

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISION
JUNE 2015

STAFF REPORT

MICHIGAN BEACH MONITORING
YEAR 2014 ANNUAL REPORT

INTRODUCTION

The Michigan Department of Environmental Quality (MDEQ) Surface Water Quality Monitoring Program is summarized in the January 1997 report entitled, "A Strategic Environmental Quality Monitoring Program for Michigan's Surface Waters" (Strategy) (MDEQ, 1997). The objectives of the beach monitoring component of the Strategy are listed below:

1. Assist local health departments to implement and strengthen beach monitoring programs.
2. Create and maintain a statewide database.
3. Determine whether waters of the state are safe for total body contact recreation.
4. Compile data to determine overall water quality.
5. Evaluate the effectiveness of MDEQ programs in attaining Water Quality Standards (WQS) for pathogen indicators.

1. ASSIST LOCAL HEALTH DEPARTMENTS TO IMPLEMENT AND STRENGTHEN BEACH MONITORING PROGRAMS

Beach Monitoring

The monitoring of beaches in Michigan is voluntary and is conducted by the local health departments. Health departments are required to comply with Michigan's WQS according to R 333.12544 of the Public Health Code, 1978 PA 368 (Act 368), as amended. According to R 333.12541 of Act 368, a local health officer or an authorized representative of a local health department that conducts tests at bathing beaches is required to notify the MDEQ and other entities of the test results within 36 hours of conducting a test or evaluation. This rule also states that the local health department may petition the circuit court for an injunction ordering the owners of a beach to close the beach. Owners of public bathing beaches must post a sign that states whether or not the bathing beach has been tested, and if so, where the test results may be accessed.

The MDEQ awards grants to local health departments to monitor and report levels of *E. coli* in the swimming areas of public beaches. In selecting recipients for grant awards, the MDEQ considers all of the following:

- Location and frequency of beach use.
- History of beach monitoring and bacterial contamination.
- Ability to communicate results to the public in an efficient manner.
- Ability to respond and take appropriate action in the event of beach contamination.
- Proximity of beach to a known bacterial contamination source.
- Innovativeness and feasibility of proposed project.
- Ability to reduce time delay between sampling and results.

Funding for Beach Monitoring

Prior to 2000, health departments relied on local funding to conduct beach monitoring programs. Local funding was often not sufficient to execute a comprehensive statewide monitoring program. Beginning in 2000, funding became available from the Clean Michigan Initiative-Clean Water Fund (CMI-CWF). In 2003, the United States Environmental Protection Agency (USEPA) also began awarding funds from the Beaches Environmental Assessment and Coastal Health Act (BEACH Act) for monitoring Great Lakes beaches. In 2010 and 2012, the MDEQ received funds from the Great Lakes Restoration Initiative (GLRI) to monitor, conduct routine and annual sanitary surveys, develop forecast tools to open or close beaches in real-time, use source tracking tools to identify sources of pollution that contaminate beach water quality, and remediate sources of pollution as they are identified.

CMI-CWF Grants

The MDEQ currently distributes CMI-CWF funds to aid in the development and implementation of inland lake beach monitoring programs throughout the state. In 2000 and 2001, CMI-CWF funds were distributed for inland lakes and Great Lakes beach monitoring programs. In 2002, no CMI-CWF funds were distributed, but future funding was designated for inland beaches only due to the availability of BEACH Act funding for Great Lakes beaches.

The CMI-CWF grant funds are awarded by the MDEQ to local health departments and nonprofit entities, which include county, city, township, and village agencies, watershed and environmental action councils, universities, regional planning agencies, and incorporated nonprofit organizations. The majority of grants are awarded to local health departments. If a group other than a local health department is awarded a grant, the MDEQ requires the group to work closely with their local health department.

The CMI-CWF offers reliable funding for the monitoring of surface water over a period of approximately 15 years. Since 2000, the MDEQ has awarded \$1,512,205, including 15 awards totaling \$200,000 (Appendix A) for monitoring beaches in 2013 and 2014.

BEACH Act Grants

The MDEQ distributes BEACH Act funds to aid in the development and implementation of Great Lakes beach monitoring programs. State, local, and tribal governments having coastal waters are eligible to apply for the BEACH Act grants. The USEPA (2014) revised the performance criteria that must be met by grant recipients. Since the BEACH Act was initiated in 2003, the MDEQ has allocated \$2,974,386 including 10 awards totaling \$52,000 and a supplement from state funds of \$50,000 for 21 awards (Appendix B) for monitoring beaches in 2014. In addition, \$100,000 of federal grant funding was used for the purchase of rapid testing equipment.

GLRI Grants

The MDEQ received GLRI funds in 2012 for the restoration of Sherman Park Beach in Sault Ste. Marie, Chippewa County. This project is scheduled for completion in 2015.

CREATE AND MAINTAIN A STATEWIDE DATABASE

The MDEQ developed a centralized statewide database, BeachGuard, which includes beach locations and maps, beach monitoring *E. coli* test results, notification data, and routine sanitary

survey data. These data are available electronically to the public via the MDEQ's Web site (<http://www.deq.state.mi.us/beach/>).

The Web site provides the following information about individual beaches:

- location information (county, water body, and coordinates for latitude and longitude)
- frequency of testing
- monitoring history
- beach closures
- monitoring efforts
- search tools
- options for data export
- information for beach monitoring procedures and methods
- additional links to beach monitoring resources
- contact information for federal, state, and local beach monitoring staff

BeachGuard is also connected to a beach application for mobile phones that was created by the Great Lakes Commission. The beach application is called *MyBeachCast* and retrieves beach locations and their status from BeachGuard. The beach application is available from (*link broken, removed*) and a mobile-enhanced Web site is available on the Great Lakes Information Network (*link broken, removed*) that offers information for Web viewers, iPhones, and other mobile devices.

2. DETERMINE WHETHER WATERS OF THE STATE ARE SAFE FOR TOTAL BODY CONTACT RECREATION

Pathogens

Pathogens are microorganisms (bacteria, protozoans, or viruses) that cause disease. Most waterborne pathogens are readily found in the feces of humans and other warm-blooded animals. Gastroenteritis is the most common illness associated with swimming in contaminated water, although other illnesses can occur. The severity of the disease or illness depends on the amount of exposure and the type of pathogen (Appendix C) (USEPA, 2001). The USEPA (1986 and 2012) has determined that *E. coli* and *Enterococci* are appropriate indicators for the presence of waterborne pathogens in fresh water.

Routine Sanitary Surveys

As part of the BEACH Act, local health departments conducted 1,001 routine sanitary surveys at 91 Great Lakes beaches and access points to identify sources of pollution that adversely impact beach water quality. Corrective actions have been taken as sources of pollution have been identified. In addition, local health departments conducted 858 routine sanitary surveys at 105 inland locations to identify sources of pollution that adversely impact beach water quality at inland lakes. Data for routine sanitary surveys for all of these beaches and locations are available on BeachGuard.

Sources of Bacterial Contamination

Combined Sewer Overflows (CSOs) are discharges of raw or inadequately treated sewage from sewer systems that are designed to carry both domestic sewage and storm water to wastewater treatment plants (WWTPs). When a storm event occurs and the volume of wastewater is larger than the WWTP can process, the excess untreated sewage and storm water are discharged into local waterways.

Sanitary Sewer Overflows are discharges of raw or inadequately treated sewage (MDEQ, 2015) from municipal sanitary sewer systems, which are designed to carry domestic sanitary sewage but not storm water. Systems that contain cracks, obstructions, storm water connections, or that are undersized with sewers and pumps too small to carry all the sewage may leak or overflow raw sewage from manholes, bypass pump stations, and WWTPs into the surrounding waters, particularly during extreme hydrologic events.

Failing septic systems can cause leaching and/or runoff into the waterways, causing bacterial contamination. Urban storm water runoff from roads, roofs, construction sites, parking lots, etc., may contain fecal matter from pets and wildlife. Excessive waterfowl near the beaches and animal waste runoff from farms and fields can contribute to elevated bacterial levels. Illicit connections of pipes containing sewage to storm sewers or surface waters are also a potential source of bacterial contamination.

E. coli WQS

The MDEQ requires beaches to be monitored according to 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, as follows:

R 323.1062 Microorganisms

Rule 62(1): All waters of the state protected for total body contact recreation shall not contain more than 130 *E. coli* per 100 milliliters (ml), as a 30-day geometric mean. Compliance shall be based on the geometric mean of all individual samples taken during 5 or more sampling events representatively spread over a 30-day period. Each sampling event shall consist of 3 or more samples taken at representative locations within a defined sampling area. At no time shall the waters of the state protected for total body contact recreation contain more than a maximum of 300 *E. coli* per 100 ml. Compliance shall be based on the geometric mean of 3 or more samples taken during the same sampling event at representative locations within a defined sampling area.

All surface waters of the state are protected for total body contact according to the Part 4 rules, as follows:

R 323.1100 Designated Uses

Rule 100(2): All surface waters of the state are designated and protected for total body contact recreation from May 1 to October 31 in accordance with the provisions of R 323.1062. Total body contact recreation immediately downstream of wastewater discharges, areas of significant urban runoff, CSOs, and areas influenced by certain agricultural practices is contrary to prudent public health and safety practices, even though WQS may be met.

Beach Notification

The public will be warned of unsafe water conditions by beach notifications such as advisories or closures (collectively referred to as an action). These actions are based on beach data, which can show risks due to riptides, spills, harmful algal blooms, an *E. coli* result exceeding the WQS, or other potential threats to public health. Advisories or closures are most commonly issued because of elevated counts of *E. coli* in water samples collected from the shoreline of a water body. Health departments use the daily and 30-day geometric mean to determine if a beach closure or advisory should be issued. The health department notifies the owner of the beach when a beach should be closed. If necessary, the health department can petition the

court for an injunction to force the owner to close the beach. The beach closure or advisory remains in effect until additional tests meet the WQS.

The MDEQ developed a centralized statewide database, BeachGuard, which includes bathing beach monitoring *E. coli* test results and notification data. These data are available electronically to the public via BeachGuard (<http://www.deq.state.mi.us/beach/>).

Reporting Beach Monitoring and Notification Data

According to R 333.12541(2), all local health departments are required to report their beach monitoring test results to the MDEQ within 36 hours of conducting the test or evaluation. Health departments receiving beach monitoring grants are required to enter their data on the MDEQ's Web site, while non-grant receiving health departments are encouraged to report their data on the Web site.

As a requirement of the BEACH Act, the MDEQ submits beach monitoring data to the USEPA. The USEPA has created several Web pages for beach information that can be found at <http://water.epa.gov/type/oceb/beaches/>, along with an online directory of information regarding the water quality at our nation's beaches entitled, "Beach Advisory Closing On-line Notification," that can be found at <http://watersgeo.epa.gov/beacon2/>.

3. COMPILE DATA TO DETERMINE OVERALL WATER QUALITY

List of Beaches

Michigan beaches identified by local health departments and the MDEQ are listed in Appendices D.1 (Inland lakes-monitored), D.2 (Inland lakes-not monitored), E.1 (Great Lakes-monitored), and E.2 (Great Lakes-not monitored). They are also listed on the MDEQ's beach Web site. The beaches are arranged alphabetically by county, then water body, then location (site name). There are 602 identified public beaches on inland lakes and rivers and 615 identified public beaches on the Great Lakes.

Synopsis of Data

Monitoring and notification data reported for beaches included results of *E. coli* tests, number of advisories or closures (actions) posted, and the number of days for each posting. In 2014, monitoring was conducted at 334 public beaches in 44 counties. Local beach managers collected 3,345 daily water samples and 129 (3.9 percent) exceeded Michigan's WQS (Appendices F.1 and F.2). A numerical summary of all monitored public beaches and samples exceeding WQS is found below in Table 1. The number and percent of samples exceeding WQS in 2014 are similar to the previous years.

Table 1. Number and percent of monitored public beaches and water samples in Michigan exceeding the daily geometric mean of 300 *E. coli* per 100 ml.

Year	2008	2009	2010	2011	2012	2013	2014
Number of Beaches with Exceedances	75	83	108	124	114	98	76
Percent of Beaches with Exceedances	15.8	20	25	30	27	23.7	22.8
Number of Samples Exceeding WQS	154	212	209	266	224	162	129
Percent of Samples Exceeding WQS	2.8	3.6	4.0	4.3	3.9	3.3	3.9

Notification data in 2014 for beach actions are shown in Table 2. A total of 260 of the 334 public beaches (77.8 percent) that were monitored were open during the entire swimming season. The number of beaches reporting an action was 74 and is similar to the previous year. However, the percentage of beaches reporting an action increased slightly in 2014 primarily due to fewer beaches monitored. Typically, over 400 beaches are monitored whereas 334 beaches were monitored in 2014. The number of beaches with exceedances differed from the number of beaches with actions due to any of the following reasons: (1) water samples were tested before or after the swimming season; (2) delays in receiving test results; (3) a second test (follow-up sample) was used to confirm an exceedance; (4) preemptive closures or advisories were issued; or (5) contamination advisories were issued for potential chemical or oil discharge.

Table 2. Summary of monitored beaches with and without actions.

Year	2008	2009	2010	2011	2012	2013	2014
Total Actions For All Beaches	108	125	152	165	166	112	112
Total of Monitored Beaches with an Action	69	82	103	111	112	84	74
Percent of Monitored Beaches with an Action	14.8	19.8	24.3	27	26	20	22.2
Total of Monitored Beaches with no Action	398	332	327	304	311	329	260
Percent of Monitored Beaches with no Action	85.2	80.2	75.7	73	74	80	77.8

Synopsis of Data from Great Lakes Beaches

In 2014, 1,722 daily samples were collected at 160 Great Lakes public beaches in 29 counties in Michigan. A summary of WQS exceedances and closures/advisories for Great Lakes beaches is provided in Table 3. Exceedances and actions for Great Lakes beaches were of short duration. The number of monitored Great Lakes beaches has decreased from previous years, but the number of beaches with an action has remained about the same (Table 4).

Table 3. Number of exceedances and actions for Great Lakes beaches monitored in 2014.

a. Number of Exceedances Reported per Beach	b. Number of Beaches with Exceedance(s)	Total Number of Exceedances (a x b)	c. Number of Closures or Advisories per Beach	d. Number of Beaches with Closures or Advisories	Total Number of Closures or Advisories (c x d)
1	35	35	1	32	32
2	9	18	2	12	24
3	1	3	3	2	6
4	3	12	4	2	8
6	3	18	6	1	6
8	1	8	7	1	7
TOTAL	52	94	TOTAL	50	83

Table 4. Number of monitored Great Lakes beaches with and without an action.

Year	2008	2009	2010	2011	2012	2013	2014
GL Monitored Beaches with an Action	26	41	60	89	89	54	50
GL Monitored Beaches with no Action	182	184	164	173	171	185	110
Total GL Monitored Beaches	208	225	224	262	260	239	160

A summary of the 2014 beach action data for each of the Great Lakes, Lake St. Clair, and connecting channels is provided in Table 5. A summary of sources of contamination reported for actions in the Great Lakes, Lake St. Clair, and connecting channels is provided in Table 6.

Table 5. Data summary for the Great Lakes, Lake St. Clair, and connecting channels.

Summary	Lake Erie	Lake Huron	Lake Michigan	Lake Superior	Lake St. Clair	Great Lakes Connecting Channels	Total
Number of Public Beaches	2	168	306	121	4	14	615
Number of Monitored Beaches	2	59	83	6	4	6	160
Number of Beaches with Exceedance	1	27	20	0	4	0	52
Number of Exceedances	1	43	28	0	22	0	94
Number of Beaches with an Action	1	26	20	0	3	0	50
Number of Actions	1	41	24	0	17	0	83
Total Number of Days with Actions	2	203	51	0	39	0	295

Table 6. Contamination sources reported for advisories and closures, days affected, and the number of beaches for the Great Lakes, Lake St. Clair, and connecting channels for the specific cause of the beach action.

Contamination Source	Number of Actions with Reporting Source	Number of Days Affected by Source	Number of Beaches Reporting Source
Storm Water	16	99	14
Runoff	5	5	3
Sanitary Sewer Overflow	2	2	2
Wildlife	1	1	1
Other	1	1	1
Unknown	58	187	36
TOTAL	83	295	57*

*Multiple sources reported for some beaches.

Synopsis of Data from Inland Beaches

In 2014, 1,623 daily samples were collected at 174 inland lake public beaches in 32 counties in Michigan. Of the 24 beaches that reported actions, 2 beaches contributed 42.5 percent of the total days impacted by an action. The remaining 22 beaches issued an action lasting 1 to 10 days and contributed 57.5 percent of the total days impacted by an action.

A summary of WQS exceedances and closures/advisories for inland beaches is provided in Table 7. As seen with Great Lakes Beaches, exceedances and actions for inland beaches were of short duration. The number of monitored inland beaches varies by year and Table 8 shows the number of beaches with an action was about the same in 2014 as compared to previous years. A summary of sources of contamination reported for beach actions for inland lakes is provided in Table 9.

Table 7. Number of exceedances and actions for inland beaches monitored in 2014.

a. Number of Exceedances Reported per Beach	b. Number of Beaches with Exceedance(s)	Total Number of Exceedances (a x b)	c. Number of Actions per Beach	d. Number of Beaches with Actions	Total Number of Actions (c x d)
1	18	18	1	20	20
2	3	6	2	3	6
3	2	6	3	1	3
5	1	5	0	0	0
TOTAL	24	35	TOTAL	24	29

Table 8. Number of monitored inland lake beaches with and without an action.

Year	2008	2009	2010	2011	2012	2013	2014
Inland Lake Monitored Beaches with an Action	43	41	43	22	26	28	24
Inland Lake Monitored Beaches with no Action	216	148	163	131	137	146	150
Total Inland Lake Monitored Beaches	259	189	206	153	163	174	174

Table 9. Contamination sources reported for actions, days affected, and the number of beaches reporting the specific cause of an action for inland lakes.

Contamination Source	Number of Actions Reporting Source	Number of Days Affected by Source	Number of Beaches Reporting Source
Storm Water	8	54	7
Runoff	8	14	7
Wildlife	3	5	3
Unknown	10	47	9
TOTAL	29	120	26*

*Multiple sources reported for some beaches.

4. EVALUATE THE EFFECTIVENESS OF MDEQ PROGRAMS IN ATTAINING WQS FOR PATHOGEN INDICATORS

Beach Water Quality Data that do not Meet WQS

Water quality protection continues to be a great concern in Michigan and depends on the collective efforts of multiple pollution prevention programs. As part of the beach monitoring program, health departments and the MDEQ routinely review beach water quality data. This information is used in federal, state, and local pollution prevention programs to determine which water bodies are not meeting WQS and to help identify sources of pollution that affect beach water quality.

Section 303(d) of the federal Clean Water Act and the USEPA's Water Quality Planning and Management Regulations (Title 40 of the Code of Federal Regulations, Part 130) require states to develop Total Maximum Daily Loads (TMDLs) for water bodies that are not meeting WQS. The TMDL process establishes the allowable loadings of pollutants to a water body based on the relationship between pollution sources and water quality conditions. TMDLs provide a basis for determining the pollutant reductions necessary from both point and nonpoint sources to restore and maintain the quality of the water resources.

Waters associated with public beaches are considered to not be attaining WQS when *E. coli* monitoring data collected by county health departments during the total body contact recreation season of May 1 to October 31 (as described by R 323.1100(2)) meet one or more of the following decision elements:

- Ten percent of the monthly geometric mean samples exceed the monthly geometric mean WQS of 130 *E. coli* per 100 ml based on weekly samples collected over a minimum of 5 weeks.
- Ten percent of the daily geometric mean samples exceed the daily maximum WQS of 300 *E. coli* per 100 ml based on weekly samples collected over a minimum of 5 weeks.
- Two or more sample results collected at any time during the total body contact recreation season of May 1 to October 31 exceed the partial body WQS of 1,000 *E. coli* per 100 ml.

The water bodies that exceed WQS and require a TMDL are placed on the Section 303(d) list and TMDL development schedule. A water body is not placed on the TMDL development schedule if a remedial action plan is already in place. The beaches that exceed WQS per the decision elements are listed on the Section 303(d) list, which is available in the most recent "Water Quality and Pollution Control in Michigan Sections 303(d), 305(b), and 314 Integrated Report."

Prepared by: Allison Snider, Student Intern
Surface Water Assessment Section
Water Resources Division

Shannon Briggs, Ph.D.
Surface Water Assessment Section
Water Resources Division

REFERENCES

- MDEQ. 1997. A Strategic Environmental Quality Monitoring Program for Michigan's Surface Waters. Michigan Department of Environmental Quality. Staff Report #MI/DEQ/SWQ-96/152. January 1997.
- USEPA. 1986. Ambient Water Quality Criteria for Bacteria-1986. EPA 440/5-84/002.
- USEPA. 2001. Protocol for Developing Pathogen TMDLs. January 2001. EPA 84/R-00-002.
- USEPA. 2012. Recreational Water Quality Criteria. EPA-820-F-12-058
- USEPA. 2014. National Beach Guidance and Required Performance Criteria for Grants. EPA-823-B-14-001.
- MDEQ. 2015. Sanitary Sewer Discharge Information. <http://www.deq.state.mi.us/csosso/>.

Appendix A. CMI-CWF Grants for Inland Lake Beaches 2013-2014.

2013-2014 CMI-CWF Grantees	Granted Amount	Total Monitored Beaches
Barry-Eaton District Health Department	\$9,064.32	4
Chippewa County Health Department	\$8,300.00	3
District Health Department #2	\$21,304.00	20
District Health Department #4	\$8,300.00	3
Health Department of Northwest Michigan	\$20,540.00	19
Luce-Mackinac-Alger-Schoolcraft District Health Department	\$8,300.00	3
Macomb County Health Department	\$7,534.00	2
Oakland County Health Department	\$40,430.00	45
Ottawa County Health Department	\$11,360.00	7
Public Health Muskegon County	\$11,999.68	15
Washtenaw County Health Department	\$7,654.00	5
Watershed Center Grand Traverse Bay	\$13,654.00	5
Wayne County Health Department	\$10,594.00	6
Western UP District Health Department	\$9,778.00	6
Wexford County Drain Commission	\$11,188.00	6
Total	\$200,000.00	149

Appendix B. 2014 BEACH Act Grants for Great Lakes Beaches.

Local Health Department	Allocated Amount
Allegan County Health Department	\$1,669
Bay County Health Department	\$1,501
Berrien County Health Department	\$5,612
Central Michigan District Health Department	\$12,909
Chippewa County Health Department	\$4,269
Delta-Menominee District Health Department	\$1,334
District Health Department #2	\$10,016
District Health Department #4	\$5,276
District Health Department #10	\$4,187
Huron County Health Department	\$2,844
Luce-Mackinac-Alger-Schoolcraft District Health Department	\$7,541
Marquette (City of Marquette)	\$1,501
Monroe County Health Department	\$5,234
Muskegon County Health Department	\$2,844
Northwest Michigan Community Health Agency	\$5,866
Ottawa County Health Department	\$4,773
St. Clair County Health Department	\$16,180
Sanilac County Health Department	\$1,501
Van Buren/Cass District Health Department	\$1,334
Wayne County Health Department	\$3,100
Western Upper Peninsula District Health Department	\$2,509
Total	\$102,000

Appendix C. Waterborne Pathogens

Pathogen		Disease	Effects
Bacteria	Escherichia coli (enteropathogenic)	Gastroenteritis	Vomiting, diarrhea, death in susceptible populations
	Helicobacter pylori	Gastritis	Diarrhea. Peptic ulcers are a long-term sequela
	Legionella pneumophila	Legionellosis	Acute respiratory illness
	Leptospira	Leptospirosis	Jaundice, fever
	Pseudomonas	Infections in immunocompromised individuals	Urinary tract infections, respiratory system infections, dermatitis, soft tissue infections, bacteremia, and a variety of systemic infections
	Salmonella typhi	Typhoid fever	High fever, diarrhea, ulceration of the small intestine
	Salmonella	Salmonellosis	Diarrhea, dehydration
	Shigella		Bacterial dysentery
	Vibrio cholera	Cholera	Extremely heavy diarrhea, dehydration
	Yersinia enterocolitica	Yersinosis	Diarrhea
Protozoans	Balantidium coli	Balantidiasis	Diarrhea, dysentery
	Cryptosporidium	Cryptosporidiosis	Diarrhea
	Entamoeba histolytica	Ameobiasis (amoebic dysentery)	Prolonged diarrhea with bleeding, abscesses of the liver and small intestine
	Giardia lamblia	Giardiasis	Mild to severe diarrhea, nausea, indigestion
	Naegleria fowleri	Amoebic meningoencephalitis	Fatal disease; inflammation of the brain
Viruses	Adenovirus (31 types)	Respiratory disease	Eye infections, diarrhea
	Astroviruses	Gastroenteritis	Vomiting, diarrhea
	Enteroviruses (67 types, e.g., polio, echo, and Coxsackie viruses)	Gastroenteritis	Diarrhea. Heart anomalies and meningitis are long-term sequela and are very rare
	Hepatitis A and E	Infectious hepatitis	Jaundice, fever
	Caliciviruses (Norwalk- and Sapporo-like viruses)	Gastroenteritis	Vomiting, diarrhea
	Reovirus	Gastroenteritis	Vomiting, diarrhea
	Rotavirus	Gastroenteritis	Vomiting, diarrhea

Source: USEPA, 2001

Appendix D.1. Inland Lakes Monitored 2014.

		County	Water Body		Location
1	1	Alcona	Brownlee Lake	1	Village of Lincoln Park
	2	Alcona	Cedar Lake	2	Greenbush Township beach
2	3	Alpena	Long Lake	1	Long Lake Park
3	4	Antrim	Central Lake	1	Thurston Park
	5	Antrim	Ellsworth Lake	2	Wooden Shoe Park
	6	Antrim	Lake Bellaire	3	Richardi Park
	7	Antrim	Torch Lake	4	Day Park
	8	Antrim	Torch Lake	5	Eastport
4	9	Barry	Gun Lake	1	Main Beach - Day Use Area
	10	Barry	Gun Lake	2	Yankee Springs Recreation Area Campground Beach
	11	Barry	Thornapple Lake	3	Charlton Park
5	12	Bay	Kawkawlin River	1	Boat Launch on Kawkawlin River
	13	Bay	Saginaw River	2	Independence Bridge
6	14	Benzie	Crystal Lake	1	Bellows
	15	Benzie	Crystal Lake	2	Beulah Beach
	16	Benzie	Otter Creek	3	Sleeping Bear Dunes-Otter Creek
7	17	Charlevoix	Thumb Lake	1	Thumb Lake Beach
	18	Charlevoix	Walloon Lake	2	Melrose Township Park
8	19	Cheboygan	Black Lake	1	Black Lake State Forest Campground
9	20	Chippewa	Dukes Lake	1	Dukes Lake
	21	Chippewa	Kinross Lake	2	Kinross Lake
	22	Chippewa	Monocle Lake	3	Monocle Lake
10	23	Clare	Crooked Lake	1	Crooked Lake/Camp Neyati Beach
11	24	Eaton	Fox Memorial Park Beach	1	Fox Memorial Park
12	25	Emmet	Crooked Lake	1	Little Traverse Township Beach
	26	Emmet	Crooked Lake	2	Oden
	27	Emmet	Crooked Lake	3	Oden Beach
	28	Emmet	Pickerel Lake	4	Camp Petosega
	29	Emmet	Pickerel Lake	5	Channel Beach
	30	Emmet	Walloon Lake	6	Resort Pike Road Beach
13	31	Iosco	Foot Pond	1	Old Orchard Park
	32	Iosco	Long Lake	2	Long Lake Public Access
	33	Iosco	Van Ettan Lake	3	Oscoda Township Park - Van Ettan Lake

Appendix D.1. Inland Lakes Monitored 2014.

	County	Water Body		Location
14	34	<u>Isabella</u>	Borrow Pit	1 Herrick County Park
	35	Isabella	Chippewa River	2 Deerfield County Park
	36	Isabella	Coldwater Lake	3 Coldwater Park
	37	Isabella	Halls Lake	4 Halls Lake
15	38	<u>Kalamazoo</u>	Blue Lake	1 Cold Brook County Park
	39	Kalamazoo	Campbell Lake	2 Robert Morris Park
	40	Kalamazoo	Eagle Lake	3 Fort Custer Recreation Area Beach
	41	Kalamazoo	Gull Lake	4 Ross Township Park
	42	Kalamazoo	Hogsett Lake	5 Prairie View County Park
	43	Kalamazoo	Long Lake	6 Ramona Park
	44	Kalamazoo	Sunset Lake	7 Sunset Lake Park
	45	Kalamazoo	Swimmers Lake	8 Markin Glen County Park
16	46	<u>Leelanau</u>	Sleeping Bear Dunes-Little Glen Lake	1 Little Glen Lake
	47	Leelanau	Sleeping Bear Dunes-North Bar Lake	2 North Bar Lake
	48	Leelanau	Sleeping Bear Dunes-Shalda Creek	3 Shalda Creek
17	49	<u>Livingston</u>	Bentley Lake	1 Camp Innisfree
	50	Livingston	Bishop Lake	2 Brighton State Recreation Area
	51	Livingston	Cook Lake	3 Taylor's Beach
	52	Livingston	Kent Lake	4 Island Lake Recreation Area - Kent Lake
	53	Livingston	Lake Chemung	5 Camp Talahi
	54	Livingston	Lake Walden	6 Waldenwoods Resort
	55	Livingston	Pleasant Lake	7 Howell Nature Center
	56	Livingston	Sandy Bottom Lake	8 Water's Edge Camp
	57	Livingston	Spring Mill Pond	9 Island Lake Recreation Area
	58	Livingston	Thompson Lake	10 Howell City Park
18	59	<u>Macomb</u>	Stony Creek Lake-Impoundment	1 Stony Creek Metropark-Baypoint Beach
	60	Macomb	Stony Creek Lake-Impoundment	2 Stony Creek Metropark-Eastwood Beach
19	61	<u>Marquette</u>	Dead River Reservoir	1 Marquette Tourist Park Beach
20	62	<u>Midland</u>	Sanford Lake	1 Sanford Lake Park
21	63	<u>Muskegon</u>	Bear Lake	1 Laketon Township Beach
	64	Muskegon	Big Blue Lake	2 Blue Lake County Park Beach
	65	Muskegon	Duck Lake	3 Duck Lake State Park Beach
	66	Muskegon	Fox Lake	4 Fox Lake Park Beach
	67	Muskegon	Half Moon Lake	5 Moore County Park Beach
	68	Muskegon	Mona Lake	6 Mona Lake Park Beach
	69	Muskegon	Mona Lake	7 Ross Park Beach
	70	Muskegon	Muskegon Lake	8 Harbor Towne Beach

Appendix D.1. Inland Lakes Monitored 2014.

	County	Water Body		Location
71	Muskegon	Muskegon Lake	9	Muskegon State Park- Muskegon Lake Side
72	Muskegon	Muskegon Lake	10	Water Sports Park
73	Muskegon	Twin Lake	11	Twin Lake County Park Beach
74	Muskegon	West Lake	12	Paddley Park
75	Muskegon	White Lake	13	Maple Park
76	Muskegon	Wolf Lake	14	Sunset Park
77	Muskegon	Wolf Lake	15	Wolf Lake County Park
22 78	Oakland	Adams Lake	1	Addison Oaks County Park
79	Oakland	Big Seven Lake	2	Seven Lakes Park
80	Oakland	Bush Lake	3	Holly Village Beach
81	Oakland	Cass Lake	4	Dodge Park #4
82	Oakland	Cass Lake	5	Keego Harbor City Beach
83	Oakland	Cass Lake	6	Pontiac Yacht Club
84	Oakland	Charnwood Lake	7	Charnwood
85	Oakland	Crooked Lake	8	Independence Oaks County Park
86	Oakland	Deer Lake	9	Independence Township Village Beach
87	Oakland	Elizabeth Lake	10	ECHPOA
88	Oakland	Elizabeth Lake	11	Elizabeth Lake Estates Improvement Assoc.
89	Oakland	Fish Lake	12	Camp Ohiyesa - North
90	Oakland	Green Lake	13	Bay Court Park
91	Oakland	Green Lake	14	Camp Wathana
92	Oakland	Green Lake	15	Clear Water Resort
93	Oakland	Haas Lake	16	Haas Lake Park #1
94	Oakland	Haas Lake	17	Haas Lake Park #2
95	Oakland	Haas Lake	18	Haas Lake Park #3
96	Oakland	Haas Lake	19	Haas Lake Park #4
97	Oakland	Handsome Lake	20	Crossroads For Youth
98	Oakland	Heron Lake	21	Holly Recreation Area - Heron Beach
99	Oakland	Huntoon Lake	22	Burlingham Lake Park I
100	Oakland	Huntoon Lake	23	Burlingham Lake Park II
101	Oakland	Kent Lake	24	Kensington - Martindale Beach
102	Oakland	Kent Lake	25	Kensington- Maple Beach
103	Oakland	Lake at Park	26	Thelma Spencer Park
104	Oakland	Long Lake	27	Christ the King Church Camp
105	Oakland	Loon Lake	28	Sandy Beach
106	Oakland	Lower Trout	29	Bald Mountain Recreation Area
107	Oakland	Maceday Lake	30	Mountain View C.C. Subdivision
108	Oakland	Mill Pond	31	Davisburg Village Beach (Hart Community Center)
109	Oakland	Orchard lake	32	Country Club (500 W. Shore Dr)
110	Oakland	Orion Lake	33	Greens Park Village Beach
111	Oakland	Phillips Lake	34	Camp Dearborn - Lake #1
112	Oakland	Phillips Lake	35	Camp Dearborn - Lake #5
113	Oakland	Phipps Lake	36	Camp Maas - Rodecker
114	Oakland	Phipps Lake	37	Camp Maas- Sobell Beach

Appendix D.1. Inland Lakes Monitored 2014.

	County	Water Body		Location
115	Oakland	Pontiac Lake	38	Pontiac Recreation Area
116	Oakland	Prince Lake	39	Upland Hills Farm
117	Oakland	Proud Lake	40	Proud Lake Recreation Area Campground
118	Oakland	Round Lake	41	Scripter Village Park Township Beach
119	Oakland	Sand Lake	42	Seven Lakes State Park - Campground
120	Oakland	Scotch Lake	43	Scotch Lake Residents
121	Oakland	Square Lake	44	Pleasant View Subdivision
122	Oakland	Square Lake	45	Pleasant View Subdivision - Kempster St
123	Oakland	Stewart Lake	46	Groveland Oaks County Park - Paradise Beach
124	Oakland	Stony Lake	47	Stony Lake Park
125	Oakland	Sun Lake	48	Finnish Day Camp
126	Oakland	Sylvan Lake	49	Ferndale
127	Oakland	Sylvan Lake	50	Pioneer Highlands
128	Oakland	Sylvan Lake	51	Sylvan Shores Improvement Association
129	Oakland	Teeple Lake	52	Teeple Lake Recreation Area- Highland State Park
130	Oakland	Tipsico Lake	53	Brown's Landing Mobile Home Park
131	Oakland	Tommys Lake	54	Camp Agawam Boy Scout Camp
132	Oakland	Walled Lake	55	E.V. Mercer City Beach
133	Oakland	Walled Lake	56	Lakeshore Park
134	Oakland	Walnut Lake	57	Bloomfield Parks and Recreation/West Hills M.S.
135	Oakland	Wing Lake	58	Wing Lake Farms Association
136	Oakland	Wing Lake	59	Wing Lake Property Owners Association
23	Ogemaw	Grousehaven Lake	1	Rifle River Recreation Area Campground Beach
138	Ogemaw	Rifle Lake	2	Shady Shores Park Subdivision
139	Ogemaw	Skidway Lake	3	Skidway Shores Park Subdivision Beach
24	Oscoda	Perry Lake	1	Comins Township Park
141	Oscoda	Smith Lake	2	Oscoda County Park
25	Otsego	Big Lake	1	Big Lake
143	Otsego	Otsego Lake	2	Arbutus Beach
144	Otsego	Otsego Lake	3	Otsego County Park
145	Otsego	Otsego Lake	4	Otsego State Park
146	Otsego	Otsego Lake	5	WahWahSoo Beach
26	Ottawa	Crockery Lake	1	Grose Park
148	Ottawa	Georgetown Lake	2	Georgetown Community Park
149	Ottawa	Lake Macatawa	3	Dunton Park
150	Ottawa	Lake Macatawa	4	Holland State Park
151	Ottawa	Maplewood Lake	5	Maplewood Lake Park
152	Ottawa	Pottawattomie Bayou	6	Pottawattomie Park
153	Ottawa	Spring Lake	7	Lakeside Beach

Appendix D.1. Inland Lakes Monitored 2014.

	County	Water Body		Location	
27	154	<u>Presque Isle</u>	Grand Lake	1	Grand Lake Public Access
28	155	<u>Schoolcraft</u>	Quarry Lake	1	Quarry Beach
29	156	<u>St. Clair</u>	Emmett K.O.A. Pond	1	Emmett K.O.A.
	157	St. Clair	Fort Trodd Lake	2	Fort Trodd Campground North
	158	St. Clair	Fort Trodd Lake	3	Fort Trodd South
	159	St. Clair	Kimball Pond	4	Kimball Township Pond
	160	St. Clair	Ruby Campground Pond	5	Ruby Campground
30	161	<u>Washtenaw</u>	Bruin Lake	1	Pinckney Recreation Area
	162	Washtenaw	Half Moon Lake	2	Pinckney Recreation Area
	163	Washtenaw	Independence Lake	3	Independence Lake County Park
	164	Washtenaw	Silver Lake	4	Pinckney Recreation Area
	165	Washtenaw	Sugarloaf Lake	5	Waterloo Recreation Area
31	166	<u>Wayne</u>	Belleville Lake	1	Van Buren Township Park
	167	Wayne	Newburgh Lake	2	Newburgh and Sumac Pointes - Hines Park
	168	Wayne	Sherwood Lake	3	Sherwood Park
32	169	<u>Wexford</u>	Billings Lake	1	Manton Park
	170	Wexford	Lake Cadillac	2	Cadillac City Dock
	171	Wexford	Lake Cadillac	3	City Park
	172	Wexford	Lake Cadillac	4	Kenwood Park
	173	Wexford	Lake Meauwataka	5	Colfax Township Park
	174	Wexford	Lake Mitchell	6	Mitchell State Park

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
1	Alcona	Alcona Pond	1	Alcona Pond East Campground
2	Alcona	Alcona Pond	2	Alcona Pond West Campground
3	Alcona	Hubbard Lake	3	Alcona Township Park
4	Alcona	Hubbard Lake	4	Caledonia Township Park
2	Alger	AuTrain Lake Campground	1	AuTrain Lake Campground USFS
6	Alger	Corner Lake	2	Corner Lake Campground
7	Alger	Deer Lake Park	3	Deer Lake Park
8	Alger	Kingston Lake	4	Kingston Lake State Forest Campground
9	Alger	Petes Lake	5	Petes Lake Campground
3	Allegan	Dumont Lake	1	Dumont Lake County Park Beach
11	Allegan	Ely Lake	2	Ely Lake Campground Beach
12	Allegan	Gun Lake	3	Gun Lake County Park Beach
13	Allegan	Little John Lake	4	Little John Lake County Park Beach
14	Allegan	Swan Creek Pond	5	Pine Point Campground Beach
4	Alpena	Beaver Lake	1	Beaver Lake Park
16	Alpena	Lake Avalon	2	Lake Avalon Public Access
17	Alpena	Long Lake	3	Long Lake Day Use
5	Antrim	Torch Lake	1	Torch River Bridge
19	Antrim	Torch River	2	Torch River Sand Bar
6	Arenac	AuGres River	1	AuGres River-DNR Access at Pier
21	Arenac	Man-Made Pond	2	Big Bend Campground
22	Arenac	Man-Made Pond	3	Oasis Lake County Park
23	Arenac	Man-Made Pond	4	Outdoor Adventures
24	Arenac	Pine River	5	Pine River - Arenac County
25	Arenac	Rifle River	6	Rifle River
7	Bay	Saginaw River	1	Vet's Park North Bay City
27	Bay	Saginaw River	2	Vet's Park South River Road
8	Barry	Gull Lake	1	Prairieville Township Park
29	Barry	Gun Lake	2	Old Beach- Day Use Area
9	Benzie	Crystal Lake	1	South Shore near Beulah
31	Benzie	Lake Ann	2	Almira Township Park Beach
10	Berrien	Paw Paw Lake	1	Paw Paw Lake
33	Berrien	St. Joseph River	2	Bertrand Park
34	Berrien	St. Joseph River	3	Niles - French Paper
35	Berrien	St. Joseph River	4	Niles - Marmont
11	Branch	First Lake	1	Quincy Park

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
37	Branch	Messenger Lake	2	Memorial Park
12 38	Calhoun	Duck Lake	1	Springport
39	Calhoun	Goguac Lake	2	Willard Beach in Battle Creek
13 40	Charlevoix	Huffman Lake	1	Hudson Township Park
14 41	Cheboygan	Black Lake	1	Bluffs Beach
42	Cheboygan	Burt Lake	2	Burt Lake State Park
43	Cheboygan	Burt Lake	3	Devoe Beach
44	Cheboygan	Burt Lake	4	Hoppie's Launch
45	Cheboygan	Burt Lake	5	Maple Bay Park
46	Cheboygan	Douglass Lake	6	Ryder's Landing
47	Cheboygan	Mullett Lake	7	Aloha State Park
48	Cheboygan	Mullett Lake	8	Boy Scout Launch
49	Cheboygan	Mullett Lake	9	Foot Road Park
50	Cheboygan	Mullett Lake	10	Grand View Beach
51	Cheboygan	Mullett Lake	11	Hobert's Launch
52	Cheboygan	Mullett Lake	12	Orchard Beach
53	Cheboygan	Mullett Lake	13	Polish Line Beach
54	Cheboygan	Mullett Lake	14	Topinabee Park
55	Cheboygan	Webber Lake	15	Webber Lake State Park
15 56	Chippewa	Caribou Lake	1	Caribou Lake
57	Chippewa	Carp Lake	2	Trout Lake
58	Chippewa	Soldiers Lake	3	Soldiers Lake
16 59	Clare	Arnold Lake	1	Arnold Lake Beach
60	Clare	Bertha Lake	2	Bertha Lake Beach
61	Clare	Budd Lake	3	Wilson State Park
62	Clare	Cranberry lake	4	Cranberry Lake South
63	Clare	Crooked Lake	5	Hillcrest Public Landing
64	Clare	Doc and Tom Lake	6	Lake of the Pines
65	Clare	Dodge Lake	7	Dodge Lake Beach
66	Clare	George Lake	8	Lake George Public Landing
67	Clare	Grass Lake	9	Sandy Shores Beach
68	Clare	Hayes Lake (Cranberry Lake)	10	Oak Hills Children's Camp
69	Clare	Lilly Lake	11	Lilly Lake Beach
70	Clare	Long Lake	12	Long Lake Beach
71	Clare	Muskegon River	13	Muskegon River Township Park
72	Clare	Sand Lake	14	Sand Lake Beach
73	Clare	Shingle Lake	15	Shingle Lake Park
74	Clare	Silver Lake	16	Silver Lake Park
75	Clare	Townline Lake	17	Cedar Shores Beach
17 76	Clinton	Lake Ovid	1	Sleepy Hollow State Park Beach

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location	
18	77	Eaton	Grand River	1	Lincoln Brick Park
19	78	Emmet	Larks Lake	1	Pioneer Picnic Park
20	79	Genesee	Barnum Lake	1	Barnum Lake
	80	Genesee	Buell Lake	2	Boat Ramp at Buell Lake
	81	Genesee	Byram Lake	3	Clover Beach
	82	Genesee	Copneconic Lake	4	Camp Copneconic
	83	Genesee	Copneconic Lake	5	Copneconic Day Beach
	84	Genesee	Covenant Hill Camp	6	Covenant Hill Camp
	85	Genesee	Fenton Lake	7	DNR Boat Dock-Fenton Lake
	86	Genesee	Fenton Lake	8	Fenton Lake Marina
	87	Genesee	Fenton Lake	9	Township Hall
	88	Genesee	Flagstone Point	10	Flagstone Point Beach
	89	Genesee	Golden Rod Lake	11	Golden Rod Beach
	90	Genesee	Hasler Lake	12	Beach at Hasler Lake
	91	Genesee	Hasler Lake	13	Hasler Lake Campground
	92	Genesee	Holloway Reservoir	14	Buttercup Beach
	93	Genesee	Holloway Reservoir	15	Walleye Pike Dock
	94	Genesee	Kearsley Reservoir	16	Kearsley Reservoir Beach
	95	Genesee	Kelly Lake	17	Kelly Lake
	96	Genesee	Lake Helene	18	Lake Helene Beach
	97	Genesee	Lake Linda	19	Lake Linda
	98	Genesee	Lake Ponemah	20	At Drain
	99	Genesee	Lake Ponemah	21	DNR Boat Launch at Lake Ponemah
	100	Genesee	Lake Shinangaug	22	Lake Shinangaug
	101	Genesee	Linden Mill Pond	23	Linden Mill Pond Beach
	102	Genesee	Lobdell Lake	24	DNR Boat Launch at Lobdell Lake
	103	Genesee	Loon Lake	25	Loon Lake Beach
	104	Genesee	Marl Lake	26	Marl Lake Beach
	105	Genesee	McCaslin Lake	27	McCaslin Lake Beach
	106	Genesee	McKane Lake	28	McKane Lake Beach
	107	Genesee	Mott Lake	29	Bluebell Beach
	108	Genesee	Mott Lake	30	Bluegill Boat Ramp
	109	Genesee	Mott Lake	31	Mott Lake Beach
	110	Genesee	Mott Lake Stepping Stone	32	Mott Lake Stepping Stone Beach
	111	Genesee	Myers Lake	33	Myers Lake
	112	Genesee	Otter Lake	34	Griswold Park
	113	Genesee	Pine Lake	35	Pine Lake Beach
	114	Genesee	Pinewood Lake	36	Beach at Pinewood Lake
	115	Genesee	Silver Lake	37	City Park Beach
	116	Genesee	Silver Lake	38	Silver Lake Marina
	117	Genesee	Smokerise Lake	39	Smokerise Beach
	118	Genesee	Squaw Lake	40	Squaw Lake Beach
	119	Genesee	Thread Lake	41	Thread Lake Beach

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
120	Genesee	West Sister Lake	42	West Sister Lake
21 121	Gladwin	Cedar River	1	Cedar River Campground Beach
122	Gladwin	Cedar River	2	Gladwin City Park
123	Gladwin	Cedar River	3	Gladwin North Park
124	Gladwin	Flowing well/pond	4	Gilman Springs Swimming Area
125	Gladwin	Hoister Lake	5	Hoister Lake Beach
126	Gladwin	House Lake	6	House Lake
127	Gladwin	Lake Four	7	Lake Four
128	Gladwin	Lake Lancer	8	Sugar Springs/Lake Lancer
129	Gladwin	Lyle Drain/Tobacco River	9	Lost Haven Beach
130	Gladwin	Pratt Lake	10	Pratt Lake
131	Gladwin	Ross Lake	11	Beaverton City Park
132	Gladwin	Secord Lake	12	Secord Lake
133	Gladwin	Secord Lake	13	Secord Lake - East
134	Gladwin	Secord Lake	14	West River Drive Boat Launch
135	Gladwin	Tittabawassee River	15	Estey Road Access
136	Gladwin	Tittabawassee River	16	Gilman Springs Canoe Launch
137	Gladwin	Tittabawassee River	17	Good News Camp
138	Gladwin	Tittabawassee River	18	Pine Street Public Access
139	Gladwin	Trout Lake	19	Trout Lake SFCG
140	Gladwin	Wiggins Lake North	20	Wiggins Lake Road to Boat Launch
141	Gladwin	Wiggins Lake South	21	Clendening Road
142	Gladwin	Wixon Lake	22	Wixon Lake - West
22 143	Gogebic	Lake Gogebic	1	Gogebic County Park
144	Gogebic	Lake Gogebic	2	Lake Gogebic State Park Beach
145	Gogebic	Sunday Lake	3	Sunday Lake Beach
23 146	Grand Traverse	Duck Lake	1	Interlochen State Park Beach
147	Grand Traverse	Long Lake (Aka Mickey Lake)	2	Gilbert Beach
148	Grand Traverse	Long Lake (Aka Mickey Lake)	3	Taylor Park
149	Grand Traverse	North Twin Lake	4	Twin Lakes Camp Beach
24 150	Hillsdale	Baw Beese Lake	1	Sandy Beach
151	Hillsdale	Bird lake	2	Bird Lake Beach
25 152	Houghton	Lake Roland	1	Twin Lakes State Park
26 153	Ingham	Burchfield Pond	1	Burchfield Park
154	Ingham	Hawk Island	2	Hawk Island County Park
155	Ingham	Lake Lansing	3	Lake Lansing Park South
156	Ingham	Valhalla Pond	4	Valhalla Park Williamston Road
27 157	Iosco	Chain Lake	1	Chain Lake Beach
158	Iosco	Footo Pond	2	Footsite Park

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
159	Iosco	Loon Lake	3	Loon Lake Park
160	Iosco	Sand Lake	4	Sand Lake - Sand Lake Road Access
28 161	<u>Isabella</u>	Millpond	1	Millpond Park
29 162	<u>Jackson</u>	Clark Lake	1	Clark Lake County Park
163	Jackson	Clear Lake	2	Clear Lake County Park
164	Jackson	Gilletts Lake	3	Gilletts Lake County Park
165	Jackson	Grass Lake	4	Grass Lake County Park
166	Jackson	Lime Lake	5	Lime Lake County Park
167	Jackson	Little Wolf Lake	6	Little Wolf Lake County Park
168	Jackson	Pleasant Lake	7	Pleasant Lake County Park & Campground
169	Jackson	Portage Lake	8	Portage Lake County Park
170	Jackson	Round Lake	9	Round Lake County Park
171	Jackson	Swains Lake	10	Swains Lake County Park
172	Jackson	Vandercook Lake	11	Vandercook Lake County Park
173	Jackson	Vineyard Lake	12	Vineyard Lake County Park
30 174	<u>Kalamazoo</u>	Timber Lake	1	Timber Lake Campground
175	Kalamazoo	Woods Lake	2	Woods Lake Beach
31 176	<u>Kent</u>	Lincoln Lake	1	Lincoln Lake Baptist Camp
177	Kent	Lincoln Lake	2	Lincoln Pines Resort
178	Kent	Long Lake	3	Long Lake County Park
179	Kent	Myers Lake	4	Myers Lake County Park
180	Kent	Reeds Lake	5	Collins Park
181	Kent	Scalley Lake	6	Scalley Lake Park
182	Kent	Versluis Lake	7	Versluis Park
183	Kent	Wabasis Lake	8	Wabasis Lake County Park
32 184	<u>Leelanau</u>	Lake Leelanau	1	Leelanau Township Park Beach
185	Leelanau	Lake Leelanau	2	Nedow's (Barthallowmew) Beach
186	Leelanau	Lake Leelanau	3	Popp Road End
187	Leelanau	Otter Creek Beach	4	Otter Creek Beach
188	Leelanau	South Bar Lake	5	South Bar Lake- South End
33 189	<u>Luce</u>	Bass Lake	1	Bass Lake SFC
190	Luce	Bodi Lake	2	Bodi Lake SFC
191	Luce	Culhane Lake	3	Culhane Lake SFC
192	Luce	HeadQuarters SFC	4	HeadQuarters SFC
193	Luce	Holland Lake SFC	5	Holland Lake SFC
194	Luce	Muskallonge Lake	6	Muskallonge Lake SFC
195	Luce	Perch Lake	7	Perch Lake SFC
196	Luce	Pretty Lake	8	Pretty Lake SFC
34 197	<u>Livingston</u>	Church Lake	1	Wildwood Ranch

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
198	Livingston	Dibrova Lake	2	Green Valley Camp
199	Livingston	Lake Chemung	3	Lake Chemung Outdoor Resort
35	<u>Mackinac</u>	Brevort Lake	1	Brevort Lake Campground Beach
201	Mackinac	Garnet Lake	2	Garnet Lake SFC
202	Mackinac	Little Brevort Lake	3	Little Brevort Lake State Campground North
203	Mackinac	Little Brevort Lake	4	Little Brevort Lake State Campground South
204	Mackinac	Milakokia Lake	5	Milakokia Lake SFC
205	Mackinac	Millecoquins Lake	6	Millecoquins Lake SFC
36	<u>Menominee</u>	Hermansville lake	1	Hermansville Beach
207	Menominee	Shakey Lakes	2	Shakey Lakes Campground
37	<u>Monroe</u>	Camp Lord Willing Pond	1	Camp Lord Willing
209	Monroe	Covered Wagon Campground Pond	2	Covered Wagon Campground
210	Monroe	Heath Beach Pond	3	Heath Beach
211	Monroe	K.C. Campground Pond	4	K.C. Campground
212	Monroe	Man-Made Pond	5	Totem Pole Campground Pond
213	Monroe	Monroe KOA Campground Pond	6	Monroe K.O.A. Campground
214	Monroe	Pirollis Campground Pond	7	Pirolli's Campground
215	Monroe	The Vine Campground Pond	8	The Vine
216	Monroe	Wilderness Retreat Campground Pond	9	Wilderness Retreat Campground
38	<u>Montmorency</u>	Clear Lake	1	Clear Lake Day Use
218	Montmorency	Clear Lake	2	Clear Lake State Park
219	Montmorency	Crooked Lake	3	Crooked Lake Beach
220	Montmorency	East Twin Lake	4	East Twin Beach/Albert Township Park
221	Montmorency	Ess Lake	5	Ess Lake State Campground
39	<u>Muskegon</u>	Goose Egg Lake	1	Kattulpa
40	<u>Oakland</u>	Allen Lake	1	Fox Bay Civic Association
224	Oakland	Avon Lake	2	Avon Lakes Beach #1
225	Oakland	Avon Lake	3	Avon Lakes Beach #2
226	Oakland	Bass Lake	4	Idlewild Subdivision
227	Oakland	Bogie Lake	5	Bogie Lake Property Owners - Beryl Drive
228	Oakland	Bogie Lake	6	Pinecrest Shores
229	Oakland	Brendel Lake	7	Brendle Heights - Hillwood
230	Oakland	Brendel Lake	8	Lakewood Village
231	Oakland	Brendel Lake	9	Pawlaks Campground
232	Oakland	Carpenter Lake	10	Lakeview Recreation
233	Oakland	Carpenter Lake	11	Silver Valley Subdivision
234	Oakland	Cass Lake	12	Cass Lake Woods

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
235	Oakland	Cass Lake	13	Keego Harbor Trailer Park
236	Oakland	Cass Lake	14	Sylvan-on-the-Lakes
237	Oakland	Cass Lake	15	Willow Beach Subdivision
238	Oakland	Cedar Island Lake	16	Cedar Crest Subdivision
239	Oakland	Cedar Island Lake	17	Sunset Subdivision
240	Oakland	Clear Lake	18	Lakeland Improvement Association -Keith Street
241	Oakland	Commerce Lake	19	Log Cabin Subdivision
242	Oakland	Cranberry Lake	20	Cranberry Lake Village
243	Oakland	Cranberry Lake	21	Cranberry Lake Village
244	Oakland	Crescent Lake	22	Crescent Highlands
245	Oakland	Crescent Lake	23	Crescent Lake Park
246	Oakland	Darb Lake	24	Mission Springs Subdivision
247	Oakland	Davis Lake	25	Meagher Park/Woodland Manor
248	Oakland	Deer Lake	26	Deer Lake Estates
249	Oakland	Eagle Lake	27	Eagle Lake Road
250	Oakland	Eagle Lake	28	Lakeland Estates
251	Oakland	Ekelund Lake	29	Camp Gordanwood
252	Oakland	Elizabeth Lake	30	Bloomfield
253	Oakland	Elizabeth Lake	31	Cass-Elizabeth Heights
254	Oakland	Elizabeth Lake	32	Elizabeth Lakeshore
255	Oakland	Elizabeth Lake	33	Elizabeth Shores
256	Oakland	Elizabeth Lake	34	Rangate Park
257	Oakland	Elizabeth Lake	35	Terrace
258	Oakland	Elizabeth Lake	36	Walters
259	Oakland	Emerald Lake	37	Emerald Lake Homeowners Assoc. - Lyster Road
260	Oakland	Fox Lake	38	Cloister-on-the-Lakes
261	Oakland	Geneva Lake	39	Lakewood Farms - Crocus Street
262	Oakland	Geneva Lake	40	Lakewood Farms - Sharon Street
263	Oakland	Green Lake	41	Green Acres / Green Valley Park
264	Oakland	Hammond Lake	42	Hammond Estates
265	Oakland	Harvey Lake	43	Harvey Lake Estates
266	Oakland	Harvey Lake	44	Harvey Lake Heights
267	Oakland	Heather Lake	45	Heather Lake Estates
268	Oakland	Huntoon Lake	46	Broadway Civic Association
269	Oakland	Huntoon Lake	47	Huntoon Village
270	Oakland	Indian Lake	48	Indian Lake Improvement Association
271	Oakland	Lakeville Lake	49	Doll's Dock (Skip's Landing)
272	Oakland	Long Lake	50	Annex 1
273	Oakland	Long Lake	51	Bunny Run C.C.
274	Oakland	Long Lake	52	Twin Shores Subdivision
275	Oakland	Loon Lake	53	Birch Park
276	Oakland	Loon Lake	54	Indianwood
277	Oakland	Lotus Lake	55	Harris Park
278	Oakland	Lotus Lake	56	Lotus Park
279	Oakland	Lotus Lake	57	Mountain View
280	Oakland	Lower Straits	58	Maple Point

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
281	Oakland	Lower Straits Lake	59	Lower Straits Beach Club
282	Oakland	Lower Straits Lake	60	Shores at Bay Point
283	Oakland	Maceday Lake	61	Whitfield-Maceday Association - North
284	Oakland	Maceday Lake	62	Whitfield-Maceday Association - South
285	Oakland	Marion Lake	63	Locklin Pines Association
286	Oakland	Meadow Lake	64	Meadow Lake Association
287	Oakland	Middle Straits Lake	65	Crystal Echo
288	Oakland	Middle Straits Lake	66	Crystal Echo (the point)
289	Oakland	Middle Straits Lake	67	Stony Beach
290	Oakland	Middle Straits Lake	68	Tripps Subdivision Park
291	Oakland	Middle Straits Lake	69	Twin Beach Park
292	Oakland	Middle Straits Lake	70	West Acres
293	Oakland	Morgan Lake	71	Lake Angelus Lakeview Estates
294	Oakland	Mud Lake	72	Rose Hill Center
295	Oakland	Narrin Lake	73	Camp Narrin
296	Oakland	Neva Lake	74	Lakewood Village Subdivision
297	Oakland	Oakland Lake	75	Bird Island Subdivision
298	Oakland	Oakland Lake	76	Lake Oakland Heights
299	Oakland	Oakland Lake	77	Lake Oakland Shores
300	Oakland	Orchard Lake	78	St. Mary's Park
301	Oakland	Orion Lake	79	Lake Orion Heights
302	Oakland	Orion Lake	80	Sunset Club
303	Oakland	Pine Lake	81	Pine Lake Manor
304	Oakland	Pleasant Lake	82	Pleasant Lake Highlands
305	Oakland	Pleasant Lake	83	Pleasant Lake Manor
306	Oakland	Pleasant Lake	84	Pleasant Lake Woods
307	Oakland	Reed Lake	85	Reed Lake Property Owners
308	Oakland	Round Lake	86	Family Park
309	Oakland	Rowe Lake	87	Jacksina Subdivision
310	Oakland	Sandshores	88	Emerald Lake Homeowners Assoc. - Little Creek Rd
311	Oakland	Sherwood Lake	89	Ledgewood
312	Oakland	Sherwood Lake	90	Ravinewood East
313	Oakland	Sherwood Lake	91	Ravinewood West
314	Oakland	Sherwood Lake	92	Sherwood Boat Ramp
315	Oakland	Sherwood Lake	93	Sherwood Property Owners
316	Oakland	Silver Lake	94	Silver Hill Road
317	Oakland	Sugden Lake	95	Oakridge Subdivision
318	Oakland	Sylvan Lake	96	Cunningham Park
319	Oakland	Sylvan Lake	97	Lakeview
320	Oakland	Tan Lake	98	Mary K. Subdivision
321	Oakland	Union Lake	99	Alpha Beach
322	Oakland	Union Lake	100	Burley & Barnsbury Streets
323	Oakland	Union Lake	101	Union Lake Beach Club
324	Oakland	Union Lake	102	Union Lake Heights Subdivision #2
325	Oakland	Upper Pettibone Lake	103	657 Dunleavy

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
326	Oakland	Upper Pettibone Lake	104	Oak Heights Improvement Association
327	Oakland	Upper Straits Lake	105	Banker's Subdivision
328	Oakland	Upper Straits Lake	106	Bayside Beach Association
329	Oakland	Upper Straits Lake	107	Outlet A
330	Oakland	Upper Straits Lake	108	Shady Beach
331	Oakland	Van Norman Lake	109	Waterford Hill
332	Oakland	Voorheis Lake	110	Keatington Subdivision - Eaton Gate - off Baldwin
333	Oakland	Voorheis Lake	111	Keatington Subdivision - Joslyn Court
334	Oakland	Walled Lake	112	Beachwalk Apartments
335	Oakland	Walnut Lake	113	Bloomfield Square Beach Association
336	Oakland	Walnut Lake	114	Finnish American Club of Detroit
337	Oakland	Walnut Lake	115	Lone Pine Associaton
338	Oakland	Walnut Lake	116	North Cove
339	Oakland	Walnut Lake	117	Shenandoah Farms Association
340	Oakland	Walnut Lake	118	Walnut Lake Estates
341	Oakland	Walnut Lake	119	Walnut Lake Hills Corporation
342	Oakland	Walnut Lake	120	Walnut Lake Park
343	Oakland	Walnut Lake	121	Walnut Lake Property Owners Sub #1
344	Oakland	Walters Lake	122	Sunny Beach #1 - Eston Road
345	Oakland	Walters Lake	123	Sunny Beach #2 - Clarkston Road
346	Oakland	Watkins Lake	124	Heitch Street
347	Oakland	Watkins Lake	125	Lakeland Association #1
348	Oakland	Watkins Lake	126	Lakeland Association #2
349	Oakland	Watkins Lake	127	Lanarh Street
350	Oakland	Watkins Lake	128	Whitney Street
351	Oakland	Waumegah Lake	129	Lake Waumegah Homeowners Association
352	Oakland	Whipple Lake	130	Whipple Shores Subdivision
353	Oakland	White Lake	131	Rolling Acres
354	Oakland	White Lake	132	Stanley Beach
355	Oakland	Wildwood Lake	133	Holly Recreation Area - Wildwood Beach
356	Oakland	Wing Lake	134	Westwood Manor
357	Oakland	Woodhull Lake	135	Woodhull Lake Civic Association
41	<u>Ogemaw</u>	Devoe Lake	1	Rifle River Recreation Area
359	Ogemaw	Elbow Lake	2	Mills Township Park
360	Ogemaw	Grousehaven Lake	3	Rifle River Recreation Area Day Use Area
361	Ogemaw	Hardwood Lake	4	Hardwood Lake
362	Ogemaw	Lake George	5	Lake George Campground
42	<u>Ontonagon</u>	Lake Gogebic	1	Bergland Township Park
364	Ontonagon	Lake Gogebic	2	Ontonagon County Park
43	<u>Osceola</u>	Big Lake	1	Crittenden Park
366	Osceola	Center Lake	2	Center Lake Bible Camp
367	Osceola	Center Lake	3	Center Lake Park
368	Osceola	Center Lake	4	Kettunen Center

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
369	Osceola	Diamond Lake	5	Diamond Lake
370	Osceola	Diamond Lake	6	DNR Access Diamond Lake
371	Osceola	Hicks Lake	7	DNR Access Hicks Lake
372	Osceola	McCoy Lake	8	DNR Access McCoy Lake
373	Osceola	Muskegon River	9	City of Evert Campground
374	Osceola	Muskegon River	10	Crawford Park
375	Osceola	Muskegon River	11	Hersey Road Access
376	Osceola	Rose Lake	12	Rose Lake County Park
377	Osceola	Rose Lake	13	Rose Lake Youth Camp
378	Osceola	Sunrise Lake	14	Sunrise Lake Park
379	Osceola	Todd Lake	15	DNR Access Todd Lake
380	Osceola	Wells Lake	16	DNR Access Wells Lake
44 381	<u>Oscoda</u>	Mio Pond	1	Mio Pond Campground
45 382	<u>Otsego</u>	Bear Lake	1	Bear Lake State Forest Campground
383	Otsego	Dixon Lake	2	Dixon Lake Access
384	Otsego	Otsego Lake	3	Otsego Lake State Park North
385	Otsego	Pickeral Lake	4	Pickeral Lake State Forest Campground
46 386	<u>Ottawa</u>	Lake Macatawa	1	Fallen Leaf Park
47 387	<u>Presque Isle</u>	Black Lake	1	Onaway State Park
388	Presque Isle	Grand Lake	2	Grand Lake Northwest
389	Presque Isle	Lake May	3	Lake May Public Access
390	Presque Isle	Ocquoec River	4	Millersburg Park
391	Presque Isle	Ocquoec River	5	Ocquoec Falls Park
392	Presque Isle	Shoepac Lake	6	Shoepac Lake Campground
393	Presque Isle	Sunken Lake	7	Sunken Lake County Park
394	Presque Isle	Tomahawk Lake	8	Tomahawk Lake Campground
48 395	<u>Roscommon</u>	Backus Pond	1	Backus Township Park
396	Roscommon	Bambi Lake/Sinkhole Lake	2	Bambi Lake Camp
397	Roscommon	Higgins Lake	3	Beaver Creek Road End
398	Roscommon	Higgins Lake	4	DNR Public Fishing Site
399	Roscommon	Higgins Lake	5	Gerrish Township Park
400	Roscommon	Higgins Lake	6	Higgins Lake Public Fishing Site
401	Roscommon	Higgins Lake	7	Kelly Beach
402	Roscommon	Higgins Lake	8	North Higgins State Park
403	Roscommon	Higgins Lake	9	Phoenix Park
404	Roscommon	Higgins Lake	10	Sam-O-Set Road End
405	Roscommon	Higgins Lake	11	South Higgins Lake State Park
406	Roscommon	Houghton Lake	12	Denton Township Public Beach
407	Roscommon	Houghton Lake	13	Houghton Lake DNR Boat Launch and Park
408	Roscommon	Houghton Lake	14	Houghton Lake Heights
409	Roscommon	Houghton Lake	15	Houghton Lake Public Fishing Site

Appendix D.2. Inland Beaches Not Monitored 2014.

	County	Water Body		Location
410	Roscommon	Houghton Lake	16	Houghton Lake State Forest Campground
411	Roscommon	Houghton Lake	17	Old 27 DNR Access
412	Roscommon	Lake St. Helen	18	Richfield Township Public Fishing Site
413	Roscommon	Owens Lake	19	Camp Co-Be-Ac
49 414	<u>Sanilac</u>	Forester Creek	1	Forester Creek
50 415	<u>Saginaw</u>	Haithco Lake	1	Haithco Recreation Area
416	Saginaw	Lake of Dreams	2	Lake of Dreams Campground
51 417	<u>Schoolcraft</u>	Clear Lake	1	Clear Lake Camp
418	Schoolcraft	Clear Lake	2	Cowell Lake Campground
419	Schoolcraft	Gulliver Lake	3	Gulliver Lake
420	Schoolcraft	Indian Lake	4	Indian Lake State Park
421	Schoolcraft	Swan lake	5	Swan Lake
422	Schoolcraft	Triangle Lake	6	Triangle Lake Site #1
423	Schoolcraft	Triangle Lake	7	Triangle Lake Site #2
52 424	<u>St. Joseph</u>	Cade Lake	1	Cade Lake Beach
425	St. Joseph	Palmer Lake	2	Palmer Lake Beach
426	St. Joseph	Sand Lake	3	Nottawa Park
53 427	<u>Tuscola</u>	Murphy Lake	1	Murphy Lake
54 428	<u>Wayne</u>	Newburgh Lake	1	Newburgh Lake

Appendix E.1. Great Lakes Beaches Monitored.

	County	Water Body		Location
1	Alcona	Lake Huron	1	Harrisville State Park
2	Allegan	Lake Michigan	1	Casco Township Park
3	Allegan	Lake Michigan	2	Douglas Beach
4	Allegan	Lake Michigan	3	Laketown Township Park
5	Allegan	Lake Michigan	4	Oval Beach
6	Allegan	Lake Michigan	5	Pier Cove Beach
7	Allegan	Lake Michigan	6	Saugatuck Dunes State Park Shoreline Beach
8	Allegan	Lake Michigan	7	West Side County Park Beach
3	Alpena	Lake Huron	1	Blair Street Park
10	Alpena	Lake Huron	2	Starlite Beach
4	Antrim	Lake Michigan	1	Barnes Park
12	Antrim	Lake Michigan	2	Elk Rapids
13	Antrim	Lake Michigan	3	Veterans Memorial Park
5	Arenac	Saginaw Bay-Lake Huron	1	16th Street Beach
15	Arenac	Saginaw Bay-Lake Huron	2	28th Street Beach
16	Arenac	Saginaw Bay-Lake Huron	3	Arenac County Park
17	Arenac	Saginaw Bay-Lake Huron	4	Bessinger Road Beach
18	Arenac	Saginaw Bay-Lake Huron	5	Cemetery Beach
19	Arenac	Saginaw Bay-Lake Huron	6	Dyer Road Beach
20	Arenac	Saginaw Bay-Lake Huron	7	Foster Road Beach
21	Arenac	Saginaw Bay-Lake Huron	8	Hammel Beach Road Access
22	Arenac	Saginaw Bay-Lake Huron	9	Singing Bridge Beach
23	Arenac	Saginaw Bay-Lake Huron	10	Twining Road Beach
24	Arenac	Saginaw Bay	11	Whites Beach
6	Bay	Saginaw Bay-Lake Huron	1	Bay City State Recreation Area
26	Bay	Saginaw Bay-Lake Huron	2	Brissette Beach Township Park
27	Bay	Saginaw Bay-Lake Huron	3	Pinconning Park
28	Bay	Saginaw Bay-Lake Huron	4	South Linwood Beach Township Park
29	Bay	Saginaw Bay-Lake Huron	5	Wenona Beach
7	Benzie	Lake Michigan	1	Frankfort: Anchor Road Beach
31	Benzie	Lake Michigan	2	Sleeping Bear Dunes-Esch Road Beach
32	Benzie	Lake Michigan	3	Sleeping Bear Dunes-Peterson Road Beach
33	Benzie	Lake Michigan	4	Sleeping Bear Dunes-Platte Point Bay
34	Benzie	Platte River	5	Sleeping Bear Dunes-Platte River Outlet
8	Berrien	Lake Michigan	1	Cherry Beach
36	Berrien	Lake Michigan	2	Grand Beach
37	Berrien	Lake Michigan	3	Hagar Township Park
38	Berrien	Lake Michigan	4	Jean Klock Park
39	Berrien	Lake Michigan	5	Lions Park

Appendix E.1. Great Lakes Beaches Monitored.

	County	Water Body		Location
40	Berrien	Lake Michigan	6	Michiana Village
41	Berrien	Lake Michigan	7	New Buffalo City
42	Berrien	Lake Michigan	8	Silver Beach
43	Berrien	Lake Michigan	9	Tiscornia Park
44	Berrien	Lake Michigan	10	Union Pier - Townline Road
45	Berrien	Lake Michigan	11	Warren Dunes Beach
9 46	Charlevoix	Lake Charlevoix	1	Elm Point Beach
47	Charlevoix	Lake Charlevoix	2	Fisherman's Island State Park
48	Charlevoix	Lake Charlevoix	3	Young State Park Beach
49	Charlevoix	Lake Michigan	4	Lake Michigan Beach
50	Charlevoix	Lake Michigan	5	Whiting Park Beach
10 51	Chippewa	Lake Superior	1	Brimley State Park
52	Chippewa	Lake Superior	3	Sherman Park
53	Chippewa	St. Marys River	2	Four Mile Beach
54	Chippewa	St. Marys River	4	Sugar Island Township Park
11 55	Delta	Lake Michigan	1	Escanaba Bathing Beach
56	Delta	Lake Michigan	2	Gladstone Bathing Beach/Van Cleve Park
12 57	Emmet	Lake Michigan	1	Petoskey State Park
58	Emmet	Lake Michigan	2	Zorn Park - Harbor Springs
13 59	Grand Traverse	Grand Traverse Bay-East	1	Bayside Acme Township Park
60	Grand Traverse	Grand Traverse Bay-East	2	East Bay Park (Milliken Park)
61	Grand Traverse	Grand Traverse Bay-East	3	Traverse City State Park
62	Grand Traverse	Grand Traverse Bay-West	4	Bryant Park Beach
63	Grand Traverse	Grand Traverse Bay-West	5	Clinch Park
64	Grand Traverse	Grand Traverse Bay-West	6	Sayler Park
65	Grand Traverse	Grand Traverse Bay-West	7	West End Beach
14 66	Huron	Lake Huron	1	Bird Creek County Park
67	Huron	Lake Huron	2	Caseville County Park
68	Huron	Lake Huron	3	Harbor Beach City Park
69	Huron	Lake Huron	4	Jenks County Park
70	Huron	Lake Huron	5	Lighthouse County Park
71	Huron	Lake Huron	6	McGraw County Park
72	Huron	Lake Huron	7	Oak Beach County Park
73	Huron	Lake Huron	8	Philp County Park
74	Huron	Lake Huron	9	Port Crescent State Park - Camping Area
75	Huron	Lake Huron	10	Port Crescent State Park - Day Use
76	Huron	Lake Huron	11	Sleeper State Park
77	Huron	Lake Huron	12	Thompson Park
78	Huron	Lake Huron	13	Veterans Park

Appendix E.1. Great Lakes Beaches Monitored.

	County	Water Body		Location
15	79	Iosco	Lake Huron	1 Au Sable Township Park
	80	Iosco	Lake Huron	2 MDOT Roadside Park - Three Mile Park
	81	Iosco	Lake Huron	3 Oscoda Township Beach
	82	Iosco	Lake Huron	4 Tawas Point State Park Campground
	83	Iosco	Lake Huron	5 Tawas Point State Park-Day Use area
	84	Iosco	Lake Huron (Tawas Bay)	6 Gateway Park Beach
	85	Iosco	Tawas Bay	7 East Tawas City Park
	86	Iosco	Tawas Bay	8 Tawas City Park
16	87	Leelanau	Grand Traverse Bay-West	1 Elmwood/Greilikville Park and Beach
	88	Leelanau	Grand Traverse Bay-West	2 Northport Bay Marina
	89	Leelanau	Grand Traverse Bay-West	3 Suttons Bay Marina Park and Beach South
	90	Leelanau	Grand Traverse Bay-West	4 Suttons Bay Park
	91	Leelanau	Lake Michigan	5 Empire Municipal Beach
	92	Leelanau	Lake Michigan	6 Sleeping Bear Dunes- CR 669 Good Harbor Bay
	93	Leelanau	Lake Michigan	7 Sleeping Bear Dunes-CR 651 Good Harbor Bay
	94	Leelanau	Lake Michigan	8 Sleeping Bear Dunes-DH Day Campground
	95	Leelanau	Lake Michigan	9 Sleeping Bear Dunes-Glen Haven Beach
	96	Leelanau	Lake Michigan	10 Sleeping Bear Dunes-North Bar Lake MI Beach
17	97	Mackinac	Lake Huron	1 Kiwanis Beach
	98	Mackinac	Lake Huron	2 Straits State Park
	99	Mackinac	Lake Michigan	3 US-2 Sand Dunes Beach (East of Brevort)
18	100	Macomb	Lake St. Clair	1 H.C.M.A. - Lake St. Clair Metropark Beach
	101	Macomb	Lake St. Clair	2 New Baltimore Park Beach
	102	Macomb	Lake St. Clair	3 St. Clair Shores Memorial Park Beach
19	103	Manistee	Lake Michigan	1 Arcadia Park
	104	Manistee	Lake Michigan	2 Bar Lake Outlet
	105	Manistee	Lake Michigan	3 Fifth Avenue Beach
	106	Manistee	Lake Michigan	4 First Street Beach
	107	Manistee	Lake Michigan	5 Magoon Creek
	108	Manistee	Lake Michigan	6 Onekama Township Beach
	109	Manistee	Lake Michigan	7 Orchard Beach State Park
	110	Manistee	Lake Michigan	8 Pierport Township Beach
	111	Manistee	Lake Michigan	9 Sundling Park
20	112	Marquette	Lake Superior	1 Marquette South Beach
	113	Marquette	Lake Superior	2 McCarty's Cove
	114	Marquette	Lake Superior	3 North Beach
	115	Marquette	Lake Superior	4 North of Picnic Rocks
21	116	Mason	Lake Michigan	1 Bass Lake Outlet Beach
	117	Mason	Lake Michigan	2 Buttersville Park Beach

Appendix E.1. Great Lakes Beaches Monitored.

	County	Water Body		Location
118	Mason	Lake Michigan	3	Ludington State Park Campground Beach
119	Mason	Lake Michigan	4	South Pier Beach
120	Mason	Lake Michigan	5	South Summit Beach - Sunset Boulevard Beach
121	Mason	Lake Michigan	6	Stearns Park Beach
122	Mason	Lake Michigan	7	Summit Township Beach
22	Monroe	Lake Erie	1	Luna Pier City Beach
124	Monroe	Lake Erie	2	Sterling State Park
23	Muskegon	Lake Michigan	1	Duck Lake Channel Beach
126	Muskegon	Lake Michigan	2	Meinert County Park
127	Muskegon	Lake Michigan	3	Muskegon State Park
128	Muskegon	Lake Michigan	4	P.J. Hoffmaster State Park - Public Beach Area
129	Muskegon	Lake Michigan	5	Pere Marquette Park
24	Oceana	Lake Michigan	1	Claybanks Township Park
131	Oceana	Lake Michigan	2	Lighthouse Beach at Silver Lake State Park
132	Oceana	Lake Michigan	3	Mears State Park
133	Oceana	Lake Michigan	4	Whiskey Creek
134	Oceana	Stony Lake and Lake Michigan	5	Stony Lake Channel
25	Ottawa	Lake Michigan	1	Grand Haven State Park
26	Sanilac	Lake Huron	1	Blue Water Beach
137	Sanilac	Lake Huron	2	Forester County Park
138	Sanilac	Lake Huron	3	Forestville Beach
139	Sanilac	Lake Huron	4	Lexington Beach
140	Sanilac	Lake Huron	5	Lexington County Park
141	Sanilac	Lake Huron	6	Port Sanilac Park
27	Schoolcraft	Lake Michigan	1	Public Shoreline Beach-Thompson
143	Schoolcraft	Lake Michigan	2	Rogers Park-MDOT
28	St. Clair	Lake Huron	1	Burtchville Township Park
145	St. Clair	Lake Huron	2	Conger-Lighthouse Beach
146	St. Clair	Lake Huron	3	Fort Gratiot County Park
147	St. Clair	Lake Huron	4	Holland Road Beach
148	St. Clair	Lake Huron	5	Jeddo Road Beach
149	St. Clair	Lake Huron	6	Keewadhin Road Beach
150	St. Clair	Lake Huron	7	Krafft Road Beach
151	St. Clair	Lake Huron	8	Lakeport State Campground
152	St. Clair	Lake Huron	9	Lakeport State Park
153	St. Clair	Lake Huron	10	Lakeside Beach
154	St. Clair	Lake Huron	11	Metcalf Road Beach
155	St. Clair	Lake Huron	12	Washington Street Park

Appendix E.1. Great Lakes Beaches Monitored.

	County	Water Body		Location
156	St. Clair	St. Clair River	13	Chrysler Park Beach
157	St. Clair	St. Clair River	14	Marine City Beach
158	St. Clair	St. Clair River	15	Marine City Diving Area
29 159	<u>Wayne</u>	Detroit River	1	Belle Isle Beach
160	Wayne	Lake St. Clair	2	Pier Park

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
1 1	Alcona	Lake Huron	1	Black River Public Access
2	Alcona	Lake Huron	2	Greenbush Township
3	Alcona	Lake Huron	3	Harrisville Public Access
4	Alcona	Lake Huron	4	Negwegon State Park
5	Alcona	Lake Huron	5	Point Road Beach
6	Alcona	Lake Huron	6	Public Shoreline Beach-Huron National Forest North
7	Alcona	Lake Huron	7	Public Shoreline Beach-Huron National Forest South
8	Alcona	Lake Huron	8	Trask Lake Road Beach
2 9	Alger	Lake Superior	1	Au Train Beach
10	Alger	Lake Superior	2	Bay Furnance Recreation Area Beach
11	Alger	Lake Superior	3	Christmas Beach
12	Alger	Lake Superior	4	Grand Marais Harbor Beach
13	Alger	Lake Superior	5	Grand Marais Township Beach
14	Alger	Lake Superior	6	Hurricane Campground Beach
15	Alger	Lake Superior	7	Miners Beach
16	Alger	Lake Superior	8	Munising Beach
17	Alger	Lake Superior	9	Public Shoreline Beach-Au Train Bay
18	Alger	Lake Superior	10	Public Shoreline Beach-Au Train to Five Mile Pts
19	Alger	Lake Superior	11	Public Shoreline Beach-East County Border area
20	Alger	Lake Superior	12	Public Shoreline Beach-Grand Sable Dunes
21	Alger	Lake Superior	13	Public Shoreline-Grand Portal Point
22	Alger	Lake Superior	14	Public Shoreline-Sand Point to Miners Castle Point
23	Alger	Lake Superior	15	Rathfoot Park Beach
24	Alger	Lake Superior	16	Roadside Park
25	Alger	Lake Superior	17	Sand Point
26	Alger	Lake Superior	18	Twelve-Mile Beach
3 27	Alpena	Lake Huron	1	Bay View Park
28	Alpena	Lake Huron	2	Elcajon Bay
29	Alpena	Lake Huron	3	Issineke Hardwood Point
30	Alpena	Lake Huron	4	Michekewis Beach
31	Alpena	Lake Huron	5	Negwegon State Park-Ossineke South Point
32	Alpena	Lake Huron	6	Ossineke Beach
33	Alpena	Lake Huron	7	Ossineke Campground
34	Alpena	Lake Huron	8	Ossineke State Park
35	Alpena	Lake Huron	9	Partridge Point
36	Alpena	Lake Huron	10	Rock Port Beach
37	Alpena	Lake Huron	11	Thompson Park
38	Alpena	Lake Huron	12	Whitefish Bay
4 39	Antrim	Grand Traverse Bay-East	1	Petobego Pond Area
40	Antrim	Lake Michigan	2	Antrim County Day Park North

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
41	Antrim	Lake Michigan	3	Antrim County Day Park South
42	Antrim	Lake Michigan	4	Antrim Creek Natural Area
43	Antrim	Lake Michigan	5	Banks Township Park
44	Antrim	Lake Michigan	6	Elk Rapids Park
45	Antrim	Lake Michigan	7	Erickson Road
46	Antrim	Lake Michigan	8	Lore Road End Beach
47	Antrim	Lake Michigan	9	Michigan Trail
48	Antrim	Lake Michigan	10	Nature Preserve
49	Antrim	Lake Michigan	11	North Bay Shore (Conservancy)
50	Antrim	Lake Michigan	12	O'Dell Road
51	Antrim	Lake Michigan	13	Road Crossing near Winters Road
5	<u>Arenac</u>	Inner Saginaw Bay	1	Augres Township Park Beach
53	Arenac	Inner Saginaw Bay	2	Booth Road Beach
54	Arenac	Inner Saginaw Bay	3	City of Au Gres Public Access
55	Arenac	Inner Saginaw Bay	4	Gordon Road Beach
56	Arenac	Inner Saginaw Bay	5	Terrace Road
57	Arenac	Saginaw Bay	6	Whites Beach - Circle Rd Camp
58	Arenac	Saginaw Bay	7	Whites Beach - Isle Rd Ramp
59	Arenac	Saginaw Bay	8	Whites Beach - Point Rd - Culvert
60	Arenac	Saginaw Bay	9	Whites Beach - Wenonah Rd - West Ramp
61	Arenac	Saginaw Bay Inner-Lake Huron	10	Au Sable State Forest- Greens Point
62	Arenac	Saginaw Bay-Lake Huron	11	Pump Station
6	<u>Baraga</u>	Huron Bay-Lake Superior	1	Arvon Township Park
64	Baraga	Keweenaw Bay-Lake Superior	2	Baraga State Park
65	Baraga	Keweenaw Bay-Lake Superior	3	First Sand Beach
66	Baraga	Keweenaw Bay-Lake Superior	4	L'Anse Township Park
67	Baraga	Keweenaw Bay-Lake Superior	5	L'Anse Waterfront Park
68	Baraga	Keweenaw Bay-Lake Superior	6	Second Sands Beach
69	Baraga	Lake Superior	7	Keweenaw Bay Village Public Roadside Park
70	Baraga	Lake Superior	8	Mouth of the Huron River
71	Baraga	Lake Superior	9	Public Shoreline Beach-Cooper Country Huron Bay
72	Baraga	Lake Superior	10	Public Shoreline Beach-Northwest Abbaye Peninsula
73	Baraga	Lake Superior	11	Public Shoreline Beach-Point Abbaye
74	Baraga	Lake Superior	12	Public Shoreline Beach-Sand Point
7	<u>Bay</u>	Saginaw Bay	1	Nayanquing Point Wildlife Area

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
8	Benzie	Lake Michigan	1	Alberta Village Beach & Bluffs
76	Benzie	Lake Michigan	2	County Road # 669
77	Benzie	Lake Michigan	3	Esch Road/Otter Creek
78	Benzie	Lake Michigan	4	Platte River Point
79	Benzie	Lake Michigan	5	Point Betsie Lighthouse Beach
80	Benzie	Lake Michigan	6	Zettenberg Preserve
81				
9	Berrien	Lake Michigan	1	Galien River Park
82	Berrien	Lake Michigan	2	Gordon Beach
83	Berrien	Lake Michigan	3	Grand Mere State Park- Rosemary Beach
84	Berrien	Lake Michigan	4	Grand Mere State Park- Shoreline Beach
85	Berrien	Lake Michigan	5	Grand Mere State Park- Waverland Beach
86	Berrien	Lake Michigan	6	Harbert Beach
87	Berrien	Lake Michigan	7	Lincoln Township Park
88	Berrien	Lake Michigan	8	Mizpah Park
89	Berrien	Lake Michigan	9	Rocky Gap Park
90	Berrien	Lake Michigan	10	Warren Dunes State Park North
91	Berrien	Lake Michigan	11	Weko Beach
92				
10	Charlevoix	Lake Charlevoix	1	Depot Beach
93	Charlevoix	Lake Charlevoix	2	East Jordan Tourist Park
94	Charlevoix	Lake Charlevoix	3	Ferry Beach
95	Charlevoix	Lake Charlevoix	4	Glenwood Beach
96	Charlevoix	Lake Charlevoix	5	Hayes Township Park
97	Charlevoix	Lake Charlevoix	6	Peninsula Beach
98	Charlevoix	Lake Charlevoix	7	Tannery Park
99	Charlevoix	Lake Charlevoix	8	Washington Street Beach
100	Charlevoix	Lake Michigan	9	Bill Wagner Memorial Campground Beach
101	Charlevoix	Lake Michigan	10	Cables Bay Beach
102	Charlevoix	Lake Michigan	11	Donegal Bay
103	Charlevoix	Lake Michigan	12	Harbor Beach
104	Charlevoix	Lake Michigan	13	Iron Ore Bay Beach
105	Charlevoix	Lake Michigan	14	Michigan Avenue
106	Charlevoix	Lake Michigan	15	Mt. McSauba Beach
107	Charlevoix	Lake Michigan	16	Norwood Township Park
108				
11	Cheboygan	Lake Huron	1	Alexander Henry Park
109	Cheboygan	Lake Huron	2	Cheboygan City Park
110	Cheboygan	Lake Huron	3	Cheboygan State Park Duncan Bay
111	Cheboygan	Lake Huron	4	Cheboygan State Park- Lighthouse Point
112	Cheboygan	Lake Huron	5	Ditta Park
113	Cheboygan	Lake Huron	6	Huron Street Beach
114	Cheboygan	Lake Huron	7	Mackinaw City Beach
115	Cheboygan	Lake Huron	8	Mackinaw City Lighthouse Park
116	Cheboygan	Lake Huron	9	Mill Creek Public Access
117				

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
118	Cheboygan	Lake Huron	10	Pinewood Circle Road End Beach
119	Cheboygan	Lake Huron	11	Roadside Park MDOT, US-23
120	Cheboygan	Lake Huron	12	Stoney Point Road End Beach
121	Cheboygan	Lake Huron	13	Wawatam City Park
12	Chippewa	Lake Huron	1	Bass Cove Beach-Drummond Island
123	Chippewa	Lake Huron	2	Betsey Seaman Memorial Park-Drummond Island
124	Chippewa	Lake Huron	3	Big Shoal Cove
125	Chippewa	Lake Huron	4	De Tour State Park Shoreline Beach
126	Chippewa	Lake Huron	5	Detour Albany Beach
127	Chippewa	Lake Huron	6	Drummond Island Township Park
128	Chippewa	Lake Huron	7	Sand Bay Beach-Drummond Island
129	Chippewa	Lake Superior	8	Back Bay Boat Launch
130	Chippewa	Lake Superior	9	Bayview Campground
131	Chippewa	Lake Superior	10	Big Pines Day Use Area
132	Chippewa	Lake Superior	11	Hiawatha National Forest- Nodoway Point Area
133	Chippewa	Lake Superior	12	Hiawatha National Forest- North of Big Pine Picnic
134	Chippewa	Lake Superior	13	Hiawatha National Forest- Pendills Bay
135	Chippewa	Lake Superior	14	Hiawatha National Forest- Pendills Lake
136	Chippewa	Lake Superior	15	Hiawatha National Forest- Point Iroquois Light
137	Chippewa	Lake Superior	16	Hiawatha National Forest- Tahquamenon Bay
138	Chippewa	Lake Superior	17	Hiawatha National Forest- West of Salt Point
139	Chippewa	Lake Superior	18	Pendills Beach
140	Chippewa	Lake Superior	19	Public Shoreline Beach-Browns Creek Area
141	Chippewa	Lake Superior	20	Public Shoreline Beach-Marsh Lake Area
142	Chippewa	Lake Superior	21	Public Shoreline Beach-Northwest of Two Mile Lake
143	Chippewa	Lake Superior	22	Public Shoreline Beach-Weatherhog Lake East Area
144	Chippewa	Lake Superior	23	Public Shoreline Beach-Weatherhog Lake West
145	Chippewa	Lake Superior	24	Public Shoreline Beach-West of Whitefish Point
146	Chippewa	Lake Superior	25	Superior Township Public Access
147	Chippewa	Lake Superior	26	Tahquamenon Falls State Park-River Mouth Unit
148	Chippewa	Lake Superior	27	Whitefish Bay Picnic Area
149	Chippewa	St. Mary's River	28	Dunbar Park
150	Chippewa	St. Mary's River	29	Hiawatha National Forest- North Pond
151	Chippewa	St. Mary's River	30	Hiawatha National Forest- Waiska Bay
152	Chippewa	St. Mary's River	31	Lake Superior State Forest- Munuscong Lake
153	Chippewa	St. Mary's River	32	Public Shoreline Beach-Brush Point
154	Chippewa	St. Mary's River	33	Public Shoreline Beach-Point Aux Frenes
155	Chippewa	St. Mary's River	34	Public Shoreline Beach-Raber Bay stretch
156	Chippewa	St. Mary's River	35	Wilderness Beach
13	Delta	Fishdam River	1	Big Bay De Noc/Fishdam River Public Access
158	Delta	Lake Michigan	2	Fayette State Park

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
159	Delta	Lake Michigan	3	Fuller Park
160	Delta	Lake Michigan	4	Little Bay De Noc Public Beach Access
161	Delta	Lake Michigan	5	Portage Bay Forest Campground
162	Delta	Lake Michigan	6	Public Shoreline Beach-Charboneau Point
163	Delta	Lake Michigan	7	Public Shoreline Beach-County Road 481
164	Delta	Lake Michigan	8	Public Shoreline Beach-East Wilsey Bay
165	Delta	Lake Michigan	9	Public Shoreline Beach-Fishdam River
166	Delta	Lake Michigan	10	Public Shoreline Beach-Gilnet Haven
167	Delta	Lake Michigan	11	Public Shoreline Beach-Indian Point
168	Delta	Lake Michigan	12	Public Shoreline Beach-Indian Town Lake USFS
169	Delta	Lake Michigan	13	Public Shoreline Beach-Jacks Bluff
170	Delta	Lake Michigan	14	Public Shoreline Beach-Martin Bay
171	Delta	Lake Michigan	15	Public Shoreline Beach-Nahma
172	Delta	Lake Michigan	16	Public Shoreline Beach-North End of Kregg Bay
173	Delta	Lake Michigan	17	Public Shoreline Beach-North of Stonington
174	Delta	Lake Michigan	18	Public Shoreline Beach-Ogontz Bay
175	Delta	Lake Michigan	19	Public Shoreline Beach-Peninsula Point
176	Delta	Lake Michigan	20	Public Shoreline Beach-Point Detour
177	Delta	Lake Michigan	21	Public Shoreline Beach-Portage Bay
178	Delta	Lake Michigan	22	Public Shoreline Beach-Portage Peninsula
179	Delta	Lake Michigan	23	Public Shoreline Beach-St. Vital's Island
180	Delta	Lake Michigan	24	Public Shoreline Beach-USFS West Wilsey Bay
181	Delta	Lake Michigan	25	Public Shoreline Beach-West Side of Kregg Bay
182	Delta	Lake Michigan	26	Sac Bay County Park
183	Delta	Lake Michigan	27	Twin Springs Campground and Bathing Beach
14 184	Emmet	Lake Michigan	1	Bliss Township Beach
185	Emmet	Lake Michigan	2	Church Beach
186	Emmet	Lake Michigan	3	Colonial Michilimackinac State Park
187	Emmet	Lake Michigan	4	Cross Village Beach
188	Emmet	Lake Michigan	5	Forest Beach
189	Emmet	Lake Michigan	6	Mackinaw City Beach #1
190	Emmet	Lake Michigan	7	Mackinaw City Beach #2
191	Emmet	Lake Michigan	8	Magnus Park
192	Emmet	Lake Michigan	9	Middle Village Park
193	Emmet	Lake Michigan	10	Petoskey Harbor
194	Emmet	Lake Michigan	11	Readmond Township Beach
195	Emmet	Lake Michigan	12	Sturgeon Bay Township Beach
196	Emmet	Lake Michigan	13	The Headlands County Park
197	Emmet	Lake Michigan	14	Thorne Swift Preserve
198	Emmet	Lake Michigan	15	Wilderness State Park
199	Emmet	Lake Michigan	16	Wilderness State Park-East of the Beach
200	Emmet	Lake Michigan	17	Wilderness State Park-Sturgeon Bay
201	Emmet	Lake Michigan	18	Wilderness State Park-West of Beach
202	Emmet	Lake Michigan	19	Zoll Street Beach

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
15 203	Gogebic	Lake Superior	1	Black River Harbor Beach
204	Gogebic	Lake Superior	2	Little Girls Point Park
205	Gogebic	Lake Superior	3	Mouth of the Montreal River
206	Gogebic	Lake Superior	4	Porcupine Mountain State Park-North
207	Gogebic	Lake Superior	5	Presque Isle Beach
208	Gogebic	Lake Superior	6	Presque Isle State Campground
209	Gogebic	Lake Superior	7	Public Shoreline Beach-West of Black River
16 210	Grand Traverse	Grand Traverse Bay	1	Archie Park
211	Grand Traverse	Grand Traverse Bay	2	Old Mission - Center Road Natural Area
212	Grand Traverse	Grand Traverse Bay	3	Old Mission - MDOT Right of Way-South of M-37
213	Grand Traverse	Grand Traverse Bay	4	Old Mission - Old Mission Point State Park
214	Grand Traverse	Grand Traverse Bay-East	5	Acme Roadside Park (DNR)
215	Grand Traverse	Grand Traverse Bay-East	6	Acme Roadside Park and Beach MDOT
216	Grand Traverse	Grand Traverse Bay-East	7	Deep Water Point
217	Grand Traverse	Grand Traverse Bay-East	8	East Bay Township Four Mile Road
218	Grand Traverse	Grand Traverse Bay-East	9	Yuba Beach
219	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	10	Bowers Harbor Public Access
220	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	11	DNR Launch/Beach Center Road
221	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	12	Haserot Beach
222	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	13	Kroupa Road Access M-22 South of Crain Hill Road
223	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	14	Leffingwell Point Beach
224	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	15	Old Mission Lighthouse
225	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	16	Old Mission Peninsula Twp Park-East of Light House
226	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	17	Old Mission Peninsula Twp Park-West of Light House
227	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	18	Old Mission Road
228	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	19	Peninsula Volunteer Fire Station Point #2
229	Grand Traverse	Grand Traverse Bay-Old Mission Peninsula	20	Swaney Road
230	Grand Traverse	Grand Traverse Bay-West	21	Mouth of Boardman
231	Grand Traverse	Grand Traverse Bay-West	22	Power Island Bay Park
232	Grand Traverse	Grand Traverse Bay-West	23	Rose Street Access at Peninsula Drive
233	Grand Traverse	Grand Traverse Bay-West	24	Senior Center
234	Grand Traverse	Grand Traverse Bay-West	25	Sunset Park
17 235	Houghton	Lake Superior	1	Agate Beach

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
236	Houghton	Lake Superior	2	Calument Waterworks Beach
237	Houghton	Lake Superior	3	McLain State Park Beach
238	Houghton	Lake Superior	4	Mink Farm
239	Houghton	Lake Superior	5	Public Shoreline Beach-Le Chance Creek
240	Houghton	Lake Superior	6	Public Shoreline Beach-Mc Lain State Park
241	Houghton	Lake Superior	7	Public Shoreline Beach-S. of Portage Entry
242	Houghton	Lake Superior	8	Public Shoreline Beach-Southwest County Border
243	Houghton	Lake Superior	9	White City
244	Houghton	Pike Bay at Portage Cana-Lake Superior	10	Chassell Beach
245	Houghton	Portage Canal-Lake Superior	11	Hancock City Beach
246	Houghton	Portage Canal-Lake Superior	12	Houghton City Beach
247	Houghton	Portage Canal-Lake Superior	13	Sandy Bottom Beach - Dollar Bay
248	Houghton	Torch Lake-Portage Canal-Lake Superior	14	Hubbell Park
249	Houghton	Torch Lake-Portage Canal-Lake Superior	15	Lake Linden Campground Beach
18	Huron	Lake Huron	1	County Road End
251	Huron	Lake Huron	2	Geiger Road Public Access
252	Huron	Lake Huron	3	Grindstone Public Access
253	Huron	Lake Huron	4	Harbor Beach Marina
254	Huron	Lake Huron	5	Helena Road End
255	Huron	Lake Huron	6	Kinch Road End
256	Huron	Lake Huron	7	Larned Road End
257	Huron	Lake Huron	8	Lighthouse County Park-South
258	Huron	Lake Huron	9	Mud Creek Public Access
259	Huron	Lake Huron	10	Stafford County Park
260	Huron	Lake Huron	11	Wagener County Park
19	Iosco	Lake Huron	1	Alabaster Township-Alabaster Road
262	Iosco	Lake Huron	2	Alabaster Township-Douglas Drive
263	Iosco	Lake Huron	3	Au Sable Point Beach
264	Iosco	Lake Huron	4	Interlake Road
265	Iosco	Lake Huron	5	Lake To Lake Road
266	Iosco	Lake Huron	6	Tawas Point State Park-Central
267	Iosco	Lake Huron (Tawas Bay)	7	County Road End off Tawas Beach Road
268	Iosco	Lake Huron (Tawas Bay)	8	MDNR Access E. Tawas - Boat Launch
20	Keweenaw	Lake Superior at Bete de Gris Bay	1	Bete de Gris Beach
270	Keweenaw	Lake Superior	2	Brunette Park
271	Keweenaw	Lake Superior	3	Cat Harbor Beach
272	Keweenaw	Lake Superior	4	Cooper Harbor Lighthouse Complex
273	Keweenaw	Lake Superior	5	Eagle Harbor Beach
274	Keweenaw	Lake Superior	6	Eagle River Beach

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
275	Keweenaw	Lake Superior	7	Fort Wilkins State Park
276	Keweenaw	Lake Superior	8	Fort Wilkins State Park-East
277	Keweenaw	Lake Superior	9	Fort Wilkins State Park-West
278	Keweenaw	Lake Superior	10	Great Sands Bay Beach
279	Keweenaw	Lake Superior	11	Mouth of the Gratiot River Beach
280	Keweenaw	Lake Superior	12	Point Isabelle Beach
281	Keweenaw	Lake Superior	13	Public Shoreline Beach-Big Traverse Bay
282	Keweenaw	Lake Superior	14	Public Shoreline Beach-Gay Park
21 283	<u>Leelanau</u>	Grand Traverse Bay	1	Boughy Park and Beach
284	Leelanau	Grand Traverse Bay-West	2	Cathead Bay, Leelanau State Park
285	Leelanau	Grand Traverse Bay-West	3	Christmas Cove
286	Leelanau	Grand Traverse Bay-West	4	Graham Green Park
287	Leelanau	Grand Traverse Bay-West	5	Hendryx County Roadside Park
288	Leelanau	Grand Traverse Bay-West	6	M-22 at M-72 Public Access
289	Leelanau	Grand Traverse Bay-West	7	MDOT Roadside Park and Beach
290	Leelanau	Grand Traverse Bay-West	8	MDOT Roadside Park and Beach M-22 North of Cherry Bend Drive
291	Leelanau	Grand Traverse Bay-West	9	Northport 4th Street Beach
292	Leelanau	Grand Traverse Bay-West	10	Northport 5th Street Beach
293	Leelanau	Grand Traverse Bay-West	11	Northport 7th Street Beach
294	Leelanau	Grand Traverse Bay-West	12	Northport Haserot Beach, Rose Street
295	Leelanau	Grand Traverse Bay-West	13	Omena Beach and Park
296	Leelanau	Grand Traverse Bay-West	14	Stoney Point County Roadside Park
297	Leelanau	Grand Traverse Bay-West	15	Suttons Bay North Shore Park
298	Leelanau	Grand Traverse Bay-West	16	Suttons Bay South Shore Park
299	Leelanau	Lake Michigan	17	Bay Front Park
300	Leelanau	Lake Michigan	18	Cedar Street Beach
301	Leelanau	Lake Michigan	19	G. Marsten Dame Marina
302	Leelanau	Lake Michigan	20	Gils Pier
303	Leelanau	Lake Michigan	21	Glen Arbor/Manitou Boulevard Beach
304	Leelanau	Lake Michigan	22	Lake Street Beach, Glen Arbor
305	Leelanau	Lake Michigan	23	Leelanau State Park, Lighthouse
306	Leelanau	Lake Michigan	24	Leland Harbor
307	Leelanau	Lake Michigan	25	North Bar
308	Leelanau	Lake Michigan	26	North Street Beach
309	Leelanau	Lake Michigan	27	Peterson Park
310	Leelanau	Lake Michigan	28	Reynolds Street Beach
311	Leelanau	Lake Michigan	29	Smith Street Beach Northport
312	Leelanau	Lake Michigan	30	Thompson Stree Beach
22 313	<u>Luce</u>	Lake Superior	1	Blind Sucker River #1
314	Luce	Lake Superior	2	Blind Sucker River #2
315	Luce	Lake Superior	3	Crisp Point Lighthouse
316	Luce	Lake Superior	4	Lake Superior Campground Beach
317	Luce	Lake Superior	5	Mouth of the Two Hearted River Campground

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
318	Luce	Lake Superior	6	Public Shoreline Beach-Blind Sucker Flooding Area
319	Luce	Lake Superior	7	Public Shoreline Beach-Coast Guard Line Road
320	Luce	Lake Superior	8	Public Shoreline Beach-County Road 407
321	Luce	Lake Superior	9	Public Shoreline Beach-County Road 412 and Crisp Point
322	Luce	Lake Superior	10	Public Shoreline Beach-Little Sucker/Two Hearted River
323	Luce	Lake Superior	11	Public Shoreline Beach-Three Mile Creek Area
324	Luce	Lake Superior	12	Public Shoreline Beach-West County Border Beach
325	Luce	Lake Superior	13	Unnamed Road End #1
326	Luce	Lake Superior	14	Unnamed Road End #2
327	Luce	Lake Superior	15	Unnamed Road End #3
23	Mackinac	Lake Huron	1	American Legion Memorial Park
329	Mackinac	Lake Huron	2	Antoine Road End
330	Mackinac	Lake Huron	3	Boot Island
331	Mackinac	Lake Huron	4	Coast Guard Pier Boat Launch and City Park
332	Mackinac	Lake Huron	5	Foley Creek Campground
333	Mackinac	Lake Huron	6	Government Island-Hiawatha National Forest
334	Mackinac	Lake Huron	7	Harbour Light
335	Mackinac	Lake Huron	8	Hazelton Road End
336	Mackinac	Lake Huron	9	Hiawatha National Forest- Carp River Access
337	Mackinac	Lake Huron	10	Horseshoe Bay Wilderness-North
338	Mackinac	Lake Huron	11	Horseshoe Bay Wilderness-South
339	Mackinac	Lake Michigan	12	Big Knob State Forest Campground
340	Mackinac	Lake Michigan	13	Black River State Forest Campground
341	Mackinac	Lake Michigan	14	Epoufette Bay Campground
342	Mackinac	Lake Michigan	15	Hog Island Campground
343	Mackinac	Lake Michigan	16	Lake Michigan US-2 Campground Beach
344	Mackinac	Lake Michigan	17	MDOT Overlook
345	Mackinac	Lake Michigan	18	MDOT Roadside Park on US-2
346	Mackinac	Lake Michigan	19	Mouth of Cut River Roadside Beach
347	Mackinac	Lake Michigan	20	Naubinway Bay Access
348	Mackinac	Lake Michigan	21	Public Shoreline Beach #2-Little Hog Island area
349	Mackinac	Lake Michigan	22	Public Shoreline Beach #2-Manitou Paymen Highbanks
350	Mackinac	Lake Michigan	23	Public Shoreline Beach #3-Little Hog Island area
351	Mackinac	Lake Michigan	24	Public Shoreline Beach #4-Little Hog Island area
352	Mackinac	Lake Michigan	25	Public Shoreline Beach #5-Little Hog Island area
353	Mackinac	Lake Michigan	26	Public Shoreline Beach-Epoufette Bay
354	Mackinac	Lake Michigan	27	Public Shoreline Beach-Fox Point Area
355	Mackinac	Lake Michigan	28	Public Shoreline Beach-Little Hog Island area
356	Mackinac	Lake Michigan	29	Public Shoreline Beach-Manitou Paymen Highbanks

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
357	Mackinac	Lake Michigan	30	Public Shoreline Beach-MDNR Matrix Point Area
358	Mackinac	Lake Michigan	31	Public Shoreline Beach-Morean Township, Section 25
359	Mackinac	Lake Michigan	32	Public Shoreline Beach-Naubinway Area
360	Mackinac	Lake Michigan	33	Public Shoreline Beach-Pointe Aux Chenes Bay
361	Mackinac	Lake Michigan	34	Public Shoreline Beach-Seiners Point
362	Mackinac	Lake Michigan	35	Public Shoreline Beach-South of Brevort River
363	Mackinac	Lake Michigan	36	Public Shoreline Beach-State Forest Matrix Point
364	Mackinac	Lake Michigan	37	Sand Point
365	Mackinac	Lake Michigan	38	State Roadside Park Beach
24 366	<u>Manistee</u>	Lake Michigan	1	Portage Park
25 367	<u>Marquette</u>	Lake Superior	1	Public Shoreline Beach-Big Huron River
368	Marquette	Lake Superior	2	Public Shoreline Beach-Little Presque Isle
369	Marquette	Lake Superior	3	Shiras Park Beach
26 370	<u>Mason</u>	Lake Michigan	1	Ludington State Park Public Shoreline Beach North
371	Mason	Lake Michigan	2	Ludington State Park Public Shoreline Beach South
372	Mason	Lake Michigan	3	Manistee National Forest Campground Beach
373	Mason	Lake Michigan	4	Manistee National Forest-Public Shoreline Beach North
374	Mason	Lake Michigan	5	Manistee National Forest-Public Shoreline Beach South
375	Mason	Lake Michigan	6	Pere Marquette Harbor
27 376	<u>Menominee</u>	Lake Michigan	1	Airport Park
377	Menominee	Lake Michigan	2	Fox Park
378	Menominee	Lake Michigan	3	Henes Park
379	Menominee	Lake Michigan	4	Klienke Park
380	Menominee	Lake Michigan	5	Memorial Beach
381	Menominee	Lake Michigan	6	Public Shoreline Beach-Cedar River
382	Menominee	Lake Michigan	7	Public Shoreline Beach-Fox village
383	Menominee	Lake Michigan	8	Wells State Park
28 384	<u>Muskegon</u>	Lake Michigan	1	Bronson/Kruse Park
385	Muskegon	Lake Michigan	2	Lake Harbor Park
386	Muskegon	Lake Michigan	3	Lighthouse/Sylvan Beach
387	Muskegon	Lake Michigan	4	Medbury Park Beach
388	Muskegon	Lake Michigan	5	Muskegon State Park-North Campground Beach
389	Muskegon	Lake Michigan	6	Old Channel Beach
390	Muskegon	Lake Michigan	7	P.J. Hoffmaster State Park - Campground
391	Muskegon	Lake Michigan	8	Pioneer County Park

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
29 392	<u>Oceana</u>	Lake Michigan	1	Cedar Point County Park
393	Oceana	Lake Michigan	2	Silver Lake State Park
394	Oceana	Silver Lake-Lake Michigan	3	Silver Creek Channel
30 395	<u>Ontonagon</u>	Lake Superior	1	Green Park
396	Ontonagon	Lake Superior	2	Gull Point Beach
397	Ontonagon	Lake Superior	3	Mouth of the Big Iron River Beach
398	Ontonagon	Lake Superior	4	Ontonagon Township Park and Campground
399	Ontonagon	Lake Superior	5	Porcupine Mountain State Park
400	Ontonagon	Lake Superior	6	Porcupine Mountains State Park- Union Bay
401	Ontonagon	Lake Superior	7	Porcupine Mountains Wilderness State Park-West
402	Ontonagon	Lake Superior	8	Public Shoreline Beach-Misery Bay
403	Ontonagon	Lake Superior	9	Public Shoreline Beach-Sleeping Bay
404	Ontonagon	Lake Superior	10	Public Shoreline Beach-Wolf Point
405	Ontonagon	Lake Superior	11	Union Bay Beach
31 406	<u>Ottawa</u>	Lake Michigan	1	Grand Haven City Beach
407	Ottawa	Lake Michigan	2	Holland State Park
408	Ottawa	Lake Michigan	3	Kirk Park
409	Ottawa	Lake Michigan	4	Kouw Park
410	Ottawa	Lake Michigan	5	Mountain Beach
411	Ottawa	Lake Michigan	6	North Beach Park
412	Ottawa	Lake Michigan	7	P.J. Hoffmaster State Park- Shoreline Beach
413	Ottawa	Lake Michigan	8	Rosy Mound Recreation Area
414	Ottawa	Lake Michigan	9	Tunnel Park
415	Ottawa	Lake Michigan	10	Windsnest Park
32 416	<u>Presque Isle</u>	Lake Huron	1	40 Mile Point Park
417	Presque Isle	Lake Huron	2	Ball Diamond Park
418	Presque Isle	Lake Huron	3	Bell Bay
419	Presque Isle	Lake Huron	4	Evergreen Beach
420	Presque Isle	Lake Huron	5	Golden Beach
421	Presque Isle	Lake Huron	6	Grace Access Site
422	Presque Isle	Lake Huron	7	Hammond Bay Access Site
423	Presque Isle	Lake Huron	8	Hammond Bay Harbor
424	Presque Isle	Lake Huron	9	Hoeft State Park-North
425	Presque Isle	Lake Huron	10	Hoeft State Park-South
426	Presque Isle	Lake Huron	11	Lakeside Park in Rogers City
427	Presque Isle	Lake Huron	12	Lakeview Park Beach
428	Presque Isle	Lake Huron	13	Manitou Beach
429	Presque Isle	Lake Huron	14	New Lighthouse Park
430	Presque Isle	Lake Huron	15	Presque Isle Harbor
431	Presque Isle	Lake Huron	16	Presque Isle Harbor Beach
432	Presque Isle	Lake Huron	17	Public Shoreline Beach-False Presque Isle Harbor
433	Presque Isle	Lake Huron	18	Seagull Point Park

Appendix E.2. Great Lakes Beaches Not Monitored.

	County	Water Body		Location
434	Presque Isle	Lake Huron	19	Thompson's Harbor State Park
435	Presque Isle	Lake Huron	20	US-23 Hammond Bay
436	Presque Isle	Lake Huron	21	US-23 Roger City
33	<u>Sanilac</u>	Lake Huron	1	Birch Beach
438	Sanilac	Lake Huron	2	Birch Beach Middle #2
439	Sanilac	Lake Huron	3	Birch Beach North #3
440	Sanilac	Lake Huron	4	Delaware Park
441	Sanilac	Lake Huron	5	Great Lakes Beach
442	Sanilac	Lake Huron	6	Great Lakes Beach #1
443	Sanilac	Lake Huron	7	Sanilac County Park #4
444	Sanilac	Lake Huron	8	Sanilac County Roadside Park #1
34	<u>Schoolcraft</u>	Lake Michigan	1	Doyle Township Access
446	Schoolcraft	Lake Michigan	2	Goudreau's Harbor Seul Choix Point-Boat Landing
447	Schoolcraft	Lake Michigan	3	Lakeview Park
448	Schoolcraft	Lake Michigan	4	Manistique Township Park
449	Schoolcraft	Lake Michigan	5	Public Shoreline Beach-South of McDonald Lake
450	Schoolcraft	Lake Michigan	6	Public Shoreline Beach-Thompson Village
451	Schoolcraft	Lake Michigan	7	Roadside Park Beach
35	<u>Van Buren</u>	Lake Michigan	1	Covert Township Park Beach
453	Van Buren	Lake Michigan	2	South Haven North Beach
454	Van Buren	Lake Michigan	3	South Haven South Beach
455	Van Buren	Lake Michigan	4	Van Buren State Park Beach

Appendix F.1. Daily Water Samples from Inland Lake Beaches that Exceeded Michigan's WQS.

	County		Location	Sampling Date	E. coli Test Results
1	Bay	1	Boat Launch on Kawkawlin River	03-Jun-14	613.0729
	Bay	2	Boat Launch on Kawkawlin River	24-Jun-14	557.7953
	Bay	3	Boat Launch on Kawkawlin River	14-Jul-14	478.2441
2	Benzie	1	Beulah Beach	27-Aug-14	652.649
3	Isabella	1	Coldwater Park	09-Jul-14	478.4002
	Isabella	2	Herrick County Park	06-Aug-14	308.8635
	Isabella	3	Herrick County Park	19-Aug-14	353.9252
4	Leelanau	1	Sleeping Bear Dunes- Shalda Creek	02-Jul-14	593.2579
5	Livingston	1	Brighton State Recreation Area	19-Jun-14	393.9764
6	Muskegon	1	Fox Lake Park Beach	23-Jun-14	854.0794
	Muskegon	2	Laketon Township Beach	19-Jun-14	426.7391
	Muskegon	3	Water Sports Park	19-Jun-14	1753.733
7	Oakland	1	Camp Ohiyesa - North	18-Jun-14	355
	Oakland	2	E.V. Mercer City Beach	30-Jun-14	664
	Oakland	3	Groveland Oaks County Park - Paradise Beach	01-Jul-14	346
	Oakland	4	Holly Village Beach	24-Jun-14	739
	Oakland	5	Holly Village Beach	01-Jul-14	849
	Oakland	6	Scotch Lake Residents	01-Jul-14	523
	Oakland	7	Scotch Lake Residents	02-Jul-14	395
	Oakland	8	Scotch Lake Residents	07-Jul-14	517
	Oakland	9	Scotch Lake Residents	09-Jul-14	319
	Oakland	10	Scotch Lake Residents	10-Jul-14	758
	Oakland	11	Seven Lakes Park	01-Jul-14	302
	Oakland	12	Thelma Spencer Park	21-Jul-14	368
	Oakland	13	Thelma Spencer Park	22-Jul-14	443
	Oakland	14	Upland Hills Farm	14-Jul-14	728
8	Ottawa	1	Dunton Park	14-Aug-14	320
	Ottawa	2	Pottawattomie Park	13-Aug-14	308
9	Washtenaw	1	Independence Lake County Park	08-Aug-14	387.8804
10	Wayne	1	Newburgh and Sumac Pointes - Hines Park	04-Aug-14	484.9237

Appendix F.1. Daily Water Samples from Inland Lake Beaches that Exceeded Michigan's WQS.

	County		Location	Sampling Date	<i>E. coli</i> Test Results
31	Wayne	2	Newburgh and Sumac Pointes - Hines Park	12-Aug-14	1005.947
32	Wayne	3	Newburgh and Sumac Pointes - Hines Park	18-Aug-14	364.5627
33	Wayne	4	Van Buren Township Park	05-Aug-14	344.2601
11 34	Wexford	1	Manton Park	06-Aug-14	310.8
35	Wexford	2	Mitchell State Park	20-Aug-14	518.6

Appendix F.2. Daily Water Samples from Great Lakes Beaches that Exceeded Michigan's WQS.

	County		Location	Water Body	Sampling Date	E. coli Test Results
1	Alcona	1	Harrisville State Park	Lake Huron	15-Jul-14	608.5795
2	Antrim	1	Veterans Memorial Park	Lake Michigan	12-Aug-14	364.718
3	Arenac	1	Arenac County Park	Saginaw Bay-Lake Huron	24-Jun-14	1753.413
4	Arenac	2	Bessinger Road Beach	Saginaw Bay-Lake Huron	24-Jun-14	2419.6
5	Arenac	3	Bessinger Road Beach	Saginaw Bay-Lake Huron	29-Jul-14	390.4296
6	Arenac	4	Cemetery Beach	Saginaw Bay-Lake Huron	15-Jul-14	316.6949
7	Arenac	5	Hammel Beach Road Access	Saginaw Bay-Lake Huron	17-Jun-14	924.3896
8	Arenac	6	Hammel Beach Road Access	Saginaw Bay-Lake Huron	24-Jun-14	547.3236
9	Arenac	7	Hammel Beach Road Access	Saginaw Bay-Lake Huron	22-Jul-14	396.131
10	Arenac	8	Hammel Beach Road Access	Saginaw Bay-Lake Huron	12-Aug-14	1019.971
11	Arenac	9	Singing Bridge Beach	Saginaw Bay-Lake Huron	15-Jul-14	1050.472
12	Arenac	10	Singing Bridge Beach	Saginaw Bay-Lake Huron	29-Jul-14	423.3486
13	Arenac	11	Singing Bridge Beach	Saginaw Bay-Lake Huron	12-Aug-14	2419.6
14	Arenac	12	Singing Bridge Beach	Saginaw Bay-Lake Huron	02-Sep-14	402.4874
15	Arenac	13	Twining Road Beach	Saginaw Bay-Lake Huron	05-Aug-14	304.8506
16	Arenac	14	Whites Beach	Saginaw Bay	24-Jun-14	692.5467
17	Arenac	15	Whites Beach	Saginaw Bay	12-Aug-14	2419.6
4	Bay	1	Bay City State Recreation Area	Saginaw Bay-Lake Huron	28-Jul-14	506.4293
19	Bay	2	Brissette Beach Township Park	Saginaw Bay-Lake Huron	28-May-14	2265.081
20	Bay	3	Brissette Beach Township Park	Saginaw Bay-Lake Huron	28-Jul-14	700.2139
21	Bay	4	South Linwood Beach Township Park	Saginaw Bay-Lake Huron	13-Aug-14	365.6882
22	Bay	5	Wenona Beach	Saginaw Bay-Lake Huron	28-Jul-14	1023.52
23	Bay	6	Wenona Beach	Saginaw Bay-Lake Huron	13-Aug-14	1867.248
5	Berrien	1	Cherry Beach	Lake Michigan	12-Aug-14	715.5044
25	Berrien	2	Grand Beach	Lake Michigan	02-Jun-14	350.8821
26	Berrien	3	Hagar Township Park	Lake Michigan	02-Jun-14	323.7387
27	Berrien	4	New Buffalo City	Lake Michigan	12-Aug-14	1764.211
28	Berrien	5	New Buffalo City	Lake Michigan	14-Aug-14	438.6079
29	Berrien	6	New Buffalo City	Lake Michigan	25-Aug-14	542.8835
30	Berrien	7	New Buffalo City	Lake Michigan	26-Aug-14	423.5675
31	Berrien	8	New Buffalo City	Lake Michigan	27-Aug-14	349.1407
32	Berrien	9	New Buffalo City	Lake Michigan	28-Aug-14	986.4848
33	Berrien	10	Silver Beach	Lake Michigan	30-Jun-14	865.3497
34	Berrien	11	Union Pier - Townline Road	Lake Michigan	12-Aug-14	339.9019
35	Berrien	12	Warren Dunes Beach	Lake Michigan	11-Aug-14	943.5388
6	Grand Traverse	1	Bayside Acme Township Park	Grand Traverse Bay-East	23-Jul-14	426.7135
37	Grand Traverse	2	Bayside Acme Township Park	Grand Traverse Bay-East	20-Aug-14	497.3974

Appendix F.2. Daily Water Samples from Great Lakes Beaches that Exceeded Michigan's WQS.

	County		Location	Water Body	Sampling Date	E. coli Test Results
38	Grand Traverse	3	Bryant Park Beach	Grand Traverse Bay-West	23-Jul-14	358.8353
39	Grand Traverse	4	Sayler Park	Grand Traverse Bay-East	16-Jul-14	427.6912
40	Grand Traverse	5	Traverse City State Park	Grand Traverse Bay-East	18-Jun-14	367.7454
41	Grand Traverse	6	Traverse City State Park	Grand Traverse Bay-East	23-Jul-14	974.768
42	Grand Traverse	7	West End Beach	Grand Traverse Bay-West	23-Jul-14	507.6245
7	Huron	1	Bird Creek County Park	Lake Huron	12-Aug-14	2419.8
44	Huron	2	Caseville County Park	Lake Huron	28-Jul-14	2265.569
45	Huron	3	Harbor Beach City Park	Lake Huron	12-Aug-14	663.4168
46	Huron	4	Lighthouse County Park	Lake Huron	15-Jul-14	2121.344
47	Huron	5	Lighthouse County Park	Lake Huron	12-Aug-14	756.4707
48	Huron	6	Lighthouse County Park	Lake Huron	13-Aug-14	2419.6
49	Huron	7	Oak Beach County Park	Lake Huron	28-Jul-14	1140.518
50	Huron	8	Port Crescent State Park - Day Use	Lake Huron	15-Jul-14	1773.395
51	Huron	9	Thompson Park	Lake Huron	28-Jul-14	361.0859
8	Iosco	1	East Tawas City Park	Tawas Bay	03-Jun-14	478.46
53	Iosco	2	East Tawas City Park	Tawas Bay	01-Jul-14	602.5123
54	Iosco	3	East Tawas City Park	Tawas Bay	15-Jul-14	741.514
55	Iosco	4	East Tawas City Park	Tawas Bay	12-Aug-14	1157.79
56	Iosco	5	Gateway Park Beach	Lake Huron (Tawas Bay)	12-Aug-14	580.9954
57	Iosco	6	Tawas City Park	Tawas Bay	05-Aug-14	567.629
58	Iosco	7	Tawas City Park	Tawas Bay	12-Aug-14	782.2955
9	Leelanau	1	Sleeping Bear Dunes- CR 669 Good Harbor Bay	Lake Michigan	02-Jul-14	380.1684
60	Leelanau	2	Sleeping Bear Dunes- CR 669 Good Harbor Bay	Lake Michigan	15-Jul-14	327.7285
61	Leelanau	3	Sleeping Bear Dunes-North Bar Lake MI Beach	Lake Michigan	12-Jun-14	423.5824
62	Leelanau	4	Suttons Bay Marina Park & Beach South	Grand Traverse Bay-West	02-Jul-14	339.3365
63	Leelanau	5	Suttons Bay Park	Grand Traverse Bay-West	02-Jul-14	572.7592
10	Macomb	1	H.C.M.A. - Lake St. Clair Metropark Beach	Lake St. Clair	30-Jun-14	341.81
65	Macomb	2	H.C.M.A. - Lake St. Clair Metropark Beach	Lake St. Clair	08-Jul-14	542.05
66	Macomb	3	H.C.M.A. - Lake St. Clair Metropark Beach	Lake St. Clair	05-Aug-14	399.19

Appendix F.2. Daily Water Samples from Great Lakes Beaches that Exceeded Michigan's WQS.

	County		Location	Water Body	Sampling Date	E. coli Test Results
67	Macomb	4	H.C.M.A. - Lake St. Clair Metropark Beach	Lake St. Clair	06-Aug-14	548.071
68	Macomb	5	H.C.M.A. - Lake St. Clair Metropark Beach	Lake St. Clair	20-Aug-14	426.62
69	Macomb	6	H.C.M.A. - Lake St. Clair Metropark Beach	Lake St. Clair	24-Sep-14	2419.6
70	Macomb	7	New Baltimore Park Beach	Lake St. Clair	28-May-14	311.36
71	Macomb	8	New Baltimore Park Beach	Lake St. Clair	01-Jul-14	732.69
72	Macomb	9	New Baltimore Park Beach	Lake St. Clair	08-Jul-14	1871.64
73	Macomb	10	New Baltimore Park Beach	Lake St. Clair	09-Jul-14	546.88
74	Macomb	11	New Baltimore Park Beach	Lake St. Clair	28-Jul-14	332.42
75	Macomb	12	New Baltimore Park Beach	Lake St. Clair	05-Aug-14	544.5
76	Macomb	13	New Baltimore Park Beach	Lake St. Clair	12-Aug-14	451.7253
77	Macomb	14	New Baltimore Park Beach	Lake St. Clair	24-Sep-14	335.57
78	Macomb	15	St. Clair Shores Memorial Park Beach	Lake St. Clair	28-May-14	394.86
79	Macomb	16	St. Clair Shores Memorial Park Beach	Lake St. Clair	29-May-14	907.57
80	Macomb	17	St. Clair Shores Memorial Park Beach	Lake St. Clair	03-Jun-14	911.75
81	Macomb	18	St. Clair Shores Memorial Park Beach	Lake St. Clair	12-Aug-14	1439.391
82	Macomb	19	St. Clair Shores Memorial Park Beach	Lake St. Clair	13-Aug-14	1102.322
83	Macomb	20	St. Clair Shores Memorial Park Beach	Lake St. Clair	24-Sep-14	1415.29
11	Mason	1	Bass Lake Outlet Beach	Lake Michigan	19-Aug-14	340.7981
12	Monroe	1	Sterling State Park	Lake Erie	12-Aug-14	359.8157
13	Muskegon	1	Duck Lake Channel Beach	Lake Michigan	04-Aug-14	406.7868
14	Sanilac	1	Lexington Beach	Lake Huron	15-Jul-14	339.7846
15	Schoolcraft	1	Rogers Park-MDOT	Lake Michigan	19-Aug-14	302.3116
16	St. Clair	1	Conger-Lighthouse Beach	Lake Huron	29-Jul-14	402.6788
90	St. Clair	2	Keewadhin Road Beach	Lake Huron	09-Jul-14	601.7145
91	St. Clair	3	Krafft Road Beach	Lake Huron	29-Jul-14	379.9049
92	St. Clair	4	Lakeside Beach	Lake Huron	29-Jul-14	304.6446
17	Wayne	1	Pier Park	Lake St. Clair	23-Jun-14	346.7575
94	Wayne	2	Pier Park	Lake St. Clair	30-Jun-14	388.5304