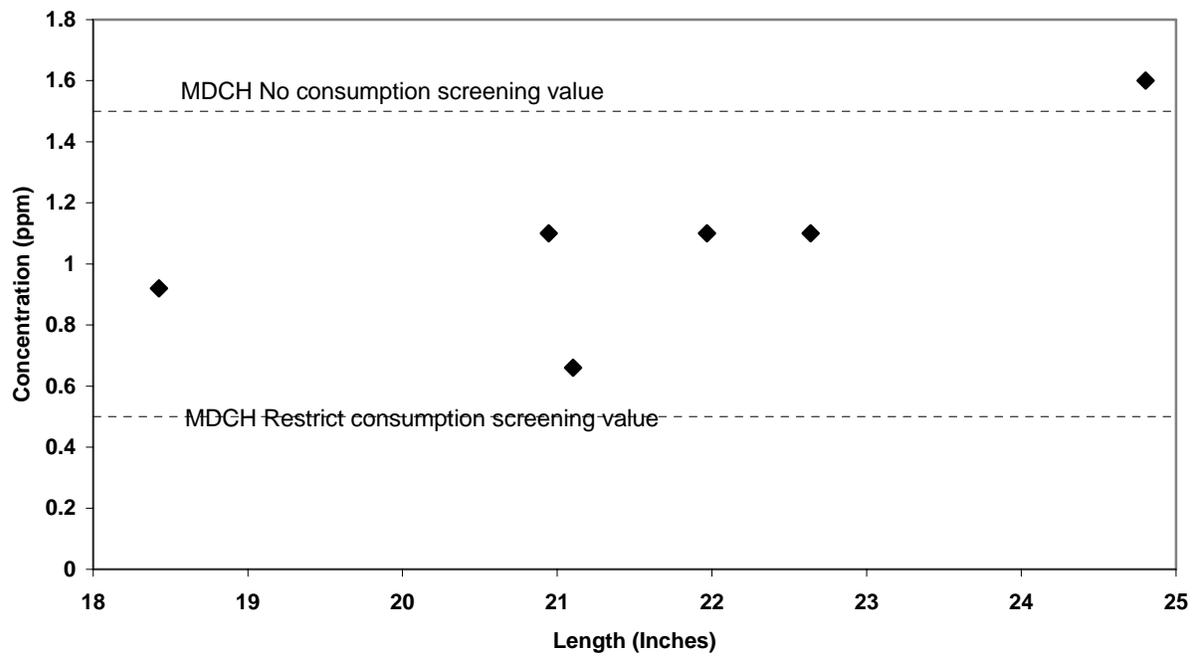


Figure 66. Total length versus total mercury concentration in northern pike collected from Pike Lake, Houghton County, in 2007 (ID 2007246).

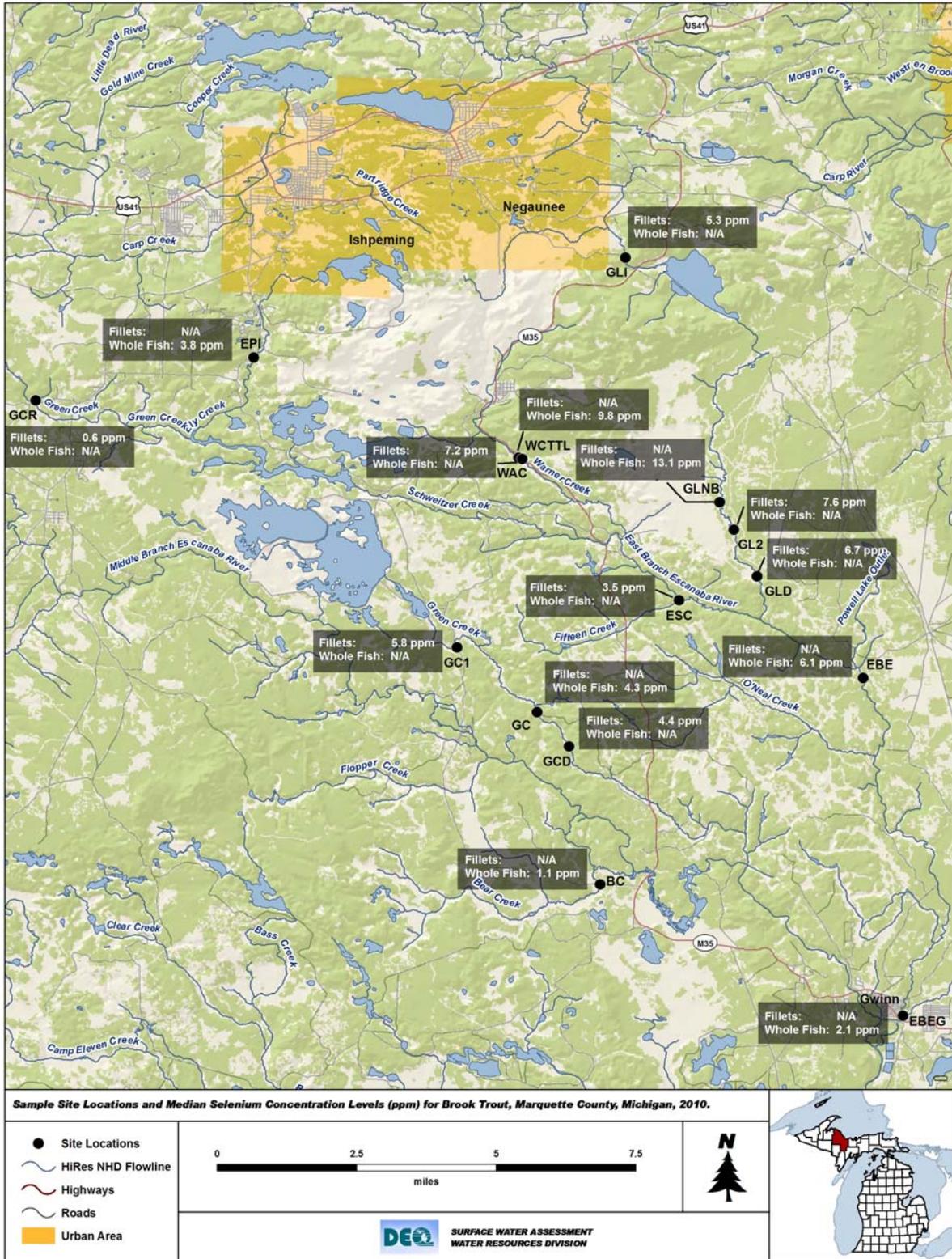


Figure 67. Sample sites and median Se concentrations in brook trout whole body samples (collected by the MDEQ in 2008) and fillet samples (collected by Cliffs Natural Resources in 2010).

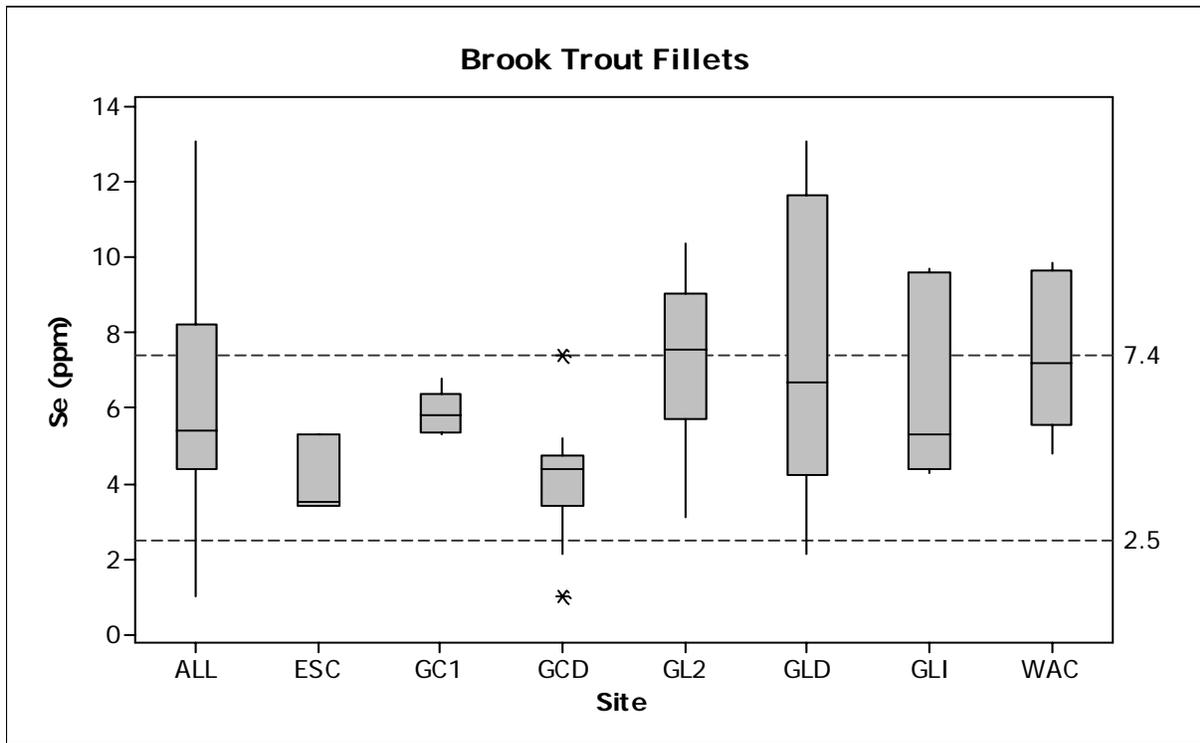


Figure 68. Boxplot of Se concentrations in fillets of brook trout collected by Cliffs Natural Resources in 2010 from 7 sites in the upper Escanaba River watershed.

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Adrian Lake	Lenawee County	90007	Jun/13/1990	Carp, Northern Pike
Antoine Lake	Dickinson County	88004	May/24/1988	Largemouth Bass, Smallmouth Bass, Walleye
Antoine Lake	Dickinson County	2005001	Nov/10/2005	Northern Pike, Walleye
Arbutus Lake	Grand Traverse County	93066	May/11/1993	Northern Pike
Au Sable River	Alcona Dam Pond	2003002	Jun/10/2003	Carp, Northern Pike, Walleye
Au Sable River	Chase River Road	1998136	Aug/25/1998	Brown Trout, White Sucker
Au Sable River	Cooke Pond	2008200	May/12/2008	Northern Pike
Au Sable River	Mio Dam Pond	2009200	Jun/09/2009	Northern Pike
Au Sable River	Oscoda	86037	Jul/31/1986	Carp
Au Sable River	Oscoda	97001	May/21/1997	Carp, Walleye
Au Sable River	Oscoda	1999001	Sep/20/1999	Carp, Walleye
Au Sable River	Oscoda	2005002	Oct/03/2005	Carp, Walleye
Au Sable River	Thendara Road	1998144	Sep/08/1998	Brown Trout, White Sucker
Au Sable River, Middle Branch	Alcona County, above Alcona Pond	1998073	May/20/1998	Walleye, White Sucker
Au Sable River, North Branch	Lovells	96003	Sep/10/1996	Brown Trout
Au Sable River, North Branch	Otsego County, Dam #2	88039	Nov/03/1988	Brown Trout
Au Train Basin	Alger County	90060	Aug/30/1990	Northern Pike, Yellow Perch
Au Train Lake	Alger County	87003	Apr/14/1987	Northern Pike, Walleye
Au Train Lake	Alger County	93048	May/11/1993	Northern Pike, Walleye
Au Train Lake	Alger County	2005003	Sep/12/2005	Walleye, Yellow Perch
Austin Lake	Kalamazoo County	93091	May/04/1993	Carp, Largemouth Bass
Austin Lake	Kalamazoo County	2003154	Jul/21/2003	Carp, Largemouth Bass, Yellow Bullhead
Avery Lake	Montmorency County	2009234	May/20/2009	Largemouth Bass
Bad River	Saginaw County	94034	Aug/30/1994	Channel Catfish, Northern Pike
Bad River	Saginaw County	2004003	Jun/23/2004	Carp, Channel Catfish, Northern Pike
Bad River	Saginaw County	2008203	Apr/10/2008	Northern Pike
Baldwin River	near M-37	2005004	Aug/18/2005	Brown Trout
Barton Lake	Kalamazoo County	91057	Oct/01/1991	Carp, Largemouth Bass, Northern Pike
Baseline Lake	Livingston/Washtenaw County	2009201	May/06/2009	Carp, Largemouth Bass
Bass Lake	Grand Traverse County	95063	Jun/20/1995	Bluegill, Northern Pike, Yellow Perch
Battle Creek River	Battle Creek, Division St.	91004	Oct/24/1991	Carp, Smallmouth Bass
Battle Creek River	Battle Creek, Division St.	2004004	Jun/10/2004	Carp, Smallmouth Bass
Bear Lake	Kalkaska County	87036	Jun/24/1987	Brown Trout, Smallmouth Bass
Bear Lake	Muskegon County	86062	Oct/29/1986	Carp, Largemouth Bass, Northern Pike
Bear Lake	Muskegon County	93002	Nov/02/1993	Northern Pike, Walleye
Bear River	Emmet County	1998006	Aug/04/1998	Brown Trout, White Sucker
Beatons Lake	Gogebic County	87005	Apr/28/1987	Largemouth Bass, Rainbow Trout
Beatons Lake	Gogebic County	2008263	May/07/2008	Largemouth Bass, Smallmouth Bass
Beaufort Lake	Baraga County	87039	Jun/17/1987	Northern Pike, Walleye
Beaver Lake	Alger County	2003150	Aug/28/2003	Walleye, Yellow Perch
Beaver Lake	Alpena County	87022	Jun/03/1987	Northern Pike, Smallmouth Bass
Bellaire Lake	Antrim County	87095	Sep/16/1987	Splake, Walleye
Big Blue Lake	Muskegon County	88054	Oct/06/1988	Largemouth Bass, Northern Pike
Big Creek, West Branch	CR 489	2009246	Jul/14/2009	Brown Trout, Brown Trout Liver
Big Creek, West Branch	Crawford County, County Road 612	88059	Nov/03/1988	Brown Trout

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Big Crooked Lake	Van Buren Co	2009203	May/27/2009	Largemouth Bass
Big Seven Lake (Seven Lakes)	Oakland County	2004133	May/18/2004	Largemouth Bass
Big Shag Lake	Marquette County	2001003	May/01/2001	Northern Pike
Big Star Lake	Lake Co	2007262	Apr/24/2007	Largemouth Bass
Big Twin Lake	Kalkaska County	2006002	May/25/2006	Lake Herring, White Sucker
Bills Lake	Newaygo County	88055	Oct/05/1988	Largemouth Bass, Walleye
Bird Lake	Hillsdale County	87019	May/27/1987	Bluegill, Northern Pike, Yellow Perch
Bishop Lake	Livingston County	87014	May/12/1987	Largemouth Bass, Northern Pike
Bishop Lake	Livingston County	89010	Jun/28/1989	Largemouth Bass, Northern Pike
Black Creek	Lenawee County	91005	Jun/13/1991	Carp
Black Creek	Muskegon County, US-31	87013	May/05/1987	Brown Trout, Carp, White Sucker
Black Lake	Cheboygan County	90052	Feb/01/1989	Lake Sturgeon
Black River	Sanilac County, Croswell Impoundment	89017	Apr/20/1989	Carp
Black River	Sanilac County, Croswell Impoundment	2007263	Nov/08/2007	Carp
Black River	South Haven	92016	Aug/25/1992	Carp, Northern Pike
Black River, South Branch	Downstream of Bangor Dam	89020	Jul/07/1989	Carp, Largemouth Bass, Northern Pike, Rock Bass, White Sucker
Black River, South Branch	Downstream of Bangor Dam	2002008	Sep/23/2002	Carp, Northern Pike, White Sucker
Black River, South Branch	Upstream of Bangor Dam	2002106	Sep/23/2002	Carp, Northern Pike, White Sucker
Blind Sucker Flooding	Luce County	2007207	Jun/19/2007	Yellow Perch
Boardman Lake	Grand Traverse County	91006	Sep/26/1991	Northern Pike, Walleye, White Sucker
Boardman Lake	Grand Traverse County	2007302	Jun/05/2007	White Sucker
Boardman River	Brown Bridge Pond	2007301	May/23/2007	Northern Pike, White Sucker
Boardman River	Sabin Pond	2007303	Jun/19/2007	White Sucker
Bob Lake	Houghton County	2001134	Oct/03/2001	Walleye
Bobcat Lake	Gogebic Co.	2009204	Jun/04/2009	Northern Pike
Bodi Lake	Luce Co.	2009205	Jun/30/2009	Northern Pike
Boot Lake	Schoolcraft County	2004007	Jun/23/2004	Walleye
Boston Pond	Houghton County	2000105	Jul/11/2000	White Sucker, Yellow Perch
Boyne River	Charlevoix County	1998011	Aug/05/1998	Brown Trout, White Sucker
Brevoort Lake	Mackinac County	89033	May/01/1989	Rock Bass, Walleye
Bristol Lake	Barry County	2002009	May/15/2002	Largemouth Bass, White Sucker
Budd Lake	Clare Co	2007268	May/09/2007	Largemouth Bass
Burt Lake	Cheboygan County	90061	May/07/1990	Northern Pike, Walleye
Burt Lake	Cheboygan County	2001005	Oct/10/2001	Walleye, White Sucker
Cable Lake	Iron County	88005	May/26/1988	Largemouth Bass, Walleye
Camp Lake	Kent County	2003015	May/21/2003	Brown Bullhead, Largemouth Bass, Northern Pike
Campbell Lake	Kent Co.	2006005	Jul/01/2006	Largemouth Bass
Caribou Lake	Chippewa County	86004	May/21/1986	Rock Bass, Walleye
Caribou Lake	Chippewa County	2006006	Jun/13/2006	Rock Bass, Smallmouth Bass
Carney Lake	Dickinson County	89031	May/08/1989	Northern Pike, Walleye
Carp Creek	u/s Deer Lake	2005013	Aug/25/2005	Brook Trout, White Sucker
Carp Lake	Chippewa County	87089	Oct/23/1987	Northern Pike, Walleye
Carp River	Carp River Basin	1999003	Aug/20/1999	Brook Trout, Northern Pike
Carp River	Eagle Mills Pump House	88068	Oct/06/1988	Northern Pike, Yellow Perch
Carp River	Eagle Mills Pump House	93074	Jul/23/1993	Brook Trout, Northern Pike
Carp River	Landfill Rd.	2004009	Aug/18/2004	Brook Trout

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Carp River	M-35	84012	Sep/27/1984	Brook Trout, White Sucker, Yellow Perch
Carp River	M-35	2004010	Aug/17/2004	Brook Trout, White Sucker
Cary Lake	Branch County	2001140	Oct/02/2001	Largemouth Bass, White Sucker
Cass Lake	Oakland County	91007	Sep/26/1991	Northern Pike, Smallmouth Bass, Walleye
Cass River	Above Caro	88008	May/30/1988	Carp, Northern Pike
Cass River	Above Caro	2005014	Aug/09/2005	Redhorse Sucker, Rock Bass
Cass River	Bridgeport	85003	Aug/29/1985	Black Bullhead, Channel Catfish
Cass River	Bridgeport	92035	Jul/21/1992	Carp, Channel Catfish, Largemouth Bass, Northern Pike
Cass River	Bridgeport	2004011	Jun/24/2004	Carp, Channel Catfish
Cass River	Caro Impoundment	1998019	Oct/27/1998	Carp, Largemouth Bass
Cass River	Caro Impoundment	2006104	Jul/13/2006	Carp, Largemouth Bass
Cass River	Saginaw County, Dixie Highway	85039	Jan/31/1985	Carp, Freshwater Drum, Smallmouth Bass
Cass River	Tuscola County, above Frankenmuth	88009	Jun/07/1988	Redhorse Sucker, Rock Bass, Smallmouth Bass
Cedar Lake	Alcona County	90067	Oct/09/1990	Largemouth Bass, Northern Pike
Cedar River	Antrim County	1998020	Aug/17/1998	Brown Trout, White Sucker
Chaney Lake	Gogebic County	87037	Jun/08/1987	Black Crappie, Northern Pike
Chaney Lake	Gogebic County	93049	Jun/03/1993	Northern Pike, Yellow Perch
Chaney Lake	Gogebic County	1998147	Oct/01/1998	Northern Pike, Walleye
Chaney Lake	Gogebic County	2000003	Apr/26/2000	Northern Pike, Walleye, Yellow Perch
Chaney Lake	Gogebic County	2009206	Jun/02/2009	Northern Pike
Cheboyganing Creek	Saginaw County	89058	Aug/02/1989	Carp, Northern Pike
Cheboyganing Creek	Saginaw County	94035	Aug/01/1994	Carp
Cheboyganing Creek	Saginaw County	2004013	Aug/09/2004	Carp
Chenango Lake	Livingston County	2003017	Oct/16/2003	Largemouth Bass, Yellow Bullhead
Chicagon Lake	Iron County	86006	May/22/1986	Rock Bass, Smallmouth Bass, Walleye
Chicagon Lake	Iron County	94022	Apr/27/1994	Walleye
Chicagon Lake	Iron County	2001007	Nov/22/2000	Lake Whitefish
Chicagon Lake	Iron County	2008208	May/14/2008	Walleye
Chippewa River	Midland County	84007	Sep/08/1984	Black Crappie, Channel Catfish, Redhorse Sucker, Smallmouth Bass, White Sucker
Chippewa River	Midland County, M-20	85005	Jun/08/1985	Carp
Chippewa River	Nature Center	2000071	Sep/18/2000	Redhorse Sucker
Chippewa River	Upstream of Lake Isabella, Roland/Drew	97005.2	Aug/13/1997	Rock Bass
Chippewa River	Upstream of Lake Isabella, Wyman Road	97005.1	Aug/13/1997	Carp, White Sucker
Cisco Lake	Gogebic County, Cisco Lake Chain	88030	Jul/11/1988	Northern Pike, Walleye
Cisco Lake	Gogebic County, Cisco Lake Chain	95031	Aug/14/1995	Bluegill, Walleye
Cisco Lake	Gogebic County, Cisco Lake Chain	1999005	Apr/19/1999	Walleye
Clark Lake	Jackson	88043	Sep/29/1988	Black Crappie, Largemouth Bass, Rock Bass
Clear Lake	St. Joseph Co.	2009208	May/05/2009	Northern Pike
Clear Spring Lake	Macomb County	1999088	Sep/20/1999	Largemouth Bass
Clearwater Lake	Gogebic Co.	2009209	May/05/2009	Northern Pike
Clifford Lake	Montcalm County	2004014	Jun/15/2004	Largemouth Bass

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Clinton River	Macomb Co above Utica, Avon Road	86044	Aug/26/1986	Carp, Walleye
Clinton River	Macomb County above I-94 overpass	83003	Apr/15/1983	Carp, Walleye, White Sucker
Clinton River	Macomb County, Mt. Clemens	86015	Jun/16/1986	Carp, Largemouth Bass, Smallmouth Bass, Walleye
Clinton River	Ryan Road, Utica	84014	Sep/23/1984	Carp, White Sucker
Clinton River	Ryan Road, Utica	94003	May/25/1994	Carp, Rock Bass, White Sucker
Clinton River	Ryan Road, Utica	2004015	Oct/07/2004	Carp, Northern Pike, Rock Bass, White Sucker
Clinton River, North Branch	Macomb County	96006	Jun/17/1996	Rock Bass, Smallmouth Bass
Coldwater Lake	Branch County	88061	Oct/31/1988	Largemouth Bass, Northern Pike, Rock Bass
Coldwater Lake	Branch County	93067	Oct/04/1993	Largemouth Bass, Northern Pike
Coldwater Lake	Branch County	94019	Apr/12/1994	Bluegill, Largemouth Bass, Northern Pike
Coldwater Lake	Branch County	2006125	Nov/28/2006	Northern Pike
Coldwater Lake	Isabella County	89061	Aug/09/1989	Largemouth Bass, Walleye
Coldwater River	Brown Road	1998021	Jul/14/1998	White Sucker
Craig Lake	Baraga County	89074	Aug/23/1989	Walleye
Craig Lake	Baraga County	91028	Jun/04/1991	Northern Pike, Walleye
Craig Lake	Baraga County	2005015	Nov/08/2005	Black Crappie, Northern Pike, Walleye, White Sucker
Cranberry Lake	Clare Co	2007212	May/23/2007	Largemouth Bass
Crego Park Pond	Lansing	86033	Jul/29/1986	Black Bullhead, Bluegill, Goldfish
Crockery Lake	Ottawa County	2006009	Jun/06/2006	Largemouth Bass
Crooked Lake	Alcona County	2009210	Jun/10/2009	Walleye
Crooked Lake	Baraga County	2006120	Jun/18/2006	Largemouth Bass
Crooked Lake	Barry County	2003020	Sep/19/2003	Brown Bullhead, Largemouth Bass
Crooked Lake	Clare Co	2008210	May/13/2008	Largemouth Bass
Crooked Lake	Emmet County	89057	Jun/04/1989	Largemouth Bass, Walleye
Crystal Lake	Benzie County	89077	Aug/01/1989	Brown Trout, Lake Trout, Yellow Perch
Crystal Lake	Benzie County	97061	Jul/23/1997	Lake Trout, White Sucker
Crystal Lake	Benzie County	2000017	Sep/06/2000	Lake Trout, White Sucker
Cusino Lake	Schoolcraft Co	2007213	Jun/05/2007	Yellow Perch
Dead River	Forestville Basin	96007	Jun/06/1996	Smallmouth Bass, Walleye
Dead River	Forestville Basin	97075	Sep/08/1997	Smallmouth Bass, Walleye
Dead River	Forestville Basin	2005017	Jun/01/2005	Northern Pike, Walleye
Deer Lake	Alger County	2004019	Jun/02/2004	Northern Pike
Deer Lake	Charlevoix County	2003021	Oct/30/2003	Largemouth Bass, Northern Pike
Deer Lake	Iron County	2006011	Jun/08/2006	Northern Pike
Deer Lake	Marquette County	84011	Oct/09/1984	Northern Pike, White Sucker, Yellow Perch
Deer Lake	Marquette County	87099	Oct/26/1987	Brown Bullhead, Northern Pike, Walleye, Yellow Perch
Deer Lake	Marquette County	88067	Oct/06/1988	Brook Trout, Northern Pike, Yellow Perch
Deer Lake	Marquette County	91032	Nov/02/1990	Walleye
Deer Lake	Marquette County	93083	Sep/14/1993	Northern Pike, Walleye
Deer Lake	Marquette County	96008	Oct/02/1996	Walleye
Deer Lake	Marquette County	97070	Oct/02/1997	Northern Pike, Walleye, Yellow Perch
Deer Lake	Marquette County	1998024	Oct/09/1998	Northern Pike, Walleye, Yellow Perch

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Deer Lake	Marquette County	1999006	May/04/1999	Northern Pike, Walleye, Yellow Perch
Deer Lake	Marquette County	2001008	May/01/2001	Northern Pike, Walleye, Yellow Perch
Deer Lake	Marquette County	2003161	May/03/2003	Northern Pike, Walleye
Deer Lake	Marquette County	2008211	Sep/14/2008	Northern Pike, Walleye, White Sucker, Yellow Perch
Detroit River	Belle Isle	85009	Jun/19/1985	Carp
Detroit River	Belle Isle	90031	Aug/27/1990	Freshwater Drum, Walleye
Detroit River	Fighting Island	86063	Jun/03/1986	Carp
Detroit River	Gibraltar Bay	86011	Jun/03/1986	Carp
Detroit River	Grassy Island	85010	Jun/19/1985	Carp
Detroit River	Grassy Island	86064	Jun/03/1986	Walleye
Detroit River	Grassy Island	94018	Aug/25/1994	Carp
Detroit River	Grassy Island	2001010	Oct/30/2001	Walleye
Detroit River	Michigan waters	93068	Apr/01/1993	Lake Sturgeon
Detroit River	Michigan waters	2004021	Jul/20/2004	Carp, Freshwater Drum, Redhorse Sucker, Yellow Perch
Detroit River	Michigan waters	2005200	Jan/01/2005	Lake Sturgeon
Detroit River	Michigan waters	2009400	May/07/2009	Lake Sturgeon
Detroit River	Trenton Channel	90032	Aug/30/1990	Carp, Freshwater Drum, Walleye
Detroit River	Trenton Channel	93020	Sep/01/1993	Freshwater Drum, Northern Pike, Redhorse Sucker, Yellow Perch
Detroit River	Wyandotte	1999007	Oct/29/1999	Walleye
Diamond Lake	Newaygo Co	2008212	Sep/22/2008	Largemouth Bass
Dinner Lake	Gogebic County	2004024	Jun/11/2004	Black Crappie, Largemouth Bass, Northern Pike, Smallmouth Bass, Walleye
Dodge Lake	Schoolcraft County	2006121	Jun/14/2006	Largemouth Bass, Northern Pike
Dowagiac Creek	Dutch Settlement Road, u/s LaGrange Lake	1998027	Sep/02/1998	Brown Trout, White Sucker
Dowagiac River	Cass County, M-51	91008	Jul/18/1991	Carp
Dowagiac River	Cass County, Sink Road	2000020	Sep/18/2000	Carp
Duck Creek	Gogebic County	1998135	Jun/04/1998	Brook Trout, White Sucker
Duck Lake	Calhoun County	94011	May/23/1994	Bluegill, Largemouth Bass, Redear Sunfish, Walleye, Yellow Perch
Duck Lake	Gogebic County	86029	Jul/08/1986	Northern Pike, Rock Bass, Walleye
Duck Lake	Gogebic County	1999009	Apr/22/1999	Walleye
Eagle Lake	Kalamazoo Co	2008213	Jun/03/2008	Largemouth Bass
East Bass Lake	Marquette County	2007202	Jun/05/2007	Northern Pike
Echo Lake	Grand Isle, Alger County	95060	Jun/21/1995	Northern Pike, Yellow Perch
Eel Lake	Gogebic Co.	2009211	Jun/10/2009	Black Crappie
Elk Lake	Grand Traverse/Antrim County	90023	Sep/12/1990	Lake Trout
Elk Lake	Grand Traverse/Antrim County	96059	Dec/01/1996	Lake Trout
Elk Lake	Grand Traverse/Antrim County	97076	Dec/30/1997	Lake Trout
Elk Lake	Grand Traverse/Antrim County	2006012	Apr/11/2006	Brown Trout, Lake Trout, Northern Pike, Walleye
Ellsworth Lake	Antrim County	86009	May/28/1986	Largemouth Bass, Northern Pike, White Sucker
Ellsworth Lake	Antrim County	94063	Jun/09/1994	Brown Bullhead, Largemouth Bass, White Sucker
Emerald Lake	Newaygo County	2004026	Jun/23/2004	Largemouth Bass, Northern Pike
Emily Lake	Houghton County	2002110	Jun/06/2002	Walleye

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Emily Lake	Iron County	88006	May/25/1988	Largemouth Bass, Walleye
Engman Lake	Marquette County	2006013	Jun/06/2006	Northern Pike
Erickson Power Plant Pond	Eaton County	86003	May/14/1986	Brown Bullhead, Sunfish, Yellow Perch
Escanaba River	Cataract Basin	2004028	Jul/27/2004	Walleye
Escanaba River	Delta County, between Dams 1 & 2	88047	Oct/04/1988	Northern Pike, White Sucker
Escanaba River	Delta County, between Dams 1 & 2	90071	Nov/13/1990	Northern Pike, White Sucker
Escanaba River	Delta County, between Dams 1 & 2	93075	Aug/12/1993	Northern Pike, Yellow Perch
Escanaba River	Delta County, Dam 3	85029	Jun/26/1985	Rock Bass
Escanaba River	Escanaba, river mouth	86065	Jul/30/1986	Walleye
Escanaba River	Escanaba, river mouth	93032	Jun/02/1993	Carp
Escanaba River	Greenwood Reservoir	92045	Jul/30/1992	Black Crappie, Largemouth Bass, Northern Pike
Escanaba River	Greenwood Reservoir	1999077	May/04/1999	Northern Pike
Ess Lake	Montmorency County	2003023	May/29/2003	Northern Pike
Fawn River	St. Joseph County, Stubey Road	90016	Jul/18/1990	Carp, Redhorse Sucker, Smallmouth Bass, White Sucker
Fawn River	St. Joseph County, Stubey Road	2000021	Sep/06/2000	Redhorse Sucker, Rock Bass
Fawn River	St. Joseph County, Stubey Road	2005019	Sep/14/2005	Carp, Smallmouth Bass
Fenner Lake	Allegan County	92072	Aug/04/1992	Carp, Largemouth Bass
Fine Lake	Barry Co	2008216	May/20/2008	Northern Pike, Walleye
Fire Lake	Iron County	2007214	Jun/01/2007	Northern Pike
First Sister Lake	Washtenaw County	94062.2	Sep/20/1994	Brown Bullhead, White Crappie
Fish Lake	Barry County	91034	Sep/04/1991	Largemouth Bass, Northern Pike
Fish Lake	Marquette County	88046	Oct/04/1988	Largemouth Bass, Northern Pike, Sunfish, Yellow Perch
Fish Lake	Marquette County	2009212	Jun/09/2009	Northern Pike
Five Lakes	Clare County	91009	Apr/16/1991	Largemouth Bass, Northern Pike
Five Lakes	Clare County	2004131	May/11/2004	Largemouth Bass
Flat River	Fallasberg Park, downstream of Fallasberg Dam	1998035	Oct/27/1998	Carp
Flat River	Fallasberg Park, downstream of Fallasberg Dam	2008217	Aug/20/2008	Rock Bass, White Sucker
Flat River	Ingalls Road, downstream of Belding	1998037	Jul/30/1998	Rock Bass
Flat River	Ingalls Road, downstream of Belding	2003031	Jul/29/2003	Rock Bass, White Sucker
Flat River	Long Lake Road, upstream of Belding	1998036	Jul/30/1998	Rock Bass
Flat River	Lowell Impoundment	2008273	Oct/13/2008	Carp
Flat River	Miller Rd, upstream of Greenville	2003032	Jul/29/2003	Rock Bass, White Sucker
Fletcher Pond	Alpena County	2005020	May/16/2005	Northern Pike
Flint River	Birch Run Road	93005	Aug/30/1993	Carp
Flint River	Flushing	1998038	Oct/08/1998	Carp, Smallmouth Bass
Flint River	Holloway Reservoir	89041	May/18/1989	Black Crappie, Channel Catfish, Largemouth Bass, Smallmouth Bass
Flint River	Holloway Reservoir	2008219	May/20/2008	Channel Catfish
Flint River	Mott Reservoir	96011	Apr/16/1996	Carp, Walleye

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Floyd Lake	Iosco County	2008220	May/28/2008	Largemouth Bass
Fortune Lake	Iron County	90012	May/29/1990	Largemouth Bass, Smallmouth Bass
Four Mile Lake	Washtenaw County	2000022	May/12/2000	Northern Pike
Fremont Lake	Newaygo County	90062	Oct/26/1990	Carp
Fremont Lake	Newaygo County	2005021	Jun/22/2005	Carp, Largemouth Bass
Frenchman Lake	Chippewa County	2004029	May/26/2004	Northern Pike
Fumee Lake	Dickinson County	90011	May/25/1990	Smallmouth Bass
Galien River	New Buffalo	92017	Aug/06/1992	Carp, Largemouth Bass, Rock Bass
Galien River	New Buffalo	2007215	Sep/18/2007	Carp
Gaylanta Lake	Montmorency County	2003040	May/08/2003	Northern Pike
Glen Lake	Leelanau County	90053	Oct/18/1990	Lake Trout, Smallmouth Bass
Glen Lake	Leelanau County	2007216	Apr/17/2007	Lake Trout, Rainbow Trout
Glen Lake	Leelanau County	2009236	Jun/01/2009	Lake Trout, Northern Pike
Goose Lake	Marquette County	88045	Oct/06/1988	Northern Pike, Walleye, Yellow Perch
Goose Lake	Marquette County	2001011	May/01/2001	Northern Pike, Walleye, Yellow Perch
Goose Lake	Marquette County	2008221	Jun/08/2008	Northern Pike, White Sucker
Gourdneck Lake	Kalamazoo County	2005126	May/26/2005	Northern Pike
Grand Lake	Presque Isle County	95015	May/22/1995	Rock Bass, Smallmouth Bass, Walleye
Grand River	at Ionia	2006103	Jul/11/2006	Carp, Channel Catfish, Redhorse Sucker, Walleye
Grand River	Clinton County, State Road	84006	Aug/29/1984	Carp, Largemouth Bass, Smallmouth Bass
Grand River	Clinton County, State Road	85004	Jul/24/1985	Carp
Grand River	Clinton County, State Road	90022	Sep/06/1990	Carp, Largemouth Bass, Smallmouth Bass
Grand River	Downstream of Dimondale	2004147	Jun/16/2004	Northern Pike
Grand River	Eaton Rapids, Gale Road/Waverly Road	2001021	Oct/03/2001	Carp, Largemouth Bass, Walleye, White Sucker
Grand River	Eaton Rapids, Gale Road/Waverly Road	2004146	Jul/01/2004	Channel Catfish, Northern Pike, Smallmouth Bass, Walleye
Grand River	Grand Haven, river mouth	86039	Aug/04/1986	Carp, Largemouth Bass, Walleye
Grand River	Grand Haven, river mouth	93036	Jun/09/1993	Carp
Grand River	Grand Rapids, below 6th Street dam	1998148	Mar/05/1998	Northern Pike, Redhorse Sucker, Walleye
Grand River	Grand Rapids, below 6th Street dam	2007300	Jun/18/2007	Northern Pike
Grand River	Kent County, above 6th St. Dam	1999011	Mar/17/1999	Northern Pike
Grand River	Kent County, below Grand Rapids	90029	Aug/23/1990	Carp
Grand River	Kent County, below Grand Rapids	91036	Mar/20/1991	Walleye
Grand River	Maple Grove Road	90021	Aug/14/1990	Carp, Walleye
Grand River	Maple Grove Road	2002113	Oct/03/2002	Northern Pike
Grand River	Moores River Impoundment	89054	Jul/27/1989	Channel Catfish, Largemouth Bass, Northern Pike, Smallmouth Bass, Walleye
Grand River	Moores River Impoundment	96013	May/07/1996	Carp, Largemouth Bass
Grand River	Moores River Impoundment	2004148	Jun/09/2004	Northern Pike
Grand River	Portland Impoundment	92051	Oct/01/1992	Carp
Grand Sable Lake	Alger County	87088	Oct/22/1987	Lake Trout, Northern Pike
Gratiot Lake	Keweenaw County	87038	Jan/01/1987	Rock Bass, Smallmouth Bass

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Gratiot Lake	Keweenaw County	2005025	May/25/2005	Northern Pike, Smallmouth Bass, Walleye
Green Lake	Grand Traverse County	93065	May/11/1993	Northern Pike, White Sucker
Green Lake	Grand Traverse County	2003139	Jun/04/2003	Lake Trout
Gull Lake	Kalamazoo County	89073	Nov/01/1989	Largemouth Bass, Northern Pike
Gull Lake	Kalamazoo County	93064	Jun/10/1993	Largemouth Bass, Northern Pike
Gulliver Lake	Schoolcraft County	90015	May/15/1990	Northern Pike, Smallmouth Bass, Walleye
Gun Lake	Barry County	2006014	Jun/01/2006	Largemouth Bass
Hagerman Lake	Iron County	88050	Oct/12/1988	Smallmouth Bass, Walleye
Hamilton Lake	Dickinson County	94024	Apr/19/1994	Northern Pike, Walleye
Hamlin Lake	Mason County	90070	Feb/05/1991	Black Crappie, Northern Pike
Hanbury Lake	Dickinson County	2005028	May/02/2005	Largemouth Bass
Hardwood Lake	Ogemaw County	2004034	Jun/02/2004	Northern Pike
Hawk Lake	Oakland County	90004	May/01/1990	Brown Bullhead, Northern Pike
Heron Lake	Oakland County	2000027	Jul/08/2000	Largemouth Bass
Hersey River	Osceola County, Diamond Road	85035	May/15/1985	Brown Trout, White Sucker
Hersey River	Osceola County, Reed City	86013	Jun/09/1986	Brown Trout, Northern Pike, White Sucker
Hersey River	Osceola County, Reed City	1998041	Jul/08/1998	Brown Trout
Hess Lake	Newaygo County	97062	Aug/26/1997	Carp, Largemouth Bass, Mirror Carp
Higgins Lake	Roscommon County	88038	Oct/27/1988	Brown Trout, Lake Herring, Lake Trout
Higgins Lake	Roscommon County	95057.1	Oct/31/1995	Lake Herring, Lake Trout
Higgins Lake	Roscommon County	1998042	Nov/25/1998	Lake Trout
Hopkins Lake	Shiawassee County	91033	Sep/04/1991	Largemouth Bass
Horseshoe Lake	Ogemaw Co.	2009235	May/27/2009	Largemouth Bass
Houghton Lake	Roscommon County	87063	Aug/05/1987	Carp, Northern Pike, Walleye
Houghton Lake	Roscommon County	93050	Jun/01/1993	Walleye
Houghton Lake	Roscommon County	1998127	Jun/16/1998	Carp
Houghton Lake	Roscommon County	2008222	May/21/2008	Carp
Hubbard Lake	Alcona County	89076	Oct/16/1989	Northern Pike, Walleye
Hubbard Lake	Alcona County	2006017	May/10/2006	Walleye, White Sucker
Huron River	Barton Pond	92021	May/07/1992	Carp, Smallmouth Bass
Huron River	Belleville Lake	88003	May/10/1988	Carp, Walleye
Huron River	Belleville Lake	1999014	May/19/1999	Carp, Gizzard Shad, Walleye, White Sucker
Huron River	Ford Lake	83002	Sep/12/1983	Black Crappie, Brown Bullhead, Carp, Largemouth Bass, Walleye, White Sucker
Huron River	Ford Lake	89026	May/02/1989	Black Crappie, Walleye
Huron River	Ford Lake	92020	May/05/1992	Carp, Walleye
Huron River	Ford Lake	1999015	May/19/1999	Black Crappie, Carp, Channel Catfish, Walleye
Huron River	Ford Lake	2006018	May/16/2006	Black Crappie, Carp, Channel Catfish, Walleye
Huron River	Geddes Pond	2008223	May/06/2008	Carp
Hutchins Lake	Allegan County	2007218	May/08/2007	Northern Pike
Indian Lake	Iron Co	2008224	May/06/2008	Northern Pike
Intermediate Lake	Antrim County	90044	Sep/19/1990	Rock Bass, Smallmouth Bass, Walleye
Iron River	Above Wild River Road	1998045	Jun/04/1998	Brown Trout
Johnson Lake	Marquette CO	2008225	Jun/26/2008	Northern Pike
Jordan Lake	Ionia/Barry County	89047	Jun/21/1989	Largemouth Bass

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Kalamazoo River	Above Otsego City Dam	93073.3	Oct/11/1993	Walleye
Kalamazoo River	Above Otsego City Dam	1999085	Oct/13/1999	Carp, Smallmouth Bass
Kalamazoo River	Above Otsego City Dam	2001049	Sep/20/2001	Carp, Smallmouth Bass
Kalamazoo River	Above Otsego City Dam	2006164	Sep/05/2006	Carp
Kalamazoo River	Ceresco Impoundment, 12 Mile Road	1999082	Oct/07/1999	Carp, Smallmouth Bass
Kalamazoo River	Ceresco Impoundment, 12 Mile Road	2000120	Sep/21/2000	Carp, Smallmouth Bass
Kalamazoo River	Ceresco Impoundment, 12 Mile Road	2001042	Oct/11/2001	Carp, Smallmouth Bass
Kalamazoo River	Ceresco Impoundment, 12 Mile Road	2006160	Aug/08/2006	Carp, Smallmouth Bass
Kalamazoo River	Ceresco Impoundment, 15 Mile Road	87048	Jul/22/1987	Carp, Largemouth Bass, Smallmouth Bass
Kalamazoo River	City of Allegan Dam	1999092	Nov/09/1999	Carp, Smallmouth Bass
Kalamazoo River	City of Allegan Dam	2001052	Sep/17/2001	Carp, Smallmouth Bass
Kalamazoo River	City of Allegan Dam	2006167	Sep/07/2006	Carp, Channel catfish, Smallmouth Bass
Kalamazoo River	D-Avenue	2000123	Aug/31/2000	Carp, Smallmouth Bass
Kalamazoo River	Kalamazoo Avenue	2000122	Aug/29/2000	Carp, Northern Pike, Rock Bass, Smallmouth Bass
Kalamazoo River	Kalamazoo Lake	83008	Jul/01/1984	Carp
Kalamazoo River	Kalamazoo Lake	85054	Jul/01/1985	Carp, Largemouth Bass, Smallmouth Bass
Kalamazoo River	Kalamazoo Lake	86027	Jul/09/1986	Carp, Largemouth Bass
Kalamazoo River	Kalamazoo Lake	87010	Mar/31/1987	Black Crappie, Bluegill, Brown Trout, Channel Catfish, Flathead Catfish, Freshwater Drum, Largemouth Bass, N. Pike Eggs, Northern Pike, Rainbow Trout, Rock Bass, Walleye, White Sucker, Yellow Perch
Kalamazoo River	Kalamazoo Lake	87046	Jul/13/1987	Carp
Kalamazoo River	Kalamazoo Lake	93035	Jun/08/1993	Carp
Kalamazoo River	Kalamazoo Lake	93073.6	Oct/09/1993	Walleye
Kalamazoo River	Kalamazoo Lake	1999095	Oct/19/1999	Brown Trout, Carp, Smallmouth Bass
Kalamazoo River	Kalamazoo Lake	2001055	Oct/03/2001	Carp, Channel Catfish, Smallmouth Bass
Kalamazoo River	Kalamazoo Lake	2006170	Sep/29/2006	Carp
Kalamazoo River	Lake Allegan	83007	Jul/01/1983	Carp
Kalamazoo River	Lake Allegan	83034	May/01/1983	Largemouth Bass, Sunfish
Kalamazoo River	Lake Allegan	85053	Jul/01/1985	Carp, Largemouth Bass, Smallmouth Bass
Kalamazoo River	Lake Allegan	86026	Jul/07/1986	Carp
Kalamazoo River	Lake Allegan	87045	Jul/14/1987	Carp, Northern Pike, Smallmouth Bass
Kalamazoo River	Lake Allegan	90050	Oct/11/1990	Carp
Kalamazoo River	Lake Allegan	92019	Oct/27/1992	Carp
Kalamazoo River	Lake Allegan	93073.1	Sep/16/1993	Walleye
Kalamazoo River	Lake Allegan	94025	Jun/22/1994	Carp
Kalamazoo River	Lake Allegan	1999087	Oct/05/1999	Carp, Channel Catfish, Smallmouth Bass
Kalamazoo River	Lake Allegan	2000124	Sep/18/2000	Black Crappie, Carp, Largemouth Bass, Smallmouth Bass, Walleye
Kalamazoo River	Lake Allegan	2001053	Aug/23/2001	Carp, Channel Catfish, Smallmouth Bass

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Kalamazoo River	Lake Allegan	2006168	Sep/27/2006	Carp, Channel Catfish, Smallmouth Bass
Kalamazoo River	Morrow Pond	85049	Jul/01/1985	Carp, Largemouth Bass, Smallmouth Bass
Kalamazoo River	Morrow Pond	86022	Jul/07/1986	Carp
Kalamazoo River	Morrow Pond	87043	Jul/14/1987	Carp, Smallmouth Bass
Kalamazoo River	Morrow Pond	93073.2	Oct/15/1993	Walleye
Kalamazoo River	Morrow Pond	1999083	Jul/28/1999	Carp, Smallmouth Bass
Kalamazoo River	Morrow Pond	2001043	Aug/17/2001	Carp, Channel Catfish, Smallmouth Bass
Kalamazoo River	Morrow Pond	2006161	Aug/29/2006	Carp, Smallmouth Bass
Kalamazoo River	Mosel Avenue	83006	Jul/01/1983	Carp
Kalamazoo River	Mosel Avenue	85051	Jul/01/1985	Carp, Smallmouth Bass
Kalamazoo River	Mosel Avenue	86024	Jul/07/1986	Carp
Kalamazoo River	Mosel Avenue	93073.5	Oct/15/1993	Walleye
Kalamazoo River	Mosel Avenue	2001046	Sep/25/2001	Smallmouth Bass
Kalamazoo River	Mosel Avenue	2006162	Sep/20/2006	Carp, Smallmouth Bass
Kalamazoo River	New Richmond	93073.4	Sep/21/1993	Walleye
Kalamazoo River	New Richmond	1999094	Nov/18/1999	Carp, Channel Catfish, Largemouth Bass, Smallmouth Bass
Kalamazoo River	New Richmond	2001054	Oct/16/2001	Carp, Flathead Catfish, Smallmouth Bass
Kalamazoo River	New Richmond	2006169	Oct/03/2006	Carp, Channel Catfish, Flathead Catfish, Smallmouth Bass
Kalamazoo River	Otsego Dam Impoundment	1999086	Oct/29/1999	Carp, Smallmouth Bass
Kalamazoo River	Otsego Dam Impoundment	2001050	Sep/18/2001	Carp, Smallmouth Bass
Kalamazoo River	Otsego Dam Impoundment	2006165	Sep/19/2006	Carp
Kalamazoo River	Plainwell Dam Reservoir	83005	Jul/01/1983	Carp
Kalamazoo River	Plainwell Dam Reservoir	85052	Jul/01/1985	Carp, Smallmouth Bass
Kalamazoo River	Plainwell Dam Reservoir	86025	Jul/08/1986	Carp
Kalamazoo River	Plainwell Dam Reservoir	87044	Jul/14/1987	Carp
Kalamazoo River	Plainwell Dam Reservoir	1999084	Oct/12/1999	Carp, Smallmouth Bass
Kalamazoo River	Plainwell Dam Reservoir	2001048	Sep/05/2001	Carp, Smallmouth Bass
Kalamazoo River	Plainwell Dam Reservoir	2006163	Sep/22/2006	Carp, Smallmouth Bass
Kalamazoo River	Trowbridge Dam Impoundment	1999093	Nov/03/1999	Carp, Channel Catfish, Smallmouth Bass
Kalamazoo River	Trowbridge Dam Impoundment	2001051	Oct/09/2001	Carp, Smallmouth Bass
Kalamazoo River	Trowbridge Dam Impoundment	2003142	Aug/18/2003	Carp, Smallmouth Bass
Kalamazoo River	Trowbridge Dam Impoundment	2004143	Aug/25/2004	Carp
Kalamazoo River	Trowbridge Dam Impoundment	2006166	Sep/06/2006	Carp, Channel Catfish, Smallmouth Bass
Kalamazoo River, South Branch	Hillsdale County	1998103	Apr/22/1998	White Sucker
Kawkawlin River	Bay County, M-247	88027	Aug/04/1988	Carp, Northern Pike
Kawkawlin River	Bay County, M-247	2004039	Aug/10/2004	Carp, Northern Pike
Kawkawlin River	Bay County, M-247	2008227	Apr/16/2008	Carp
Kearsley Creek	Kearsley Reservoir	2000029	Jul/07/2000	Carp, Largemouth Bass
Kent Lake	Oakland County	90017	Jul/18/1990	Black Crappie, Largemouth Bass, Smallmouth Bass, Walleye
Kent Lake	Oakland County	1998050	Jul/27/1998	Carp, Largemouth Bass, Smallmouth Bass
Kent Lake	Oakland County	2004040	May/11/2004	Black Crappie, Walleye
King Lake	Baraga County	2005037	Apr/30/2005	Largemouth Bass

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Kingston Lake	Alger County	2003047	May/29/2003	Largemouth Bass, Muskellunge, Smallmouth Bass, Walleye
Kingston Lake	Alger County	2008750	May/05/2008	Largemouth Bass
Klinger Lake	St. Joseph County	90034	Oct/02/1990	Largemouth Bass
Klinger Lake	St. Joseph County	2001145	Aug/22/2001	Largemouth Bass
Klinger Lake	St. Joseph County	2006126	Dec/05/2006	Northern Pike
Lake 27	Otsego County	95033	Jun/10/1995	Northern Pike
Lake Ann	Benzie County	89013	May/31/1989	Northern Pike, Smallmouth Bass
Lake Cadillac	Wexford County	2004041	Sep/28/2004	Northern Pike, Smallmouth Bass
Lake Charlevoix	Charlevoix County	90051	Nov/01/1990	Brown Trout, Lake Trout
Lake Charlevoix	Charlevoix County	2006023	Apr/19/2006	Walleye, White Sucker
Lake Emma	Presque Isle County	2003050	May/22/2003	Northern Pike
Lake Erie	Brest Bay	92062	Oct/15/1992	Walleye
Lake Erie	Huron River, Flat Rock	84050	Jan/01/1984	Coho
Lake Erie	Huron River, Flat Rock	97018	Oct/17/1997	Chinook, Rainbow Trout
Lake Erie	N. Maumee Bay	95008	Apr/26/1995	Carp
Lake Erie	N. Maumee Bay	2006025	Sep/26/2006	Carp, Largemouth Bass, Yellow Perch
Lake Erie	Off Monroe	86002	Apr/22/1986	Carp, Channel Catfish, Walleye
Lake Erie	Off Monroe	87093	Oct/20/1987	Walleye
Lake Erie	Off Monroe	94027	Apr/19/1994	Walleye
Lake Erie	Off Monroe	95040	Apr/26/1995	Freshwater Drum, White Bass, White Perch
Lake Erie	Off Monroe	2000030	Apr/04/2000	Carp
Lake Erie	Off Monroe	2006099	Apr/24/2006	Carp, Freshwater Drum, Smallmouth Bass, White Bass, Yellow Perch
Lake Erie	Off Monroe	2008266	Apr/14/2008	Channel Catfish
Lake Erie	Western Basin	93082	Apr/01/1993	Carp, Channel Catfish, Gizzard Shad, White Bass, Yellow Perch
Lake Erie	Western Basin	95058	Oct/11/1995	Walleye
Lake Erie	Western Basin	97019	Apr/15/1997	Lake Whitefish, Smallmouth Bass, Yellow Perch
Lake Erie	Western Basin	2002045	Apr/05/2002	Channel Catfish
Lake Erie	Western Basin	2004043	Apr/20/2004	Walleye, White Bass, White Perch
Lake Esau	Presque Isle County	2003052	Jun/18/2003	Smallmouth Bass
Lake Fannie Hooe	Keweenaw Co	2007225	May/22/2007	Smallmouth Bass, Walleye
Lake Fenton	Genesee County	87059	Jul/22/1987	Largemouth Bass
Lake Fenton	Genesee County	89037	May/09/1989	Largemouth Bass
Lake Fenton	Genesee County	90005	May/23/1990	Largemouth Bass, Northern Pike, Walleye
Lake Geneserath	Charlevoix County, Beaver Island	90072	Jun/01/1990	Largemouth Bass, Northern Pike
Lake Gogebic	Gogebic/Ontonagon County	85062	Jul/30/1985	Walleye, White Sucker
Lake Gogebic	Gogebic/Ontonagon County	2002046	Apr/28/2002	Walleye
Lake Gogebic	Gogebic/Ontonagon County	2003156	Oct/14/2003	Rock Bass
Lake Hudson	Lenawee County	89003	Apr/03/1989	Carp, Muskellunge, Northern Pike
Lake Hudson	Lenawee County	2000032	Jul/21/2000	Carp, Largemouth Bass
Lake Huron	Alpena	85024	Oct/10/1985	Brown Trout
Lake Huron	Au Sable River	83014	Oct/11/1983	Chinook
Lake Huron	Au Sable River	83041	Oct/08/1983	Chinook
Lake Huron	Au Sable River	84046	Sep/19/1984	Chinook
Lake Huron	Au Sable River	86052	Sep/26/1986	Chinook
Lake Huron	Au Sable River	87079	Sep/17/1987	Chinook
Lake Huron	Au Sable River	89062	Oct/11/1989	Chinook

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Huron	Au Sable River	91048	Sep/30/1991	Chinook
Lake Huron	Au Sable River	93060	Oct/12/1993	Chinook
Lake Huron	Au Sable River	97022	Oct/06/1997	Chinook
Lake Huron	Black River	95053	Oct/18/1995	Chinook
Lake Huron	Black River	96018	Oct/15/1996	Coho
Lake Huron	Black River	1998052	Oct/14/1998	Coho
Lake Huron	Black River	2009217	Oct/08/2009	Chinook
Lake Huron	East of Bois Blanc Island	83025	Nov/08/1983	Lake Trout
Lake Huron	Grindstone City	89050	May/30/1989	Lake Trout
Lake Huron	Grindstone City	2004130	May/10/2004	Lake Trout
Lake Huron	Hammond Bay	83018	Oct/25/1983	Lake Trout, Lake Whitefish
Lake Huron	Harbor Beach	89068	Nov/01/1989	Brown Trout
Lake Huron	Les Cheneaux Islands	95003	Apr/17/1995	Yellow perch
Lake Huron	Lexington	85027	Oct/22/1985	Brown Trout
Lake Huron	Marquette Island	83024	Nov/08/1983	Lake Trout
Lake Huron	Nunns Creek	93051	Apr/25/1993	Rainbow Smelt
Lake Huron	Oscoda	85025	Oct/10/1985	Brown Trout
Lake Huron	Port Austin	86007	May/27/1986	Lake Trout
Lake Huron	Port Austin	91052	May/20/1991	Lake Trout
Lake Huron	Port Austin	96019	May/16/1996	Lake Trout, Lake Whitefish
Lake Huron	Port Sanilac	85026	Oct/23/1985	Brown Trout
Lake Huron	Rock Falls Creek	91023	Apr/26/1991	Rainbow Trout
Lake Huron	Rock Falls Creek	92006	Apr/09/1992	Rainbow Trout
Lake Huron	Rockport	86021	Jun/19/1986	Lake Trout
Lake Huron	Rockport	89049	May/15/1989	Lake Trout
Lake Huron	Saginaw Bay	85031	May/23/1985	Channel Catfish
Lake Huron	Saginaw Bay	2008271	Sep/12/2008	Walleye, White Bass
Lake Huron	Saginaw Bay, Au Gres	87017	Jun/22/1987	Carp, Channel Catfish, Walleye, Yellow Perch
Lake Huron	Saginaw Bay, Au Gres	91037	Sep/25/1991	Carp, Channel Catfish, Walleye, White Sucker, Yellow Perch
Lake Huron	Saginaw Bay, Bay Port	84043	Jul/31/1984	Carp
Lake Huron	Saginaw Bay, Bay Port	87015	May/12/1987	Carp, Channel Catfish, Walleye, Yellow Perch
Lake Huron	Saginaw Bay, Bay Port	2004046	Sep/10/2004	Carp, Channel Catfish, Walleye, White Bass, White Sucker, Yellow Perch
Lake Huron	Saginaw Bay, Caseville	86028	Jun/25/1986	Channel Catfish, Walleye
Lake Huron	Saginaw Bay, Charity Island	84044	Sep/27/1984	Walleye
Lake Huron	Saginaw Bay, Charity Island	2007270	Sep/04/2007	Freshwater Drum
Lake Huron	Saginaw Bay, Fish Point	91038	Oct/01/1991	Carp, Channel Catfish, Walleye, White Sucker, Yellow Perch
Lake Huron	Saginaw Bay, near Saginaw River mouth	84042	Jun/04/1984	Carp, Channel Catfish
Lake Huron	Saginaw Bay, near Saginaw River mouth	85034	May/28/1985	Carp, Channel Catfish
Lake Huron	Saginaw Bay, near Saginaw River mouth	92054	Sep/23/1992	Lake Whitefish, Walleye
Lake Huron	Saginaw Bay, near Saginaw River mouth	93069	Jun/04/1993	Alewife, Brown Trout, Carp, Lake Trout, Northern Pike, White Bass, Yellow Perch
Lake Huron	Saginaw Bay, near Saginaw River mouth	94038	Sep/27/1994	Walleye, White Perch
Lake Huron	Saginaw Bay, near Saginaw River mouth	1998140	Sep/21/1998	Carp, Channel Catfish, Walleye

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Huron	Saginaw Bay, near Saginaw River mouth	1999089	Oct/21/1999	Channel Catfish
Lake Huron	Saginaw Bay, off Saginaw River	87016	May/17/1987	Carp, Channel Catfish, Walleye, Yellow Perch
Lake Huron	Saginaw Bay, Pinconning	86068	Jun/23/1986	Carp, Channel Catfish
Lake Huron	Saginaw Bay, Rifle River	93009	Apr/19/1993	Rainbow Trout, White Sucker
Lake Huron	Saginaw Bay, Sand Point	83032	May/01/1983	Walleye
Lake Huron	Saginaw Bay, Sebewaing	86069	Apr/22/1986	Channel Catfish
Lake Huron	Saginaw Bay, Wildfowl Bay	85033	May/23/1985	Carp
Lake Huron	Saginaw Bay, Wildfowl Bay	85063	Sep/25/1985	Carp
Lake Huron	Saginaw Bay, Wildfowl Bay	85064	Apr/26/1985	Carp, Channel Catfish
Lake Huron	Saginaw Bay, Wildfowl Bay	86070	Apr/21/1986	Carp
Lake Huron	Saginaw Bay, Wildfowl Bay	86071	May/12/1986	Channel Catfish
Lake Huron	Saginaw Bay, Wildfowl Bay	86072	Jul/21/1986	Carp
Lake Huron	Saginaw Bay, Wildfowl Bay	88010	Jun/14/1988	Carp, Channel Catfish, Walleye, Yellow Perch
Lake Huron	South Point	92055	Jun/02/1992	Lake Trout, Lake Whitefish
Lake Huron	Swan River	84054	Sep/30/1984	Coho
Lake Huron	Swan River	86055	Oct/07/1986	Chinook
Lake Huron	Swan River	86067	Oct/10/1986	Coho
Lake Huron	Swan River	87080	Sep/18/1987	Chinook
Lake Huron	Swan River	88090	Sep/01/1988	Chinook
Lake Huron	Swan River	89064	Oct/20/1989	Chinook
Lake Huron	Swan River	91047	Sep/30/1991	Chinook
Lake Huron	Swan River	93052	Oct/13/1993	Chinook
Lake Huron	Swan River	95048	Oct/10/1995	Chinook
Lake Huron	Swan River	96021	Oct/18/1996	Chinook
Lake Huron	Swan River	97021	Oct/13/1997	Chinook
Lake Huron	Swan River	1998053	Oct/01/1998	Chinook
Lake Huron	Swan River	2009310	Oct/07/2009	Chinook
Lake Huron	Tawas Bay	90068	Oct/10/1990	Burbot
Lake Huron	Tawas River	83009	Oct/11/1983	Chinook, Coho
Lake Huron	Tawas River	84056	Oct/01/1984	Coho
Lake Huron	Tawas River	85056	Oct/08/1985	Coho
Lake Huron	Tawas River	86051	Sep/26/1986	Chinook, Coho
Lake Huron	Thunder Bay	86046	Jul/23/1986	Brown Trout
Lake Huron	Thunder Bay	90069	Oct/15/1990	Brown Trout
Lake Huron	Thunder Bay	91053	Jun/19/1991	Brown Trout
Lake Huron	Thunder Bay	92057	Jun/01/1992	Brown Trout, Lake Whitefish
Lake Huron	Thunder Bay	93070	Jun/14/1993	Alewife, Brown Trout, Carp, Channel Catfish, Chub, Lake Trout, Walleye
Lake Huron	Thunder Bay	96022	Jun/26/1996	Lake Trout, Lake Whitefish
Lake Huron	Thunder Bay	1998055	Aug/20/1998	Lake Whitefish
Lake Huron	Thunder Bay	1999029	Aug/03/1999	Carp, Lake Whitefish, Walleye
Lake Huron	Thunder Bay	2001061	Jul/02/2001	Carp
Lake Huron	Thunder Bay	2004145	May/24/2004	Lake Trout
Lake Huron	Thunder Bay	2007269	Oct/23/2007	Lake Whitefish
Lake Huron	Thunder Bay River	89051	Jun/29/1989	Carp, Channel Catfish, Walleye
Lake Independence	Marquette County	89034	May/08/1989	Northern Pike, Walleye
Lake Independence	Marquette County	95009	May/09/1995	Lake Herring, Northern Pike, Walleye
Lake Independence	Marquette County	2005045	Apr/29/2005	Walleye
Lake Lansing	Ingham County	89036	Jun/07/1989	Black Crappie, Largemouth Bass

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Le Vasseur	Marquette County	2002104	Jun/19/2002	Northern Pike
Lake Macatawa	Ottawa County	80002	Jan/01/1980	Black Crappie, Bluegill, Carp, Channel Catfish, Northern Pike, Smallmouth Bass, Walleye, White Sucker, Yellow Perch
Lake Macatawa	Ottawa County	84002	Apr/10/1984	Carp, Walleye
Lake Macatawa	Ottawa County	87061	Jul/16/1987	Carp, Walleye
Lake Macatawa	Ottawa County	95006	May/05/1995	Carp, Walleye
Lake Macatawa	Ottawa County	2005047	May/16/2005	Carp, Walleye
Lake Macatawa	Ottawa County	2008262	May/12/2008	Largemouth Bass, Walleye
Lake Margrethe	Crawford County	95002	Mar/31/1995	Walleye
Lake Margrethe	Crawford County	2007227	May/08/2007	Walleye
Lake Medora	Keweenaw County	2004050	Jun/15/2004	Smallmouth Bass, Walleye
Lake Michigamme	Marquette County	84019	Aug/22/1984	Northern Pike, Rock Bass, Walleye, White Sucker, Yellow Perch
Lake Michigamme	Marquette County	97023	Jun/07/1997	Lake Herring, Northern Pike, White Sucker
Lake Michigamme	Marquette County	2006035	Apr/22/2006	Rock Bass, Walleye
Lake Michigan	Big Bay De Noc	90059	May/30/1990	Lake Whitefish
Lake Michigan	Bridgeman	2002112	Oct/03/2001	Lake Sturgeon
Lake Michigan	Bridgeman	2003159	Sep/05/2003	Lake Sturgeon
Lake Michigan	Bridgeman	2006501	Jun/01/2006	Lake Sturgeon
Lake Michigan	Charlevoix	86012	Jun/06/1986	Brown Trout, Chinook, Lake Trout
Lake Michigan	Charlevoix	96027	Aug/27/1996	Lake Trout
Lake Michigan	Charlevoix/Little Traverse Bay	89043	May/17/1989	Lake Trout
Lake Michigan	Epoufette	83019	Nov/08/1983	Lake Whitefish
Lake Michigan	Glen Haven	83022	Oct/20/1983	Lake Trout
Lake Michigan	Glen Haven	84040	Jun/04/1984	Chub
Lake Michigan	Grand Haven	86001	Apr/04/1986	Lake Trout, Yellow Perch
Lake Michigan	Grand Haven	87011	Apr/07/1987	Lake Trout
Lake Michigan	Grand Haven	96025	May/29/1996	Lake Trout
Lake Michigan	Grand Haven	97030	Apr/11/1997	Yellow Perch
Lake Michigan	Grand River, Grand Rapids	84055	Sep/28/1984	Coho
Lake Michigan	Grand River, Grand Rapids	94059	Oct/01/1994	Rainbow Trout
Lake Michigan	Grand River, Webber Dam	83015	Oct/06/1983	Chinook, Coho
Lake Michigan	Grand River, Webber Dam	85057	Sep/27/1985	Coho
Lake Michigan	Grand River, Webber Dam	86050	Oct/03/1986	Coho
Lake Michigan	Grand River, Webber Dam	87086	Sep/23/1987	Chinook
Lake Michigan	Grand River, Webber Dam	88041	Sep/19/1988	Coho
Lake Michigan	Grand River, Webber Dam	90046	Sep/25/1990	Coho
Lake Michigan	Grand River, Webber Dam	91045	Oct/10/1991	Chinook
Lake Michigan	Grand River, Webber Dam	92052	Sep/22/1992	Coho
Lake Michigan	Grand River, Webber Dam	93077	Sep/21/1993	Chinook
Lake Michigan	Grand River, Webber Dam	94043	Sep/15/1994	Coho
Lake Michigan	Grand River, Webber Dam	95054	Oct/12/1995	Chinook
Lake Michigan	Grand River, Webber Dam	97024	Sep/29/1997	Chinook
Lake Michigan	Grand River, Webber Dam	1998056	Oct/28/1998	Coho
Lake Michigan	Grand Traverse Bay	83016	Aug/16/1983	Lake Whitefish
Lake Michigan	Grand Traverse Bay	83026	Nov/29/1983	Lake Trout
Lake Michigan	Grand Traverse Bay	91061	Oct/29/1991	Lake Whitefish
Lake Michigan	Grand Traverse Bay	92060	Aug/05/1992	Brown Trout, Lake Whitefish
Lake Michigan	Grand Traverse Bay	97025	Oct/02/1997	Lake Trout

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Michigan	Grand Traverse Bay	97077	Dec/30/1997	Lake Whitefish
Lake Michigan	Grand Traverse Bay	1998141	Sep/09/1998	Lake Trout
Lake Michigan	Grand Traverse Bay	2009309	Oct/29/2009	Lake Trout
Lake Michigan	Grand Traverse Bay, East Arm	84031	Mar/01/1984	Lake Trout
Lake Michigan	Grand Traverse Bay, East Arm	90065	Nov/11/1990	Lake Whitefish, Yellow Perch
Lake Michigan	Grand Traverse Bay, East Arm	96024	Dec/05/1996	Lake Whitefish
Lake Michigan	Grand Traverse Bay, West Arm	84032	Mar/20/1984	Lake Trout
Lake Michigan	Grand Traverse Bay, West Arm	84037	May/29/1984	Lake Trout
Lake Michigan	Grand Traverse Bay, West Arm	90066	Jun/20/1990	Lake Whitefish
Lake Michigan	Grand Traverse Bay, West Arm	93088	Jun/07/1993	Brown Trout, Lake Whitefish
Lake Michigan	Green Bay	93078	Apr/18/1993	Brown Trout, Splake
Lake Michigan	Green Bay	1999032	Aug/02/1999	Lake Whitefish
Lake Michigan	Green Bay	2001066	Apr/13/2001	Brown Trout
Lake Michigan	Green Bay	2002054	Apr/11/2002	Brown Trout
Lake Michigan	Green Bay	2003148	Apr/10/2003	Brown Trout
Lake Michigan	Green Bay	2004054	Apr/08/2004	Smallmouth Bass, White Sucker
Lake Michigan	Green Bay, Cedar River	88057	Jul/19/1988	Longnose Sucker, White Sucker
Lake Michigan	Green Bay, Cedar River	92022	Apr/29/1992	Brown Trout, Chinook, Rainbow Trout, Smallmouth Bass, Splake, Walleye
Lake Michigan	Green Bay, Cedar River	2000037	Apr/10/2000	Carp
Lake Michigan	Green Bay, Cedar River	2005050	Apr/15/2005	Longnose Sucker, Smallmouth Bass, Walleye, White Sucker
Lake Michigan	Kalamazoo River mouth	2003155	May/17/2002	Lake Sturgeon
Lake Michigan	Lake Muskegon	2004200	Apr/01/2004	Lake Sturgeon
Lake Michigan	Leland	84049	Aug/06/1984	Chub
Lake Michigan	Little Bay De Noc	83017	Oct/20/1983	Lake Trout, Lake Whitefish
Lake Michigan	Little Bay De Noc	87004	Apr/14/1987	Northern Pike, Walleye
Lake Michigan	Little Bay De Noc	89032	Apr/10/1989	Carp
Lake Michigan	Little Bay De Noc	90001	Feb/28/1990	Burbot
Lake Michigan	Little Bay De Noc	91022	Apr/16/1991	Longnose Sucker, Walleye
Lake Michigan	Little Bay De Noc	92049	Jun/04/1992	Walleye
Lake Michigan	Little Bay De Noc	93079	Apr/27/1993	Carp, Yellow Perch
Lake Michigan	Little Bay De Noc	94042	Apr/20/1994	White Sucker
Lake Michigan	Little Bay De Noc	95016	Feb/12/1995	Lake Sturgeon
Lake Michigan	Little Bay De Noc	2004150	Sep/10/2004	Carp, Redhorse Sucker, Rock Bass, Smallmouth Bass, Walleye
Lake Michigan	Little Bay De Noc	2008232	Apr/22/2008	Carp, Redhorse Sucker, Rock Bass, Smallmouth Bass
Lake Michigan	Little Bay De Noc	2008280	Apr/22/2008	Smallmouth Bass
Lake Michigan	Little Manistee River Weir	85021	Sep/09/1985	Brown Trout
Lake Michigan	Little Manistee River Weir	86053	Oct/06/1986	Brown Trout, Chinook, Rainbow Trout
Lake Michigan	Little Manistee River Weir	94044	Nov/07/1994	Rainbow Trout
Lake Michigan	Little Traverse Bay	83021	Sep/27/1983	Lake Trout
Lake Michigan	Little Traverse Bay	84036	May/02/1984	Lake Trout
Lake Michigan	Ludington	90058	Oct/21/1990	Yellow Perch
Lake Michigan	Ludington	2000118	Jul/19/1999	Lake Sturgeon
Lake Michigan	Manistee	83029	May/12/1983	Chub

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Michigan	Manistee Lake	2003158	Jul/10/2003	Lake Sturgeon
Lake Michigan	Manistee River	83020	Sep/20/1983	Chinook
Lake Michigan	Manistee River	84045	Sep/06/1984	Chinook, Coho
Lake Michigan	Manistee River	84047	Sep/19/1984	Chinook
Lake Michigan	Manistee River	85066	Sep/25/1985	Chinook
Lake Michigan	Manistee River	86066	Oct/10/1986	Chinook, Coho
Lake Michigan	Manistee River	88092	Sep/10/1988	Chinook, Chinook Eggs, Coho
Lake Michigan	Manistee River	97069	May/15/1997	Lake Sturgeon
Lake Michigan	Manistee River	2004055	Apr/01/2004	Rainbow Trout
Lake Michigan	Manistique River	85036	May/15/1985	Rainbow Trout
Lake Michigan	Manitou Islands	83031	Oct/20/1983	Chub
Lake Michigan	Menominee River	88052	Oct/12/1988	Brown Trout
Lake Michigan	Millecoquins River	2000115	Dec/14/2000	Lake Sturgeon
Lake Michigan	Muskegon	88060	Jun/01/1988	Carp, Walleye
Lake Michigan	Muskegon	90009	May/30/1990	Lake Whitefish
Lake Michigan	Muskegon	97027	Jul/01/1997	Lake Whitefish
Lake Michigan	New Buffalo	2003160	Aug/19/2003	Lake Sturgeon
Lake Michigan	Northern Lake Michigan	97028	Mar/26/1997	Lake Whitefish
Lake Michigan	Northern Lake Michigan	2001132	Oct/31/2001	Burbot
Lake Michigan	Norwood	84033	Mar/20/1984	Lake Trout
Lake Michigan	Pentwater	83028	May/06/1983	Chub
Lake Michigan	Pentwater	84034	Apr/09/1984	Lake Trout
Lake Michigan	Pentwater	84041	Aug/02/1984	Chub
Lake Michigan	Pentwater	89039	May/02/1989	Lake Trout
Lake Michigan	Pentwater	91025	Apr/12/1991	Brown Trout, Lake Trout
Lake Michigan	Platte River	83011	Oct/07/1983	Chinook, Coho
Lake Michigan	Platte River	83040	Sep/20/1983	Coho
Lake Michigan	Platte River	84048	Sep/30/1984	Coho
Lake Michigan	Platte River	84053	Oct/09/1984	Coho
Lake Michigan	Platte River	85022	Sep/25/1985	Brown Trout
Lake Michigan	Platte River	85055	Sep/25/1985	Coho
Lake Michigan	Platte River	85068	Sep/25/1985	Coho
Lake Michigan	Platte River	86054	Oct/06/1986	Coho
Lake Michigan	Platte River	87091	Oct/06/1987	Chinook
Lake Michigan	Platte River	88066	Sep/26/1988	Coho
Lake Michigan	Platte River	88091	Sep/10/1988	Coho, Coho Eggs
Lake Michigan	Platte River	89067	Oct/30/1989	Chinook
Lake Michigan	Platte River	90048	Oct/01/1990	Coho
Lake Michigan	Platte River	91055	Oct/09/1991	Chinook
Lake Michigan	Platte River	92068	Sep/23/1992	Coho
Lake Michigan	Platte River	92069	Oct/21/1992	Brown Trout
Lake Michigan	Platte River	93053	Sep/29/1993	Chinook
Lake Michigan	Platte River	94045	Oct/01/1994	Coho
Lake Michigan	Platte River	94046	Oct/15/1994	Rainbow Trout
Lake Michigan	Platte River	95049	Oct/09/1995	Chinook
Lake Michigan	Platte River	96028	Oct/01/1996	Coho
Lake Michigan	Platte River	97029	Oct/15/1997	Chinook
Lake Michigan	Platte River	1998059	Sep/24/1998	Coho
Lake Michigan	Platte River	2009218	Oct/06/2009	Chinook, Coho
Lake Michigan	Platte River Hatchery	94060	Oct/19/1994	Coho
Lake Michigan	Point Betsie	84035	Apr/15/1984	Lake Trout
Lake Michigan	South Fox Island	83027	Nov/29/1983	Lake Trout

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Michigan	South Haven	83030	Aug/08/1983	Chub
Lake Michigan	South Haven	86008	Jun/07/1986	Brown Trout, Chinook, Rainbow Trout
Lake Michigan	South Haven	87034	Jun/13/1987	Lake Trout
Lake Michigan	South Haven	90041	Sep/11/1990	Yellow Perch
Lake Michigan	South Haven	1998060	Apr/23/1998	Rainbow Smelt
Lake Michigan	South Haven	2004051	Jun/15/2004	Round Goby
Lake Michigan	Southern	94057	Jul/01/1994	Lake Sturgeon
Lake Michigan	Southern	95064	Sep/24/1995	Lake Sturgeon
Lake Michigan	Southern	1998152	Sep/25/1998	Rainbow Smelt
Lake Michigan	St. Joseph River, Berrien Springs	83010	Oct/05/1983	Chinook, Coho
Lake Michigan	St. Joseph River, Berrien Springs	84051	Oct/03/1984	Coho
Lake Michigan	St. Joseph River, Berrien Springs	85023	Sep/20/1985	Brown Trout
Lake Michigan	St. Joseph River, Berrien Springs	85059	Sep/19/1985	Coho
Lake Michigan	St. Joseph River, Berrien Springs	86048	Sep/15/1986	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	86049	Sep/15/1986	Coho
Lake Michigan	St. Joseph River, Berrien Springs	87001	Apr/07/1987	Rainbow Trout
Lake Michigan	St. Joseph River, Berrien Springs	87084	Sep/30/1987	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	87085	Sep/30/1987	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	88032	Sep/15/1988	Coho
Lake Michigan	St. Joseph River, Berrien Springs	89065	Oct/27/1989	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	89066	Oct/27/1989	Brown Trout
Lake Michigan	St. Joseph River, Berrien Springs	90042	Sep/19/1990	Brown Trout
Lake Michigan	St. Joseph River, Berrien Springs	90043	Sep/20/1990	Coho
Lake Michigan	St. Joseph River, Berrien Springs	91043	Sep/30/1991	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	92067	Sep/22/1992	Coho
Lake Michigan	St. Joseph River, Berrien Springs	93061	Sep/09/1993	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	94047	Sep/29/1994	Coho
Lake Michigan	St. Joseph River, Berrien Springs	94048	Sep/12/1994	Rainbow Trout
Lake Michigan	St. Joseph River, Berrien Springs	95055	Oct/13/1995	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	96030	Oct/22/1996	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	97031	Oct/31/1997	Chinook
Lake Michigan	St. Joseph River, Berrien Springs	1998061	Sep/25/1998	Coho
Lake Michigan	St. Joseph River, Berrien Springs	2004060	Mar/26/2004	Rainbow Trout
Lake Michigan	St. Joseph River, Berrien Springs	2009219	Oct/01/2009	Chinook

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Michigan	Sturgeon Bay	83023	Oct/20/1983	Lake Trout
Lake Michigan	Thompson Creek	83012	Oct/31/1983	Chinook, Coho
Lake Michigan	Thompson Creek	84052	Oct/17/1984	Coho
Lake Michigan	Thompson Creek	85020	Oct/15/1985	Brown Trout
Lake Michigan	Thompson Creek	85058	Sep/19/1985	Coho
Lake Michigan	Thompson Creek	86060	Oct/17/1986	Coho
Lake Michigan	Thompson Creek	87094	Oct/01/1987	Chinook
Lake Michigan	Thompson Creek	88048	Sep/18/1988	Coho
Lake Michigan	Thompson Creek	89071	Oct/01/1989	Brown Trout
Lake Michigan	Thompson Creek	89072	Oct/01/1989	Chinook
Lake Michigan	Thompson Creek	96031	Oct/01/1996	Coho
Lake Michigan	Thompson Creek	97032	Oct/14/1997	Chinook
Lake Michigan	Thompson Creek	1998062	Oct/20/1998	Coho
Lake Mitchell	Wexford County	89012	Jun/14/1989	Largemouth Bass, Walleye
Lake Mitchell	Wexford County	2003141	May/01/2003	Largemouth Bass
Lake Nepessing	Lapeer County	97033	Sep/11/1997	Largemouth Bass
Lake Orion	Oakland County	87021	May/29/1987	Largemouth Bass
Lake Orion	Oakland County	89005	Jun/07/1989	Largemouth Bass, Northern Pike
Lake Orion	Oakland County	2001071	May/01/2001	Carp, Largemouth Bass
Lake Orion	Oakland County	2009220	Apr/23/2009	Carp
Lake Ovid	Clinton County	89011	Apr/28/1989	Black Bullhead, Black Crappie, Largemouth Bass, Northern Pike, Tiger Muskie, Yellow Bullhead
Lake Ovid	Clinton County	2003152	Jun/25/2003	Largemouth Bass
Lake Paradise	Emmet County	2001073	Oct/09/2001	Largemouth Bass, Smallmouth Bass, White Sucker
Lake Ponemah	Genesee County	2000044	Jul/07/2000	Carp, Largemouth Bass
Lake St. Clair	Bouvier Bay	86017	Jun/17/1986	Carp, Smallmouth Bass
Lake St. Clair	L'Anse Creuse Bay	94049	Aug/24/1994	Bluegill, Brown Bullhead, Channel Catfish, Freshwater Drum, Largemouth Bass, Northern Pike, Rock Bass, Smallmouth Bass, Yellow Perch
Lake St. Clair	L'Anse Creuse Bay	97034	Jun/01/1997	Black Crappie, Bluegill, Northern Pike, Pumpkinseed, Walleye, White Bass
Lake St. Clair	L'Anse Creuse Bay	1998064	Jun/15/1998	Bluegill, Carp, Channel Catfish, Freshwater Drum, Walleye
Lake St. Clair	Michigan waters	85014	Sep/10/1985	Muskellunge
Lake St. Clair	Michigan waters	87035	Jun/18/1987	Bluegill, Channel Catfish, Freshwater Drum, Largemouth Bass, Rock Bass, Smallmouth Bass, Walleye
Lake St. Clair	Michigan waters	88026	Aug/19/1988	Bluegill, Freshwater Drum, Smallmouth Bass, White Bass, Yellow Perch
Lake St. Clair	Michigan waters	90054	Jul/15/1990	Lake Sturgeon
Lake St. Clair	Michigan waters	91056	Oct/28/1991	Lake Sturgeon, Walleye
Lake St. Clair	Michigan waters	2000108	Aug/28/2000	Lake Sturgeon
Lake St. Clair	Michigan waters	2001077	Jun/26/2001	Carp, Muskellunge, Smallmouth Bass, Walleye
Lake St. Clair	Michigan waters	2003069	Sep/15/2003	Smallmouth Bass
Lake St. Clair	Michigan waters	2005201	Jun/14/2005	Lake Sturgeon
Lake St. Clair	St. Johns Marsh	85013	Jul/15/1985	Carp
Lake Superior	Carp River	95021	Oct/04/1995	Coho
Lake Superior	Carp River	97036	Oct/01/1997	Chinook, Coho

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Superior	Carp River	2000045	Oct/12/2000	Chinook
Lake Superior	Central	92076	Aug/19/1992	Lake Trout
Lake Superior	Central	96034	May/23/1996	Lake Trout, Lake Whitefish, Siscowet
Lake Superior	Central	2000046	Apr/30/2000	Lake Herring, Lake Whitefish
Lake Superior	Chink Creek	95022	Oct/26/1995	Coho
Lake Superior	Chocolay River	94061	Nov/02/1994	Coho
Lake Superior	Copper Harbor	87007	Apr/29/1987	Lake Trout
Lake Superior	Grand Marais Harbor	84005	Jun/15/1984	Lake Trout
Lake Superior	Huron Bay	2006111	Apr/20/2006	Rainbow Trout, Walleye
Lake Superior	Isle Royale	89046	Aug/09/1989	Lake Trout
Lake Superior	Isle Royale	92063	Aug/04/1992	Lake Trout
Lake Superior	Isle Royale	2008267	May/15/2008	Lake Trout
Lake Superior	Keweenaw Bay	93054	May/19/1993	Rainbow Smelt
Lake Superior	Keweenaw Bay	2003070	May/29/2003	Siscowet
Lake Superior	Keweenaw Bay	2006043	Apr/17/2006	Rainbow Trout
Lake Superior	Keweenaw Bay	2007230	May/15/2007	Lake Herring, Siscowet
Lake Superior	Keweenaw Bay	2007231	May/15/2007	Lake Whitefish
Lake Superior	Keweenaw Bay, Keystone Point	92073	Jul/31/1992	Lake Whitefish, Siscowet
Lake Superior	Keweenaw Bay, L'Anse Bay	89029	Apr/24/1989	Lake Trout
Lake Superior	Keweenaw Bay, Traverse Island	91060	May/01/1991	Lake Trout
Lake Superior	Keweenaw Bay, Traverse Island	2001079	Jun/08/2001	Siscowet
Lake Superior	Laughing Whitefish River	88036	Sep/27/1988	Chinook
Lake Superior	Manitou Island	87072	Jun/26/1987	Siscowet
Lake Superior	Marquette	86031	Jun/06/1986	Lake Trout, Lake Whitefish
Lake Superior	Marquette	87009	Apr/27/1987	Lake Trout
Lake Superior	Marquette	89028	Apr/27/1989	Lake Trout
Lake Superior	Marquette	92042	Jun/19/1991	Siscowet
Lake Superior	Marquette	92074	Aug/18/1992	Lake Whitefish, Siscowet
Lake Superior	Marquette	93089	Jul/01/1993	Lake Whitefish
Lake Superior	Marquette	95065	Dec/13/1995	Siscowet
Lake Superior	Marquette	96038	Jun/10/1996	Lake Trout, Lake Whitefish, Siscowet
Lake Superior	Marquette	2002060	May/13/2002	Lake Trout, Lake Whitefish
Lake Superior	Marquette	2007267	May/01/2007	Lake Whitefish
Lake Superior	Middle Branch Ontonagon River	1999040	Nov/15/1999	Brown Trout
Lake Superior	Mineral River	1998134	Jun/07/1998	Longnose Sucker
Lake Superior	Munising	87069	Aug/10/1987	Siscowet
Lake Superior	Munising	94056	Dec/16/1994	Lake Herring
Lake Superior	Munising	95066	Jul/27/1995	Lake Herring
Lake Superior	Munising	2008268	Jun/01/2008	Lake Trout
Lake Superior	Ontonagon	85028	Aug/01/1985	Lake Trout, Lake Whitefish, White Sucker
Lake Superior	Otter River Fish Ladder	2000119	May/27/2000	Lake Sturgeon
Lake Superior	Pendills Creek	96037	Sep/15/1996	Coho
Lake Superior	Portage Lake/ Sturgeon River	2007254	Dec/20/2006	Burbot, Burbot Liver
Lake Superior	Portage Lake/Dollar Bay	2003157	Sep/12/2003	Lake Sturgeon
Lake Superior	Tahquamenon River	84003	May/10/1984	Lake Whitefish
Lake Superior	Tahquamenon River	2008254	Apr/18/2008	Walleye

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Lake Superior	West of Keweenaw Peninsula	87008	Apr/28/1987	Lake Trout
Lake Superior	West of Keweenaw Peninsula	87071	Jun/25/1987	Siscowet
Lake Superior	West of Keweenaw Peninsula	92077	Jul/13/1992	Siscowet
Lake Superior	Whitefish Bay	93090	Jul/30/1993	Yellow Perch
Lakeville Lake	Oakland County	2000047	Apr/22/2000	Carp, Largemouth Bass
Langford Lake	Gogebic County	86030	Jul/08/1986	Bluegill, Northern Pike, Walleye
Langford Lake	Gogebic County	94051	Jul/20/1994	Northern Pike, Walleye
Lily Lake	Clare County	90064	Aug/23/1990	Largemouth Bass, Northern Pike
Lincoln Lake	Kent County	88033	Sep/14/1988	Northern Pike, Rock Bass, Walleye
Little Lake	Marquette County	2002043	May/24/2002	Walleye
Little Oxbow Lake	Gogebic County	2005056	Nov/01/2005	Largemouth Bass, Walleye
Little Round Lake	Alger Co.	2006199	Nov/19/2006	Bluegill
Little Whitefish Lake	Montcalm Co	2008234	May/14/2008	Largemouth Bass
Littlefield Lake	Isabella County	95014	May/24/1995	Bluegill, Largemouth Bass
Lobdell Lake	Genesee County	2003072	May/20/2003	Carp, Largemouth Bass
Long Lake	Grand Traverse Co	2007234	May/22/2007	Walleye, White Sucker
Long Lake	Ionia County	90035	Oct/01/1990	Largemouth Bass
Long Lake	Iosco County	90036	Jun/12/1990	Largemouth Bass, Northern Pike
Long Lake	Iron County	2007235	Apr/17/2007	Walleye
Long Lake	Kalamazoo County	2002064	Oct/16/2002	Black Crappie
Long Lake	Kalamazoo County	2003153	Mar/28/2003	Brown Bullhead
Long Lake	Kent Co.	2006044	Jun/15/2006	Largemouth Bass
Long Lake	Montmorency County	2006046	May/11/2006	Smallmouth Bass
Long Lake	Presque Isle County	2004066	Apr/14/2004	Smallmouth Bass, White Sucker
Long Lake	Presque Isle County	2006045	May/25/2006	Brown Bullhead, Smallmouth Bass
Long Lake	St. Joseph County/Colon Twp	2001142	Nov/19/2001	Brown Bullhead, Largemouth Bass
Looking Glass River	Dewitt	1998132	May/20/1998	Rock Bass, White Sucker
Loon Lake	Oakland County	2000050	Jul/20/2000	Carp, Largemouth Bass, Smallmouth Bass
Lost Lake	Presque Isle County	2007237	Jun/05/2007	Largemouth Bass
Lower Trout Lake	Oakland County	90049	Sep/27/1990	Largemouth Bass, Northern Pike
Lower Trout Lake	Oakland County	93062	May/27/1993	Largemouth Bass
Maceday Lake	Oakland County	91049	Sep/16/1991	Northern Pike
Maceday Lake	Oakland County	96040	Apr/24/1996	Northern Pike
Manistee Lake	Manistee County	91015	Jun/19/1991	Smallmouth Bass, Walleye
Manistee Lake	Manistee County	92027	May/12/1992	Black Crappie, Largemouth Bass, Rock Bass
Manistee Lake	Manistee County	95019	Jun/07/1995	Bluegill
Manistee River	Cameron Bridge	1998069	Aug/26/1998	Brown Trout
Manistee River	M-72	1998123	Aug/27/1998	White Sucker
Manistique Lake	Mackinac County	2003075	Apr/25/2003	Walleye
Manistique River	d/s Manistique Papers Dam	84009	Oct/18/1984	Redhorse Sucker, Walleye, White Sucker
Manistique River	d/s Manistique Papers Dam	85008	Jun/01/1985	Carp, Largemouth Bass, Walleye
Manistique River	d/s Manistique Papers Dam	88017	Aug/03/1988	Channel Catfish
Manistique River	d/s Manistique Papers Dam	93033	Jun/02/1993	Carp
Manistique River	d/s Manistique Papers Dam	2003077	Oct/07/2003	Redhorse Sucker, Smallmouth Bass, Walleye
Manistique River	d/s Manistique Papers Dam	2004072	Aug/02/2004	Carp, Redhorse Sucker, Rock Bass, Smallmouth Bass, Walleye
Manistique River	d/s Manistique Papers Dam	2007238	Apr/17/2007	Walleye

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Manistique River	d/s Manistique Papers Dam	2008235	May/28/2008	Carp, Pumpkinseed, Redhorse Sucker, Rock Bass, Smallmouth Bass, Walleye, White Sucker
Manistique River	Manistique, above Dam	87090	Oct/21/1987	Northern Pike, Redhorse Sucker
Manistique River	Manistique, river mouth	86035	Jul/31/1986	Carp, Walleye
Mann Creek	Moraine Lake	92041.2	Oct/21/1992	Northern Pike
Mann Creek	Sloan Lake	92041.1	Oct/21/1992	Northern Pike
Mann Creek	Sloan Lake	94001	May/25/1994	Bluegill, Northern Pike
Maple River	u/s Matherton	2006150	Jul/11/2006	Carp
Marion Lake	Gogebic County	87070	Jul/29/1987	Rock Bass, Walleye
Marion Lake	Gogebic County	2003500	Jul/01/2003	Northern Pike, Smallmouth Bass, Walleye, Yellow Perch
Marten Lake	Iron County	85019	Oct/25/1985	Brown Bullhead, Northern Pike
Mary Lake	Dickinson County	2008236	Jul/10/2008	Largemouth Bass
McCormick Lake	Montmorency County	2004074	Jun/02/2004	Brown Trout
Menominee River	Badwater Impoundment	92024	Apr/17/1992	Walleye
Menominee River	Below Grand Rapids Dam	97038	May/27/1997	Carp, Redhorse Sucker
Menominee River	Below Quinnesec	88053	Oct/11/1988	Northern Pike, Redhorse Sucker, Smallmouth Bass, Walleye
Menominee River	Below Quinnesec	1999080	May/25/1999	Northern Pike
Menominee River	Below Sturgeon Falls Dam	92048	Jul/28/1992	Carp, Walleye
Menominee River	Big Quinnesec Falls Flowage	95034	Apr/17/1995	Rock Bass, Walleye, White Sucker
Menominee River	Chalk Hills Impoundment	91030	Jul/08/1991	Carp, Walleye
Menominee River	Chalk Hills Impoundment	96041	Oct/13/1996	Carp, Redhorse Sucker, Walleye
Menominee River	Dickinson County, below Piers Gorge	89078	Sep/12/1989	Redhorse Sucker, Walleye
Menominee River	Dickinson County, Little Quinnesec Flowage	89079	Apr/21/1989	Carp, Walleye, White Sucker
Menominee River	Dickinson County, Vulcan	86058	Oct/09/1986	Northern Pike, Redhorse Sucker, Smallmouth Bass, Walleye
Menominee River	Iron County	84017	Aug/01/1984	Rock Bass
Menominee River	Lower Scott Flowage, between Dams 1 and 2	90055	Oct/01/1990	Rock Bass, Walleye
Menominee River	Menominee, river mouth	88007	May/26/1988	Carp, Walleye
Menominee River	Menominee, river mouth	91040	Apr/20/1991	Lake Sturgeon
Menominee River	Menominee, river mouth	93031	Jun/01/1993	Carp
Menominee River	Menominee, river mouth	2001146	Oct/10/2000	Lake Sturgeon
Menominee River	Menominee, river mouth	2006097	Apr/10/2006	Carp, Walleye
Menominee River	Sturgeon Falls Impoundment	1999080	May/25/1999	Northern Pike
Menominee River	Upper Scott Flowage, Chappee Rapids	90057	Sep/20/1990	Rock Bass, Walleye
Menominee River	Upper Scott Flowage, Highway JJ	90056	Sep/27/1990	Rock Bass, Walleye
Michigamme River	Iron County	84022	Aug/31/1984	Walleye
Michigamme River	Iron County, Michigamme Falls Impoundment	84025	Aug/24/1984	Black Crappie, Northern Pike, Pumpkinseed, Smallmouth Bass, Walleye, Yellow Perch
Michigamme River	Marquette County	84021	Aug/16/1984	Northern Pike, Walleye
Michigamme River	Michigamme Reservoir	84026	Jun/01/1984	Northern Pike, Walleye, White Sucker
Michigamme River	Michigamme Reservoir	92075	Sep/14/1992	Northern Pike, Walleye
Michigamme River	Michigamme Reservoir	95061	Oct/03/1995	Northern Pike, Walleye
Michigamme River	Michigamme Reservoir	1998072	Sep/29/1998	Northern Pike, Walleye
Michigamme River	Michigamme Reservoir	2000052	Sep/13/2000	Northern Pike, Walleye

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Michigamme River	Michigamme Reservoir	2008237	Jun/29/2008	Northern Pike, Walleye
Michigamme River	Peavy Pond	84023	Aug/10/1984	Northern Pike, Rock Bass, Walleye, White Sucker, Yellow Perch
Michigamme River	Peavy Pond	97043	Oct/30/1997	Burbot, Walleye
Michigamme River	Peavy Pond	1998145	Oct/13/1998	Lake Whitefish, Northern Pike, Rock Bass, Smallmouth Bass, Walleye, White Sucker, Yellow Perch
Middle Straits Lake	Oakland County	2007240	May/09/2007	Northern Pike
Milakokia Lake	Mackinac County	85061	Jun/18/1985	Walleye, White Sucker
Milakokia Lake	Mackinac County	94031	Jun/21/1994	Walleye, White Sucker, Yellow Perch
Milakokia Lake	Mackinac County	2007241	May/22/2007	Walleye
Millecoquins Lake	Mackinac County	89038	May/11/1989	Northern Pike, Walleye
Millecoquins Lake	Mackinac County	92071	Aug/05/1992	Lake Sturgeon
Millecoquins Lake	Mackinac County	2006049	May/01/2006	Rock Bass, Walleye
Mona Lake	Muskegon County	87056	Jul/14/1987	Carp, Smallmouth Bass
Mona Lake	Muskegon County	2000055	Oct/25/2000	Carp, Smallmouth Bass, Walleye
Mona Lake	Muskegon County	2002069	Jul/08/2002	Carp
Monacle Lake	Chippewa Co.	2009222	Jun/10/2009	Walleye
Montcalm Lake	Montcalm County	2003065	Jul/07/2003	Largemouth Bass
Montcalm Lake	Montcalm County	2004062	May/20/2004	Largemouth Bass
Morrison Lake	Ionia County	88002	May/03/1988	Carp, Largemouth Bass, Walleye, White Sucker
Morrison Lake	Ionia County	1998076	Oct/27/1998	Largemouth Bass
Morrison Lake	Ionia County	2003081	Jun/15/2003	Carp
Mullett Lake	Cheboygan County	88035	Oct/18/1988	Northern Pike, Smallmouth Bass, Walleye
Mullett Lake	Cheboygan County	2009238	Apr/05/2009	Smallmouth Bass
Murphy Lake	Tuscola Co	2007243	Apr/12/2007	Northern Pike
Muskallonge Lake	Luce County	2002070	May/15/2002	Brown Bullhead, Northern Pike
Muskallonge Lake	Luce County	2008751	May/05/2008	Walleye
Muskegon Lake	Muskegon County	86061	Oct/29/1986	Carp, Largemouth Bass, Northern Pike, Walleye
Muskegon Lake	Muskegon County	87054	Jul/07/1987	Largemouth Bass, Smallmouth Bass, Walleye
Muskegon Lake	Muskegon County	93071	Aug/19/1993	Carp, Walleye
Muskegon Lake	Muskegon County	2001082	Sep/13/2001	Largemouth Bass, Smallmouth Bass
Muskegon Lake	Muskegon County	2002071	Sep/04/2002	Carp, Walleye
Muskegon Lake	Muskegon County	2006050	Jun/06/2006	Northern Pike
Muskegon Lake	Muskegon County	2008239	May/15/2008	Walleye
Muskegon River	Muskegon, river mouth	93038	Jun/09/1993	Carp
Muskegon River	Newaygo County, below Croton Dam	93011	Apr/04/1993	Walleye
Muskegon River	Newaygo County, below Croton Dam	96042	Mar/29/1996	Redhorse Sucker, Walleye
Muskegon River	Newaygo County, below Croton Dam	2008240	May/15/2008	Redhorse sucker, Walleye
Muskegon River	Newaygo County, Croton Dam Pond	97047	Sep/30/1997	Walleye, White Sucker
Nawakwa Lake	Alger County	89055	Jun/20/1989	Northern Pike, Walleye
Nawakwa Lake	Alger County	1999076	May/06/1999	Northern Pike, Walleye
Nawakwa Lake	Alger County	2008241	Jun/10/2008	Rock Bass, Walleye
Net River	Iron County, The Wide Waters	89030	May/01/1989	Northern Pike, Walleye

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Nettie Lake	Presque Isle County	95032	Jun/05/1995	Largemouth Bass, Northern Pike
Nettie Lake	Presque Isle County	2005114	Sep/21/2005	Smallmouth Bass
Nevins Lake	Montcalm County	2004076	Sep/07/2004	Largemouth Bass
North Lake Leelanau	Leelanau County	2002078	Apr/26/2002	White Sucker
North Lake Leelanau	Leelanau County	2003082	Oct/21/2003	Lake Trout
North Manistique Lake	Luce County	89048	Jun/07/1989	Northern Pike, Walleye, Yellow Perch
North Manistique Lake	Luce County	2003083	Apr/24/2003	Walleye, Yellow Perch
Norvell Lake	Jackson County	2001084	Oct/17/2001	Carp, Largemouth Bass
Nottawa River	Calhoun County	1998080	Jul/29/1998	Brown Trout, Northern Hogsucker, White Sucker
Ontonagon River	Bond Falls	1999047	Apr/18/1999	Walleye
Ontonagon River	Victoria Impoundment	88065	Jul/06/1988	Northern Pike, Walleye
Ontonagon River	Victoria Impoundment	2000060	May/17/2000	Walleye
Orchard Lake	Oakland County	87087	Sep/25/1987	Largemouth Bass, Northern Pike
Orchard Lake	Oakland County	89006	Jun/07/1989	Largemouth Bass, Northern Pike, Smallmouth Bass
Orchard Lake	Oakland County	94036	May/10/1994	Northern Pike
Ormes Lake	Gogebic County	2005071	Nov/01/2005	Largemouth Bass
Osmun Lake	Oakland County	1999048	Jul/07/1999	Carp, Largemouth Bass
Osterhout Lake	Allegan County	2007265	May/24/2007	Largemouth Bass
Otsego Lake	Otsego Co	2007244	May/22/2007	Walleye
Ottawa Lake	Iron County	86005	May/22/1986	Northern Pike, Rock Bass, Walleye
Ottawa River	Mouth	93047	Sep/29/1993	Carp, Largemouth Bass
Ottawa River	Mouth	2006109	Sep/26/2006	Carp, Largemouth Bass
Otter Lake	Houghton County	2000061	May/25/2000	Walleye, White Sucker
Paint Creek	Oakland County	1998081	Aug/19/1998	White Sucker
Paint Lake	Iron County	2003144	Jun/11/2003	Northern Pike
Paint River	Paint River Pond	84024	Aug/28/1984	Muskellunge, Rock Bass, Walleye, Yellow Perch
Palmer Lake	St. Joseph County	2001141	Aug/30/2001	Largemouth Bass
Parker Creek	Grand Traverse County	1998048	Jul/09/1998	Brown Trout
Paw Paw River	Maple Lake	2006048	Sep/27/2006	Carp, Largemouth Bass
Payne Lake	North of Gun Lake	2009223	May/06/2009	Northern Pike
Peach Lake	Ogemaw County	2004080	May/18/2004	Northern Pike
Pearl Lake	Benzie County	97050	Jan/01/1997	Northern Pike
Perch Lake	Iron County	88051	Oct/12/1988	Northern Pike, Walleye
Perch Lake	Iron County	2006064	Jun/15/2006	Northern Pike, Walleye
Perch Lake	Marquette County	84020	Aug/16/1984	Lake Whitefish, Longnose Sucker, Northern Pike, Rock Bass, Smallmouth Bass, White Sucker, Yellow Perch
Pere Marquette Lake	Mason County	89075	Aug/23/1989	Largemouth Bass, Northern Pike
Pere Marquette Lake	Mason County	2003086	May/05/2003	Northern Pike, White Sucker
Pere Marquette Lake	Mason County	2007245	Jun/20/2007	Northern Pike
Pere Marquette River	Lake County	2004081	Sep/03/2004	Brown Trout
Pere Marquette River	Ludington, river mouth	93037	Jun/09/1993	Redhorse Sucker
Pere Marquette River, Little South Branch	Lake County	2004082	Aug/24/2004	Brown Trout, White Sucker
Pere Marquette River, Little South Branch	Taylor Bridge	94032	Aug/17/1993	Brown Trout
Perry Creek	Hoskins Mfg	2009245	Jul/14/2009	Brown Trout, Brown Trout Liver
Perry Creek	Oscoda County	2009247	Nov/24/2009	Brown Trout
Pickerel Lake	Dickinson County	87082	Sep/24/1987	Largemouth Bass, Northern Pike

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Pickerel Lake	Emmet County	89069	May/23/1989	Largemouth Bass, Smallmouth Bass, Walleye
Pigeon River	Ottawa Co, at 136th Ave	2005129	Jun/28/2005	White Sucker
Pigeon River	Vistula Rd.	2005076	Sep/14/2005	Redhorse Sucker, Rock Bass, Smallmouth Bass
Pike Lake	Houghton Co	2007246	May/15/2007	Northern Pike
Pike Lake	Luce County	89056	Jun/28/1989	Walleye
Pine Lake	Barry County	95001	Mar/20/1995	Black Crappie, Northern Pike
Pine Lake	Manistee County	87042	Jun/02/1987	Brown Trout, Largemouth Bass, Rock Bass
Pine River	Above Alma	1998085	Oct/15/1998	Rock Bass, White Sucker
Pine River	Alma Impoundment	95018	Jun/07/1995	Carp, Largemouth Bass
Pine River	Below Alma Dam	97060	Jul/29/1997	Carp, Largemouth Bass
Pine River	Gratiot County, below St Louis Dam	83001	Oct/31/1983	Brown Bullhead, Carp, Common Shiner, Rock Bass, Smallmouth Bass, White Sucker
Pine River	Gratiot County, below St Louis Dam	85007	Aug/06/1985	Carp
Pine River	Gratiot County, below St Louis Dam	94021	Aug/23/1994	Carp
Pine River	Gratiot County, below St Louis Dam	97072	Oct/16/1997	Carp
Pine River	Midland County, Homer Road	85060	Apr/11/1985	Carp, Smallmouth Bass, White Sucker
Pine River	Montcalm County, Edmore	86041	Jul/29/1986	Brown Trout, Northern hogsucker, Redhorse Sucker, White Sucker
Pine River	St. Clair County, Griswold Road	92009	Jul/30/1992	Carp
Pine River	St. Louis	96500	Oct/15/1996	Muskrat, Raccoon
Pine River	St. Louis Impoundment	86042	Aug/07/1986	Carp, Crappie, Largemouth Bass, Northern Pike, Smallmouth Bass
Pine River	St. Louis Impoundment	89027	Apr/27/1989	Black Crappie, Carp, Largemouth Bass
Pine River	St. Louis Impoundment	95005	Apr/24/1995	Black Crappie, Carp
Pine River	St. Louis Impoundment	97071	Oct/17/1997	Carp, Smallmouth Bass
Platte Lake	Benzie County	2004151	Jul/11/2004	Channel Catfish, Northern Pike, Smallmouth Bass, Walleye
Platte Lake	Benzie County	2005160	Sep/02/2005	Rock Bass
Platte River	Burnt Mill Road, Benzie County	1998087	Aug/05/1998	Brown Trout, White Sucker
Plum Creek	Monroe	1999090	Nov/01/1999	Black Buffalo, Carp, Channel Catfish, White Bass
Pomeroy Lake	Gogebic County	97052	Apr/30/1997	Walleye
Pomeroy Lake	Gogebic County	1999055	Apr/28/1999	Walleye
Pontiac Lake	Oakland County	1999079	Apr/06/1999	Channel Catfish
Portage Creek	Bryant Mill Pond	85050	Jul/01/1985	Carp
Portage Creek	Bryant Mill Pond	86023	Jul/08/1986	Carp
Portage Creek	Bryant Mill Pond	87047	Jul/14/1987	Carp
Portage Creek	Bryant Mill Pond	2000121	Aug/10/2000	Brown Trout, Carp
Portage Creek	Bryant Mill Pond	2001044	Aug/29/2001	Carp, White Sucker
Portage Creek	Bryant Mill Pond	2002108	Aug/19/2002	Carp
Portage Creek	Bryant Mill Pond	2006172	Sep/18/2006	Carp, White Sucker
Portage Creek	Monarch Pond	2001045	Oct/17/2001	Carp
Portage Creek	Monarch Pond	2006171	Sep/19/2006	Carp
Portage Lake	Houghton County	88016	Aug/04/1988	Brown Trout, Northern Pike, Walleye
Portage Lake	Houghton County	1998151	Sep/15/1998	Walleye, White Sucker

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Portage Lake	Houghton County	2007247	Apr/19/2007	Walleye
Portage Lake	Jackson County	89042	May/23/1989	Black Crappie, Largemouth Bass, Northern Pike
Portage Lake	Manistee County	90008	Jun/12/1990	Largemouth Bass, Northern Pike, Smallmouth Bass
Portage Lake	Manistee County	2004144	Oct/11/2004	Carp, Largemouth Bass, Northern Pike
Portage Lake	Washtenaw/Livingston County	89009	May/10/1989	Largemouth Bass, Walleye
Portage Lake	Washtenaw/Livingston County	2009225	May/20/2009	Carp, Walleye
Prairie River Lake	St. Joseph County	86043	Aug/12/1986	Largemouth Bass
Pratt Lake	Gladwin County	2003095	May/22/2003	Largemouth Bass
Pretty Lake	Luce County	2004083	Jun/22/2004	Walleye
Proud Lake	Oakland County	2006066	May/25/2006	Carp, Largemouth Bass
Rabbit River	d/s Hamilton Dam	2003098	Sep/17/2003	Carp, Largemouth Bass, Northern Pike, Redhorse Sucker, Rock Bass
Rabbit River	u/s Hamilton Dam	2003096	Sep/17/2003	Carp, Largemouth Bass, Northern Pike, Redhorse Sucker
Rainbow Lake	Montcalm County	90045	Sep/21/1990	Largemouth Bass, Northern Pike
Raisin River	Monroe County, above Monroe Dam	87024	Jun/09/1987	Carp, Smallmouth Bass
Raisin River	Monroe County, above Monroe Dam	2004085	Oct/06/2004	Carp
Raisin River	Monroe, below Winchester Bridge	84015	Jun/28/1984	Carp, Largemouth Bass, Rock Bass, Smallmouth Bass
Raisin River	Monroe, below Winchester Bridge	86019	Jun/19/1986	Carp, White Bass
Raisin River	Monroe, below Winchester Bridge	1998089	Sep/18/1998	Carp, Freshwater Drum, Smallmouth Bass
Raisin River	Monroe, below Winchester Bridge	2008247	Jun/14/2008	Carp, Channel Catfish, Freshwater Drum, Smallmouth Bass, White Bass
Raisin River, South Branch	Lenawee County, below Adrian	91051	Aug/29/1991	Carp, Northern Pike, Redhorse Sucker
Randall Lake Chain	Craig Lake	90014.2	Jun/27/1990	Largemouth Bass, Northern Pike
Randall Lake Chain	Morrison Lake	2007242	Apr/06/2007	Northern Pike
Randall Lake Chain	Randall Lake	90014.1	Jun/27/1990	Black Crappie, Largemouth Bass, Northern Pike
Rapid River	Kalkaska County	1998137	Sep/01/1998	Brown Trout
Red Cedar River	Gramer Road	91019.2	Jun/27/1991	Carp
Red Cedar River	Gregory Road	91019.1	Jun/27/1991	Carp, Northern Pike
Red Cedar River	M-52	91019.3	Jun/27/1991	Carp, Northern Pike
Red Cedar River	MSU	2000075	Aug/01/2000	Carp, Northern Pike, Rock Bass, Smallmouth Bass
Red Cedar River	MSU	2001096	Apr/27/2001	Carp, Northern Pike, Rock Bass
Reed's Lake	Kent County	89070	Sep/20/1989	Largemouth Bass, Northern Pike
Reed's Lake	Kent County	1998094	Oct/30/1998	Northern Pike, Walleye
Reed's Lake	Kent County	2009227	May/11/2009	Northern Pike
Rice Lake	Houghton County	91027	May/02/1991	Northern Pike, Walleye
Rifle River	Arenac County	88040	Aug/22/1988	Redhorse Sucker, Rock Bass
Rifle River	Arenac County	2009229	Jul/13/2009	Redhorse Sucker, Rock Bass
Robinson Creek	Roscommon	89053	Jul/12/1989	Brook Trout, Brown Trout
Robinson Lake	Newaygo County	2004095	May/06/2004	Northern Pike
Rock Lake	Montcalm Co	2007248	May/30/2007	Largemouth Bass, Walleye
Rogue River	11 Mile/Granger	1998095	Aug/17/1998	Brown Trout, White Sucker

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Rogue River	Kent County, above Rockford Dam	93072	Nov/01/1993	White Sucker
Roland Lake	Houghton County	87040	Jun/30/1988	Rock Bass, Smallmouth Bass
Rogue River	Below M-153	95059	Apr/24/1995	Carp, Northern Pike, White Sucker
Rogue River	Below M-153	2005077	Nov/04/2005	Carp, Redhorse Sucker
Rogue River	Dearborn, river mouth	86016	Jun/24/1986	Carp
Rogue River	Oakland County, Lahser Road	87029	Jun/17/1987	Carp, Rock Bass, White Sucker
Rogue River	Wayne County, above turning basin	85012	Jun/19/1985	Carp
Rogue River	Wayne County, below Jefferson Ave	85011	Jun/19/1985	Carp
Rogue River	Wayne County, Eliza Howell Park	87031	Jun/17/1987	White Sucker
Rogue River	Wayne County, Eliza Howell Park	94015	Sep/13/1994	White Sucker
Rogue River, Lower Branch	Wayne County, Gully Road	87025	Jun/16/1987	Carp
Rogue River, Middle Branch	d/s Nankin Dam	2005078	Nov/03/2005	Carp, Rock Bass, White Sucker
Rogue River, Middle Branch	Inkster Road below Newburgh Lake	2002084	Sep/06/2002	White Sucker
Rogue River, Middle Branch	Newburgh Lake	88011	Jul/19/1988	Largemouth Bass, Northern Pike, White Sucker
Rogue River, Middle Branch	Newburgh Lake	93014	Nov/17/1993	Northern Pike, White Sucker
Rogue River, Middle Branch	Newburgh Lake	95024	May/30/1995	Bluegill, Largemouth Bass
Rogue River, Middle Branch	Newburgh Lake	2001097	Oct/30/2001	Carp, Channel Catfish, Largemouth Bass, White Sucker
Rogue River, Middle Branch	Newburgh Lake	2002085	Sep/24/2002	Carp, Channel Catfish, Northern Pike, White Sucker
Rogue River, Middle Branch	Newburgh Lake	2005079	Jun/02/2005	Carp, Channel Catfish, Northern Pike, White Sucker
Rogue River, Middle Branch	Oakland County, 9 Mile Road	87028	Jun/16/1987	Brown Bullhead, Carp, Channel Catfish, Rock Bass, White Sucker
Rogue River, Middle Branch	Phoenix Lake	88012	Jul/19/1988	Carp, Northern Pike, White Sucker
Rogue River, Middle Branch	Phoenix Lake	95023	Jun/13/1995	Bluegill, Carp
Rogue River, Middle Branch	Phoenix Lake	2001098	Oct/30/2001	Carp, Channel Catfish, Northern Pike
Rogue River, Middle Branch	Phoenix Lake	2002086	Oct/22/2002	Carp, Northern Pike, White Sucker
Rogue River, Middle Branch	u/s Nankin Dam	2005080	Nov/03/2005	Carp, Northern Pike, Rock Bass, White Sucker
Rogue River, Middle Branch	Wayne County, Haggerty/Hines Drain	87027	Jun/16/1987	Rock Bass, Smallmouth Bass, White Sucker
Rogue River, Middle Branch	Wayne County, Inkster Road	87026	Jun/16/1987	Goldfish
Rogue River, Middle Branch	Wayne County, Merriman Road	2000083	Jul/24/2000	White Sucker
Rogue River, Upper Branch	Oakland County, Powers Road	87032	Jun/17/1987	White Sucker
Rogue River, Upper Branch	Wayne County, 7 Mile Road	87030	Jun/17/1987	White Sucker
Round Lake	Delta County	87083	Sep/23/1987	Northern Pike, Walleye
Round Lake	Marquette County, Champion Twp	2005081	Jun/07/2005	Largemouth Bass
Ruddiman Creek	Lagoon	2001131	Sep/13/2001	Carp, Largemouth Bass
Runkle Lake	Iron County	85018	Jun/11/1985	Northern Pike
Runkle Lake	Iron County	2003104	Apr/21/2003	Northern Pike
Ruppert Lake	Kalamazoo County	2004099	May/28/2004	Largemouth Bass
Rush Lake	Van Buren County	2004100	Mar/23/2004	Northern Pike
Saginaw River	Bay County	86014	Jun/10/1986	Carp, Walleye
Saginaw River	Bay County	2003200	Oct/14/2003	Lake Sturgeon

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Saginaw River	Bay County, LaFayette	84013	Aug/09/1984	Carp, Northern Pike, White Bass
Saginaw River	Bay County, LaFayette	2004113	Aug/09/2004	Carp
Saginaw River	Saginaw County, Crow Island	92036	Jul/15/1992	Carp
Sand Lake	Lenawee County	2003107	May/29/2003	Walleye
Sand Lake	Newaygo County	92058	May/22/1992	Black Crappie, Largemouth Bass
Schweitzer Creek	Schweitzer Reservoir	92047	Aug/07/1992	Northern Pike, Smallmouth Bass, Walleye
Schweitzer Creek	Schweitzer Reservoir	2008272	Oct/01/2008	Northern Pike
Sebewaing River	Huron County	88037	Oct/20/1988	Carp, Northern Pike
Sebewaing River	Huron County	2004114	Aug/11/2004	Carp, Northern Pike
Second Sister Lake	Washtenaw County	94062.1	Sep/20/1994	Brown Bullhead
Selkirk Lake	Allegan County	93057	May/20/1993	Largemouth Bass, Yellow Bullhead
Shakey Lakes	Menominee Co	2007275	Jun/12/2007	Northern Pike
Shiawassee River	City of Byron	95039	Jun/22/1995	Carp, Northern Pike
Shiawassee River	Exchange Road	2003109	Jul/22/2003	Carp, Smallmouth Bass
Shiawassee River	Genesee County, Duffield Road	81007	Jun/03/1981	Carp, Northern hogsucker, Northern Pike, Rock Bass, Sunfish
Shiawassee River	Henderson	92012	Sep/22/1992	Carp, Smallmouth Bass
Shiawassee River	Oakland County, Fish Lake Road	87062	Jul/28/1987	Carp, Largemouth Bass, Rock Bass
Shiawassee River	Saginaw County below Chesaning	87064	Aug/05/1987	Carp, Rock Bass, Smallmouth Bass
Shiawassee River	Shiawassee County, Byron Road	81006	Jun/03/1981	Black Crappie, Carp, Northern Pike, Redhorse Sucker, Rock Bass, Sunfish
Shiawassee River	Shiawassee County, Byron Road	85002	Jul/17/1985	Carp, Redhorse Sucker, Rock Bass, Smallmouth Bass
Shiawassee River	Shiawassee County, New Lothrop Road	81008	Jun/03/1981	Black Crappie, Carp, Minnow, Northern hogsucker, Rock Bass, Sunfish, White Sucker
Shiawassee River	Shiawassee County, New Lothrop Road	85001	Jul/17/1985	Carp, Crappie, Rock Bass
Shiawassee River	Shiawassee County, New Lothrop Road	87066	Jul/30/1987	Carp, Northern Pike, Smallmouth Bass
Shiawassee River	Shiawassee Pond	81009	Jun/03/1981	Black Bullhead, Carp, Sunfish
Shiawassee River, South Branch	Between M59 & Byron	2004101	Jul/13/2004	Carp, Rock Bass, White Sucker
Shiawassee River, South Branch	Livingston County, Bowen Road	81002	Jun/03/1981	Black Bullhead, Minnow, Northern Pike, Sunfish, White Sucker
Shiawassee River, South Branch	Livingston County, Bowen Road	84008	Jun/02/1984	Black Crappie, Grass Pickerel, Northern Pike, Rock Bass, White Sucker
Shiawassee River, South Branch	Livingston County, Chase Lake Road	81004	Jun/03/1981	Carp, Minnow, Northern Pike, Rock Bass, Sunfish, White Sucker, Yellow Bullhead
Shiawassee River, South Branch	Livingston County, Chase Lake Road	86036	Jul/30/1986	Carp, Northern Pike, Rock Bass, White Sucker
Shiawassee River, South Branch	Livingston County, Grand River Road	81001	Jun/03/1981	Minnow, Sunfish, White Sucker
Shiawassee River, South Branch	Livingston County, Marr Road	81003	Jun/03/1981	Carp, Minnow, Northern Pike, Sunfish, White Sucker, Yellow Bullhead
Shiawassee River, South Branch	Livingston County, Marr Road	87065	Jul/29/1987	Rock Bass, White Sucker
Shiawassee River, South Branch	Livingston County, Oak Grove Road	81005	Jun/03/1981	Black Crappie, Carp, Rock Bass, White Sucker
Shupac Lake	Crawford County	89044	May/23/1989	Largemouth Bass, Rainbow Trout, Smallmouth Bass, Yellow Perch
Silver Lake	Dickinson County	2002111	Jun/19/2002	Walleye

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<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Silver Lake	Grand Traverse Co	2007251	Jun/05/2007	Walleye
Silver Lead Creek	Marquette County, K.I. Sawyer AFB	2006072	May/15/2006	Brook Trout
Siskiwit Lake	Isle Royale	87033	Jun/17/1987	Lake Trout
Siskiwit Lake	Isle Royale	93029	May/20/1993	Lake Trout, Lake Whitefish, Northern Pike
Siskiwit Lake	Isle Royale	96049	Aug/09/1996	Lake Trout
Siskiwit Lake	Isle Royale	2002105	Jun/29/2002	Lake Trout
Six Mile Lake	Charlevoix County	2003110	May/08/2003	Northern Pike
Six Mile Lake	Houghton County	95012	May/16/1995	Bluegill, Walleye
Smokey Lake	Iron County	86056	Oct/07/1986	Lake Trout, Rock Bass, Smallmouth Bass, White Sucker
South Groveland Pond	Dickinson County	2003146	Jun/04/2003	Walleye
South Lake	Washtenaw County	87020	Jun/09/1987	Largemouth Bass, Northern Pike, Rock Bass
South Lake	Washtenaw County	88062	Sep/19/1988	Largemouth Bass, Northern Pike
South Lake	Washtenaw County	89008	Jun/28/1989	Largemouth Bass, Northern Pike
South Lake	Washtenaw County	2008250	May/14/2008	Northern Pike
South Manistique Lake	Mackinac County	88034	Sep/20/1988	Rock Bass, Walleye
Sporley Lake	Marquette County	93058	Jun/01/1993	White Sucker
Sporley Lake	Marquette County	2004117	May/10/2004	Splake
Spring Brook	Kalamazoo County	1998106	Aug/19/1998	Brown Trout
Squaw Lake	Dickinson/Marquette County	89018	May/08/1989	Rainbow Trout, Splake, Yellow Perch
Squaw Lake	Dickinson/Marquette County	93059	May/18/1993	Largemouth Bass, White Sucker
St. Clair River	Algonac	86018	Jun/18/1986	Carp, Walleye
St. Clair River	Marine City	91031	May/14/1991	Walleye
St. Clair River	Marine City	2006076	May/20/2006	Carp, Walleye
St. Clair River	Port Huron	86038	Jul/31/1986	Freshwater Drum, Walleye
St. Clair River	Rivermouth, North Channel	94008	Aug/25/1994	Carp, Freshwater Drum
St. Clair River	St. Clair	85006	Oct/10/1985	Walleye
St. Joseph River	Above Niles Dam	95052	Jul/07/1995	Carp
St. Joseph River	Benton Harbor, river mouth	93034	Jun/08/1993	Carp
St. Joseph River	Berrien Springs, below Dam	84004	Oct/03/1984	Carp, Smallmouth Bass
St. Joseph River	Berrien Springs, below Dam	87096	Nov/18/1987	Carp, Smallmouth Bass, Walleye
St. Joseph River	Chapin Lake	83033	May/01/1983	Smallmouth Bass
St. Joseph River	Chapin Lake	87097	Nov/19/1987	Carp, Smallmouth Bass
St. Joseph River	Chapin Lake	95051.1	Jul/06/1995	Carp, Smallmouth Bass
St. Joseph River	Chapin Lake	2005098	Oct/27/2005	Carp, Largemouth Bass, Smallmouth Bass
St. Joseph River	Constantine Impoundment	1998110	Jun/24/1998	Channel Catfish, Redhorse Sucker
St. Joseph River	St. Joseph County, Constantine	92031	Apr/02/1992	Carp, Walleye
St. Joseph River	St. Joseph County, Three Rivers	92032	Apr/03/1992	Walleye
St. Joseph River	Sturgis Impoundment	2004119	Oct/14/2004	Carp, Largemouth Bass
St. Marys River	Michigan Waters	95046	Aug/01/1995	Northern Pike, Walleye, Yellow Perch
St. Marys River	Michigan Waters	2004120	Apr/19/2004	Northern Pike, Walleye
St. Marys River	Munuscong Bay	86045	Aug/26/1986	Northern Pike, Walleye
St. Marys River	Munuscong Bay	91021	Apr/23/1991	Walleye
St. Marys River	Munuscong Bay	95004.1	Apr/17/1995	Carp
St. Marys River	Munuscong Bay	2004149	Sep/07/2004	Northern Pike
St. Marys River	N. Drummond Island	89035	May/11/1989	Yellow Perch

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
St. Marys River	Sugar Island	87049	Sep/11/1987	Northern Pike, Walleye, White Sucker
Stanley Lake	Iron County	90013	May/31/1990	Largemouth Bass, Smallmouth Bass, Walleye
Stanley Lake	Iron County	2001143	Sep/10/2001	Walleye
Stevenson Lake	Isabella County	2002096	May/08/2002	Brown Bullhead, Largemouth Bass, Northern Pike, Yellow Bullhead
Stony Creek Impoundment	Macomb County	89025	Apr/16/1989	Crappie, Northern Pike, Walleye
Stony Creek Impoundment	Macomb County	2007253	Oct/30/2007	Northern Pike
Stony Creek Impoundment	Macomb County	2008251	Apr/16/2008	Northern Pike
Sudden Lake	Ontonagon County	2001144	Oct/03/2001	Walleye
Sullivan Creek	USFWS-Sullivan Creek Hatchery	2005124	May/03/2005	Lake Trout
Sunday Lake	Gogebic County	2003126	May/29/2003	Black Crappie, Northern Pike, Walleye, Yellow Perch
Sunset Lake	Iron County	88049	Oct/11/1988	Northern Pike, Walleye
Sylvan Lake	Newaygo County	2004141	Jun/22/2004	Largemouth Bass, Northern Pike
Sylvan/Otter Lake	Oakland Co	2008242	May/21/2008	Carp, Largemouth Bass
Tahquamenon River	Dollarville	1998114	Jul/06/1998	Walleye, White Sucker
Tahquamenon River	Luce County, Slater's Landing	88028	Aug/08/1988	Northern Pike, Walleye
Tahquamenon River	Luce County, Slater's Landing	2005105	Jul/14/2005	Walleye, Yellow Perch
Tank Lake	Luce Co.	2008255	May/28/2008	Splake
Tannery Creek	Emmet County	87058	Jul/21/1987	Brook Trout
Tawas Lake	Iosco County	2006500	May/17/2006	Black Crappie
Tawas River	Iosco County	88058	Oct/14/1988	Northern Pike, White Sucker
Teal Lake	Marquette County	2004122	May/11/2004	Smallmouth Bass, Walleye
Teal Lake	Marquette County	2005106	Jun/01/2005	Walleye
Tepee Lake	Iron County	2003145	Jun/19/2003	Northern Pike
Terry Lake	Oakland County	1999064	Jul/07/1999	Carp, Largemouth Bass
Thompson Lake	Livingston County	86010	Jun/03/1986	Carp, Northern Pike, Yellow Perch
Thompson Lake	Livingston County	95038	Jun/13/1995	Black Crappie, Carp
Thompson Lake	Livingston County	2005107	May/18/2005	Black Crappie, Carp, Northern Pike
Thompson Lake	St. Joseph County	2002036	Jun/25/2002	Brown Bullhead, Largemouth Bass
Thornapple River	Ada Impoundment	2005130	Jul/19/2005	Carp, Smallmouth Bass
Thornapple River	Cascade Impoundment	2005131	Jul/19/2005	Smallmouth Bass
Thornapple River	d/s Nashville	2006100	Jun/14/2006	White Sucker
Thornapple River	Gresham Highway	1998117	Jul/02/1998	White Sucker
Thornapple River	LaBarge Impoundment	2006102	Jun/20/2006	Carp
Thornapple River	Middleville Impoundment	2006101	Jun/14/2006	White Sucker
Thornapple River	Thornapple Lake, Barry County	93016	May/12/1993	Largemouth Bass, Redhorse Sucker
Thornapple River	Thornapple Lake, Barry County	2006081	Apr/12/2006	Largemouth Bass
Thousand Island Lake	Gogebic County, Cisco Lake Chain	1999065	Apr/23/1999	Walleye
Thread Creek	Genesee County	93017	Aug/30/1993	Carp, Northern Pike
Thread Creek	Thread Lake	2000092	Sep/28/2000	Carp, Largemouth Bass
Three Mile Lake	Van Buren County	2007264	May/16/2007	Northern Pike
Thumb Lake	Charlevoix Co.	2008257	May/20/2008	Largemouth Bass, Smallmouth Bass
Thunder Bay River	4-Mile Pond	2006082	May/25/2006	Smallmouth Bass
Thunder Bay River	Alpena County, Lake Besser	89052	Jun/29/1989	Carp, Redhorse Sucker, Smallmouth Bass, Walleye

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION INVENTORY

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Thunder Bay River	Alpena County, Lake Besser	2006083	May/24/2006	Brown Bullhead, Smallmouth Bass
Thunder Bay River	Seven Mile Pond	2002097	Oct/15/2002	Brown Bullhead, Largemouth Bass
Thunder Bay River	Seven Mile Pond	2009231	May/12/2009	Smallmouth Bass
Tittabawassee River	Midland County, below Dow Dam	84010	Apr/03/1984	Carp, Walleye, White Sucker
Tittabawassee River	Midland County, below Dow Dam	87002	Apr/07/1987	Walleye
Tittabawassee River	Midland County, below Dow Dam	92064	Oct/30/1992	Carp, Walleye
Tittabawassee River	Midland County, below Dow Dam	95013	Apr/06/1995	White Bass, White Sucker
Tittabawassee River	Midland County, below Dow Dam	1999066	May/26/1999	Carp, Smallmouth Bass
Tittabawassee River	Midland County, below Dow Dam	2000093	Jul/05/2000	Smallmouth Bass, Walleye
Tittabawassee River	Midland County, Smiths Crossing Road	85015	Apr/17/1985	Walleye
Tittabawassee River	Midland County, Smiths Crossing Road	85016	May/23/1985	Black Crappie, Northern Pike, Smallmouth Bass, White Bass
Tittabawassee River	Midland County, Smiths Crossing Road	85017	Jul/16/1985	Walleye
Tittabawassee River	Midland County, Smiths Crossing Road	2003132	Apr/02/2003	Carp, Channel Catfish, Smallmouth Bass, Walleye, White Bass
Tittabawassee River	Sanford Lake	89004	Apr/07/1989	Black Crappie, Northern Pike, Walleye
Tittabawassee River	Sanford Lake	1999081	May/20/1999	Black Crappie, Channel Catfish, Rock Bass
Tittabawassee River	Sanford Lake	2007255	May/15/2007	Channel Catfish
Tobico Marsh	Bay County	96054	May/21/1996	Carp, Northern Pike
Tobico Marsh	Bay County	2007256	May/30/2007	Carp, Largemouth Bass, Northern Pike
Todd Lake	Osceola County	87041	Jul/02/1987	Largemouth Bass, Northern Pike
Torch Lake	Antrim County	91035	Sep/11/1991	Lake Trout, Smallmouth Bass
Torch Lake	Antrim County	93085	Nov/03/1993	Brown Trout, Lake Trout
Torch Lake	Antrim County	94054	Jul/15/1994	Lake Whitefish
Torch Lake	Antrim County	2000125	Mar/07/1996	Lake Trout
Torch Lake	Antrim County	2001110	Oct/08/2001	Lake Whitefish, Yellow Perch
Torch Lake	Antrim County	2009300	Mar/15/2009	Lake Trout, Rainbow Trout
Torch Lake	Houghton County	88015	Aug/23/1988	Northern Pike, Smallmouth Bass, Walleye
Torch Lake	Houghton County	2000096	May/03/2000	Northern Pike, Smallmouth Bass, Walleye
Torch Lake	Houghton County	2007257	Apr/25/2007	Northern Pike, Walleye, White Sucker
Tucker Lake	Leelanau County	2005127	Jun/03/2005	Brown Bullhead
Twin Lake	Luce Co	2009233	Jun/22/2009	Northern Pike
Union Lake	Branch County	91026	Jun/12/1991	Carp, Channel Catfish, Crappie, Northern Pike
Union Lake	Branch County	2003135	Jun/17/2003	Carp, Channel Catfish, Largemouth Bass, Walleye
Union Lake	Oakland County	2002100	May/29/2002	Largemouth Bass, Smallmouth Bass
Unnamed Lake	Baraga County	2005108	Jun/06/2005	Largemouth Bass, Northern Pike, Yellow Perch
Unnamed Lake	Washtenaw County	89007	May/02/1989	Bullhead, Largemouth Bass
Van Auken Lake	Van Buren County	2004125	Mar/23/2004	Northern Pike
Van Etten Lake	Iosco County, Oscoda	90010	Jun/06/1990	Carp, Channel Catfish, Walleye

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Vandercook Lake	Jackson County	88042	Sep/27/1988	Carp
Vermilac Lake	Baraga County	88029	May/16/1988	Northern Pike, Yellow Perch
Vermilac Lake	Baraga County	2001135	Oct/04/2001	Walleye
W. Branch Maple River	Emmet County	1998070	Jul/28/1998	Brown Trout, White Sucker
Wabascon Creek	Bedford	1998133	May/18/1998	Rock Bass, White Sucker
Wabasis Lake	Kent County	90047	Sep/25/1990	Largemouth Bass, Northern Pike
Walkup Lake	Newaygo County	1999075	Jun/21/1999	Bluegill
Walled Lake	Oakland County	88031	Aug/24/1988	Carp, Northern Pike
Walloon Lake	Charlevoix County	87023	Jun/04/1987	Smallmouth Bass
Walloon Lake	Charlevoix County	2000099	Oct/10/2000	Rock Bass, White Sucker, Yellow Bullhead, Yellow Perch
Walloon Lake	Charlevoix County	2006086	Apr/18/2006	Brown Bullhead, Northern Pike, Rainbow Trout, Smallmouth Bass, Walleye, White Sucker
Wamplers Lake	Jackson/Lenawee County	89040	May/19/1989	Black Crappie, Largemouth Bass, Northern Pike
Wamplers Lake	Jackson/Lenawee County	94055	Oct/17/1994	Largemouth Bass, Northern Pike
Wells Lake	Osceola County	2006088	Jun/01/2006	Northern Pike
White Lake	Muskegon County	80001	Jul/02/1980	Carp, Largemouth Bass, Northern Pike, Redhorse Sucker, Smallmouth Bass, White Sucker, Yellow Perch
White Lake	Muskegon County	84001	Jul/24/1984	Carp, Northern Pike, Redhorse Sucker, Smallmouth Bass, Walleye
White Lake	Muskegon County	87057	Jul/14/1987	Smallmouth Bass, Walleye
White Lake	Muskegon County	91046	Aug/21/1991	Carp, Walleye
White Lake	Muskegon County	2004126	Sep/13/2004	Carp, Smallmouth Bass, Walleye
White Lake	Muskegon County	2007258	Jun/12/2007	Carp, Northern Pike
White Lake	Oakland Co.	2001111	Oct/18/2001	Brown Bullhead, Rock Bass
White Lake	Oakland Co.	2007259	Jun/05/2007	Walleye
Whitmore Lake	Livingston County	92038	Jun/09/1992	Carp, Largemouth Bass, Northern Pike
Whitmore Lake	Livingston County	2008260	May/28/2008	Carp, Northern Pike
Wixom Lake	Gladwin County	2002102	May/16/2002	Channel Catfish, Northern Pike
Wolf Creek	Montcalm County, Grove Road	2000103	Sep/18/2000	White Sucker
Wolf Creek	Montcalm County, Vickeryville Road	92015	Jun/01/1992	Brown Trout, Rock Bass
Woodland Lake	Livingston County	2000104	May/02/2000	Carp, Largemouth Bass

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION - 2009 REPORT SAMPLE SITES

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Au Sable River	Mio Dam Pond	2009200	Jun/09/2009	Northern Pike
Avery Lake	Montmorency County	2009234	May/20/2009	Largemouth Bass
Bad River	Saginaw County	2008203	Apr/10/2008	Northern Pike
Baseline Lake	Livingston/Washtenaw County	2009201	May/06/2009	Carp, Largemouth Bass
Big Crooked Lake	Van Buren Co	2009203	May/27/2009	Largemouth Bass
Boardman River	Brown Bridge Pond	2007301	May/23/2007	Northern Pike, White Sucker
Bobcat Lake	Gogebic Co.	2009204	Jun/04/2009	Northern Pike
Bodi Lake	Luce Co.	2009205	Jun/30/2009	Northern Pike
Campbell Lake	Kent Co.	2006005	Jul/01/2006	Largemouth Bass
Chaney Lake	Gogebic County	2009206	Jun/02/2009	Northern Pike
Chicagon Lake	Iron County	2008208	May/14/2008	Walleye
Clear Lake	St. Joseph Co.	2009208	May/05/2009	Northern Pike
Clearwater Lake	Gogebic Co.	2009209	May/05/2009	Northern Pike
Crooked Lake	Alcona County	2009210	Jun/10/2009	Walleye
Crooked Lake	Baraga County	2006120	Jun/18/2006	Largemouth Bass
Deer Lake	Iron County	2006011	Jun/08/2006	Northern Pike
Detroit River	Michigan waters	2009400	May/07/2009	Lake Sturgeon
Dodge Lake	Schoolcraft County	2006121	Jun/14/2006	Largemouth Bass, Northern Pike
Eel Lake	Gogebic Co.	2009211	Jun/10/2009	Black Crappie
Engman Lake	Marquette County	2006013	Jun/06/2006	Northern Pike
Fish Lake	Marquette County	2009212	Jun/09/2009	Northern Pike
Glen Lake	Leelanau County	2009236	Jun/01/2009	Lake Trout, Northern Pike
Horseshoe Lake	Ogemaw Co.	2009235	May/27/2009	Largemouth Bass
Indian Lake	Iron Co	2008224	May/06/2008	Northern Pike
Johnson Lake	Marquette CO	2008225	Jun/26/2008	Northern Pike
Kingston Lake	Alger County	2008750	May/05/2008	Largemouth Bass
Lake Fannie Hooe	Keweenaw Co	2007225	May/22/2007	Smallmouth Bass, Walleye
Lake Huron	Black River	2009217	Oct/08/2009	Chinook
Lake Huron	Swan River	2009310	Oct/07/2009	Chinook
Lake Michigan	Grand Traverse Bay	2009309	Oct/29/2009	Lake Trout
Lake Michigan	Platte River	2009218	Oct/06/2009	Chinook, Coho
Lake Michigan	St. Joseph River, Berrien Springs	2009219	Oct/01/2009	Chinook
Lake Orion	Oakland County	2009220	Apr/23/2009	Carp
Lake Superior	Tahquamenon River	2008254	Apr/18/2008	Walleye
Mary Lake	Dickinson County	2008236	Jul/10/2008	Largemouth Bass
Michigamme River	Michigamme Reservoir	2008237	Jun/29/2008	Northern Pike, Walleye
Monacle Lake	Chippewa Co.	2009222	Jun/10/2009	Walleye
Mullett Lake	Cheboygan County	2009238	Apr/05/2009	Smallmouth Bass
Muskallonge Lake	Luce County	2008751	May/05/2008	Walleye
Nawakwa Lake	Alger County	2008241	Jun/10/2008	Rock Bass, Walleye
Payne Lake	North of Gun Lake	2009223	May/06/2009	Northern Pike
Pere Marquette Lake	Mason County	2007245	Jun/20/2007	Northern Pike
Pike Lake	Houghton Co	2007246	May/15/2007	Northern Pike
Portage Lake	Washtenaw/Livingston County	2009225	May/20/2009	Carp, Walleye
Rifle River	Arenac County	2009229	Jul/13/2009	Redhorse Sucker, Rock Bass
South Lake	Washtenaw County	2008250	May/14/2008	Northern Pike
St. Clair River	Marine City	2006076	May/20/2006	Carp, Walleye
Tank Lake	Luce Co.	2008255	May/28/2008	Splake
Tawas Lake	Iosco County	2006500	May/17/2006	Black Crappie

MICHIGAN FISH CONTAMINANT MONITORING - EDIBLE PORTION - 2009 REPORT SAMPLE SITES

<u>Waterbody</u>	<u>Location</u>	<u>Visit ID#</u>	<u>Date</u>	<u>Species</u>
Thumb Lake	Charlevoix Co.	2008257	May/20/2008	Largemouth Bass, Smallmouth Bass
Thunder Bay River	Seven Mile Pond	2009231	May/12/2009	Smallmouth Bass
Twin Lake	Luce Co	2009233	Jun/22/2009	Northern Pike
Wells Lake	Osceola County	2006088	Jun/01/2006	Northern Pike