

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU
NOVEMBER 2008

STAFF REPORT

MICHIGAN BEACH MONITORING
YEAR 2007 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. Determine whether waters of the state are safe for total body contact recreation.
3. Create and maintain a statewide database.
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, the location of the test results.

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.

Since 2000, the number of counties with a beach monitoring program has more than doubled with the assistance of state and federal grants. A history of Michigan's beach monitoring program growth is shown below in Table 1.

Table 1. The number of counties where at least one beach was monitored and the total number of beaches that were monitored each year.

Year	2007	2006	2005	2004	2003	2002	2001	2000
Number of Counties that Monitored	57	58	52	53	38	26	36	24
Number of Beaches Monitored	474	440	406	494	392	210	250	<50

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 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.

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 \$823,344, including 13 awards totaling \$100,000 in 2007. A complete award history is shown in Appendix A.

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 (2002) has published performance criteria that must be met by grant recipients. Since the BEACH Act was initiated in 2003, the MDEQ has allocated \$1,217,765, including 23 awards totaling \$212,766 in 2007. A complete award history is shown in Appendix B.

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 2002) has determined that *E. coli* and *Enterococci* are appropriate indicators for the presence of waterborne pathogens in fresh water.

Sources of Bacterial Contamination

Combined Sewer Overflows 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 the 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 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 Standard

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 five or more sampling events representatively spread over a 30-day period. Each sampling event shall consist of three 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 three 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 for, and shall be 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, combined sewer overflows, and areas influenced by certain agricultural practices is contrary to prudent public health and safety practices, even though water quality standards may be met.

Beach Closures

Beach advisories or closures in Michigan 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 the 30-day geometric mean to determine if a beach closure or an 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.

3. CREATE AND MAINTAIN A STATEWIDE DATABASE

The MDEQ developed a centralized statewide database to track bathing beach monitoring *E. coli* test results. These results are available electronically to the public via the MDEQ's Web site. The Web site includes information about individual beaches (by county or lake name), frequency of testing, monitoring history, beach closures, and monitoring efforts. The Web site also provides information for beach monitoring procedures and methods, additional links to beach monitoring resources, and contact information for federal, state, and local beach monitoring staff.

Reporting Beach Monitoring 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 other 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://www.epa.gov/beaches/>, along with an online directory of information regarding the water quality at our nation's beaches entitled, "Beach Advisory Closing Online Notification," that can be found at http://oaspub.epa.gov/beacon/beacon_national_page.main.

4. 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) and D.2 (inland lakes-not monitored) and Appendices 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 550 identified public beaches on inland lakes and rivers and 594 identified public beaches on the Great Lakes.

Synopsis of Data

In 2007, monitoring was conducted at 474 (269 inland and 205 Great Lake) public beaches in 57 counties in Michigan. Out of 5,475 daily samples collected, 145 (2.6 percent) exceeded Michigan’s WQS (Appendix F). The exceedances were reported from 77 beaches (16.2 percent of all monitored beaches), 61 (12.9 percent) of which reported beach closures or advisories (89 incidents lasting a total of 1,568 days). The number of beaches with exceedances differed from the number of beaches with closures or advisories due to any of the following: (1) multiple exceedances were reported for a single closure; (2) water samples were tested before or after the swimming season; (3) delays in receiving test results; or (4) a second test (follow-up sample) was used to confirm an exceedance. A summary of exceedances of the *E. coli* WQS for inland and Great Lakes beaches from 2000 to 2007 is provided in Table 2.

Table 2. Beach closures or advisories, total number of days closed, percent of monitored beaches with a closure, and percent of samples exceeding WQS for all public beaches in Michigan.

Year	2007	2006	2005	2004	2003	2002	2001	2000
Closures or Advisories	89	110	80	92	140	117	119	276
Total Days Closed	1,568	886	474	578	>140	211	122	*
Percent of Monitored Beaches with Closure	12.9	18.4	19.0	13.5	10.2	*	*	*
Percent of Samples Exceeding WQS	2.6	3.6	2.8	3.1	3.0	4.2	3.9	9.2

*data not available

Synopsis of Data from Great Lakes Beaches

In 2007, monitoring was conducted at 205 Great Lakes public beaches in 38 counties in Michigan. Out of 2,518 daily samples collected, 77 (3.1 percent) exceeded Michigan’s WQS (Appendix F). The exceedances were reported from 43 beaches (21 percent of monitored Great Lakes beaches), 30 of which reported beach closures or advisories (46 incidents lasting a total of 443 days). A summary of the exceedances of the *E. coli* WQS for Great Lakes beaches is provided in Table 3.

Table 3. Number of exceedances and closures/advisories for Great Lakes beaches monitored in 2007.

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	31	31	1	20	20
2	6	12	2	7	14
4	3	12	3	1	3
7	2	14	4	1	4
8	1	8	5	1	5
TOTAL	43	77		30	46

A summary of the 2007 beach monitoring and beach closure/advisory data for each of the Great Lakes, Lake St. Clair, and connecting channels is provided in Table 4.

Table 4. Number of public beaches and closures/advisories for the Great Lakes, Lake St. Clair, and connecting channels.

Water Body	Number of Public Beaches	Number of Beaches that were Monitored	Number of Beach Closures or Advisories	Total Number of Days Closed
Lake Erie	2	2	0	0
Lake Huron	159	63	14	89
Lake Michigan	299	109	16	126
Lake Superior	115	21	1	2
Lake St. Clair	5	5	12	64
Great Lakes Connecting Channels	14	5	3	162
TOTAL	594	205	46	443

Synopsis of Data from Inland Beaches

In 2007, monitoring was conducted at 269 inland lake public beaches in 37 counties in Michigan. Out of 2,957 daily samples collected, 68 (2.3 percent) exceeded Michigan's WQS (Appendix F). The exceedances were reported from 34 beaches (21 percent of monitored inland beaches), 31 of which reported beach closures or advisories (43 incidents lasting a total of 1,125 days). A summary of the exceedances of the *E. coli* WQS for inland lakes beaches is provided in Table 5.

Table 5. Number of exceedances and closures/advisories for inland beaches monitored in 2007.

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	19	19	3	2	6
2	7	14	2	8	16
3	2	6	1	21	21
4	4	16			
5	1	5			
8	1	8			
TOTAL	34	68		31	43

Synopsis of the Beach Sanitary Surveys

In 2007, additional monitoring occurred at 26 Great Lakes beaches (Figure 1; Appendix G) to identify the sources of high levels of *E. coli* through the use of beach sanitary surveys. The USEPA awarded Michigan a \$108,330 grant to perform these surveys throughout the summer during routine beach monitoring. The beach sanitary survey project was initiated in response to a need identified by the Great Lakes Regional Collaboration to assist beach managers with identifying pollution sources, sharing information, and planning source remediation.

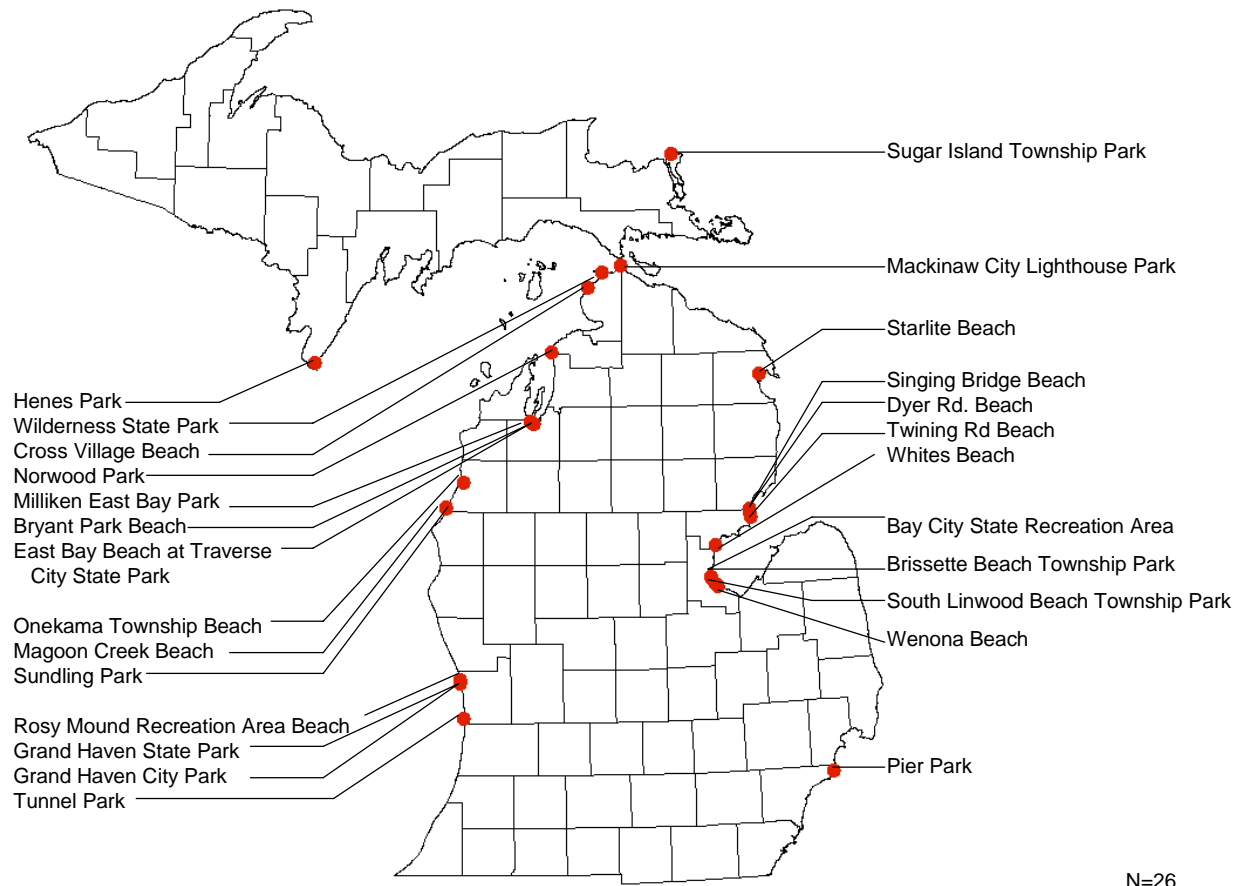


Figure 1. Twenty-six beaches selected to participate in the beach sanitary survey project.

As a result of this project, many sources having a direct effect or impact on WQS were identified, which included rainfall and wind, point sources, physical structures (e.g., piers and bays), algal mats, waterfowl, and failing septic systems. Storm water was identified as an important source of contamination at many of the beaches.

The beach sanitary survey project was valuable because it resulted in a greater awareness and understanding of the factors that impact beach water quality. This effort also led to the initial development of predictive models. The predictive models will eventually provide local beach managers with more meaningful and timely information to determine if beach water quality meets WQS for full body contact. These efforts also improved the effectiveness of local beach monitoring and notification programs, not only at the selected beaches, but at beaches throughout Michigan.

The beach sanitary survey will be used by local health departments to provide information that can be used to facilitate Total Maximum Daily Load (TMDL) development. More detailed results of the sanitary survey project are available in the individual reports submitted by the local health departments.

Synopsis of *E. coli* Database

The MDEQ awarded a grant to Michigan State University (MSU) to complete a number of tasks associated with the MDEQ's beach monitoring *E. coli* database. The tasks that were undertaken by MSU included evaluating *E. coli* data for trends, performing statistical tests such

as the 95th percentile test, and coordinating with the beach sanitary survey project and TMDL program.

MSU was able to identify several trends in the *E. coli* data. For instance, MSU found an increase in *E. coli* levels in individual samples over time, but a decrease in daily geometric means of samples were identified, which was attributed to the reporting of different data from different sites and the ability of the geometric mean to average individual samples. A Hazen 95th percentile calculation was used while investigating the *E. coli* database. This analysis identified bays, Great Lakes, and inland lakes as having the lowest *E. coli* values. Statistical analysis were performed on 15 individual sites and it was determined that 6 of these sites had a weak correlation between *E. coli* levels and 48-hour precipitation. All of the results from this study can be found in the report titled, "Surface Water Summary of *E. coli* and Pathogens in Michigan."

5. 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 review beach water quality data including the number of beach closures or advisories. 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 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 attain 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:

- *E. coli* concentrations exceed the geometric mean WQS of 130 *E. coli* per 100 ml based on weekly samples collected over a minimum of 16 weeks.
- Ten percent of the sample results exceed the daily maximum WQS of 300 *E. coli* per 100 ml based on weekly samples collected over a minimum of 16 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. Based on beach monitoring data,

41 beaches have been listed on the Section 303(d) list because they met at least one of the three criteria for placement of a beach on the TMDL list.

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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. 2002. National Beach Guidance and Required Performance Criteria for Grants. EPA-823-B-02-004.

Appendix A. CMI-CWF Grants for Great Lake and Inland Lake Beaches (2000 and 2001) and Inland Lake Beaches (2003-2007).

Table 1. 2000 CMI-CWF Grants

2000 CMI-CWF Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Berrien County Health Department	\$49,012	\$24,450	11
Central Michigan District Health Department	\$94,115	\$46,363	66
Chippewa County Health Department	\$15,882	\$15,882	8
City of Marquette	\$19,071	\$19,071	7
Grand Traverse Bay Watershed Initiative	\$34,768	\$34,768	17
Huron County Health Department	\$18,407	\$18,407	11
Kent County Health Department	\$5,820	\$5,820	9
Macomb County Health Department	\$57,649	\$28,239	6
TOTAL	\$294,724	\$193,000	135

Table 2. 2001 CMI-CWF Grants

2001 CMI-CWF Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
District Health Department #4	\$16,782	\$16,782	44
Kalamazoo County Human Services Department	\$35,000	\$35,000	21
Muskegon County Health Department	\$9,073	\$9,073	14
Northwest Michigan Community Health Agency	\$14,079	\$14,079	22
St. Clair County Health Department	\$25,000	\$25,000	26
TOTAL	\$99,934	\$99,934	127

Table 3. 2003 CMI-CWF Grants

2003 CMI-CWF Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Barry-Eaton District Health Department	\$14,812.51	\$14,812.51	7
Branch, Hillsdale, St. Joseph Community Health Agency	\$48,690.41	\$10,000	51
Central Michigan District Health Department	\$48,546	\$18,375	45
Chippewa County Health Department	\$12,833.41	\$12,833.41	4
District Health Department #4	\$22,090.69	\$10,000	13
Genesee County Health Department	\$28,849	\$10,000	21
Macomb County Health Department	\$6,543	\$6,543	2
Muskegon County Health Department	\$25,023	\$10,000	15
Oakland County Health Division	\$17,462.68	\$14,725.49	76
Ottawa County Health Department	\$7,403	\$5,544	10
TOTAL	\$232,253.70	\$112,833.41	244

Table 4. 2004 CMI-CWF Grants

2004 CMI-CWF Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Central Michigan District Health Department	\$55,966.20	\$38,117.57	54
Chippewa County Health Department	\$5,759.02	\$5,759.02	2
District Health Department #4	\$9,800.01	\$9,800.01	24
Grand Traverse (Watershed Center)	\$7,736.34	\$7,736.34	3
Muskegon County Health Department	\$1,369.00	\$1,369.00	13
Northwest Michigan Community Health Agency	\$8,440.00	\$8,440.00	5
Wayne County Health Department	\$15,235.50	\$15,235.50	8
Western Upper Peninsula District Health Department	\$9,114.56	\$9,114.56	6
Wexford County Drain Commission	\$4,428.00	\$4,428	5
TOTAL	\$117,848.63	\$100,00.00	120

Table 5. 2005 CMI-CWF Grants

2005 CMI-CWF Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Barry-Eaton District Health Department	\$17,333.41	\$10,000.00	9
Central Michigan District Health Department	\$66,981.60	\$20,771.04	73
District Health Department #2	\$34,130.40	\$6,500.00	16
District Health Department #4	\$31,660.92	\$8,000.00	19
Genesee County Health Department	\$29,774.00	\$10,000.00	11
Kalamazoo County health Department	\$49,812.20	\$20,000.00	8
Muskegon County health Department	\$10,895.00	\$5,000.00	15
Northwest Michigan Community Health Agency	\$9,740.00	\$5,000.00	13
Ottawa	\$13,595.00	\$5,000.00	8
Western Upper Peninsula District	\$7,796.42	\$5,000.00	6
Wexford	\$4,728.96	\$4,728.96	5
TOTAL	\$317,336.58	\$100,000.00	199

Table 6. 2006 CMI-CWF Grants

2006 CMI-CWF Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Barry-Eaton District Health Department	\$ 5,699.23	\$5,699.23	6
Chippewa County Health Department	\$ 12,415.00	\$12,415.00	5
District Health Department #2	\$ 30,342.00	\$30,342.00	16
District Health Department #4	\$ 13,020.26	\$13,020.26	4
Genesee County Health Department	\$ 26,160.00	\$11,000.00	16
Macomb County Health Department	\$ 7,933.24	\$7,933.24	2
Northwest Community Health Agency	\$ 6,938.25	\$6,938.25	18
Ottawa County Health Department	\$ 12,112.00	\$12,112.00	8
Wayne County Health Department	\$ 15,307.50	\$15,307.50	9
Wexford County Drain Commissioner	\$ 2,809.00	\$2,809.00	5
TOTAL	\$132,736.48	\$117,576.48	89

Table 7. 2007 CMI-CWF Grants

2007 CMI-CWF Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Barry-Eaton District Health Department	\$15,710.04	\$7,737.12	5
Central Michigan District Health Department	\$21,179.25	\$11,357.04	22
Chippewa County Health Department	\$13,828.49	\$7,488.96	4
District Health Department #2	\$16,132.00	\$7,737.12	8
District Health Department #4	\$13,623.14	\$7,302.84	4
Genesee County Health Department	\$28,314.72	\$7,488.96	16
Macomb County Health Department	\$7,829.73	\$6,00.00	2
Muskegon County Health Department	\$9,375.00	9,375.00	16
Northwest Community Health Agency	\$7,000.00	\$7,000.00	19
Ottawa County Health Department	\$11,858.00	\$7,488.96	8
Wayne County Health Department	\$15,307.50	\$7,985.28	3
Western Upper Peninsula District Health Department	\$7,103.50	\$7,103.50	6
Wexford County Drain Commissioner	\$5,935.22	\$5,935.22	5
TOTAL	\$173,196.59	\$100,000.00	118

Appendix B. BEACH Act Grants for Great Lakes Beaches.

Table 1. 2003 BEACH Act Grants.

2003 BEACH Act Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Bay County Health Department	\$16,410	\$12,000	6
Berrien County Health Department	\$17,732	\$16,368	13
Central Michigan District Health Department	\$10,152	\$12,152	8
Chippewa County Health Department	\$19,564.38	\$14,590.56	9
City of Marquette	\$11,371.40	\$8,551.20	5
District Health Department #2	\$19,899.75	\$16,000	8
District Health Department #4	\$35,656.46	\$23,000	13
District Health Department #10	\$41,721	\$24,928.11	20
Grand Traverse Bay Watershed	\$23,695	\$23,695	12
Huron County Health Department	\$41,061	\$23,000	13
Macomb County Health Department	\$23,525	\$10,000	4
Muskegon District Health Department	\$11,371	\$11,371	10
Northwest Michigan Community Health Agency	\$24,930.93	\$15,730.93	23
Sanilac County Health Department	\$15,817	\$13,817	7
St. Clair County Health Department	\$24,094.50	\$23,000	13
Western Upper Peninsula District Health Department	\$27,632.79	\$21,000	18
TOTAL	\$367,634.21	\$269,203.80	182

Table 2. 2004 BEACH Act Grants.

2004 BEACH Act Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Bay County Health Department	\$11,082.38	\$11,082.38	6
Berrien County Health Department	\$36,212	\$23,104	19
Central Michigan District Health Department	\$13,899	\$13,899	8
Chippewa County Health Department	\$31,250.17	\$10,944	9
City of Marquette	\$13,848.56	\$6,080	5
District Health Department #2	\$28,042.10	\$10,944	9
District Health Department #4	\$21,293.29	\$15,808	13
District Health Department #10	\$24,999.50	\$24,999.50	23
Huron County Health Department	\$26,210.20	\$10,944	12
Macomb County Health Department	\$24,490	\$4,864	4
Muskegon County Health Department	\$15,000	\$15,000	12
Northwest Michigan Community Health Agency	\$15,649.65	\$15,649.65	26
Ottawa County Health Department	\$10,246.33	\$10,246.33	9
Public Health, Delta and Menominee Counties	\$12,937.18	\$12,937.18	13
Sanilac County Health Department	\$15,146.74	\$8,512	7
St. Clair County Health Department	\$24,641.24	\$17,024	14
The Watershed Center Grand Traverse Bay	\$22,035	\$15,808	13
Wayne County Health Department	\$10,182	\$3,651	3
Western Upper Peninsula District Health Department	\$21,634.92	\$13,376	11
TOTAL	\$378,800.26	\$244,873.04	216

Table 3. 2005 BEACH Act Grants.

2005 BEACH Act Grantees	Requested Budget Amount	Granted Amount	Total Monitored Beaches
Allegan County Health Department	\$9,572.00	\$10,881.00	4
Bay County Health Department	\$11,683.50	\$7,500.00	6
Berrien County Health Department	\$16,975.75	\$16,975.75	13
Central Michigan District Health Department	\$14,994.68	\$10,000.00	8
Chippewa County Health Department	\$19,855.53	\$11,000.00	9
District health Department #2	\$50,942.66	\$18,000.00	5
District Health Department #4	\$47,507.93	\$20,000.00	23
District Health Department #10	\$24,999.85	\$24,999.85	20
Grand Traverse (Watershed Center)	\$16,151.17	\$11,000.00	13
Huron County Health Department	\$18,259.39	\$14,290.00	12
Macomb County health Department	\$19,293.88	\$7,000.00	4
Marquette (City of Marquette)	\$14,700.00	\$7,275.96	2
Monroe County Health Department	\$12,416.52	\$6,000.00	12
Muskegon County health Department	\$14,295.00	\$14,295.00	26
Northwest Michigan Community Health Agency	\$19,541.84	\$19,541.84	9
Ottawa County Health Department	\$16,442.00	\$16,442.00	4
Public Health, Delta and Memominee Counties	\$15,084.23	\$10,000.00	7
St. Clair County Health Department	\$23,745.60	\$23,745.60	14
Sanilac County Health Department	\$12,515.53	\$9,000.00	9
Wayne County Health Department	\$6,210.00	\$6,210.00	3
Western UP District Health Department	\$17,736.86	\$14,000.00	11
TOTAL	\$402,923.92	\$278,157.00	214

Table 4. 2006 BEACH Act Grants.

Local Health Department	Allocated Amount	Total Monitored Beaches
Allegan County Health Department	\$5,290.24	4
Bay County Health Department	\$6,685.36	6
Berrien County Health Department	\$12,265.84	14
Central Michigan District Health Department	\$8,080.48	8
Chippewa County Health Department	\$8,778.04	9
Delta-Menominee District Health Department	\$5,290.24	4
District Health Department #2	\$8,778.04	9
District Health Department #4	\$12,265.84	14
District Health Department #10	\$17,846.32	22
Huron County Health Department	\$10,870.72	12
Luce-Mackinac-Alger-Schoolcraft District Health Department	\$9,475.60	10
Macomb County Health Department	\$5,290.24	4
Marquette (city of Marquette)	\$5,987.80	5
Monroe County Health Department	\$3,895.12	2
Muskegon County Health Department	\$10,870.72	12
Northwest Michigan Community Health Agency	\$23,426.80	30
Ottawa County Health Department	\$8,778.04	9
Saint Clair County Health Department	\$12,265.84	14
Sanilac County Health Department	\$5,290.24	4
Van Buren/Cass District Health Department	\$5,290.24	4
Wayne County Health Department	\$3,895.12	2
Watershed Center (Grand Traverse & Benzie-Leelanau)	\$11,278.04	9
Western Upper Peninsula District Health Department	\$10,870.72	12
Total	\$212,765.64	219

Table 5. 2007 BEACH Act Grants.

Local Health Department	Allocated Amount	Total Monitored Beaches
Allegan County Health Department	\$5,290.24	4
Bay County Health Department	\$6,685.36	5
Berrien County Health Department	\$12,265.84	13
Central Michigan District Health Department	\$8,080.48	8
Chippewa County Health Department	\$8,778.04	6
Delta-Menominee District Health Department	\$5,290.24	4
District Health Department #2	\$8,778.04	9
District Health Department #4	\$12,265.84	13
District Health Department #10	\$17,846.32	22
Huron County Health Department	\$10,870.72	12
Luce-Mackinac-Alger-Schoolcraft District Health Department	\$9,475.60	3
Macomb County Health Department	\$5,290.24	4
Marquette (city of Marquette)	\$5,987.80	5
Monroe County Health Department	\$3,895.12	2
Muskegon County Health Department	\$10,870.72	12
Northwest Michigan Community Health Agency	\$23,426.80	30
Ottawa County Health Department	\$8,778.04	9
Saint Clair County Health Department	\$12,265.84	15
Sanilac County Health Department	\$5,290.24	4
Van Buren/Cass District Health Department	\$5,290.24	4
Wayne County Health Department	\$3,895.12	1
Watershed Center (Grand Traverse & Benzie-Leelanau)	\$11,278.04	9
Western Upper Peninsula District Health Department	\$10,870.72	11
Total	\$212,765.64	205

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. 2007 Michigan List of Inland Beaches Monitored

	County	Water Body	Location
<u>1</u>	1 <u>Alcona</u>	Alcona Pond	1 Alcona Park East Campground
<u>2</u>	2 <u>Allegan</u>	Dumont Lake	1 Dumont Lake County Park Beach
	3 Allegan	Ely Lake	2 Ely Lake Campground Beach
	4 Allegan	Gun Lake	3 Gun Lake County Park Beach
	5 Allegan	Little John Lake	4 Little John Lake County Park Beach
	6 Allegan	Swan Creek Pond	5 Pine Point Campground Beach
<u>3</u>	7 <u>Antrim</u>	Central Lake	1 Thurston Park
	8 Antrim	Elsworth Lake	2 Wooden Shoe Park
	9 Antrim	Lake Bellaire	3 Richardi Park
	10 Antrim	Torch Lake	4 Day Park
	11 Antrim	Torch Lake	5 Torch River Bridge
<u>4</u>	12 <u>Arenac</u>	Oasis Lake	1 Oasis Lake County Park
<u>5</u>	13 <u>Barry</u>	Gull Lake	1 Prairieville Township Park
	14 Barry	Gun Lake	2 Main Beach-Day Use Area
	15 Barry	Gun Lake	3 Yankee Springs Recreation Area Campground Beach
	16 Barry	Thornapple Lake	4 Charlton Park
<u>6</u>	17 <u>Bay</u>	Kawkawlin River	1 Boat Launch on Kawkawlin River
	18 Bay	Saginaw River	2 Vet's Park North Bay City
	19 Bay	Saginaw River	3 Vet's Park South River Road
<u>7</u>	20 <u>Charlevoix</u>	Thumb Lake	1 Thumb Lake Beach
	21 Charlevoix	Walloon Lake	2 Melrose Township Park
<u>8</u>	22 <u>Cheboygan</u>	Burt Lake	1 Burt Lake State Park
	23 Cheboygan	Burt Lake	2 Devoe Beach
	24 Cheboygan	Mullett Lake	3 Aloha State Park
<u>9</u>	25 <u>Chippewa</u>	Dukes Lake	1 Dukes Lake
	26 Chippewa	Kinross Lake	2 Kinross Lake
	27 Chippewa	Monocle Lake	3 Monocle Lake
	28 Chippewa	Soldiers Lake	4 Soldiers Lake
<u>10</u>	29 <u>Clare</u>	Bertha Lake	1 Bertha Lake Beach
	30 Clare	Borrow Pit	2 Herrick County Park
	31 Clare	Budd Lake	3 Wilson Lake State Park
	32 Clare	Shingle Lake	4 Shingle Lake Park
	33 Clare	Silver Lake	5 Silver Lake Park
<u>11</u>	34 <u>Crawford</u>	Higgins Lake	1 North Higgins State Park
<u>12</u>	35 <u>Eaton</u>	Fox Memorial Park Beach	1 Fox Memorial Park
<u>13</u>	36 <u>Emmet</u>	Crooked Lake	1 Little Traverse Township Beach
	37 Emmet	Larks Lake	2 Pioneer Picnic Park
	38 Emmet	Pickerel Lake	3 Camp Petosega
	39 Emmet	Pickerel Lake	4 Channel Beach

Appendix D.1. 2007 Michigan List of Inland Beaches Monitored

	County	Water Body	Location
	40 Emmet	Walloon Lake	5 Resort Pike Road Beach
<u>14</u>	<u>Genesee</u>	Buell Lake	1 Boat Ramp at Buell Lake
	42 Genesee	Byram Lake	2 Clover Beach
	43 Genesee	Copneconic Lake	3 Camp Copneconic
	44 Genesee	Copneconic Lake	4 Copneconic Day Beach
	45 Genesee	Covenant Hill Camp	5 Covenant Hill Camp
	46 Genesee	Crooked Lake	6 Crooked Lake
	47 Genesee	Dollar Lake	7 Dollar Lake
	48 Genesee	Fenton Lake	8 Township Hall
	49 Genesee	Hasler Lake	9 Hasler Lake Campground
	50 Genesee	Holloway Reservoir	10 Buttercup Beach
	51 Genesee	Lake Linda	11 Lake Linda
	52 Genesee	Mott Lake	12 Bluebell Beach
	53 Genesee	Myers Lake	13 Myers Lake
	54 Genesee	Pinewood Lake	14 Beach at Pinewood Lake
	55 Genesee	Silver Lake	15 City Park Beach
	56 Genesee	West Sister Lake	16 West Sister Lake
<u>15</u>	<u>Gladwin</u>	Cedar River	1 Gladwin City Park
	58 Gladwin	Pratt Lake	2 Pratt Lake
	59 Gladwin	Ross Lake	3 Beaverton City Park
<u>16</u>	<u>Gogebic</u>	Lake Gogebic	1 Gogebic County Park
	61 Gogebic	Lake Gogebic	2 Lake Gogebic State Park Beach
	62 Gogebic	Sunday Lake	3 Sunday Lake Beach
<u>17</u>	<u>Houghton</u>	Lake Roland	1 Twin Lakes State Park
<u>18</u>	<u>Iosco</u>	Cedar Lake	1 Greenbush Township Beach
	65 Iosco	Footo Pond	2 Old Orchard Park
	66 Iosco	Long Lake	3 Long Lake Public Access
	67 Iosco	Van Ettan Lake	4 Oscoda Township Park-Van Ettan Lake
<u>19</u>	<u>Isabella</u>	Chippewa River	1 Deerfield County Park
	69 Isabella	Coldwater Lake	2 Coldwater Park
	70 Isabella	Halls Lake	3 Halls Lake
<u>20</u>	<u>Kalamazoo</u>	Blue Lake	1 Cold Brook County Park
	72 Kalamazoo	Campbell Lake	2 Robert Morris Park
	73 Kalamazoo	Eagle Lake	3 Fort Custer Recreation Area Beach
	74 Kalamazoo	Gull Lake	4 Ross Township Park
	75 Kalamazoo	Hogsett Lake	5 Prairie View County Park
	76 Kalamazoo	Long Lake	6 Ramona Park
	77 Kalamazoo	Sunset Lake	7 Sunset Lake Park
	78 Kalamazoo	Swimmers Lake	8 Markin Glen County Park
	79 Kalamazoo	Woods Lake	9 Woods Lake Beach
<u>21</u>	<u>Livingston</u>	Bentley Lake	1 Camp Innisfree
	81 Livingston	Bishop Lake	2 Brighton State Recreation Area
	82 Livingston	Chenago Lake	3 Camp Talahi

Appendix D.1. 2007 Michigan List of Inland Beaches Monitored

	County	Water Body	Location
83	Livingston	Church Lake	4 Wildwood Ranch
84	Livingston	Cook Lake	5 Taylor's Beach
85	Livingston	Cordley Lake	6 Varsity Day Camp
86	Livingston	Haynor Lake	7 Pine Hills Camp
87	Livingston	Kent Lake	8 Island Lake Recreation Area-Kent Lake
88	Livingston	Lake Chemung	9 Lake Chemung Outdoor Resort
89	Livingston	Lake Walden	10 Waldenwoods Resort
90	Livingston	Pleasant Lake	11 Howell Nature Center
91	Livingston	Sandy Bottom Lake	12 Nazarene Camp
92	Livingston	Spring Mill Pond	13 Island Lake Recreation Area
93	Livingston	Thompson Lake	14 Howell City Park
94	Livingston	Winans Lake	15 Lakelands Golf & Country Club
<u>22</u>	95 <u>Macomb</u>	Stoney Creek Lake-Impoundment	1 Stoney Creek Metropark-Baypoint Beach
	96 Macomb	Stoney Creek Lake-Impoundment	2 Stoney Creek Metropark-Eastwood Beach
<u>23</u>	97 <u>Marquette</u>	Shiras Pool	1 Shiras Swimming Area
<u>24</u>	98 <u>Midland</u>	Sanford Lake	1 Sanford Lake Park
<u>25</u>	99 <u>Montmorency</u>	Clear Lake	1 Clear Lake State Park
<u>26</u>	100 <u>Muskegon</u>	Bear Lake	1 Fred Jacks Park
	101 Muskegon	Bear Lake	2 Laketon Township Beach
	102 Muskegon	Big Blue Lake	3 Deremo County Park
	103 Muskegon	Big Blue Lake	4 Blue Lake County Park Beach
	104 Muskegon	Duck Lake	5 Duck Lake State Park Beach
	105 Muskegon	Fox Lake	6 Fox Lake Park Beach
	106 Muskegon	Half Moon Lake	7 Moore County Park Beach
	107 Muskegon	Mona Lake	8 Mona Lake Park Beach
	108 Muskegon	Mona Lake	9 Ross Park Beach
	109 Muskegon	Muskegon Lake	10 Harbour Towne Beach
	110 Muskegon	Muskegon Lake	11 Muskegon State Park-Muskegon Lake Side
	111 Muskegon	Twin Lake	12 Twin Lake County Park Beach
	112 Muskegon	West Lake	13 Paddley Park
	113 Muskegon	White Lake	14 Maple Park
	114 Muskegon	Wolf Lake	15 Sunset Park
	115 Muskegon	Wolf Lake	16 Wolf Lake County Park
<u>27</u>	116 <u>Oakland</u>	Adams Lake	1 Addison Oaks County Park
	117 Oakland	Allen Lake	2 Fox Bay Civic Association
	118 Oakland	Avon Lake	3 Avon Lakes Beach #1
	119 Oakland	Avon Lake	4 Avon Lakes Beach #2
	120 Oakland	Big Peat Lake	5 Haas Lake Park #2
	121 Oakland	Big Seven Lake	6 Seven Lakes Park
	122 Oakland	Bogie Lake	7 Bogie Lake Property Owners-Beryl Drive
	123 Oakland	Bogie Lake	8 Pinecrest Shores
	124 Oakland	Brendel Lake	9 Brendle Heights-Hillwood
	125 Oakland	Brendel Lake	10 Lakewood Village
	126 Oakland	Brendel Lake	11 Pawlaks Campground
	127 Oakland	Bush Lake	12 Holly Township Beach

Appendix D.1. 2007 Michigan List of Inland Beaches Monitored

County	Water Body	Location	
128	Oakland	Cass Lake	13 Dodge Park #4
129	Oakland	Cass Lake	14 Keego Harbor City Beach
130	Oakland	Cass Lake	15 Pontiac Yacht Club
131	Oakland	Crooked Lake	16 Independence Oaks County Park
132	Oakland	Darb Lake	17 Mission Springs Subdivision
133	Oakland	Deer Lake	18 Independence Township Village Beach
134	Oakland	Eagle Lake	19 Eagle Lake Road
135	Oakland	Emerald Lake	20 Emerald Lake
136	Oakland	Fish Lake	21 Camp Ohiyesa-North
137	Oakland	Geneva Lake	22 Lakewood Farms-Crocus Street
138	Oakland	Geneva Lake	23 Lakewood Farms-Sharon Street
139	Oakland	Green Lake	24 Bay Court Park
140	Oakland	Green Lake	25 Camp Wathana
141	Oakland	Green Lake	26 Clear Water Resort
142	Oakland	Haas Lake	27 Haas Lake Park #1
143	Oakland	Haas Lake	28 Haas Lake Park #3
144	Oakland	Handsome Lake	29 Camp Oakland-Summer
145	Oakland	Heather Lake	30 Heather Lake Estates
146	Oakland	Heron Lake	31 Holly Recreation Area-Heron Beach
147	Oakland	Indian Lake	32 Indian Lake Improvement Association
148	Oakland	Kent Lake	33 Kensington-Maple Beach
149	Oakland	Kent Lake	34 Kensington-Martindale Beach
150	Oakland	Long Lake	35 Bunny Run Country Club
151	Oakland	Long Lake	36 Christ the King Church Camp
152	Oakland	Long Lake	37 Twin Shores Subdivision
153	Oakland	Loon Lake	38 Sandy Beach
154	Oakland	Lotus Lake	39 Harris Park
155	Oakland	Lotus Lake	40 Lotus Park
156	Oakland	Lotus Lake	41 Mountain View
157	Oakland	Lower Straits Lake	42 Lower Straits Beach Club
158	Oakland	Lower Straits Lake	43 Shores at Bay Point
159	Oakland	Lower Trout	44 Bald Mountain Recreation Area
160	Oakland	Marion Lake	45 Locklin Pines Association
161	Oakland	Mill Pond	46 Davisburg Village Beach (Hart Community Center)
162	Oakland	Orchard Lake	47 Country Club (500 West Shore Drive)
163	Oakland	Orchard Lake	48 St. Mary's Park
164	Oakland	Orion Lake	49 Greens Park Village Beach
165	Oakland	Phillips Lake	50 Camp Dearborn-Lake #1
166	Oakland	Phillips Lake	51 Camp Dearborn-Lake #5
167	Oakland	Phipps Lake	52 Camp Maas-Rodecker
168	Oakland	Phipps Lake	53 Camp Maas-Sobell Beach
169	Oakland	Pine Lake	54 Pine Lake Manor
170	Oakland	Pleasant Lake	55 Pleasant Lake Highlands
171	Oakland	Pleasant Lake	56 Pleasant Lake Manor
172	Oakland	Pleasant Lake	57 Pleasant Lake Woods
173	Oakland	Pontiac Lake	58 Pontiac Recreation Area
174	Oakland	Prince Lake	59 Upland Hills Farm
175	Oakland	Proud Lake	60 Proud Lake Recreation Area Campground
176	Oakland	Reed Lake	61 Reed Lake Property Owners
177	Oakland	Round Lake	62 Scripter Village Park Township Beach
178	Oakland	Rowe Lake	63 Jacksina Subdivision

Appendix D.1. 2007 Michigan List of Inland Beaches Monitored

County	Water Body	Location	
179	Oakland	Sand Lake	64 Seven Lakes State Park-Campground
180	Oakland	Sandshores	65 Emerald Lake Homeowners Association-Little Creek Road
181	Oakland	Sherwood Lake	66 Ledgewood
182	Oakland	Sherwood Lake	67 Ravinewood East
183	Oakland	Sherwood Lake	68 Ravinewood West
184	Oakland	Sherwood Lake	69 Sherwood Property Owners
185	Oakland	Stewart Lake	70 Groveland Oaks County Park-Paradise Beach
186	Oakland	Stony Lake	71 Stony Lake Park
187	Oakland	Sun Lake	72 Finnish Day Camp
188	Oakland	Sylvan Lake	73 Ferndale
189	Oakland	Tan Lake	74 Mary K. Subdivision
190	Oakland	Teeple Lake	75 Teeple Lake Recreation Area-Highland State Park
191	Oakland	Thelma Spencer Park Lake	76 Thelma Spencer Park
192	Oakland	Tipsico Lake	77 Brown's Landing Mobile Home Park
193	Oakland	Tommys Lake	78 Camp Agawam Boy Scout Camp
194	Oakland	Upper Pettibone Lake	79 657 Dunleavy
195	Oakland	Upper Pettibone Lake	80 Oak Heights Improvement Association-3015 Lakeview
196	Oakland	Upper Straits Lake	81 Banker's Subdivision
197	Oakland	Upper Straits Lake	82 Bayside Beach Association
198	Oakland	Upper Straits Lake	83 Outlet A
199	Oakland	Upper Straits Lake	84 Shady Beach
200	Oakland	Walled Lake	85 Beachwalk Apartments
201	Oakland	Walled Lake	86 E.V. Mercer City Beach
202	Oakland	Walled Lake	87 Lakeshore Park
203	Oakland	Walnut Lake	88 Bloomfield Parks & Recreation-West Hills H.S.
204	Oakland	Walnut Lake	89 Bloomfield Square Beach Association
205	Oakland	Walnut Lake	90 Finnish American Club of Detroit
206	Oakland	Walnut Lake	91 Lone Pine Association
207	Oakland	Walnut Lake	92 North Cove
208	Oakland	Walnut Lake	93 Shenandoah Farms Association
209	Oakland	Walnut Lake	94 Walnut Lake Estates
210	Oakland	Walnut Lake	95 Walnut Lake Hills Corporation
211	Oakland	Walnut Lake	96 Walnut Lake Park
212	Oakland	Walnut Lake	97 Walnut Lake Property Owners Sub #1
213	Oakland	Walters Lake	98 Sunny Beach #1-Eston Road
214	Oakland	Walters Lake	99 Sunny Beach #2-Clarkston Road
215	Oakland	Watkins Lake	100 Heitch Street
216	Oakland	Watkins Lake	101 Lanarh Street
217	Oakland	Waumegah Lake	102 Lake Waumegah Homeowners Association
218	Oakland	Wildwood Lake	103 Holly Recreation Area-Wildwood Beach
219	Oakland	Wing Lake	104 Westwood Manor
220	Oakland	Wing Lake	105 Wing Lake Farms Association
221	Oakland	Wing Lake	106 Wing Lake Property Owners Association
222	Oakland	Woodhull Lake	107 Woodhull Lake Civic Association
<u>28</u>	<u>223 Ogemaw</u>	Devoe Lake	1 Rifle River Recreation Area
	224 Ogemaw	Grousehaven Lake	2 Rifle River Recreation Area Campground Beach
	225 Ogemaw	Grousehaven Lake	3 Rifle River Recreation Area Day Use Area
<u>29</u>	<u>226 Ontonagon</u>	Lake Gogebic	1 Bergland Township Park
	227 Ontonagon	Lake Gogebic	2 Ontonagon County Park

Appendix D.1. 2007 Michigan List of Inland Beaches Monitored

County	Water Body	Location
<u>30</u> 228 Osceola	Big Lake	1 Crittenton Park
229 Osceola	Center Lake	2 Center Lake Park
230 Osceola	Muskegon River	3 Crawford Park
231 Osceola	Rose Lake	4 Rose Lake County Park
232 Osceola	Sunrise Lake	5 Sunrise Lake Park
<u>31</u> 233 Otsego	Bear Lake	1 Bear Lake SFCG
234 Otsego	Otsego Lake	2 Arbutus Beach
235 Otsego	Otsego Lake	3 Otsego County Park
236 Otsego	Otsego Lake	4 Otsego State Park
237 Otsego	Otsego Lake	5 WahWahSoo Beach
238 Otsego	Pickeral Lake	6 Pickeral Lake SFCG
<u>32</u> 239 Ottawa	Crockery Lake	1 Grose Park
240 Ottawa	Georgetown Lake	2 Georgetown Community Park
241 Ottawa	Lake Macatawa	3 Dunton Park
242 Ottawa	Lake Macatawa	4 Fallen Leaf Park
243 Ottawa	Lake Macatawa	5 Holland State Park
244 Ottawa	Maplewood Lake	6 Maplewood Lake Park
245 Ottawa	Pottawattomie Bayou	7 Pottawattomie Park
246 Ottawa	Spring Lake	8 Lakeside Beach
<u>33</u> 247 Roscommon	Higgins Lake	1 Gerrish Township Park
248 Roscommon	Higgins Lake	2 South Higgins Lake State Park
249 Roscommon	Houghton Lake	3 Denton Township Public Beach
250 Roscommon	Houghton Lake	4 Houghton Lake Heights
251 Roscommon	Lake St. Helen	5 Richfield Township Public Fishing Site
<u>34</u> 252 St. Clair	Beechgrove Lake	1 Emmett KOA
253 St. Clair	Fort Trodd Lake	2 Fort Trodd Campground North
254 St. Clair	Fort Trodd Lake	3 Fort Trodd South
255 St. Clair	Kimball Pond	4 Kimball Township Pond
256 St. Clair	Ruby Campground Pond	5 Ruby Campground
<u>35</u> 257 Washtenaw	Bruin Lake	1 Pinckney Recreation Area
258 Washtenaw	Half Moon Lake	2 Pinckney Recreation Area
259 Washtenaw	Independence Lake	3 Independence Lake County Park
260 Washtenaw	Silver Lake	4 Pinckney Recreation Area
261 Washtenaw	Sugarloaf Lake	5 Waterloo Recreation Area
<u>36</u> 262 Wayne	Belleville Lake	1 Van Buren Township Park
263 Wayne	Rouge River	2 Phoenix Lake
264 Wayne	Rouge River	3 Wilcox Lake
<u>37</u> 265 Wexford	Billings Lake	1 Manton Park
266 Wexford	Lake Cadillac	2 City Park
267 Wexford	Lake Cadillac	3 Kenwood Park
268 Wexford	Lake Meauwataka	4 Colfax Township Park
269 Wexford	Lake Mitchell	5 Mitchell State Park

Appendix D.2. 2007 Michigan List of Inland Beaches NOT Monitored

		County	Water Body	Location
<u>1</u>	1	<u>Alcona</u>	Alcona Pond	Alcona Pond West Campground
	2	Alcona	Hubbard Lake	Alcona Township Park
<u>2</u>	3	<u>Alpena</u>	Beaver Lake	Beaver Lake Park
	4	Alpena	Long Lake	Long Lake Day Use
	5	Alpena	Long Lake	Long Lake Park
<u>3</u>	6	<u>Antrim</u>	Torch Lake	Eastport
	7	Antrim	Torch River	Torch River Sand Bar
<u>4</u>	8	<u>Arenac</u>	Au Gres River	DNR Access
	9	Arenac	Flint Park Hunt Club Lake	Flint Park Hunt Club
	10	Arenac	Man-Made Pond	Big Bend Campground
	11	Arenac	Man-Made Pond	Outdoor Adventures
	12	Arenac	Pine River	Pine River Public Access
<u>5</u>	13	<u>Barry</u>	Gun Lake	Old Beach-Day Use Area
<u>6</u>	14	<u>Benzie</u>	Crystal Lake	Bellows
	15	Benzie	Crystal Lake	South Shore Near Beulah
<u>7</u>	16	<u>Berrien</u>	Paw Paw Lake	Paw Paw Lake
	17	Berrien	St. Joseph River	Bertrand Park
	18	Berrien	St. Joseph River	Niles-French Paper
	19	Berrien	St. Joseph River	Niles-Marmont
<u>8</u>	20	<u>Branch</u>	First Lake	Quincy Park
	21	Branch	Messenger Lake	Memorial Park
<u>9</u>	22	<u>Calhoun</u>	Duck Lake	Springport
	23	Calhoun	Goguac Lake	Willard Beach in Battle Creek
<u>10</u>	24	<u>Charlevoix</u>	Huffman Lake	Hudson Township Park
<u>11</u>	25	<u>Cheboygan</u>	Black Lake	Black Lake SFCG
	26	Cheboygan	Black Lake	Bluffs Beach
	27	Cheboygan	Burt Lake	Hoppie's Launch
	28	Cheboygan	Burt Lake	Maple Bay Park
	29	Cheboygan	Douglass Lake	Ryder's Landing
	30	Cheboygan	Mullett Lake	Boy Scout Launch
	31	Cheboygan	Mullett Lake	Foot Road Park
	32	Cheboygan	Mullett Lake	Grand View Beach
	33	Cheboygan	Mullett Lake	Hoberts Launch
	34	Cheboygan	Mullett Lake	Orchard Beach
	35	Cheboygan	Mullett Lake	Polish Line Beach
	36	Cheboygan	Mullett Lake	Topinabee Park
	37	Cheboygan	Webber Lake	Webber Lake State Park
<u>12</u>	38	<u>Chippewa</u>	Caribou Lake	Caribou Lake
	39	Chippewa	Carp Lake	Trout Lake

Appendix D.2. 2007 Michigan List of Inland Beaches NOT Monitored

	County	Water Body	Location
<u>13</u>	<u>Clare</u>	Arnold Lake	Arnold Lake Beach
40	Clare	Cranberry lake	Cranberry Lake South
41	Clare	Crooked Lake	Crooked Lake Beach
42	Clare	Crooked Lake	Hillcrest Public Landing
43	Clare	Doc and Tom Lake	Lake of the Pines
44	Clare	Dodge Lake	Dodge Lake Beach
45	Clare	George Lake	Lake George Public Landing
46	Clare	Grass Lake	Sandy Shores Beach
47	Clare	Hayes Lake (Cranberry Lake)	Oak Hills Children's Camp
48	Clare	Lilly Lake	Lilly Lake Beach
49	Clare	Long Lake	Long Lake Beach
50	Clare	Muskegon River	Muskegon River Township Park
51	Clare	Sand Lake	Sand Lake Beach
52	Clare	Shamrock Lake	City of Clare Park
53	Clare	Townline Lake	Cedar Shores Beach
54			
<u>14</u>	<u>Clinton</u>	Lake Ovid	Sleepy Hollow State Park Beach
55			
<u>15</u>	<u>Eaton</u>	Grand River	Lincoln Brick Park
56			
<u>16</u>	<u>Emmet</u>	Crooked Lake	Oden Beach
57			
<u>17</u>	<u>Genesee</u>	Barnum Lake	Barnum Lake
58	Genesee	Crane Lake	Crane Lake Beach
59	Genesee	Fenton Lake	DNR Boat Dock
60	Genesee	Fenton Lake	Fenton Lake Marina
61	Genesee	Flagstone Point	Flagstone Point Beach
62	Genesee	Golden Rod Lake	Golden Rod Beach
63	Genesee	Hasler Lake	Beach at Hasler Lake
64	Genesee	Holloway Reservoir	Walleye Pike Dock
65	Genesee	Kearsley Reservoir	Kearsley Reservoir Beach
66	Genesee	Lake Helene	Lake Helene Beach
67	Genesee	Lake Ponemah	At Drain
68	Genesee	Lake Ponemah	DNR Boat Launch at Lake Ponemah
69	Genesee	Lake Shinangaug	Lake Shinangaug
70	Genesee	Linden Mill Pond	Linden Mill Pond Beach
71	Genesee	Lobdell Lake	DNR Boat Launch at Lobdell Lake
72	Genesee	Loon Lake	Loon Lake Beach
73	Genesee	Marl Lake	Marl Lake Beach
74	Genesee	McCaslin Lake	McCaslin Lake Beach
75	Genesee	McKane Lake	McKane Lake Beach
76	Genesee	Mott Lake	Bluegill Boat Ramp
77	Genesee	Mott Lake Stepping Stone	Mott Lake Stepping Stone Beach
78	Genesee	Pine Lake	Pine Lake Beach
79	Genesee	Silver Lake	Silver Lake Marina
80	Genesee	Smokerise Lake	Smokerise Beach
81	Genesee	Squaw Lake	Squaw Lake Beach
82	Genesee	Thread Lake	Thread Lake Beach
83			

Appendix D.2. 2007 Michigan List of Inland Beaches NOT Monitored

	County	Water Body	Location	
<u>18</u>	84	<u>Gladwin</u>	Cedar River	Cedar River Campground Beach
	85	Gladwin	Cedar River	Gladwin North Park
	86	Gladwin	Flowing Well/Pond	Gilman Springs Swimming Area
	87	Gladwin	Hoister Lake	Hoister Lake Beach
	88	Gladwin	House Lake	House Lake
	89	Gladwin	Lake Four	Lake Four
	90	Gladwin	Lake Lancer	Sugar Springs/Lake Lancer
	91	Gladwin	Lyle Drain/Tobacco River	Lost Haven Beach
	92	Gladwin	Secord Lake	Secord Lake
	93	Gladwin	Secord Lake	Secord Lake-East
	94	Gladwin	Secord Lake	West River Drive Boat Launch
	95	Gladwin	Tittabawassee River	Estey Road Access
	96	Gladwin	Tittabawassee River	Gilman Springs Canoe Launch
	97	Gladwin	Tittabawassee River	Good News Camp
	98	Gladwin	Tittabawassee River	Pine Street Public Access
	99	Gladwin	Trout Lake	Trout Lake SFCG
	100	Gladwin	Wiggins Lake North	Wiggins Lake DNR Boat Launch
	101	Gladwin	Wiggins Lake South	Wiggins Lake-Clendening Road
	102	Gladwin	Wixon Lake	Wixon Lake-West
<u>19</u>	103	<u>Grand Traverse</u>	Long Lake (AKA: Mickey Lake)	Gilbert Beach
	104	Grand Traverse	Long Lake (AKA: Mickey Lake)	Taylor Park
<u>20</u>	105	<u>Hillsdale</u>	Baw Beese Lake	Sandy Beach
	106	Hillsdale	Bird Lake	Bird Lake Beach
<u>21</u>	107	<u>Ingham</u>	Burchfield Pond	Burchfield Park
	108	Ingham	Hawk Island	Hawk Island County Park
	109	Ingham	Lake Lansing	Lake Lansing Park South
	110	Ingham	Valhalla Pond	Valhalla Park
<u>22</u>	111	<u>Iosco</u>	Chain Lake	Chain Lake Beach
	112	Iosco	Foote Pond	Footsite Park
	113	Iosco	Loon Lake	Loon Lake Park
	114	Iosco	Sand Lake	Sand Lake-Sand Lake Road Access
<u>23</u>	115	<u>Isabella</u>	Millpond	Millpond Park
<u>24</u>	116	<u>Jackson</u>	Clark Lake	Clark Lake County Park
	117	Jackson	Clear Lake	Clear Lake County Park
	118	Jackson	Gilletts Lake	Gilletts Lake County Park
	119	Jackson	Grass Lake	Grass Lake County Park
	120	Jackson	Lime Lake	Lime Lake County Park
	121	Jackson	Little Wolf Lake	Little Wolf Lake County Park
	122	Jackson	Pleasant Lake	Pleasant Lake County Park & Campground
	123	Jackson	Portage Lake	Portage Lake County Park
	124	Jackson	Round Lake	Round Lake County Park
	125	Jackson	Swains Lake	Swains Lake County Park
	126	Jackson	Vandercook Lake	Vandercook Lake County Park
	127	Jackson	Vineyard Lake	Vineyard Lake County Park

Appendix D.2. 2007 Michigan List of Inland Beaches NOT Monitored

	County	Water Body	Location	
<u>25</u>	128	<u>Kalamazoo</u>	Timber Lake	Timber Lake Campground
<u>26</u>	129	<u>Kent</u>	Lincoln Lake	Lincoln Lake Baptist Camp
	130	Kent	Lincoln Lake	Lincoln Pines Resort
	131	Kent	Long Lake	Long Lake County Park
	132	Kent	Myers Lake	Myers Lake County Park
	133	Kent	Reeds Lake	Collins Park
	134	Kent	Scalley Lake	Scalley Lake Park
	135	Kent	Versluis Lake	Versluis Park
	136	Kent	Wabasis Lake	Wabasis Lake County Park
<u>27</u>	137	<u>Leelanau</u>	Lake Leelanau	Leelanau Township Park Beach
	138	Leelanau	Lake Leelanau	Nedow's (Barthalomew) Beach
	139	Leelanau	Lake Leelanau	Popp Road End
	140	Leelanau	South Bar Lake	South Bar Lake-South End
<u>28</u>	141	<u>Livingston</u>	Dibrova Lake	Green Valley Camp
	142	Livingston	Pickereel Lake	Providence Medical Center
<u>29</u>	143	<u>Marquette</u>	Dead River Reservoir	Marquette Tourist Park Beach
<u>30</u>	144	<u>Menominee</u>	(Man-Made Pond)	Totem Pole Campground Pond
	145	Menominee	Camp Lord Willing Pond	Camp Lord Willing
<u>31</u>	146	<u>Monroe</u>	Covered Wagon Campground Pond	Covered Wagon Campground
	147	Monroe	Heath Beach Pond	Heath Beach
	148	Monroe	Hermansville Lake	Hermansville Beach
	149	Monroe	K.C. Campground Pond	K.C. Campground
	150	Monroe	Monroe KOA Campground Pond	Monroe KOA Campground
	151	Monroe	Pirollis Campground Pond	Pirolli's Campground
	152	Monroe	Shakey Lakes	Shakey Lakes Campground
	153	Monroe	The Vine Campground Pond	The Vine
	154	Monroe	Wilderness Retreat Campground Pond	Wilderness Retreat Campground
<u>32</u>	155	<u>Montmorency</u>	Clear Lake	Clear Lake Day Use
	156	Montmorency	Crooked Lake	Crooked Lake Beach
	157	Montmorency	East Twin Lake	East Twin Beach/Albert Township Park
	158	Montmorency	Ess Lake	Ess Lake State Campground
<u>33</u>	159	<u>Muskegon</u>	White Lake	Goodrich Park
<u>34</u>	160	<u>Oakland</u>	Bass Lake	Idlewild Subdivision
	161	Oakland	Carpenter Lake	Lakeview Recreation
	162	Oakland	Carpenter Lake	Silver Valley Subdivision
	163	Oakland	Cass Lake	Cass Lake Woods
	164	Oakland	Cass Lake	Keego Harbor Trailer Park
	165	Oakland	Cass Lake	Sylvan-on-the-Lakes
	166	Oakland	Cass Lake	Willow Beach Subdivision
	167	Oakland	Cedar Island Lake	Cedar Crest Subdivision

Appendix D.2. 2007 Michigan List of Inland Beaches NOT Monitored

County	Water Body	Location	
168	Oakland	Cedar Island Lake	Sunset Subdivision
169	Oakland	Commerce Lake	Log Cabin Subdivision
170	Oakland	Cranberry Lake	Cranberry Lake Village
171	Oakland	Cranberry Lake	Cranberry Lake Village
172	Oakland	Crescent Lake	Crescent Highlands
173	Oakland	Crescent Lake	Crescent Lake Park
174	Oakland	Davis Lake	Meagher Park/Woodland Manor
175	Oakland	Eagle Lake	Lakeland Estates
176	Oakland	Ekelund Lake	Camp Gordanwood
177	Oakland	Elizabeth Lake	Bloomfield
178	Oakland	Elizabeth Lake	Cass-Elizabeth Heights
179	Oakland	Elizabeth Lake	Elizabeth Lake Estates Improvement Association
180	Oakland	Elizabeth Lake	Elizabeth Lakeshore
181	Oakland	Elizabeth Lake	Elizabeth Shores
182	Oakland	Elizabeth Lake	Rangate Park
183	Oakland	Elizabeth Lake	Terrace
184	Oakland	Elizabeth Lake	Walters
185	Oakland	Fox Lake	Cloister-on-the-Lakes
186	Oakland	Green Lake	Green Acres/Green Valley Park
187	Oakland	Hammond Lake	Hammond Estates
188	Oakland	Harvey Lake	Harvey Lake Estates
189	Oakland	Harvey Lake	Harvey Lake Heights
190	Oakland	Huntoon Lake	Broadway Civic Association
191	Oakland	Huntoon Lake	Burlingham Lake Park I
192	Oakland	Huntoon Lake	Burlingham Lake Park II
193	Oakland	Huntoon Lake	Huntoon Village
194	Oakland	Lakeville Lake	Doll's Dock (Skip's Landing)
195	Oakland	Long Lake	Annex 1
196	Oakland	Loon Lake	Birch Park
197	Oakland	Loon Lake	Indianwood
198	Oakland	Lower Straits	Maple Point
199	Oakland	Maceday Lake	Whitfield-Maceday Association-North
200	Oakland	Maceday Lake	Whitfield-Maceday Association-South
201	Oakland	Meadow Lake	Meadow Lake Association
202	Oakland	Middle Straits Lake	Crystal Echo
203	Oakland	Middle Straits Lake	Crystal Echo (The Point)
204	Oakland	Middle Straits Lake	Stony Beach
205	Oakland	Middle Straits Lake	Tripps Subdivision Park
206	Oakland	Middle Straits Lake	Twin Beach Park
207	Oakland	Middle Straits Lake	West Acres
208	Oakland	Morgan Lake	Lake Angelus Lakeview Estates
209	Oakland	Mud Lake	Rose Hill Center
210	Oakland	Narrin Lake	Camp Narrin
211	Oakland	Neva Lake	Lakewood Village Subdivision
212	Oakland	Oakland Lake	Bird Island Subdivision
213	Oakland	Oakland Lake	Lake Oakland Heights
214	Oakland	Oakland Lake	Lake Oakland Shores
215	Oakland	Orion Lake	Lake Orion Heights
216	Oakland	Orion Lake	Sunset Club
217	Oakland	Round Lake	Family Park

Appendix D.2. 2007 Michigan List of Inland Beaches NOT Monitored

	County	Water Body	Location
	218 Oakland	Sherwood Lake	Sherwood Boat Ramp
	219 Oakland	Silver Lake	Silver Hill Road
	220 Oakland	Square Lake	Pleasant View Subdivision
	221 Oakland	Square Lake	Pleasant View Subdivision-Kempster Street
	222 Oakland	Sugden Lake	Oakridge Subdivision
	223 Oakland	Sylvan Lake	Cunningham Park
	224 Oakland	Sylvan Lake	Lakeview
	225 Oakland	Sylvan Lake	Pioneer Highlands
	226 Oakland	Sylvan Lake	Sylvan Shores Improvement Association
	227 Oakland	Union Lake	Alpha Beach
	228 Oakland	Union Lake	Burley & Barnsbury Streets
	229 Oakland	Union Lake	Union Lake Beach Club
	230 Oakland	Union Lake	Union Lake Heights Subdivision #2
	231 Oakland	Van Norman Lake	Waterford Hill
	232 Oakland	Voorheis Lake	Keatington Subdivision-Eaton Gate-off Baldwin
	233 Oakland	Voorheis Lake	Keatington Subdivision-Joslyn Court
	234 Oakland	Watkins Lake	Lakeland Association #1
	235 Oakland	Watkins Lake	Lakeland Association #2
	236 Oakland	Watkins Lake	Whitney Street
	237 Oakland	Whipple Lake	Whipple Shores Subdivision
	238 Oakland	White Lake	Rolling Acres
	239 Oakland	White Lake	Stanley Beach
<u>35</u>	240 <u>Ogemaw</u>	Lake George	Lake George Campground
<u>36</u>	241 <u>Osceola</u>	Center Lake	Center Lake Bible Camp
	242 Osceola	Center Lake	Kettunen Center
	243 Osceola	Diamond Lake	Diamond Lake
	244 Osceola	Diamond Lake	DNR Access Diamond Lake
	245 Osceola	Hicks Lake	DNR Access Hicks Lake
	246 Osceola	McCoy Lake	DNR Access McCoy Lake
	247 Osceola	Muskegon River	City of Evert Campground
	248 Osceola	Muskegon River	Hersey Road Access
	249 Osceola	Rose Lake	Rose Lake Youth Camp
	250 Osceola	Todd Lake	DNR Access Todd Lake
	251 Osceola	Wells Lake	DNR Access Wells Lake
<u>37</u>	252 <u>Oscoda</u>	Mio Pond	Mio Pond Campground
<u>38</u>	253 <u>Otsego</u>	Otsego Lake	Arbutus Beach
<u>39</u>	254 <u>Presque Isle</u>	Black Lake	Onaway State Park
	255 Presque Isle	Grand Lake	Grand Lake Northwest
	256 Presque Isle	Grand Lake	Grand Lake Public Access
	257 Presque Isle	Lake May	Lake May Public Access
	258 Presque Isle	Ocquoec River	Millersburg Park
	259 Presque Isle	Ocquoec River	Ocquoec Falls Park
	260 Presque Isle	Shoepac Lake	Shoepac Lake Campground
	261 Presque Isle	Sunken Lake	Sunken Lake County Park
	262 Presque Isle	Tomahawk Lake	Tomahawk Lake Campground

Appendix D.2. 2007 Michigan List of Inland Beaches NOT Monitored

	County	Water Body	Location	
<u>40</u>	263	<u>Roscommon</u>	Backus Pond	Backus Township Park
	264	Roscommon	Bambi Lake/Sinkhole Lake	Bambi Lake Camp
	265	Roscommon	Higgins Lake	Beaver Creek Road End
	266	Roscommon	Higgins Lake	DNR Public Fishing site
	267	Roscommon	Higgins Lake	Higgins Lake Public Fishing Site
	268	Roscommon	Higgins Lake	Kelly Beach
	269	Roscommon	Higgins Lake	Phoenix Park
	270	Roscommon	Higgins Lake	Sam-O-Set Road End
	271	Roscommon	Houghton Lake	H.L. DNR Boat Launch and Park
	272	Roscommon	Houghton Lake	H.L. State Forest Campground
	273	Roscommon	Houghton Lake	Houghton Lake Public Fishing Site
	274	Roscommon	Houghton Lake	Old 27 DNR Access
	275	Roscommon	Owens Lake	Camp Co-Be-Ac
<u>41</u>	276	<u>Saginaw</u>	Haithco Lake	Haithco Recreation Area
	277	Saginaw	Lake of Dreams	Lake of Dreams Campground
<u>42</u>	278	<u>St. Joseph</u>	Cade Lake	Cade Lake Beach
	279	St. Joseph	Palmer Lake	Palmer Lake Beach
	280	St. Joseph	Sand Lake	Nottawa Park
<u>43</u>	281	<u>Tuscola</u>	Murphy Lake	Murphy Lake

Appendix E.1. 2007 Great Lakes Beaches Monitored

	County	Water Body	Location
<u>1</u>	1 <u>Alcona</u>	Lake Huron	Harrisville State Park
<u>2</u>	2 <u>Alger</u>	Lake Superior	Sand Point
<u>3</u>	3 <u>Allegan</u>	Lake Michigan	Douglas Beach
	4 Allegan	Lake Michigan	Oval Beach
	5 Allegan	Lake Michigan	Pier Cove Beach
	6 Allegan	Lake Michigan	West Side County Park Beach
<u>4</u>	7 <u>Alpena</u>	Lake Huron	Blair Street Park
	8 Alpena	Lake Huron	Michekewis Beach
	9 Alpena	Lake Huron	Ossineke Beach
	10 Alpena	Lake Huron	Starlite Beach
	11 Alpena	Lake Huron	Thompson Park
<u>5</u>	12 <u>Antrim</u>	Lake Michigan	Antrim County Day Park South
	13 Antrim	Lake Michigan	Banks Township Park
	14 Antrim	Lake Michigan	Barnes Park
	15 Antrim	Lake Michigan	Elk Rapids
	16 Antrim	Lake Michigan	Veterans Memorial Park
<u>6</u>	17 <u>Arenac</u>	Saginaw Bay-Lake Huron	Arenac County Park
	18 Arenac	Saginaw Bay-Lake Huron	Bessinger Road Beach
	19 Arenac	Saginaw Bay-Lake Huron	Dyer Road Beach
	20 Arenac	Saginaw Bay-Lake Huron	Foster Road Beach
	21 Arenac	Saginaw Bay-Lake Huron	Hammel Beach Road Access
	22 Arenac	Saginaw Bay-Lake Huron	Singing Bridge Beach
	23 Arenac	Saginaw Bay-Lake Huron	Twining Road Beach
	24 Arenac	Saginaw Bay-Lake Huron	Whites Beach
<u>7</u>	25 <u>Baraga</u>	Keweenaw Bay/Lake Superior	L'Anse Waterfront Park
<u>8</u>	26 <u>Bay</u>	Saginaw Bay-Lake Huron	Bay City State Recreation Area
	27 Bay	Saginaw Bay-Lake Huron	Brissette Beach Township Park
	28 Bay	Saginaw Bay-Lake Huron	Pinconning Park
	29 Bay	Saginaw Bay-Lake Huron	South Linwood Beach Township Park
	30 Bay	Saginaw Bay-Lake Huron	Wenona Beach
<u>9</u>	31 <u>Benzie</u>	Lake Michigan	Frankfort: Anchor Road Beach
<u>10</u>	32 <u>Berrien</u>	Lake Michigan	Cherry Beach
	33 Berrien	Lake Michigan	Grand Beach
	34 Berrien	Lake Michigan	Hagar Township Park
	35 Berrien	Lake Michigan	Jean Klock Park
	36 Berrien	Lake Michigan	Lincoln Township Park
	37 Berrien	Lake Michigan	Lions Park
	38 Berrien	Lake Michigan	Michiana Village
	39 Berrien	Lake Michigan	New Buffalo City
	40 Berrien	Lake Michigan	Rocky Gap
	41 Berrien	Lake Michigan	Silver Beach
	42 Berrien	Lake Michigan	Tiscornia Park

Appendix E.1. 2007 Great Lakes Beaches Monitored

	County	Water Body	Location
	43 Berrien	Lake Michigan	Warren Dunes Beach
	44 Berrien	Lake Michigan	Weko Beach
<u>11</u>	45 <u>Charlevoix</u>	Lake Charlevoix	Depot Beach
	46 Charlevoix	Lake Charlevoix	East Jordan Bridge
	47 Charlevoix	Lake Charlevoix	East Jordan Tourist Park
	48 Charlevoix	Lake Charlevoix	Elm Point Beach
	49 Charlevoix	Lake Charlevoix	Ferry Beach
	50 Charlevoix	Lake Charlevoix	Hayes Township Park
	51 Charlevoix	Lake Charlevoix	Peninsula Beach
	52 Charlevoix	Lake Charlevoix	Tannery Park
	53 Charlevoix	Lake Charlevoix	Whiting Park Beach
	54 Charlevoix	Lake Charlevoix	Young State Park Beach
	55 Charlevoix	Lake Michigan	Fisherman's Island State Park
	56 Charlevoix	Lake Michigan	Lake Michigan Beach
	57 Charlevoix	Lake Michigan	Mt. McSauba Beach
	58 Charlevoix	Lake Michigan	Norwood Park
<u>12</u>	59 <u>Cheboygan</u>	Lake Huron	Cheboygan City Park
	60 Cheboygan	Lake Huron	Cheboygan State Park Duncan Bay
	61 Cheboygan	Lake Huron	Mackinaw City Lighthouse Park
	62 Cheboygan	Lake Huron	Wawatam City Park
<u>13</u>	63 <u>Chippewa</u>	Lake Superior	Bayview Campground
	64 Chippewa	Lake Superior	Big Pines Beach
	65 Chippewa	Lake Superior	Brimley State Park
	66 Chippewa	Lake Superior	Sherman Park
	67 Chippewa	St. Marys River	Four Mile Beach
	68 Chippewa	St. Marys River	Sugar Island Township Park
<u>14</u>	69 <u>Delta</u>	Lake Michigan	Escanaba Bathing Beach
	70 Delta	Lake Michigan	Gladstone Bathing Beach/Van Cleve Park
<u>15</u>	71 <u>Emmet</u>	Lake Michigan	Cross Village Beach
	72 Emmet	Lake Michigan	Mackinaw City Beach #1
	73 Emmet	Lake Michigan	Mackinaw City Beach #2
	74 Emmet	Lake Michigan	Magnus Park
	75 Emmet	Lake Michigan	Middle Village Park
	76 Emmet	Lake Michigan	Petoskey State Park
	77 Emmet	Lake Michigan	Readmond Township Beach
	78 Emmet	Lake Michigan	Thorne Swift Preserve
	79 Emmet	Lake Michigan	Wilderness State Park
	80 Emmet	Lake Michigan	Zoll Street Beach
	81 Emmet	Lake Michigan	Zorn Park-Harbor Springs
<u>16</u>	82 <u>Grand Traverse</u>	Grand Traverse Bay-East	East Bay Park (Milliken Park)
	83 Grand Traverse	Grand Traverse Bay-East	Traverse City State Park
	84 Grand Traverse	Grand Traverse Bay-West	Bryant Park Beach
	85 Grand Traverse	Grand Traverse Bay-West	Clinch Park
	86 Grand Traverse	Grand Traverse Bay-West	West End Beach

Appendix E.1. 2007 Great Lakes Beaches Monitored

	County	Water Body	Location	
<u>17</u>	87	<u>Houghton</u>	Lake Superior	Agate Beach
	88	Houghton	Lake Superior	McLain State Park Beach
	89	Houghton	Pike Bay at Portage Canal	Chassell Beach
	90	Houghton	Portage Canal/Lake Superior	Hancock City Beach
	91	Houghton	Portage Canal/Lake Superior	Houghton City Beach
	92	Houghton	Portage Canal/Lake Superior	Sandy Bottom Beach/Dollar Bay
	93	Houghton	Torch Lake/Portage Canal	Lake Linden Campground Beach
<u>18</u>	94	<u>Huron</u>	Lake Huron	Bird Creek County Park
	95	Huron	Lake Huron	Caseville County Park
	96	Huron	Lake Huron	Harbor Beach City Park
	97	Huron	Lake Huron	Jenks County Park
	98	Huron	Lake Huron	Lighthouse County Park
	99	Huron	Lake Huron	McGraw County Park
	100	Huron	Lake Huron	Oak Beach County Park
	101	Huron	Lake Huron	Philp County Park
	102	Huron	Lake Huron	Port Crescent State Park-Camping Area
	103	Huron	Lake Huron	Port Crescent State Park-Day Use
	104	Huron	Lake Huron	Sleeper State Park
	105	Huron	Lake Huron	Thompson Park
<u>19</u>	106	<u>Iosco</u>	Lake Huron	Alabaster Township
	107	Iosco	Lake Huron	Au Sable Township Park
	108	Iosco	Lake Huron	MDOT Roadside Park
	109	Iosco	Lake Huron	Oscoda Township Beach
	110	Iosco	Lake Huron	Tawas Point State Park-Campground
	111	Iosco	Lake Huron	Tawas Point State Park-Day Use Area
	112	Iosco	Tawas Bay	East Tawas City Park
	113	Iosco	Tawas Bay	Tawas City Park
<u>20</u>	114	<u>Keweenaw</u>	Lake Superior	Eagle Harbor Beach
<u>21</u>	115	<u>Leelanau</u>	Grand Traverse Bay-West	Northport Bay Marina
	116	Leelanau	Grand Traverse Bay-West	Suttons Bay Park
	117	Leelanau	Lake Michigan	Empire Municipal Beach
<u>22</u>	118	<u>Mackinac</u>	Lake Michigan	US-2 Roadside East of Brevort
<u>23</u>	119	<u>Macomb</u>	Lake St. Clair	HCMA-Metropolitan Beach Metropark
	120	Macomb	Lake St. Clair	New Baltimore Park Beach
	121	Macomb	Lake St. Clair	SCS Blossom Heath Beach
	122	Macomb	Lake St. Clair	St. Clair Shores Memorial Park Beach
<u>24</u>	123	<u>Manistee</u>	Lake Michigan	Arcadia Park
	124	Manistee	Lake Michigan	Bar Lake Outlet
	125	Manistee	Lake Michigan	Fifth Avenue Beach
	126	Manistee	Lake Michigan	First Street Beach
	127	Manistee	Lake Michigan	Magoon Creek
	128	Manistee	Lake Michigan	Onekama Township Beach
	129	Manistee	Lake Michigan	Orchard Beach State Park
	130	Manistee	Lake Michigan	Pierport Township Beach

Appendix E.1. 2007 Great Lakes Beaches Monitored

	County	Water Body	Location	
	131	Manistee	Lake Michigan	Sundling Park
<u>25</u>	132	Marquette	Lake Superior	Marquette South Beach
	133	Marquette	Lake Superior	McCartys Cove
	134	Marquette	Lake Superior	North Beach
	135	Marquette	Lake Superior	North of Picnic Rocks
	136	Marquette	Lake Superior	Picnic Rocks
<u>26</u>	137	Mason	Lake Michigan	Bass Lake Outlet Beach
	138	Mason	Lake Michigan	Buttersville Park Beach
	139	Mason	Lake Michigan	Ludington State Park Campground Beach
	140	Mason	Lake Michigan	South Pier Beach
	141	Mason	Lake Michigan	South Summit Beach
	142	Mason	Lake Michigan	Sterns Park Beach
	143	Mason	Lake Michigan	Summit Township Beach
<u>27</u>	144	Menominee	Lake Michigan	Henes Park
	145	Menominee	Lake Michigan	Memorial Beach
<u>28</u>	146	Monroe	Lake Erie	Luna Pier City Beach
	147	Monroe	Lake Erie	Sterling State Park
<u>29</u>	148	Muskegon	Lake Michigan	Bronson/Kruse Park
	149	Muskegon	Lake Michigan	Duck Lake Channel Beach
	150	Muskegon	Lake Michigan	Lake Harbor Park
	151	Muskegon	Lake Michigan	Lighthouse/Sylvan Beach
	152	Muskegon	Lake Michigan	Medbury Park Beach
	153	Muskegon	Lake Michigan	Meinert County Park
	154	Muskegon	Lake Michigan	Muskegon State Park
	155	Muskegon	Lake Michigan	Old Channel Beach
	156	Muskegon	Lake Michigan	Pere Marquette Park
	157	Muskegon	Lake Michigan	Pioneer County Park
	158	Muskegon	Lake Michigan	PJ Hoffmaster State Park-Campground
	159	Muskegon	Lake Michigan	PJ Hoffmaster State Park-Public Beach Area
<u>30</u>	160	Oceana	Lake Michigan	Claybanks Township Park
	161	Oceana	Lake Michigan	Lighthouse Beach at Silver Lake State Park
	162	Oceana	Lake Michigan	Mears State Park
	163	Oceana	Lake Michigan	Whiskey Creek
	164	Oceana	Silver Lake-Lake Michigan	Silver Creek Channel
	165	Oceana	Stony Lake and Lake Michigan	Stony Lake Channel
<u>31</u>	166	Ontonagon	Lake Superior	Ontonagon Township Park and Campground
	167	Ontonagon	Lake Superior	Porcupine Mountains State Park-Union Bay
<u>32</u>	168	Ottawa	Lake Michigan	Grand Haven City Beach
	169	Ottawa	Lake Michigan	Grand Haven State Park
	170	Ottawa	Lake Michigan	Holland State Park
	171	Ottawa	Lake Michigan	Kirk Park
	172	Ottawa	Lake Michigan	Kouw Park
	173	Ottawa	Lake Michigan	North Beach Park

Appendix E.1. 2007 Great Lakes Beaches Monitored

	County	Water Body	Location
	174 Ottawa	Lake Michigan	Rosy Mound Recreation Area
	175 Ottawa	Lake Michigan	Tunnel Park
	176 Ottawa	Lake Michigan	Windsnest Park
<u>33</u>	177 <u>Presque Isle</u>	Lake Huron	Hoeft State Park-North
	178 Presque Isle	Lake Huron	Hoeft State Park-South
	179 Presque Isle	Lake Huron	Lakeside Park (Rogers City)
	180 Presque Isle	Lake Huron	Presque Isle Harbor Beach
<u>34</u>	181 <u>Sanilac</u>	Lake Huron	Forester County Park
	182 Sanilac	Lake Huron	Lexington Beach
	183 Sanilac	Lake Huron	Lexington County Park
	184 Sanilac	Lake Huron	Port Sanilac Park
<u>35</u>	185 <u>Schoolcraft</u>	Lake Michigan	Rogers Beach
<u>36</u>	186 <u>St. Clair</u>	Lake Huron	Burtchville Township Park
	187 St. Clair	Lake Huron	Conger-Lighthouse Beach
	188 St. Clair	Lake Huron	Fort Gratiot County Park
	189 St. Clair	Lake Huron	Holland Road Beach
	190 St. Clair	Lake Huron	Jeddo Road Beach
	191 St. Clair	Lake Huron	Keewadin Road Beach
	192 St. Clair	Lake Huron	Krafft Road Beach
	193 St. Clair	Lake Huron	Lakeport State Campground
	194 St. Clair	Lake Huron	Lakeport State Park
	195 St. Clair	Lake Huron	Lakeside Beach
	196 St. Clair	Lake Huron	Metcalf Road Beach
	197 St. Clair	Lake Huron	Washington Street Park
	198 St. Clair	St. Clair River	Chrysler Park Beach
	199 St. Clair	St. Clair River	Marine City Beach
	200 St. Clair	St. Clair River	Marine City Diving Area
<u>37</u>	201 <u>Van Buren</u>	Lake Michigan	Covert Township Park Beach
	202 Van Buren	Lake Michigan	South Haven North Beach
	203 Van Buren	Lake Michigan	South Haven South Beach
	204 Van Buren	Lake Michigan	Van Buren State Park Beach
<u>38</u>	205 <u>Wayne</u>	Lake St. Clair	Pier Park

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location		
<u>1</u>	1	<u>Alcona</u>	Lake Huron	Black River Public Access	
	2	Alcona	Lake Huron	Greenbush Township	
	3	Alcona	Lake Huron	Harrisville Public Access	
	4	Alcona	Lake Huron	Negwegon State Park	
	5	Alcona	Lake Huron	Public Shoreline Beach-Huron National Forest North	
	6	Alcona	Lake Huron	Public Shoreline Beach-Huron National Forest South	
	7	Alcona	Lake Huron	Sturgeon Point State Park	
	8	Alcona	Lake Huron	Trask Lake Road Beach	
<u>2</u>	9	<u>Alger</u>	Lake Superior	Au Train Beach	
	10	Alger	Lake Superior	Bay Furnace Recreation Area Beach	
	11	Alger	Lake Superior	Christmas Beach	
	12	Alger	Lake Superior	Grand Marais Harbor Beach	
	13	Alger	Lake Superior	Grand Marais Township Beach	
	14	Alger	Lake Superior	Miners Beach	
	15	Alger	Lake Superior	Munising Beach	
	16	Alger	Lake Superior	Public Shoreline Beach-Au Train Bay	
	17	Alger	Lake Superior	Public Shoreline Beach-Au Train to Five Mile Pts	
	18	Alger	Lake Superior	Public Shoreline Beach-East County Border Area	
	19	Alger	Lake Superior	Public Shoreline Beach-Grand Sable Dunes	
	20	Alger	Lake Superior	Rathfoot Park Beach	
	21	Alger	Lake Superior	Roadside Park	
	22	Alger	Lake Superior	Twelvemile Beach	
<u>3</u>	23	<u>Allegan</u>	Lake Michigan	Castle Park	
	24	Allegan	Lake Michigan	Saugatuck Dunes State Park Shoreline Beach	
<u>4</u>	25	<u>Alpena</u>	Lake Huron	Bay View Park	
	26	Alpena	Lake Huron	Elcajon Bay	
	27	Alpena	Lake Huron	Issineke Hardwood Point	
	28	Alpena	Lake Huron	Negwegon State Park-Ossineke South Point	
	29	Alpena	Lake Huron	Ossineke Campground	
	30	Alpena	Lake Huron	Ossineke State Park	
	31	Alpena	Lake Huron	Partridge Point	
	32	Alpena	Lake Huron	Rock Port Beach	
	33	Alpena	Lake Huron	Whitefish Bay	
	<u>5</u>	34	<u>Antrim</u>	Grand Traverse Bay-East	Petobego Pond Area
		35	Antrim	Lake Michigan	Antrim County Day Park North
36		Antrim	Lake Michigan	Antrim Creek Natural Area	
37		Antrim	Lake Michigan	Elk Rapids Park	
38		Antrim	Lake Michigan	Erickson Road	
39		Antrim	Lake Michigan	Lore Road End Beach	
40		Antrim	Lake Michigan	Michigan Trail	
41		Antrim	Lake Michigan	Nature Preserve	
42		Antrim	Lake Michigan	North Bay Shore (Conservancy)	
43		Antrim	Lake Michigan	O'Dell Road	
44		Antrim	Lake Michigan	Road Crossing near Winters Road	
<u>6</u>	45	<u>Arenac</u>	Saginaw Bay-Lake Huron	Au Sable State Forest-Greens Point	
	46	Arenac	Saginaw Bay-Lake Huron	Augres Township Park Beach	

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location	
	47	Arenac	Saginaw Bay-Lake Huron	Booth Road Beach
	48	Arenac	Saginaw Bay-Lake Huron	City of Augres Public Access
	49	Arenac	Saginaw Bay-Lake Huron	Gordon Road Beach
	50	Arenac	Saginaw Bay-Lake Huron	Pump Station
	51	Arenac	Saginaw Bay-Lake Huron	Terrace Road
<u>7</u>	52	Baraga	Huron Bay/Lake Superior	Arvon Township Park
	53	Baraga	Keweenaw Bay/Lake Superior	Baraga State Park
	54	Baraga	Keweenaw Bay/Lake Superior	First Sand Beach
	55	Baraga	Keweenaw Bay/Lake Superior	L'Anse Township Park
	56	Baraga	Keweenaw Bay/Lake Superior	Second Sands Beach
	57	Baraga	Lake Superior	Keweenaw Bay Village Public Roadside Park
	58	Baraga	Lake Superior	Mouth of the Huron River
	59	Baraga	Lake Superior	Public Shoreline Beach-Cooper Country Huron Bay
	60	Baraga	Lake Superior	Public Shoreline Beach-NW Abbaye Peninsula
	61	Baraga	Lake Superior	Public Shoreline Beach-Point Abbaye
	62	Baraga	Lake Superior	Public Shoreline Beach-Sand Point
<u>8</u>	63	Bay	Saginaw Bay-Lake Huron	Nayanquing Point Wildlife Area
<u>9</u>	64	Benzie	Lake Michigan	Alberta Village Beach and Bluffs
	65	Benzie	Lake Michigan	County Road 669
	66	Benzie	Lake Michigan	Esch Road/Otter Creek
	67	Benzie	Lake Michigan	Platte River Point
	68	Benzie	Lake Michigan	Point Betsie Lighthouse Beach
	69	Benzie	Lake Michigan	Sleeping Bear Dunes-North of Esch Road
	70	Benzie	Lake Michigan	Sleeping Bear Dunes-Platte Bay South
	71	Benzie	Lake Michigan	Sleeping Bear Dunes-Platte River
	72	Benzie	Lake Michigan	Sleeping Bear Dunes-South of Esch Road
	73	Benzie	Lake Michigan	Zettenberg Preserve
<u>10</u>	74	Berrien	Lake Michigan	Galien River Park
	75	Berrien	Lake Michigan	Gordon Beach
	76	Berrien	Lake Michigan	Grand Mere State Park-Rosemary Beach
	77	Berrien	Lake Michigan	Grand Mere State Park-Shoreline Beach
	78	Berrien	Lake Michigan	Grand Mere State Park-Waverland Beach
	79	Berrien	Lake Michigan	Harbert Beach
	80	Berrien	Lake Michigan	Mizpah Park
	81	Berrien	Lake Michigan	Warren Dunes State Park North
<u>11</u>	82	Charlevoix	Lake Charlevoix	Washington Street Beach
	83	Charlevoix	Lake Michigan	Beaver Island Public Beach
	84	Charlevoix	Lake Michigan	Bill Wagner Memorial Campground Beach
	85	Charlevoix	Lake Michigan	Harbor Beach
	86	Charlevoix	Lake Michigan	Iron Ore Bay Beach
<u>12</u>	87	Cheboygan	Lake Huron	Cheboygen State Park-Lighthouse Point
	88	Cheboygan	Lake Huron	Ditta Park
	89	Cheboygan	Lake Huron	Huron Street Beach
	90	Cheboygan	Lake Huron	Mackinaw City Beach
	91	Cheboygan	Lake Huron	Mill Creek Public Access

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location	
	92	Cheboygan	Lake Huron	Old State Dock
	93	Cheboygan	Lake Huron	Pinewood Circle Road End Beach
	94	Cheboygan	Lake Huron	Roadside Park MDOT, US-23
	95	Cheboygan	Lake Huron	Roadside Park-Village of Mackinac
	96	Cheboygan	Lake Huron	Stoney Point Road End Beach
13	97	Chippewa	Lake Huron	Bass Cove Beach-Drummond Island
	98	Chippewa	Lake Huron	Betsey Seaman Memorial Park-Drummond Island
	99	Chippewa	Lake Huron	Big Shoal Cove Beach
	100	Chippewa	Lake Huron	De Tour State Park Shoreline Beach
	101	Chippewa	Lake Huron	Detour Albany Beach
	102	Chippewa	Lake Huron	Drummond Island Township Park
	103	Chippewa	Lake Huron	Sand Bay Beach-Drummond Island
	104	Chippewa	Lake Superior	Hiawatha National Forest-Nodoway Point Area
	105	Chippewa	Lake Superior	Hiawatha National Forest-North of Big Pine Picnic
	106	Chippewa	Lake Superior	Hiawatha National Forest-Pendills Bay
	107	Chippewa	Lake Superior	Hiawatha National Forest-Pendills Lake
	108	Chippewa	Lake Superior	Hiawatha National Forest-Point Iroquois Light
	109	Chippewa	Lake Superior	Hiawatha National Forest-Tahquamenon Bay
	110	Chippewa	Lake Superior	Hiawatha National Forest-West of Salt Point
	111	Chippewa	Lake Superior	Public Shoreline Beach-Browns Creek Area
	112	Chippewa	Lake Superior	Public Shoreline Beach-Marsh Lake Area
	113	Chippewa	Lake Superior	Public Shoreline Beach-Northwest of Two Mile Lake
	114	Chippewa	Lake Superior	Public Shoreline Beach-Weatherhog Lake East Area
	115	Chippewa	Lake Superior	Public Shoreline Beach-Weatherhog Lake West
	116	Chippewa	Lake Superior	Public Shoreline Beach-West of Whitefish Point
	117	Chippewa	Lake Superior	Tahquamenon Falls State Park-River Mouth Unit
	118	Chippewa	St. Marys River	Dunbar Park
	119	Chippewa	St. Marys River	Hiawatha National Forest-North Pond
	120	Chippewa	St. Marys River	Hiawatha National Forest-Waiska Bay
	121	Chippewa	St. Marys River	Lake Superior State Forest-Munuscong Lake
	122	Chippewa	St. Marys River	Public Shoreline Beach-Brush Point
	123	Chippewa	St. Marys River	Public Shoreline Beach-Point Aux Frenes
	124	Chippewa	St. Marys River	Public Shoreline Beach-Raber Bay Stretch
	125	Chippewa	St. Marys River	Wilderness Beach
14	126	Delta	Lake Michigan	Big Bay De Noc-Fishdam River Public Access
	127	Delta	Lake Michigan	Fayette State Park
	128	Delta	Lake Michigan	Fuller Park
	129	Delta	Lake Michigan	Little Bay De Noc-Public Beach Access
	130	Delta	Lake Michigan	Portage Bay Forest Campground
	131	Delta	Lake Michigan	Public Shoreline Beach-Charboneau Point
	132	Delta	Lake Michigan	Public Shoreline Beach-CO Road 481
	133	Delta	Lake Michigan	Public Shoreline Beach-East Wilsey Bay
	134	Delta	Lake Michigan	Public Shoreline Beach-Fishdam River
	135	Delta	Lake Michigan	Public Shoreline Beach-Gilnet Haven
	136	Delta	Lake Michigan	Public Shoreline Beach-Indian Point
	137	Delta	Lake Michigan	Public Shoreline Beach-Indian Town Lake USFS
	138	Delta	Lake Michigan	Public Shoreline Beach-Jacks Bluff
	139	Delta	Lake Michigan	Public Shoreline Beach-Martin Bay
	140	Delta	Lake Michigan	Public Shoreline Beach-Nahma

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location	
	141	Delta	Lake Michigan	Public Shoreline Beach-North End of Kregg Bay
	142	Delta	Lake Michigan	Public Shoreline Beach-North of Stonington
	143	Delta	Lake Michigan	Public Shoreline Beach-Ogontz Bay
	144	Delta	Lake Michigan	Public Shoreline Beach-Peninsula Point
	145	Delta	Lake Michigan	Public Shoreline Beach-Point Detour
	146	Delta	Lake Michigan	Public Shoreline Beach-Portage Bay
	147	Delta	Lake Michigan	Public Shoreline Beach-Portage Peninsula
	148	Delta	Lake Michigan	Public Shoreline Beach-St. Vitals Island
	149	Delta	Lake Michigan	Public Shoreline Beach-USFS West Wilsey Bay
	150	Delta	Lake Michigan	Public Shoreline Beach-West Side of Kregg Bay
	151	Delta	Lake Michigan	Sac Bay County Park
	152	Delta	Lake Michigan	Sac Bay County Park
	153	Delta	Lake Michigan	Twin Springs Campground and Bathing Beach
<u>15</u>	154	Emmet	Lake Michigan	Bliss Township Beach
	155	Emmet	Lake Michigan	Church Beach
	156	Emmet	Lake Michigan	Colonial Michilimackinac State Park
	157	Emmet	Lake Michigan	Forest Beach
	158	Emmet	Lake Michigan	Petoskey Harbor
	159	Emmet	Lake Michigan	The Headlands County Park
	160	Emmet	Lake Michigan	Wilderness State Park-East of the Beach
	161	Emmet	Lake Michigan	Wilderness State Park-Sturgeon Bay
	162	Emmet	Lake Michigan	Wilderness State Park-West of Beach
<u>16</u>	163	Gogebic	Lake Superior	Black River Harbor Beach
	164	Gogebic	Lake Superior	Little Girls Point Park
	165	Gogebic	Lake Superior	Mouth of the Montreal River
	166	Gogebic	Lake Superior	Porcupine Mountain State Park-North
	167	Gogebic	Lake Superior	Presque Isle Beach
	168	Gogebic	Lake Superior	Presque Isle State Campground
	169	Gogebic	Lake Superior	Public Shoreline Beach-West of Black River
<u>17</u>	170	Grand Traverse	Grand Traverse Bay-East	Acme Roadside Park and Beach MDOT
	171	Grand Traverse	Grand Traverse Bay-East	Acme Roadside Park (DNR)
	172	Grand Traverse	Grand Traverse Bay-East	Bayside Acme Township Park
	173	Grand Traverse	Grand Traverse Bay-East	Deep Water Point
	174	Grand Traverse	Grand Traverse Bay-East	East Bay Township Four Mile Road
	175	Grand Traverse	Grand Traverse Bay-East	Sayler Park
	176	Grand Traverse	Grand Traverse Bay-East	Yuba Beach
	177	Grand Traverse	Grand Traverse Bay-Old Mission P.	Bowers Harbor Public Access
	178	Grand Traverse	Grand Traverse Bay-Old Mission P.	DNR Launch/Beach Center Road
	179	Grand Traverse	Grand Traverse Bay-Old Mission P.	Haserot Beach
	180	Grand Traverse	Grand Traverse Bay-Old Mission P.	Kroupa Road Access M-22 South of Crain Hill Road
	181	Grand Traverse	Grand Traverse Bay-Old Mission P.	Leffingwell Point Beach
	182	Grand Traverse	Grand Traverse Bay-Old Mission P.	Old Mission Lighthouse
	183	Grand Traverse	Grand Traverse Bay-Old Mission P.	Old Mission Park
	184	Grand Traverse	Grand Traverse Bay-Old Mission P.	Old Mission P. Township Park-East of Lighthouse
	185	Grand Traverse	Grand Traverse Bay-Old Mission P.	Old Mission P. Township Park-West of Lighthouse
	186	Grand Traverse	Grand Traverse Bay-Old Mission P.	Old Mission Road
	187	Grand Traverse	Grand Traverse Bay-Old Mission P.	Peninsula Volunteer Fire Station Point#2
	188	Grand Traverse	Grand Traverse Bay-Old Mission P.	Swaney Road

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location	
	189	Grand Traverse	Grand Traverse Bay-West	Mouth of Boardman
	190	Grand Traverse	Grand Traverse Bay-West	Power Island Bay Park
	191	Grand Traverse	Grand Traverse Bay-West	Rose Street Access at Peninsula Drive
	192	Grand Traverse	Grand Traverse Bay-West	Senior Center
	193	Grand Traverse	Grand Traverse Bay-West	Sunset Park
<u>18</u>	194	Houghton	Lake Superior	Calument Waterworks Beach
	195	Houghton	Lake Superior	Mink Farm
	196	Houghton	Lake Superior	Public Shoreline Beach-Le Chance Creek
	197	Houghton	Lake Superior	Public Shoreline Beach-Mc Lain State Park
	198	Houghton	Lake Superior	Public Shoreline Beach-South of Portage Entry
	199	Houghton	Lake Superior	Public Shoreline Beach-Southwest County Border
	200	Houghton	Lake Superior	White City
	201	Houghton	Torch Lake/Portage Canal	Hubbell Park
<u>19</u>	202	Huron	Lake Huron	County Road End
	203	Huron	Lake Huron	Geiger Road Public Access
	204	Huron	Lake Huron	Grindstone Public Access
	205	Huron	Lake Huron	Harbor Beach Marina
	206	Huron	Lake Huron	Helena Road End
	207	Huron	Lake Huron	Kinch Road End
	208	Huron	Lake Huron	Larned Road End
	209	Huron	Lake Huron	Lighthouse County Park-South
	210	Huron	Lake Huron	Mud Creek Public Access
	211	Huron	Lake Huron	Stafford County Park
	212	Huron	Lake Huron	Wagener County Park
<u>20</u>	213	Iosco	Lake Huron	Au Sable Point Beach
	214	Iosco	Lake Huron	Lake to Lake Road
	215	Iosco	Lake Huron	Tawas Point State Park-Central
	216	Iosco	Lake Huron (Tawas Bay)	County Road End
	217	Iosco	Lake Huron (Tawas Bay)	Gateway Park
<u>21</u>	218	Keweenaw	Lake Superior	Brunette Park
	219	Keweenaw	Lake Superior	Cat Harbor Beach
	220	Keweenaw	Lake Superior	Cooper Harbor Lighthouse Complex
	221	Keweenaw	Lake Superior	Eagle River Beach
	222	Keweenaw	Lake Superior	Fort Wilkins State Park
	223	Keweenaw	Lake Superior	Fort Wilkins State Park-East
	224	Keweenaw	Lake Superior	Fort Wilkins State Park-West
	225	Keweenaw	Lake Superior	Great Sands Bay Beach
	226	Keweenaw	Lake Superior	Mouth of the Gratiot River Beach
	227	Keweenaw	Lake Superior	Point Isabelle Beach
	228	Keweenaw	Lake Superior	Public Shoreline Beach-Big Traverse Bay
	229	Keweenaw	Lake Superior	Public Shoreline Beach-Gay Park
	230	Keweenaw	Lake Superior at Bete De Gris Bay	Bete De Gris Beach
<u>22</u>	231	Leelanau	Grand Traverse Bay	Boughy Park and Beach
	232	Leelanau	Grand Traverse Bay-West	Cathead Bay, Leelanau State Park
	233	Leelanau	Grand Traverse Bay-West	Christmas Cove
	234	Leelanau	Grand Traverse Bay-West	Elmwood/Greilickville Park and Beach

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location	
	235	Leelanau	Grand Traverse Bay-West	Graham Green Park
	236	Leelanau	Grand Traverse Bay-West	Hendryx County Roadside Park
	237	Leelanau	Grand Traverse Bay-West	M-22 at M-72 Public Access
	238	Leelanau	Grand Traverse Bay-West	MDOT Roadside Park/Beach
	239	Leelanau	Grand Traverse Bay-West	MDOT Roadside Park/Beach-M-22 N. of Cherry Bend
	240	Leelanau	Grand Traverse Bay-West	Northport 4th Street Beach
	241	Leelanau	Grand Traverse Bay-West	Northport 5th Street Beach
	242	Leelanau	Grand Traverse Bay-West	Northport 7th Street Beach
	243	Leelanau	Grand Traverse Bay-West	Northport Haserot Beach, Rose Street
	244	Leelanau	Grand Traverse Bay-West	Omena Beach and Park
	245	Leelanau	Grand Traverse Bay-West	Stoney Point County Roadside Park
	246	Leelanau	Grand Traverse Bay-West	Suttons Bay Marina Park and Beach South
	247	Leelanau	Grand Traverse Bay-West	Suttons Bay Public Launch and Beach
	248	Leelanau	Grand Traverse Bay-West	Suttons Bay South Shore Park
	249	Leelanau	Lake Michigan	Bay Front Park
	250	Leelanau	Lake Michigan	Cedar Street Beach
	251	Leelanau	Lake Michigan	G. Marsten Dame Marina
	252	Leelanau	Lake Michigan	Gils Pier
	253	Leelanau	Lake Michigan	Glen Arbor/Manitou Boulevard Beach
	254	Leelanau	Lake Michigan	Lake Street Beach, Glen Arbor
	255	Leelanau	Lake Michigan	Leelanau State Park, Lighthouse
	256	Leelanau	Lake Michigan	Leland Harbor
	257	Leelanau	Lake Michigan	North Bar
	258	Leelanau	Lake Michigan	North Street Beach
	259	Leelanau	Lake Michigan	Peterson Park
	260	Leelanau	Lake Michigan	Reynolds Street Beach
	261	Leelanau	Lake Michigan	Sleeping Bear Dunes-Empire Bluffs
	262	Leelanau	Lake Michigan	Sleeping Bear Dunes-Empire/North Bar Stretch
	263	Leelanau	Lake Michigan	Sleeping Bear Dunes-Glen Haven
	264	Leelanau	Lake Michigan	Sleeping Bear Dunes-Glen Haven Beach
	265	Leelanau	Lake Michigan	Sleeping Bear Dunes-Good Harbor Bay Beach East
	266	Leelanau	Lake Michigan	Sleeping Bear Dunes-Good Harbor Bay Beach West
	267	Leelanau	Lake Michigan	Sleeping Bear Dunes-Good Harbor Bay Middle Stretch
	268	Leelanau	Lake Michigan	Sleeping Bear Dunes-North Bar Lake Area
	269	Leelanau	Lake Michigan	Sleeping Bear Dunes-Pyramid Point
	270	Leelanau	Lake Michigan	Sleeping Bear Dunes-Scenic Overlook
	271	Leelanau	Lake Michigan	Sleeping Bear Dunes-Scenic Sleeping Bear Dune
	272	Leelanau	Lake Michigan	Sleeping Bear Dunes-South of Empire
	273	Leelanau	Lake Michigan	Smith Street Beach Northport
	274	Leelanau	Lake Michigan	Thompson Street Beach
<u>23</u>	275	Luce	Lake Superior	Blind Sucker River No. 1
	276	Luce	Lake Superior	Blind Sucker River No. 2
	277	Luce	Lake Superior	Crisp Point Light House
	278	Luce	Lake Superior	Lake Superior Campground Beach
	279	Luce	Lake Superior	Mouth of the Two Hearted River Campground
	280	Luce	Lake Superior	Muskallonge Lake State Park Beach
	281	Luce	Lake Superior	Public Shoreline Beach-Blind Sucker Flooding Area
	282	Luce	Lake Superior	Public Shoreline Beach-Coast Guard Line Road
	283	Luce	Lake Superior	Public Shoreline Beach-County Road 407
	284	Luce	Lake Superior	Public Shoreline Beach-County Road 412/Crisp Point

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location
	285 Luce	Lake Superior	Public Shoreline Beach-Little Sucker/Two Hearted River
	286 Luce	Lake Superior	Public Shoreline Beach-Three Mile Creek Area
	287 Luce	Lake Superior	Public Shoreline Beach-West County Border Beach
	288 Luce	Lake Superior	Unnamed Road End #1
	289 Luce	Lake Superior	Unnamed Road End #2
	290 Luce	Lake Superior	Unnamed Road End #3
<u>24</u>	291 <u>Mackinac</u>	Lake Huron	American Legion Memorial Park
	292 Mackinac	Lake Huron	Antoine Road End
	293 Mackinac	Lake Huron	Boot Island
	294 Mackinac	Lake Huron	Coast Guard Pier Boat Launch and City Park
	295 Mackinac	Lake Huron	Foley Creek Campground
	296 Mackinac	Lake Huron	Government Island-Hiawatha National Forest
	297 Mackinac	Lake Huron	Harbour Light
	298 Mackinac	Lake Huron	Hazelton Road End
	299 Mackinac	Lake Huron	Hiawatha National Forest-Carp River Access
	300 Mackinac	Lake Huron	Horseshoe Bay Wilderness-North
	301 Mackinac	Lake Huron	Horseshoe Bay Wilderness-South
	302 Mackinac	Lake Huron	Kiwanis Beach
	303 Mackinac	Lake Huron	Straits State Park
	304 Mackinac	Lake Michigan	Big Knob State Forest Campground
	305 Mackinac	Lake Michigan	Black River State Forest Campground
	306 Mackinac	Lake Michigan	Epoufette Bay Campground
	307 Mackinac	Lake Michigan	Hog Island Campground
	308 Mackinac	Lake Michigan	MDOT Overlook
	309 Mackinac	Lake Michigan	MDOT Roadside Park on US-2
	310 Mackinac	Lake Michigan	Mouth of Cut River Roadside Beach
	311 Mackinac	Lake Michigan	Naubinway Bay Access
	312 Mackinac	Lake Michigan	Public Shoreline Beach-Epoufette Bay
	313 Mackinac	Lake Michigan	Public Shoreline Beach-Fox Point Area
	314 Mackinac	Lake Michigan	Public Shoreline Beach-Little Hog Island Area
	315 Mackinac	Lake Michigan	Public Shoreline Beach-Manitou Paymen Highbanks
	316 Mackinac	Lake Michigan	Public Shoreline Beach-DNR Matrix Point Area
	317 Mackinac	Lake Michigan	Public Shoreline Beach-Morean Township
	318 Mackinac	Lake Michigan	Public Shoreline Beach-Naubinway Area
	319 Mackinac	Lake Michigan	Public Shoreline Beach-Point Aux Chenes Bay
	320 Mackinac	Lake Michigan	Public Shoreline Beach-Seiners Point
	321 Mackinac	Lake Michigan	Public Shoreline Beach-South of Brevort River
	322 Mackinac	Lake Michigan	Public Shoreline Beach-State Forest Matrix Point
	323 Mackinac	Lake Michigan	Sand Point
	324 Mackinac	Lake Michigan	State Roadside Park Beach
	325 Mackinac	Lake Michigan	US-2 Roadside/Campground
<u>25</u>	326 <u>Manistee</u>	Lake Michigan	Portage Park
<u>26</u>	327 <u>Marquette</u>	Lake Superior	Public Shoreline Beach-Big Huron River
	328 Marquette	Lake Superior	Public Shoreline Beach-Little Presque Isle
<u>27</u>	329 <u>Mason</u>	Lake Michigan	Ludington State Park Public Shoreline Beach North
	330 Mason	Lake Michigan	Ludington State Park Public Shoreline Beach South
	331 Mason	Lake Michigan	Manistee National Forest Campground Beach

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location
	332 Mason	Lake Michigan	Manistee National Forest-Public Shoreline Beach-North
	333 Mason	Lake Michigan	Manistee National Forest-Public Shoreline Beach-South
	334 Mason	Lake Michigan	Pere Marquette Harbor
<u>28</u>	335 <u>Menominee</u>	Lake Michigan	Airport Park
	336 Menominee	Lake Michigan	Fox Park
	337 Menominee	Lake Michigan	Klienke Park
	338 Menominee	Lake Michigan	Public Shoreline Beach-Cedar River
	339 Menominee	Lake Michigan	Public Shoreline Beach-Fox Village
	340 Menominee	Lake Michigan	Wells State Park
<u>29</u>	341 <u>Muskegon</u>	Lake Michigan	Muskegon State Park-Shoreline Beach North
<u>30</u>	342 <u>Oceana</u>	Lake Michigan	Cedar Point County Park
	343 Oceana	Lake Michigan	Silver Lake State Park
<u>31</u>	344 <u>Ontonagon</u>	Lake Superior	Green Park
	345 Ontonagon	Lake Superior	Gull Point Beach
	346 Ontonagon	Lake Superior	Mouth of the Big Iron River Beach
	347 Ontonagon	Lake Superior	Porcupine Mountain State Park
	348 Ontonagon	Lake Superior	Porcupine Mountains Wilderness State Park-West
	349 Ontonagon	Lake Superior	Public Shoreline Beach-Misery Bay
	350 Ontonagon	Lake Superior	Public Shoreline Beach-Sleeping Bay
	351 Ontonagon	Lake Superior	Public Shoreline Beach-Wolf Point
	352 Ontonagon	Lake Superior	Union Bay Beach
<u>32</u>	353 <u>Ottawa</u>	Lake Michigan	Mountain Beach
	354 Ottawa	Lake Michigan	PJ Hoffmaster State Park-Shoreline Beach
<u>33</u>	355 <u>Presque Isle</u>	Lake Huron	40 Mile Point Park
	356 Presque Isle	Lake Huron	Ball Diamond Park
	357 Presque Isle	Lake Huron	Bell Bay
	358 Presque Isle	Lake Huron	Evergreen Beach
	359 Presque Isle	Lake Huron	Golden Beach
	360 Presque Isle	Lake Huron	Grace Access Site
	361 Presque Isle	Lake Huron	Hammond Bay Access Site
	362 Presque Isle	Lake Huron	Hammond Bay Harbor
	363 Presque Isle	Lake Huron	Lakeside Park Beach
	364 Presque Isle	Lake Huron	Lakeview Park Beach
	365 Presque Isle	Lake Huron	Manitou Beach
	366 Presque Isle	Lake Huron	New Lighthouse Park
	367 Presque Isle	Lake Huron	Presque Isle Harbor
	368 Presque Isle	Lake Huron	Public Shoreline Beach-False Presque Isle Harbor
	369 Presque Isle	Lake Huron	Seagull Point Park
	370 Presque Isle	Lake Huron	Thompson's Harbor State Park
	371 Presque Isle	Lake Huron	US-23 Hammond Bay
	372 Presque Isle	Lake Huron	US-23 Roger City
<u>34</u>	373 <u>Sanilac</u>	Lake Huron	Birch Beach
	374 Sanilac	Lake Huron	Birch Beach Middle #2
	375 Sanilac	Lake Huron	Birch Beach North #3

Appendix E.2. 2007 Great Lakes Beaches NOT Monitored

	County	Water Body	Location
	376 Sanilac	Lake Huron	Delaware Park
	377 Sanilac	Lake Huron	Forestville Beach
	378 Sanilac	Lake Huron	Great Lakes Beach
	379 Sanilac	Lake Huron	Sanilac County Park No. 4
	380 Sanilac	Lake Huron	Sanilac County Roadside Park #1
<u>35</u>	381 Schoolcraft	Lake Michigan	Doyle Township Park
	382 Schoolcraft	Lake Michigan	Lakeview Park
	383 Schoolcraft	Lake Michigan	Manistique Township Park
	384 Schoolcraft	Lake Michigan	Public Shoreline Beach-Goudreou's Harbor
	385 Schoolcraft	Lake Michigan	Public Shoreline Beach-South of McDonald Lake
	386 Schoolcraft	Lake Michigan	Public Shoreline Beach-Thompson
	387 Schoolcraft	Lake Michigan	Public Shoreline Beach-Thompson Village
	388 Schoolcraft	Lake Michigan	Roadside Park Beach
<u>36</u>	389 Wayne	Detroit River	Belle Isle Beach

Appendix F. 2007 inland and Great Lakes beaches exceedances of WQS (300 *E. coli* per 100 ml daily geometric mean).

	County	Water Body	Location	Testing Date	<i>E. coli</i> Test Results
<u>1</u>	1 Antrim	Elsworth Lake	Wooden Shoe Park	8/28/2007	375.4
	2 Antrim	Lake Michigan	Banks Township Park	6/27/2007	309.44
	3 Antrim	Lake Michigan	Veterans Memorial Park	8/15/2007	507.3
<u>2</u>	4 Arenac	Oasis Lake	Oasis Lake County Park	7/25/2007	461.44
	5 Arenac	Saginaw Bay-Lake Huron	Singing Bridge Beach	8/13/2007	329.14
	6 Arenac	Saginaw Bay-Lake Huron	Singing Bridge Beach	8/21/2007	511.06
	7 Arenac	Saginaw Bay-Lake Huron	Whites Beach	7/18/2007	961.45
	8 Arenac	Saginaw Bay-Lake Huron	Whites Beach	7/26/2007	924.39
	9 Arenac	Saginaw Bay-Lake Huron	Whites Beach	8/23/2007	515.82
	10 Arenac	Saginaw Bay-Lake Huron	Whites Beach	9/6/2007	506.72
<u>3</u>	11 Barry	Thornapple Lake	Charlton Park	6/6/2007	422
<u>4</u>	12 Bay	Kawkawlin River	Boat Launch on Kawkawlin River	6/4/2007	558
	13 Bay	Kawkawlin River	Boat Launch on Kawkawlin River	8/21/2007	309
	14 Bay	Saginaw River	Vet's Park North Bay City	7/30/2007	375
	15 Bay	Saginaw River	Vet's Park North Bay City	8/1/2007	369
<u>5</u>	16 Charlevoix	Lake Charlevoix	East Jordan Bridge	8/28/2007	368.1
	17 Charlevoix	Lake Charlevoix	Elm Point Beach	8/28/2007	1008.6
<u>6</u>	18 Cheboygan	Lake Huron	Cheboygan State Park Duncan Bay	8/13/2007	309.9
	19 Cheboygan	Lake Huron	Cheboygan State Park Duncan Bay	8/20/2007	677.1
<u>7</u>	20 Chippewa	Lake Superior	Sherman Park	9/19/2007	333.9
	21 Chippewa	St. Mary's River	Sugar Island Township Park	7/9/2007	675.4
<u>8</u>	22 Delta	Lake Michigan	Gladstone Bathing Beach/Van Cleve Park	7/9/2007	652.84
<u>9</u>	23 Emmet	Lake Michigan	Mackinaw City Beach #1	7/9/2007	524.02
	24 Emmet	Lake Michigan	Mackinaw City Beach #2	7/9/2007	349.62
	25 Emmet	Lake Michigan	Magnus Park	8/21/2007	320.2
<u>10</u>	26 Genesee	Holloway Reservoir	Buttercup Beach	9/4/2007	649
	27 Genesee	Holloway Reservoir	Buttercup Beach	9/10/2007	885
	28 Genesee	Mott Lake	Bluebell Beach	8/6/2007	376
	29 Genesee	Mott Lake	Bluebell Beach	9/4/2007	824
	30 Genesee	Mott Lake	Bluebell Beach	9/10/2007	1113
<u>11</u>	31 Gladwin	Cedar River	Gladwin City Park	7/30/2007	1162.25
	32 Gladwin	Cedar River	Gladwin City Park	8/7/2007	637.79
	33 Gladwin	Ross Lake	Beaverton City Park	6/20/2007	577.48
	34 Gladwin	Ross Lake	Beaverton City Park	7/2/2007	497.2
	35 Gladwin	Ross Lake	Beaverton City Park	7/10/2007	1007.31
	36 Gladwin	Ross Lake	Beaverton City Park	7/25/2007	825.53
	37 Gladwin	Ross Lake	Beaverton City Park	8/14/2007	758.5
<u>12</u>	38 Grand Traverse	Grand Traverse Bay-East	East Bay Park (Milliken Park)	7/9/2007	704.1

Appendix F. 2007 inland and Great Lakes beaches exceedances of WQS (300 *E. coli* per 100 ml daily geometric mean).

	County	Water Body	Location	Testing Date	<i>E. coli</i> Test Results	
	39	Grand Traverse	Grand Traverse Bay-East	Traverse City State Park	8/13/2007	2265.08
	40	Grand Traverse	Grand Traverse Bay-West	Clinch Park	8/20/2007	325.77
	41	Grand Traverse	Grand Traverse Bay-West	West End Beach	7/9/2007	330.21
<u>13</u>	42	<u>Houghton</u>	Portage Canal / Lake Superior	Houghton City Beach	8/13/2007	363
<u>14</u>	43	<u>Huron</u>	Lake Huron	Oak Beach County Park	8/13/2007	914.5341
	44	Huron	Lake Huron	Port Crescent State Park - Day Use	8/13/2007	400.5019
	45	Huron	Lake Huron	Thompson Park	8/13/2007	576.6056
<u>15</u>	46	<u>Isabella</u>	Coldwater Lake	Coldwater Park	7/25/2007	883.68
<u>16</u>	47	<u>Leelanau</u>	Grand Traverse Bay-West	Northport Bay Marina	9/4/2007	395.31
	48	Leelanau	Grand Traverse Bay-West	Suttons Bay Park	8/20/2007	443.37
	49	Leelanau	Lake Michigan	Empire Municipal Beach	6/18/2007	1074.6
<u>17</u>	50	<u>Livingston</u>	Church Lake	Wildwood Ranch	8/7/2007	2420
	51	Livingston	Pleasant Lake	Howell Nature Center	7/31/2007	496.73
<u>18</u>	52	<u>Macomb</u>	Lake St. Clair	New Baltimore Park Beach	8/20/2007	516.76
	53	Macomb	Lake St. Clair	New Baltimore Park Beach	8/22/2007	536.52
	54	Macomb	Lake St. Clair	SCS Blossom Heath Beach	6/4/2007	487.88
	55	Macomb	Lake St. Clair	SCS Blossom Heath Beach	6/6/2007	740.52
	56	Macomb	Lake St. Clair	SCS Blossom Heath Beach	7/11/2007	361.44
	57	Macomb	Lake St. Clair	SCS Blossom Heath Beach	8/6/2007	1893.89
	58	Macomb	Lake St. Clair	SCS Blossom Heath Beach	8/8/2007	310.59
	59	Macomb	Lake St. Clair	SCS Blossom Heath Beach	8/20/2007	326.34
	60	Macomb	Lake St. Clair	SCS Blossom Heath Beach	8/27/2007	316.14
	61	Macomb	Lake St. Clair	St. Clair Shores Memorial Park Beach	5/2/2007	714.81
	62	Macomb	Lake St. Clair	St. Clair Shores Memorial Park Beach	6/4/2007	1302.83
	63	Macomb	Lake St. Clair	St. Clair Shores Memorial Park Beach	8/20/2007	1121.63
	64	Macomb	Lake St. Clair	St. Clair Shores Memorial Park Beach	8/21/2007	820.65
	65	Macomb	Stoney Creek Lake-Impoundment	Stoney Creek Metropark-Baypoint Beach	5/9/2007	750.66
	66	Macomb	Stoney Creek Lake-Impoundment	Stoney Creek Metropark-Eastwood Beach	5/9/2007	315.46
	67	Macomb	Stoney Creek Lake-Impoundment	Stoney Creek Metropark-Eastwood Beach	7/11/2007	1897.81
<u>19</u>	68	<u>Manistee</u>	Lake Michigan	First Street Beach	8/6/2007	350.58
	69	Manistee	Lake Michigan	First Street Beach	8/27/2007	407.86
<u>20</u>	70	<u>Mason</u>	Lake Michigan	South Pier Beach	7/23/2007	743.86
<u>21</u>	71	<u>Menominee</u>	Lake Michigan	Henes Park	7/24/2007	670.87
	72	Menominee	Lake Michigan	Henes Park	7/26/2007	1422.1
	73	Menominee	Lake Michigan	Henes Park	7/27/2007	789.39
	74	Menominee	Lake Michigan	Henes Park	7/31/2007	1412.09
	75	Menominee	Lake Michigan	Henes Park	8/8/2007	777.77
	76	Menominee	Lake Michigan	Henes Park	8/20/2007	579.35
	77	Menominee	Lake Michigan	Henes Park	8/24/2007	738.87
	78	Menominee	Lake Michigan	Henes Park	9/4/2007	506.46

Appendix F. 2007 inland and Great Lakes beaches exceedances of WQS (300 *E. coli* per 100 ml daily geometric mean).

	County	Water Body	Location	Testing Date	<i>E. coli</i> Test Results	
<u>22</u>	79	Muskegon	Half Moon Lake	Moore County Park Beach	7/5/2007	1937
	80	Muskegon	Lake Michigan	Meinert County Park	8/20/2007	332
	81	Muskegon	Lake Michigan	Meinert County Park	8/27/2007	366
	82	Muskegon	Lake Michigan	Meinert County Park	8/28/2007	387
	83	Muskegon	Lake Michigan	Meinert County Park	8/29/2007	347
	84	Muskegon	Lake Michigan	Pere Marquette Park	6/18/2007	384
	85	Muskegon	Mona Lake	Mona Lake Park Beach	7/10/2007	479
<u>23</u>	86	Oakland	Adams Lake	Addison Oaks Co. Park	6/19/2007	479
	87	Oakland	Adams Lake	Addison Oaks Co. Park	7/24/2007	826
	88	Oakland	Big Seven Lake	Seven Lakes Park	7/30/2007	351
	89	Oakland	Big Seven Lake	Seven Lakes Park	7/31/2007	2419
	90	Oakland	Big Seven Lake	Seven Lakes Park	8/2/2007	312
	91	Oakland	Big Seven Lake	Seven Lakes Park	8/7/2007	449
	92	Oakland	Loon Lake	Sandy Beach	6/4/2007	387
	93	Oakland	Reed Lake	Reed Lake Property Owners	7/10/2007	688
	94	Oakland	Thelma Spencer Park Lake	Thelma Spencer Park	7/17/2007	327
	95	Oakland	Thelma Spencer Park Lake	Thelma Spencer Park	7/18/2007	383
	96	Oakland	Thelma Spencer Park Lake	Thelma Spencer Park	8/6/2007	2121
	97	Oakland	Thelma Spencer Park Lake	Thelma Spencer Park	8/7/2007	1842
	98	Oakland	Walled Lake	E.V. Mercer City Beach	7/30/2007	341
	99	Oakland	Walnut Lake	North Cove	7/9/2007	700
	100	Oakland	Wing Lake	Wing Lake Farms Assoc.	6/19/2007	594
	101	Oakland	Wing Lake	Wing Lake Farms Assoc.	6/28/2007	537
	102	Oakland	Wing Lake	Wing Lake Farms Assoc.	7/17/2007	850
	103	Oakland	Wing Lake	Wing Lake Property Owners Assoc.	6/26/2007	431
	104	Oakland	Wing Lake	Wing Lake Property Owners Assoc.	8/7/2007	1752
	105	Oakland	Wing Lake	Wing Lake Property Owners Assoc.	8/9/2007	411
	106	Oakland	Wing Lake	Wing Lake Property Owners Assoc.	8/16/2007	331
	107	Oakland	Wing Lake	Wing Lake Property Owners Assoc.	8/21/2007	615
	108	Oakland	Wing Lake	Wing Lake Property Owners Assoc.	8/23/2007	1313
	109	Oakland	Wing Lake	Wing Lake Property Owners Assoc.	8/28/2007	556
	110	Oakland	Wing Lake	Wing Lake Property Owners Assoc.	8/30/2007	771
<u>24</u>	111	Oceana	Silver Lake-Lake Michigan	Silver Creek Channel	7/2/2007	626.36
<u>25</u>	112	Ottawa	Lake Macatawa	Dunton Park	5/31/2007	347.31
	113	Ottawa	Lake Macatawa	Dunton Park	8/2/2007	1074.6
	114	Ottawa	Lake Macatawa	Dunton Park	8/7/2007	1344.19
	115	Ottawa	Lake Macatawa	Dunton Park	8/21/2007	2420
	116	Ottawa	Lake Macatawa	Fallen Leaf Park	6/19/2007	2165.09
	117	Ottawa	Lake Michigan	Grand Haven City Beach	7/26/2007	624.77
	118	Ottawa	Lake Michigan	Grand Haven City Beach	7/27/2007	396.77
	119	Ottawa	Lake Michigan	Grand Haven State Park	7/27/2007	417.52
	120	Ottawa	Lake Michigan	Tunnel Park	8/7/2007	929.16
	121	Ottawa	Lake Michigan	Tunnel Park	8/8/2007	320.74
	122	Ottawa	Maplewood Lake	Maplewood Lake Park	7/24/2007	325.34

Appendix F. 2007 inland and Great Lakes beaches exceedances of WQS (300 *E. coli* per 100 ml daily geometric mean).

	County	Water Body	Location	Testing Date	<i>E. coli</i> Test Results	
<u>26</u>	123	<u>St. Clair</u>	Lake Huron	Burtchville Township Park	6/5/2007	339
	124	St. Clair	Lake Huron	Conger-Lighthouse Beach	6/5/2007	383
	125	St. Clair	Lake Huron	Holland Road Beach	6/5/2007	517
	126	St. Clair	Lake Huron	Krafft Road Beach	6/5/2007	353
	127	St. Clair	Lake Huron	Lakeside Beach	6/5/2007	579
	128	St. Clair	St. Clair River	Chrysler Park Beach	8/8/2007	373
<u>27</u>	129	<u>Washtenaw</u>	Bruin Lake	Pinckney Recreation Area	8/22/2007	707.4
	130	Washtenaw	Half Moon Lake	Pinckney Recreation Area	6/4/2007	963.84
	131	Washtenaw	Half Moon Lake	Pinckney Recreation Area	8/22/2007	896.28
	132	Washtenaw	Sugarloaf Lake	Waterloo Recreation Area	6/4/2007	1557.75
<u>28</u>	133	<u>Wayne</u>	Belleville Lake	Van Buren Township Park	7/27/2007	380
	134	Wayne	Lake St. Clair	Pier Park	6/19/2007	343
	135	Wayne	Lake St. Clair	Pier Park	6/22/2007	332
	136	Wayne	Lake St. Clair	Pier Park	7/27/2007	358
	137	Wayne	Lake St. Clair	Pier Park	8/14/2007	706
	138	Wayne	Lake St. Clair	Pier Park	8/21/2007	826
	139	Wayne	Lake St. Clair	Pier Park	8/31/2007	10557
	140	Wayne	Lake St. Clair	Pier Park	9/6/2007	1944
	141	Wayne	Rouge River	Phoenix Lake	6/5/2007	836.97
	142	Wayne	Rouge River	Wilcox Lake	5/3/2007	307.8
	143	Wayne	Rouge River	Wilcox Lake	6/5/2007	949.2
	144	Wayne	Rouge River	Wilcox Lake	6/19/2007	712.3
	145	Wayne	Rouge River	Wilcox Lake	7/24/2007	349.19

Appendix G. Beaches selected to participate in Beach Sanitary Survey Project.

	County	Water Body	Local Entity
<u>1</u>	1 <u>Alpena</u>	Starlite Beach	District Health Department No. 4
<u>2</u>	2 <u>Arenac</u>	Dyer Road Beach	Central Michigan District Health Department
	3 Arenac	Singing Bridge Beach	Central Michigan District Health Department
	4 Arenac	Twinning Road Beach	Central Michigan District Health Department
	5 Arenac	Whites Beach	Central Michigan District Health Department
<u>3</u>	6 <u>Bay</u>	Bay City Recreation Area	Bay County Health Department
	7 Bay	Brissette Beach Township Park	Bay County Health Department
	8 Bay	South Linwood Beach Township Park	Bay County Health Department
	9 Bay	Wenona Beach	Bay County Health Department
<u>4</u>	10 <u>Charlevoix</u>	Norwood Park	Northwest Michigan Community Health Agency
<u>5</u>	11 <u>Cheboygan</u>	Mackinaw City Lighthouse Park	District Health Department No. 4
<u>6</u>	12 <u>Chippewa</u>	Sugar Island Township Park	Chippewa County Health Department
<u>7</u>	13 <u>Emmet</u>	Cross Village	Northwest Michigan Community Health Agency
	14 Emmet	Wilderness State Park	Northwest Michigan Community Health Agency
<u>8</u>	15 <u>Grand Traverse</u>	Bryant Park Beach	The Watershed Center Grand Traverse Bay
	16 Grand Traverse	East Bay Beach at Traverse City State Park	The Watershed Center Grand Traverse Bay
	17 Grand Traverse	Milliken East Bay Park	The Watershed Center Grand Traverse Bay
<u>9</u>	18 <u>Manistee</u>	Magoon Creek	District Health Department No. 10
	19 Manistee	Onekama Township Beach	District Health Department No. 10
	20 Manistee	Sundling Park	District Health Department No. 10
<u>10</u>	21 <u>Menominee</u>	Henes Park	Public Health Delta and Menominee Counties
<u>11</u>	22 <u>Ottawa</u>	Grand Haven City Beach (North Beach)	Ottawa County Health Department
	23 Ottawa	Grand Haven City Beach (South Beach)	Ottawa County Health Department
	24 Ottawa	Rosy Mound Recreation Area	Ottawa County Health Department
	25 Ottawa	Tunnel Park Beach	Ottawa County Health Department
<u>12</u>	26 <u>Wayne</u>	Pier Park	Wayne County Health Department